PROJECT:

DEMOLITION OF SECONDARY SCHOOL AT 721 ROYAL YORK ROAD, ETOBICOKE

CLIENT: TORONTO CATHOLIC DISTRICT SCHOOL BOARD

PROJECT No.: 22103

DATE: OCTOBER 2026

BINDER: ARCHITECTURAL, STRUCTURAL
DESIGNATED SUBSTANCES REPORT,
ABATEMENT, ARBORIST REPORT,
NATURAL HERITAGE IMPACT ASSESSMENT



CONSULTANTS

HOSSACK ARCHITECTURE

in collaboration with/
design architect

studio ksa

FRP Inc. landscape.architects

Salas O'Brien

CANDEVCON LIMITED
CONSULTING ENGINEERS AND PLANNERS

PROJECT NAME

Demolition of Secondary School at 721 Royal York Road
721 Royal York Road, Etobicoke, Ontario M8Y 2T3

PROJECT OWNER

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CONSULTANTS

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END OF SECTION

No. of Pages

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REPORTS

The reports included herein have not been prepared by the Architect or their sub consultants. They are bound into the specifications for convenient reference only.

While every effort has been made to attempt to provide comprehensive information, the Architect claims no responsibility for the accuracy of the information contained in the reports.

- Section 320200 - Geotechnical Report – 14HF032 — 1 + Report
- Hydrogeological Assessment Report, dated October 25, 2022 — Report
- Letter re: Potential UST, dated October 7, 2022 — Letter
- Phase I Environmental Report, dated March 10, 2022 — Report
- Phase II Environmental Report, dated July 7, 2022 — Report
- Designated Substances and Hazardous Building Materials Assessment — Report
- Natural Heritage Impact Assessment — Report
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DRAWINGS

Large format (36”x48” size Arch E)

ARCHITECTURAL

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1.1 PRECEDENCE

.1 This Section contains Articles prepared which represent the Board standards and policies. In all cases this Section is intended to be read in conjunction with and to coordinate with all other Sections. In the case of discrepancy between this Section and other Sections to more stringent Articles of any applicable Section shall apply.

1.2 CONTRACT

.1 The work described is to be a single, lump sum, Stipulated Contract. The form of Contract is the CCDC2-2020 plus Supplementary Conditions provided.

.2 Contract includes the demolition of the existing school and removal of all foundations and site services and backfilling with engineered fill. Location of the work is 721 Royal York Road, Etobicoke, Ontario.

.3 Project Occupancy Requirements

.1 It is the requirement of this Contract that work be completed by the date or timeline noted in the School Board's front-end documents.

.4 Cautionary Note

.1 Bidders, both General Contractors and Subcontractors, are cautioned that they should not submit bids or tenders if they are unsure of their ability to comply with the above stated construction/occupancy schedule and requirements, provide overtime work as necessary and/or are unwilling to be bound by the schedule and Provisions described in these documents.

1.3 RELATIONS OF TRADES

.1 The Contract Specifications have been generally divided into trade sections for the purpose of ready reference.

.2 The Contractor is responsible for coordinating all trades. He is solely responsible for determining the lines of demarcation between Contractor and/or trades. Neither the Consultant nor the Board, assume any responsibility for any such determination or for any dispute arising concerning it. No extras will be considered due to any such dispute concerning either labour or materials.

.3 Specifications and drawings form an integral part of the Contract Documents. Any subject or item omitted from one, but which is mentioned or reasonably implied in the other, shall be considered as properly and sufficiently specified and will be part of the Work.

1.4 ADDITIONAL DRAWINGS

.1 Consultant may furnish additional drawings to assist proper execution of the Work. These drawings will be issued for clarification only. Such drawings, however, shall have the same meaning and intent as if they were included with plans referred to in the Contract Documents.

1.5 EXISTING SITE CONDITIONS

.1 Prior to any construction activities within the site, the contractor shall perform and submit a pre-construction closed circuit television (CCTV) inspection video and report of the existing municipal sewers located within the easements to the satisfaction of the General Manager, Toronto Water undertaken by a qualified and licensed contractor, evidencing that the work has not negatively impacted the City's infrastructure together with a letter of reliance permitting the City to rely on same. The video and report are to be completed

in accordance with the City's Guidelines (i.e. PACP, Technical Guide, Visual inspection of Sewer pipes published by CSA Special Publications) and submitted to the City for review.

.2 This contract includes the demolition of the existing school.

.3 Refer to 'Construction Sequencing' below for special requirements.

.4 The existing school building and services are to be demolished under this contract. The construction of a new school is planned in the future to be performed under a separate contract.

.5 Existing original building drawings have been provided.

Note: Drawings are provided for reference only and may not represent exact current conditions. Drawings have not been verified by the Owner, Architect or Consultants. Additional drawings may be available to the awarded contractor.

.6 Demolition to include:

1. Demolition and removal of all existing foundations and services
2. Local removal existing loose fill and deleterious materials
3. Proof roll and upfill with engineered fill to grades noted on the Grading Plan

.7 Refer to geotechnical report provided for existing soil information and construction requirements.

.8 At the outset of the contract and before any other work begins, the contractor shall review grades on site to confirm compliance with the contract documents. Failure to do so at this initial stage shall eliminate the contractor's right to make claim regarding incorrect grades or site surface conditions at any later stage for the work.

.9 Contractor is responsible to quantify all on-site material to achieve proposed grades and is responsible for the importation or exportation of material from the site as required.

.10 Ascertaining the specific site and building conditions as they relate to the project is the responsibility of the contractor. Notwithstanding this overriding responsibility the consultant has made every effort to properly represent existing site conditions as they are evident at the time of tender.

.11 The Contractor shall assume the work site based on the existing conditions as shown on the drawings and visible on the job site at the time of the closing of the tender. All excavation, stockpiling, removal, importing and/or grading of soils is to be included in the work of this Contract. Refer to site plan drawings. The contractor shall also refer to the recommendations of the soils investigation records which are included for information and report any discrepancies to the consultant prior to submitting a tender.

.12 Inspection of the site during the tender period is mandatory for all Contractors. In addition, refer to the School Board's front end documents for any organized site meetings.

.13 Ensure grades are achieved to eliminate any ponding or standing water upon completion of demolition.

1.6 CONSTRUCTION PROJECT SCHEDULE

.1 At the commencement of construction, a schedule of construction and completion will be prepared and submitted by the Contractor. This schedule will indicate the anticipated date of Substantial Performance and key critical path milestones for each section of the Work. Once accepted by the Owner, this schedule will become the official project schedule and completion will be expected based upon that schedule. Should the Contractor fall behind the construction progress required to meet the agreed completion date, he will be expected to make up the lost time through overtime, additional shifts, etc.

1.7 TEMPORARY CONSTRUCTION FENCING

.1 A temporary perimeter chain link construction fence and siltation fencing shall be erected by the awarded contractor in advance of work and is to be maintained for the duration of the work until such time as new fences, if any as shown, are installed. Provide lockable truck access gates and man gates and maintenance of the entire fence as part of the work of this contract.

.2 Ensure for the duration of the contract that surrounding the work site, the construction fencing, siltation fencing and man and truck gates, are provided and maintained. This fence shall be locked when no work is in progress and located as shown on the site plan drawing.

.3 The Board insists that the installation of this construction fencing be accomplished as the first task of the General Contractor when he moves onto the site.

1.8 CONTRACTOR PARKING

.1 Refer to section 01 52 00 Construction Facilities.

1.9 BYLAWS, PERMITS AND APPROVALS

.1 A Demolition Permit has been applied for and has been issued by the City of Toronto Building Department for this work.

.2 Nothing indicated on the Drawings or Specifications is intended to be in conflict with any law, by-law or regulation of Municipal, Provincial, or similar Authority Having Jurisdiction.

.3 Work of this Contract must conform with such laws, by-laws and/or regulations. Any required variation to, or deviation from, the drawings and specifications, shall be performed in accordance with the CCDC-2 Contract and Supplementary Conditions to the CCDC-2 contained in these specifications.

.4 Furnish inspection certificates and/or permits as may be applicable as evidence that the installed Work conforms with laws, by-laws and regulations of Authorities Having Jurisdiction.

.5 Each subtrade shall obtain and pay for all permits and licenses required by Municipal, Provincial, or other authorities having Jurisdiction, particular to their trade.

.6 It is the final responsibility of the General Contractor to obtain all the required approvals and permits and include in his Total Stipulated Price, the cost of such approvals, permits and fees. It is the contractor's responsibility to include in the base tender amount any additional permit fees not specifically identified in the Cash Allowance, and to provide any deposits or securities required by Authorities Having Jurisdiction.

.7 Any revisions or deviations to Contract Documents required by any Authorities Having Jurisdiction must be reviewed by the Consultants before implementation.

1.10 ORGANIZATION

.1 Organize the Work of each section as required for satisfactory and expeditious completion of the Work. Take field dimensions required for the Work. Fabricate and install work to suit field dimensions and conditions.

.2 If applicable, take into account existing work to ensure best arrangements of components in available space. Contact the Consultant prior to commencing Work in critical locations and interface with other Contractors' Work.

.3 Provide all forms, templates, anchors, sleeves, inserts and accessories required to be installed in the Work. Set in place, or instruct the applicable subtrade as to their location. Pay costs of extra work, if required, as a result of a failure to comply with these requirements at the proper time.

.4 Before starting his work and from time to time as the work progresses, each Subcontractor shall examine the work and materials installed by the other Subcontractors insofar as it effects his own work, and the General Contractor shall promptly notify the Consultant IN WRITING, if any condition exists that will prevent any Subcontractor from giving a satisfactory result in his own work.

.5 Should any Subcontractor start his own work without such notification, it shall be construed as an acceptance by him of all preceding work and as a waiver of all claims or questions as to its suitability for receiving his work.

1.11 CANADIAN PRODUCTS AND LOCAL LABOUR

.1 To the extent that the same are available and consistent with the proper economy and expeditious completion of the Contract, Canadian, preferably Ontario, equipment, materials, products and other such applicable items are preferred by the Board to be used in the Work, wherever possible and practical.

1.12 MATERIALS AND WORKMANSHIP

.1 All materials shall be new and the best of their respective kinds, where a specific grade or brand is not indicated. Pre-packaged materials shall be delivered and stored in unopened containers.

.2 All work performed under this Contract shall be done by mechanics skilled in their respective trades. They shall make use of such templates, jigs or special tools as may be required for the operation involved.

.3 The acceptance of any materials or workmanship shall not be a bar to their subsequent rejection, if found defective.

.4 Adequate, dry storage facilities shall be provided and all stored materials shall be protected from damage and theft.

.5 All Contractors will do Work in accordance with the best industry practice of the type of work specified, unless the Contract Documents stipulate more precise requirements, in which case, the more precise requirements shall govern.

.6 Do Work in a neat, plumb & square manner. Ensure that various work components are properly installed, forming tight joints and appropriately aligned junctions, edges and surfaces, free of warps, twists, waves, or other such irregularities.

.7 Wherever indicated on the drawings or specifications, or in the manufacturers' / suppliers' written instructions, arrange to have manufacturers' / installer's representatives inspect the Work which incorporates their materials, products or items.

.8 Do not permit materials to come in contact with other materials such conditions may result in corrosion, staining, discolouration or deterioration of the completed Work. Provide compatible, durable separators where such contact is unavoidable.

.9 The design of the Work is based on the full interaction of its component parts. No provisions have been made for conditions occurring during construction. Ensure that no part of the Work is subjected to a load which will endanger its safety or which might cause permanent deformation.

.10 Conceal pipes, ducts, conduit, wiring and other such items requiring concealment preferably in, wall or ceiling construction of all finished areas. If in doubt as to method of concealment, or intent of the Contract Documents in this regard, request clarification from the Consultant before proceeding with the Work.

.11 Lay out mechanical and electrical work well in advance of concrete placement and furring installation to allow for proper concealment. Test and inspect Work before applying pipe covering and before it is concealed.

.12 Provide and maintain control lines and levels required for the Work. Lay out the Work in accordance with these lines and levels and dimensions indicated on the drawings.

.13 Verify lines, levels and dimensions and report any errors or inconsistencies on the drawings to the Consultants.

.14 Final responsibility of satisfactory completion of all the Work, however, lies with the General Contractor.

1.13 QUALITY CONTROL

.1 Refer also to Section 01 45 00.

.2 The Consultants and authorized Board staff shall have access to all areas of the Work, including any off site construction facilities.

.3 The General Contractor shall give timely notice requesting inspection if Work is designated for special tests, inspections, or approvals by the Consultants, or any other authorized Board staff or testing and Inspection Company.

.4 If the General Contract covers, or permits to be covered Work that has been designated as outlined above, he shall uncover such work, have the inspections and tests satisfactorily completed and make good such work at no additional cost to the Board.

.5 The Consultants or the authorized Board Staff may order any part of the Work to be examined, if such Work is suspected not to be according to the Contract Documents. If, upon examination, such work is found not to be in accordance with the Contract Documents, then the General Contractor shall correct such Work and pay for cost of examinations and correction. If such Work is found to be in full accordance with the Contract Documents, the Board shall pay for the cost of examination and making good.

.6 If defects are revealed during inspection and/or testing, the appointed agency may request additional inspection and/or testing to ascertain the full degree of defects. The General Contractor shall correct the defects and irregularities as reported by the inspection and/or testing agency, at no additional cost to the Board and the General Contractor shall pay all associated costs for retesting and reinspection.

.7 The General Contractor shall provide any tools, materials or equipment that may be required by the inspection and/or testing agencies in retesting the Work (*e.g.* Video camera rental to reinspect incorrectly installed sewer lines.)

.8 The employment of inspection and/or testing agencies does not, in any way, affect the General Contractor's responsibility to perform the Work in strict accordance with the Contract Documents.

.9 The General Contractor shall remove all defective work, whether the result of poor workmanship by him or his subtrades, use of defective or damaged products, whether or not incorporated into the Work and any Work that has been rejected by the Consultants or authorized Board Staff as failing to conform to the Contract Documents. Replacement and execution of the affected Work shall be done in full accordance with the Contract Documents, making good other trades' work damaged by such removals or replacements at no additional charge to the Board.

.10 If, in the opinion of the Consultant and/or the authorized Board Staff, it is not expeditious to correct the defective Work, or Work not performed in accordance with the Contract Documents, the Board, may, at its sole discretion, deduct from the Contract Price, the difference in value between the work performed and that required by the Contract Documents, the amounts of which shall be determined by the Consultant.

.1 The notable exception to the above item is a faulty installation of base and asphalt paving. If, the inspection agency, after performing random test holes to determine compaction and thickness of sub base, base and asphalt, determines that either one or both, are not according to what was specified in the Contract Documents, the Board will not accept credits for such inconsistencies but rather, demand that any such installation be removed and redone in its entirety, at the pleasure and convenience of the Board, but within the first year of the warranty period.

1.14 OVERTIME AND OVERTIME SCHEDULING

.1 The General Contractor must include in his Total Stipulated Tender Price, all costs for overtime work which may be necessary to complete the various portions of the Work, in accordance with the Completion Dates specified in the School Board's front end documents. The Board shall not entertain requests for any payments in connection with overtime work that may be required by the General Contractor, or any of his subtrades, in order to comply with the above referenced dates.

.2 Similarly, it is the Contractor's responsibility to ensure, prior to the close of tenders that all subtrades will meet the requirements for overtime, as required, with no additional costs to the owner, in order to meet the Completion Dates specified in the Form of Tender.

.3 The contractor shall recognize the critical importance that the schedule for full occupancy must be met by the dates stated in the contract documents. Note that local by-laws may be enforced restricting morning and evening and Sunday work hours.

.4 Note that at no time will the Board entertain additional charges or claims from the General Contractor or his subcontractors for premium, overtime or after–hours work.

.5 Only claims for scope changes or conditions beyond the control of the Contractor may be submitted for review by the Consultants and must be submitted and accepted in advance of the work taking place and at the outset of the condition or scope change arising. No claims additional charges or delays will be accepted if not reviewed and formally accepted in advance.

.6 Notwithstanding sentence 5 above, for any work that remains incomplete after school occupancy by students, all access and work shall be restricted to after hours only: i.e.: after 4:00 p.m. and before 7:00 a.m.. No additional costs for overtime or after hours work shall apply.

1.15 PROTECTION OF OTHER WORK

.1 Each trade shall avoid damage to other trades and shall take all measures necessary and provide all masking and materials necessary, to provide adequate protection.

.2 Each Subcontractor shall be held responsible for all damage to work installed by others that is caused by this work or by anyone employed by him.

.3 Patching and repairing of damaged work shall be done by the Contractor who installed the work, as directed by the Consultant, but the cost of same, shall be paid for by the Contractor who is responsible for the damage.

1.16 SUPPLY AND INSTALL

.1 Unless specifically noted, "*supply only*", any reference to supply intends the supply and installation of material or item so noted.

1.17 GENERAL REQUIREMENTS

.1 All Contractors shall examine carefully all drawings and specifications to inform themselves fully of all conditions and limitations pertaining to the work of the contract.

.2 All Contractors shall co-operate and co-ordinate their work for the proper completion of the work, including co-ordination of delivery dates and commencement of subtrades work.

.3 The responsibility and costs for all work, including temporary structures, shoring, shoring design (if applicable) and erection shall at all times rest with the General Contractor and his Subcontractors. The Consultant will review construction methods and shop drawings for general arrangements only. The method of obtaining the results contemplated by the Contract Documents shall be determined by the General Contractor.

.4 The undertaking of period site review by the Consultant or Board Representative shall not be construed as supervision of actual construction, nor make them responsible for providing a safe place for work, visit, use, access, travel, or occupancy of the Consultant's or Board's employees or agents.

.5 The General Contractor shall be fully responsible for coordinating and expediting the work of all Subcontractors and shall employ the necessary and qualified personnel to provide the required quality of labour and materials and to prevent delays in the progress of the project. Each trade shall be afforded all reasonable opportunities for the installation of its work and for the storage and handling of its materials.

1.18 COORDINATION

.1 The General Contractor shall coordinate all work and preparation on which subsequent work depends to facilitate mutual progress, and to prevent any conflict.

.2 The General Contractor shall ensure that each trade makes known, for the information of the General Contractor and other trades, the environmental and surface conditions required for the execution of its work; and that each trade makes known the sequence of others' work required for installation of its work.

.3 The General Contractor shall ensure that each trade, before commencing work, knows the requirements for subsequent work and that each trade is assisted in the execution of its preparatory work by trades whose work depends upon it.

.4 The General Contractor shall ensure that shop and layout drawings, templates, and all information necessary for the location and installation of materials, openings, inserts, anchors, accessories, fastenings, connections and access panels are provided by each trade whose work requires cooperative location and installation by other trades and that such information is communicated to the applicable installer.

.5 The General Contractor shall ensure that delivery of materials supplied by one trade to be installed by another is well before the installation begins.

.6 The General Contractor shall inform all trades that giving installation information in error, or too late to incorporate in the work, shall be responsible for any extra work

caused thereby, unless impractical and where required, cutting shall be done by each respective trade, and patching shall be done by the general contractor.

1.19 ACCESS TO THE PROJECT

.1 The General Contractor for this Work shall, at all times allow the Consultants, the Board, or any other Board commissioned contractor or their employees, access into the building or around the premises, undisturbed, whether union or non-union, as may be required in the execution of other portions of the building work and installation of equipment, etc.

.2 The General Contractor shall cooperate fully with any and all Board commissioned Contractors.

1.20 SUBTRADE AWARDS

.1 The Contractor shall, on notice of award of the contract, obtain the Consultants approval of a complete list of all persons or firms to which he proposes to sublet any part of the work, the trades or divisions of work which are to be sublet to each, and the amount of each trade. The General Contractor shall provide to the Consultant a financial breakdown showing all divisions of the work amounting to the full sum of the contract. Mechanical and Electrical trades shall be further broken down as specified in Divisions 26 and 33.

1.21 REGULATING DOCUMENTS

.1 The General Contractor and all of his Subcontractors, Suppliers/Installers etc., must conform to the latest editions in force at the time of tender of each and all of the following: Ontario Building Code, Canadian Electrical Code (CEC), The Occupational Health and Safety Act, Ontario, the National Fire Code, the local Municipal Fire Code, and all other applicable Codes and Building By-Laws. All must also conform to the requirements of the Authorities Having Jurisdiction, such as Public Utilities. Where required under the Occupational Health and Safety Act, engage a Professional Engineer to design hoarding, scaffolding and shoring, formwork and falsework for concrete.

.2 Contract forms, codes, standards and manuals referred to in these specifications are the latest published editions at the date of close of tenders. The General Contractor and all of his Subcontractors, Suppliers/Installers must meet or exceed the requirements of specified standards.

.3 Provide, on site, copies of documents referred to in the Specification for joint use of Contractor and Consultant.

1.22 GENERAL CONTRACTOR'S RESPONSIBILITIES

.1 The list of General Contractor's responsibilities identified below is by no means comprehensive, nor is it in any priority or critical order. It is here, merely to identify the most often forgotten or ignored responsibilities of the General Contractor and is reproduced only as a reminder. The Consultants and the Board advise the General Contractor that it is he who is responsible for all aspects and facets of the Project, from start to completion, from compliance with Occupational Health and Safety regulations to compliance with all codes and statutes.

.1 The General Contractor will be responsible to take all necessary steps to protect personnel (workers, visitors, general public, etc.) and property from any harm during the course of the contract.

.2 All equipment shall be in safe operating condition and appropriate to the task.

.3 Only competent personnel will be permitted on site. During the site introduction, *only the Consultant* will determine who is competent. The General Contractor will cause to remove from the site any persons not observing or complying with safety requirements.

.4 The General Contractor shall comply with, and shall ensure that all of his Subcontractors, Suppliers, Installers etc., comply with all Federal, Provincial and Municipal Safety Codes and Regulations and the Occupational Health and Safety Act.

.5 The General Contractor shall supply competent personnel to implement his safety program and ensure that all Subcontractors comply with the Board's standards, and those of the Occupational Health and Safety Act.

.6 The Board will provide periodic monitoring to ensure that safety requirements are met, and that safety records are properly kept and maintained. Continued disregard for safety standards can cause the Contract to be canceled and the General Contractor removed from the site.

.7 The Board may hire Commissioners to perform inspections of building systems at the closing stages of the work of this contract. If so contracted and identified in the *Instructions to Bidders*, the General Contractor shall cooperate with and coordinate the work of the Board's Commissioners on site.

.8 The General Contractor will report to the Board and Jurisdictional Authorities any accident or incident involving personnel and/or property of the Contractor, Board, or Public, arising from the General Contractor's or any of his Subcontractors' execution of the work.

.9 The General Contractor will include all provisions of this contract in any agreement with Subcontractors, and hold them equally responsible for safe work performance.

.10 If the General Contractor is responsible for a delay in the progress of the work due to an infraction of legislation or Board Health and Safety requirements, the Contractor will, without additional cost to the Board, work such overtime, and acquire and use for the execution of the work such additional labour and equipment as to be necessary in the sole opinion of the Board's Representative and Consultant, to avoid delay in the final completion of the work or any operations thereof.

1.23 MANUFACTURERS' INSTRUCTIONS

.1 Unless otherwise specified, the General Contractor and all his Subcontractors shall comply with manufacturer's latest printed instructions for materials and installation methods.

.2 The General Contractor shall notify the Consultant in writing of any conflict between the Specifications and Manufacturer's Instructions and have same clarified.

1.24 FIRE SAFETY

.1 The General Contractor and all of his Subcontractors must comply with requirements of standard for Building Construction Operations DFC No. 301-1975, issued by Dominion Fire Commissioner.

.2 The appropriate clauses of the Ontario Building Code relating to fire protection shall be strictly followed.

.3 The General Contractor shall provide and maintain free access to temporary or permanent fire hydrants acceptable to local fire department.

1.25 CONSTRUCTION SAFETY

.1 The General Contractor and all his trades must observe and enforce construction safety measures required by Canadian Construction Safety Code, Workplace Safety & Insurance Board, and Municipal statutes. In particular, the Ontario Construction Safety Act, the regulations of the Ontario Department of Labour and Ontario Hydro Safety Requirements shall be strictly enforced. In event of conflict between any provisions of above authorities the most stringent provisions will apply.

.2 The General Contractor is reminded, once again, that they are responsible for Occupational Health and Safety on this Project. The items listed below are only guidelines of the Board's expectations in this regard and not to be construed to be comprehensive or total in nature.

.3 The Board will take every reasonable precaution to prevent injury or illness to students, employees and the public, participating in Board activities, or performing their duties. This shall be accomplished by providing and maintaining a safe, health working environment by providing the education necessary to perform these activities or duties safely.

.4 The Board is vitally interested in the health and safety of all Contractors and their workers performing work for the Board. Cooperation and support of the General Contractor in the protection of workers from injury or occupational disease is a major, continuing object of the Board. To achieve these goals, the Board, in concert with the Contractors, will endeavor to make every effort to ensure that the Contractors provide a work site which is a safe and healthy work environment. The Board insists that all Contractors and their workers are dedicated to the continuing objective of reducing risk and injury.

.5 The General Contractor covenants and agrees to comply with all statutory and other obligations, including, without limitation, the provisions of the Occupational Health and Safety Act (Ontario) and all Regulations thereto, and all amending and successor legislation, including without limitation, Bill 208 (the "Act") in connection with all work performed by either the Contractor, Subcontractors, or any Other Contractor on, or in connection with, the Project.

.6 Without limiting the foregoing, for the purposes of this Contract, the General Contractor agrees that **he** shall be the "constructor" of the Project within the meaning of the Act, and as such, shall assume all the obligations and responsibilities, and observe all construction safety requirements and procedures, and duties of inspection imposed by the Act on the

"constructor", as therein defined, for all work and services performed by the General Contractor, Subcontractors and Other Contractors on or in connection with the Project.

.7 The General Contractor further covenants and agrees that the Board and its existing and former officers, trustees, employees and agents, and their respective heirs, executors, administrators, successors and assigns (hereinafter collectively referred to as the "Board") shall be released from any obligations or liabilities otherwise imposed on the Board, or on any of them, pursuant to the Act in connection with the Project, and that the General Contractor shall assume all liability and responsibility in connection with same.

.8 The General Contractor agrees to save harmless and indemnify the Board from any losses, damages, costs and expenses of any kind, or nature whatsoever, including all legal expenses, and all defense costs and related expert or consulting fees, incurred by the Board, or any of them, arising in connection with the failure, default, or inability of the General Contractor of the Board, or any of them, to comply with any of the aforementioned statutory, or other legal requirements, or arising in connection with any breach by the General Contractor of any of its covenants, agreements and obligations under this Contract.

.9 The General Contractor shall inform and instruct Other Contractors that they, while performing work on this project, are under the authority of the Contractor. Other Contractors are to discuss and co-ordinate with, and follow instructions from, the General Contractor on all matters of site access, vehicles, deliveries, storage, temporary facilities, coordination with the work of other subcontractors, work methods, scheduling, labour conditions, construction safety, environmental protection, security and all other matters which relate to the safe and proper execution of construction work.

.10 The General Contractor shall ensure that all supervisory personnel on job site are fully aware of the procedures and requirements outlined above and comply with all requirements specified.

.11 All Contractors are responsible to ensure that all machinery and/or equipment are/is safe and that the workers perform their tasks in compliance with established safe work practices or procedures. Workers must receive adequate training in their specific work tasks to protect their health and safety.

.12 The General Contractor shall be responsible for all persons and companies performing work, including Other Contractors, on this project, at all times, up to and including, the date of Substantial Performance of the Work. Authority for coordination and instructions relating to all matters which relate to the safe and proper execution of construction work shall rest with the General Contractor. The Contract Price must include the General Contractor's fees for the coordination and supervision of the work of all Other Contractors.

.13 In addition to the responsibility of all contractors as outlined above, Subcontractors will be held accountable for the health and safety of workers under their supervision.

.14 Every worker must protect his/her own health and safety by working in compliance with the law and with safe work practices and procedures established by the authorities having jurisdiction.

.15 All sections of the Occupational Health and Safety Act for Industrial Establishments, latest edition, and the Occupational Health and Safety Act for Construction projects, latest edition, shall be enforced, by the General Contractor, in their entirety, throughout the duration of the construction project.

.16 The General Contractor shall provide the Consultant with the telephone number where the General Contractor or his representative can be reached at any time, day or night, for the duration of the contract.

.17 Where an accident, explosion, or fire causes a person injury at the work place, and the worker is disabled from performing the usual task, the General Contractor shall prepare a written notice and shall forward same to the Ministry of Labour within four days of the occurrence with a copy to the Board's Representative, who shall copy and inform the Board's Supervisor of Health and Safety and/or the Board's Joint Health and Safety Committee, containing such information and particulars as may be described.

.18 Where a person is killed or critically injured from any cause at the workplace, the General Contractor shall immediately call the Ministry of Labour. A written notice from the General Contractor shall be given to the Ministry of Labour within forty-eight hours after the occurrence, containing such information and particulars as may be prescribed, with copies to the Architect and the Board's Representative.

.19 The General Contractor is advised that the accident scene is under the jurisdiction of the Ministry of Labour and no wreckage, articles, etc., shall be interfered with, disturbed, destroyed, altered or carried away at the scene, or connected with the occurrence, until the Ministry of Labour has given permission.

1.26 INDEPENDENT TESTS AND INSPECTIONS

.1 The Contractor shall appoint inspection firms as directed by the Consultant and make payments from the cash allowances specified in Division noted, except for the following, which shall be included in the contract:

.1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.

.2 Inspection and testing performed exclusively for Contractor's convenience.

.3 Re-testing as already described in *Quality Control* of this Section.

.2 The Consultant will authorize payment of inspection services from specified cash allowances.

.3 Vibration and Noise Control:

.1 Throughout the area of operations, use of appropriate means and methods to reduce and maintain vibration and noise levels below City of Toronto's bylaw requirements and per Consultant's satisfaction.

.3 Provide means and methods for excavation in consultation with Contractor's Engineer related to excavation, backfilling, and compaction along existing slopes using appropriate mitigation measures to minimize risk of disturbances.

.3 Vibration is required to be monitored by the City of Toronto. Vibration testing is to be paid for through the Cash Allowance.

.4 The General Contractor shall furnish labour and facilities to:

.1 Provide access to work to be inspected and tested.

.2 Facilitate inspections and tests.

.3 Make good work disturbed by inspection and test.

.5 The General Contractor shall notify Inspection Firms sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.

.6 Where materials are specified to be tested, the General Contractor shall deliver representative samples in required quantity to testing laboratory.

1.27 TEMPORARY PROTECTION

.1 Refer also to Articles 1.6, in this Section.

.2 Install tree protection hoarding, root protection and sediment control fencing in accordance with the approved plans and to standards as detailed in the City's Tree Protection Policy and Specifications for Construction near Trees (www.toronto.ca/trees/ravines) and to the satisfaction of RNFP. Installation must be completed prior to commencement of any site disturbance works or prior to commencement of tree removal activities. **Once the tree and site protection measures have been installed, notify RNFP at rnfp@toronto.ca to arrange for an inspection of the site.**

.3 **To reduce the risk of contravening the Migratory Bird Convention Act, timing of any tree removal must occur outside of the breeding bird period of April 1 – August 31.**

.4 The General Contractor to provide temporary barricades, screens or barriers as directed by the Consultant and/or authorized Board Representative, for the safety of persons, or for dividing the Work from portion or portions of the building or site that may be required for use by the school, or others.

.5 Properly protect the Work from any damage by the elements. In cold weather cover all exterior openings in the work areas likely to cause water damage.

.6 During off hours and/or stages of suspended operations for whatever reasons, the General Contractor must assume all responsibility for protection against the elements, theft and/or vandalism. This applies to all work in progress and to any materials, products, tools, equipment, or other such items left at the work site.

.7 The General Contractor must ensure that no part of the Work is loaded greater than it was designed for, when completed. Make any temporary support as strong as the permanent support. Place no load on concrete structure until it has sufficient strength to safely bear such load.

.8 The General Contractor must provide a minimum of two safety helmets on site at all times for the use of the Consultant and any other Board authorized visitors to the site. It is the General Contractor's responsibility to make certain that any such visitors wear the protective headgear and any other safety gear which may be necessary at that particular time of construction.

1.28 COMPLETION

.1 Upon completion of the Work, all protection erected shall be removed, all damage to the Work or affected property due to the lack or failure of such protection shall be made good and all debris, surplus materials tools equipment shall be removed from the work areas and the site, and the Project shall be left clean and tidy to the full and complete satisfaction of the Consultant and Board Staff. The General Contractor shall give written notice to the Consultant, requesting final inspection of the completed Project.

.2 Refer to the pertinent sections of the Specifications for requirements with respect to submission of *Record Documents, Maintenance Materials, Special Tools* and *Spare Parts.*

1.29 GUARANTEES

.1 The following is a summary of the guarantees (in number of years) required by the contract. Refer to individual specifications sections for additional information on warrantees. In the event an extended warranty is listed in the specific Section, that section will have precedence over this list. If no extended warranty is listed, this list will govern:

.1 Entire Building, General Contract 1

.2 The guarantee period shall start on the date of issue of the Certificate of Substantial Performance of the Contract by the Consultant.

1.30 CONTINGENCY ALLOWANCE

.1 No contingency allowance is included in this contract price.

1.31 CASH ALLOWANCES

.1 Include in the Contract Price, two, stipulated sum Cash Allowances totaling the amount of **Two hundred and fifty thousand dollars, ($250,000.00).**

.2 Cash Allowances, unless otherwise specified, cover the net cost to the General Contractor of services, products, construction, machinery and equipment, freight, handling, unloading, storage installation and other authorized expenses incurred in performing the Work.

.3 The Contract Price, *and not the Cash Allowance*, includes the General Contractor's profit and coordination costs in connection with all Cash Allowance expenditures.

.4 The Contract Price will be adjusted by written order by the Consultant to provide for an excess or deficit to each Cash Allowance. Any unused portions of these allowances shall be returned to the Board on the conclusion of the Contract.

.5 A schedule shall be prepared jointly by the Consultant and the General Contractor to show when items called for under Cash Allowances, so that the progress of the Work is not delayed.

.6 Exclusive of Deposits, which are the contractor's sole responsibility to provide as required of Authorities Having Jurisdiction, the following is a summary of the scope Cash Allowances to be included in the contract:

.7 Expend both Cash Allowances as directed by the Consultant in writing. Allowances will be adjusted to actual cost with no adjustment to Contractor's charges. Cash expenditure must identify the H.S.T. separately.

.8 **Cash Allowance - General**

.1 All Inspections and Testing, including vibration monitoring (requested by Consultants, Owner or Authorities)

.2 Temporary Site Construction Sign

.3 Contaminated Soil Removal that is beyond that identified to be removed within the contract documents.

.4 Additional abatement requirements that were not identified within the contract documents (Designated Substance Report or Abatement specifications).

.5 Municipal road damage deposit.

.6 Unidentified work within the municipal right of way required by Authorities (over and above anything shown within the contract documents).

.7 Utility company disconnection fees.

.8 Closed circuit television (CCTV) inspection video and report of the existing municipal sewers located within the easements to the satisfaction of the General Manager, Toronto Water undertaken by a qualified and licensed contractor.

.9 Geotechnical Investigation upon foundation and footing removal to document the geodetic elevation of the footing being removed and the quality and bearing capacity of the existing soils below the existing footings, before any upfill.

.10 Completion Site Survey by OLS

1.32 SCHEDULE OF ALLOWANCES

.1 Material Allowances shall include the following:

.1 Net cost of Material

.2 Applicable taxes and duties

.3 Delivery to site

.2 For Material Allowance, the contract shall include:

.1 Handling at site, including unloading, uncrating, storage and hoisting

.2 Protection from elements, from damage

.3 Labour, installation and finishing

.4 Other expenses required to do cash allowance work (i.e. contract co-ordination)

.5 Overhead and profit

.3 Material and Installation Allowances shall include the following:

.1 Net cost of material

.2 Applicable taxes and duties

.3 Deliver to site

.4 Handling at site, including unloading, uncrating, storage and hoisting

.5 Labour, installation and finishing

1.33 POLYCHLORINATED BIPHENYL (PCB)

.1 Conform to the Environmental Protection Act and Regulations, Ontario Regulation 11/82 as amended.

1.34 USE OF CONSULTANTS'S DIGITAL DRAWINGS

.1 Where a contractor wishes to obtain a digital copy of consultant drawings for shop drawings or survey purposes, the consultant may elect to provide this drawing for a nominal fee. As this is the consultants' option, the contractor shall not anticipate provision of these digital drawings to meet the contract schedule.

1.35 BUILDING DIMENSIONS

.1 Ensure that all necessary job dimensions are taken and all trades are co-coordinated for the proper execution of the work. Assume complete responsibility for the accuracy and completeness of such dimensions, and for co-ordination.

.2 Verify that all work, as it proceeds, is executed in accordance with dimensions and positions indicated which maintain levels and clearances to adjacent work, as set out by requirements of the drawings, and ensure that work installed in error is rectified before construction resumes.

.3 Check and verify all dimensions referring to the work and the interfacing of all services. Verify all dimensions, with the trade concerned when pertaining to the work of other trades. Be responsible to see that Subcontractors for various trades co-operate for the proper performance of the Work.

.4 Avoid scaling directly from the drawings. If there is ambiguity or lack of information, immediately inform the Consultant. Be responsible for any change through the disregarding of this clause.

.5 All details and measurements of any work which is to fit or to conform with work installed shall be taken at the building.

.6 Advise Consultant of discrepancies and if there are omissions on drawings, including layout of items which affect aesthetics, or which interfere with services, equipment or surfaces. DO NOT PROCEED without direction from the Consultant.

1.36 SETTING OF WORK AND REQUIRED SURVEYS

.1 As part of the base tender amount, provide and pay for the services of a Land Surveyor acceptable to the Consultant, registered in the Province of Ontario to establish the property boundaries and the location of the building addition.

.2 Lay out building lines for the work and provide substantial stakes, batterboards or monuments to preserve lines and levels.

.3 Verify on the site all grades, lines, levels, dimensions and location of hydrants, existing structures, manholes, overhead and buried utilities, existing trees, roadways, sidewalks and the like, shown on the drawings, and report omissions, errors, or inconsistencies, before commencing work.

.4 Upon completion of layout work and before commencement of any excavation, give ample notification to allow for inspection of lines and levels. Such inspection does not in any way mitigate the Contractor's responsibility for accuracy of layout.

1.37 DOCUMENTS REQUIRED AT START, DURING & CLOSE-OUT OF CONSTRUCTION

.1 At Commencement of Contract

.1 Supply Performance Bond and Labour and Material Bond, in accordance with Section 00 21 13, Instructions to Bidders.

.2 Supply Public Liability and Property Damage Insurance Certificates, also Builder's Risk and Boiler Insurance as required of the Contract.

.3 Supply Certificates of good standing from WSIB for the General Contractor and all Subcontractors.

.4 Supply a complete Contract Sum Breakdown of all subtrades or parts of work and general expense items for approval by all consultants. Include Mechanical and Electrical Breakdowns for review and acceptance by Consultants.

.5 Supply a competent detailed Construction Schedule that has been reviewed and approved by major subtrades. Identify critical milestone dates.

.6 Supply Cash Flow schedule of monthly progress payments in coordination with the Construction Schedule and plot as 'S' curve chart.

.7 Supply Schedule of Shop Drawing Submissions and identify list of long-lead items.

.8 Apply for and post and supply a copy of Notice of Project.

.9 Supply a copy of Health & Safety policy as well as post at the job site.

.10 Supply Shoring Designs of all load bearing areas if any required of the construction sequence or if required by the Structural Engineer.

.11 Supply interference drawings for all areas requested by the Architect, Mechanical Engineer or Electrical Engineer.

.2 During Construction

.1 Maintain as-built record drawings in clean condition.

.2 Organize regular Trade Coordination meetings.

.3 Organize separate, regular Owner and Consultant Job Meetings in accordance with Section 012200.

.4 Maintain a copy of up to date records on site including, but not limited to Permit Sets, Contract Documents updated with all addenda, all Changes and Supplementary Instructions issued by Consultants.

.3 Monthly with Each Progress Payment Application

.1 Supply Monthly Progress Reports and Construction Schedule in accordance with Section 012200.

.2 Adjust Allowances, as required.

.3 Current WSIB Form

.4 Confirm that payments are being made to subcontractors and suppliers by submission of original copies of the current versions of Statutory Declarations with the second and subsequent Progress Payment Application. Include both Statutory Declarations Form CCDC-9A for the General Contractor and CCDC-9B from subcontractors with each monthly Progress Payment Application. No payment will be made for unincorporated material on the site, unless Bill of Sale in proper format is provided.

.4 Prior to Substantial Completion

.1 Provide detailed Completion Schedule a minimum of 90 days prior to Substantial Completion. Schedule to illustrate all trades and sequences required for completion and legal occupancy. Issue to Consultants and upon acceptance, to all trades.

.2 Coordinate Completion Schedule with Building Commissioner at least 60 days prior to substantial completion or as directed by Consultant.

.3 Prior and as a requirement of owner acceptance of Substantial Completion of the work the following to be observed, executed and submitted:

.1 DEFICIENCIES ARE LISTED: prior to Substantial Completion, the contractor shall prepare a room by room deficiency list in electronic format on an MS Excel spreadsheet provided by the Consultant. Contractor shall print and review on site with consultants at a site meeting and post on each room or area. This list will be acted upon by all trades and coordinated and updated weekly as a minimum by the General Contractor to ensure all deficiencies are addressed by the date required for Total Performance. Confirm in writing to the Architect when and on what dates each deficiency has been completed in a satisfactory manner. The Consultant's site review will be final approval.

.2 Acceptable preliminary submissions of all Warranty and Shop Drawing Records have been reviewed by Consultants.

.3 All final clean-up to have been executed, as specified in Section 01 74 11.

.4 Failure to comply with these requirements shall have amounts withheld on Progress Payments and delay issuance of Certificate of Substantial Completion.

.5 Note that Prior to the Release of Holdback, a similar Progress Claim is required, and must include current Statutory Declaration Forms CCDC-9A for the General Contractor and CCDC-9B from subcontractors updated to refer to the Previous Certificate of Payment.

.5 Upon Completion (Refer also to 01 78 00 Close-Out Submittals)

.1 Upon completion of work before the Final Certificate of Payment is issued, the following to be observed, executed and submitted:

.2 DEFICIENCIES ARE COMPLETE. Confirm in writing to the Architect when and on what dates each deficiency has been completed in a satisfactory manner. The Consultant's site review will be final approval.

.3 Organize a Final Inspection tour at which to be present: the Owner's authorized representative; the Architectural, Structural, and Electrical Consultants, and their supervisory personnel, if any; the Contractor and his superintendent.

.4 Where the above procedure is impossible or where any deficiencies remain outstanding, the Owner's representative and the Consultant concerned, to inspect and accept the affected work and/or material upon notification by the Contractor, that all deficiencies involving this Consultant have been made good.

.5 A complete release of all liens arising out of this Contract, other than his own. If a subcontractor or supplier refuses to furnish a release of such a lien, furnish a bond satisfactory to the Owner to indemnify him against any claim under such a lien.

.6 Certificates of good standing from the WSIB, for the General Contractor and all Subcontractors.

.7 All reference records, as specified, under Section 01 78 00.

.8 Certificate of Inspection from Mechanical and Electrical Engineers.

.9 Copies of all Lists of Deficiencies with each Deficiency verified when complete by only this project's job Superintendent. The Final List of Deficiencies to be signed, completed by all concerned, if accepted.

.10 Statement of Completion from General Contractor.

.11 Final adjustment of all Allowances.

.12 Certificates required by Provincial, Municipal and other authorities having jurisdiction.

.13 As-Built Survey by O.L.S. paid from Cash Allowance. Survey to include detailed spot elevations and include elevations at tops of all CB's & MH's, all invert elevations (engage private locate firm as required), elevations at bottoms of curbs, elevations at all corners of building.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 PROJECT MEETINGS FOR COORDINATION

.1 In consultation with the Consultant not later than the second week of construction, arrange for site meetings weekly or every 2 weeks as appropriate to the stage of construction, for project coordination. Such meetings shall fall at the same time each week the meeting is scheduled.

.2 Responsible representatives of the Contractor's and Subcontractor's office and field forces and suppliers shall be obliged to attend.

.3 Inform the Owner, Consultant, and those others whose attendance is obligatory, of the date of each meeting, in sufficient time to ensure their attendance.

.4 Provide physical space for meetings, prepare an agenda, chair and record the minutes of each meeting. Relevant information must be made available to all concerned, in order that problems to be discussed may be expeditiously resolved. Identify "action by: _____".

.5 Within three days after each meeting, distribute two copies of the minutes to each invited person and regular distribution list to be issued by the consultant.

1.2 PRECONSTRUCTION MEETING

.1 Within 5 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

.2 Include in the agenda the following:

- .1 Appointment of official representative of participants in the Work.
- .2 Site Safety and Security
- .3 Scheduling of Work. Schedule to include a detailed breakdown of mechanical and electrical works.
- .4 Interference with ongoing business.
- .5 Work by other Contractors.
- .6 Schedule of submission of shop drawings and samples.
- .7 Requirements for temporary facilities, site sign, offices, storage sheds utilities.
- .8 Delivery schedule of specified equipment and identification of long-lead or other critical items.
- .9 Site security.
- .10 Procedures for Contemplated change notices, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
- .11 Record drawings.
- .12 Maintenance manuals.
- .13 Take-over procedures, acceptance, warranties.
- .14 Monthly progress claims, administrative procedures, photographs, holdbacks.

.15 Appointments of inspection and testing agencies or firms.

.16 Insurances, transcript of policies.

.17 Schedule for progress meetings.

1.3 PROJECT MEETINGS FOR PROGRESS OF WORK

.1 Conduct progress meetings in accordance with the schedule and/or decisions made at Preconstruction meeting.

.2 Inform the Owner, Consultant, project consultants, Subcontractors and suppliers and those whose attendance is obligatory, of the date of the meeting, in sufficient time to ensure their attendance.

.3 Include in the agenda the following:

.1 Site Safety and security record or incidents.

.2 Review, approval of minutes of previous meeting.

.3 Review of Work progress since previous meeting.

.4 Field observations, problems, conflicts.

.5 Problems which impede construction schedule.

.6 Review of off-site fabrication delivery schedules.

.7 Corrective measures and procedures to regain projected schedule.

.8 Revisions to construction schedule.

.9 Progress during succeeding work period as a “two-week look ahead”.

.10 Review submittal schedules: expedite as required.

.11 Maintenance of quality standards.

.12 Pending changes and substitutions.

.13 Review proposed changes for effect on construction schedule and on completion date.

.14 Other business.

1.4 PROGRESS RECORDS

.1 Maintain a permanent written record on the site of the progress of the work using standard OGCA form. This record shall be available to the Consultant at the site, and a copy shall be furnished to same on request. The record shall contain:

.1 Daily weather conditions, including maximum and minimum temperatures.

.2 Dates of the commencement and completion of stage or portion of the work of each trade in each area of the project.

.3 Conditions encountered during excavation.

.4 Dates of erection and removal of formwork, in each area of the project.

.5 Dates of pouring the concrete in each area of the project, with quantity and Particulars of the concrete.

.6 Work force on project daily per trade and active hours.

.7 Visits to site by personnel of Consultant, Jurisdictional Authorities and testing companies.

1.5 PROGRESS REPORTS

.1 Submit to the Consultant, Monthly Progress Reports consisting of a concise narrative and a marked-up summary schedule showing physical percentage complete by item and in total. These progress calculations must agree with the Progress Payment Claims. masonry; mechanical, finishing trades and the like. Include with this submission the digital schedule referenced below

1.6 DIGITAL PROJECT SCHEDULES

.1 At the outset of the project, General Contractor to provide and maintain a digital project schedule including Milestone Dates and listing all trades.

.2 Update and issue to Consultant in hard copy and electronic copy not less than monthly and at each Progress Draw. To be issued in format compatible with Microsoft Project program.

.3 At 70% completion, or 16 weeks prior to Substantial Completion, whichever comes first, Project develop a detailed Completion Schedule outlining final coordination and sequences to completion.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Shop drawings and product data.

.2 Samples and mock ups.

1.2 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

1.3 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2- 2020

1.4 SHOP DRAWINGS AND PRODUCT DATA

.1 Refer to CCDC 2 General Conditions.

.2 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

.3 Drawings to be originals prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate appropriate portion of work; showing fabrication, layout, setting or erection details as specified in appropriate Sections.

.4 Identify details by reference to sheet and detail numbers shown on Contract Drawings.

.5 Maximum sheet size 606 x 909 mm.

.6 Reproductions for submissions: opaque diazo prints.

.7 Submit to Architect, for review, shop drawings, product data and samples specified.

.8 Until submission is reviewed, work involving relevant product must not proceed.

1.5 PROJECT DATA

.1 Certain specification Sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings.

.2 Above will only be accepted if they conform to following:

.1 Delete information which is not applicable to project.

.2 Supplement standard information to provide additional information applicable to project.

.3 Show dimensions and clearances required.

.4 Show performance characteristics and capacities.

.5 Show wiring diagrams (when requested) and controls.

1.6 COORDINATION OF SUBMISSIONS

.1 Review shop drawings, product data and samples prior to submission.

.2 Verify:

.1 Field measurements.

.2 Field construction criteria.

.3 Catalogue numbers and similar data.

.3 Co-ordinate each submission with requirement of work and Contract documents. Individual shop drawings will not be reviewed until all related drawings are available.

.4 Contractor's responsibility for errors and omissions in submission is not relieved by Architect's review of submittals.

.5 Contractor's responsibility for deviations in submission from requirements of Contract documents is not relieved by Architect's review of submission, unless Architect gives written acceptance of specified deviations.

.6 Notify Architect, in writing at time of submission, of deviations from requirements of Contract documents.

.7 After Architect's review, distribute copies.

1.7 SUBMISSION REQUIREMENTS

.1 Schedule submissions at least fourteen (14) days before dates that reviewed submissions will be required to be returned.

.2 Submit one reproducible transparency, plus six (6) opaque diazo copies of shop drawings, product data to Architect for review.

.3 Accompany submissions with transmittal letter, in duplicate, containing:

.1 Date.

.2 Project title and number.

.3 Contractor's name and address.

.4 Number of each shop drawing, product data and sample submitted.

.5 Other pertinent data.

.4 Submissions must include:

.1 Date and revision dates.

.2 Project title and number.

.3 Name of:

.1 Contractor.
.2 Subcontractor.
.3 Supplier.
.4 Manufacturer.
.5 Separate detailer when pertinent.

.5 Identification of product or material:

.1 Relation to adjacent structure or materials.
.2 Field dimensions, clearly identified as such.
.3 Specification Section number.
.4 Applicable standards, such as CSA or CGSB numbers.
.5 Contractor's stamp, initialed or signed, certifying review of submission, verification of field measurements and compliance with Contract documents

1.8 INTERFERENCE DRAWINGS

.1 Prepare interference drawings for all work in confined space: all typical ceiling space conditions and atypical conditions. Coordinate with all trades.

.2 Submit as shop drawings in advance of fabrication or installation of components. Site conditions requiring corrections, due to failure to provide interference drawings as required will be corrected at no additional cost to the owner.

.3 Ceiling heights and bulkheads will not be revised during construction due to failure to prepare interference drawings.

1.9 SHORING DESIGN DRAWINGS

.1 If required as part of this project, or due to construction sequence, it is the contractor’s responsibility to provide in advance of any work requiring shoring, detailed Shoring design drawings bearing the seal of a Professional engineer registered in the Province of Ontario and also a Method Statement describing the work sequence.

.2 Submit to the Consultants as shop drawings in advance of the work.

1.10 SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEERS

.1 In addition to any the similar requirements for shop drawings of any mechanical or electrical systems, Shop Drawings for all structural components or components required to perform in conjunction with other structural or building envelope components, cladding and the like shall bear the seal of a professional engineer licensed in the Province of Ontario.

.2 In addition, all components to be attached to or suspended from the walls and ceiling areas shall also bear the seal of a professional engineer licensed in the Province of Ontario. This shall include but not be limited to the following:

.1 Stage drapery and rigging
.2 Stage lighting system
.3 Gymnasium equipment such as basketball backstops

.4 Projection screen supports

1.11 LIST OF SAMPLE OR MOCK-UP SUBMITTALS

.1 At the outset of the project the contractor shall prepare a comprehensive list of all shop drawings, sample submissions and mock ups required.

.2 For assistance only, the following samples and mock up items to be provided are included but not limited to the list following (note this is not exclusive of data sheets and shop drawings):

.1	04 21 13	Concrete and Brick Masonry	samples, mock-up (2m x 2m)
.2	04 21 13	Masonry Accessories	samples
.3	04 22 00	Concrete Masonry	samples
.4	06 10 11	Rough Carpentry	samples (300mm long)
.5	06 40 00	Architectural Woodwork	samples (300mm x 300mm)
.6	06 47 00	Plastic Laminates	samples
.7	07 11 13	Bituminous Waterproofing	mock-up (3m x 2m)
.8	07 21 13	Board Insulation	samples
.9	07 27 10	Air Barriers	samples
.10	07 4143	Aluminum Composite Panels	samples
.11	07 81 00	Applied Fireproofing	samples (300mm x 300mm)
.12	07 84 00	Firestopping	samples (300mm x 300mm)
.13	07 92 10	Joint Sealing	samples and mock up
.14	08 44 13	Glazed Aluminum Curtain Walls	samples, mock-up
.15	08 71 10	Finish Hardware	samples
.16	08 80 50	Glazing	samples (300 x 300)
.17	09 30 13	Ceramic Tiling	samples
.18	09 51 13	Acoustical Panel Ceilings	samples (300 x 300)
.19	09 65 19	Resilient Tile Flooring	samples
.20	09 68 00	Carpeting	samples (225 x 225)
.21	09 84 10	Acoustic Wall Treatment	samples (300 x 300)
.22	09 91 22	Painting	draw downs, mock-up
.23	10 11 25	Manufacturer Specialties	samples
.24	10 14 10	Exterior Building Panel Signage	samples
.25	10 21 20	Laminated Plastic Toilet Partitions	samples
.26	10 22 27	Folding Panel Partitions	samples
.27	12 35 51	Music Education Storage Casework	samples
.28	12 35 53	Wood Laboratory Casework	samples, mock-up
.29	31 23 10	Excavating, Trenching and Backfilling	samples
.30	32 12 17	Asphalt Paving	samples
.31	32 13 10	Unit Paving on Sand Bed	samples
.32	32 31 13	Chain Link Fences and Gates	samples
.33	32 91 21	Imported Topsoil	test reports and samples

1.12 SUBMISSIONS TO INSPECTION AGENCIES

.1 Note that Millwork shop drawings are to be submitted to AWMAC as part of the Guarantee Inspection program.

.2 Note that Paint formulations specified are to be submitted to the OPCA with set up documentation upon award of Contract.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Health and safety considerations required to ensure due diligence towards health and safety on construction sites, and meets the requirements laid out Occupational Health and Safety - Construction.

1.2 RELATED SECTIONS

.1 These specifications apply to all divisions of this project specification. It is the responsibility of the Contractor to apply these provisions wherever practical within specification limits to all products and services used on this project.

.2 Recognized that currently specified materials and methods may conflict with the basic intention of this section. Where reasonable alternate materials and methods exist that are not specified here, and that do not compromise quality or create additional cost for the Owner, notify the Consultant of such alternate materials or methods. Do not proceed to use alternate materials or methods to those specified without the express approval of the Consultant.

.3 Elsewhere, apply the provisions of this section to all work. Exceptions can only be made when signed off by the Consultant. Suitability of all products used is the responsibility of the Contractor.

1.3 REFERENCES

.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1 Material Safety Data Sheets (MSDS).

.3 Province of Ontario

.1 Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O.

1.4 COMPLIANCE SPECIFICATION

.1 The Contractor must comply with all applicable health, safety and environmental regulations.

1.5 BEYOND COMPLIANCE SPECIFICATION

.1 These specifications apply in addition to all applicable health, safety and environmental compliance regulations. They are incorporated here to reflect the Owner’s intention to develop a specification which maximizes environmentally “friendly” materials and methods wherever possible within current technical and budget limitations.

.2 Beyond compliance specifications recognize that performance well beyond the minimum regulatory standard is often desirable, possible and affordable, often with no cost or low

cost options. It also recognizes that application methods or protocols may be as important as the material specified. Therefore these specifications cover both material and methods.

.3 The primary goal of beyond compliance specification is to reduce the use of products or methods which have negative health and environmental impacts both during and after construction. These considerations may include full life cycle impacts, associated with raw materials, manufacturing, transport, deconstruction and their eventual fate.

.4 These specifications will specifically address primary categories of readily identifiable products, ingredients and methods.

.5 These provisions apply to both indoor and outdoor applications equally.

1.6 EXCEPTIONS

.1 These specifications recognize that not all substitutes are equal and therefore exceptions can be made based on substantive evidence of necessary and superior performance. Special considerations may be given to restricted substances when secondary provisions are made such as sealed in place (contained) applications. All such exceptions must be approved in writing by the Consultant.

1.7 PRODUCTS OR SUBSTANCES TO BE AVOIDED OR LIMITED IN USE

.1 No product containing the following substances may be used on this project when an equivalent product without or with a lower concentration of this substance is suitable and available. All products containing substances which are known to cause health effects including but not limited to cancer, mutagenic, neurological, or behavioral effects should be avoided if suitable substitutes not containing or containing lower concentrations are available. This provision shall be limited to information contained on Material Safety Data Sheets, therefore MSDS sheets must be reviewed for all products for which such sheets are required. Applications for exceptions must be accompanied by related MSDS and product application and performance sheets, clearly showing a need for the exception.

1.8 VOLATILE ORGANIC COMPOUNDS

.1 No product containing volatile organic compounds (in over simplified terms volatile petro chemical or similar plant derived solvents) may be used on this project when a suitable non VOC or failing that a low VOC substitute is available. Manufacturers may refer to the U.S. EPA definition of VOC's for guidance or alternatively use the low molecular weight organic compound descriptor.

.1 Example: Paints, Coatings, Primer, Adhesives, Chalks, Firestops, etc.

.2 Waterborne equivalents are available for most of the solvent borne products used in construction and in most cases would be the preferred alternative. Waterborne products may in some instances have high VOC contents; therefore the fact that a product is waterborne does not automatically make it acceptable.

1.9 CHLORINATED SUBSTANCES

.1 Poly Vinyl Chloride (vinyl) and other chlorinated products should be avoided if suitable substitutes are available.

1.10 PLASTICIZERS

.1 Plasticizers which off-gas (low molecular weight) should be avoided.

1.11 MAN MADE MINERAL FIBRES

.1 Products containing mineral fibres which can be emitted or abraded should be avoided.

.1 Examples: duct liner, mineral fibre ceiling tiles, etc.

1.12 RADIATION

.1 Products or methods which result in the lowest emission of Electro Magnetic Fields are preferred.

1.13 BIOCIDES

.1 Products containing biocides (pesticides, miticides, mildeweides. fungicides, rodenticides, etc.) are not to be used if suitable alternatives are available. Highly stable, low human toxicity biocides such as Portercept may be acceptable substitutes. Biocide formulas which break down, emit powders of offgass should be avoided.

1.14 HEAVY METALS

.1 Heavy metals such as lead, cadmium, mercury etc. should be avoided.

1.15 ALUMINUM

.1 Raw aluminum should be avoided, anodized or factory painted aluminum is acceptable. This is particularly applicable to surfaces which people can touch.

1.16 OZONE DEPLETING SUBSTANCES

.1 Products which contain or which use Ozone Depleting Substances such as Bromide, Chlorofluorocarbons (CFC) or Hydrofluorocarbons (HFC) etc. should be avoided if suitable substitutes are available.

1.17 GREENHOUSE GASES

.1 Products which contain, use or generate Greenhouse gasses such as CO2 should be avoided if suitable substitutes are available.

1.18 BITUMINOUS (Tar) PRODUCTS

.1 Products containing tar compounds should not be used if suitable substitutes are available.

1.19 CHEMICAL COMPOUNDS

.1 Products containing the following chemical compounds should not be used if suitable substitutes are available: Neoprene, Latex, Butyl, ABS, and Formaldehyde.

1.20 ADHESIVES

.1 Adhesives containing solvents or other non preferred ingredients should be avoided if suitable substitutes are available, including systems designs which do not need adhesives or can use mechanical etc. fastening alternatives

1.21 COMPOSITE PRODUCTS

.1 Some composite products contain adhesives such as formaldehyde which are not preferred, and some composites such as Fibre Reinforced Plastics are not practical for recycling. These products should be avoided if suitable substitutes are available.

1.22 CLEANERS AND SOLVENTS

.1 Products, equipment, and methods which require the use of cleaners and solvents are not preferred if suitable substitutes are available. Examples of preferred products would include No Wax floors, or primerless caulks and adhesives, or products not requiring caulks and adhesives.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 FIRES

.1 Fires and burning of rubbish on site not permitted.

1.2 DISPOSAL OF WASTES

.1 Do not bury rubbish and waste materials on site.

.2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.3 DRAINAGE

.1 Refer also to Section 31 23 10.

.2 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.

.3 Do not pump water containing suspended materials into waterways, sewer or drainage systems.

.4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.4 SITE CLEARING AND PLANT PROTECTION

.1 Protect trees and plants on site and adjacent properties where indicated.

.2 Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m.

.3 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.

.4 Restrict tree removal to areas indicated or designated by Engineer.

1.5 POLLUTION CONTROL

.1 Maintain temporary erosion and pollution control features installed under previous contract and to be provided new under this contract and as requested by local Municipal and Regional Authorities.

.2 Install, maintain, restore, replace sediment control fence as required by Municipal and Regional authorities. The fence shall be in accordance with Municipal standards.

3. Install, maintain, restore, replace roadside catchbasin sediment protection at all street catch basin in accordance with Municipal standards.

.3 Install, maintain, restore, replace catchbasin sediment barrier immediately after installation of catch basins on the property in accordance with Municipal Standards.

.4 A temporary mud mat has been installed under the previous grading contract and remains for removal under this contract. As part of this contract, include in the tender amount the supplementary stone required for maintenance and the removal of the mud mat consisting of 30m x 5m x 0.45m clear stone at any construction entrance. This is required whether or not such mud mat is shown on drawings or remains evident on site.

.5 Control emissions from equipment and plant to local authorities emission requirements.

.6 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.

.7 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Inspection and testing, administrative and enforcement requirements.

.2 Tests and mix designs.

.3 Mock-ups.

.4 Mill tests.

.5 Equipment and system adjust and balance.

1.2 PRECEDENCE

.1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.3 RELATED SECTIONS

.1 Section 1 33 00 - Submittal Procedures.

.2 Section 01 78 00 - Closeout Submittals.

.3 Section 01 11 00 article 1.12 – Quality Control

1.4 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2- 2020 Stipulated Price Contract

1.5 INSPECTION

.1 General: Materials and workmanship shall be subject to inspection at any time. Cooperate in permitting access for inspection to all places where work is being done or stock is being stored.

.2 Owner's quality control inspection and testing is specified in the technical sections and will be paid from Cash Allowance except as otherwise specified. Contractor to be responsible to pay for inspections and retesting to verify acceptability of work requiring correction.

.3 Allow Consultant access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.

.4 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Consultant instructions, or law of Place of Work.

.5 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

.6 Consultant may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. [If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.6 ACCESS TO WORK

.1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

.2 Co-operate to provide reasonable facilities for such access.

1.7 PROCEDURES

.1 Notify appropriate agency Consultant in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.

.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.8 REJECTED WORK

.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Consultant as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

.2 Make good other Contractor's work damaged by such removals or replacements promptly.

1.9 TESTS AND MIX DESIGNS

.1 Furnish test results and mix designs as may be requested.

.2 The cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work shall be appraised by Consultant and may be authorized as recoverable.

.3 Allow sufficient time for testing, evaluation, alterations and retesting so as not to interrupt the Progress Schedule for the Project.

.4 The Consultant may require testing of connections and special prefabricated inserts, as part of the work of this Section.

1.10 MOCK-UPS

.1 Refer to partial list of mock ups in Section 01 33 00 - Submittal Procedures

.2 Prepare mock-ups for Work specifically requested in specifications. Include for Work of all Sections required to provide mock-ups.

.3 Construct in all locations acceptable to Consultant.

.4 Prepare mock-ups for Consultant's review with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.

.5 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.6 If requested, Consultant will assist in preparing a schedule fixing dates for preparation.

.7 Remove mock-up at conclusion of Work or when acceptable to Consultant.

.8 Mock-ups may remain as part of Work only if previously agreed to by consultant and accepted as acceptable quality upon completion..

.9 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when.

1.11 MILL TESTS

.1 Submit mill test certificates as required of specification Sections.

1.12 EQUIPMENT AND SYSTEMS

.1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.

1.13 SEALANTS

.1 Refer also to Section 07 92 10.

.2 Sealants used for the various building envelope assemblies shall be selected from those specified in the respective assembly Section, and shall be coordinated with the sealant being provided under other building envelope Sections. Preferably, one sealant by the same manufacturer shall be used throughout. If different sealants are selected, from those specified, it is the responsibility of the respective Section to ensure compatibility between selected sealant, substrates, and sealants of other Sections which come in contact with the selected sealant.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Temporary utilities.

1.2 RELATED SECTIONS

.1 Section 01 52 00 - Construction Facilities.

.2 Section 01 56 00 - Temporary Barriers and Enclosures.

1.3 INSTALLATION AND REMOVAL

.1 Provide temporary utilities controls in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.4 DEWATERING

.1 Refer also to Sections 31 23 10 and 01 35 43.

.2 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

1.5 WATER SUPPLY

.1 Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances. Provide for water as require whether available in the vicinity of the site or not.

1.6 TEMPORARY HEATING AND VENTILATION

.1 Pay for cost of temporary heat and ventilation used during construction, including costs of installation, fuel, operation, maintenance and removal of equipment. Use of direct-fired heaters discharging waste products into work areas will not be permitted unless prior approvals given by the Architect.

.2 Furnish and install temporary heat and ventilation in enclosed areas, as required to:

- .1 Facilitate progress of work.
- .2 Protect work and products against dampness and cold.
- .3 Prevent moisture condensation on surfaces.
- .4 Provide ambient temperatures and humidity for storage, installation, curing of materials.
- .5 Provide adequate ventilation to meet health regulations for safe working environment.

.3 Maintain minimum temperature of 10 degrees C or higher where specified as soon as finishing work is commenced and maintained until acceptance of structure by Engineer.

.4 Ventilating:

.1 Prevent hazardous accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.

.2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.

.3 Dispose of exhaust materials in manner that will not result inharmful exposure to persons.

.4 Ventilate storage spaces containing hazardous or volatile materials.

.5 Ventilate temporary sanitary facilities.

.6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful elements.

.5 Maintain strict supervision of operation of temporary heating and ventilating equipment to:

.1 Conform with applicable codes and standards.

.2 Enforce safe practices.

.3 Prevent abuse of services.

.4 Prevent damage to finishes.

.5 Vent direct -fired combustion units to outside.

.6 The Architect may permit the use of permanent system providing agreement can be reached on:

.1 Conditions of use, special equipment, protection and maintenance.

.2 Guarantees will not be affected.

.3 Approval of the Owner.

7. Refer to Section 011100, item 1.30. ‘Periodic Cleaning’ for replacement of filters at time of final acceptance of work.

1.7 TEMPORARY COMMUNICATION FACILITIES

.1 For duration of contract until final permanent lines are installed, provide and pay for temporary telephone and fax hook up, lines and equipment necessary for own use and use of Consultant.

.2 Immediately upon award of contract, arrange for temporary Bell telephone line to be connected to the site trailer for purposes of providing functional communication equipment listed above.

1.8 FIRE PROTECTION

.1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.

.2 Burning rubbish and construction waste materials is not permitted on site.

1.9 POWER

.1 During the tender period, determine if power will be available in the vicinity of the project site. If no power is deemed available, include costs for generation of power required to carry out the work for the duration required to complete the Project. Provide written clarification at the time of Tender of estimated costs included in the Tender Price. The Board will not consider payment of generated power unless this written clarification is provided at the time of Tender.

.2 Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances.

.3 Install temporary facilities for power such as pole lines and underground cables to approval of local power supply authority.

.4 Electrical power and lighting systems installed under this Contract may be used for construction requirements with prior approval of Architect, provided that guarantees are not affected. Make good damage. Replace lamps which have been used over period of three (3) months.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Construction aids.

.2 Office and sheds.

.3 Parking.

.4 Project identification – refer to AD Drawings for jobsite sign.

1.2 RELATED SECTIONS

.1 Section 01 51 00 - Temporary Utilities.

.2 Section 01 56 00 - Temporary Barriers and Enclosures.

1.3 INSTALLATION AND REMOVAL

.1 Provide construction facilities in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.4 SCAFFOLDING

.1 All necessary scaffolding shall be provided and constructed according to all by-laws and safety regulations. It shall be removed promptly and completely when no longer required.

.2 As required by Ministry or Labour, design of scaffolding or hoarding shall be by a Professional Engineer.

1.5 ACCESS

.1 Provide and maintain adequate access to project site.

.2 The General Contractor for this Work shall, at all times allow the Consultants, the Board, or any other Board commissioned contractor or their employees, access into the building or around the premises, undisturbed, whether union or non-union, as may be required in the execution of other portions of the building work and installation of equipment, etc.

.3 The General Contractor shall cooperate fully with any and all Board commissioned Contractors.

1.6 HOISTING

.1 Provide, operate and maintain hoists & cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for use thereof.

.2 Hoists & cranes shall be operated by qualified operator.

1.7 ELEVATORS

.1 Permanent elevators may not be used by construction personnel for transporting of materials unless coordinated with the Architect or Structural Engineer.

.2 Provide protective coverings for finish surfaces of cars and entrances.

1.8 SITE STORAGE/LOADING

.1 Provide adequate weather tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.

1.9 CONSTRUCTION PARKING

.1 Provide, on site, sufficient temporary parking.

1.10 OFFICES

.1 Provide office heated to 22oC, lighted 750 Lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing lay down table, telephone, and facsimile machine. Pay telephone not acceptable.

.2 Maintain in clean condition.

.3 Provide and maintain in clean condition: two separate plans layout tables, minimum 1200 x 1800 each. One table shall be used by the General Contractor and subcontractors at their discretion. The second shall be provided for use by subcontractors and by the consultant or Inspection and Testing Companies during site visits or project meetings.

1.11 EQUIPMENT, TOOL AND MATERIALS STORAGE

.1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.

1.12 SANITARY FACILITIES

.1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

.2 Post notices and take such precautions, as required, by local health authorities. Keep area and premises in sanitary condition.

.3 When permanent water and drain connections are completed, provide temporary water closets and urinals complete with temporary enclosures, inside building. Permanent facilities may be used on approval or Architect.

1.13 JOBSITE SIGN

.1 Supply and erect a 2400 x 2400 mm sign (W.P. Plywood Signboard) as shown on AD Detail Sheets

.2 Construct plumb and level in neat wood framework and securely anchored in ground by posts to withstand wind pressure of 160 km/h.

.3 Provide shop drawing of layout.

.4 Supply of painted sign only shall be paid from Cash Allowance. Contractor is responsible for supply and installation of support framing and foundation connection on the site.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Barriers.

.2 Traffic Controls.

.3 Fire Routes.

1.2 RELATED SECTIONS

.1 Section 01 51 00 - Temporary Utilities.

.2 Section 01 52 00 - Construction Facilities.

.3 Section 01 11 00 - Summary of Work.

1.3 INSTALLATION AND REMOVAL

.1 Provide temporary controls in order to execute Work expeditiously.

.2 Remove from site all such work after use.

1.4 SITE ENCLOSURES

.1 Refer to Section 01 11 00- Summary of Work, article 1.6 ‘Constructions Fencing’ for clarification of existing fence on site.’ Maintain fences in good repair.

2. Maintain siltation control fencing as part of site enclosure, as indicated in Section 01 35 43, and/or required Municipal or Regional authorities. Maintain/restore/replace siltation control fencing as directed throughout the construction period to ensure proper function.

1.5 WEATHER ENCLOSURES

.1 Provide temporary weathertight enclosures protection for exterior openings until permanently enclosed.

.2 Erect enclosures to allow access for installation of materials and working inside enclosure.

.3 Design enclosures to withstand wind pressure.

.4 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.

1.6 DUST TIGHT SCREENS

.1 Provide dust tight screens or insulated partitions as required to localize dust generating activities, and for protection of workers, finished areas of Work and public.

.2 Maintain and relocate protection until such work is complete.

1.7 ACCESS TO SITE

.1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.8 PUBLIC TRAFFIC FLOW

.1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect the public.

1.9 FIRE ROUTES

.1 Maintain access to property including overhead clearances for use by emergency response vehicles.

~~1.10 HOARDING OF EXISTING BUILDINGS TO REMAIN OCCUPIED AT BEGINNING OF PROJECT~~ (DELETED IN ADDENDUM #1)

~~.1 Refer also to Section 01 11 00 Summary of Work for project description and construction sequencing.~~

~~.1 There are seven (7) existing residential buildings on site that are to be demolished as part of this contract.~~

~~.2 **Building 1** (existing house) and **Building 2** (existing shed/garage) **will remain occupied for residential** use at the beginning of construction until **October 31, 2018.** This area of the site is to be fenced and /or hoarded-off from the construction area and kept safe for the occupants.~~

~~.3 Buildings 3, 4, 5, 6 & 7 will be relinquished by Owner through the entire construction period. The entire remaining site which is indicated to be fenced and/or hoarded-off shall be the Contractor's responsibility including work areas to the public boulevard, driveway connections, service connections, etc.~~

1.11 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

.1 Protect surrounding private and public property from damage during performance of Work.

.2 Be responsible for damage incurred.

1.12 PROTECTION OF BUILDING FINISHES

.1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.

.2 Provide necessary screens, covers, and hoardings.

.3 Confirm with Consultant locations and installation schedule 5 days prior to installation.

.4 Be responsible for damage incurred due to lack of or improper protection.

1.13 TEMPORARY FENCING TO SODDED AREAS

1. Following the installation of sod to the playfield areas, supply and install temporary, leased Modular (Mod U Lok) 1800 high chain link fencing. Stake with iron "T's" at minimum 2400 o.c. and maintain for a minimum of **ten (10)** weeks while sod is maintained as part of this contract and is deemed established. Refer to Section 32 92 23 – Sodding and 01 11 00 – Summary of Work. **(BOLD REVISED IN ADDENDUM #1)**

2. Remove fencing at end of 6 week period.

3. Cost of this temporary fencing for this period to be included Tender Price if sod is not installed a minimum of 6 weeks prior to tender.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 EXECUTION

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Requirements and limitations for cutting and patching the Work.

.2 The responsibilities of this section includes but is not limited to the following item(s), including all related labour and materials necessary to successfully complete the installation of same as detailed on the Drawings.

.3 The cutting, removal and disposal and patching of masonry wall sections in locations of all new electrical panels and for all mechanical ducts passing through masonry walls or walls of any other construction not automatically accommodated in new work by the mason.

.4 The cutting, removal and patching of all penetrations required for mechanical and electrical services through floors, ceilings and walls.

.5 The supply and installation of a Portland cement based leveling skim coat as required to provide an acceptable surface for the installation of new VCT tile to any rooms as described on drawings to receive such flooring.

.6 All other work not listed in other Sections, but detailed on the Drawings.

1.2 RELATED SECTIONS

.1 Section 01 11 00 - Summary of Work.

.2 Section 04 21 13- Brick Masonry

.3 Section 01 33 00 - Submittal Procedures.

.4 Section 08 11 14- Metal Doors and Frames

.5 Section 08 71 15 – Finish Hardware

.6 Section 09 91 22- Painting

.7 Section 09 21 16- Gypsum Board Assemblies

.8 Section 09 51 13- Acoustic Panel Ceilings

.9 Section 10 11 25- Manufactured Specialties

.10 Mechanical and Electrical Sections.

.11 Individual product Sections: cutting and patching incidental to work of section. Advance notification to other sections required.

1.3 SUBMITTALS

.1 Submit written request in advance of cutting or alteration which affects:

- .1 Structural integrity of any element of Project.
- .2 Integrity of weather-exposed or moisture-resistant elements.
- .3 Efficiency, maintenance, or safety of any operational element.
- .4 Visual qualities of sight-exposed elements.
- .5 Work of Owner or separate contractor.

.2 Include in request:

- .1 Identification of Project.
- .2 Location and description of affected Work.
- .3 Statement on necessity for cutting or alteration.
- .4 Description of proposed Work, and products to be used.
- .5 Alternatives to cutting and patching.
- .6 Effect on Work of Owner or separate contractor.
- .7 Written permission of affected separate contractor.
- .8 Date and time work will be executed.

1.4 MATERIALS

.1 Required for original installation.

.2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.

.3 Concrete lintel block, reinforcing steel and concrete fill for openings if required at new penetrations in walls or steel lintels as may be permitted by consultant.

.4 Portland Cement based Concrete Patching Compound compatible with new slab, precast concrete slabs or other flooring to make good a smooth, suitable surface to accept the direct application of new VCT or resilient sheet flooring.

.5 Portland Cement based Concrete for new floor openings or floor leveling, or patching of floor openings.

.6 All other materials not listed in other Sections, but detailed on the Drawings.

1.5 EXECUTION

.1 The Trades requiring cuts, holes or sleeves for their work shall locate them.

.2 Do not cut, drill or sleeve load-bearing members without obtaining prior written approval from the Consultant for each condition.

.3 Cut holes carefully, leaving holes no longer than required, with clean, true and smooth edges.

.4 Fit items to the tolerances established by industry 'Best Practice' standard for applicable type of work.

.5 Make patches undetectable in the finished work. All other work not listed in other Sections, but detailed on the Drawings, is to be done in a professional manner and to the industry 'Best Practice' standard for the described work.

.6 Execute cutting, fitting, and patching including excavation and fill if required, to complete Work.

.7 Fit several parts together, to integrate with other Work.

.8 Uncover Work to install ill-timed Work.

.9 Remove and replace defective and non-conforming Work.

.10 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.

.11 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.

.12 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.

.13 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.

.14 Restore work with new products in accordance with requirements of Contract Documents.

.15 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

.16 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material, full thickness of the construction element.

.17 Refinish surfaces to match adjacent finishes: For continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.

.18 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

General

.1 SECTION INCLUDES

.1 Progressive cleaning.

.2 Final cleaning.

.2 RELATED SECTION

.1 Section 01 77 00 - Closeout Procedures.

.2 Section 01 11 00 – Summary of Work.

.3 REFERENCE STANDARDS

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-2020, Stipulated Price Contract.

.4 GENERAL CLEANINESS DURING CONSTRUCTION

.1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

.2 Store volatile wastes in covered metal containers, and remove from premises daily.

.3 Prevent accumulation of wastes which create hazardous conditions.

.4 Ensure municipal sidewalks and roadways are kept clear of debris and mud tracking throughout duration of demolition.

.5 FINAL CLEANING

.1 At completion of Work, remove waste materials, rubbish, tools, equipment, machinery, and surplus materials.

.2 Ensure municipal sidewalks and roadways are kept clear of debris and mud tracking throughout duration of demolition and perform additional cleaning of municipal sidewalks, boulevards and roadways at completion of demolition.

.3 Remove snow and ice from access to site, if applicable.

Products

.1 NOT USED

.1 Not Used.

Execution

.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Section 01 11 00 - Summary of Work.

.2 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2 - 2020, Stipulated Price Contract.

1.2 INSPECTION AND DECLARATION

.1 Contractor's Inspection: Contractor and Subcontractors: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Consultant in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.

.2 Consultant's Inspection: Consultant and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor to correct Work accordingly.

.3 Completion: submit written certificate that following have been performed:

.1 Work has been completed and inspected for compliance with Contract Documents.

.2 Defects have been corrected and deficiencies have been completed.

.3 Equipment and systems have been tested, adjusted and balanced and are fully operational.

.4 Certificates required by Fire Commissioner and Utility companies have been submitted.

.5 Operation of systems have been demonstrated to Owner's personnel.

.6 Work is complete and ready for final inspection.

.4 Final Inspection: when items noted above are completed, request final inspection of Work by Owner, Consultant and Contractor If Work is deemed incomplete by Owner and Consultant, complete outstanding items and request reinspection.

.5 Declaration of Substantial Performance: when Owner and Consultant consider deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance.

.6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

.7 Final Payment: when Owner and Consultant consider final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed,

make application for final payment. If Work is deemed incomplete by Owner and Consultant, complete outstanding items and request reinspection.

.8 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit an application for payment of holdback amount in accordance with CCDC 2.

1.3 CLEANING

.1 In accordance with Section 01 74 11 – Cleaning.

.2 Remove waste and surplus materials, rubbish and construction facilities from the site immediately following completion of work and prior to final inspection.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 As-built, samples, and specifications.

.2 Equipment and systems.

.3 Product data, materials and finishes, and related information.

.4 Operation and maintenance data.

.5 Spare parts, special tools and maintenance materials.

.6 Warranties and bonds.

.7 Final site survey.

1.2 RELATED SECTIONS

.1 Section 01 45 00 - Quality Control.

.2 Section 01 77 00 - Closeout Procedures.

.3 Section 01 78 10 - Guarantee/Warrantee Form

.4 Section 01 91 00 - Commissioning.

.5 Mechanical Division: Commissioning

.6 Section 01 11 00 Summary of Work.

1.3 SUBMISSION

.1 Submit one copy of completed project operation and maintenance volumes and as-biult drawings in final form 15 days prior to substantial performance. For equipment put into use with Owner’s permission during construction, submit Operating and Maintenance Manuals within 10 days after start-up. For items of Work delayed materially beyond date of Substantial Performance, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

.2 Prepare instructions and data using personnel experienced in maintenance and operation of described products.

.3 Copy will be returned after inspection with Consultant's comments.

.4 Revise content of documents as required prior to final submittal.

.5 Submit 2 copies of revised volumes of data in final form within 10 days after final inspection.

.6 For contract drawings (architectural, site services, landscaping, structural, mechanical, and electrical)**,** transfer neatly as-built notations onto second and third set and submit all three sets. Cost of only the transfer of these as-built sets into digital format is paid from Cash Allowance. Completion of digital as-built to the Consultant is a mandatory requirement of Total Completion of the Contract.

.7 Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.

.8 If requested, furnish evidence as to type, source and quality of products provided.

.9 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.

.10 Pay costs of transportation.

1.4 FORMAT

.1 Organize data in the form of an instructional manual.

.2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf [219 x 279] mm with spine and face pockets.

.3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.

.4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.

.5 Arrange content under Section numbers and sequence of Table of Contents.

.6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.

.7 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.5 CONTENTS - EACH VOLUME

.1 Table of Contents: provide title of project;

- .1 date of submission; names,
- .2 Addresses, and telephone numbers of Consultant and Contractor with name of responsible parties;
- .3 Schedule of products and systems, indexed to content of volume.

.2 For each product or system:

.1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

.3 Product Data: mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.

.4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

.5 Typewritten Text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

1.6 AS-BUILTS AND SAMPLES

.1 In addition to requirements in Sections 00 21 13 Instructions to Bidders, 01 11 00 Summary of Work and CCDC Contract terms, maintain at the site for Owner one record copy of:

.1 Contract Drawings.
.2 Specifications.
.3 Addenda.
.4 Change Orders and other modifications to the Contract.
.5 Reviewed shop drawings, product data, and samples.
.6 Field test records.
.7 Inspection certificates.
.8 Manufacturer's certificates.

.2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.

.3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.

.4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.

.5 Keep record documents and samples available for inspection by Consultant.

1.7 RECORDING ACTUAL SITE CONDITIONS

.1 Record information on set of black line opaque drawings, and in copy of Project Manual, provided by Consultant.

.2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.

.3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.

.4 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:

.1 Measured depths of elements of foundation in relation to finish first floor datum.

.2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

.3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.

.4 Field changes of dimension and detail.

.5 Changes made by change orders.

.6 Details not on original Contract Drawings.

.7 References to related shop drawings and modifications.

.5 Specifications: legibly mark each item to record actual construction, including:

.1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.

.2 Changes made by Addenda and change orders.

.6 Other Documents: maintain manufacturer's certifications, inspection certifications, and field test records, required by individual specifications sections.

1.8 DIGITAL AS-BUILT DRAWINGS

.1 Retain the services of a CAD drafting company acceptable to the Consultant.

.2 Transfer to digital file all information recorded on As-Built drawings. Layering of information as per Consultant’s instructions.

.3 The Consultant will provide CAD file of contract document.

.4 The cost for preparing digital As-Built drawings will be deducted from the Cash Allowances.

1.9 EQUIPMENT AND SYSTEMS

.1 Each Item of Equipment and Each System: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.

.2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.

.3 Include installed colour coded wiring diagrams.

.4 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

.5 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

.6 Provide servicing and lubrication schedule, and list of lubricants required.

.7 Include manufacturer's printed operation and maintenance instructions.

.8 Include sequence of operation by controls manufacturer.

.9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

.10 Provide installed control diagrams by controls manufacturer.

.11 Provide Contractor's coordination drawings, with installed colour coded piping diagrams.

.12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

.13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

.14 Include test and balancing reports as specified in Mechanical Sections.

.15 Additional requirements: As specified in individual specification sections.

1.10 MATERIALS AND FINISHES

.1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured products.

.2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.3 Moisture-protection and Weather-exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.4 Additional Requirements: as specified in individual specifications sections.

1.11 MAINTENANCE MATERIALS

.1 On completion of project, submit to Architect two (2) copies of Operations Data and Maintenance Manual in English, made up as follows:

.1 Bind data in vinyl hard covered, 3 ring loose leaf binder for 215 x 280 mm size paper.

.2 Enclose title sheet, labeled "Operation Data and Maintenance Manual", project name, date and list of contents.

.3 Organize contents into applicable sections of work to parallel project's specification break-down. Mark each section by labeled tabs protected with celluloid covers fastened to hard paper dividing sheets.

.2 Include following information, plus data specified.

.1 Maintenance instruction for finished surface and materials.

.2 Copy of hardware and paint schedules.

.3 Description, operation and maintenance instructions for equipment and systems, including complete list of equipment and parts list. Indicate nameplate information such as make, size, capacity, serial number.

.4 Names, addresses and phone numbers of sub-contractors and suppliers.

.5 Guarantees, Warranties and bonds showing:

.1 Name and address of project.

.2 Guarantee commencement date (date of Final Certificate of Completion).

.3 Duration of guarantee.

.4 Clear indication of what is being guaranteed and what remedial action will be taken under guarantee.

.5 Signature and seal of Contractor.

.6 Additional material used in project listed under various Sections showing name of manufacturer and source of supply.

.3 Neatly type lists and notes. Use clear drawings, diagrams or manufacturers' literature.

.4 Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.

1.12 STORAGE, HANDLING AND PROTECTION

.1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.

.2 Store in original and undamaged condition with manufacturer's seal and labels intact.

.3 Store components subject to damage from weather in weatherproof enclosures.

.4 Store paints and freezable materials in a heated and ventilated room.

.5 Remove and replace damaged products at own expense and to satisfaction of Consultant.

1.13 WARRANTIES AND BONDS

.1 Refer to Section 002113 'Instructions to Bidders' for bonding requirements for this project, both at the time of tender submission and throughout the duration of the construction period.

.2 Refer to CCDC-2 Contract for Warranty requirements and conditions for the standard warranty which is required for the work of this contract.

.3 Extended warranties are required to be issued by manufacturers, fabricators, suppliers and/or installers, sometimes jointly, due to their unique position in the construction

process and their ability to guarantee a particular section of work. Refer to individual requirements of extended warranties requested as well as Section 01 11 00 article 1.33.

.4 Unless specifically noted otherwise, all extended warranties shall commence on the date of Substantial Performance of the Work as certified by the Consultant.

.5 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.

.6 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal. Use Guarantee/Warranty Form as provided in Section 017810 Sample Guarantee/Warranty Form, whenever standard preprinted trade or manufacturer's Guarantee/Warranty forms are not available. Provide written form for each warranty specified in Section 01 11 00 Summary of Work, Article 1.34.

.7 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work.

.8 Date at beginning of time of warranty start shall be Date of Substantial Performance.

.9 Verify that documents are in proper form, contain full information, and are notarized.

.10 Co-execute submittals when required.

.11 Retain warranties and bonds until time specified for submittal.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

1. GENERAL

1. To be made out on the letterhead of Guarantor or Warrantor which usually is a Subcontractor.

2. This format is to be used only when standard preprinted trade or manufacturer's forms are not available. Preprinted forms are to include all elements of information shown on this sample or as a minimum.

3. Comply with Requirements for Guarantee/Warranty as specified in Section 017810, Closeout Submittals.

To: TORONTO CATHOLIC DISTRICT SCHOOL BOARD
80 Sheppard Ave. East, Toronto, Ontario, M2N 6E8

Date: _____

SECTION _____

TITLE _____

GUARANTEE/WARRANTY TO:

OWNER	The Toronto Catholic District School Board
PROJECT	Demolition of Secondary School at 721 Royal York Road 721 Royal York Road Etobicoke, Ontario
ARCHITECT	Hossack & Associates Architects Inc.
REFERENCE	(to specifications or drawings)
TIME	Period of Guarantee/Warranty:_____ years
GUARANTEE/ WARRANTY	Starting Date: Substantial Performance as certified by Consultant Date: _____

(Description of Guarantee/Warranty)

_____

_____

_____

Upon written notification from the Owner or the Consultant that the above work is defective any repair or replacement work required shall be to the Consultant's satisfaction at no cost to the Owner.

This guarantee shall not apply to defects caused by the work of others, maltreatment of materials, negligence or Acts of God.

_____

SUBCONTRACTOR

_____ _____
Signature Date

Authorized Signing Officer:

_____
(Name Printed)

_____
Title

Name of Firm: _____

Address: _____

Telephone Number _____

CONTRACTOR

_____ _____
Signature Date

Authorized Signing Officer:

_____ _____
(Name Printed)

_____
Title

Name of Firm: _____ SEAL

Address: _____

Telephone Number _____

END OF SECTION

Part 1 General

1.1 STRUCTURAL DEMOLITION REOPRT

.1 A copy of the Structural Demolition Report prepared by Stephenson Engineering Ltd. (Salas O'Brien) is enclosed following this page.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

THIS SECTION IS CONTINUED ON THE FOLLOWING PAGES

October 20, 2025

Christine Stasevich
Hossack Architecture
105-1939 Ironoak Way
Oakville, Ontario L6H 3V8

via email: Christine Stasevich <cstasevich@hossackarch.com>

Re: Project Name: Bishop Allen Academy, Etobicoke, ON
Building Demolition Report
Project Number: 20211090

As requested by the owner and as required by the 2024 Ontario Building Code, Division C, Clauses 1.2.2.3 and 1.3.1.1(3), we provide the following submission as a “Demolition Report” with regard to the building demolition of the existing Bishop Allen Academy located at 721 Royal York Road, Etobicoke, ON M8Y 2T3.

The purpose of the report is to describe the structural design characteristics of the existing building, in order to aide those involved in the actual demolition, by providing comments and recommendations regarding the overall safety considerations relating to the demolition work.

Existing Building Structure

The building is in a residential neighborhood on the East side of Royal York Road, North of The Queensway and South of Bloor St. W. The existing structure is comprised of the original two (2) storey building built in approximately 1962. The building is a two storey structure consisting of mostly masonry, steel framing, and cast-in-place concrete. There are Issued For Construction drawings available for a small portion of the existing building structure dated March 12, 2004. There is a chapel at the south end of the school which was built at an unknown date. The existing building conditions identified are confirmed from a site review.

1. Foundations/Ground Floor Framing – Reference sketch SK-SD1

The building is assumed to have conventional foundation assembly inclusive of shallow footings for columns, concrete foundation walls and concrete strip footings. A four-inch reinforced concrete slab-on-grade on the interior of the building is assumed as well but could not be confirmed from site review.

2. Second Floor/Low Roof Framing – Reference sketch SK-SD2

The low roof areas consist of steel deck. The floors above corridors and classroom spaces consist of concrete slabs on steel deck in most locations, and cast-in-place concrete slabs for the remainder.
The supporting structure consists of mainly steel framing with some load-bearing masonry found mostly at some corridor walls. At most of the exterior walls, lines of beams and columns provide support for the structure above. Any material above the steel deck could not be determined and/or confirmed from site review.

A few areas were inaccessible for review at the time of the visit, due to either activity in the building, or finishes and coverings that could not be removed. These areas are presumed to have mainly steel framing as this is most common throughout the rest of the school.

3. Roof Framing – Reference sketch SK-SD3

The roof consists of steel deck supported on steel joists. The supporting structure consists of a combination of steel framing and load bearing masonry for the interior corridor walls and exterior walls, and steel beams where required locally. A few areas were inaccessible for review at the time of the visit, due to either activity in the building, or finishes and coverings that could not be removed. These areas are presumed to have mainly steel framing as this is most common throughout the rest of the school.

Method of Demolition

1. Site Preparation

Prior to demolition, the following is a list of recommended site preparations/precautions.

1. Fencing shall be installed, containing the site, to prevent individuals not involved in the demolition work from entering the site.
   (See demolition permit set submitted under separate cover.)
2. All exiting utilities and services shall be disconnected.
   (See demolition permit set submitted under separate cover.)
3. The building shall be thoroughly inspected for the presence of hazardous materials. Hazardous materials should be removed in accordance with the applicable regulations.
   (Refer to Designated Substances Audit Report submitted under separate cover.)
4. Due to the location of the building structure, negative structural effects to adjacent buildings are not expected to be an issue.

2. Demolition Procedure

The demolition contractor shall retain a professional engineer, experienced in the means and methods of building demolition, to undertake demolition review of the project based on the following general criteria. The appointed engineers' information is to be provided to the architect so that the appropriate documentation can be provided/replaced with the city.

All demolition procedures should conform to:

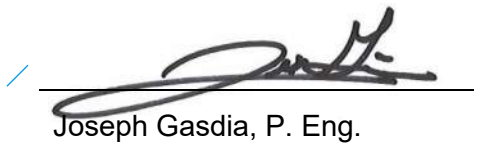
1. CSA S350-M1980 (R2003), Code of Practice for Safety in Demolition Structures
2. Occupational Health and Safety Act and Regulations for Construction Projects, O. Reg. 213/91, as amended by O. Reg. 443/09.

The following are the suggested demolition procedures:

1. Refer to Site Preparation listed earlier in this report.
2. Roof membrane elements, precast/cast-in-place concrete slabs should be removed throughout the building area.

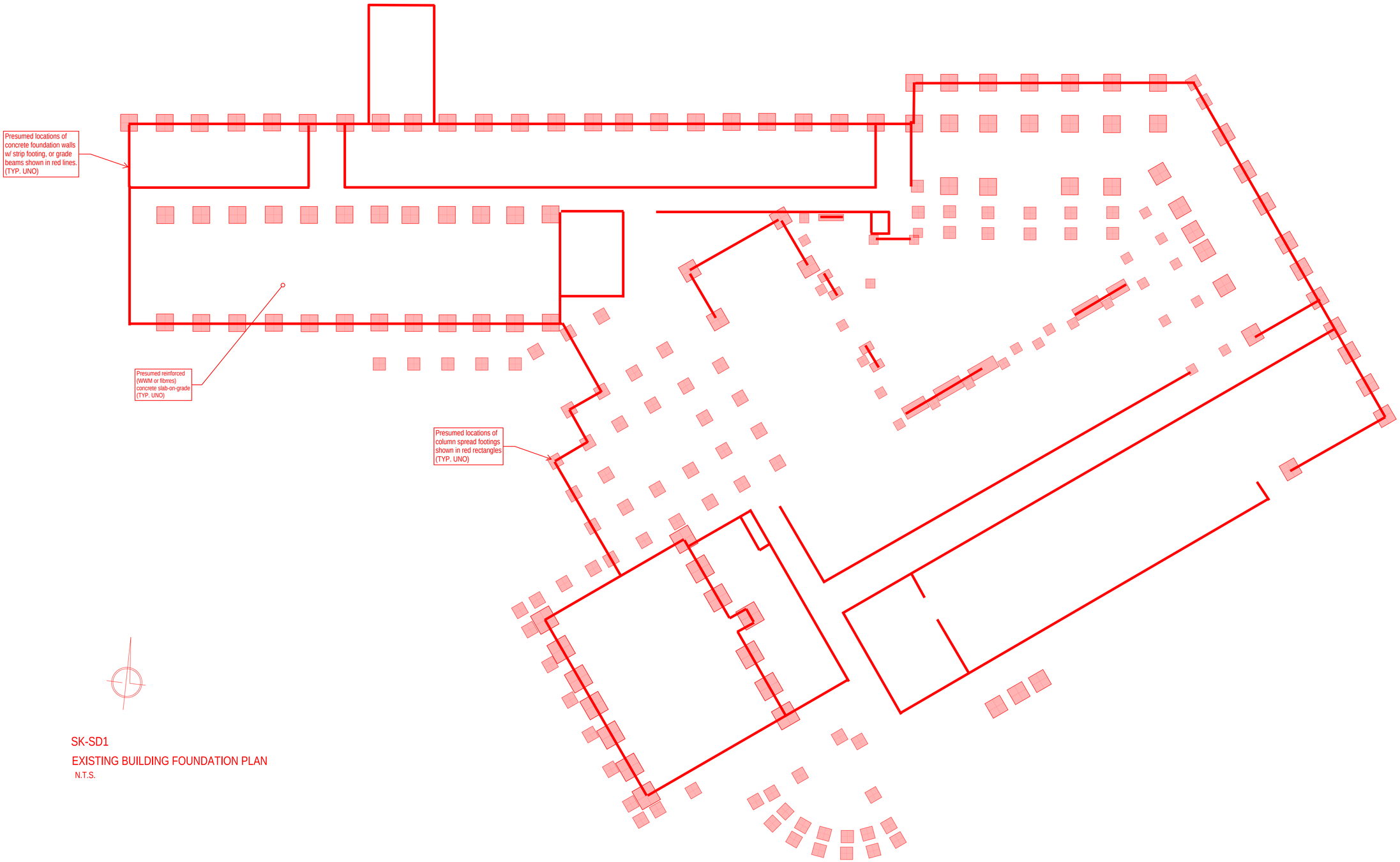
3. The superstructure should be demolished one bay at a time proceeding in an organized manner across the building. The sequence of demolition for each bay would be: Roof/floor framing, then walls and columns.
4. Lateral resisting elements of the building should also be removed one bay at a time.
5. Foundation elements, including slab-on-grade, are then to be removed and backfilled per demolition contract specifications.
6. Any recyclable waste should be taken to a recycling facility. Non-recyclable material should be disposed of at approved land fill sites.
7. If at any time during the demolition process, any element of the structure to be demolished is found to be of objectionable nature and would compromise the safety of the demolition crew, then the demolition engineer contracted should be immediately contacted to further investigate, review and revise the recommendations.

Regards,
Stephenson Engineering, a Company of Salas O'Brien





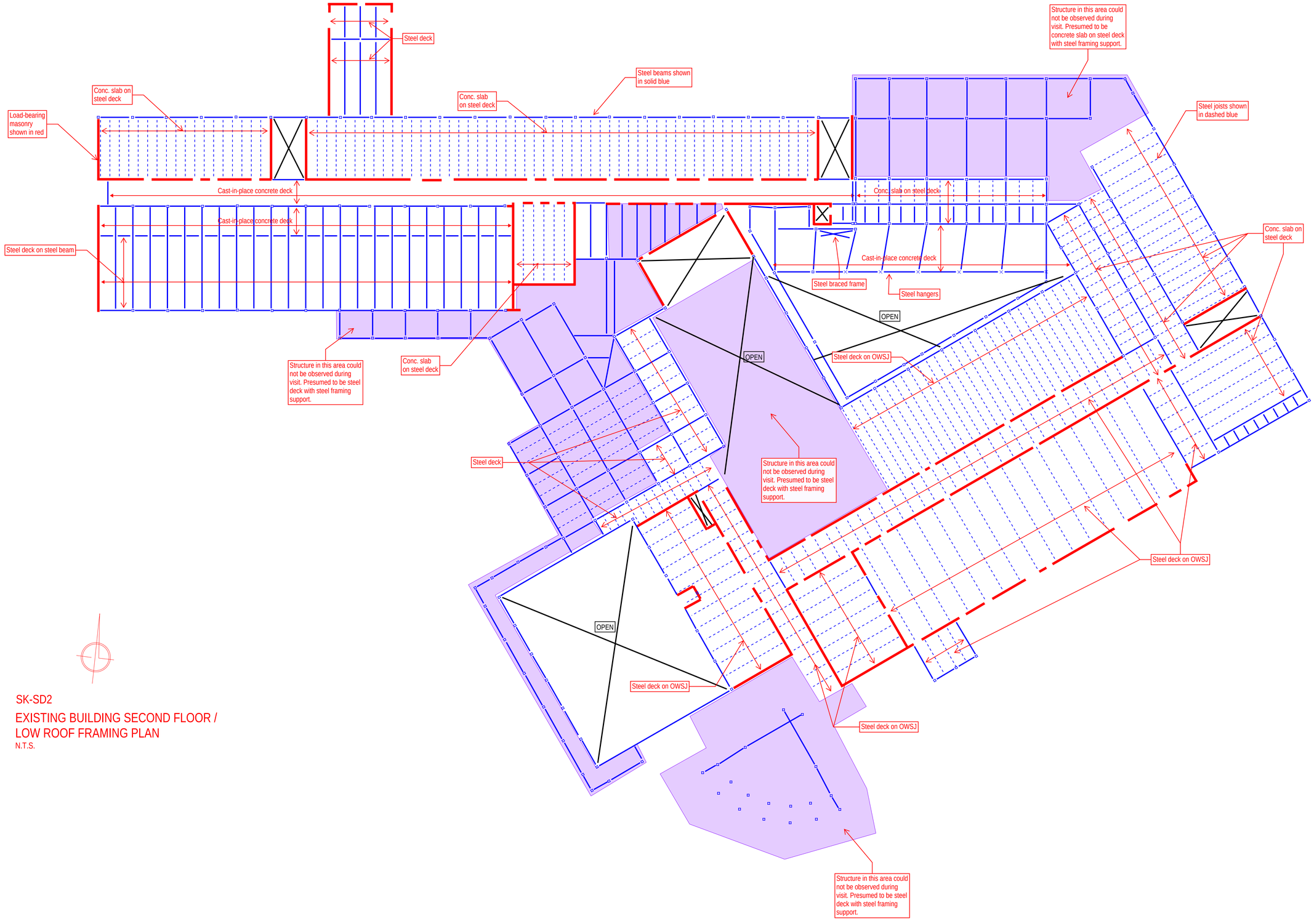
Joseph Gasdia, P. Eng.
Senior Vice President
joseph.gasdia@salasobrien.com



SK-SD1

EXISTING BUILDING FOUNDATION PLAN

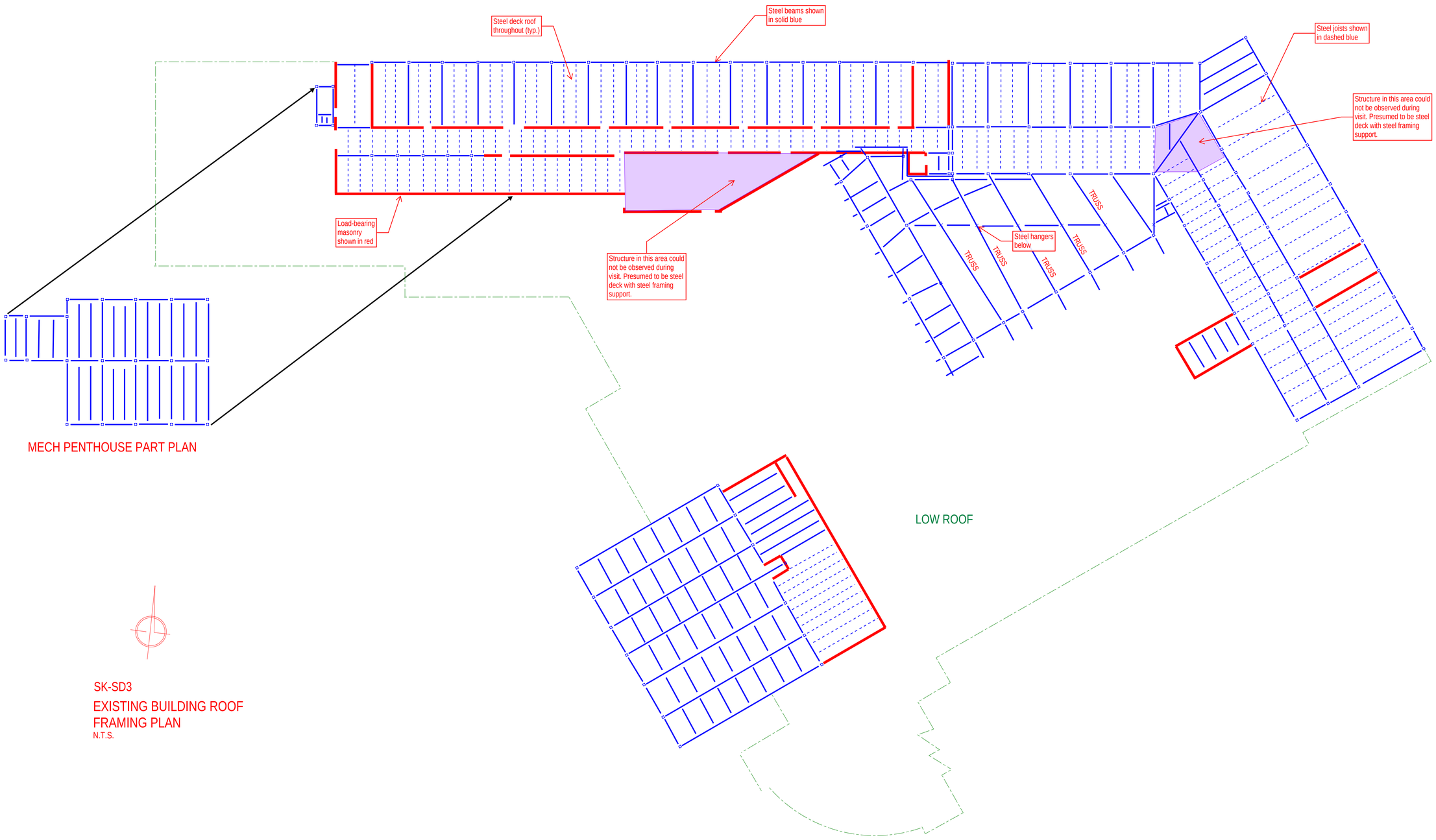
N.T.S.



SK-SD2

EXISTING BUILDING SECOND FLOOR / LOW ROOF FRAMING PLAN

N.T.S.



MECH PENTHOUSE PART PLAN

SK-SD3

EXISTING BUILDING ROOF FRAMING PLAN

N.T.S.

1 PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

1.2 Conform to Sections of Division 1 as applicable.

1.3 Section 02 13 81, Type 1 Asbestos Removal defines procedures and requirements only for handling non-friable asbestos. Performance of such work is responsibility of each Section required to handle, cut, drill, or remove non-friable asbestos as necessary to perform work of their respective Sections. Such work shall be done in strict accordance with handling requirements specified in Section 02 13 81, Type 1 Asbestos Removal.

1.2 RELATED WORK

1.2.1 Friable asbestos removal: Section 02 13 82, Type 2 Asbestos Removal

1.2.2 Friable asbestos removal: Section 02 13 83, Type 3 Asbestos Removal

1.2.3 Friable asbestos removal: Section 02 13 84, Glove Bag Asbestos Removal

1.2.4 Lead Removal Procedures: Section 02 13 85

1.2.5 Silica Removal Procedures: Section 02 13 86

1.2.6 Mercury Removal Procedures: Section 02 13 87

1.2.7 PCB Equipment Removal Procedures: Section 02 13 88

1.3 DESCRIPTION OF WORK

1.3.1 Types of asbestos present: Chrysotile present in non-friable asbestos containing materials.

1.3.2 Remove and dispose of as required, all non-friable asbestos containing products.

1.3.3 Non-Friable asbestos containing materials identified can be found within the Safetech Environmental Ltd. report titled "*Hazardous Materials Assessment – Bishop Allen Academy"* issued July 2022. A copy of this report can be found within the contract documents.

1.3.4 Non-friable asbestos handling shall be performed by firms and workers fully experienced in asbestos control.

1.3.5 In accordance with O. Reg. 278/05, removal of less than 1 square metre of drywall where asbestos-containing drywall joint compound has been used can be conducted following Type 1 operations. If 1 square metre or more of drywall is removed where asbestos-containing drywall joint compound has been used then work should be conducted following Type 2 operations.

1.3.6 Handle non-friable asbestos materials required to be removed as specified herein.

1.3.7 Seal asbestos waste receptors promptly when filled.

1.3.8 Obtain and submit copy of necessary permits for transporting and disposal of asbestos waste.

1.3.9 Protect surfaces in asbestos work area(s) and prevent spread of asbestos dust, by use of drop sheets of polyethylene sheeting or other acceptable material.

1.3.10 During, and at completion of work, clean asbestos work area(s) as specified.

1.3.11 All work will be subject to review and air monitoring both inside and outside asbestos work area(s) by Owner's Consultant. Clean-up contamination of surrounding areas, indicated by visual inspection or air monitoring, caused by this work.

1.4 DEFINITIONS

1.4.1 **HEPA Filter:** High Efficiency Particulate Aerosol filter at least 99.97 percent efficient in collecting 0.3 micrometer aerosol.

1.4.2 **Non-Friable Material:** Material that when dry cannot be crumbled, pulverized or powdered by hand pressure. Includes, but not limited to, following asbestos containing products: vinyl asbestos floor tiles, resilient sheet flooring, acoustic ceiling and wall tiles, gaskets, seals, packings, friction products, drywall joint compounds and asbestos cement panels, shingles and piping.

1.4.3 **Polyethylene Sheeting:** Polyethylene sheeting of 0.15 mm (6 mil) minimum thickness with tape seals along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide continuous membrane protection.

1.4.4 **Authorized Visitor(s):** Owner's Consultant or person(s) representing regulatory agencies, and person(s) authorized by them.

1.4.5 **Asbestos Work Area(s):** Area(s) where work takes place which will, or may, disturb asbestos-containing material.

1.5 REGULATIONS

1.5.1 Comply with Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations made under Occupational Health and Safety Act, Reg. 278/05, as amended, and local requirements pertaining to asbestos; provided that in case of conflict with these Specifications most stringent requirements shall apply.

1.5.2 Handle and dispose of contaminated waste as required by Ontario Regulation 347 as amended to 217/08, made under The Environmental Protection Act.

1.6 WORKER PROTECTION

1.6.1 Respirators are not mandatory for work with non-friable asbestos-containing materials, however, for this project, provide non-powered air half face respirator with minimum P00 filter cartridges in accordance with NIOSH Part 84 requirements. Provide proper instruction to workers in use of respirators including qualitative fit testing. Replace filters as necessary,

according to manufacturer's instructions. Workers shall not wear facial hair that affects seal between respirator and face. Contractor to post on job bulletin Owner instructions, procedures and information pertaining to abatement work.

1.6.2 Provide, and insist on using, facilities for washing of hands and face by every worker when leaving asbestos work area. Prohibit smoking, eating and drinking in asbestos work area.

2 PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 **Asbestos Waste Receptors:** 2 separate containers of which 1 shall consist of 0.15 mm (6 mil) minimum thickness sealable polyethylene bag. Other container may be 0.15 mm (6 mil) minimum thickness polyethylene bag or rigid sealable container such as cardboard or metal or fibre drum or wood box. Other container shall be adequate to prevent perforating rips or tears in first container during filling, transport or disposal. Containers must be acceptable to disposal site selected and Ministry of Environment. Containers shall be labelled in accordance with Ministry of Environment regulations.

2.1.2 **HEPA Vacuum:** Vacuum with all necessary fittings, tools and attachments. Air must pass HEPA filter before discharge.

2.1.3 **Sprayer:** Garden-type portable manual sprayer, low velocity, capable of producing mist or fine spray.

2.1.4 **Polyethylene Sheeting:** 0.15 mm (6mil) minimum thickness unless otherwise specified; in sheet size to minimize joints.

2.1.5 **Tape:** Tape suitable for sealing polyethylene to surface encountered under wet conditions using amended water and under dry conditions.

2.1.6 **Amended Water:** Water with non-ionic water wetting agent added.

3 PART 3 - EXECUTION

3.1 PREPARATION

3.1.1 Before disturbing non-friable asbestos materials except those used as flooring, cover floor and furnishings below work with polyethylene sheeting.

3.1.2 Wherever dust on surface within asbestos work area is likely to be disturbed, remove beforehand with HEPA vacuum or damp cloth.

3.2 REMOVAL OF VINYL ASBESTOS TILE

3.2.1 Start removal by wedging heavy-duty scraper in seam of 2 adjoining tiles and gradually forcing edge of 1 tile up and away from floor. Do not break off pieces of tile, but continue to force balance of tile up.

3.2.2 When first tile is removed, place it, without breaking into smaller pieces, into asbestos waste

receptor.

3.2.3 Continue removal of tiles using hand tools and removing tiles intact wherever possible. When adhesive is spread heavily or is quite hard, it may prove easier to force scraper through tightly adhered areas by striking scraper handle with hammer using blows of moderate force while maintaining scraper at 25° to 30° angle to floor. When even this technique cannot loosen tile, removal can be simplified by heating tile with hot air gun or infrared heaters until heat penetrates through tile and softens adhesive. Do not use powered electric scrapers.

3.2.4 After removal of small area scrape up adhesive remaining on floor with hand scraper until only thin smooth film remains. Where deposits are heavy or difficult to scrape, hot air gun or infrared heaters may be used. Deposit scrapings into asbestos waste receptors. Do not dry scrape surface of adhering pieces of tile.

3.2.5 On completion of area, clean floor with HEPA vacuum.

3.3 **REMOVAL OF ASBESTOS SHEET FLOORING**

3.3.1 Remove binding strips or other restrictive moldings.

3.3.2 Make series of knife cuts 100 to 200 mm (4" to 8") apart through top layer and about halfway through asbestos felt backing, parallel to wall.

3.3.3 Start at end of room farthest from door and pry up corner of stripe to separate top sheet from backing layer. Pull top layer back upon itself slowly and evenly. Roll up top layer with vinyl face out into tight roll and tape or tie securely, and place in asbestos waste receptor.

3.3.4 Continue with successive strips. Avoid walking on exposed asbestos felt backing. Remove maximum of 3 strips (ie., less than 600 mm (24")) before removing exposed felt backing.

3.3.5 Remove adhered felt backing by wet scraping. Soak area with amended water applied by sprayer. Allow water to penetrate felt and scrape off adhered felt. Maintain material wet by applying more water. Place scrapings in asbestos waste receptor.

3.3.6 Continue this procedure alternately removing top sheet and then wet scraping felt, maximum of 3 strips at a time.

3.3.7 When floor has been cleaned of felt, allow it to dry and vacuum up any residue with HEPA vacuum. Do not dry sweep.

3.3.8 Thoroughly clean tools and equipment before reusing.

3.4 **REMOVAL OF OTHER NON-FRIABLE ASBESTOS MATERIALS (TRANSITE)**

3.4.1 Where possible wet material to be disturbed.

3.4.2 When removing Transite piping, use a snap tool to break sections of pipe in manageable lengths. Wrap sections of pipe in polyethylene sheeting and label for disposal. Transite pipe is not to be crushed with hammer in order to break off sections.

3.4.3 When removing Transite wallboard, undo fasteners (screws) if necessary to remove material. Whenever possible remove materials intact. Break only if unavoidable. If broken, wet freshly exposed edges.

3.4.4 Wet material and use hand scraping to remove material adhering to substrate.

3.4.5 Immediately place removed material in asbestos waste receptor, except gypsum board debris is not subject to Ministry of Environment waste packaging and disposal requirements. Clean surrounding surfaces and asbestos work area frequently with HEPA vacuum or with wet methods.

3.4.6 Dispose of drop sheets as asbestos waste. Do not reuse.

3.5 **INSTALLING, CUTTING OR DRILLING NON-FRIABLE ASBESTOS MATERIALS**

3.5.1 Where possible wet materials to be disturbed.

3.5.2 As necessary, use hand-powered tools for cutting and shaping, or power tools with HEPA filtered dust collection device, or power drill without HEPA filtered dust collector.

3.5.3 Immediately place waste in asbestos waste receptor. Clean area frequently during work with HEPA vacuum or with wet methods.

3.5.4 Dispose of drop sheets as asbestos waste. Do not reuse.

3.6 **WASTE TRANSPORT AND DISPOSAL**

3.6.1 Conform to requirements of Ontario Regulation 347 amended to 217/08, made under The Environmental Protection Act for Waste Management, transporting and disposal of hazardous waste.

3.6.2 Check with dump operator to determine type of waste containers acceptable.

3.6.3 Ensure shipment of containers to dump is taken by waste hauler licensed to transport asbestos waste.

3.6.4 Each load requires completion of bill of lading showing type and weight of hazardous waste being transported.

3.6.5 Co-operate with Ministry of Environment inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to Owner.

3.6.6 Ensure dump operator is fully aware of hazardous material being dumped.

3.6.7 Ensure that containers used for dumping are locked and covered at all times.

End of Section

1 PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Conform to Sections of Division 1 as applicable.

1.2 RELATED WORK

1.2.1 Non-Friable asbestos removal: Section 02 13 81, Type 1 Asbestos Removal

1.2.2 Friable asbestos removal: Section 02 13 83, Type 3 Asbestos Removal

1.2.3 Friable asbestos removal: Section 02 13 84, Glove Bag Asbestos Removal

1.2.4 Lead Removal Procedures: Section 02 13 85

1.2.5 Silica Removal Procedures: Section 02 13 86

1.2.6 Mercury Removal Procedures: Section 02 13 87

1.2.7 PCB Equipment Removal Procedures: Section 02 13 88

1.2.4 DESCRIPTION OF WORK

1.2.5 Types of asbestos present: Chrysotile present within mechanical insulations, drywall joint compound, and heat shields.

1.2.6 Type 2 operations can be applied for the repair of friable materials or, removal of less than 1 square metre of friable asbestos containing materials. In addition, Type 2 Glove Bag operations can be applied for the removal of asbestos containing mechanical pipe insulation fittings.

1.2.7 In accordance with O.Reg. 278/05, removal of less than 1 square metre of drywall where asbestos-containing drywall joint compound has been used can be conducted following Type 1 operations. If 1 square metre or more of drywall is removed where asbestos-containing drywall joint compound has been used then work should be conducted following Type 2 operations.

1.2.8 Friable asbestos containing materials identified can be found within the Safetech Environmental Ltd. report titled "*Hazardous Materials Assessment – Bishop Allen Academy"* issued July 2022. A copy of this report can be found within the contract documents.

1.2.9 At locations where minor removal and/or clean-up of friable asbestos containing materials is required, perform such work in accordance with procedures specified in this Section 02 13 82.

1.2.10 Type 2 operations can only be applied for the removal of less than 1 square metre of friable asbestos containing materials. For areas to facilitate new electrical, mechanical and architectural installations perform work under Type 2 procedures.

1.2.10 Perform asbestos removal by full enclosure method

1.2.11 Maintain electrical and mechanical services passing through asbestos work area

1.2.12 Seal all surfaces from which asbestos has been cleaned or removed with slow drying sealer.

1.2.13 Dispose of temporary enclosures, disposable equipment and any asbestos-containing or contaminated materials removed, as asbestos waste.

1.2.14 All work will be subject to inspection and air monitoring both inside and outside asbestos work area by Owner's Consultant. Any contamination of surrounding areas (indicated by visual inspection or air monitoring) shall necessitate complete enclosure and clean-up of affected areas.

1.3 **DEFINITIONS**

1.3.1 **HEPA Filter**: High Efficiency Particulate Aerosol filter at least 99.97 percent efficient in collecting 0.3 micrometer aerosol.

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

1.3.3 **Polyethylene Sheeting:** Polyethylene sheeting 0.15 mm (6 mil) minimum thickness; with tape seals along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide continuous polyethylene membrane protection.

1.3.4 **Authorized Visitor(s):** Construction Manager or person(s) representing regulatory agencies, and person(s) authorized by them.

1.3.5 **Asbestos Work Area(s):** Area(s) where work takes place which will, or may disturb asbestos-containing material, including overspray and fallen material, or settled dust that may contain asbestos.

1.3.6 **Curtained Doorway:** Device to allow ingress or egress from enclosure while permitting minimal air movement, typically constructed by placing 2 overlapping flaps of polyethylene sheeting (2 sheets of polyethylene per flap) attached to head and 1 jamb of existing or temporarily constructed door frame. Secure vertical edge of 1 flap along 1 vertical side of door frame, and vertical edge of other flap along opposite vertical side of door frame. Reinforce free edges of polyethylene with duct tape.

1.3.7 **Negative Pressure:** Reduced pressure within asbestos work area(s) established by extracting air directly from work area, and discharging directly to exterior of building. Discharged air first passes through HEPA filter. Extract sufficient air to ensure constant reduced pressure at perimeter of work area with respect to surrounding areas.

1.3.8 **Airlock:** 2 curtained doorways spaced minimum of 2 m (6') apart.

1.4 **QUALITY ASSURANCE**

1.4.1 Ensure work proceeds to Schedule and meets all requirements of this Section. Perform work so airborne asbestos, asbestos waste or water run off does not contaminate areas outside asbestos work enclosure.

1.4.2 Pay cost to Owner of inspection and air monitoring performed as result of failure to perform work satisfactorily.

1.4.3 Use only skilled and qualified workers for all trades required for this work.

1.5 **REGULATIONS**

1.5.1 Comply with Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations made under Occupational Health and Safety Act, Reg. 278/05, as amended, and local requirements pertaining to asbestos; provided that in case of conflict with these Specifications most stringent requirements shall apply.

1.5.2 Handle and dispose of contaminated waste as required by Ontario Regulation 347 as amended by 110/09, made under The Environmental Protection Act, as amended.

1.6 **SUBMITTALS**

1.6.1 Before Commencing Work:

1.6.1.1 Obtain and submit all necessary permits for transporting and disposal of asbestos waste.

1.6.1.2 Submit names of supervisory personnel who will be responsible for asbestos work area(s). One of supervisors must remain on Site at all times while asbestos removal or clean-up is occurring. Submit proof that supervisory personnel have attended training course on asbestos control (2 day minimum duration) and have performed supervisory function on at least 2 other asbestos control projects.

1.6.1.3 Submit proposed schedule showing phasing and proposed workforce related to each work area enclosure or repair operation.

1.6.1.4 Submit list of existing damage for acceptance.

1.7 **WORKER AND VISITOR PROTECTION**

1.7.1 **Instructions**: Before entering asbestos work area(s), instruct workers and visitors in use of respirators, entry and exit from enclosures and all aspects of work procedures and protective measures. Instruction shall be provided by competent person as defined by Occupational Health and Safety Act.

1.7.2 **Full Face Respirator**: Provide appropriate respiratory equipment for all persons within asbestos work area including authorized visitors. During specified work, workers, supervisors, and authorized visitors shall wear positive pressure full-face respirators with minimum P100 filter cartridges in accordance with NIOSH Part 84 requirements (Formerly

high efficiency particulate aerosol (HEPA) cartridge filters). Replace filters daily or test according to manufacturer's specifications and replace as indicated. Respirators shall be acceptable to Occupational Health Branch of Ministry of Labour. Provide proper instruction to workers and visitors on use of respirators, including qualitative fit testing. No supervisor, worker or authorized visitor shall wear facial hair which affects seal between respirator and face. Maintain respiratory protection equipment in proper functioning and clean condition, or remove from site.

1.7.3 **Protective Clothing:** Provide workers and visitors in full-enclosure sites with full body coveralls with integral hoods. Once coveralls are worn in asbestos work area, treat and dispose of as asbestos contaminated waste. Workers and visitors shall also wear other protective apparel required by Ministry of Labour construction regulations.

1.7.4 Before entering enclosure(s) put on respirator with new or tested filters, clean coveralls and head covers. Wear coveralls with hoods up at all times.

1.7.5 Workers may leave enclosure, only after all disturbance of asbestos-containing materials is complete and enclosure has been cleaned-up. When leaving enclosure workers and visitors use HEPA vacuum to clean exterior of respirator to remove visible contamination, and remove gross contamination from coveralls and other protective equipment. Immediately upon leaving enclosure workers and visitors shall remove coveralls and wash face and hands thoroughly with soap and water; wet clean inside of respirator. Remove filters and dispose of or test filters according to manufacturer's specifications. Place coveralls and used filters in receptacles for disposal with other asbestos contaminated materials. Coveralls can be reused, to maximum of 8 hours wear, if coveralls remain inside work area.

1.7.6 Do not eat, drink, smoke or chew gum or tobacco in enclosures.

1.7.7 Workers and visitors shall be fully protected as specified herein whenever possibility of disturbance of asbestos exists.

2 PART 2 - Products

2.1 MATERIALS

2.1.1 **Polyethylene Sheeting:** 0.15 mm (6 mil) minimum thickness unless otherwise specified; in sheet size to minimize joints.

2.1.2 **Rip-Proof Polyethylene:** 0.20 mm (8 mil) fabric made up from 0.13 mm (5 mil) weave and 2 layers 0.04 mm (1.5 mil) poly laminate, in sheet size to minimize joints.

2.1.3 **Tape:** Tape suitable for sealing polyethylene to surface encountered under both wet conditions using amended water, and dry conditions.

2.1.4 **Wetting Agent:** Non-sudsing surface active agent; mixed with water in concentration to provide thorough wetting of asbestos fibre: Asbestos-Wet, distributed by Asbetec Distributors, Richmond Hill, Ontario.

2.1.5 **Amended Water:** Water with wetting agent added.

2.1.6 **Asbestos Waste Receptors:** 2 separate containers of which 1 shall consist of 0.15 mm (6 mil) minimum thickness polyethylene bag. Other container may be 0.15 mm (6 mil) minimum thickness polyethylene bag or rigid sealable container such as metal or cardboard, fibre drum or wood box. Other container shall be adequate to prevent perforating rips, or tears in first container during filling, transport or disposal. Containers must be acceptable to disposal Site selected and Ministry of Environment and Energy.

2.1.7 **Sealer:** Sealer for purpose of trapping residual fibre debris. Product must have flame spread and smoke development ratings both less than 25. Product shall leave no stain when dry: TC-55 (clear), A/D Fire Protection Systems Inc., Scarborough, Ontario. For mechanical equipment, pipes, boilers, etc. use high temperature sealer only: Chil-Abate CP210, Childers Products Company, Mississauga, Ontario.

2.1.8 **Sprayer:** Garden-type portable manual sprayer, low velocity, capable of producing mist or fine spray.

2.1.9 **HEPA Vacuum:** Vacuum with all necessary fittings, tools and attachments. Air must pass HEPA filter before discharge.

3 PART 3 - Execution

3.1 FULL-ENCLOSURE ASBESTOS WORK AREAS

3.1.1 Move equipment, tools, and stored materials which can be moved without disturbing asbestos-containing materials.

3.1.2 Remove elements which can be removed without disturbing friable asbestos material.

3.1.3 If working from within building, request building personnel to shut off air handling and ventilation systems supplying or exhausting from asbestos work area enclosure(s). Ensure air-handling systems remain shut off for duration of work.

3.1.4 Erect wood or metal framing between asbestos work area and remaining building area, as necessary to support polyethylene sheeting enclosures. Free standing enclosure shall have completely sealed polyethylene top.

3.1.5 Use sufficient layers to provide adequate protection. Protect floors with at least 1 layer of polyethylene sheeting. Where walls are protected with sheeting, cover floors first so that wall polyethylene overlaps floor layer by at least 300 mm (12").

3.1.6 Where applicable clean previously contaminated surfaces with HEPA vacuum before covering with sheeting.

3.1.7 If enclosure is used for more than 1 shift, construct airlock for entry to and exit from enclosure. Clean enclosure prior to exiting at completion of each shift.

3.1.8 Establish negative pressure in asbestos work area. Operate negative pressure units or HEPA vacuums continuously from this time until completion of contaminated work.

3.1.9 Provide soap, water and towels for washing of worker's face and hands when exiting enclosure.

3.1.10 Maintain emergency and fire exits from asbestos work area, or establish alternative exits satisfactory to authorities having jurisdiction.

3.1.11 Ensure existing power supply to asbestos work area is isolated and disconnected where necessary. Do not disrupt power supply to remainder of building.

3.2 **MAINTENANCE OF ENCLOSURES**

3.2.1 Maintain enclosures in tidy condition.

3.2.2 Ensure barriers and polyethylene linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.

3.2.3 Visually inspect enclosures at beginning of each working period.

3.3 **COMMENCE ASBESTOS REMOVAL OR CLEANUP WORK WHEN**

3.3.1 Arrangements have been made for disposal of waste.

3.3.2 Asbestos work areas enclosures and parts of building required to remain in use are effectively segregated. Negative pressure equipment is operating continuously.

3.3.3 Tools, equipment and materials waste receptors are inside enclosure.

3.3.4 Arrangements have been made for work area security.

3.3.5 Signs are displayed in all areas where access to sealed asbestos work areas possible. Signs shall read:

CAUTION
Asbestos Hazard Area
No Unauthorized Entry
Wear assigned protective equipment
Breathing asbestos dust may cause serious bodily harm.

3.3.6 Owner’s Consultant has been notified of intention to proceed and has reviewed enclosures and equipment.

3.4 **ASBESTOS DISTURBANCE IN ENCLOSURE**

3.4.1 Before commencing work, prepare Site as described in articles 3.1, 3.2 and 3.3.

3.4.2 Seal opening to enclosure with tape after entry of worker. Worker shall remain inside enclosure until disturbed asbestos-containing materials are removed and enclosure has been effectively cleaned.

3.4.3 Perform work required inside enclosure. Trades personnel may enter enclosure to perform Type II operations under the guidance of competent worker.

3.4.4 When cleaning or removing asbestos-containing drywall walls within enclosure, spray asbestos-containing material with amended water. Saturate asbestos to prevent release of airborne fibres during removal. Place fully saturated asbestos directly into waste containers.

3.4.5 Treat materials removed including used polyethylene sheeting as asbestos contaminated waste and dispose of as such.

3.4.6 Following completion of work, clean surfaces from which asbestos has been disturbed with HEPA vacuum, or wet-sponge if appropriate to remove all visible material.

3.4.7 Carefully place asbestos waste in inner bag of asbestos waste receptor. Clean inner bag surface of gross contamination and place in clean 6 mil outer bag. If waste is likely to tear inner bag, then instead of outer bag use fibre or metal drum, cardboard or wood box, or other suitably sturdy container.

3.4.8 After wet-sponging or vacuuming to remove visible asbestos, wet clean entire enclosure. Apply coat of sealer to all surfaces from which asbestos has been disturbed. Apply thinned coat (sufficient to coat all surfaces) to interior of polyethylene enclosure prior to tear down.

3.5 TEAR DOWN OF PROTECTION

3.5.1 When dismantling enclosure, carefully roll polyethylene toward centre of enclosure. As polyethylene is rolled away, immediately remove any visible debris with HEPA vacuum.

3.5.2 Place polyethylene sheeting seals, tape, cleaning material, coveralls, and other contaminated waste in asbestos waste receptors for transport. Remove any debris fallen behind plastic with HEPA vacuum.

3.5.3 Clean up asbestos waste receptors and equipment used in work, and remove from asbestos work area(s) via drum and equipment decontamination enclosure systems, at appropriate time in sequence. Double bag waste immediately prior to transport from site to disposal bin.

3.5.4 Final review may be carried out by Owner’s Consultant to ensure no dust or debris remains.

3.6 RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS

3.6.1 When clean-up is complete reinstall items removed to facilitate asbestos related operation, in their proper positions. Reconstruction and reinstallation shall be by tradesmen qualified in work being reinstalled or reconstructed.

3.6.2 At completion of work make good all damage not identified in pre-removal survey referred to in para. 1.6.1.4.

3.7 **AIR MONITORING**

3.7.1 Owner's Consultant may arrange for air samples to be taken from commencement of work until completion of cleaning operations, both inside and outside of asbestos work area(s) enclosures in accordance with NIOSH methods.

3.7.2 If air sampling is conducted, results of phase contrast microscopy analysis of the sample(s) must be lower than the criteria of 0.01 fibers/cc.

3.8 **INSPECTION**

3.8.1 From commencement of work until completion of clean-up operations, Clients Consultant may be present.

3.8.2 If visual inspection indicates that areas outside current asbestos work area enclosures are contaminated these areas are to be cleaned in same manner as that applicable to asbestos work areas, at no cost to Client.

3.8.3 Pay cost to provide re-inspection of work found not to be in accordance with these specifications and requirements of authorities having jurisdiction.

3.9 **WASTE TRANSPORT AND DISPOSAL**

3.9.1 Conform to requirements of Regulation 347 as amended by 110/09, made under Environmental Protection Act for Waste Management, transporting and disposal of hazardous waste.

3.9.2 Obtain Certificate of Approval from Ministry of Environment for waste management disposal system for asbestos.

3.9.3 Check with dump operator to determine type of waste containers acceptable.

3.9.4 Ensure shipment of containers to dump is taken by waste hauler licensed to transport asbestos waste.

3.9.5 Each load requires completion of bill of lading showing type and weight of hazardous waste being transported.

3.9.6 Co-operate with Ministry of Environment inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to Owner.

3.9.7 Ensure dump operator is fully aware of hazardous material being dumped.

End of Section

1 PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Conform to Sections of Division 1 as applicable.

1.2 RELATED WORK

1.2.1 Non-Friable asbestos removal: Section 02 13 81, Type 1 Asbestos Removal

1.2.2 Friable asbestos removal: Section 02 13 82, Type 2 Asbestos Removal

1.2.3 Friable asbestos removal: Section 02 13 84, Glove Bag Asbestos Removal

1.2.4 Lead Removal Procedures: Section 02 13 85

1.2.5 Silica Removal Procedures: Section 02 13 86

1.2.6 Mercury Removal Procedures: Section 02 13 87

1.2.7 PCB Equipment Removal Procedures: Section 02 13 88

1.3 DESCRIPTION OF WORK

1.3.1 Types of asbestos present: Chrysotile present within mechanical insulations.

1.3.2 Friable asbestos containing materials to be removed utilizing Type 3 operations. Type 2 operations can be applied for the repair of friable materials or, removal of less than 1 square metre of friable asbestos containing materials. In addition, Type 2 Glove Bag operations can be applied for the removal of asbestos containing mechanical pipe insulation fittings.

1.3.3 Friable asbestos containing materials identified can be found within the Safetech Environmental Ltd. report titled "*Hazardous Materials Assessment – Bishop Allen Academy"* issued July 2022. A copy of this report can be found within the contract documents.

1.3.4 Perform asbestos removal by full enclosure method.

1.3.5 Seal surfaces from which asbestos has been removed and surfaces potentially contaminated with asbestos, with sealer.

1.3.6 Maintain only emergency electrical and mechanical services passing through asbestos work area. All other services must be deactivated during abatement work.

1.3.7 All work will be subject to inspection and air monitoring inside and outside asbestos work area by the Owner's Consultant. Any contamination of surrounding areas, indicated by visual inspection or air monitoring, shall necessitate complete cleanup of affected areas at no additional cost to the Owner.

1.3.8 Protect surfaces remaining within asbestos work area.

1.4 **DEFINITIONS**

1.4.1 **HEPA Filter**: High Efficiency Particulate Aerosol filter at least 99.97 percent efficient in collecting 0.3-micrometer aerosol.

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

1.4.3 **Polyethylene Sheeting:** Polyethylene sheeting of 0.15 mm (6 mil) minimum thickness with tape seals along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide continuous membrane protection.

1.4.4 **Asbestos Work Area(s)**: Area(s) where work takes place which will, or may, disturb asbestos-containing material, including overspray and fallen material, or settled dust that may contain asbestos.

1.4.5 **Curtained Doorway:** Device to allow ingress or egress from one room to another while permitting minimal air movement between rooms, typically constructed by placing 2 overlapping sheets of polyethylene sheeting (2 sheets of polyethylene sheeting per flap) attached to head and one jamb of existing or temporarily constructed door frame. Secure vertical edge of 1 flap along 1 vertical side of doorframe and vertical edge of other flap along opposite vertical side of doorframe. Reinforce free edges of polyethylene sheeting with duct tape.

1.4.6 **Negative Pressure**: Reduced pressure within asbestos work area(s) established by extracting air directly from work area, and discharging it directly to exterior of building. Discharged air first passes through HEPA filter. Extract sufficient air to ensure constant reduced pressure at perimeter of work area with respect to surrounding areas.

1.4.7 **DOP Test:** A testing method employing dioctyl phthalate aerosol for purpose of leak testing negative air units. **For this project, provide documentation that negative air units have been DOP tested within the last thirty days.**

1.5 **REGULATIONS**

1.5.1 Comply with Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations made under The Occupational Health and Safety Act, Ontario Regulation 278/05 and local requirements pertaining to asbestos, provided that in case of conflict with these Specifications. Most stringent requirements shall apply.

1.5.2 Handle and dispose of contaminated waste as required under Ontario Regulation 347/90, as amended by O. Reg. 326/03, General Waste Management made under The Environmental Protection Act.

1.5.3 Not later than ten days before commencing asbestos work on this project, notify in writing Ontario Ministry of Labour, Construction Health and Safety Branch located nearest to the area the abatement is being conducted. The information provided to the Ontario Ministry of Labour must comply with the requirements outlined in Section 11,

subsection 3 of Ontario Regulation 278/05. Orally notify them before commencing work.

1.5.4 Notify sanitary landfill site in accordance with requirements of Ontario Regulation 347/90, as amended by O. Reg. 326/03, General Waste Management.

1.5.5 Contractor shall ensure that:

1.5.5.1 Measures and procedures prescribed under the Occupational Health & Safety Act and regulations are carried out.

1.5.5.2 Every employee and every worker on project complies with applicable act and regulations.

1.5.5.3 Health & safety of workers and public is protected.

1.5.5.4 All material handling, and associated equipment conform to and are operated in accordance with "Workplace Hazardous Materials Information System" (WHMIS).

1.5.5.5 Advise the Owner whenever work is expected to be hazardous to employees and/or public.

1.5.6 Contractor may be requested to provide information on their health & safety record.

1.6 **QUALITY ASSURANCE**

1.6.1 Ensure work proceeds to schedule, and meets all requirements of this Section. Perform work so that airborne asbestos, asbestos waste, or water runoff do not contaminate areas outside asbestos work enclosure.

1.6.2 Pay cost to the Owner of inspection and air monitoring performed as result of failure to perform work satisfactorily regarding quality, safety, or schedule.

1.6.3 Use only skilled and qualified workers for all trades required for this work.

1.7 **SUBMITTALS**

1.7.1 Before commencing work

1.7.2 Obtain and submit all necessary permits for transporting and disposal of asbestos waste.

1.7.3 Notice of Project and/or Notice to Inspector issued by the Ontario Ministry of Labour for the planned work.

1.7.4 Submit names of supervisory personnel who will be responsible for asbestos work area(s). One of these supervisors must remain on Site at all times asbestos removal or clean-up is occurring. Submit proof that supervisory personnel have attended training course on asbestos control (2 day minimum duration) and have performed supervisory function on at least 2 other asbestos removal projects.

1.7.5 Submit proof that all workers conducting abatement activities have successfully completed the Asbestos Abatement Worker Training Program approved by the Ministry of Training, Colleges and Universities and supervisors conducting abatement activities have successfully completed the Asbestos Abatement Supervisor Training Program approved by the Ministry of Training, Colleges and Universities as outlined in Section 20 of Ontario Regulation 278/05.

1.7.6 Submit list of existing damage for acceptance.

1.7.7 Laws of province of Ontario shall govern this work. Contractor shall observe all such laws and shall obtain and/or pay all permits, notices, fees, taxes, duties as may be required. Likewise, it is responsibility of contractor to comply with Workers Safety and Insurance Board and Occupational Health and Safety Act.

1.7.8 Before commencing any work, Contractor shall submit, in writing, confirmation of good standing with Workplace Safety and Insurance Owner (WSIB).

1.8 **WORKER AND VISITOR PROTECTION**

1.8.1 **Instructions:** Before entering asbestos work area, instruct workers and visitors in use of respirators, dress, showers, entry and exit from asbestos work areas, and all aspects of work procedures and protective measures. Instruction shall be provided by Competent Person as defined by Occupational Health and Safety Act.

1.8.2 **Full Face Respirator:** During wet removal and cleanup in enclosed asbestos work area workers, supervisors, and authorized visitors shall be supplied with and use air-purifying full-face respirator (PAPR) with HEPA cartridge filter. Replace filters daily or test according to manufacturer's specifications and replace as indicated. Respirators shall be acceptable to Occupational Health Branch of Ministry of Labour. Provide proper instruction to workers and visitors in use of respirators, including qualitative fit testing. Maintain respiratory protection equipment in proper functioning and clean condition.

1.8.3 **Protective Clothing**: Provide workers and visitors in full-enclosure sites with full body coveralls with integral hoods. Once coveralls are worn in asbestos work area, dispose of as contaminated waste. Workers and visitors shall wear other protective apparel required by Ministry of Labour regulations.

1.8.4 Before entering full-enclosure asbestos work area(s) remove street clothes in clean change room and put on respirator with new or tested filters, clean coveralls and head covers before entering equipment and access areas or asbestos work area. Store street clothes, uncontaminated footwear, towels etc. in clean change room.

1.8.5 Persons leaving full-enclosure asbestos work area(s) shall remove gross contamination from clothing before leaving asbestos work area. Proceed to equipment and access area and remove all clothing except respirator. Place contaminated work suit in receptacles for disposal with other asbestos contaminated materials. Footwear, clothing, hardhats, protective eyewear, etc., shall be left in equipment and access area to dry for later use. Still wearing respirator proceed naked to showers. Clean respirator to ensure that visible contamination is removed. After having thoroughly washed hair

and body with shampoo and soap, remove respirator. Remove filters and dispose of in container provided for this purpose or test filters according to manufacturer's recommendation. Dispose of filters as necessary. Wet clean inside of respirator. Upon completion of asbestos abatement, dispose of footwear as contaminated waste or clean before removing from equipment and access area, or carry in sealed plastic bag to next site.

1.8.6 Following showering, proceed to clean change room, dry off and dress in street clothes. Store respirators in fashion to allow them to be put on prior to entering asbestos work area at start of next shift without contaminating clean area. If re-entry to asbestos work area is to take place after having left for eating or drinking, follow procedures in para. 1.8.5.

1.8.7 Removal of waste and equipment from holding room of waste decontamination enclosure system shall be performed by workers entering from outside. These workers shall wear clean coveralls and half-face, asbestos approved, respirator as specified in para 1.8.2 and 1.8.3. No worker shall use this system as means to leave or enter asbestos work area.

1.8.8 Do not eat, drink smoke or chew gum or tobacco at work site. Tobacco products are not allowed on property.

1.8.9 Workers and visitors shall be fully protected as specified herein when possibility of disturbance of asbestos exists.

2 PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 **Polyethylene**: 0.15 mm (6 mil) minimum thickness unless otherwise specified.

2.1.2 **Rip-Proof Polyethylene**: 0.20 mm (8 mil) fabric made up from 0.13 mm (5 mil weave and 2 layers 0.04 mm (1.5 mil).

2.1.3 **Tape**: Tape suitable for sealing polyethylene to surface encountered, under both wet conditions using amended water, and dry conditions.

2.1.4 **Wetting Agent**: Non-foaming surface active agent; mixed with water in concentration to provide thorough wetting of asbestos fibre: Standard of Acceptance, Asbesto-Wet, distributed by Asbetec Distributors, or equivalent.

2.1.5 **Amended Water**: Water with wetting agent added.

2.1.6 **Asbestos Waste Receptors**: Two separate containers of which 1 shall consist of 0.15 mm **(true 6 mil)** minimum thickness sealable polyethylene bag. Other container may be 0.15 mm **(true 6 mil)** minimum thickness polyethylene bag. Outer container shall be adequate to prevent perforating rips, or tears during filling, transport or disposal. Containers must be acceptable to disposal site selected, and the Ministry of Environment, and shall be clearly marked to indicate that contents contain asbestos.

2.1.7 **Sealer**: Sealer for purpose of trapping residual fibre debris. Product must have flame spread and smoke development ratings both less than 25. Product shall leave no stain when dry: Standard of acceptance - TC-55 (clear), A/D Fire Protection Systems Inc., Scarborough, Ontario, or equivalent. For mechanical equipment, piping and boilers, etc. use high temperature sealer only: Standard of acceptance - Chil-Abate CP210, Childers Products Company, or equivalent.

2.1.8 **Ground Fault Panel**: Portable electrical panel equipped with ground fault circuit interrupters (5 mA protection) of sufficient capacity to power all electrical equipment and lights in asbestos work enclosure. Panel complete with ground fault interrupter lights, test switch to ensure unit is working, and reset switch

2.1.9 **HEPA Vacuum:** Vacuum with all necessary fittings, tools and attachments. Air must pass HEPA filter before discharge.

2.1.10 **Protective Coveralls**: Disposable full body coveralls complete with elasticized hoods made of spun polyolefin material Tyvek by Dupont or nonwoven material Kleenguard by Kimberley Clark.

2.1.11 **Flexible ducting**: Metal reinforced flexible ductwork, 12" diameter minimum.

2.1.12 **Negative Air Unit**: Portable air handling system, which extracts air directly from asbestos work area and discharges air outside building. Unit shall be fitted with prefilter and HEPA final filter. Air shall pass 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.

2.1.13 **Power Sprayer**: Standard of acceptance - Graco Maxi-wetter, or equivalent.

2.1.14 **Encapsulant**: Standard of acceptance - Ocean No. 666, Ocean Fire Retardants Inc., or equivalent, coloured bright red.

PART 3 - EXECUTION

3 **PREPARATION**

3.1 Full-enclosure Asbestos Work Area(s).

3.1.1 The Owner will move equipment, tools, furnishings, and stored materials that can be moved without disturbing asbestos-containing materials.

3.1.2 Request building personnel to deactivate air handling and ventilation systems supplying or exhausting from asbestos work area(s).

3.1.3 All wall and horizontal surfaces shall be pre-cleaned using damp cloth or sponge techniques prior to placement of polyethylene sheeting to any wall or floor surfaces. H.E.P.A. equipped vacuum cleaners may also be used to perform this task.

3.1.4 If necessary, caulk and seal ducts and duct shafts to remain in service as required, to

make airtight. Cut and cap supply ducts with rigid sheet metal caps and seal. Perform work at appropriate time under contaminated conditions if necessary.

3.1.5 Seal off openings such as doorways, windows, vents, service holes in walls and grilles to non-operating ducts with polyethylene sheeting with tape or with polyurethane foam as appropriate.

3.1.6 Cover wall and floor surfaces with polyethylene sheeting sealed with tape. Provide two separately sealed layers of reinforced polyethylene sheeting. Separately seal floor drains or openings. Use sufficient layers (2) and necessary sheathing for walking surface to protect floors which may be damaged. Cover floors first so that polyethylene extends at least 300 mm (12") up walls then cover walls to overlap floor sheeting. Provide additional protection for floors likely to be damaged by amended water, by covering floor with rip-proof polyethylene sheeting sealed with tape.

3.1.7 Cover with polyethylene sheeting, motors, heating units, fire apparatus, door closers, benches, shelving, storage racks, valves, taps, controllers, lights, and other fixtures and furnishings which are not being removed from asbestos work area and which could be damaged and/or which cannot be readily cleaned at completion of this work. Pre-clean surfaces potentially contaminated with asbestos, with HEPA vacuum or damp cloth prior to installing protection.

3.1.8 Install plywood enclosures, covered with rip-proof polyethylene sheeting to protect equipment or fixtures in asbestos work area(s) that may be damaged.

3.1.9 Establish negative pressure in asbestos work area as described in Para. 1.4.7. Negative pressure units shall have total rated capacity with filters in place sufficient to provide minimum 1 air change every 20 minutes in wet removal sites. Volume of air shall be sufficient to ensure airflow is maintained from clean areas into asbestos work area. Vent units to outside of building by removing, and later replacing, windows, and/or providing flexible ducting. Locate vents to discharge air away from building access points or sidewalks. Do not discharge air into building interior without obtaining approval from The Owner’s Consultant. Leak test negative air units prior to commencement of abatement at operating position, using DOP method. Provide reports for unit efficiency test results within 48 hours of testing, including calibration certificates for testing equipment. Venting of exhaust air through occupied area shall be in rigid airtight ductwork. Operate negative pressure units continuously from this time until completion of final air monitoring. Replace pre-filters as necessary to maintain airflow. Maintain negative air pressure of 5 Pascal (0.02 inches water column) pressure reduction within asbestos enclosure with respect to surrounding areas.

3.1.10 Maintain emergency and fire exits from asbestos work area, or establish alternative exits satisfactory to authorities having jurisdiction.

3.1.11 Ensure existing power supply to asbestos work area is isolated and disconnected where necessary. Do not disrupt power supply to remaining areas of building. Provide ground fault electrical system where application of amended water is required for wetting asbestos containing materials. Supply all electrical apparatus from this ground fault system. Ensure safe installation of electrical lines and equipment.

3.1.12 Provide temporary lighting in asbestos work area to levels that will permit work to be done safely and well.

3.1.13 Provide fire extinguisher at each emergency exit, and in decontamination facilities. Protect extinguishers with polyethylene sheeting in manner that will not hamper emergency use.

3.2 WORKERS' DECONTAMINATION ENCLOSURE SYSTEM

3.2.1 Construct workers' decontamination enclosure at entrance to each asbestos work area. Worker decontamination enclosure system shall comprise three interconnecting rooms as follows:

3.2.2 Provide a set of curtain doorways between each room, and at both dirty and clean entrances to enclosure systems.

3.2.3 **Equipment and Access Room**: Build room between shower room and asbestos work area. Install waste receptor, and storage facilities for worker's shoes and any protective clothing to be reworn in asbestos work areas. Equipment and access room shall be large enough to accommodate specified facilities, and other equipment needed, and at least one worker allowing sufficient space to undress comfortably. Minimum size 3 square metres (30 sq. ft.).

3.2.4 **Shower Room**: Build room between clean room and equipment and access room. Provide constant separate supplies of hot and cold water. Provide valves controllable at shower(s) to regulate water temperature. Provide rigid piping with watertight connections and connect to water sources and drains. Provide soap, clean towels and appropriate containers for disposal of used respirator filters. Direct wastewater to sanitary sewer drains via water filtering system consisting of a minimum 2-stage filtering system (25-micron and 5-micron filters).

3.2.5 **Clean Room**: Build room between shower room and clean areas outside of enclosures. At doorway to clean room, provide vented wood door, with locking passage set. Provide hangers for workers' street clothes and personal belongings. Provide storage for clean protective clothing and respiratory equipment. Install water heater, if required.

3.3 WASTE AND EQUIPMENT DECONTAMINATION ENCLOSURE SYSTEM

3.3.1 Construct system comprised of three linked rooms: Purpose of this system is to provide means to decontaminate drums, scaffolding, material containers, vacuum and spray equipment; and other tools and equipment for which worker decontamination system is not suitable. Provide curtain doorways between rooms, and at both dirty and clean entrances to Enclosure System.

3.3.2 **Staging Area:** Build staging area in asbestos work area for gross removal of dust and debris from waste containers and equipment, labeling and sealing of waste containers, and temporary storage pending removal to container cleaning room.

3.3.3 **Container Cleaning Room**: Build container cleaning room between staging area and holding room. Room shall be of sufficient size to allow proper washing of equipment

and drums or double bagging of asbestos waste. Treat wash water as asbestos contaminated waste.

3.3.4 **Holding Room**: Build holding room between container cleaning room and uncontaminated area. Holding room shall be of sufficient size to accommodate largest item of equipment used and ten waste containers.

3.4 **CONSTRUCTION OF DECONTAMINATION ENCLOSURES**

3.4.1 **Floor**: Prior to erecting wall framing, lay 1 sheet of rip-proof polyethylene sheeting over floor area to be covered by enclosures. Turn 600 mm (24") of rip-proof polyethylene sheeting up outside of enclosure, overlapping with polyethylene sheeting covering perimeter walls. Provide second layer of rip-proof polyethylene sheeting to all floors, extending 600 mm up inside of enclosure walls.

3.4.2 **Walls**: Build load-bearing walls of 39 mm x 89 mm (2" x 4") wood framing, 400 mm (16") o.c. with continuous top and sill plates. Cover both sides walls with polyethylene sheeting. Walls exposed to asbestos work area shall be covered with min. 9 mm (3/8") plywood sheeting or hardboard. Caulk seal and tape plywood joints. Walls exposed to occupied area shall be covered with good one side 9 mm plywood.

3.4.3 **Roof:** Size of joists shall be determined by span, loads, use and Code. Use as a minimum 39 mm x 138 mm (2" x 6") joists. Cover joists with 19 mm (3/4") plywood sheeting. Seal and tape joints, and cover with two layers of rip-proof polyethylene sheeting. At underside of joists install one layer of polyethylene sheeting.

3.4.4 **Doorways**: Build curtain doorways designed so that when workers or drums and equipment move through doorway, one of two barriers comprising doorway always remains closed.

3.5 **MAINTENANCE OF ENCLOSURES**

3.5.1 Maintain enclosures in tidy condition.

3.5.2 Ensure barriers and polyethylene sheeting linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.

3.5.3 Visually inspect enclosures at beginning and end of each working period.

3.6 **DO NOT COMMENCE ASBESTOS REMOVAL WORK UNTIL**

3.6.1 Arrangements have been made for disposal of waste.

3.6.2 Asbestos work areas and decontamination enclosures are effectively segregated. Negative pressure equipment is operating continuously.

3.6.3 Tools, equipment and waste materials receptors are on hand.

3.6.4 Arrangements have been made with The Owner’s Consultant for work area security.

3.6.5 Signs are displayed in areas where access to sealed asbestos work area is possible. Signs shall read:

CAUTION
Asbestos Hazard Area
No Unauthorized Entry
Wear assigned protective equipment
Breathing asbestos dust may cause serious bodily harm.

3.6.6 Proof of notification to Ministry of Labour has been submitted.

3.6.7 The Owner's Consultant has been notified of intention to proceed and has reviewed enclosures, equipment and procedures.

3.7 CONTAMINATED PREPARATION FOR FULL-ENCLOSURE ASBESTOS WORK AREA

3.7.1 Before performing any contaminated work, prepare site as described in articles 3.1, 3.2, 3.3, 3.4, 3.5, and 3.6. Perform work of 3.7.2 and 3.7.3 with air handling system disabled and during quiet hours.

3.7.2 Using full protective procedures including amended water and HEPA vacuum, install upper seals as necessary to allow polyethylene sheeting to be fastened to structure. Each of two sheets forming wall of enclosure shall be fastened separately to deck using tape, spray adhesive, rapid setting foam or other suitable method. Provide suitable framing to support polyethylene sheeting. Seal holes in existing perimeter walls, columns, deck etc., to ensure an airtight asbestos work area.

3.7.3 Promptly seal holes or penetrations in structure above ceiling, ducts, etc. to provide airtight enclosure around asbestos work area(s).

3.7.4 Protect electrical, communication, life safety and control systems to remain in place in asbestos work area with polyethylene sheeting.

3.7.5 Seal joints and holes in uninsulated HVAC ductwork to remain operational through an asbestos work area, using tape and rip-proof polyethylene sheeting.

3.8 **REMOVAL**

3.8.1 In areas of wet removal of spray or trowel applied material, spray asbestos with amended water using airless spray equipment. Saturate asbestos to prevent release of airborne fibres during removal. Fully saturated asbestos may be scraped directly into waste containers or may be allowed to fall to floor.

3.8.2 Remove asbestos-containing mechanical insulation in layers, while maintaining all exposed surfaces of insulation or lagging in wet condition. Full saturation of insulation will not be required if material is immediately bagged and not allowed to fall to floor.

3.8.3 Following bulk removal of above noted asbestos containing materials, demolish section(s) of mechanical systems as required to access asbestos-containing material. Bag all waste and dispose of as asbestos waste.

3.8.4 Seal ends of pipe insulation at perimeters of asbestos work area with heavy coat of high temperature sealer.

3.8.5 Place asbestos waste into asbestos waste receptors. Double polyethylene bags are to be used, inner bag shall be cleaned of gross contamination and placed in a clean **6 mil** outer polyethylene bag in container cleaning room immediately prior to transfer from Site.

3.8.6 Treat all materials removed to expose asbestos, as asbestos-contaminated waste unless such materials are specified to be re-used.

3.9 **CLEAN-UP**

3.9.1 Clean surfaces from which asbestos has been removed with brushes and vacuum or wet-sponge to remove visible dust and debris.

3.9.2 Remove sealed and labeled asbestos waste receptors and dispose of in authorized disposal area in accordance with requirements of disposal authority.

3.9.3 After brushing and wet-sponging to remove visible asbestos, wet clean entire asbestos work area including equipment and access area, polyethylene sheeting and equipment used in process. Floor and wall surfaces, ducts, and similar items not covered with polyethylene sheeting must be wet cleaned.

3.9.4 Request visual inspection and acceptance. Following inspection and acceptance, apply heavy coat of slow drying sealer to all surfaces from which asbestos has been removed. Apply thinned coat (sufficient to coat all surfaces) to other surfaces in asbestos work area including all polyethylene sheeting and surfaces scheduled for demolition. Allow minimum of 12 hours flushing time with no disturbance of asbestos work area. Operate negative air units during this period.

3.10 **DISMANTLING OF PROTECTION**

3.10.1 If air sampling by The Owner's Consultant shows that levels in asbestos work area do not exceed 0.01 fibres/cc. as determined by NIOSH 7400 Method, A counting rules, proceed with final dismantling of enclosure.

3.10.2 Remove polyethylene sheeting exposed during contaminated work including upper surfaces plus any underlying sheeting contaminated by water leaks, rips, tears, or exposed by failure of upper layer. Wear half face piece respirator and disposable coveralls during removal of sheeting. Carefully roll sheeting away from walls to centre of asbestos work area. As sheeting is rolled away from walls and corners, HEPA vacuum visible debris.

3.10.3 While removing top layer of sheeting from surfaces protected by two layers of sheeting, cut lower sheeting so as to expose horizontal surfaces that may be contaminated with asbestos debris. HEPA vacuum any visible debris.

3.10.4 Place polyethylene sheeting, seals, tape, cleaning material, clothing, and other contaminated waste in asbestos waste receptors for transport. Remove with HEPA vacuum any debris which may have fallen behind sheeting.

3.10.5 Clean asbestos work area(s), equipment and access area, washing/showering room, and other enclosures that may have been contaminated during work.

3.10.6 Clean asbestos waste receptors and equipment used in work and remove from asbestos work area(s) via drum and equipment decontamination enclosure system, at an appropriate time in sequence.

3.10.7 Remove hoardings, temporary lighting, equipment and facilities provided for work. A final review may be carried out by the Owner's Consultant to ensure that no dust or debris remains. Asbestos abatement contractor responsible for inspecting and cleaning all adjacent spaces to the asbestos abatement work area. Adjacent work areas to be left free of construction related dust and debris.

3.11 **RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS**

3.11.1 When cleanup is complete re-establish mechanical and electrical systems to remain operative in proper working order. Arrange for, and pay costs of electrical or mechanical repairs needed due to work of this Section.

3.11.2 Make good all damage at completion of work not identified in pre-removal survey.

3.12 **AIR MONITORING**

3.12.1 The Owner's Consultant will arrange for air samples to be taken from commencement of work until completion of cleaning operations, both inside and outside of asbestos work area(s) enclosures in accordance with NIOSH methods or with Fibrous Aerosol Monitor manufactured by MIE Inc., Bedford, Mass. The Owner's Consultant for this

project will be Safetech Environmental Limited.

3.12.2 If air monitoring or visual inspection shows that areas outside current asbestos work area(s) enclosure or decontamination facilities are contaminated above 0.01 fibre/cc., clean these areas in same manner as that applicable to asbestos work areas, at no cost to the Owner.

3.12.3 Air clearance sampling will be done in accordance with O. Reg. 278/05. The air clearance sampling will be conducted following aggressive air sampling methods as outlined in US Environmental Protection Agency "Guidance for Controlling Asbestos-Containing Materials in Buildings – Published June 1985 – Appendix M – Section M.1.5". All equipment required for aggressive air sampling (other than pumps for samples) will be provided by contractor conducting abatement work. A minimum of 2,400 L of air will be collected for each sample. An abatement area is deemed clear only if every air sample collected within the affected area has a concentration of fibres that does not exceed 0.01 fibres/cc. The number of air clearance samples to be collected are based on Ontario Regulation. 278/05, Table 3.

3.12.4 If air monitoring in work areas shows airborne fibre levels exceed normal levels for wet removal, workers shall use positive pressure supplied air respirators with full-face piece.

3.12.5 If final air sampling by the Owner's Consultant shows that levels in completed asbestos work area do not exceed 0.01 fibres/cc. as determined by NIOSH 7400 Method - "A" counting rules, proceed with dismantling of enclosures.

3.12.6 Clearance level is < 0.01 f/cc.

3.13 INSPECTION

3.13.1 From commencement of work until completion of clean-up operations, the Owner's Consultant will be present on a full time basis; both inside and outside asbestos work area(s). The Owner's Consultant for this project will be Safetech Environmental Limited.

3.13.2 If asbestos work area(s) or adjacent areas are found unacceptable in accordance with standards specified or required by authorities having jurisdiction, correct such deficiencies at no cost to the Owner.

3.13.3 Pay cost to provide re-inspection of work found not to be in accordance with these specifications and requirements of authorities having jurisdiction.

3.14 WASTE TRANSPORT AND DISPOSAL

3.14.1 Conform to requirements of Regulation 347/90 as amended by O. Reg. 326/03 - General Waste Management under Environmental Protection Act for Waste Management, transporting and disposal of hazardous waste.

3.14.2 Check with dump operator to determine type of waste containers acceptable.

3.14.3 Ensure shipment of containers to dump is taken by waste hauler licensed to transport asbestos waste. Waste hauler in possession of valid Ministry of Environment Certificate of Approval to transport asbestos waste.

3.14.4 Each load requires completion of bill of lading showing type and weight of hazardous waste being transported. Provide copies of bill of lading indicating acceptance of waste at landfill.

3.14.5 Co-operate with Ministry of Environment inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to the Owner.

3.14.6 Ensure dump operator is fully aware of hazardous material being dumped.

3.14.7 Ensure that containers used for dumping are locked and covered at all times.

END OF SECTION

1 General

1.1 **GENERAL REQUIREMENTS**

1.1.1 Conform to Sections of Division 1 as applicable.

1.2 **RELATED WORK**

1.2.1 Non-Friable asbestos removal: Section 02 13 81, Type 1 Asbestos Removal

1.2.2 Friable asbestos removal: Section 02 13 82, Type 2 Asbestos Removal

1.2.3 Friable asbestos removal: Section 02 13 83, Type 3 Asbestos Removal

1.2.4 Lead Removal Procedures: Section 02 13 85

1.2.5 Silica Removal Procedures: Section 02 13 86

1.2.6 Mercury Removal Procedures: Section 02 13 87

1.2.7 PCB Equipment Removal Procedures: Section 02 13 88

1.3 **DESCRIPTION OF WORK**

1.3.1 Types of asbestos present: Chrysotile present within mechanical insulations.

1.3.2 Type 2 Glove Bag operations can be applied for the removal of asbestos containing mechanical pipe straight insulation and fittings. Glove bag removal will only be permitted where materials noted for removal are in good condition and no asbestos-containing debris is present. Include all jacketing or covering on insulation. Use glove bag and dispose of as specified in Section 02 13 84.

1.3.3 Friable asbestos containing materials identified can be found within the Safetech Environmental Ltd. report titled "*Hazardous Materials Assessment – Bishop Allen Academy"* issued July 2022. A copy of this report can be found within the contract documents.

1.3.4 Seal surfaces from which asbestos has been removed and surfaces contaminated with asbestos with slow drying sealer.

1.4 **DEFINITIONS**

1.4.1 **HEPA Filter:** High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting 0.3 micrometer aerosol.

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

1.4.3 **Authorized Visitor(s):** Owner's Consultant or persons representing regulatory agencies, and person(s) authorized by either party.

1.4.4 **Asbestos Work Area(s):** Area(s) where work takes place which will, or may disturb asbestos-containing material, including overspray and fallen material, or settled dust that may contain asbestos.

1.4.5 **Glove Bag:** Prefabricated, 0.25 mm (10 mil) minimum thickness polyvinyl-chloride bag with integral 0.25 mm (10 mil) thick polyvinyl-chloride gloves and elasticized ports. Bag equipped with reversible double-pull double throw zipper on top to facilitate installation on pipe and progressive movement along pipe and with straps for sealing ends to bag around pipe:

1.5 **REGULATIONS**

1.5.1 Comply with Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations made under The Occupational Health and Safety Act, Ontario Regulation 278/05 and local requirements pertaining to asbestos, provided that in case of conflict with these Specifications, the most stringent requirements shall apply.

1.5.2 Handle and dispose of contaminated waste as required under Ontario Regulation 347/90, as amended by O. Reg. 326/03, General Waste Management made under The Environmental Protection Act.

1.5.3 Not later than ten days before commencing asbestos work on this project, notify in writing Ontario Ministry of Labour, Construction Health and Safety Branch, that hazardous asbestos work area will exist. Orally notify them before commencing work.

1.5.4 Notify sanitary landfill site in accordance with requirements of Ontario Regulation 347/90, as amended by O. Reg. 326/03, General Waste Management.

1.5.5 Contractor shall ensure that:

1.5.5.1 Measures and procedures prescribed under Occupational Health & Safety Act and regulations are carried out.

1.5.5.2 Every employee and every worker on project complies with applicable act and regulations.

1.5.5.3 Health and safety of workers and public is protected.

1.5.5.4 All material handling, and associated equipment conform to and are operated in accordance with "Workplace Hazardous Materials Information System" (WHMIS).

1.5.5.5 Advise Owner whenever work is expected to be hazardous to employees and/or public.

1.5.5.6 Contractor may be requested to provide information on their health and safety record.

1.5 **QUALITY ASSURANCE**

1.5.1 Ensure work proceeds to schedule and meets all requirements of this Section. Perform work so airborne asbestos and asbestos waste does not contaminate areas outside glove

bag.

1.5.2 Pay cost to Owner of inspection and air monitoring performed as result of failure to perform work satisfactorily regarding quality, safety, or schedule.

1.5.3 Use only skilled and qualified workers for all trades required for this work.

1.6 **SUBMITTALS**

1.6.1 **Before commencing work**

1.6.1.1 Obtain and submit all necessary permits for transporting and disposal of asbestos waste.

1.6.1.2 Submit names of supervisory personnel who will be responsible for asbestos work area(s). One of supervisors must remain on Site at all times asbestos removal or clean-up is occurring. Submit proof that supervisory personnel have attended training course on asbestos control (2 day minimum duration) and have performed supervisory function on at least two other asbestos removal projects.

1.6.1.3 Submit proposed schedule showing phasing and scheduling for glove bag removal.

1.6.1.4 Submit list of pre-existing damages for acceptance by Owner's Consultant.

1.6.1.5 Submit written variance approval from Construction Health and Safety Branch allowing use of glove bags on project under Section 18 of Ontario Regulation 838/90.

1.7 **WORKER AND VISITOR PROTECTION**

1.7.1 **Instructions:** Before entering asbestos work area(s), instruct workers and visitors in use of respirators, use of glove bags, and all aspects of work procedures and protective measures. Instruction shall be provided by a competent person as defined by Occupational Health and Safety Act.

1.7.2 **Respirators:** Workers performing glove bag removal shall use non-powered air half face respirator with minimum P100 filter cartridges in accordance with NIOSH Part 84 requirements. Provide approved respirators to visitors. Replace filters daily or test according to manufacturer's specifications and replace as indicated. Respirators shall be acceptable to Occupational Health Branch of Ministry of Labour. Provide instruction to users in use of respirators, including qualitative fit testing. No user shall wear facial hair which affects seal between respirator and face. Maintain respirators in proper functioning and clean condition, or remove from site.

1.7.3 **Protective Clothing:** Provide workers and visitors with full body coveralls with integral hoods. Protective coveralls are required only if glove bag is ripped, cut or otherwise opened and cannot be easily and quickly repaired. Once coveralls are worn in asbestos work area, dispose of as contaminated waste. Workers and visitors shall also wear other protective apparel required by Ministry of Labour construction regulations.

1.7.4 Do not eat, drink, smoke or chew gum or tobacco in asbestos work area.

2 PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 **Tape:** Tape suitable for sealing polyethylene to surface encountered under both wet conditions using amended water, and dry conditions.

2.1.2 **Wetting Agent:** Non-foaming surface active agent; mixed with water in concentration to provide thorough wetting of asbestos fibre: Asbesto-Wet or equivalent.

2.1.3 **Amended Water:** Water with wetting agent added.

2.1.4 **Asbestos Waste Receptors:** Two separate containers of which at least one shall consist of 0.15 mm (6 mil) minimum thickness sealable polyethylene bag. Other container may be 0.15 (6 mil) minimum thickness polyethylene bag. Other container shall be adequate to prevent perforating rips, or tears during filling, transport or disposal. Containers must be acceptable to disposal site selected and Ministry of Environment, and shall be clearly marked to indicate that contents contain asbestos.

2.1.5 **Sealer:** Sealer for purpose of trapping residual fibre debris. Product must have flame spread and smoke development ratings both less than 25. Product shall leave no stain when dry. Chil-Abate CP 210, Childers Products Company, Mississauga, Ontario.

2.1.6 **Glove Bag:** Prefabricated, 0.25 mm (10 mil) minimum thickness polyvinyl-chloride bag with integral 0.25 mm (10 mil) thick polyvinyl-chloride gloves and elasticized ports. Bag equipped with reversible double-pull double throw zipper on top to facilitate installation on pipe and progressive movement along pipe and with straps for sealing ends to bag around pipe: Safe-T-Strip manufactured by Hazmasters Equipment Inc., Pickering Ontario, in configurations suitable for work.

2.1.7 **Sprayer:** Garden type portable manual sprayer, low velocity, capable of producing of fine spray.

2.1.8 **HEPA Vacuum:** Vacuum with all necessary fittings, tools and attachments. Air must pass HEPA filter before discharge.

2.1.9 **Securing Straps:** For glove bag, reusable nylon straps at least 1" wide with metal tightening buckle for sealing ends of bags around pipe and/or insulation.

2.1.10 **Knife:** Knife with fully retractable blade for use inside glove bag.

3 PART 3 - EXECUTION

3.1 COMMENCE ASBESTOS REMOVAL WORK WHEN

3.1.1 Equipment, tools, furnishings, and stored materials which can be moved without disturbing asbestos-containing materials have been moved by Contractor.

3.1.2 Arrangements have been made for disposal of waste.

3.1.3 Asbestos work areas and parts of building required to remain in use are effectively segregated by walls or barricades.

3.1.4 Tools, equipment and materials waste receptors are on hand.

3.1.5 Arrangements have been made with Owner for work area security.

3.1.6 Signs are displayed in all areas where access to asbestos work area is possible. Such signs shall read:

CAUTION
Asbestos Hazard Area
No Unauthorized Entry
Wear assigned protective equipment
Breathing asbestos dust may cause serious bodily harm.

3.1.7 Owner's Consultant has been notified of intention to proceed and has reviewed equipment and procedures.

3.1.8 Proof of notification to Ministry of Labour has been submitted.

3.2 **FITTING INSULATION REMOVAL**

3.2.1 Isolate asbestos work area with tape barriers, saw-horses, or other barriers posted with notices marking area as asbestos removal area. Workers performing glove bag removal shall wear half face piece air purifying respirators with P100 HEPA filter cartridges.

3.2.2 Pre-clean surface of fitting of fallen or damaged insulation by HEPA vacuuming or damp wiping.

3.2.3 Spray areas of damaged jacketing with mist of amended water. Tape over damage, or wrap with polyethylene sheeting, to provide temporary repair.

3.2.4 If fitting insulation is not jacketed spray surface with mist of amended water and wrap entire length of fitting with 0.15 mm (6 mil) polyethylene sheeting taped in place.

3.2.5 Place tools necessary to remove insulation in tool pouch. Zip bag onto fitting and seal all openings to fitting with cloth securing straps. For valve bags seal valve cover with wire tie or equivalent.

3.2.6 Place hands into gloves and use necessary tools to remove insulation. Arrange insulation in bag to obtain full capacity of bag. Roll jacketing carefully to minimize possibility of ripping or puncturing bags.

3.2.7 Insert nozzle of spray pump into bag through valve and wash down fitting and interior of bag thoroughly. Use one hand to aid washing process. Wet surface of insulation in lower section of bag and exposed end of asbestos insulation remaining on fitting by spraying with water prior to moving bag.

3.2.8 If bag is to be moved along fitting, move bag, re-seal to fitting using double-pull zipper to

pass hangers. Repeat stripping operation.

3.2.9 If bag is removed from fitting for use on new fitting, seal interior zip lock. Reinstall in new location before opening zip lock.

3.2.10 If glove bag is ripped, cut or opened in any way, cease work and repair with tape before continuing work. If opening is not easily repaired workers in area shall put on disposable coveralls. Clean spilled material with HEPA vacuum or wet washing.

3.2.11 To remove bag once filled, wash top section and tools thoroughly. Place tools in one hand (glove), pull hand out inverted, twist to create separate pouch, double tape to seal. Cut between tape and place pouch with tools in next glove bag; or into water bucket, open pouch underwater, clean tools and allow to dry.

3.2.12 Pull waste disposal bag over glove bag before removing from fitting. Remove securing straps. Unfasten zipper.

3.2.13 After removal of bag ensure fitting is clean of residue. If necessary, after removal of each section of asbestos, HEPA vacuum surfaces of fitting or wipe with wet cloth. Ensure that surfaces are kept free of wet sludge.

3.2.14 Before completion of shift, apply sealer to all surfaces of freshly-exposed fitting. Apply heavy coat of sealer to exposed ends of asbestos insulation to remain.

3.2.15 Once bag filled dispose of as contaminated waste. Do not reuse bag.

3.3 RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS

3.3.1 Reconstruct items demolished (if required) which are to remain and reinstall objects and items in their proper positions, which were removed to facilitate asbestos removal operation. Reconstruction and reinstallation shall be by tradesmen qualified in work being reinstalled or reconstructed.

3.3.2 Re-establish mechanical and electrical systems in proper working order. Arrange for, and pay costs of, electrical or mechanical repairs needed due to this work.

3.3.3 Make good all damage at completion of work not identified in pre-removal survey referred to in para. 1.6.1.4.

3.4 AIR MONITORING

3.4.1 Owner's Consultant will arrange for air samples to be taken from commencement of work until completion of cleaning operations in accordance with NIOSH methods or with Fibrous Aerosol Monitor, MIE Corporation, Bedford, Mass.

3.4.2 If air monitoring shows that asbestos work area is contaminated above 0.01 fibre/mL, clean these areas by HEPA vacuum or wet methods.

3.5 INSPECTION

3.5.1 From commencement of work until completion of clean up operations, Owner's Consultant will be present periodically both inside and outside asbestos work area(s).

3.5.2 If asbestos work area(s), or adjacent areas, are found unacceptable in accordance with standards specified or required by authorities having jurisdiction correct such deficiencies at no cost to Owner.

3.5.3 Pay cost to provide inspections of work found not in accordance with these specifications and requirements of authorities having jurisdiction.

3.6 **WASTE TRANSPORT AND DISPOSAL**

3.6.1 Conform to requirements of Regulation 347 as amended by O. Reg. 326/03, General Waste Management, under Environmental Protection Act for transporting and disposal of hazardous waste.

3.6.2 Check with dump operator to determine type of waste containers acceptable.

3.6.3 Ensure shipment of containers to dump is by waste hauler licensed to transport asbestos waste.

3.6.4 Each load requires completion of bill of lading showing type and weight of hazardous waste being transported. Provide proof (waste receipts) of proper disposal of asbestos material upon request by Owner's Consultant.

3.6.5 Co-operate with Ministry of Environment inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to Owner.

3.6.6 Ensure dump operator is fully aware of hazardous material being dumped.

3.6.7 Ensure disposal bins are covered and locked at all times.

End of Section

1 **PART 1 - GENERAL**

1.1 **GENERAL REQUIREMENTS**

1.1.1 Conform to Sections of Division 1 as applicable.

1.2 **RELATED WORK**

1.2.1 Non-Friable asbestos removal: Section 02 13 81, Type 1 Asbestos Removal

1.2.2 Friable asbestos removal: Section 02 13 82, Type 2 Asbestos Removal

1.2.3 Friable asbestos removal: Section 02 13 83, Type 3 Asbestos Removal

1.2.4 Friable asbestos removal: Section 02 13 84, Glove Bag Asbestos Removal

1.2.5 Silica Removal Procedures: Section 02 13 86

1.2.6 Mercury Removal Procedures: Section 02 13 87

1.2.7 PCB Equipment Removal Procedures: Section 02 13 88

1.3 **DESCRIPTION OF WORK**

1.3.1 This procedure is for the removal of lead sheeting, pipe, or lead containing paint or coatings (i.e. ceramic tile glazing).

1.3.2 Materials identified to contain lead can be found within the Safetech Environmental Ltd. report titled "*Hazardous Materials Assessment – Bishop Allen Academy"* issued July 2022. A copy of this report can be found within the contract documents.

1.3.3 All lead abatement work is subject to classification as Type 1, Type 2 or Type 3 operation as per Ministry of Labour, Occupation Health & Safety Branch September 2004 – Guideline Lead on Construction Projects. Lead abatement work shall be classified after initial exposure assessment is performed to determine expected airborne lead levels.

1.3.4 Remove lead dust, clean and decontaminate all surfaces within enclosed work areas.

1.3.5 Work area surfaces may be HEPA vacuumed with vacuum cleaner contents collected and disposed of as hazardous waste.

1.3.6 Dispose of all waste as lead contaminated including polyethylene sheeting, coveralls, respirator filters, and all porous materials that cannot be properly cleaned and decontaminated.

1.3.7 This sequence to be repeated for each section of work.

1.3.8 All work may be subject to inspection and/or air sampling (clearance and/or exposure monitoring) inside and outside work areas by Client's Consultant. Any contamination of surrounding areas, indicated by visual inspection or air monitoring, shall necessitate complete clean-up of affected areas.

1.4 **REFERENCES/REGULATIONS**

1.4.1 Comply with Federal, Provincial and local authority requirements. The more stringent requirements shall apply in the event of a conflict with any particular authority or jurisdiction. Regulations and Guidelines include:

1.4.2 Regulations made under the *Occupational Health and Safety Act*, Revised Statutes of Ontario, 1990, Chapter O.1 as amended.

1.4.3 The Occupational Health and Safety Act, Regulation for Construction Projects, O. Reg. 213/91 amended to O. Reg. 628/05.

1.4.4 The Occupational Health and Safety Act, Regulation Respecting Lead, O. Reg. 490/09.

1.4.5 Ministry of Labour Guideline regarding Lead on Construction Projects, September 2004.

1.4.6 Ministry of Environment, Regulation 347/90 amended to O. Reg. 461/05 for disposal of hazardous waste.

1.5 **DEFINITIONS**

1.5.1 **Authorized Visitor(s):** Owner's Consultant or persons representing regulatory agencies, and person(s) authorized by either of them

1.5.2 **Work Area(s):** Area(s) where work takes place which will, or may disturb lead sheeting and lead dust.

1.5.3 **HEPA Filter:** High Efficiency Particulate Aerosol filter at least 99.97 percent efficient in collecting 0.3-micrometer aerosol.

1.5.4 **HEPA Vacuum:** High Efficiency Particulate Aerosol filtered vacuum equipment acceptable to local provincial Ministry of Labour, and Health Canada. Ensure vacuums are equipped with hoses, fittings, and nozzle attachments. Maintain vacuum equipment and system properly.

1.5.5 **Polyethylene Sheeting**: Polyethylene sheeting of 0.15 mm (6 mil) minimum thickness with tape seals along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide continuous polyethylene membrane protection.

1.5.6 **Work Area**: Polyethylene enclosed portion of platform where disturbance of Lead sheeting and dust takes place.

1.6 **SUBMITTALS**

1.6.1 Submit names of supervisory personnel who will be responsible for Lead abatement work area(s). One of these supervisors must remain on site at all times while lead removal or clean-up is occurring. Submit proof that supervisory personnel have attended training course on lead control and have performed supervisory function on at least 2 other lead removal projects of similar size of this project.

1.6.2 Proof of worker training for lead abatement work.

1.6.3 Proof of worker training for fall arrest and proper use of safety harness assembly and equipment.

1.6.4 Certificates indicating each worker has had proper respirator fit test for the respirator appropriate for work being performed.

1.6.5 Written determination from an occupational physician for each worker stating that the worker is fit to perform lead abatement work and is capable of performing work wearing specified respiratory protection. Each worker should also be enrolled in a lead surveillance program.

1.6.5.1 Submit prior to commencement of work and at completion of project, blood test results for all workers who have had a minimum of 5 days lead exposure on the project. Results must be made available for review by Owner Consultant.

1.6.6 Submit list of existing damage for acceptance.

1.6.7 Laws of province of Ontario shall govern this work. Contractor shall observe all such laws and shall obtain and/or pay all permits, notices, fees, taxes, and duties as may be required. Likewise, it is the responsibility of contractor to comply with Workplace Safety and Insurance Board (WSIB).

1.6.8 Before commencing any work, Contractor shall submit, in writing, confirmation of good standing with Workplace Safety and Insurance Board (WSIB).

1.6.9 Submit proposed schedule showing phasing and scheduling.

1.6.10 Submit proof satisfactory to Owner's Consultant that suitable arrangements have been made to dispose of lead containing waste in accordance with requirements of authority having jurisdiction.

1.6.11 **Instruction and Training**

1.6.11.1 Before commencing work provide satisfactory proof that every worker has had instruction and training in hazards of lead exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.

1.6.11.2 Instruction and training on respirators includes:

- Limitations of equipment,
- Inspection and maintenance of equipment,
- Fitting of equipment, and disinfecting of equipment.

1.7.11.3 The Restoration and Abatement Contractor to post on the job bulletin board instructions, procedures and information pertaining to abatement work.

1.7 **WORKER AND VISITOR PROTECTION**

1.7.1 **Instructions:** Before entering lead removal work area(s), instruct workers and Authorized Visitor(s) in use of respirators, and all aspects of Work procedures and protective measures. Provide instruction by competent person as defined by The Occupational Health and Safety Act.

1.7.1.1 Provide disposable full body coveralls and approved respiratory protection to authorized visitors.

1.7.2 **Respirators:** Provide workers with personally issued and marked powered air purifying full-face respirators (PAPR) with P100 high efficiency (HEPA) cartridge filters. Provide approved respirators to Authorized Visitor(s). Provide sufficient filters and cartridges so workers can install new filters and cartridges following disposal of used filters and cartridges before re-entering contaminated areas. Respirators shall be acceptable to Occupational Health Branch of Ministry of Labour.

1.7.2.1 The Maximum Use Concentration (MUC) of a PAPR fitted with P100 filters for all work performed inside removal work area is 2500 µg/m^3. Should airborne lead concentrations exceed this value, all work must stop and work practices modified to reduce exposure to acceptable levels.

1.7.2.2 Provide instruction in use of respirators, including qualitative fit testing. No worker or Authorized Visitor(s) may have facial hair which prevents proper contact between respirator face-piece and skin. Alternatively, supplied air positive pressure respirator or supplied air positive pressure hood or helmet may be provided. Maintain respirators in proper functioning and clean condition, or remove from Site. A Summary of respirator requirements based on anticipated concentration of airborne lead can be found in Table 1.

Table 1: Respirator Requirements

Operations	Required Respirator
Type 1 (0 to 0.05 mg/m3) • Application of lead-containing coatings with a brush or roller. • Removal of lead-containing coatings with a chemical gel or paste and fibrous laminated cloth wrap. • Removal of lead-containing coatings or materials using a power tool that has an effective dust collection system equipped with a HEPA filter. • Installation or removal of lead-containing sheet metal. • Installation or removal of lead-containing packing, babbit or similar material. • Removal of lead-containing coatings or materials with a non-powered hand tool, other than manual scraping and sanding. • Soldering.	Respirators should not be necessary if the general procedures listed in Section 6.1 are followed and if the level of lead in the air is less than 0.05 mg/m3. However, if the worker wishes to use a respirator, a half-mask particulate respirator with N-, R- or P-series filter, and 95, 99 or 100% efficiency should be provided.

Operations	Required Respirator
Type 2a (0.05 to 0.50 mg/m3) • Welding or high temperature cutting of lead containing coatings or materials outdoors. This operation is considered a Type 2a operation only if it is short-term, not repeated, and if the material has been stripped prior to welding or high temperature cutting. Otherwise, it will be considered a Type 3a operation. • Removal of lead-containing coatings or materials by scraping or sanding using non-powered hand tools. • Manual demolition of lead-painted plaster walls or building components by striking a wall with a sledge hammer or similar tool. **Type 2b (0.50 mg/m3 to 1.25 mg/m3)** • Spray application of lead-containing coatings.	**NIOSH APF = 10** Half-mask particulate respirator with N-, R-or Pseries filter, and 95, 99 or 100% efficiency. **NIOSH APF = 25** Powered air purifying respirator equipped with a hood or helmet, and any type of high efficiency filter. Supplied air respirator equipped with a hood or helmet and operated in a continuous flow mode.
Type 3a (1.25 to 2.50 mg/m3) • Welding or high temperature cutting of lead containing coatings or materials indoors or in a confined space. • Burning of a surface containing lead. • Dry removal of lead-containing mortar using an electric or pneumatic cutting device • Removal of lead-containing coatings or materials using power tools without an effective dust collection system equipped with a HEPA filter. • Removal or repair of a ventilation system used for controlling lead exposure. • Demolition or cleanup of a facility where lead containing products were manufactured. • An operation that may expose a worker to lead dust, fume or mist that is not a Type 1,Type 2 or Type 3b operation. **Type 3b (more than 2.50 mg/m3)** • Abrasive blasting of lead-containing coatings or materials. **Type 3b (more than 2.50 mg/m3)** • Removal of lead-containing dust using an air mist extraction system.	**NIOSH APF = 50** Full-facepiece air-purifying respirator with N- , R-or P-series filter, and 100% efficiency. Tight-fitting powered air-purifying respirator with a high efficiency filter. Full-facepiece supplied-air respirator operated in demand mode. Half-mask or full-facepiece supplied air respirator operated in continuous-flow mode. **NIOSH APF = 1000** Type CE abrasive-blast supplied respirator operated in a positive pressure mode with a tight-fitting half-mask face piece. **NIOSH APF = 1000** Full-facepiece supplied-air respirator operated in pressure-demand or other positive-pressure mode.

1.7.3 **Protective Clothing and Goggles:** Workers and Authorized Visitor(s) shall wear disposable full body personal protective apparel including attached head covering. In addition workers are expected to wear nitrile gloves and protective eye goggles as is required by Ministry of Labour construction regulations. Once worn, protective coveralls shall be discarded and disposed of as lead contaminated waste

1.7.4 Do not eat, drink, smoke or chew gum or tobacco in lead removal work area.

1.7.5 Workers and Authorized Visitors shall wash hands and face when leaving lead removal work area. Contractor to provide workers with a designated washroom facility.

2 **PRODUCTS**

2.1 **Polyethylene:** 0.15 mm (6 mil) minimum thickness unless otherwise specified; in sheet size to minimize joints.

2.2 **Rip-Proof Polyethylene:** 0.20 mm (8 mil) fabric made up from 0.13 mm (5 mil weave and 2 layers 0.04 mm (1.5 mil) poly laminate, in sheet size to minimize joints.

2.3 **Tape:** Tape suitable for sealing polyethylene to surface encountered, under both wet conditions using amended water, and dry conditions.

2.4 **Waste Receptors:** Two separate containers of which 1 shall consist of 0.15 mm (6 mil) minimum thickness sealable polyethylene bag. Other container may be 0.15 mm (6 mil) minimum thickness polyethylene bag. Other container shall be adequate to prevent perforating rips, or tears during filling, transport or disposal. Containers must be acceptable to disposal site selected, and Ministry of Environment.

2.5 **Sprayer:** Garden type, portable manual sprayer, low velocity, capable of producing fine spray.

2.6 **Ground Fault Panel:** Portable electrical panel equipped with ground fault circuit interrupters (5 mA protection) of sufficient capacity to power all electrical equipment and lights in Lead work enclosure. Panel complete with ground fault interrupter lights, test switch to ensure unit is working, and reset switch. Installed by licensed electrician.

2.7 **HEPA Vacuum:** Vacuum with all necessary fittings, tools and attachments. Air must pass HEPA filter before discharge.

2.8 **Protective Coveralls:** Disposable full body coveralls complete with elasticized hoods made of spun polyolefin material Tyvek by Dupont or nonwoven material Kleenguard by Kimberley Clark.

2.9 **Flexible ducting:** Metal reinforced flexible ductwork, 12" diameter minimum.

2.10 **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 prefilter and HEPA final filter. Air shall pass 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.

2.11 **Power Sprayer:** Graco Maxi-wetter or equivalent, from Hazmasters Environmental, Pickering, Ontario.

3 **Execution**

3.1 PREPARATION

3.1.1 Full-enclosure Lead Work Area(s)

3.1.2 Seal off openings such as doorways, windows, vents, service holes in walls and grilles to non-operating ducts with polyethylene sheeting sealed with tape or with polyurethane foam as appropriate.

3.1.3 Erect polyethylene enclosure that is impermeable to dust that is supported and secured by structure with sealed joints, and entrances to work area equipped with overlapping tarps as air locks.

3.1.4 Establish negative pressure in Lead work area. Negative pressure units shall have total rated capacity with filters in place sufficient to provide minimum 1 air change every 15 minutes in wet removal sites. Volume of air shall be sufficient to ensure air flow is maintained from clean areas into lead work area. Vent units to outside of work area by providing flexible ducting. Locate vents to discharge air away from building access points or sidewalks. Do not discharge air into building. Leak test any negative air units to be exhausted within building, at operating position at project, using DOP method. Venting of exhaust air through occupied area shall be in rigid airtight ductwork. Operate negative pressure units continuously from this time until completion of final air monitoring. Replace pre-filters as necessary to maintain air flow. Maintain negative air pressure of 5 Pascal (0.03 inches water column) pressure reduction within Lead enclosure with respect to surrounding areas.

3.1.5 Maintain emergency and fire exits from Lead work area, or establish alternative exits satisfactory to authorities having jurisdiction.

3.1.6 Ensure existing power supply to Lead work area is isolated and disconnected where necessary. Do not disrupt power supply to remaining areas of building. Provide ground fault electrical system when necessary. Supply all electrical apparatus from this ground fault system. Ensure safe installation of electrical lines and equipment.

3.1.7 Provide temporary lighting in Lead work area to levels that will permit work to be done safely and well.

3.1.8 Provide fire extinguisher at each emergency exit, and in decontamination facilities. Protect extinguishers with polyethylene sheeting in manner that will not hamper emergency use.

3.2 WORKERS' DECONTAMINATION ENCLOSURE SYSTEM

3.2.1 Construct workers' decontamination enclosure at entrance to lead work area. Worker decontamination enclosure system shall comprise three interconnecting rooms as follows:

3.2.1.1 Provide a set of curtain doorways between each room, and at both dirty and clean entrances to enclosure systems.

3.2.1.2 **Equipment and Access Chamber**: Build room at entrance to lead work area. Install waste receptor, and storage facilities for worker's shoes and any protective clothing to be re-worn in lead work areas. Equipment and access room shall be large enough to accommodate specified facilities, and other equipment needed, and at least one worker allowing sufficient space to undress comfortably.

3.2.1.3 **Shower Room**: Provide a wash facility for proper worker decontamination. Provide constant separate supplies of hot and cold water. Provide valves controllable at shower(s) to regulate water temperature. Provide rigid piping with watertight connections and connect to water sources and drains. Provide soap, clean towels and appropriate containers for disposal of used respirator filters. Direct filtered wastewater, passing through a 5-micron filter, to temporary storage drums for laboratory testing and waste classification. Install

ground fault protected power supply, hooks and shelves, for storage and changing of PAPR, if applicable.

3.2.1.4 **Clean Room**: Build room between shower room and clean areas outside of enclosures. At doorway to clean room, provide vented wood door, with locking passage set. Provide hangers for workers' street clothes and personal belongings. Provide storage for clean protective clothing and respiratory equipment. Install water heater, if required.

3.3 WASTE AND EQUIPMENT DECONTAMINATION ENCLOSURE SYSTEM

3.3.1 **Construct system comprised of three linked rooms:** Purpose of this system is to provide means to decontaminate drums, scaffolding, material containers, vacuum and spray equipment; and other tools and equipment for which worker decontamination system is not suitable. Provide curtain doorways between rooms, and at both dirty and clean entrances to Enclosure System.

3.3.1.1 **Staging Area**: Build staging area in Lead work area for gross removal of dust and debris from waste containers and equipment, labeling and sealing of waste containers, and temporary storage pending removal to container cleaning room.

3.3.1.2 **Container Cleaning Room**: Build container cleaning room between staging area and holding room. Room shall be of sufficient size to allow proper washing of equipment and drums or double bagging of Lead waste. Treat wash water as lead contaminated waste. All wash/waste water to be recovered and drummed for laboratory analysis for waste classification.

3.3.1.3 **Holding Room**: Build holding room between container cleaning room and uncontaminated area. Holding room shall be of sufficient size to accommodate largest item of equipment used and ten waste containers.

3.4 CONSTRUCTION OF DECONTAMINATION ENCLOSURES

3.4.1 **Floor:** Lay 1 sheet of rip-proof polyethylene over floor area to be covered by enclosures. Turn 600 mm (24") of rip-proof polyethylene up outside of enclosure, overlapping with polyethylene sheeting covering perimeter walls. Provide second layer of rip-proof polyethylene to all floors, extending 600 mm up inside of enclosure walls.

3.4.2 **Walls:** Cover all walls below drop ceiling with 1 layer of minimum 6-mil polyethylene sheeting. Seal joints with tape.

3.4.3 **Doorways:** Build curtain doorways designed so that when workers or drums and equipment move through doorway, one of two barriers comprising doorway always remains closed.

3.5 MAINTENANCE OF ENCLOSURES

3.5.1 Maintain enclosures in tidy condition.

3.5.2 Ensure barriers and polyethylene linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.

3.5.3 Visually inspect enclosures at beginning and end of each working period.

3.6 **DO NOT COMMENCE LEAD ABATEMENT WORK UNTIL**

3.6.1 Arrangements have been made for disposal of waste.

3.6.2 Lead work area and decontamination enclosure is effectively segregated. Negative pressure equipment is operating continuously.

3.6.3 Tools, equipment and materials waste receptors are on hand.

3.6.4 Arrangements have been made with Owner's Consultant for work area security.

3.6.5 Signs are displayed in areas where access to sealed Lead work area is possible. Signs shall read:

CAUTION
Lead Hazard Area
No Unauthorized Entry
Wear assigned protective equipment
Breathing Lead dust may cause serious bodily harm.

3.6.6 Proof of notification to Ministry of Labour has been submitted.

3.6.7 Owner’s Consultant has been notified of intention to proceed and has reviewed enclosures, equipment and procedures.

3.7 **CONTAMINATED PREPARATION FOR FULL-ENCLOSURE LEAD WORK AREA**

3.7.1 Before performing any contaminated work, prepare site as described in articles 3.1, 3.2, 3.3, 3.4, 3.5, and 3.6.

3.7.2 Promptly seal holes or penetrations in structure to provide airtight enclosure around Lead work area(s).

3.8 **REMOVAL**

3.8.1 Remove lead containing material. Dust and debris may be HEPA vacuumed to remove all lead containing material.

3.8.2 Hand tools may also be used to perform required cutting of lead sheeting and/or pipe.

3.8.3 If HEPA vacuuming, place full vacuum bags into waste receptors. Double polyethylene bags are to be used, inner bag shall be cleaned of gross contamination and placed in a clean 6 mil outer polyethylene bag in container cleaning room immediately prior to transfer from Site.

3.9 **CLEAN-UP**

3.9.1 Clean surfaces from which lead has been removed with brushes and HEPA vacuum or wet-sponge to remove visible dust and debris. HEPA vacuum all surfaces to ensure free of dust and debris.

3.9.2 Remove sealed and labeled lead waste receptors and dispose of to authorized disposal area in accordance with requirements of disposal authority.

3.9.3 After brushing and wet sponging to remove visible lead dust, damp clean entire work area including equipment and access area, polyethylene sheeting and equipment used in process.

3.9.4 Request visual inspection and acceptance. There should be no dust on ducts, scaffold or platform, sills, building surfaces or enclosure. Following inspection and acceptance, allow minimum of 2 hours flushing time with no disturbance of work area. Operate negative air units during this period.

3.10 **TEAR DOWN OF PROTECTION**

3.10.1 Remove polyethylene sheeting exposed during contaminated work including upper surfaces plus any underlying sheeting contaminated by water leaks, rips, tears, or exposed by failure of upper layer. Wear half face piece respirator and disposable coveralls during removal of sheeting. Carefully roll sheeting away from walls to center of lead work area. As sheeting is rolled away from walls and corners, HEPA vacuum visible debris.

3.10.2 Place polyethylene sheeting, seals, tape, cleaning material, clothing, and other contaminated waste in Lead waste receptors for transport. Remove any debris fallen behind sheeting with HEPA vacuum.

3.10.3 Clean up lead work area(s), equipment and access area, washing/showering room, and other enclosures that may have been contaminated during work.

3.10.4 Clean up lead waste receptors and equipment used in work and remove from work area(s) via drum and equipment decontamination enclosure system, at an appropriate time in sequence.

3.10.5 Remove hoardings, temporary lighting, equipment and facilities provided for work.

3.10.6 A final review may be carried out by Owner's Consultant to ensure that no dust or debris remains.

3.10.7 Worker to properly decontaminate him/herself before each break and before going home at completion of work shift. Wash centre to have plenty of soap and hot water, and towels. Instruction to be provided for proper hygiene practices.

3.10.8 Perform work in manner to reduce dust creation to lowest levels practicable. Work is subject to visual inspection and air monitoring. Any contamination of surrounding areas indicated by visual inspection or air monitoring shall require complete enclosure and clean up of affected areas.

3.11 **FIELD QUALITY CONTROL**

3.11.1 **Air Monitoring**

3.11.2 Owner's Consultant may arrange for air samples to be taken from commencement of work until completion of cleaning operations in accordance with NIOSH methods. Air samples may be collected both inside the building during abatement activity and inside enclosed

abatement work area.

3.11.3 Cooperate with Owner's Consultant in collection of air samples, including requiring workers to wear sampling pumps for up to half shift periods. Workers shall exercise care not to damage sampling equipment.

3.11.4 Air sampling for lead to be performed within occupied areas of building by Owners Consultant prior to the commencement of work to establish typical background levels.

3.11.5 During the course of work, additional air samples for lead will be taken periodically inside the building, adjacent to ongoing work. Airborne concentrations of these contaminants are not to significantly exceed the established background levels and at no point should the time-weighted average concentrations exceed $1/10^{th}$ of the Ontario regulated exposure limits for lead ($50\mu g/m^3$).

3.11.6 Should airborne concentrations of lead $1/10^{th}$ of these limits, Abatement Contractor must immediately stop work, determine the source of infiltration and repair the problem. Abatement Contractor will also be responsible for cleanup of internal locations within the building adjacent to where work was being performed.

3.11.7 In addition to the above limits, indoor air quality guidelines for lead ($1.5\mu g/m^3$) would be used as a secondary limit for comparison as provided in the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 62-2001, "*Ventilation for Acceptable Indoor Air Quality".*

3.12 **INSPECTION**

3.12.1 From commencement of work until completion of clean-up operations, Owner's Consultant may be present periodically; both inside and outside lead removal work area(s).

3.12.2 If lead work area(s) or adjacent areas, are found unacceptable in accordance with standards specified or required by authorities having jurisdiction, correct such deficiencies at no cost to Owner.

3.12.3 Pay cost to provide re-inspection of work found not in accordance with these specifications and requirements of authorities having jurisdiction.

3.12.4 Cooperate with and assist inspection and testing company's personnel during inspection and testing.

3.13 **CLEAN-UP**

3.13.1 Frequently during work and immediately after completion of work, clean up dust and waste containing lead using HEPA vacuum or by damp mopping.

3.13.2 Place dust and waste containing lead in sealed dust-tight waste bags. Treat drop sheets as lead waste. Wet and fold drop sheets to contain dust and then place in waste bags.

3.13.3 Immediately before their removal from work area, and disposal, clean each filled waste bag using damp cloths or HEPA vacuum.

3.13.4 Seal and remove from Site. Dispose of in accordance with requirements of Provincial

authority having jurisdiction. Supervise dumping and ensure dump operator is fully aware of hazardous nature of material being dumped and that guidelines and regulations for lead disposal are followed.

3.13.5 Perform final clean up of work areas and adjacent areas affected by work using HEPA vacuum.

3.14 **DISPOSAL**

3.14.1 Conform to requirements of Regulation 347 as amended by 326/03 under Environmental Protection Act for Waste Management, transporting and disposal of hazardous waste.

3.14.2 Dispose of lead waste in accordance with requirements of Provincial and federal authority having jurisdiction.

3.14.3 Cooperate with Ministry of Environment inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to Owner.

3.14.4 Provided Owner's Consultant with original copy of waste shipping manifest for disposed lead containing waste issued by dump operator. Contractor is responsible for completing all required manifest documentation for each load leaving the site.

3.14.5 Disposal bins stored on site must be covered and kept locked at all times.

End of Section

1.0 GENERAL

1.1 General Requirements

1.1.1 Comply with requirements of Division 1.

1.2 Related Work

1.2.1 Non-Friable asbestos removal: Section 02 13 81, Type 1 Asbestos Removal

1.2.2 Friable asbestos removal: Section 02 13 82, Type 2 Asbestos Removal

1.2.3 Friable asbestos removal: Section 02 13 83, Type 3 Asbestos Removal

1.2.4 Friable asbestos removal: Section 02 13 84, Glove Bag Asbestos Removal

1.2.5 Lead Removal Procedures: Section 02 13 85

1.2.6 Mercury Removal Procedures: Section 02 13 87

1.2.7 PCB Equipment Removal Procedures: Section 02 13 88

1.3 Description of Work

1.3.1 Removing/demolishing of building materials suspected to contain silica including but not limited to: brick, refractory brick, plaster, concrete, concrete block, cement, mortar, ceiling tiles and gypsum board, following Type 1, Type 2, and/or Type 3 removal operations as outlined in the Ontario Ministry of Labour Guideline – Silica on Construction Projects dated September 2004.

1.3.2 Materials identified to contain Silica can be found within the Safetech Environmental Ltd. report titled "*Hazardous Materials Assessment – Bishop Allen Academy"* issued July 2022. A copy of this report can be found within the contract documents.

1.3.3 All work may be subject to inspection and/or air sampling (clearance and/or exposure monitoring) inside and outside work areas by Client's Consultant. Any contamination of surrounding areas, indicated by visual inspection or air monitoring, shall necessitate complete clean-up of affected areas.

1.4 Definitions

1.4.1 **Silica**: means crystalline silica in a respirable form. Silica is the primary component of many construction materials. The best-known and most abundant type of crystalline silica is quartz. Other forms of crystalline silica include cristobalite, tridymite and tripoli. Some commonly used construction materials containing silica include: abrasives used for blasting, brick, refractory brick, plaster, concrete, concrete block, cement, mortar, granite, sandstone, quartzite, slate, gunite, mineral deposits, rock and stone, sand, fill dirt, top soil and asphalt containing rock or stone.

1.4.2 **Silica Work Area**: Area where work takes place, which will, or may, disturb silica-containing material.

1.4.3 **Authorized Visitors**: Client's Consultant and/or person(s) representing regulatory agencies, and person(s) authorized by them.

1.4.4 **HEPA Filter**: High Efficiency Particulate Aerosol filter, at least 99.97% efficient in collecting a 0.3 micron aerosol. Each filter should be individually tested and certified to have an efficiency of not less than 99.97 percent when challenged with 0.3 micron dioctylphtalate (DOP) particles. DOP test must be conducted immediately prior to commencement of work and certificate presented to owner and/or consultant.

1.4.5 **Effective**: implies that the dust collection system should be capable of controlling airborne silica concentration levels to below 0.05 milligrams per cubic metre (mg/m³).

1.4.6 **Competent Person:** A worker who is qualified because of knowledge, training, and experience to perform work, is familiar with relevant acts and regulations that apply to the work, and has knowledge of all potential or actual dangers to health or safety in work.

1.5 Regulations, Guidelines, & Industry Standards

1.5.1 Contractor shall:

1.5.1.1 Comply with Federal, Provincial, and local requirements pertaining to silica, provided that in any case of conflict among these requirements or with these specifications, most stringent requirements shall apply.

1.5.1.2 Carry out measures and procedures prescribed under the Ontario Regulation 490/09, Designated Substance – Silica.

1.5.1.3 Protect health and safety of workers by ensuring compliance with the specific occupational exposure limits (OELs) for silica. The OEL for cristobalite silica is 0.05 mg/m³ of air as an 8-hour daily or 40 hour weekly time-weighted average. The OEL for quartz and tripoli silica is 0.10 mg/m³. Measures and procedures that ensure construction workers receive the same standard of protection as workers covered by O. Reg. 490 should be implemented on construction projects where exposure to silica is a hazard. Such measures and procedures are deemed to be in compliance with section 25(2) (h) of the OHSA, as taking "every precaution reasonable in the circumstances for the protection of a worker.

1.5.1.4 Carry out measures and procedures prescribed under the Ontario Regulation 213/91, as amended by Ontario Regulation 628/05 – Regulation for Construction Projects; Ontario Regulation 860/90 – Workplace Hazardous Materials Information System (WHMIS); and Ontario Ministry of Labour Guideline – Silica on Construction Projects dated September 2004.

1.5.1.5 Comply with Ontario Environmental Protection Act Regulation 347/90, as amended by O. Reg. 110/09 - General-Waste Management.

1.5.1.6 Ensure every employee and every worker on project complies with applicable acts and regulations.

1.5.1.7 Provide instruction and training by a competent person to every worker in the following subjects: WHMIS training, hazards of silica exposure, recognition of typical operations

containing silica, personal hygiene, the use, cleaning and disposal of respirators and personal protective equipment.

1.5.1.8 Protect health and safety of workers and public.

1.5.2 Contractor may:

1.5.2.1 Be requested to provide information on their health and safety record.

1.5.2.2 Be required to provide a copy of their respiratory protection program.

1.5.2.3 Be requested to provide periodic medical examinations for all workers who may be exposed to respirable crystalline silica.

1.6 Internal Policies & Procedures

1.6.1 Ensure that internal policies and procedures of the clients are complied with including, but not limited to the following:

1.6.1.1 All contractors/consultants will not enter designated areas unless trained and appropriately garmented, including appropriate medical clearance which may include medical monitoring and immunization.

1.6.1.2 Have a competent supervisor onsite at all times to supervise work of their employees/subcontractors for large projects.

1.6.1.3 Provide sufficient number of workers trained in first aid on large projects.

1.6.1.4 Do not modify, shut down, open, tap into or alter facilities systems without permission.

1.7 Quality Assurance

1.7.1 Ensure work proceeds on schedule, and meets all requirements of this Section.

1.7.2 Pay cost to Client for inspection performed as a result of failure to perform work satisfactorily regarding quality, safety, or schedule.

1.7.3 Use only skilled and qualified workers for all the trades required for this work.

1.8 Submittals

1.8.1 Before commencing work:

1.8.1.1 Laws of the province of Ontario shall govern this work. Contractor shall observe all such laws and shall obtain and/or pay all permits, notices, fees, taxes, duties as may be required.

1.8.1.2 Submit names of supervisor personnel who will be responsible for silica work area(s).

1.8.1.3 Contractor shall submit, in writing, confirmation of good standing with Workplace Safety and Insurance Board and transcription of insurance.

1.8.1.4 Submit documentation including test results for fire and flammable data and Material Safety Data Sheets for materials and chemicals to be used.

1.9 Worker and Visitor Protection

1.9.1 **Instruction and Training:** Before commencing work, provide to owner and/or consultant satisfactory proof that every worker has had instruction and training in WHMIS; hazards of silica exposure, including health effects and symptom recognition; personal hygiene; respirator requirements; work measures and procedures; and use, cleaning and disposal of respirators and protective equipment by a competent person as defined by Occupational Health and Safety Act.

1.9.2 **Respirators:** NIOSH-approved respirators may be worn during silica removal activities as per Ontario Regulation 490/09. Silica dust on personal respirators should be removed by damp wiping or HEPA vacuuming. Respirators should be selected in accordance with the NIOSH assigned protection factors. A summary of respirator requirements based on anticipated concentration of airborne silica can be found in Table 1. Maintenance and care for respirators should be conducted as per Canadian Standards Association Z94.4-02 Selection, Use, and Care of Respirators Guideline. If Contractor can demonstrate that the silica exposure levels are below the OEL, respirators may not be required.

Table 1: Respirator Requirements

Silica Removal Operations	Required Respirator
Type 1 Silica Removal Operations (> 0.05 to 0.50 mg/m3 of silica in the form of cristobalite and tridymite) (> 0.10 to 1.0 mg/m3 of silica in the form of quartz and tripoli) • The drilling of holes in concrete or rock that is not part of a tunneling operation or road construction. • Milling of asphalt from concrete highway pavement. • Charging mixers and hoppers with silica sand (sand consisting of at least 95% silica) or silica flour (finely ground sand consisting of at least 95% silica) • Any other operation at a project that requires the handling of silica-containing material in a way that may result in a worker being exposed to airborne silica. • Entry into a dry mortar removal or abrasive blasting area while airborne dust is visible for less than 15 minutes for inspection and/or sampling. • Working within 25 metres of an area where compressed air is being used to remove silica-containing dust outdoors.	**NIOSH APF = 10** • Half-mask particulate respirator with N-, R-, or P-series filter and 95, 99, or 100 percent efficiency.
Type 2 Silica Removal Operations (> 0.50 to 2.5 mg/m3 of silica in the form of cristobalite and tridymite) (> 1.0 to 5.0 mg/m3 of silica in the form of quartz and tripoli) • Removal of silica containing refractory materials with a jackhammer. • The drilling of holes in concrete or rock that is part of a tunneling operation or road construction. • The use of a power tool to cut, grind, or polish concrete, masonry, terrazzo or refractory materials. • The use of a power tool to remove silica-containing materials. • The use of a power tool indoors to chip or break and remove concrete, masonry, stone, terrazzo or refractory materials. • Tunneling (operation of the tunnel boring machine, tunnel drilling,	**NIOSH APF = 50** • Full-facepiece air-purifying respirator with any 100-series particulate filter. • Tight-fitting powered air-purifying respirator with any 100-series particulate filter. • Full-facepiece supplied-air respirator operated in demand mode. • Half-mask or full-facepiece supplied air respirator operated in continuous-flow mode.

Silica Removal Operations	Required Respirator
or tunnel mesh installation). • Tuckpointing and surface grinding. • Dry method dust clean-up from abrasive blasting operations. • Dry mortar removal with an electric or pneumatic cutting device. • The use of compressed air outdoors for removing silica dust. • Entry into area where abrasive blasting is being carried out for more than 15 minutes.	
Type 3 Silica Removal Operations (> 2.5 mg/m3 of silica in the form of cristobalite and tridymite) (> 5.0 mg/m3 of silica in the form of quartz and tripoli) • Abrasive blasting with an abrasive that contains ≥ 1% silica. • Abrasive blasting of a material that contains ≥ 1% silica.	**NIOSH APF ≥ 1000** • Type CE abrasive-blast supplied air respirator operated in a positive pressure mode with a tight-fitting half-mask facepiece. • Type CE abrasive-blast supplied air respirator operated in a pressure demand or positive pressure mode with a tight-fitting facepiece.

1.9.3 **Protective Clothing:** Provide workers and visitors in silica work area(s) with disposable and/or washable work clothes, including shoe covers. Work clothes that are contaminated with silica dust should not be worn outside the work area(s). Silica dust on washable work clothes should be removed by damp wiping or HEPA vacuuming and washed in facilities suitable for handling silica contaminated laundry before reusing. Provide or have access to appropriate washing facility equipped with clean water, soap, and individual towels for washing hands and face of workers. The washing facility shall be used by every worker when leaving silica work area(s) and if feasible, the washing facility should include a shower.

1.9.4 Workers who may be exposed to silica on a regular basis should undergo a pre-placement medical assessment and periodic medical examinations.

1.9.5 A worker shall not eat, drink, chew gum, or use tobacco products in work area(s).

2.0 PRODUCTS

2.1 Materials

2.1.1 **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.

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

2.1.3 **Tape**: Tape suitable for sealing polyethylene to surfaces under both dry and wet conditions using amended water.

3.0 EXECUTION

3.1 Preparation

3.1.1 Equipment, tools, furnishings, and stored materials which can be moved, without disturbing silica-containing materials have been moved by Contractor.

3.1.2 Seal all opening or voids in work area(s), such as vents, service holes in walls and air handling ducts as appropriate with plugs and/or tape and/or caulking and/or polyethylene sheeting sealed with tape.

3.1.3 Building personnel have shut off air handling and ventilation systems (if applicable) supplying or exhausting from silica work area(s)/enclosure(s). Ensure air handling systems remain shut off during duration of work.

3.1.4 Before disturbing silica-containing material, install polyethylene drop sheets as appropriate to control spread of dust.

3.1.5 Establish ropes, barriers and/or partial enclosures in order to prevent unauthorized personnel from entering work area(s).

3.1.6 If significant concentrations of dust are being generated the work should be re-evaulated by a qualified person and additional procedures should be implemented such as: a full enclosure should be erected using polyethylene sheeting (or in the event that the sheeting needs support, wood framing may also be used) in order to separate silica work area(s) from remaining building areas. The Ontario Ministry of Labour Guideline – Silica on Construction Projects dated September 2004 should be consulted for all additional recommended requirements.

3.1.7 Emergency and fire exits are established from silica work area(s), or alternative exits have been established satisfactory to authorities having jurisdiction.

3.1.8 Temporary lighting in silica work area(s) has been provided (if necessary) to level that will permit work to be done safely and well where necessary.

3.1.9 Signs are displayed in all areas where access to silica work area(s) is possible. Signs should be at least 500 mm x 350 mm and state the date and place of the silica removal project. Such signs shall read in large, clearly visible letters:

CAUTION
Silica Dust Hazard
No Unauthorized Entry
Wear Assigned Personal Protective Equipment

3.1.10 Arrangements have been made with Client for work area security.

3.1.11 Client’s Consultant has been notified of intention to proceed and has reviewed equipment and procedures.

3.2 Removal

3.2.1 Seal opening to polyethylene enclosure with tape or ensure appropriate barriers are in place after entry of worker(s).

3.2.2 Perform work required within silica enclosure(s)/work area(s) using appropriate dust control measures, including a mechanical ventilation system and/or wetting, and/or the use of a dust collection system if practical. Compressed air or dry sweeping should be avoided.

3.2.3 The work area(s) should be thoroughly wetted prior to and/or during all silica removal operations.

3.2.4 Continuous cleaning during removal work operations should be conducted to control the spread of silica dust.

3.3 Clean-Up

3.3.2 Clean all surfaces by washing down with water and vacuuming with a HEPA vacuum until no visible residue remains to prevent dust-containing silica from spreading.

3.3.3 Workers exposed to silica should be provided with or have access to washing facilities equipped with clean water, soap, and individual towels.

3.3.4 Silica dust on personal protective clothing and equipment should be removed by damp wiping or HEPA vacuuming.

3.3.5 When exiting the enclosure(s)/area(s), dispose of contaminated disposable work clothes as construction waste.

3.3.6 All workers and visitors in the silica work area(s) must properly decontaminate themselves prior to leaving the work area.

3.4 Air Monitoring

3.4.1 If air monitoring is conducted to determine the concentrations of airborne silica, Client's Consultant shall arrange for air samples to be taken as required inside of silica work area(s) and/or enclosure(s). These air sampling results can then be used to determine if the engineering controls implemented (Type 1, 2, or 3) are providing adequate protection for workers.

3.5 Re-Establishment of Objects and Systems

3.5.1 Reconstruct items demolished (if required) which are to remain and reinstall objects and items in their proper positions which were removed to facilitate silica removal operations. Reconstruction and reinstallation shall be done by tradesmen qualified in work being reinstalled or reconstructed.

3.5.2 Re-establish mechanical and electrical systems (if required) to remain operative in proper working order. Arrange for, and pay costs of, electrical or mechanical repairs needed due to this work.

3.6 Inspection

3.6.1 From commencement of work until completion of clean-up operations, Client's Consultant may be present on an as required basis, both inside and outside silica work area(s).

3.6.2 Pay cost to provide re-inspection of work found not in accordance with these specifications and requirements of authorities having jurisdiction.

3.7 Disposal of Waste

3.7.1 Conform to requirements of Ontario Environmental Protection Act Regulation 374/90, as amended by O. Reg. 110/09 – General Waste Management.

End of Section

1.0 GENERAL

1.1 General Requirements

1.1.1 Comply with requirements of Division 1.

1.2 Related Work

1.2.1 Non-Friable asbestos removal: Section 02 13 81, Type 1 Asbestos Removal

1.2.2 Friable asbestos removal: Section 02 13 82, Type 2 Asbestos Removal

1.2.3 Friable asbestos removal: Section 02 13 83, Type 3 Asbestos Removal

1.2.4 Friable asbestos removal: Section 02 13 84, Glove Bag Asbestos Removal

1.2.5 Lead Removal Procedures: Section 02 13 85

1.2.6 Silica Removal Procedures: Section 02 13 86

1.2.7 PCB Equipment Removal Procedures: Section 02 13 88

1.3 Description of Work

1.3.1 Remove, package and recycle/dispose of all mercury vapour containing fluorescent light tubes and all liquid mercury containing wall thermostats that are located throughout the facility.

1.3.2 Mercury-containing components to be removed and disposed of following the appropriate procedures found within Safetech Environmental Ltd. report titled "*Hazardous Materials Assessment – Bishop Allen Academy"* issued July 2022. A copy of this report can be found within the contract documents.

1.3.3 All work may be subject to inspection by Client's Consultant.

1.4 Regulations

1.4.1 Comply with Federal, Provincial and local requirements, provided that in any case of conflict among those requirements or with these Specifications more stringent requirements shall apply. Work shall be performed under regulations in effect at time work is performed. Regulations include but are not limited to the following:

1.4.1.1 Environmental Protection Act, Revised Statutes of Ontario 1990, Chapter E. 19.

1.4.1.2 Canadian Environmental Protection Act, Revised Statutes of Canada 1985, c.16.

1.4.1.3 Ministry of Environment Regulations for the disposal of mercury waste, including R.R.O. 1990, Regulation 347/90 as amended by O. Reg. 395/07.

1.4.1.4 Ontario Regulation 490/09 respecting Mercury.

1.5 Instruction and Training

1.5.1 Ensure that all workers likely to handle mercury-containing items are trained in use of Mercury Spill Kit and are trained in handling of mercury.

2.0 PRODUCTS

2.1 Materials

2.1.1 **Cardboard Containers**: New or used cardboard boxes. Suitable for packaging of fluorescent light tubes to prevent breakage of tubes.

2.2 Equipment

2.2.1 **Mercury Spill Response Kit** consisting of following:

2.2.1.1 HEPA vacuum dedicated for use with mercury spills

2.2.1.2 Air-purifying cartridge respirators with mercury absorbing cartridges and an end-of-life service indicator

2.2.1.3 Surgical gloves to prevent skin exposure when handling droplets of mercury

2.2.1.4 Neutralizing compound such as 20% calcium polysulfide or 20% sodium thiosulfide to clean spilled surfaces

3.0 EXECUTION

3.1 Packaging of Fluorescent Light Tubes

3.1.1 Carefully remove fluorescent light tubes from fixtures wipe with a damp cloth or clean with a HEPA filtered vacuum and place in cardboard containers.

3.1.2 Place tubes in container as they are removed from fixtures. Ensure that tubes are packaged in a manner to prevent breakage.

3.1.2 Avoid rough handling of tubes to avoid breakage.

3.1.3 Store full containers in a central location on site.

3.2 Packaging of Wall Thermostats

3.2.1 Place polyethylene Drum Liner in Containment Drum. Pour a minimum of 100 mm layer of vermiculite into liner. Place mercury items in Containment Drum in a manner to prevent breakage. When full, or all items are placed in Drum, seal liner bag with duct tape and place label on outside of Containment Drum.

3.2.2 Avoid rough handling of mercury items to avoid breakage.

3.2.3 Store Containment Drums in a central location on site as directed by Consultant.

3.3 Disposal

3.3.1 Do not dispose of fluorescent light tubes or wall thermostats containing mercury with other construction waste or in a landfill.

3.3.2 Dispose of mercury containing equipment at a recycling facility approved by Consultant. Recycling company must have the following minimum requirements:

3.3.2.1 Offer complete recycling of all parts (i.e., lamps, caps, clips etc.)

3.3.2.2 Must be able to supply contractor with packaging material, if necessary

End of Section

1.0 GENERAL

1.1 GENERAL REQUIREMENT

1.1.1 Conform to sections of Division 1.

1.2 Related Work

1.2.1 Non-Friable asbestos removal: Section 02 13 81, Type 1 Asbestos Removal

1.2.2 Friable asbestos removal: Section 02 13 82, Type 2 Asbestos Removal

1.2.3 Friable asbestos removal: Section 02 13 83, Type 3 Asbestos Removal

1.2.4 Friable asbestos removal: Section 02 13 84, Glove Bag Asbestos Removal

1.2.5 Lead Removal Procedures: Section 02 13 85

1.2.6 Silica Removal Procedures: Section 02 13 86

1.2.7 Mercury Removal Procedures: Section 02 13 87

1.3 DESCRIPTION OF WORK

1.3.1 Removal and disposal of electrical components suspected to contain polychlorinated biphenyls (PCBs) including, but not limited to: ballasts from light fixtures (fluorescent and/or High Intensity Discharge – HID), hydraulic equipment, transformers, capacitors, and associated electrical equipment within the selected areas of the building. This specification does not include draining of PCB containing dielectric fluid within electrical components found within the building.

1.3.2 PCB-containing components to be removed and disposed of following the appropriate procedures found within Safetech Environmental Ltd. report titled "*Hazardous Materials Assessment – Bishop Allen Academy"* issued July 2022. A copy of this report can be found within the contract documents.

1.3.3 Remove all light fixtures. Fixtures with ballasts labeled as non-PCB may be disposed of as general waste.

1.3.4 Ballasts not labeled non-PCB are to be removed from the light fixture and examined for date code stamp (usually on back of ballast casing). Ballasts and electrical equipment with date code of 1979 or later may be disposed of as general waste.

1.3.5 Ballasts and electrical equipment stamped 1978 or earlier are to be classified as PCB containing unless otherwise stated.

1.3.6 Ballasts and electrical equipment with no date code stamp are to be considered PCB containing until otherwise stated. Ballast and electrical equipment manufacturer may be contacted to determine presence of PCBs.

1.3.7 Prepare for transportation of verified PCB containing ballasts by performing the following:

1.3.7.1 Place sealed ballasts into 205L, No. 18-gauge steel drums fitted with NB steel removable lids and gaskets made of PCB resistant material, such as nitrile rubber, cork or Teflon. Drum to be lined with 6 mil. polyethylene bag prior to placement of ballasts in drum.

1.3.7.2 Ballasts shall be stored with terminals up to prevent leakage from capacitor bushings.

1.3.7.3 Place as many layers of ballasts as space allows into each drum. Each layer of ballasts to be separated by a layer of absorbent material (e.g. exfoliated vermiculite).

1.3.7.4 Drums or containers smaller than 205L may be used when size or quantity of ballasts does not justify larger container.

1.3.7.5 Leaking ballasts are to be placed separately in heavy duty polyethylene bags before storing in drum (one ballast per bag).

1.3.7.6 Drums are to be packed with absorbent material (e.g. exfoliated vermiculite) sufficient to absorb any PCB's which may escape from bags.

1.3.8 All work to be performed in accordance with Ontario Regulation 362 amended to O. Reg. 33/07 – Waste Management (PCBs).

1.3.9 Transportation of PCB materials to be carried out following all guidelines as per chapter 4 of Regulation 347 as amended.

1.3.10 Verified **non-PCB** containing ballasts can be discarded as general waste.

1.4 **WORK AREA AND WORKER PROTECTION**

1.4.1 Select a space within work area which is well ventilated. Lay down one layer of 10 mil. rip proof polyethylene sheeting to protect floor surfaces from contamination.

1.4.2 Workers to wear rubber boots and rubber gloves when performing actual separation and packing of PCB containing ballasts.

End of Section

Part 1 General

1.1 SECTION INCLUDES

.1 Methods and procedures for demolition of structures, parts of structures, foundation systems, walls & footings.

1.2 RELATED SECTIONS

.1 Section 01 11 00 – Summary of Work.

.2 Section 01 56 00 - Temporary Barriers and Enclosures.

.3 Section 01 35 43 - Environmental Procedures.

.4 Section 01 35 30 - Health and Safety Requirements.

1.3 REFERENCES

.1 Canadian Standards Association (CSA International).

.1 CSA S350-[M1980(R1998)], Code of Practice for Safety in Demolition of Structures.

.2 Department of Justice Canada (Jus).

.1 Canadian Environmental Assessment Act (CEAA), 1992, c. 37.

.2 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.

1.4 DEFINITIONS

.1 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities and hazardous products, may include but not limited to: poisons, corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or other material that can endanger human health or well being or environment if handled improperly.

1.5 SUBMITTALS

.1 Prior to beginning of Work on site, submit a basic Waste Reduction Workplan and indicate:

.1 Descriptions of and anticipated quantities in percentages of materials to be salvaged, reused, recycled and land-filled.

.2 Schedule of demolition and disposal procedures.

.3 Number and location of dumpsters.

.4 Anticipated frequency of tippage.

.5 Name and address of haulers, waste facilities and waste receiving organizations].

.2 Where required by authorities having jurisdiction, submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning.

.3 Where drawings are required by Authorities, submit drawings stamped and signed by qualified professional engineer registered or licensed in Province of Ontario.

1.6 ENVIRONMENTAL PROTECTION

.1 Ensure Work is done in accordance with Section 01 35 43 - Environmental Procedures.

.2 Birds may be using the trees on site for nesting. Birds and nests are protected under the Migratory Birds Convention Act, 1994. This Act is implemented by Environment Canada. Natural Heritage Planning staff advises that tree removal should be avoided during the period of March 31st to August 31st.

.3 Ensure that demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.

.4 Fires and burning of waste or materials is not permitted on site.

.5 Do not bury rubbish waste materials.

.6 Do not dispose of waste or volatile materials including but not limited to: mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers.

.1 Ensure proper disposal procedures are maintained throughout project.

.7 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers, or onto adjacent properties.

.8 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with authorities having jurisdiction.

.9 Protect trees, plants and foliage on site and adjacent properties where indicated.

.10 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.

.11 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.

1.7 SALVAGE ITEMS

.1 The School Board has salvaged various items. There are many items remaining in the school that are required to be salvaged by the General Contractor as part of this contract. Some of these items are to be handed over to the School Board, and some are intended to be stored by the General Contractor and reused in the new building. Refer to specification “Section 02 42 00 Salvage Items” for detailed information on these items.

1.8 EXISTING CONDITIONS

.1 Vibration and Noise Control:

.1 Throughout the area of operations, use of appropriate means and methods to reduce and maintain vibration and noise levels below City of Toronto's bylaw requirements and per Consultant's satisfaction.

.3 Provide means and methods for excavation in consultation with Contractor's Engineer related to excavation, backfilling, and compaction along existing slopes using appropriate mitigation measures to minimize risk of disturbances.

.3 Vibration is required to be monitored by the City of Toronto. Vibration testing is to be paid for through the Cash Allowance.

.2 Should material resembling spray or trowel applied asbestos or other designated substance be encountered in course of demolition, removal shall be undertaking in accordance with all applicable regulations.

.3 Refer to Asbestos Surveys and Surface Soils reports included in Tender Documents for information on locations and types of anticipated hazardous or designated substances. Abatement specifications have also been provided.

.4 List items to be salvaged for reuse:

.1 The Boards Maintenance staff will remove items such as furniture, door hardware, selected mechanical equipment and fitments from the school.

.2 A time capsule is not anticipated, however if found during the demolition of the School Contractor is to turn over to Owner.

.5 Structures to be demolished to be based on their condition at time of examination prior to tendering.

1.9 SCHEDULING

.1 Employ necessary means to schedule all work and procedures meet project time lines as accepted by the Owner. In event of unforeseen delay notify Consultant in writing.

Part 2 Products

2.1 EQUIPMENT

.1 To minimise vehicle emissions, leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.

Part 3 Execution

3.1 PROTECTION

.1 Prevent movement, settlement or damage of adjacent services, trees, landscaping, and adjacent grades to remain.

.1 Provide bracing, shoring as required.

.2 Repair damage caused by demolition as directed by Consultant.

.2 Support affected structures and, if safety of structure being demolished or adjacent services appears to be endangered, take preventative measures, stop Work and immediately notify Consultant.

.3 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.

3.2 PREPARATION

.1 Do Work in accordance with Section 01 35 30 - Health and Safety Requirements.

.2 Obtain all on site stake outs and locates from local utilities prior to commencement of the work.

.3 Disconnect electrical and telephone service lines entering buildings to be demolished.

- .1 Contact Local utilities for procedures to disconnect and remove service.
- .2 Post warning signs on electrical lines and equipment which must remain energized to serve other properties during period of demolition.
- .3 Cost for disconnection and removal as shown on drawings is to be included in base tender price.

.4 Disconnect and cap mechanical services at the property line.

- .1 Natural gas supply lines: remove in accordance with gas company requirements.
- .2 Sewer and water lines: remove to property line as directed by Consultant.
- .3 Other underground services: remove and dispose of all existing underground services.
- .4 Cost for disconnection and removal as shown on drawings is to be included in base tender price.

.5 Underground storage tanks:

- .1 Refer to the specification 02 65 00 Underground Storage Tank Removal.

.6 Do not disrupt active or energized utilities traversing premises and designated to remain undisturbed. Refer to Drawings.

3.3 SAFETY CODE

.1 Do demolition work in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

.2 Blasting operations not permitted during demolition.

3.4 REMOVAL OF HAZARDOUS WASTES

.1 Remove contaminated or dangerous materials as defined by authorities having jurisdiction, relating to environmental protection, from site and dispose of in safe manner to minimize danger at site or during disposal.

.2 Prior to start of demolition work remove contaminated or hazardous materials from site and dispose of in safe manner and in accordance with applicable laws. Refer Existing Conditions in Part 1.

3.5 DEMOLITION

.1 The Contractor shall carry out all demolition work, removal of existing materials and equipment, and disposal of resultant debris not specifically called for under the various items of the Work, but which is required to complete all Work of this Contract.

.2 The Contractor shall take possession of all materials and equipment generated by the demolition, unless it is specified that said materials or equipment are to be salvaged. All materials which are not to be salvaged shall be removed from site and disposed off site in appropriate locations and facilities, and according to all regulations pertaining to such locations and facilities, by the Contractor. Such removal shall be carried out jointly with the associated work.

.3 The Contractor shall provide all documentation required by the authorities having jurisdiction as associated with the demolition, removal and disposal of the Work of this Contract

.4 Demolish entire structure as indicated on drawings and in accordance with specifications.

.5 Remove structural framing and foundations.

.6 Demolish and remove full extent of all foundation walls and footings.

.7 Upon foundation and footing removal, a geotechnical consultant shall be present to document the elevation/depth of the footing being removed and the quality and bearing capacity of the existing soils below the existing footings, before any upfill.

.8 Concrete and masonry removed from existing structure is not permitted as backfill.

.9 Do not backfill foundation excavations until inspected by Consultant.

.10 Backfill to be per specification section 31 23 10 Excavating, Trenching and Backfilling.

.11 At end of each day's work, leave Work in safe and stable condition.

.12 Demolish to minimize dusting. Keep materials wetted as directed by Consultant.

.13 Contain fibrous materials (e.g. Insulation) to minimize release of airborne fibres while being transported within facility.

.14 Do not dispose materials in landfill or waste stream destined for landfill.

.15 Remove and dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction.

.16 Use natural lighting to do Work where possible.

.1 Shut off lighting except those required for security purposes at end of each day.

3.6 STOCKPILING

.1 No stockpiles are to remain on site upon completion of demolition.

.2 Label temporary stockpiles, indicating material type and quantity.

.3 Stockpile materials designated for alternate disposal in location which facilitates removal from site and examination by potential end markets, and which does not impede disassembly, processing, or hauling procedures.

.4 For materials to be removed from site, contractor is encouraged to separate from general waste stream each of following materials. Stockpile materials in neat and orderly fashion in location for alternate disposal. Stockpile materials in accordance with applicable fire and safety regulations.

.1 Glass fibre ceiling tiles.
.2 Wood fibre ceiling tiles.
.3 Wiring and conduit.
.4 Outlets/switches.
.5 Floor receptacles.
.6 Metal duct work, baffles, HVAC equipment.
.7 Demountable partitions.
.8 Drapes.
.9 Tracks and blinds.
.10 Insulation batts.
.11 Miscellaneous metals.
.12 Carpet.

.5 Supply separate, clearly marked disposal bins for categories of waste material.

3.7 REMOVAL FROM SITE

.1 Remove stockpiles of like materials by alternate disposal option once collection of materials is complete.

.2 Regularly remove all other stockpiled materials from site.

.3 Transport material designated for alternate disposal in accordance with applicable regulations.

.4 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 List of items to be salvaged by the General Contract as part of this contract and either handed over to the School Board or stored for re-use within the project as noted herein.

1.2 RELATED SECTIONS

.1 Section 01 11 00 – Summary of Work.

.2 Section 01 56 00 - Temporary Barriers and Enclosures.

.3 Section 01 35 43 - Environmental Procedures.

.4 Section 01 35 30 - Health and Safety Requirements.

1.3 EXISTING CONDITIONS

.1 Should material resembling spray or trowel applied asbestos or other designated substance be encountered in course of demolition, removal shall be undertaking in accordance with all applicable regulations.

.2 Refer to Asbestos Surveys and Surface Soils reports included in Tender Documents for information on locations and types of anticipated hazardous or designated substances. Abatement specifications have also been provided.

.3 Structures to be demolished to be based on their condition at time of examination prior to tendering.

1.4 ALREADY SALVAGED ITEMS

.1 The School Board has salvaged various items from the school. There may be some items further salvaged without notice by the School Board prior to commencement of the school demolition.

1.5 SCHEDULING

.1 Employ necessary means to schedule all work and procedures meet project timelines as accepted by the Owner. In event of unforeseen delay notify Consultant in writing.

Part 2 Products

2.1 SALVAGE ITEMS LIST

.1 The following is the list of items to be salvaged by the General Contractor and stored in a temperature-controlled storage location by General Contractor for reuse in the new building construction for a period of one-year from contract award. After one year, the School Board will takeover equipment storage requirements. Refer to drawing K1 ‘Foodservice Equipment Plan & Service List’ provided for reference:

.1 Kitchen Equipment #6 - WORK TABLE

□

.2 Kitchen Equipment #6A - WALL SHELF
.3 Kitchen Equipment # 6B - UTENSIL RACK
.4 Kitchen Equipment #7 - GARBAGE CANS
.5 Kitchen Equipment #9 - POT WASHING SINK – REUSE DRAINS TO GREASE INTERCEPTOR
.6 Kitchen Equipment #13 - UTILITY CART
.7 Kitchen Equipment #15 - WORK TABLE
.8 Kitchen Equipment #22 - BUN PAN RACK
.9 Kitchen Equipment #23 - PIZZA DECK OVEN – REWORK STAND
.10 Kitchen Equipment #45 - BEVERAGE COOLER

.2 The following is a list items to be salvaged by the General Contractor for hand-over to the School Board:

.1 Backboards and Nets in the gym.
.2 RF02 (Return Air Fan #2 on Second Floor) – motor to be salvaged.
.3 Projector lights in Café/Stage – lighting only.
.4 Exhaust Fan for Kiln – this is new.
.5 Gymnasium high bay light fixtures
.6 Fire Panel

.3 A time capsule is not anticipated, however if found during the demolition of the School Contractor is to turn over to Owner.

.4 Two remembrance plaques are located at the north-west corner of the site as noted on the site drawing. These are to remain in place and protected from damage during demolition.

Part 3 Execution

3.1 PROTECTION

.1 Prevent movement, settlement or damage of adjacent services, trees, landscaping, and adjacent grades to remain.

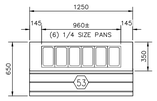
.1 Provide bracing, shoring as required.
.2 Repair damage caused by demolition as directed by Consultant.

.2 Support affected structures and, if safety of structure being demolished or adjacent services appears to be endangered, take preventative measures, stop Work and immediately notify Consultant.

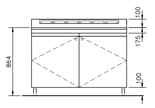
.3 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.

END OF SECTION

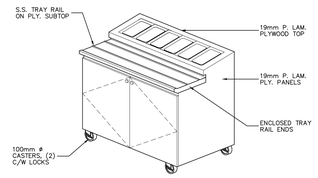
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PLAN



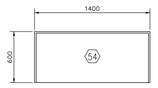
ELEVATION



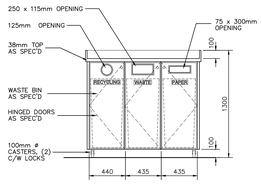
ISOMETRIC (N.T.S.)

DETAILS OF ITEM NO. : 53

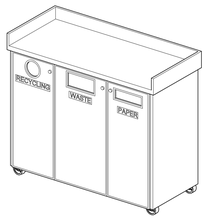
1 K1



PLAN



ELEVATION



ISOMETRIC (N.T.S.)

DETAILS OF ITEM NO. : 54

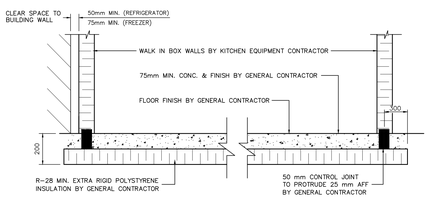
2 K1

ITEM	QTY	DESCRIPTION	WATER HOT	WATER COLD	DRAIN	STEAM IN	STEAM OUT	GAS	ELECTRICAL CHARACTERSTICS SINGLE PHASE 120 V	SINGLE PHASE 208 V	THREE PH. SPLIT 208 V	NOTES
1	1	REFRIGERATOR							15 AMP			
1A	1	COOLING COIL			25 TO FFD				1.3 AMP			SEE STANDARD DRAWING D40A-SC
1B	1	COMPRESSOR									.75 HP	SEE STANDARD DRAWING D40A-SC REMOTE OUTDOORS ON BUILDING ROOF
2	1	FREEZER							15 AMP			
2A	1	COOLING COIL			25 TO FFD				1.0 AMP 4.0 AMP	10.3 AMP		SEE STANDARD DRAWING D41A-SC-SC
2B	1	COMPRESSOR									2 HP	SEE STANDARD DRAWING D41A-SC REMOTE OUTDOORS ON BUILDING ROOF
3	8	REFRIGERATOR SHELVING										
4	3	STORAGE SHELVING										
5	1	HIGH DENSITY SHELVING										
6	1	WORK TABLE	12	12	38 TO HD							EXISTING, RE-USE
6A	1	WALL SHELF										EXISTING, RE-USE
6B	1	UTENSIL RACK										EXISTING, RE-USE
7	2	GARBAGE CANS										EXISTING, RE-USE
8	2	HAND WASH SINK	12	12	38							
8A	1	EYE WASH STATION	12	12								FAUCET MOUNTED
9	1	POT WASHING SINK	2)12	2)12	3)38							EXISTING, REUSE DRAINS TO GREASE INTERCEPTOR
9A	1	POTWASHING SHELF ASSEMBLY										
10												
11												
12	1	DISHWASHER (UNDERCOUNTER)	12		38						29 AMP	DRAIN TO GREASE INTERCEPTOR
13	1	UTILITY CART										EXISTING, RE-USE
14	1	POT RACK										
15	1	WORK TABLE	12	12	38 TO HD							EXISTING, REUSE, REWORK
16	1	PREP TABLE							3)20 AMP			3)NEMA 5-20R RECEPTACLES MOUNTED IN BACKSPLASH AND TABLE LEG
17	1	SERVICE WALL							6)20 AMP			6) NEMA 5-20R RECEPTACLES RECESSED IN SERVICE WALL
18	1	BACK BAR COUNTER	12	12	38				3)20 AMP			3)NEMA 5-20R RECEPTACLES RECESSED IN BACKSPLASH
19	2	THERMAL COFFEE SERVER										
20												
21												
22	2	BUN PAN RACK										EXISTING, RE-USE
23	1	PIZZA DECK OVEN						19				EXISTING, REUSE, REWORK STAND GAS INPUT 48,000 BTU/HR
23A	1	PIZZA DECK OVEN						19				STACK OVER EXISTING OVEN GAS INPUT 48,000 BTU/HR
24	1	COMBI OVEN & STAND		2)19	50 TO FD						50 AMP	1)19 mm C.W FROM WATER FILTER #24A
24A	1	WATER FILTER		19								19 mm C.W TO ITEM 24
25	1	SANDWICH/SALAD MAKE-UP UNIT							7.2 AMP			NEMA 5-15P PLUG IN #42
25A	1	HINGED COLD PAN LID										
26	1	SPREADER CABINET										
27	1	EXHAUST HOOD							2)15 AMP			EXHAUST 1617 Litres/Sec @ .09 kPa SUPPLY-UP AIR 1541 Litres/Sec. @ .05 kPa
27A	1	EXHAUST HOOD CONTROL PANEL							15 AMP			INTERWIRED TO EXHAUST HOOD #27 EXHAUST AND MAKE-UP AIR FAN
28	1	FIRE EXTINGUISHING SYSTEM							15 AMP			DISC. ALL ITEMS UNDER HOOD SEE DWG. D-68A IN SPECIFICATIONS
29	1	COFFEE BREWER							1.5 KW			NEMA 5-15P PLUG IN 9 mm C.W FROM WATER FILTER #32
30												
31												
32	1	WATER FILTER		12								9 mm C.W. TO #29, 39
33	1	RANGE/GRIDDLE						19	2)3.4 AMP			GAS INPUT 310,000 BTU/HR NEMA 5-15P PLUG IN #17
34	1	GREASE INTERCEPTOR										N.I.C., BY MECHANICAL DIVISION INSTALLED FLUSH WITH FLOOR
35	2	PASTRY DISPLAY CASE										
36	1	FOOD PROCESSOR							9 AMP			NEMA 5-15P PLUG IN #17
37	1	SLICER							3 AMP			NEMA 5-15P PLUG IN
38	1	JANITOR'S MOP SINK CABINET	12	12	50							
39	1	HOT WATER DISPENSER							15 AMP			NEMA 5-15P PLUG IN #18 C.W FROM WATER FILTER #32
40												
41												
42	1	HOT FOOD COUNTER		12	6)25 TO FD				3)15 AMP	10.7 AMP	20.1 AMP	120/208/3-4 WIRE LOAD CENTRE RECESSED IN COUNTER BY K.E.C
43	1	HOT/COLD DISPLAY COUNTER			25 TO FD				2)15 AMP	8.5 AMP		2)NEMA 5-15R & 1) NEMA L14-20R RECEPTACLES MOUNTED IN COUNTER
44	1	HEATED PIZZA MERCHANDISER							11.8 AMP			NEMA 5-15P PLUG IN #52
45	1	BEVERAGE COOLER							10 AMP			NEMA 5-15P PLUG IN #16 EXISTING, RE-USE
46	1	MERCHANDISER DISPLAY CASE							6.3 AMP			NEMA 5-15P PLUG IN #52
47	1	TOASTER								10.7 AMP		NEMA 6-20P PLUG IN #42
48	1	HOT FOOD MERCHANDISER								8.5 AMP		NEMA L14-20P PLUG IN #43
49	1	SPEEDLINE/CASH COUNTER							3)20 AMP			3)NEMA 5-20R RECEPTACLES MOUNTED BELOW IN COUNTER
50												
51												N.I.C., BY OWNER
52	1	DISPLAY COUNTER							4)20 AMP			4)NEMA 5-20R RECEPTACLES MOUNTED IN COUNTER
53	1	CONDIMENT STAND										
54	2	WASTE/RECYLING STATION										
55	2	P.O.S. UNITS							15 AMP			N.I.C, BY OWNER
56	1	MANAGER'S STATION										N.I.C. BY OWNER C/W DATA CONNECTION

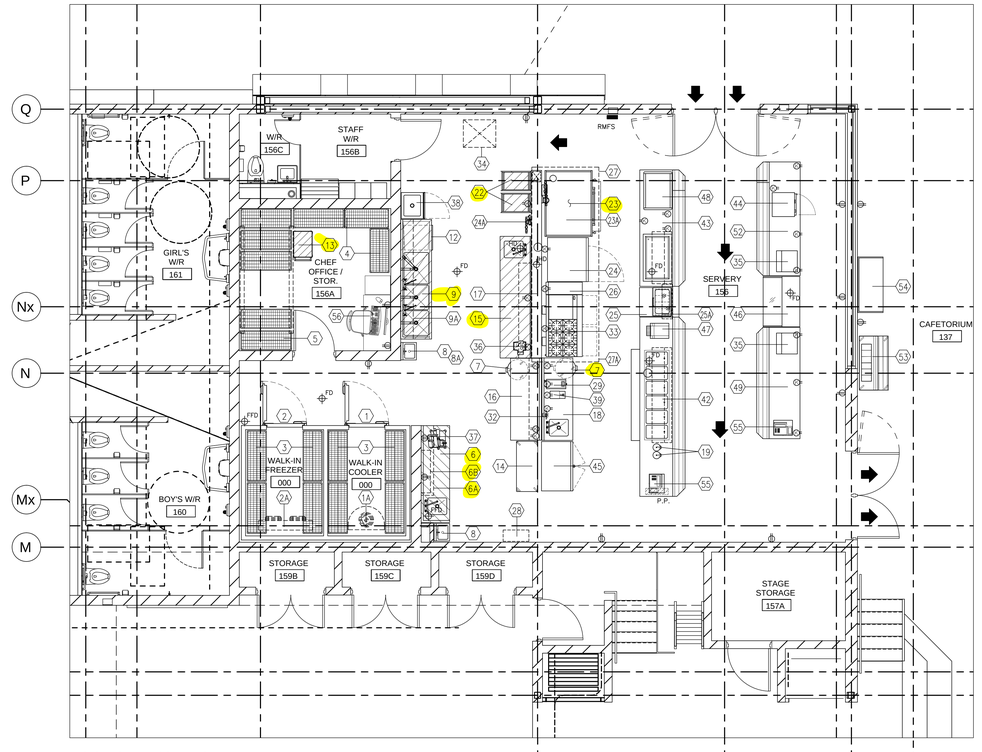
EQUIPMENT LIST & SERVICES

LEGEND

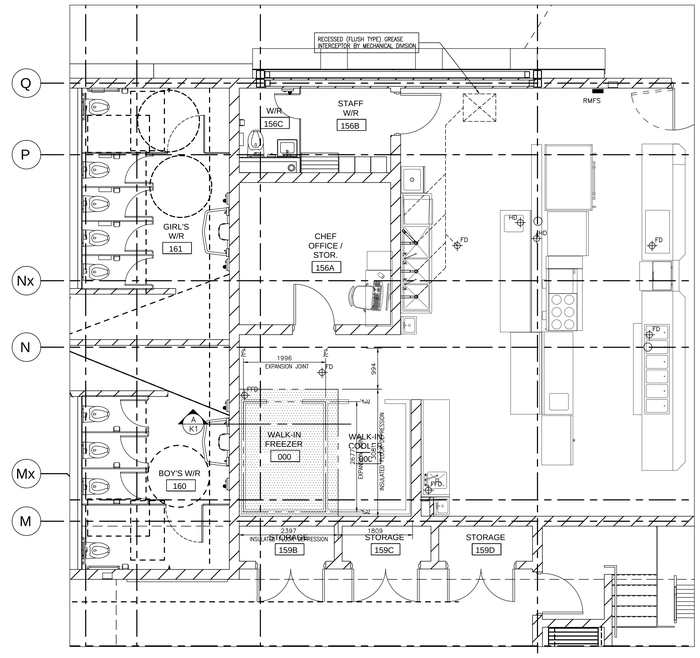
- FD – FLOOR DRAIN (FLUSH WITH FIN. FLOOR) UNDER MECHANICAL DIVISION
- HD – HUB DRAIN UNDER MECHANICAL DIVISION
- FFD – FUNNEL FLOOR DRAIN (COMBINATION) UNDER MECHANICAL DIVISION
- RMFS – REMOTE MANUAL FIRE SWITCH
- P.P. – POWER PANEL (LOAD CENTRE) – MOUNTED ON KITCHEN EQUIPMENT BY KITCHEN EQUIPMENT CONTRACTOR (FINAL CONN. BY ELECTRICAL)
- – SPECIAL PURPOSE OUTLET (AS NOTED) BY ELECTRICAL DIVISION
- – OUTLET ON KITCHEN EQUIPENT BY KITCHEN CONTRACTOR
- – WALL OUTLET UNDER ELECTRICAL DIVISION (20 AMP, 120/1/60)
- – EXISTING EQUIPMENT



A K1 SECTION

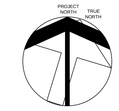


FOODSERVICE EQUIPMENT PLAN



FLOOR DEPRESSION PLAN

THIS DRAWING IS INCLUDED FOR REFERENCE OF ITEMS TO BE SALVAGED AND STORED BY GENERAL CONTRACTOR AS DESCRIBED IN SECTION **'024200 Salvage Items'**



NO	ISSUED	DATE
2	ISSUED FOR TENDER	AUG. 31/24
1	ISSUED FOR BUILDING PERMIT	DEC. 20/24

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT; AND MUST REPORT ANY DISCREPANCIES TO THE CONSULTANTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEROF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE CONSULTANTS.

VAN VELZEN+RADCHENKO DESIGN ASSOC. LTD. FOOD SERVICE CONSULTANTS

CERTIFICATE OF PRACTICE #4292

BISHOP ALLEN ACADEMY (REPLACEMENT) CATHOLIC SECONDARY SCHOOL

721 ROYAL YORK RD, ETOBICOKE, ON M8Y 2Y3

LEGAL DESCRIPTION:
PT LT 7, CON 1 TRAF NS, PT 1 HR1528719;
PT LT 7, CON 1 TRAF NS, PT 1 HR1528720;
PT LT 7, CON 1 TRAF NS, PT 1 HR1528715;
PT LT 6, CON 1 TRAF NS, PT 1 HR1528716;

CITY OF TORONTO
REGIONAL MUNICIPALITY OF TORONTO

TORONTO CATHOLIC DISTRICT SCHOOL BOARD
CATHOLIC EDUCATION CENTRE
80 SHEPPARD AVENUE EAST
TORONTO, ON M2N 6E8
TEL (416) 222-8282

Foodservice Equipment Plan & Service List

Van Velzen + Radchenko Design Associates Ltd.
Food Service Consultants

1262 Don Mills Road, Suite 99
t + 416-447-8483
Toronto, Ont. M3B 2W7

SCALE 1:50	PROJECT 22103
DATE 12/03/2024	
DRAWN TR	DRAWING K1
CHECKED TR	
PRINT DATE	230201
REVIT FILE	

Toronto Catholic District School Board
Bishop Allen Academy Replacement
Catholic Secondary School
Hossack Architecture
Project No. 22103

SECTION 02 61 00
REMOVAL AND DISPOSAL OF
CONTAMINATED SOILS

1 PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Conform to Sections of Division 1 as applicable.

1.1.2 This Section defines minimum procedures and requirements for excavation, segregation, temporary stockpiling, loading, transportation and off-site management or disposal of contaminated soil anywhere within the Property, including contaminated soil associated with or discovered during removal of the UST and associated piping.

1.1.3 The Contractor is responsible for means, methods, sequencing, temporary works, equipment, worker protection, transportation and compliance with authorities having jurisdiction.

1.2 RELATED WORK

1.2.1 Underground storage tank decommissioning and removal: Section 02 65 00. Where contaminated soil is encountered during that work, the soil shall be managed in accordance with this Section 02 61 00.

1.2.2 Structure demolition: Section 02 41 16.

1.2.3 Excavation, backfilling and compaction: Section 31 23 10.

1.2.4 Environmental investigation reports, drawings, soil analytical results and remedial excavation limits included in the Contract Documents.

1.3 DESCRIPTION OF WORK

1.3.1 Excavate contaminated soil anywhere within the Property within the limits identified in the Contract Documents or as directed by the Owner's Environmental Consultant, including contaminated soil encountered in the UST and associated piping excavation areas.

1.3.2 Segregate contaminated soil from apparently clean soil and from other soil streams requiring different management, reuse or disposal.

1.3.3 Temporarily stockpile contaminated soil where necessary using lined and covered stockpiles or suitable containers.

1.3.4 Load, transport and manage or dispose of contaminated soil at appropriately authorized receiving facilities.

1.3.5 Provide safe access and reasonable support required for the Owner's Environmental Consultant to inspect excavation limits, conduct field screening and collect confirmatory or characterization samples.

1.3.6 Do not backfill environmentally controlled excavations until authorization is received from the Owner or Owner's Environmental Consultant.

1.3.7 Provide complete transportation, weigh and receiving documentation for soil removed from the Property.

1.4 DEFINITIONS

1.4.1 Contaminated Soil: Soil identified by the Owner's Environmental Consultant or Contract Documents as requiring controlled excavation, segregation, characterization, treatment, off-site management or disposal.

1.4.2 Apparently Clean Soil: Excavated soil having no obvious visual, olfactory or field-screening indication of contamination. This term does not constitute analytical confirmation that soil meets a particular reuse or disposal standard.

1.4.3 Owner's Environmental Consultant: Environmental consultant retained by the Owner to inspect excavation activities, direct sampling, assess soil conditions and establish or confirm excavation limits.

1.4.4 Receiving Facility: A facility legally authorized and willing to receive the specific soil or waste material being transported.

1.4.5 Soil Stream: Soil segregated for a particular reuse, treatment, receiving facility or disposal classification.

1.5 REGULATORY REQUIREMENTS

1.5.1 Comply with all applicable federal, provincial and municipal statutes, regulations, permits, approvals and requirements of authorities having jurisdiction.

1.5.2 Where excavated soil is managed as excess soil, comply with Ontario Regulation 406/19, On-Site and Excess Soil Management, as amended, and applicable rules and standards.

1.5.3 Where excavated soil is managed as waste, comply with the Environmental Protection Act, applicable waste management requirements and Ontario Regulation 347, General - Waste Management, as applicable.

1.5.4 Comply with applicable occupational health and safety requirements for excavation, worker exposure, construction projects, traffic control and personal protective equipment.

1.6 SUBMITTALS

1.6.1 Provide applicable bills of lading, manifests, excess soil documentation, weigh tickets and receiving records for each shipment.

1.6.2 At completion, provide a summary report detailing the contaminated soil quantities removed, soil streams managed and final receiving facilities.

1.7 QUALITY ASSURANCE

1.7.1 Use workers and operators experienced in contaminated soil excavation and environmental site work.

1.7.2 Maintain a competent supervisor on Site while contaminated soil is being excavated, stockpiled or loaded.

1.7.3 Coordinate excavation sequencing with the Owner's Environmental Consultant to permit inspection and sampling.

1.7.4 Do not blend, dilute or mix contaminated soil with apparently clean soil for the purpose of altering analytical concentrations or management/disposal classification.

1.7.5 Maintain separate soil streams where different contaminant characteristics, analytical results, receiving facilities or disposal classifications apply.

1.8 WORKER AND ENVIRONMENTAL PROTECTION

1.8.1 Prepare and implement site-specific health and safety procedures appropriate to the contaminants identified in the Contract Documents, excavation hazards, heavy equipment and potential vapours or dust.

1.8.2 Provide personal protective equipment appropriate to the work and potential contaminant exposure.

1.8.3 Prevent contaminated soil, sediment, dust, runoff or liquids from migrating outside the controlled work area.

1.8.4 Provide spill response materials and equipment appropriate to the contaminants and equipment used.

1.8.5 Protect non-contaminated materials and adjacent areas from contact with contaminated soil before and during excavation.

1.8.6 Keep contaminated soil and stockpiles a safe distance from excavation edges and implement sediment/runoff controls to prevent migration.

2 PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 Polyethylene Sheeting: Minimum 0.15 mm (6 mil) thickness, durable and chemically compatible with the soil contaminants for use beneath and over temporary stockpiles.

2.1.2 Temporary Containers: Leak-tight bins, roll-off containers, lined trucks, drums or other containers suitable for the applicable contaminated soil and acceptable to the receiving facility.

2.1.3 Temporary Covers: Polyethylene sheeting, tarpaulins or equivalent capable of preventing precipitation infiltration, dust generation and wind erosion.

2.1.4 Imported Backfill: Material meeting the project earthwork specifications and applicable environmental quality requirements.

3 PART 3 - EXECUTION

3.1 PREPARATION

3.1.1 Review available environmental reports, drawings, soil analytical data and specified excavation limits before commencing Work.

3.1.2 Obtain required public and private utility locates before excavation.

3.1.3 Establish barriers and controlled access around contaminated soil excavation and stockpile areas.

3.1.4 Establish designated temporary soil stockpile areas acceptable to the Owner's Environmental Consultant before excavation begins.

3.1.5 Notify the Owner's Environmental Consultant sufficiently in advance of excavation to permit attendance.

3.2 EXCAVATION

3.2.1 Excavate contaminated soil within the horizontal and vertical limits identified in the Contract Documents or directed by the Owner's Environmental Consultant.

3.2.2 Use excavation methods that minimize unnecessary disturbance and mixing of contaminated and apparently clean soil.

3.2.3 Segregate soil exhibiting staining, odour, sheen, elevated field-screening response, visible debris or other evidence of contamination where directed by the Owner's Environmental Consultant.

3.2.4 Maintain separate soil piles or containers where different soil streams apply.

3.2.5 Do not excavate beyond directed limits solely for convenience where such excavation would unnecessarily increase contaminated soil quantities or management costs.

3.2.6 If unexpected contamination, free product, buried waste, tanks, drums or other environmental conditions are encountered, stop excavation in the affected area and notify the Owner's Environmental Consultant.

3.3 TEMPORARY STOCKPILING

3.3.1 Place contaminated soil on continuous polyethylene sheeting or within suitable containers. Extend the liner beyond the stockpile footprint sufficiently to contain the material.

3.3.2 Cover stockpiles when active handling is not occurring and at the end of each work shift.

3.3.3 Secure covers to prevent displacement by wind and maintain liners and covers in good condition.

3.3.4 Manage stockpiles to minimize precipitation infiltration, runoff, dust and migration of contaminated material.

3.3.5 Do not place contaminated soil directly on unprotected pavement, soil or other surfaces unless specifically approved.

3.3.6 Maintain physical separation and identification of separate soil streams.

3.4 ENVIRONMENTAL INSPECTION AND SAMPLING

3.4.1 Provide safe access for the Owner's Environmental Consultant to inspect excavation walls, floors and stockpiles.

3.4.2 The Owner's Environmental Consultant may conduct field screening and collect confirmatory or characterization samples.

3.4.3 Temporarily suspend excavation where requested to permit sampling, inspection or determination of further excavation limits.

3.4.4 Do not backfill an environmentally controlled excavation until authorization is received from the Owner or Owner's Environmental Consultant.

3.4.5 Where analytical results indicate additional excavation is required, continue excavation only as authorized.

3.5 LOADING AND TRANSPORTATION

3.5.1 Load contaminated soil in a manner that minimizes spillage, dust and tracking.

3.5.2 Use trucks or containers suitable for the soil being transported and acceptable to the receiving facility.

3.5.3 Do not overload trucks. Secure and cover each load before leaving the work area.

3.5.4 Inspect truck exteriors, wheels and undercarriages before vehicles leave the controlled work area and remove adhering soil as required.

3.5.5 Prevent tracking onto public roads and promptly clean affected surfaces using methods that do not spread contamination or discharge contaminated wash water.

3.5.6 Clean trucks and equipment between loads where necessary to prevent cross-contamination between contaminated soil and clean fill.

3.6 OFF-SITE MANAGEMENT AND DISPOSAL

3.6.1 Transport contaminated soil only to a receiving facility authorized and willing to receive the applicable soil stream.

3.6.2 Confirm receiving facility acceptance requirements before shipment.

3.6.3 Do not change the approved receiving facility without prior authorization where the change may affect soil classification, regulatory documentation or cost.

3.6.4 Complete applicable bills of lading, manifests, excess soil records, weigh tickets and other documentation for each shipment.

3.6.5 The Contractor remains responsible for transported soil until accepted by the receiving facility.

3.6.6 Provide copies of receiving documentation to the Owner as specified in the Contract.

3.7 EXCAVATION WATER

3.7.1 Notify the Owner's Environmental Consultant if groundwater, perched water, petroleum sheen, free product or other potentially impacted water is encountered.

3.7.2 Do not discharge potentially contaminated water to the ground, storm sewer or sanitary sewer without authorization and compliance with applicable requirements.

3.7.3 Where removal is required, collect impacted water in suitable containers pending characterization, treatment or off-site disposal.

3.8 BACKFILLING AND RESTORATION

3.8.1 Commence backfilling only after environmental authorization has been provided where environmental confirmation is required.

3.8.2 Place and compact approved backfill in accordance with the project earthwork specifications.

3.8.3 Do not use contaminated soil as backfill unless specifically authorized and demonstrated to comply with all applicable requirements.

3.8.4 Restore grades and surfaces as specified elsewhere in the Contract Documents.

3.8.5 Restore excavated areas with approved material and compact in accordance with Section 31 23 10.

3.9 MEASUREMENT AND PAYMENT

3.9.1 Unless otherwise specified, quantities of contaminated soil removed from the Property shall be determined from receiving facility scale tickets or other Contract-specified measurement methods.

3.9.2 Where unit-rate pricing is used, the unit rate shall include excavation, segregation, loading, transportation, temporary stockpile handling, liners/covers, truck covering, receiving fees, disposal or management fees, documentation and incidental work necessary to complete the specified soil removal.

3.9.3 Additional excavation beyond the quantity or limits included in the Base Bid shall proceed only when authorized by the Owner or Owner's Environmental Consultant.

3.10 COMPLETION

3.10.1 Remove remaining contaminated soil, temporary liners, covers, absorbents and debris generated by the Work.

3.10.2 Clean equipment and surfaces as necessary to prevent transport of contaminated soil to uncontaminated portions of the Property or off Site.

3.10.3 Submit final receiving facility records and a summary of contaminated soil quantities removed.

3.10.4 Leave the work area in a clean and orderly condition.

END OF SECTION

Toronto Catholic District School Board
Bishop Allen Academy Replacement
Catholic Secondary School
Hossack Architecture
Project No. 22103

SECTION 02 65 00
UNDERGROUND STORAGE TANK
REMOVAL

1 PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Conform to Sections of Division 1 as applicable.

1.1.2 This Section defines minimum requirements for the safe decommissioning, permanent removal and disposal/recycling of an underground storage tank (UST), associated underground and aboveground piping, and related petroleum handling equipment.

1.1.3 Perform the Work in accordance with applicable requirements of the Technical Standards and Safety Authority (TSSA), applicable fuel safety legislation and codes, and the TSSA Environmental Management Protocol for Fuel Handling Sites in Ontario (EMP).

1.1.4 The Contractor is responsible for means, methods, sequencing, temporary works, worker protection, equipment, permits, notifications, waste handling and compliance with authorities having jurisdiction.

1.2 RELATED WORK

1.2.1 Contaminated soil removal anywhere on the Property, including soil associated with the UST: Section 02 61 00 - Removal and Disposal of Contaminated Soils.

1.2.2 Structure demolition: Section 02 41 16.

1.2.3 Excavation, backfilling and compaction: Section 31 23 10.

1.2.4 Environmental investigation reports, drawings, geophysical information, hydrovac information and other background documents included in the Contract Documents.

1.3 DESCRIPTION OF WORK

1.3.1 Locate, expose, decommission and permanently remove the identified or suspected UST and associated piping and appurtenances.

1.3.2 Remove recoverable petroleum product, residual liquids, sludge and tank bottoms from the tank and associated piping before removal.

1.3.3 Drain, clean and render the tank and piping safe for removal, handling, transportation, cutting, recycling or disposal.

1.3.4 Remove associated fill, vent, product, return and other accessible piping, fittings, gauges and appurtenances associated with the UST unless specifically identified to remain.

1.3.5 Remove concrete slabs, encasement, anchors, deadmen, vaults or other structures necessary to permit removal of the UST and associated piping.

1.3.6 Coordinate the environmental assessment and sampling requirements associated with permanent removal of the UST in accordance with the EMP.

1.3.7 Provide the Owner's Environmental Consultant with access to inspect the tank excavation and associated piping excavations and collect environmental samples.

1.3.8 Do not backfill the UST excavation or piping excavations until environmental sampling required for the UST removal has been completed and authorization to backfill has been provided by the Owner or Owner's Environmental Consultant.

1.3.9 Management and removal of contaminated soil beyond that required to expose the UST and piping is excluded from this Section and shall be performed under Section 02 61 00 unless specifically directed otherwise.

1.4 DEFINITIONS

1.4.1 UST: Underground storage tank and associated tank system components.

1.4.2 Tank System: The UST, associated piping, fittings, pumps, vents, fill lines and other components associated with storage or handling of petroleum product.

1.4.3 EMP: TSSA Environmental Management Protocol for Fuel Handling Sites in Ontario, including applicable reporting, assessment and management requirements.

1.4.4 Environmental Assessment Report: Report prepared in accordance with applicable TSSA/EMP requirements by a Qualified Person, as applicable.

1.4.5 Owner's Environmental Consultant: Environmental consultant retained by the Owner to coordinate environmental assessment, sampling, interpretation and regulatory documentation.

1.5 REGULATORY AND TSSA REQUIREMENTS

1.5.1 Use a contractor and personnel possessing all registrations, certificates and qualifications required by TSSA and applicable legislation for the fuel storage equipment being removed.

1.5.2 Before commencing removal, confirm all TSSA notifications, permits, registrations, inspections and other requirements applicable to the specific tank system and removal work.

1.5.3 Where petroleum product has escaped, is suspected to have escaped, or petroleum impacts are discovered during the Work, immediately implement applicable reporting and corrective-action requirements and coordinate with the Owner and Owner's Environmental Consultant.

1.5.4 Where required by applicable TSSA requirements, cooperate in providing the information necessary for submission of an Environmental Assessment Report and notification of permanent tank removal or site closure.

1.5.5 Comply with applicable environmental, waste transportation, occupational health and safety, fire prevention and municipal requirements.

1.6 SUBMITTALS

1.6.1 Submit the name and TSSA registration number of the contractor responsible for equipment removal and applicable certificate information for the petroleum mechanic responsible for the Work.

1.6.2 Provide copies of applicable notifications, permits, inspection records and regulatory correspondence generated by the Contractor.

1.6.3 Following completion, submit disposal/recycling records, manifests or bills of lading, photographs and tank/piping removal records.

1.7 QUALITY ASSURANCE

1.7.1 Use workers and supervisory personnel experienced in underground petroleum tank system removal.

1.7.2 Maintain a competent supervisor on Site during tank decommissioning and removal.

1.7.3 Coordinate removal activities with the Owner's Environmental Consultant to permit observation and environmental assessment in accordance with the EMP.

1.7.4 Do not conceal, backfill or remove environmental evidence from the UST or piping excavation before required inspection and sampling have been completed.

1.8 HEALTH, SAFETY AND FIRE PREVENTION

1.8.1 Establish and maintain a controlled work area around the tank excavation and tank handling operations.

1.8.2 Prohibit smoking, open flames, hot work and other ignition sources until the tank system has been rendered safe and required atmospheric testing has been completed.

1.8.3 Use atmospheric monitoring equipment suitable for anticipated petroleum vapours and potential oxygen-deficient or flammable atmospheres where required.

1.8.4 Do not permit entry into the UST unless specifically authorized and performed under a compliant confined-space entry program.

1.8.5 Provide fire extinguishers, petroleum-compatible spill response materials and other emergency equipment appropriate to the Work.

2 PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

2.1.1 Provide pumps, vacuum equipment, hoses and containers compatible with the petroleum products and residues encountered.

2.1.2 Provide vapour-control, cleaning, purging or inerting equipment appropriate to the tank contents and removal method.

2.1.3 Provide leak-tight containers suitable for residual product, sludge, tank bottoms, rinsate and other liquid wastes.

2.1.4 Provide lifting equipment and rigging suitable for the actual tank dimensions, construction, condition and anticipated residual load.

2.1.5 Provide petroleum-compatible absorbents and spill response materials.

2.1.6 Provide temporary caps, plugs and blanking devices suitable for isolating piping and preventing releases during removal.

3 PART 3 - EXECUTION

3.1 PREPARATION

3.1.1 Review the Contract Documents and available environmental information before commencing Work.

3.1.2 Obtain public and private utility locates and confirm the location of utilities and active services before excavation.

3.1.3 Confirm the tank system is out of service and isolate it from active fuel handling equipment before removal.

3.1.4 Notify the Owner's Environmental Consultant sufficiently in advance to permit attendance during initial exposure and removal.

3.1.5 Establish barriers and access controls and implement approved health, safety and fire prevention procedures.

3.2 EXPOSURE OF TANK AND PIPING

3.2.1 Remove pavement, concrete, overburden and other materials as required to expose the UST and associated piping.

3.2.2 Use excavation methods that minimize damage to the tank and piping before residual contents have been removed and the system has been rendered safe.

3.2.3 Excavate carefully around suspected utilities and piping. Use hand excavation, hydrovac or other non-destructive methods where required.

3.2.4 Maintain excavation stability and provide shoring, sloping or other protective measures required by applicable occupational health and safety requirements.

3.3 TANK SYSTEM DECOMMISSIONING

3.3.1 Before lifting, cutting or dismantling, remove recoverable petroleum product and residual liquids from the UST and associated piping.

3.3.2 Remove sludge, tank bottoms and other residues to the extent necessary for safe decommissioning and transportation.

3.3.3 Drain associated piping and manage recovered liquids as petroleum waste unless demonstrated otherwise.

3.3.4 Clean and make the tank and piping product-free and vapour-safe using methods appropriate to the equipment and former contents.

3.3.5 Do not use cleaning or vapour-control methods that result in an uncontrolled discharge of petroleum product or vapours.

3.3.6 Verify atmospheric conditions as required before cutting, hot work, dismantling or other activity that could introduce an ignition source.

3.3.7 Obtain representative samples of tank liquids where required to establish disposal requirements and provide analytical/disposal documentation to the Owner's Environmental Consultant.

3.3.8 Prior to cutting or dismantling the tank, verify combustible vapour and oxygen conditions are within the limits required by the approved procedure, current applicable safety requirements and TSSA requirements.

3.3.9 Do not discharge tank-cleaning residues, rinsate or effluent to soil, storm sewers, sanitary sewers or surface water. Collect and manage such material at an authorized facility.

3.4 REMOVAL OF UST AND ASSOCIATED PIPING

3.4.1 Disconnect and remove the UST after completion of required decommissioning activities.

3.4.2 Remove associated accessible fill, vent, product, return and other piping and appurtenances unless specifically directed to remain.

3.4.3 Where piping is permitted to remain, remove residual product and manage or cap the piping in accordance with applicable TSSA and other regulatory requirements.

3.4.4 Lift the UST using approved lifting points or other safe rigging methods suitable for the tank's condition.

3.4.5 Inspect the exterior of the removed UST for corrosion, holes, staining, wet areas or other evidence of a potential release and make the tank available for environmental inspection before off-site shipment where practicable.

3.4.6 Record tank dimensions, construction and observed condition for environmental assessment and closure documentation.

3.4.7 Remove concrete encasement, slabs, anchors, deadmen or vault components as required to complete removal.

3.5 ENVIRONMENTAL ASSESSMENT AND SAMPLING

3.5.1 Following removal of the UST and associated piping, provide safe access to the Owner's Environmental Consultant to inspect the tank and piping excavations.

3.5.2 Sampling associated with the UST removal shall be completed by the Owner's Environmental Consultant or as otherwise specified by the Owner, in accordance with the applicable EMP requirements and the site-specific environmental assessment plan.

3.5.3 Do not backfill the UST or piping excavations until required environmental assessment and sampling activities have been completed and authorization has been provided.

3.5.4 If petroleum impacts, free product, staining, petroleum odours or other evidence of an escape of product are encountered, immediately notify the Owner and Owner's Environmental Consultant and protect the area pending direction.

3.5.5 Excavation and removal of contaminated soil beyond the defined UST removal work shall be performed under Section 02 61 00 unless otherwise authorized in writing.

3.5.6 The tank-area assessment and confirmation sampling shall be coordinated with the Owner's Environmental Consultant and completed in accordance with the EMP and project-specific environmental assessment plan.

3.5.7 Where contaminated soil is identified, segregate it from clean soil and manage it in accordance with Section 02 61 00. Do not assume that all soil within the tank excavation is contaminated.

3.6 TRANSPORTATION AND DISPOSAL

3.6.1 Transport residual product, liquids, sludge, rinsate and other wastes using carriers and to receiving facilities authorized to receive the applicable materials.

3.6.2 Transport the removed UST and piping to an appropriate recycling, processing or disposal facility after the equipment has been rendered safe for transport.

3.6.3 Complete manifests, bills of lading, weigh tickets and other shipping records required by applicable legislation or the receiving facility.

3.6.4 Provide copies of final receiving and recycling/disposal documentation to the Owner.

3.7 BACKFILLING

3.7.1 Do not commence backfilling until environmental authorization has been provided for the UST and associated piping excavation areas.

3.7.2 Remove loose debris and standing liquids as directed before backfilling.

3.7.3 Backfill using approved material in accordance with the project earthwork specifications.

3.8 COMPLETION DOCUMENTATION

3.8.1 Provide photographs of the UST before removal, after exposure, during removal and after removal, including associated piping where visible.

3.8.2 Provide a record of tank dimensions, construction, observed condition, residual contents removed and final disposition.

3.8.3 Provide all Contractor-generated TSSA, waste transportation, disposal and recycling documentation required under the Contract.

3.8.4 Cooperate with the Owner's Environmental Consultant and Qualified Person in providing information required for the Environmental Assessment Report and associated TSSA environmental review process.

END OF SECTION

Part 1 General

.1 Refer to report pertaining to hazardous materials and abatement survey and findings prepared by others bound near the end of this specification for convenience only.

.2 This report outlines the hazardous materials discovered at this site.

DESIGNATED SUBSTANCES AND HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT (67 pages)
of the building was carried out for the Owner by:

Safetech Environmental Limited
3045 Southcreek Road
Unit #14, Mississauga, ON L4X 2X7
TEL 905.624.2722

Building Demolition - Bishop Allen Academy
721 Royal York Road

Anthony J. Fiume, BA
Project Coordinator

Reviewed by:
Daniel D'Aloisio, BSc, AMRT
Operations Manager

Safetech Project Number: 1-3220451
Date of Site Work: July 11 to 13, 2022
Date of Issue: July 27, 2022

.4 The specification sections related to Asbestos Survey or Abatement forms part of the Contract Documents but contains information that is not prepared by the Architect or their sub consultants. The referenced asbestos reports and asbestos abatement specifications were not prepared by or under the supervision of the Architect. While every effort has been made to attempt to provide comprehensive abatement testing information for the purposes of design and tendering, the Architect claims no responsibility or liability for the accuracy of the information contained in the report.

.5 Refer also to Division 1 and Section 01 35 30 and coordinate with this Section.

Part 2 Products

2.1

1. Refer to documents noted above.

Part 3 Execution

.1 Inspection and Testing will be paid for under Cash Allowances.

END OF SECTION

Part 1 General

1.1 RELATED WORK

.1 Site Grading — Section 31 23 13

.2 Excavating, Trenching and Backfilling — Section 31 23 10

1.2 EXAMINATION

.1 Examine the Drawings, Specifications, and Bore Hole data which show soil conditions at boreholes. Visit the site and determine the work extent and nature of the existing conditions. In no circumstances will any claims against the Owner be allowed resulting from failure to ascertain the work herein described or implied.

.2 Report to the Consultant in writing any conditions which will prejudice the proper completion of the work of this Section. Commencement of work constitutes acceptance of existing conditions.

1.3 BURIED SERVICES

.1 Before commencing work confirm no buried services remain on the site and locate all services adjacent to the site.

.2 Arrange with appropriate authority for relocation of buried services that interfere with execution of work. Pay costs of relocating services.

1.4 PROTECTION

.1 Establish locations of all electrical, telephone, or other service installations existing in the areas of site preparation by contacting the service owners and obtaining their approval to work in such areas. Contact the Municipality, Regional utility authorities and local utilities to review proposed scheduling, work activities and regulations pertaining to all work beyond the limits of the property including but not limited to parking areas, storm water outlet and headwall and asphalt driveway entrances. Provide adequate markers or take protective measures to ensure that no damage will be caused under this Section. Repair or replace damaged work as required without cost to the Owner.

.2 Electronically locate, map and record location of services prior to doing any excavation.

1.5 DUST CONTROL

.1 Provide and maintain to the Consultant’s satisfaction, adequate system to avoid any nuisance caused by dust and dirt rising throughout the area of operations.

1.6 SILT CONTROL

.1 Provide and maintain to the Consultant’s and to the Authorities’ satisfaction, control systems to prevent silt from entering any storm drainage system.

Part 2 Products

2.1 NOT APPLICABLE

Part 3 Execution

3.1 DISPOSAL OF WASTE AND SURPLUS MATERIALS

.1 Except where specified or indicated on Drawings to be retained on site, or to be reused, remove from the site, all waste and surplus materials resulting from site preparation work on a daily basis. Dispose of as required in accordance with local or provincial regulations. Under no circumstances shall the burning of rubbish be permitted on the site. Where items are to be reused, store on site where designated and provide temporary protection to same to prevent damage by construction operations.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 56 00 - Temporary Barriers and Enclosures.

.3 Section 01 35 43 - Environmental Procedures.

.4 Section 31 23 13 - Rough Grading.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

.1 Work of this Section shall include protection measures, consisting of materials, constructions, and methods required by the Occupational Health and Safety Act of the Province of Ontario, and as otherwise imposed by Jurisdictional Authorities to save persons and property from harm.

.2 Submit shop drawings required by authorities.

1.3 REFERENCES

.1 American Society for Testing and Materials (ASTM)

.1 ASTM C136-06, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.

.2 ASTM D422-63(2007), Standard Test Method for Particle-Size Analysis of Soils.

.3 ASTM D698-07e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ^{3}) (600 kN-m/m ^{3}).

.4 ASTM D4318-10, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.

.2 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.

.3 Canadian Standards Association (CSA)

.1 CAN/CSA-A3000-08, Portland Cement.

.2 CAN/CSA-A23.1-09, Concrete Materials and Methods of Concrete Construction.

.4 OPSS, Ontario Provincial Standard Specification.

1.4 DEFINITIONS

.1 Excavation classes: two classes of excavation will be recognized; common excavation and rock excavation.

.1 Rock: any solid material in excess of 0.25 m^3 and which cannot be removed by means of heavy duty mechanical excavating equipment with 0.95 to 1.15 m^3 bucket. Frozen material not classified as rock.

.2 Common excavation: excavation of materials of whatever nature, which are not included under definitions of rock excavation.

.2 Unclassified excavation: excavation of deposits of whatever character encountered in Work.

.3 Topsoil: material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.

.4 Waste material: excavated material unsuitable for use in Work or surplus to requirements.

.5 Borrow material: material obtained from locations outside area to be graded, and required for construction of fill areas or for other portions of Work.

.6 Unsuitable materials:

.1 Weak and compressible materials under excavated areas.

.2 Frost susceptible materials under excavated areas.

.3 Frost susceptible materials:

.1 Fine grained soils with plasticity index less than 10 when tested to ASTM D4318, and gradation within limits specified when tested to ASTM D422 and ASTM C136 : Sieve sizes to CAN/CGSB-8.1 CAN/CGSB-8.2.

.2 Coarse grained soils containing more than 20 % by mass passing 0.075 mm sieve.

.7 Unshrinkable fill: very weak mixture of Portland cement, concrete aggregates and water that resists settlement when placed in utility trenches, and capable of being readily excavated.

1.5 SUBMITTALS

.1 Samples:

.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

.2 Inform Consultant at least 4 weeks prior to commencing Work, of proposed source of fill materials and provide access for sampling.

.3 Submit 70 kg samples of type of fill specified including representative samples of excavated material.

.4 Ship samples to Consultant, in tightly closed containers to prevent contamination.

1.6 QUALITY ASSURANCE

.1 Qualification Statement: submit proof of insurance coverage for professional liability.

.2 Where Consultant/Engineer is employee of Contractor, submit proof that Work by Consultant/Engineer is included in Contractor's insurance coverage.

.3 Submit design and supporting data at least 2 weeks prior to commencing Work.

.4 Design and supporting data submitted to bear stamp and signature of qualified professional engineer registered or licensed in Province of Ontario, Canada.

.5 Keep design and supporting data on site.

.6 Engage services of qualified professional Engineer who is registered or licensed in Province of Ontario, Canada in which Work is to be carried out to design and inspect cofferdams, shoring, bracing and underpinning required for Work.

1.7 WASTE MANAGEMENT AND DISPOSAL

.1 Collect and separate plastic, paper packaging and corrugated cardboard and place in designated containers.

.2 Place materials defined as hazardous or toxic in designated containers.

.3 Ensure emptied containers are sealed and stored safely.

1.8 PROTECTION OF EXISTING FEATURES

.1 Protect existing features in accordance with Section 01 56 00 - Temporary Barriers and Enclosures and applicable local regulations.

.2 Vibration and Noise Control:

.1 Throughout the area of operations, use of appropriate means and methods to reduce and maintain vibration and noise levels below City of Toronto's bylaw requirements and per Consultant's satisfaction.

.3 Provide means and methods for excavation in consultation with Contractor's Engineer related to excavation, backfilling, and compaction along existing slopes using appropriate mitigation measures to minimize risk of disturbances.

.3 Vibration is required to be monitored by the City of Toronto. Vibration testing is to be paid for through the Cash Allowance.

.3 Existing buried utilities and structures:

.1 Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.

.2 Prior to commencing excavation Work, notify applicable Owner or authorities having jurisdiction, establish location and state of use of buried utilities and structures. Owners or authorities having jurisdiction to clearly mark such locations to prevent disturbance during Work.

.3 Confirm locations of buried utilities by careful test excavations.

.4 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered as indicated.

.5 Ensure that adjacent property is not damaged in any way by excavating and grading work; by the removing, stockpiling and transporting of materials; by blown sand and dust or by spillage during the removing, stockpiling and transporting of materials; by the collapse or movement of excavated banks and stockpiles; or by storm water from altered drainage course.

.6 Ensure that no damage is caused by earthwork to existing structures, trees, buried and above-ground services, bench marks, and survey monuments on the site, or

adjacent property. Arrange or ensure that all damage which occurs is repaired completely and immediately.

.7 Protect newly-graded areas from the action of the elements. Repair settlement and washouts that occurs before acceptance of the work, and re-establish grades to the required elevations and slopes. Fill to required subgrade levels any area where settlement occurs.

.8 Bail or pump all water out of excavation, from whatever cause, as it accumulates. Take all necessary measures to prevent flow of water and earth fines into the excavation.

.9 Support existing buildings, walks, roads, and services, and prevent cave-ins of excavated banks. A Professional Engineer specializing in this work shall design all protection. Provide shop drawings for authorities as required.

.10 Temporarily cover all existing catchbasins and manholes to prevent entry of earth or debris.

.11 Electronically locate underground services such as electrical and telephone lines, gas and water and sewer lines. Mark line of services with yellow ribbons or stakes with tip fluorescent painted, and indicating both plan location and depth.

.12 Protect the bottom and sides of the excavated pits and trenches from exposure to sun and rain to prevent cave-ins and softening of the bed upon which concrete and drains rest.

1.9 DUST CONTROL

.1 Provide and maintain adequate system to avoid any nuisance caused by dust and dirt rising throughout the area of operations. The use of calcium chloride is prohibited.

Part 2 Products

2.1 MATERIALS

.1 Fill "B": Granular material meeting OPSS Material Specification for Aggregates, Form OPSS.MUNI 1010, Granular "B"-Type 1. Minimum compaction density 100% Standard Proctor. For use primarily as backfill of all excavations of demolition of building structure, foundations or utilities.

Part 3 Execution

3.1 SITE PREPARATION

.1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.

.2 Cut pavement or sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.

3.2 EXAMINATION

.1 Ensure in examination of the site that all possible factors concerning earthwork are investigated, and that the following are known in particular:

.1 Methods and means available for material handling, disposal, storage, and transportation.

.2 Physical conditions of site, including ground water table and drainage courses.

.3 Conformation and condition of ground surfaces.

.4 Character, quality, and quantity of surface and subsurface materials.

3.3 SOIL INVESTIGATION

.1 Soil investigation of the site was carried out by other consultants engaged by the Owner for the purpose of guidance in design and construction. A report and bore hole log on this investigation were prepared and are provided for information purposes. No responsibility is assumed by the Owner or Architects for the scope, accuracy, or interpretation of the soil investigation report. Be responsible for adjusting estimates to incorporate conditions identified or reasonably inferred in the report, as documented in the Geotechnical Data.

3.4 STOCKPILING

.1 Stockpile fill materials in areas designated by Engineer Stockpile granular materials in manner to prevent segregation.

.2 Protect fill materials from contamination.

3.5 COFFERDAMS, SHORING, BRACING AND UNDERPINNING

.1 Construct temporary Works to depths, heights and locations as directed by Engineer.

.2 During backfill operation:

.1 Unless otherwise as indicated or as directed by Engineer, remove sheeting and shoring from excavations.

.2 Do not remove bracing until backfilling has reached respective levels of such bracing.

.3 Pull sheeting in increments that will ensure compacted backfill is maintained at an elevation at least 500 mm above toe of sheeting.

.3 When sheeting is required to remain in place, cut off tops at elevations as indicated.

.4 Upon completion of substructure construction:

.1 Remove cofferdams, shoring and bracing.

.2 Remove excess materials from site and restore water courses as indicated and as directed by Engineer.

3.6 DEWATERING AND HEAVE PREVENTION

.1 Keep excavations free of water while Work is in progress.

.2 Dewater the site as necessary for the installation of the work, by providing a series of temporary trenches/pits and pumping as necessary. Backfill temporary trenches/pits and restore area when dewatering is no longer required.

.3 At no additional cost to the Owner, dewater the site as necessary to maintain the schedule and protect the work. Ensure the water pumped from site does not contaminate sewers

municipal or on site sewer system. If required, arrange and pay for the cost of flushing sewers used for dewatering drainage routes.

.4 Submit for Engineer's approval details of proposed dewatering or heave prevention methods, such as dikes, well points, and sheet pile cut-offs.

.5 Avoid excavation below groundwater table if quick condition or heave is likely to occur. Prevent piping or bottom heave of excavations by groundwater lowering, sheet pile cut-offs, or other means.

.6 Protect open excavations against flooding and damage due to surface run-off.

.7 Dispose of water in accordance with Section 01 35 43 - Environmental Procedures and in manner not detrimental to public and private property, or any portion of Work completed or under construction.

.8 Provide flocculation tanks, settling basins, or other treatment facilities to remove suspended solids or other materials before discharging to storm sewers, water courses or drainage areas.

3.7 EXCAVATION

.1 Advise Engineer at least 7 days in advance of excavation operations for initial cross sections to be taken.

.2 All existing topsoil layers are to be removed from site.

.3 Once the foundations are removed a Geotechnical Investigation is to take place (Cash Allowance) to document the geodetic elevation of the existing footing being removed and the quality and bearing capacity of the existing soils below the existing footings, before any upfill.

.4 Upon completion of the geotechnical investigation of the excavated areas, the areas are to backfilled with **OPSS.MUNI 1010 Granular B Type 1 placed in maximum 300mm loose lifts, and compacted to 100% SPMDD.** Native material is not to be used for backfilling. Place engineered fill to elevations as required to avoid ponding and standing water on the site.

.5 Excavation and disposal of all displaced earth and boulders is part of this contract.

.6 Notify the Consultant of completion of excavation work and before any concrete or fill is placed on the bearing strata, in order that he may inspect the exposed bearing surfaces.

.7 Remove excess and unsuitable excavated materials from the site. Comply with the MOE regulations and those of other regulating bodies, regarding disposal of contaminated soil.

.8 Blasting is prohibited, except upon written permission of Consultant. Rock removal, if required, shall be by means of Ram Splitting equipment only.

.9 Keep all surfaces against which concrete, unit masonry or fill is to be placed free from frost. Thaw out frozen surfaces against which concrete or fill is to be placed to unfrozen depth.

.10 Excavation must not interfere with bearing capacity of adjacent foundations.

.11 Do not disturb soil within branch spread of trees or shrubs that are to remain. If excavating through roots, excavate by hand and cut roots with sharp axe or saw.

.12 Keep excavated and stockpilled materials a safe distance away from edge of trench as directed by Engineer.

.13 Restrict vehicle operations directly adjacent to open trenches.

.14 Do not obstruct flow of surface drainage or natural watercourses.

.15 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.

.16 Notify Engineer when bottom of excavation is reached.

.17 Obtain Engineer approval of completed excavation.

.18 Hand trim, make firm and remove loose material and debris from excavations. Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil. Clean out rock seams and fill with concrete mortar or grout to approval of Engineer.

3.8 COMPACTION

.1 Provide, operate and maintain compacting equipment necessary to achieve the compaction densities specified.

.2 Compact fill until the required density is achieved. Do not compact material containing frost.

.3 Fill hollows and depressions which develop under compaction with matching backfill material. If the base becomes rutted or displaced due to any cause, regrade the surface.

.4 Compact backfill by means of vibratory type equipment capable of achieving the desired degree of compaction. Use manually operated vibratory tampers in the proximity of foundations and in areas not readily accessible to roller equipment. Make good damage to the structure due to compaction and settlement of fill. Report damage to foundations promptly to the Consultant. Obtain approval of remedial procedures.

3.9 ENGINEERED FILL

.1 Provide engineered fill ‘Type B’ as described above in accordance with recommendations contained in the geotechnical report. Do not use excavated material to backfill.

.2 Place engineered fill in layers not exceeding 300 mm in the uncompacted state. Compact each layer to a minimum of 100% Standard Proctor Density in accordance with Section ASTM D698.

.3 The engineered fill must be at least 0.6m thick beneath all footings and floor slabs to control settlement.

.4 Use mechanical compaction equipment that is appropriate for the material being placed.

.5 Provide a minimum of 24 hours notice to the inspection and testing company to arrange for compaction testing for each layer of fill.

.6 Do not place next lift of fill until previous lift has been tested and found to be adequately compacted in accordance with the specified level of compaction.

.7 Confirm elevations of top of engineered fill layer upon completion of placement and compaction.

.8 Protect surface of engineered fill from any disturbance.

.9 Do not place fill during period of freezing ambient temperature.

.10 Remove and replace fill until compaction test reports by the testing agency are satisfactory to the Consultant.

3.10 BACKFILLING

.1 Place fill in 300 mm deep layers of fill or as specified, each consolidated before the next is placed.

.2 Backfill to mechanical and electrical service trenches as specified in the electrical and mechanical specifications.

.3 Compact fill to densities specified for material requirements.

.4 Do not proceed with backfilling operations until Consultant has inspected and approved installations.

.5 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.

.6 Do not use backfill material which is frozen or contains ice, snow or debris.

.7 Backfilling around installations.

- .1 Place bedding and surround material as specified elsewhere.
- .2 Do not backfill around or over cast-in-place concrete within 24 hours after placing of concrete.
- .3 Place layers simultaneously on both sides of installed Work to equalize loading.
- .4 Where temporary unbalanced earth pressures are liable to develop on walls or other structures:
  - .1 Permit concrete to cure for minimum 14 days or until it has sufficient strength to withstand earth and compaction pressure and approval obtained from Engineer.
  - .2 If approved by Engineer erect bracing or shoring to counteract unbalance, and leave in place until removal is approved by Engineer.

.8 Install drainage system in backfill as directed by Consultant.

3.11 RESTORATION

.1 Upon completion of Work, remove waste materials and, trim slopes, and correct defects as directed by Consultant.

.2 Reinstate disturbed sodded or landscape areas outside the property line.

.3 Reinstate pavements and sidewalks disturbed by excavation to thickness, structure and elevation which existed before excavation.

.4 Clean and reinstate areas affected by Work as directed by Consultant.

.5 Use temporary plating to support traffic loads over unshrinkable fill for initial 24 hours.

.6 The Owner will engage the services of an Inspection and Testing Company to verify that work conforms to the requirements of the specifications.

.7 The Contractor shall cooperate fully with the testing and inspection company.

.8 The Contractor shall maintain its own quality control program to ensure that its work conforms to the drawings and specifications.

.9 Submit 4 kg. samples of the fill materials to the inspection and testing company at least 10 days prior to commencement of backfill operations. Materials tested and approved shall constitute a standard for the acceptance of material delivered to the site.

.10 The inspection and testing company shall be responsible for the following work:

.11 Determine the depth of unsatisfactory material, if any, to be removed.

.12 Inspect and approve the sub-grade prior to commencement of backfill operations.

.13 Test and approve the proposed backfill materials.

.14 Be present full time during operations in order to inspect and approve the methods of placing and compacting and to carry out the necessary tests to determine the Proctor Density of the backfill and the actual field densities being obtained. Take sufficient tests to ensure that adequate information is obtained to judge the uniformity of compaction. Inspect all piping and conduit in place in trenches prior to backfilling to ensure correct slope and placement as designed.

.15 Check the quality of backfill being delivered to the site.

.16 Check the depth of granular fill.

.17 Confirm bearing elevations. Confirm and record spot elevations of all piping at critical locations to confirm design depths and slopes.

.18 Check installation of weeping tile.

.19 Issue reports to the Consultant tabulating test results and giving final approval and suggestions as to the backfilling and compaction operation.

.20 The cost of such inspection and testing shall be paid for under the Fill and Compaction Testing Allowance specified in Section 01 11 00 Summary of Work. The cost of retesting unacceptable compaction shall be borne by this Section.

3.12 INSPECTION AND TESTING

.1 Refer to Section 01 11 00 - Summary of Work.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 35 43 - Environmental Procedures

.2 Section 31 23 10 - Excavation, Trenching and Backfilling.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM)

.1 ASTM D698-07e1, Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (600 kN-m/m ^{3}).

.2 OPSS, Ontario Provincial Standard Specification.

1.3 EXISTING CONDITIONS

.1 Existing school including all foundations and site services etc. are to be removed as part of this contract.

.2 Scope of this section pertains to all aspects listed below in conjunction with take-over of previously rough grading site.

.3 Refer to Geotechnical Report for information on site prior to engineered fill be placed on site.

.4 Fill documentation is available for reference.

.5 Contractor is responsible to quantify all on-site material to achieve design grades and is responsible for the importation or exportation of material from the site as required.

.6 Known underground and surface utility lines and buried objects are indicated on survey. Confirm exact locations of utility lines and buried objects prior to machine excavation or grading.

.7 Refer to dewatering in Section 31 23 10 - Excavating Trenching and Backfilling.

1.4 PROTECTION

.1 Protect and/or transplant existing trees, landscaping, natural features, bench marks, pavement, surface or underground utility lines which are to remain as directed by Consultant. If damaged, restore to original or better condition unless directed otherwise.

.2 Maintain access roads to prevent accumulation of construction related debris on roads.

Part 2 Products

2.1 MATERIALS

.1 Refer to Specification Section 31 23 10 'Excavating, Trenching and Backfilling' for fill descriptions.

Part 3 Execution

3.1 GRADING

.1 The Contractor shall use the information shown on the site and grading drawings, the Geotechnical Report, as well as the information observed during visits to the site during the Tender Period, as the basis for the "Existing Conditions" of the site.

.2 Contractor is responsible to quantify all on-site material to achieve grades noted on Grading Plan and is responsible for the importation or exportation of material from the site as required.

.3 Rough grade to levels, profiles, and contours allowing for surface treatment as indicated. **Ensure that rough grading operations do not promote water ponding in construction areas.**

.4 Grade to prevent water ponding on site during construction period. Create additional ditches, swales, slopes etc. as required by Municipal Authorities for control of drainage and sedimentation.

.5 Perform construction grading to allow proper construction access to the work.

.6 Grade swales and ditches to depths as indicated.

.7 Do not disturb soil within branch spread of trees or shrubs to remain.

3.2 TESTING

.1 Inspection and testing of soil compaction will be carried out by testing agency hired by the owner.

.2 Tests to be conducted on imported engineered fill and provided by a ULC designated laboratory **prior** to bringing to and placing on the site.

.3 Costs of tests will be paid under a Cash Allowance. Refer to Section 01 11 00 – Summary of Work.

.4 Submit testing procedure, frequency of tests, testing laboratory as designated by ULC or certified testing personnel to Consultant for approval and review.

3.3 SURPLUS MATERIAL

.1 Remove surplus material from the demolition and excavation of foundations from the site. Do not use as backfill material.

END OF SECTION

Part 1 General

1.1 GENERAL REQUIREMENTS

.1 This specification includes: supply and installation and maintenance of silt fence barriers in accordance with the guidelines outlined below in areas as indicated on the construction drawings prior to commencing excavation operations in those areas.

1.2 RELATED SECTIONS

.1 All subsequent work

1.3 QUALITY ASSURANCE

.1 The installation of the siltation fence shall be performed by the contractor or agent of the Consultant who has experienced personnel using standard siltation fencing material as specified below.

1.4 WARRANTY & MAINTENANCE

.1 Guarantee that siltation fence remains in place prior to and during all construction operations. Any damage that occurs to the siltation fencing during construction shall be repaired immediately upon discovery of the damage.

Part 2 Products

2.1 SILT FENCE SUPPLY REQUIREMENTS

.1 The silt fence fabric shall be approved as identified on the Contractor's Base Bid Product Sheet or be approved for use by the Consultant to qualify for purchase.

.2 The stakes shall be of sufficient strength to satisfy silt fence barrier performance and maintenance requirements. The stakes shall be a minimum of 1.2 metres in length with a maximum spacing of 2.5 metres between stakes, or as shown on the Erosion and Sediment Control drawings.

Part 3 Execution

3.1 INSTALLATION

.1 The Contractor shall install silt fences in the road ditches and toe of slopes as indicated on the Construction Drawings. The fences shall be installed prior to the start of construction, placement of embankment or once any ditches have been excavated to design. The silt fence shall be installed to prevent sediment from passing from one side of the barrier to the other.

.2 Posts shall be spaced a maximum of 2.5 m apart, and shall be driven vertically into the ground to a minimum depth of 600 mm.

.3 A trench measuring approximately 200 mm wide by 200 mm deep shall be excavated along the entire line of stakes. The trench shall be on the side of the stakes where grading work is to be conducted.

.4 The geotextile from the silt fence shall extend into the trench a minimum of 300 mm. The prefabricated silt fence shall be installed without sags and have an overlap of 450 mm wherever its length is extended.

.5 The trench shall be backfilled and tamped to existing grade so as to hold the base of the geotextile firmly in place. The completed silt fence barrier shall have a minimum height of 600 mm above the ground surface.

3.2 MAINTENANCE

.1 All silt fences shall be inspected immediately after runoff event and at least daily during prolonged rainfall. Any required repairs shall be made immediately. The silt fence barriers shall be maintained in place, without gaps, and without undermining, so as to prevent sediment passage through or under the barrier. Silt fence barriers shall be maintained vertical without tears and without sagging and maintain a 450 mm overlap on seams.

.2 Accumulated sediment shall be removed at the discretion of the Contractor in a manner that avoids escape to the downstream side of the barriers. Sediment shall be removed to the level of the grade existing at the time of barrier installation and shall conform to the following:

a) Accumulated sediment shall be removed when it reaches a depth of one-half the height of the silt fence barrier;
b) Accumulated sediment shall be removed as necessary to perform maintenance repairs;
c) Accumulated sediment shall be removed immediately prior to the removal of the silt fence.

3.3 REMOVAL

.1 Silt fence barriers shall be removed when, in the opinion of the Engineer, the measure is no longer required. In the event that the silt fence barrier is required after the Contractor has left the project, the Consultant will arrange for the removal of the silt fence.

Silt fence barriers shall be removed in a manner that:

a) Avoids entry of equipment, other than hand held equipment, to any water course; and

b) Prevents release of sediment and debris to any water course.

c) Areas disturbed by the installation and removal shall be restored to the original grade or to the satisfaction of the Engineer and seeded.

.2 Method of Measurement: The length of silt fence barrier installed will be determined by lineal measurement once the silt fence barrier is installed.

.3 Basis of Payment: The unit price for "Silt Fence Barrier" will be payment in full for supplying, installing, and maintaining the pre-fabricated silt fence barrier with the following exceptions:

a) Sediment removal will be paid for hourly in accordance with the unit price for the equipment used.

b) Where, in the opinion of the Contractor or Consultant, damage to the silt fence barrier has not resulted from the Contractor's operation or from failure to provide maintenance and sediment removal as specified, repair of damage to silt fence barriers will be paid for on a basis of Extra Work.

c) If the removal of the silt fence is required, removal will be paid for on the basis of Extra Work.

END OF SECTION

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

.1 Division One, General Requirements is part of this Section and shall apply as if repeated here.

1.2 REFERENCES

.1 Tree Protection Policy and Specification for Construction Near Trees, City of Toronto, Parks, Forestry & Recreation, Urban Forestry, July 2016.

.2 Toronto Urban Forestry, Tree Protection Barrier, Detail TP-1, February 2016.

.3 Migratory Bird Convention Act, 1994.

.4 Ontario Provincial Standard Drawing, OPSD 219.130 Heavy Duty Silt Fence Barrier.

.5 Arborist Report, prepared by R.J. Burnside & Associates Limited, dated August 2023.

.6 Tree Protection Plans, TPP & TPP1-TPP5, prepared by R.J. Burnside & Associated Limited, dated January 10, 2025.

.7 Natural Heritage Impact Assessment, prepared by R.J. Burnside & Associates Limited, Dated August 2023.

1.3 SCHEDULING

.1 Obtain approval from Consultant of schedule indicating commencement of work.

.2 No tree removal or injury is permitted to take place during the migratory bid nesting window as defined by the Migratory Bird Convention Act, 1994, between April 1st and August 31st of any given year.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide monthly written reports on maintenance during warranty period, to Consultant identifying:

.1 Maintenance work carried out.

.2 Development and condition of plant material.

.3 Preventative or corrective measures required which are outside Contractor's responsibility.

1.5 QUALITY ASSURANCE

.1 Contractor

.1 The Contractor shall carry out all works to proper arboricultural and horticultural standard practices.

.2 The Contractor shall ensure that the hoarding is erected beyond the drip line of the trees and root systems of the trees to be protected.

.3 The Contractor shall supervise all work in this section including implementation and maintenance until final acceptance.

.4 Comply with all municipal standard requirements for tree protection and drawing details.

1.6 MAINTENANCE DURING WARRANTY PERIOD

.1 From time of acceptance by Urban Forestry to end of warranty period, perform following maintenance operations, if recommended by Consultant.

.1 Water to maintain soil moisture conditions for optimum growth and health of plant material without causing erosion.

.2 Remove dead, broken or hazardous branches from plant material to proper arboricultural and horticultural standard practices.

.3 Apply mulch over root zone.

PART 2 PRODUCTS

2.1 MATERIALS

.1 Burlap: Type 2, biodegradable

.2 Silt Protection: Terrafix 270R or approved equivalent and 19mm crushed clear stone.

.3 Tree Protection Barriers

.1 Wood Frame: 2x4" pressure treated lumber.

.2 Solid Board Hoarding: 2.4m ht. solid plywood attached to posts with galvanized nails.

.3 Visibility Hoarding: 1.2m ht. orange plastic snow fencing attached to posts with 9 gauge wire or galvanized nails.

.4 Tree Protection Barriers:

.1 For trees on private property situated on or adjacent to construction sites:

Tree protection barriers must be installed around trees to be protected using 2.4m (8ft.) high plywood clad hoardings or an equivalent approved by Urban Forestry. All supports and bracing to safely secure the barrier should be outside the Tree Protection Zone (TPZ). All such supports and bracing should minimize damage to roots outside the TPZ. Where the branch(es) of a tree are lower than 2.4m (8ft.) the hoarding shall, within the vicinity, be a height to just below such branch(es).

.4 Tree Protection Signage:

.1 A sign may be required to be mounted on all sides of a tree protection barrier for trees protected by the Private Tree By-law.

.1 The sign should be a minimum of 40cm x 60cm and made of white corrugated plastic board or equivalent material.

.2 The sign may also be acquired from Urban Forestry Tree Protection and Plan Review (TPPR) district service counters.

PART 3 EXECUTION

3.1 TREE REMOVAL AND INJURY PERMITS

.1 Ensure necessary removal and injury permits are in place prior to the commencement of work.

.2 No tree removal or injury is permitted to take place during the migratory bid nesting window as defined by the Migratory Bird Convention Act, 1994.

3.2 IDENTIFICATION AND PROTECTION

.1 Tree protection to be installed prior to the start of any on site work.

.2 Identify plants, condition of plants, and limits of root systems to be preserved to satisfaction of Consultant. Report any discrepancy in plant condition and preservation status to prior to any removal.

.3 Protect plant and root systems from damage, compaction and contamination resulting from construction by erecting Tree Protection Barrier as shown on TP.1 Tree Preservation Plan to the satisfaction of Consultant and Urban Forestry.

.1 Install tree preservation hoarding as per preservation plans and submit images of each location to Consultant and Urban Forestry for review and approval prior to commencement of site works.

.4 Ensure no root pruning is done inside drip line. If pruning inside drip line is required consult an ISA Certified arborist or Canadian Certified Horticultural Technician (CCHT) as approved by Consultant and Urban Forestry.

3.3 TREE PROTECTION ZONE

.1 Except where authorized by Urban Forestry, any activity which could result in injury or destruction of a protected tree, is prohibited within a Tree Protection Zone (TPZ), including, but not limited to, any of the following examples:

.1 Demolition, construction, replacement or alteration of permanent or temporary buildings or structures, parking pads, driveways, sidewalks, walkways, paths, trails, dog runs, pools, retaining walls, patios, decks, terraces, sheds or raised gardens.

.2 Installation of large stones or boulders.

.3 Altering grade by adding or removing soil or fill, excavating, trenching, topsoil or fill scraping, compacting soil or fill, dumping or disturbance of any kind.

.4 Storage of construction materials, equipment, wood, branches, leaves, soil or fill, construction waste or debris of any sort.

.5 Application, discharge or disposal of any substance or chemical that may adversely affect the health of a tree e.g. concrete sluice, gas, oil, paint, pool water or backwash water from a swimming pool.

.6 Causing or allowing water or discharge, to flow over slopes or through natural areas.

.7 Access, parking or movement of vehicles, equipment or pedestrians.

.8 Cutting, breaking, tearing, crushing, exposing or stripping tree's roots, trunk and branches.

.9 Nailing or stapling into a tree, including attachment of fences, electrical wires or signs

.10 Stringing of cables or installing lights on trees.

.11 Soil remediation, removal of contaminated fill.

.12 Excavating for directional or micro-tunnelling and boring entering shafts.

If possible, these prohibitions should also be implemented outside the TPZ in areas where tree roots are located. The roots of a tree can extend from the trunk to approximately 2-3 times the distance of the dripline.

3.4 ARBORICULTURAL WORK

.1 Any roots or branches which extend beyond the tree protection zone(s) indicated on the Tree Protection Plan which require pruning, and trees which require transplanting, must be performed by a Qualified Arborist or other tree professional as approved by Urban Forestry. All work performed on tree roots and branches must be in accordance with good arboricultural standards. The Arborist/tree professional must contact Urban Forestry no less than 48 hours prior to conducting any specified work.

Any questions should be directed to:

City of Toronto Urban Forestry

Etobicoke York District

END OF SECTION

Part 1 General

1.1 GEOTECHNICAL INVESTIGATION

.1 A copy of the following Geotechnical Investigations of the Site is enclosed in Specification Binder C.

.2 Note the geodetic elevations of the geotechnical report, survey and the proposed final grades on the tender documents.

PROJECT NAME: **Geotechnical Exploration**
Bishop Allen Academy Secondary School
Etobicoke, Ontario
Prepared by: Cambium Inc.
Date: October 25, 2022

PROJECT NAME: **Hydrogeological Assessment Report**
Bishop Allen Academy Secondary School
Etobicoke, Ontario
Prepared by: Cambium Inc.
Date: February 22, 2024

PROJECT NAME: **Hydrovac Excavation Works to Exposed Potential Underground Storage Tank (UST)**
Bishop Allen Academy Secondary School
Etobicoke, Ontario
Prepared by: Cambium Inc.
Date: October 7, 2022

PROJECT NAME: **Phase I Environmental Site Assessment**
Bishop Allen Academy Secondary School
Etobicoke, Ontario
Prepared by: Cambium Inc.
Date: March 10, 2022

PROJECT NAME: **Phase II Environmental Site Assessment**
Bishop Allen Academy Secondary School
Etobicoke, Ontario
Prepared by: Cambium Inc.
Date: July 7, 2022

1.2 DISCLAIMER

.1 The Geotechnical Report is not part of the Contract Documents prepared by the Architect or his sub consultants. It is bound into the Specifications set for convenient reference only. The Geotechnical report was not prepared by or under the supervision of the Architect. While every effort has been made to attempt to provide comprehensive geotechnical information for the purposes of design and tendering, the Architect claims no responsibility for the accuracy of the information contained in the report.

.2 Refer to Section 00 21 13 – 'Instruction to Bidders', article 1.24-Examination of the Site.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Geotechnical Exploration - Bishop Allen Academy - 721 Royal York Road, Etobicoke, ON

October 25, 2022

Prepared for:
Hossack & Associates Architects

Cambium Reference: 14560-001

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1.0 Introduction

Cambium Inc. (Cambium) has been retained by Hossack & Associates Architects (the "Client"/ "Hossack") on behalf of the Toronto Catholic District School Board ("TCDSB") to provide geotechnical consulting services in support of the design of a new school building to be located at 721 Royal York Road (the "Site") in Etobicoke, Ontario. The location of the project is shown on the Site Location Plan, Figure 1 attached. The terms of reference for the geotechnical consulting services were included in Cambium's proposal No. 14560-001, dated January 17, 2022. Authorization to proceed with the investigation was received in the form of an email from the Client on February 10, 2022.

The purpose of the field work and testing was to obtain information on the general subsurface soil and groundwater conditions at the site by means of a limited number of boreholes and laboratory tests. Based on an interpretation of the data available for this site, this report provides engineering comments, recommendations, and parameters for the geotechnical design aspects of the project, including selected construction considerations which could influence design decisions. It should be noted that this report addresses only the geotechnical (physical) aspects of the subsurface conditions at the site. The geo-environmental (chemical) aspects, including the consequences of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources, are beyond the terms of reference for this assignment and are not addressed herein. The hydrogeological and environmental reports for the proposed development will be submitted separately.

This report provides the results of the geotechnical exploration and testing and should be read in conjunction with the *"Standard Limitations"* in Section 10.0 which forms an integral part of this document. The reader's attention is specifically drawn to this information, as it is essential for the proper use and interpretation of this report. The data, interpretations and recommendations contained in this report pertain to a specific project as described in the report and are not applicable to any other project or site location. If the project is modified in concept, location or elevation, or if the project is not initiated within eighteen months of the

date of the report, Cambium should be given an opportunity to confirm that the recommendations in this report are still valid.

2.0 Site and Project Description

The site is located at municipal address 721 Royal York Road, Etobicoke, Ontario, as shown on the Borehole Location Plan, Figure 2 attached. The site is bordered by Royal York Road on the west, residential houses on the south, and Mimico Creek ravine on the north and east sides. The irregularly shaped site is currently occupied by the two-storey Bishop Allen Academy building located in the northeast portion of the site. The existing building is a slab-on-grade building. The remainder of the site is used for associated at-grade parking with a football field and outdoor running track on the south side of the property. The topographic survey of the site provided by the client generally indicates that the site is flat with elevations ranging from about 110 metres above sea level (masl) to 108 masl from west to east (to top of the existing slope).

The existing Mimico Creek ravine slope along the north and east sides of the site ranges in elevation from about 109 masl to 108 masl at the top of slope and the toe of the slope from about 102 masl to 93 masl, in the general north to south direction.

At the time of preparing this report, the conceptual information available for the proposed development indicated that the new school building will be constructed within the existing building footprint after it is demolished. The new school building will be a two to three storey slab-on -grade structure. In some areas the floor slab will be about 600 millimetres (mm) below finished grade.

3.0 Methodology

The geotechnical field investigation for this current assignment was carried out from March 15 to 18, 2022, during which time twenty-three boreholes (designated as BH101-22 to BH125-22) were advanced at the site. Boreholes BH108-22 and BH115-22 were not drilled due to access issues. However, a test pit was excavated at the location of BH115-22. The boreholes for the investigation were drilled using standard track and truck-mounted drill rig supplied and operated by Terra Firma Environmental Services of Toronto, Ontario, subcontracted to Cambium.

In addition, seven test pits (designated as TP115-22, TP126-22 to TP131-22) were excavated using a backhoe excavator on March 18, 2022, to determine the extent of the fill. The test pits could not be advanced adjacent to the foundations of the existing building due to access issues and utility conflicts.

A summary of the current geotechnical drilling program is presented below in Table 1. The approximate borehole locations are shown on the Borehole Location Plan, Figure 1, attached. The results of the subsurface investigation are presented on the Log of Borehole sheets in Appendix A and the results of geotechnical laboratory testing in Appendix B.

Table 1 Drilling Program

Borehole ID / Test Pit ID	Ground Surface Elevation (masl)	Borehole / Test Pit Depth (mbgs*)	Finished Elevation (masl)	Notes
BH101-22	109.87	7.6	102.3	50-mm monitoring well
BH102-22	110.17	6.1	104.1	
BH103-22	110.17	6.1	104.1	
BH104-22	109.80	7.7	102.1	
BH105-22	110.14	7.7	102.4	
BH106-22	110.28	7.7	102.6	
BH107-22	110.18	7.9	102.3	
BH108-22				Not drilled
BH109-22	109.88	7.7	102.2	50-mm monitoring well
BH110-22	109.06	7.7	101.4	
BH111-22	108.60	7.0	101.6	
BH112-22	108.26	6.7	101.6	
BH113-22	107.93	7.5	100.4	
BH114-22	110.27	7.8	102.5	50-mm monitoring well
BH115-22				TP115-22 excavated instead
BH116-22	111.12	8.0	103.1	
BH117-22	110.02	6.6	103.4	50-mm monitoring well
BH118-22	109.30	7.8	101.5	
BH119-22	107.69	7.7	100.0	50-mm monitoring well
BH120-22	108.33	7.6	100.7	
BH121-22	108.85	6.6	102.2	
BH122-22	107.95	7.9	100.1	
BH123-22	108.22	7.3	100.9	
BH124-22	108.56	7.6	101.0	
BH125-22	109.01	7.0	102.0	
TP115-22	110.91	2.6	108.3	
TP126-22	109.67	2.6	107.1	
TP127-22	109.64	2.6	107.0	
TP128-22	110.46	2.6	107.9	
TP129-22	110.17	2.6	107.6	
TP130-22	109.97	2.4	107.6	
TP-131-22	108.86	1.5	107.4	

**m below ground surface*

Standard Penetration Testing (SPT) and sampling were carried out at regular intervals of depth in the geotechnical boreholes using conventional 38-millimetre (mm) internal diameter split spoon sampling equipment driven by an automatic hammer in accordance with the SPT procedures outlined in ASTM International standard D1586: “Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils”. The split-spoon samplers used in the investigation limit the maximum particle size that can be sampled and tested to about 40 mm. Therefore, particles or objects that may exist within the soils that are larger than this dimension were not sampled and are not represented in the grain size distributions contained herein. The results of the field tests (i.e., SPT “N” -values) as presented on the Record of Borehole sheets and in subsequent sections of this report are the values measured directly in the field and are unfactored.

The SPT N values are used in this report to assess consistency of cohesive soils and relative density of non-cohesive materials. Soil samples were collected at approximately 0.75 m intervals up to a depth of 3.0 mbgs and at 1.5 m intervals thereafter.

Groundwater conditions were noted in the open boreholes during and upon completion of drilling and monitoring wells were installed in five boreholes in this investigation (see Table 1, above) following the completion of drilling to allow for subsequent groundwater measurements and hydrogeological testing. The monitoring wells consisted of a 50-mm diameter PVC riser pipe, with a slotted screen sealed at a selected depth within the borehole. A sand filter pack surrounded the screen, and above the screen the borehole and annulus surrounding the riser pipe were backfilled to the surface with bentonite. The well installation details, and groundwater level readings are presented on the Record of Borehole sheets in Appendix A. Boreholes without monitoring wells were backfilled with bentonite and cuttings upon completion in accordance with the requirements of the Revised Regulations of Ontario (R.R.O.) 1990, Regulation 903 (as amended) of the Ontario Water Resources Act.

The field work for this investigation was observed by members of Cambium’s technical staff, who located the boreholes in the field, arranged for the clearance of underground utilities, observed the borehole drilling, sampling and in situ testing operations, logged the boreholes as well as examined and took custody of the recovered soil samples. The samples were identified

in the field, placed in appropriate containers, labelled, and transported to our Peterborough geotechnical laboratory for further visual examination by the project engineer and for laboratory testing.

Index and classification tests, consisting of water content determinations and gradation analyses, were carried out on selected soil samples and the results are presented in Appendix B and also on the Log of Borehole sheets in Appendix A.

The geodetic ground surface elevations at the borehole locations were measured using a Sokkia RTK GPS system related to Geodetic Datum CGVD28:PRE78. The measurements were based on City of Toronto Benchmark No. 12519671098 which had a given elevation of 110.518 m, and as such, the elevations given on the Log of Borehole sheets and referred to herein should be considered to be approximate. The borehole locations were referenced to existing prominent site features and plotted on the plan provided in the preparation of Figure 2, Borehole Location Plan. As such, the borehole locations shown on Figure 2 attached should also be considered to be approximate.

To characterize the bedrock profile along the ravine slope, a geophysical survey was carried out on June 8 and 10, 2022. The purpose of the survey was to determine the bedrock depth on the slope leading to Mimico Creek. The details of the geophysical testing and the results are provided in a report in Appendix D.

4.0 Site Geology and Stratigraphy

4.1 Regional Geology

The surficial geology aspects of the general site area were reviewed from the following publications:

- Chapman, L.J., and Putnam, D.F., 2007, “The Physiography of Southern Ontario”; 4th Edition, Ontario Geological Survey; and
- Sharpe, D.R., 1980. Quaternary Geology of Toronto and Surrounding Area; Ontario Geological Survey Preliminary Map P. 2204, Geological Series. Scale 1:100,000.

Physiographic mapping in the area according to the above-noted reference indicates that the site lies within the physiographic region of southern Ontario known as the Iroquois Plain. The Iroquois Plain region covers the border of the lake shore extending from the City of Trenton in the east to the City of St. Catharines in the southwest. The Iroquois Plain refers to an area of lowlands that border the present-day Lake Ontario which was formed within the basin of Glacial Lake Iroquois which was a larger and higher version of Lake Ontario. Lake Iroquois sediments consist both of granular soils (silt and sand) and finer-grained silt and clay soils. Apart from the naturally deposited soils within the study area, fills such as engineered fills and landscape fills are to be expected within the study area. The overburden within the Iroquois Plain in the vicinity of the study area is underlain by shale bedrock of the Georgian Bay Formation which contains limestone interlayers. Surface and groundwater flow is predominantly to the south toward Lake Ontario.

The surficial geology mapping indicates that the site lies close to regions consisting of Lake Iroquois, shallow-water deposits of sand, silty sand and modern river deposits of sand, silt, minor gravel, and organic material close to the water course.

The subsurface conditions encountered during the investigation were generally consistent with the physiographic and surficial geological mapping.

4.2 Subsurface Conditions

The detailed soil profiles encountered in the boreholes are shown on the attached borehole logs in Appendix A. Conditions indicated on the borehole logs are for specific locations only and can vary between and beyond the borehole locations. The soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations during drilling. These boundaries are intended to reflect approximate transition zones and should not be interpreted as exact planes of geological change. In addition, the descriptions provided on the borehole logs are inferred from a variety of factors, including visual observations of the soil samples retrieved, laboratory testing, measurements prior to and after drilling, and the drilling process itself (such as drilling speed and shaking/grinding of the augers).

Based on the results of the borehole investigation, subsurface conditions at the Site generally consist of topsoil or pavement structure overlying near surface fill. The fill is underlain by interlayered non-cohesive deposits of varying constituents followed by cohesive deposits including glacial till and residual soils. Shale bedrock was encountered in the majority of boreholes.

Assessments of organic matter content or other topsoil quality tests were beyond the scope of this study.

The subsurface soil and groundwater conditions encountered in the boreholes drilled at the site are described in the following sections.

Please note that:

- Depths given in the table describing the subsurface conditions are measured from ground surface;
- The SPT “N”-values given are blows for 0.3 m of penetration unless otherwise indicated; and
- In some boreholes, the presence of cobbles and boulders was inferred within the glacial till deposits due to rock fragments in the split spoon samples or due to bouncing of the split spoon during sampling.

A summary of the encountered soil conditions is presented below in Table 2.

Table 2 Summary of Soil Properties

Stratigraphy	Depth (mbgs)		Elevation (masl)		SPT "N" Values	Consistency / State	Approximate Water Content (%)	Notes
	From	To	From	To				
Asphalt	0	50mm to 200mm	-	-	-	-	-	BH101-22 to BH110-22, BH114-22, BH120-22 & BH124-22
Topsoil	0	125mm to 300mm	-	-	-	-	-	Boreholes, BH111-22, BH112-22, BH113-22, BH117-22, BH118-22, BH121-22 & BH122-22
Non-cohesive Fill	0 to 0.3	0.2 to 4	107.7 to 111.1	105.3 to 110.4	2 to 29	Very loose to compact	3 to 25	Localized cohesive fill was encountered in BH105-22
Non-cohesive Deposits	0.2 to 3.2	2.9 to 7.1	105.6 to 110.4	100.9 to 107.0	4 to 50/150mm	Very loose to very dense but generally compact	2 to 27	Encountered in all boreholes except BH118-22. "N" value of 4 was measured in BH116-22
Cohesive Deposits	2.9 to 7.1	5.6 to 8.1	100.9 to 107.0	100.0 to 104.4	3 to 50/50mm	Soft to hard but generally very stiff to hard	6 to 22	Encountered in all boreholes except BH124-22
Bedrock	5.6 to 7.9			100.0 to 104.4				All the boreholes terminated in inferred bedrock except for BH109-22, BH110-22, BH116-22, BH117-22 and BH122-22.

mbgs = m below ground surface

Please note:

- The SPT “N” values in the non-cohesive deposits generally increase with depth. The SPT “N”-value of 4 was measured in BH116-22 immediately after the near surface fill.
- The non-cohesive deposits consist of silty to sandy silt, sand to silty sand, gravelly silty sand, sand and gravel to gravel. The gravelly silty sand, sand and gravel to gravel deposits were encountered in BH113-22, BH114-22, BH117-22, BH119-22, BH120-22, BH122-22 and BH124-22.
- The cohesive deposits consist of silty clay and silty clay till / residual soil. The glacial till deposits or residual soils were encountered in the boreholes overlying the shale bedrock except in BH103-22, BH104-22, BH118-22, BH121-22, BH124-22 and BH125-22.

4.3 Geotechnical Laboratory Testing

The results of Atterberg limits tests carried out on selected soil samples are presented in Appendix B. A summary of the results is presented below in Table 3.

Table 3 Results of Atterberg Limits Testing

Borehole ID	Sample Number	Liquid Limit %	Plastic Limit %	Plasticity Index %
BH102-22	6	21.0	14.1	6.9
BH119-22	7	25.7	14.9	10.8
BH125-22	6	19.2	13.1	6.0

The gradation curves of selected samples are also included in Appendix B.

4.4 Groundwater Conditions

Groundwater level measurements for the current investigation were collected at the Site on April 7 and May 16, 2022. The groundwater level was measured at each well with an electronic water level tape, which was cleaned between well locations. Table 4, below, summarizes the groundwater level measurements collected to date.

Table 4 Groundwater Level Measurements

Borehole ID	Measurement Date	Water Level (mbgs)	Water Level (masl)
BH101-22	07-Apr-22	3.13	106.74
	16-May-22	2.92	106.95
BH109-22	07-Apr-22	3.31	106.57
	16-May-22	3.23	106.65
BH114-22	07-Apr-22	5.38	104.89
	16-May-22	4.45	105.82
BH117-22	07-Apr-22	dry	N/A
	16-May-22	dry	N/A
BH119-22	07-Apr-22	3.07	104.62
	16-May-22	3.12	104.57

The measured groundwater levels reflect the groundwater conditions in the boreholes at the time of the field work as indicated in the table above. Groundwater levels at the site are anticipated to vary between and beyond the borehole locations and to fluctuate on a seasonal basis and in response to significant precipitation or snowmelt events.

5.0 Geotechnical Design Considerations

This section of the report provides engineering information and recommendations for the geotechnical design aspects of the project based on our interpretation of the borehole information, the laboratory test data and on our understanding of the project requirements. The following recommendations are provided to assist designers. It is possible that subsurface conditions beyond the borehole locations may vary from those observed. Recommendations should not be construed as providing instructions to contractors, who should form their own opinions about site conditions. Contractors bidding on or undertaking any work at the Site should examine the factual results of the investigation, satisfy themselves as to the adequacy of the information for construction and make their own interpretation of the factual data as it affects their proposed construction techniques, schedule, equipment capabilities, costs, sequencing and the like. If significant variations are found before or during construction, Cambium should be contacted so that we can reassess our findings, if necessary. Cambium will not assume any responsibility for construction-related decisions made by contractors on the basis of this report.

5.1 Site Preparation

Any topsoil and other disturbed material encountered should be excavated and removed from within the footprint of structural elements or settlement sensitive structures. Any topsoil and materials with significant quantities of organics and deleterious materials (i.e., construction debris, etc.) are not appropriate for use as fill.

The exposed subgrades should be proof-rolled and inspected by a qualified geotechnical engineer prior to placement of any granular fill. Any loose/soft soils identified at the time of proof-rolling that are unable to uniformly be compacted should be sub-excavated and removed. The excavations created through the removal of these materials should be backfilled with approved engineered fill consistent with the recommendations provided below.

Complete removal of any existing septic systems, wells, old foundations, etc. would also be required as part of the Site redevelopment. The zone of influence of the proposed footings can

be defined as any line drawn from the underside edge of the footing down and away at 45˚ angles to the horizontal.

Proposed building foundations, floor slabs, pavements or other settlement-sensitive structures may be supported on approved native undisturbed compact soils that are free of organics and other deleterious materials or on approved engineered fill materials.

The near surface sand to sandy silt soils can become unstable if they are wet or saturated. Such conditions are common in the spring and late fall. Under these conditions, temporary use of granular fill, and possible reinforcing geotextiles, may be required to prevent severe rutting on construction access routes.

5.2 Engineered Fill

Engineered fill may be required to support structural elements such as foundations and / or floor slabs depending on the extent of existing fill removal or removal of the existing structures on site. The following is recommended for the construction of engineered fill:

1. Prior to placing engineered fill on site, all of the topsoil and disturbed native, or deleterious materials within the limits of the engineered fill must first be removed to the competent subgrade.
2. The area of the engineered fill should extend horizontally 1 m beyond the outside edge of the foundations then extend downward at a 1H:1V slope to the competent approved native soil.
3. The subgrade or base of the engineered fill area must be approved by Cambium prior to placement of any new fill, to ensure that suitability of subgrade condition. The area(s) should then be proof-rolled in conjunction with an inspection by Cambium to confirm that the exposed soils are native, undisturbed and competent, and have been adequately cleaned of ponded water and all disturbed, loosened, softened, organic and other deleterious material. Some of the localized near-surface loose/soft soils will also likely need to be removed prior to placement of engineered fill as directed by Cambium during proof-rolling.

4. Materials for reuse as engineered fill must be approved by Cambium prior to placement. In this regard, approved disturbed native or the native soil which are near their optimum water contents and do not contain topsoil or organics or any other deleterious materials can be reused on Site as engineered fill. The materials for use as engineered fill must be maintained within about 2 percent of optimum water content for compaction. Based on the measured natural water contents, most of the native sandy soils are generally moist to wet and may require drying during engineered fill construction. Their actual water content will need to be assessed in comparison to the laboratory optimum water contents for compaction at the time of construction.
5. If native soils from the site are not used as engineered fill, imported material for engineered fill should consist of clean, non-organic soils, free of chemical contamination or deleterious material. Imported materials to be used for engineered fill must be approved by Cambium at the source(s), prior to hauling to the Site. In this regard, imported sandy materials which meet the requirements for OPSS 1010.MUNI SSM or Granular ‘B’ Type I material at a moisture content at or near optimum moisture would be suitable for use as engineered fill. In any event, the approved materials for engineered fill should be placed in maximum 300 mm loose lifts and uniformly compacted to 100% of standard Proctor maximum dry density (SPMDD) throughout. Any frost penetration into the fill material must be removed prior to placement of subsequent lifts of fill and reviewed by Cambium.
6. Full time testing and inspection of the engineered fill will be required for it to be used as a founding material, as outlined in Section 4.2.2.2 of the Ontario Building Code.
7. To account for varying founding soils, the footings and foundation walls should be suitably reinforced to mitigate potential settlement cracking.
8. The final surface of the engineered fill should be protected as necessary from construction traffic, ponded water and freezing, and should be sloped to provide positive drainage for surface water during and following the construction period. During periods of freezing weather, additional soil cover should be placed above final subgrade to provide frost protection.

5.3 Frost Penetration

Based on OPSD3090.101, the maximum frost penetration depth below the surface at the site is estimated at 1.2 mbgs. Exterior footings for the proposed structures should be situated at or below this depth for frost penetration or should be appropriately protected.

It is assumed that the pavement structure thickness will be less than 1.2 m, and as a result grading and drainage are important for good pavement performance and life expectancy. Any services should be located below this depth or be appropriately insulated.

5.4 Foundation Design

5.4.1 Foundations on Native Soil

Consideration may be given to supporting the proposed building on conventional spread/strip footings founded in the competent, native and undisturbed deposits as described below in Table 5.

Table 5 Anticipated Founding Soils for Shallow Foundations

Borehole ID	Minimum Footing Base Depth (m)	Maximum Footing Base Elevation (masl)	Anticipated Founding Materials
BH101-22	2.5	107.4	Compact sandy silt
BH102-22	3.0	107.2	
BH103-22	1.5	108.7	Compact silty sand
BH104-22	1.5	108.3	Dense silty sand
BH105-22	2.0	108.1	Compact silty sand
BH106-22	2.2	108.1	Compact sand to silty sand
BH107-22	2.0	108.2	Compact sandy silt
BH109-22	2.1	107.8	Compact silty sand
BH110-22	1.5	107.6	
BH111-22	2.2	106.4	
BH112-22	2.2	106.1	Dense sand and gravel
BH113-22	1.5	106.4	Compact sandy silt
BH114-22	3.0	107.3	Compact silty sand
BH116-22	2.2	108.9	Compact sand
BH117-22	2.2	107.8	Compact silty sand
BH118-22	***6.0***	***103.3***	***Stiff silty clay***
BH119-22	1.5	106.2	Very stiff silty clay to clayey silt
BH120-22	1.5	106.8	Compact sandy silt
BH121-22	1.5	107.3	Very dense silty sand
BH122-22	1.5	106.5	Compact silt
BH123-22	1.5	106.7	Compact silty sand
BH124-22	1.5	107.1	Compact silty sand
BH125-22	1.5	107.5	Compact silty sand

All fill, old foundations, other structures organics, and any deleterious materials should be stripped/removed from the proposed development area. The spread/strip footings bearing at the depths/elevations provided above may be designed using the factored geotechnical resistance at Ultimate Limit States (ULS) and the geotechnical reaction at Serviceability Limit States (SLS), for 25 mm of total settlement and 19 mm of differential settlement, provided below in Table 6.

Table 6 Preliminary Recommended ULS and SLS for Spread/Strip Footing Foundations

Spread or Strip Footing Dimensions	Factored Geotechnical Resistance at ULS (kPa)	Geotechnical Reaction at SLS (for 25 mm of settlement) kPa
0.5 m Strip footing	200	150
1.0 m Strip footing		
1 m x 1 m Spread	315	275
2 m x 2 m Spread	340	225
3 m x 3 m Spread	365	150
4 m x 4 m Spread	375	120

All exterior footings and footings in unheated areas should be provided with at least 1.2 m of earth cover after final grading or a thermally equivalent thickness of insulation, in order to address the potential for damage due to frost action.

As the actual soil bearing resistances are related to the actual footing sizes and founding depths, the foundation recommendations must be reviewed by Cambium once the building details are finalized and, as such, the recommendation provided in Table 6 should be considered preliminary. Additionally, the soil resistance and reaction values presented in the above Table 6 are calculated under the assumption that the founding elevations are at least ***1 m*** below the finished slab elevation. Higher bearing resistances (both at ULS and SLS) could be available for greater footing embedment depths and at deeper elevations.

If stepped spread footings are constructed at different founding levels, the difference in elevation between individual footings should not be greater than one half the clear distance between the footings (2H:1V or gentler). Should this not be possible, Cambium should be consulted to provide field inspection to ensure that the footings exceeding the above requirement are stable and the bearing and lateral support for the upper footing is not compromised. In addition, the lower footings should be constructed first so that if it is necessary to construct the lower footings at a greater depth than anticipated, the elevations of the upper footings can be adjusted accordingly. Stepped strip footings, if required, should be constructed in accordance with the latest edition of the Ontario Building Code (2015 OBC), Section 9.15.3.9.

Our foundation recommendations are subject to a key assumption that no former excavation, former or existing underground utility or structure is located within or intercepts the zone of

influence of the proposed footings. The zone of influence of the proposed footings can be defined as any line drawn from the underside edge of the footing down and away at a slope of 1 horizontal to 1 vertical. Complete removal of fill and any existing or remaining foundations from previous structures or any underground utilities, if present, or lowering the founding elevation (if appropriate) may be required subject to the inspection by Cambium during the time of construction.

The founding materials are susceptible to disturbance by construction activities especially during wet weather and care should be taken to preserve the integrity of the materials as bearing strata. Prior to placing concrete for the footings, the foundation excavations must be inspected by Cambium to confirm that the footings are located in a native, undisturbed and competent bearing stratum which has been cleaned of ponded water and loosened or softened material. If the concrete for the footings on the native soil cannot be placed immediately after excavation and inspection (i.e., within 24 hours of excavation and inspection), it is recommended that a working mat of lean concrete be placed in the excavation to protect the integrity of the bearing stratum. The bearing soil and fresh concrete must be protected from freezing during cold weather construction.

5.4.2 Foundations on Engineered Fill

Engineered fill should be placed and constructed as outlined in Section 5.2. Foundations placed on approved engineered fill at a depth at least 1.2 m below final grade, with a minimum fill thickness of 1 m between subgrade/base of foundation and subgrade of imported fill, may be designed using a bearing capacity of 150 kPa at SLS and 200 kPa ULS for spread footings less than 4 m x 4 m in size.

Post-construction settlement will occur following the placement of engineered fill and is estimated to be in the order of 1% of the height of the placed fill. Generally, if granular soil is placed as engineered fill, the settlement will occur within 4 weeks. Foundations for structures should not be constructed until post-construction settlement has been completed.

5.5 Slab-on-Grade Floor

It is anticipated that the floor slab can be designed as a concrete slab-on-grade. The soils at the anticipated slab-on-grade level after removal of the topsoil or pavement structure will generally consist of very loose to compact non-cohesive fill or loose to compact native deposits.

The existing fill is not suitable to support the slab-on-grade and sub-excavation and replacement with engineered fill will be required during slab-on-grade construction within the footprint of the proposed slab as described in the Engineered Fill section.

The exposed subgrade should be proof rolled in conjunction with an inspection by Cambium. Remedial work should be carried out on any softened, disturbed, wet or poorly performing zones as directed by Cambium. Any low areas may then be brought up to within at least 200 mm of the underside of the floor slabs, as required, using Ontario Provincial Standard Specification (OPSS) Granular ‘B’, Type I material or other approved material, placed in maximum 200-mm thick loose lifts and uniformly compacted to at least 98 per cent of the material’s Standard Proctor Maximum Dry Density (SPMDD).

The final lift of granular fill beneath floor slabs should consist of a minimum thickness of 200 mm of OPSS Granular ‘A’ material, uniformly compacted to at least 100 per cent of the material’s SPMDD, acting as a moisture barrier. Any filling operations should be inspected and tested by Cambium. Additional Granular ‘A’ material may be needed to provide adequate pipe bedding and cover, depending on the requirements for an under-slab drainage system (see below).

The floor slabs should be structurally separate from the foundation walls and columns. Sawcut control joints should be provided at regular intervals and along column lines to control shrinkage cracking and to allow for differential settlement of the floor slabs.

5.6 Permanent Drainage

At the time of the field investigation in March 2022 and April 2022, the groundwater levels were measured below the anticipated founding level of the slab-on-grade building. Provided that the slab is at or above the surrounding finished grade and that the ground surface slopes away

from the structure at a minimum grade of 2% over the initial 3 m extending laterally outward from the exterior of the foundation wall, no perimeter or under-slab drainage is required. Under-slab drainage may be required if any section of the slab is below the exterior grade. Appropriate damp proofing, if required, is usually designed by the Civil Engineer or Architect.

5.7 Temporary Excavation and Support

All excavations should be carried out in accordance with the Occupational Health and Safety Act (OHSA) and Ontario Health and Safety Regulations for Construction Projects (O. Reg 213). Excavation at this site will extend through the very loose to compact fill and into the underlying loose to compact native deposits. Excavation into the underlying cohesive deposits which includes the till may occur depending on the excavation depth.

It is anticipated that temporary excavations above the groundwater table level will consist of conventional temporary open cuts with side slopes not steeper than 1 horizontal to 1 vertical (1H:1V) for Type 3 soils (loose to compact fill) and 3H:1V for Type 4 soils (encountered at BH111-22), as provisionally classified by Ontario Health and Safety Act and Regulations for Construction Projects (OHSA). For Type 3 soils, the slope should be from the base of the excavation. If excavations will extend below the measured groundwater elevations, adequate dewatering will be required to achieve a Type 3 soil classification. Please note that if the excavation extends below the groundwater table without adequate dewatering, the soil at the face of the excavation would be classified as Type 4 and a maximum side slope inclination of 3H:1V would be required for OHSA compliance. Where the side slopes consist of more than one soil type, the soil shall be classified as the type with the highest number among the types present. Please note that the soil type classifications indicated above are provisional and are subject to change based on field observations of the actual conditions at the time of exposure.

Depending upon the construction procedures adopted by the contractor, actual groundwater seepage conditions, the success of the contractor’s groundwater control methods and weather conditions at the time of construction, some flattening and/or blanketing of the slopes may be required. Care should be taken to direct surface runoff away from the open excavations. Stockpiles of excavated materials should be kept at least the same horizontal distance from the top edge of the excavation as the depth to not negatively impact excavation slope stability,

subject to confirmation by a geotechnical engineer in the field during construction. Care should also be taken to avoid overloading of any underground services / structures by stockpiles. Boulders larger than 0.3 m in diameter, if encountered, should be removed from the excavation side slopes for worker safety.

Conventional hydraulic excavation equipment would be expected to be suitable for excavation in the overburden soils. The glacial till soils at this site below the non-cohesive deposits are glacially derived and as such should be expected to contain cobbles and boulders, which could affect excavations for the buildings and site services. The contractor should be made aware of the potential presence of cobbles and/or boulders within the overburden soils.

The subsoils (fill and native materials) are generally susceptible to disturbance due to construction activities, ponded water, potential groundwater seepage and heavy precipitation. Groundwater seepage into the excavations may also occur from perched groundwater or surface water flow, particularly following significant periods of precipitation. However, for excavations not extending below the groundwater, construction dewatering can likely be achieved using conventional pumping from the excavations using properly filtered sumps located at the base of the excavation outside the bearing areas of any foundation units.

5.8 Backfill

Excavated topsoil from the Site is not appropriate for use as fill below grading areas. Excavated non-cohesive soils not containing organics or significant deposits of clay may be appropriate for use as fill below grading areas, provided that the actual or adjusted moisture content at the time of construction is within a range that permits compaction to required densities. Some moisture content adjustments may be required depending upon seasonal conditions. All existing vegetation, topsoil, organic and non-organic fills, and any loose soils shall be removed down to a competent base. Backfill areas must be approved by a qualified geotechnical engineer prior to placement of any new fill, to ensure the suitability of subgrade conditions.

The soils at this site containing more than about 15% silt are frost susceptible and should not be used as backfill against exterior or unheated foundation elements or below settlement

sensitive structures. To avoid problems with frost adhesion and heaving, these foundation elements should be backfilled with non-frost susceptible sand or sand and gravel conforming to the requirements of OPSS.MUNI 1010 Granular 'B' Type I material.

Backfill adjacent to the structural elements (i.e., foundation walls) should be compacted to 95% of SPMDD taking care not to damage the adjacent structures. The backfill material in the upper 300 mm below the pavement subgrade elevation should be compacted to 100% of SPMDD in all areas.

In areas where pavement or other hard surfacing will abut the building, differential frost heaving could occur between the granular fill immediately adjacent to the building and the more frost susceptible native materials which exist beyond the wall backfill. To reduce the severity of this differential heaving, the backfill adjacent to the wall should be placed to form a frost taper. The frost taper should be brought up to pavement subgrade level from 1.2 m below finished exterior grade at a slope of 3H:1V, or flatter, away from the wall.

5.9 Site Classification for Seismic Site Response

Seismic hazard is defined in the 2012 Ontario Building Code (OBC) by uniform hazard spectra (UHS) at spectral coordinates of 0.2 second, 0.5 second, 1.0 second and 2.0 seconds and a probability of exceedance of 2% in 50 years. The OBC method uses a site classification system defined by the average soil/bedrock properties (e.g., shear wave velocity, Standard Penetration Test (SPT) resistance, undrained soil shear strength, etc.) in the 30 m of the soil profile extending below the foundation level. There are 6 site classes from A to F, decreasing in ground stiffness from A, hard rock, to E, soft soil; with site class F used to denote problematic soils (e.g., sites underlain by thick peat deposits and/or liquefiable/collapsible soils). the site class is then used to obtain acceleration and velocity-based site coefficients F_a and F_v, respectively, used to modify the UHS to account for the effects of site-specific soil conditions in design.

The results of the borehole investigation indicate the average SPT "N"-value below the recommended founding depths (as discussed in Section 5.4) is generally less than 50 blows per 0.3 m of penetration. Based on these results, Site Class D may be used for design. The

site classification may be improved by site-specific testing such as multi-channel analysis of surface waves (MASW) testing.

5.10 Pavement Design

The performance of the pavement is dependent upon proper subgrade preparation. All topsoil and organic materials should be removed down to native material and backfilled with approved engineered fill or native material, compacted to 95% of SPMDD. The backfill material in the upper 300 mm below the pavement subgrade elevation should be compacted to 100% of SPMDD in all areas.

The recommended minimum pavement structure design has been developed for two traffic loading scenarios: light duty and heavy duty. The heavy-duty design is appropriate for areas where heavy traffic is anticipated while the light duty design is appropriate for areas where light traffic is anticipated. As traffic information was not available, it is anticipated that the parking lot will be used by lightly loaded passenger cars and the heavy-duty access roads and driveways will be designed to support fire trucks and waste collection equipment but will not be subject to regular heavy vehicle loading such as daily deliveries. Repair and maintenance work (i.e., crack infilling, asphalt sealing, etc.) will need to be carried out on an as-needed basis to limit pavement degradation and extend the service life of the pavement. The recommended minimum pavement structure is provided in Table 7.

Table 7 Recommended Minimum Pavement Structure

Pavement Layer	Light Duty	Heavy Duty
Surface Course Asphalt[1]	40 mm HL3 or HL4	40 mm HL3 or HL4
Binder Course Asphalt[1]	50 mm HL8	70 mm HL8
Granular Base[2]	150 mm OPSS 1010 Granular A	150 mm OPSS 1010 Granular A
Granular Subbase[2]	300 mm OPSS 1010 Granular B Type 1	450 mm OPSS 1010 Granular B Type 1

Notes:
1 Asphaltic Material shall be in accordance with OPSS 1150 (November 2010)
2 Granular Materials shall be in accordance with OPSS.MUNI 1010 (September 2017)

Material and thickness substitutions must be approved by the Design Engineer.

The thickness of the subbase layer could be increased at the discretion of the Engineer, to accommodate site conditions at the time of construction, including soft or weak subgrade soil

replacement. It should be noted that in some cases, even though the compaction requirements have been met, the subgrade strength may not be adequate to support heavy construction loading especially during wet weather or where subgrade soils are wet of optimum. In this regard, the design subbase thickness may not be sufficient for a construction haul road and additional granular materials (in the order of 300 mm) may be required as determined during construction by the geotechnical engineer.

The subgrade should be proof-rolled and inspected by a qualified geotechnical engineer prior to placing the subbase and additional material placed as required to address the subgrade soil conditions and the anticipated construction traffic. Remedial work (that is, further sub-excavation and replacement) should be carried out on any disturbed, softened or poorly performing areas, as directed by the geotechnical engineer. The fill should be compacted to at least 100% of SPMDD.

Granular layers should be placed in 150 mm maximum loose lifts and compacted to at least 100% of SPMDD. Compaction of the granular materials and subgrade soils should be carried out at a moisture content that is between optimum moisture content and 2 percent of the optimum. The granular materials specified should conform to OPSS standards, as confirmed by appropriate materials testing.

It should be noted that adequate surface and subsurface drainage is critical if the pavement is to provide satisfactory service over the design life, especially considering some of the subgrade soils are moderately to highly frost susceptible. The drainage system could consist of a system of catchbasins connected to continuous subdrains draining to a permanent storm water outlet. In this regard, the asphalt surface should be graded to drain towards the catchbasins, and the subgrade should be carefully proof-rolled to a smooth surface and well sloped towards the catchbasins to prevent ponding or entrapment of water in the subbase which would lead to weakened sections and frost heaved areas. The final asphalt surface should be sloped at a minimum of 2 percent to shed runoff.

Abutting pavements should be sawcut to provide clean vertical joints with new pavement areas. Any undermined or broken edges resulting from the construction activities should be removed by the sawcut.

6.0 Slope Stability Assessment

The slope stability assessment was performed for five critical sections identified as Sections A-A', B-B', C-C', D-D' and E-E', as shown on Figure 2, attached.

6.1 Consideration for Setback Criteria

This setback assessment is based on the geotechnical setback criteria as described in "Technical Guide, River & Stream Systems: Erosion Hazard Limit" document published by the Ontario Ministry of Natural Resources in 2002 ("The Guide"). The geotechnical setback criterion as outlined below is based on the subsurface conditions derived from the boreholes and slope geometry as established by the review of the existing slope conditions, subsurface investigation and take into account slope stability and erosion considerations.

The overall setback distance (Erosion Hazard Limit) is comprised of three components:

1) Toe Erosion Allowance

2) Geotechnical Stable Slope Allowance

3) Erosion Access Allowance

The setback required for safety against flood conditions or preservation of vegetation or wildlife is independent of the geotechnical setback criteria proposed. The following are more detailed descriptions of the three components which comprise the overall Erosion Hazard Limit:

- **Toe Erosion Allowance**: The erosion component is dictated by the proximity of the slope toe to a watercourse and the susceptibility of the slope or bank materials to erosion. The magnitude of the erosion component is typically the estimated recession of the slope toe due to erosion over the design life of the development at the crest of the slope and is measured as a horizontal distance from the top of the channel bank.
- **Stable Slope Allowance**: The stability component of the geotechnical setback is dictated by the existing surface and subsurface conditions of the slope such as slope geometry, soil strength, groundwater conditions, conditions of vegetation, and loading at the crest of the slope. The stability component may be derived based on generalized guidelines involving a setback gradient line which is dependent on subsoil stratigraphy and is drawn upward from

the toe of the slope to intersect the tableland. If site-specific subsurface information is obtained to define the soil stratigraphy and design parameters, as is the case for this site, the stability component may be derived from a detailed stability analysis using appropriate analytical methods (as was carried out as part of this assessment).

- **Erosion Access Allowance**: An additional allowance is specified by MNR's guide from the long-term stable slope crest to provide emergency access, construction access for maintenance and for providing protection against unforeseen or predicted external conditions which could have adverse effects on the natural conditions or processes on or within erosion prone areas.

6.2 Toe Erosion Allowance

According to section 2.1 of the Guide, a toe erosion allowance is an estimation of the distance the toe of a slope would move over the next 100 years. The toe erosion allowance can be determined in four ways:

i. average annual recession rate based on 25 years of data when toe erosion exceeds 15 m.

ii. use of a 15 m allowance (as noted in Table 3 of MNR Erosion Hazard Limit Technical Guide).

iii. toe erosion allowance based on soil type or hydraulic processes; and

iv. a detailed study.

In areas where the creek is within 15 m of the toe of the slope the toe erosion allowance has to be taken into account and assessed by one of the methods mentioned above. According to the topographic survey drawings provided by Hossack (Drawing prepared by J.D. Barnes titled, "Plan of Topography, 721 Royal York Road, City of Toronto," dated May 2, 2022), the toe of the slope at the five Profiles A-A', B-B', C-C', D-D' and E-E' are at approximate elevations of 103 masl, 99 masl, 95 masl, 94 masl and 94 masl, respectively.

Based on the results of boreholes nearest to the selected cross-section profiles the following soil types are indicated at or near the elevation of the creek bed:

- Profile A-A' (BH101-22): very stiff silty clay till or bedrock.
- Profile B-B' (BH101-22): very stiff silty clay till or bedrock.
- Profile C-C' (BH117-22): very dense gravelly sand, dense sandy silt and very stiff silty clay till to bedrock.
- Profile D-D' (BH118-22): stiff silty clay till to bedrock; and
- Profile E-E' (BH119-22): very stiff silty clay till to bedrock.

According to Table 3 of MNR's Technical Guide, the minimum toe erosion allowance should be in the range of 2 m to 5 m for the soft rock (shale). Based on our opinion, the toe erosion allowance should be the lower value of the range at 2 m based on the borehole results and visual observations of the slope. However, the toe of the slope is currently protected by an armour stone wall and as a result, the setback assessment in the report has set the toe erosion allowance at 0 m.

6.3 Geotechnical Stable Slope Allowance

The assessment of the stability of the subject slope consisted of two parts; 1) a visual appraisal of the current slope conditions from a slope stability perspective; 2) modelling and numerical stability analyses based on the subsurface conditions encountered during the geotechnical investigation.

6.3.1 Visual Slope Assessment

According to the topographic survey provided by the Hossack, the crest of the slope is at a geodetic elevation ranging from about 109 masl to 108 masl and the toe of the slope from about 102 masl to 93 masl, in the general north to south direction. A pedestrian bridge is located between Section D-D' and E-E'. Between Section A-A' and C-C', the school building is located at or in very close proximity to the top of slope.

Young saplings, shrubs and grass were observed at the crest of the slope. At the time of the visual slope inspection, it was observed that the face of the slope is heavily wooded with mature trees and saplings. The undergrowth was heavy in the northern area of the slope, north

of the pedestrian bridge and limited undergrowth was present south of the pedestrian bridge. Topsoil was locally exposed on the surface of the slope face in some areas. The mature trees were observed to be relatively vertical, however typical signs of tilting (leaning) caused by surficial ground movement were observed in some of the trees.

No evidence of tension cracking was observed at the crest of the slope. Additionally, no wet zones or active seeps were observed on the slope. A drainage outlet was observed in the area of Section C-C' and gullies in the area of Section E-E'. Armour stone wall about 1.5 m high was observed along the toe of the slope. The riverbed consisted of cobbles, boulders and bedrock outcrops. Although bedrock outcrops were not observed at the toe of the slope due to the armour stone wall, the bedrock outcrops in the riverbed indicated that the toe of the slope is in close vicinity of the bedrock. The borehole information obtained from the crest of the slope and the results of the geophysics survey indicated that the bedrock at the crest of the slope is at a higher elevation than the toe of the slope.

In general, the existing slope appears to be reasonably stable based on our visual assessment.

6.3.2 Slope Stability Analyses

Based on the subsurface conditions available across the site, five critical profiles at selected locations along the slope of the creek were assessed to determine appropriate allowances for long-term stable slopes (LTSS) and the long-term stable top of slope (LTSTOS) to be used to define the limits for development on the property. *Please note that the stability analyses do not include the effects of the armour stone wall at the toe of the slope.*

Limit equilibrium slope stability analysis was carried out using the commercially available program Slope/W produced by Geo-Slope International Ltd., employing the Morgenstern-Price method of analysis. The short term and long-term static slope stability analysis was carried out using the slope height and configuration along Profile A-A', Profile B-B', Profile C-C', Profile D-D' and Profile E-E', as shown on Figures C1 to C5, as well as using the soil stratigraphy as encountered in the boreholes drilled close to the profiles as seen in Figure 2 and listed in Section 6.2.

The Guide provides recommendations for minimum factors of safety for design of stable slopes on the basis of land-use above or below the slope. A Design Minimum Factor of Safety (FOS) of 1.40 to 1.50 is recommended in Table 4.3 of the Guide (Section 4.3.3.1 Design Minimum Factors of Safety) for Infrastructure and Public Land Uses, such as those containing residential structures. It is noted, however, that TRCA has indicated that they prefer a factor of safety greater than 1.5 for active land use and this safety factor has been used in the analyses.

The following relatively conservative geotechnical parameters were used in the effective stress stability analysis, based on accepted correlations in literature, and Cambium's precedent experience with the soil in this area.

Table 8 Soil Types and Effective Strength Parameters Used for Stability Analysis - Short Term (Undrained Conditions)

Soil Type	Bulk Unit Weight (kN/m^3)	Effective Internal Friction Angle, f' (Degrees)	Effective Cohesion, c' (kPa)
Compact Fill	18	30-32	0
Loose Non-cohesive deposit	18	28	0
Compact to Dense Non-cohesive Deposits	19	32	0
Dense to Very Dense Non-cohesive Deposits	20	34	0
Soft Silty Clay	18	0	15
Stiff Silty Clay	18.5	0	65
Very Stiff silty clay to clayey silt / silty clay till	19	0	100

Table 9 Soil Types and Effective Strength Parameters Used for Stability Analysis - Long Term (Drained Conditions)

Soil Type	Bulk Unit Weight (kN/m^3)	Effective Internal Friction Angle, f' (Degrees)	Effective Cohesion, c' (kPa)
Compact Fill	18	30-32	0
Loose Non-cohesive deposit	18	28	0
Compact to Dense Non-cohesive Deposits	19	32	0
Dense to Very Dense Non-cohesive Deposits	20	34	0
Soft Silty Clay	18	25	2
Stiff Silty Clay	18.5	28	6
Very Stiff silty clay to clayey silt / silty clay till	19	28	10

The critical scenario was the long-term drained condition as discussed in the following sections and presented on Figures C1 to C5. Figures C1 to C5 indicate the setback distances for the LTSS.

6.4 Erosion Access Allowance

Erosion Access Allowance is required to provide emergency access to the slopes in case of unforeseen slope stability distress or for construction access to carry out regular maintenance. The MNR guide specifies a 6 m Erosion Access Allowance for the site. However, the application of the erosion access allowance setback is determined based on-site conditions, review by the TRCA and other existing development policies.

6.5 Summary of Erosion Hazard Setback Allowances

The total setback (hazard limit) is typically determined by considering the toe erosion allowance, the stable slope allowance and the access allowance from the bank of the creek. A summary of the existing slopes and setback components are presented in the table below and in Figures C1 to C5.

Table 10 Summary of Existing Slopes and Setback Components

Profile	Figure	Existing Average Inclination	Factor of Safety of Existing Slope	Slope for FOS of 1.5	Toe Erosion Allowance (m)[1]	Stable Slope Allowance (m)[2]	Access Allowance (m)	Total Setback (m)
A-A'	C1	1.8H:1V	1.2	2.2H:1V	2	2.9	6	10.9
B-B'	C2	1.5H:1V	1.1	2.2H:1V	2	7.9	6	15.9
C-C'	C3	2.0H:1V	1.0	2.8H:1V	2	12.5	6	20.5
D-D'	C4	1.5H:1V	0.9	2.3H:1V	2	14.3	6	22.3
E-E'	C5	1.6H:1V	1.1	2.4H:1V	2	9.3	6	17.3

Notes:

1. *Toe erosion allowance is 20 m in soft rock.*
2. *The reference point for the stable slope distances is the top of bank as shown on Figures C1 to C5, B series.*
3. *The existing FOS are shown on the A series figures and the stable slope for a FOS of 1.5 are shown on B series figures.*

Figure 3, attached, indicates the LTSTOS line (toe erosion allowance plus stable slope allowance / LTSS). The LTSTOS line was plotted based on TRCA's staked top of bank and engineering judgment between the section lines where interpretation was necessary.

The following should be adhered to for construction at this site in order to minimize adverse effects on the stability of the slope:

- No structures (including footings, retaining walls or foundation walls) or other facilities should be located within the setback distance (erosion hazard limit).
- All surface water run-off should be directed away from the slope face to a suitable discharge point with sufficient erosion protection.
- No fill placement should be carried out on the slope or on the tableland within the geotechnical setback distance; and
- All existing vegetation on the slope face and at the slope crest should be preserved and / or maintained as required.

7.0 Monitoring Well Decommissioning

As previously indicated, monitoring wells were installed in the boreholes to permit monitoring of groundwater levels. Ontario Regulation (O.Reg.) 903 as amended, of the Ontario Water Resources Act, requires that wells be properly abandoned / decommissioned by qualified and licensed personnel. It is recommended that the decommissioning of the wells be carried out as part of the construction activities at the site so that additional water level measurements can be taken leading up to, and immediately prior to, construction and/or so that the wells can be potentially used to evaluate the effectiveness of the dewatering system during construction. If requested, Cambium could provide assistance to the owner in arranging for the decommissioning of the wells by a MECP-licensed water well drilling contractor.

8.0 Inspections and Testing

Cambium should be contacted to review and approve design drawings prior to commencing construction to ensure that all pertinent geotechnical-related factors have been addressed.

During construction, a sufficient degree of foundation inspections, subgrade inspections, and an adequate number of in situ density tests and materials testing should be carried out to confirm that the conditions exposed are consistent with those encountered in the boreholes, and to monitor conformance to the pertinent project specifications. Concrete testing should be carried out on both the plastic material in the field and of set cylinder samples in a CSA certified laboratory.

The soils at this site are sensitive to disturbance from ponded water, construction traffic and frost. All bearing surfaces must be inspected by Cambium prior to filling or concreting to ensure that strata having adequate bearing capacity have been reached and that the bearing surfaces have been properly prepared.

9.0 Closing

Please note that this work program and report are governed by the attached Qualifications and Limitations. If you have questions or comments regarding this document, please do not hesitate to contact the undersigned at (705) 742-7900.

Respectfully submitted,

Cambium Inc.

Rafael Abdulla, M.Eng., P.Eng., PMP
Senior Project Manager



Rob Gethin, P.Eng.
Group Manager – Geotechnical



RG/SEB/RA

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10.0 Standard Limitations

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A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

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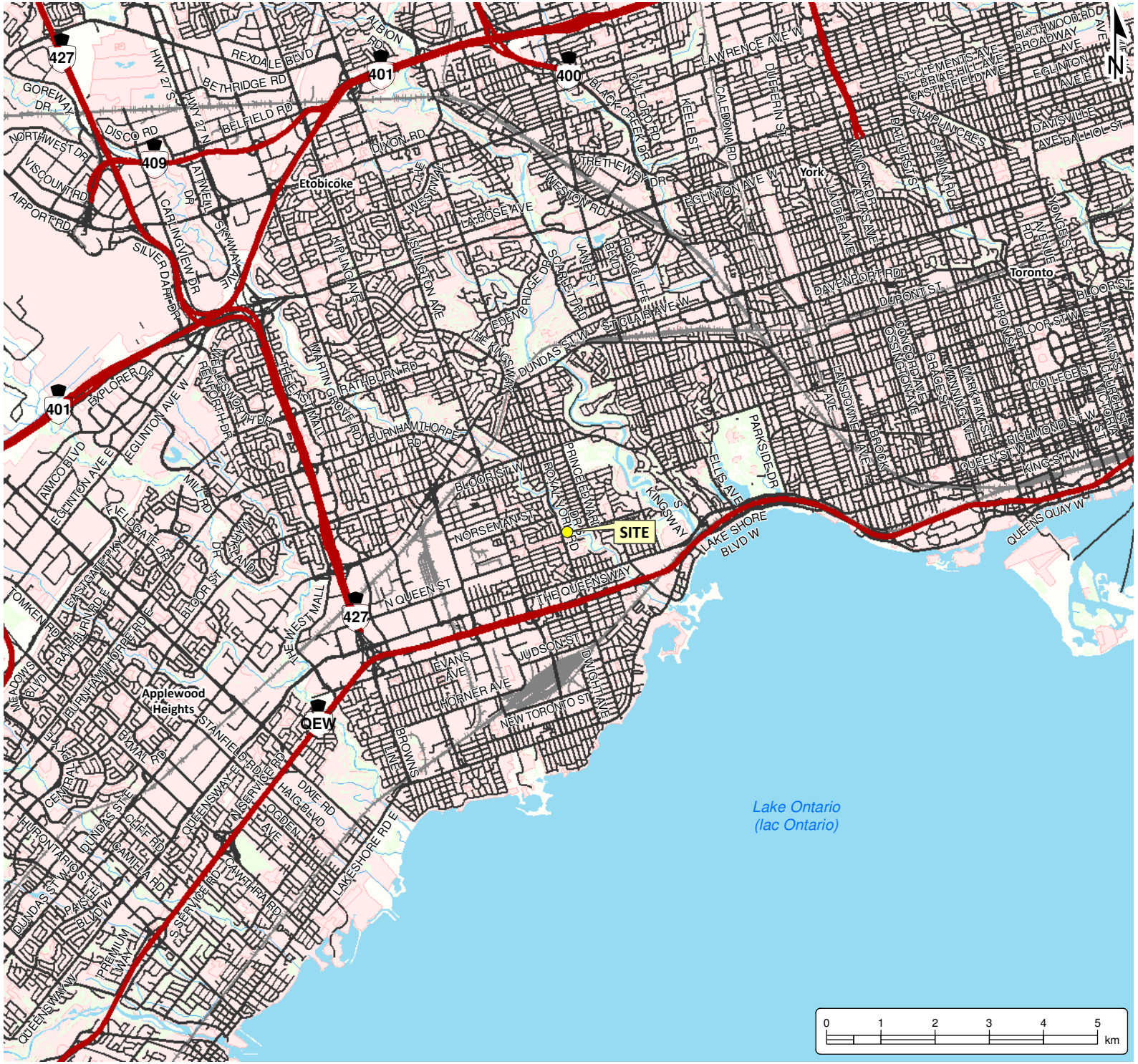
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Appended Figures



GEOTECHNICAL INVESTIGATION

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario

LEGEND

- Highway
- Major Road
- Minor Road
- Railroad
- Watercourse
- Water Area
- Wooded Area
- Built Up Area

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
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SITE LOCATION MAP

Project No.: 14560-001		Date: April 2022	Rev.:
Scale: 1:100,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: SK	Figure: 1	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-04-11 FIG 1 - Site Location Map.mxd

GEOTECHNICAL INVESTIGATION

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario



LEGEND

- Borehole
- Monitoring Well
- Test Pit
- Section Location
- Site (approximate)

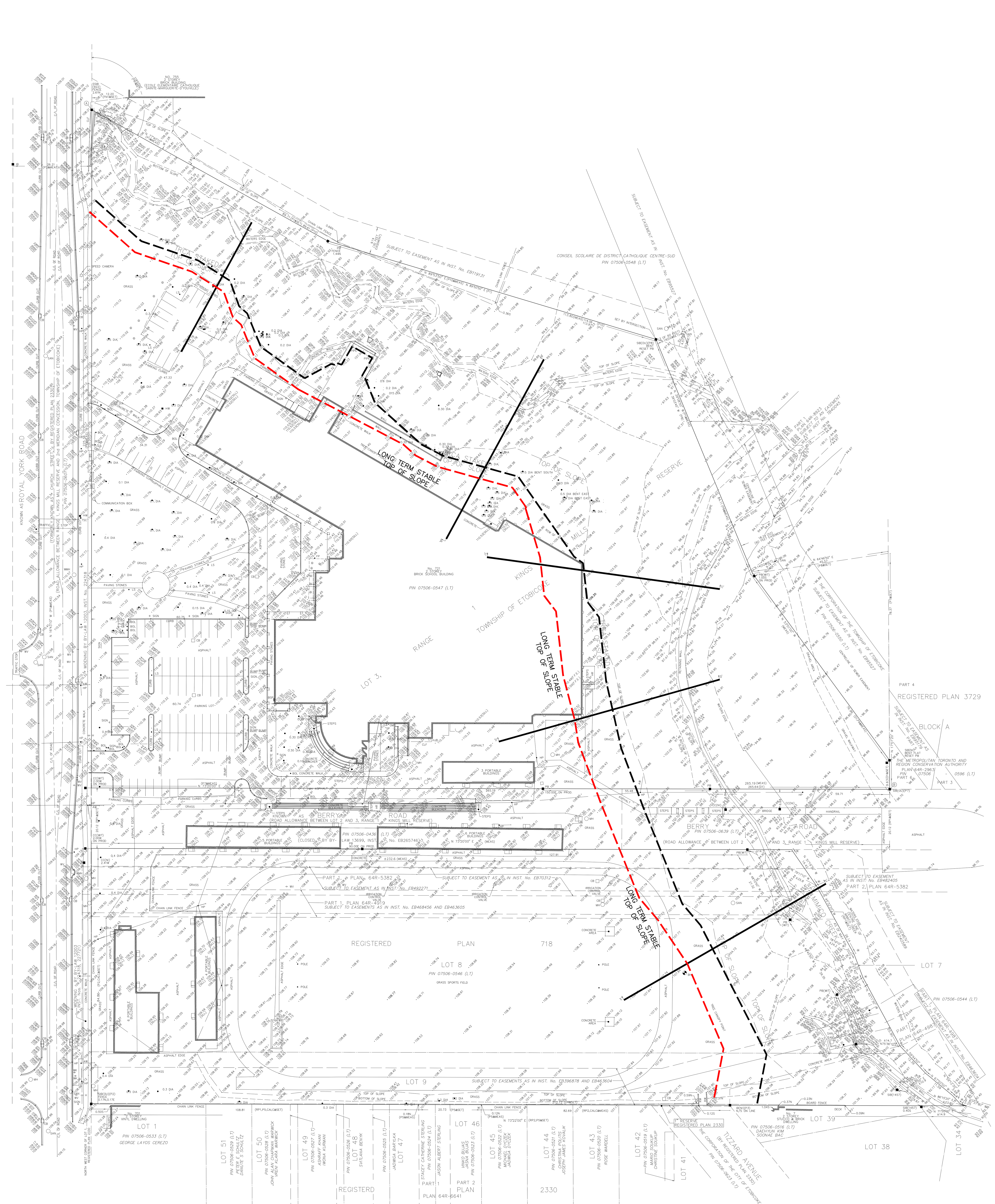
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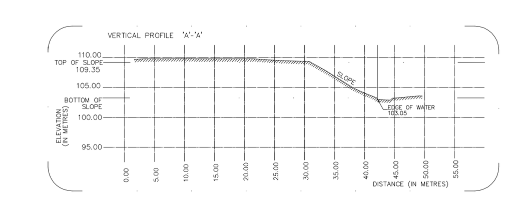
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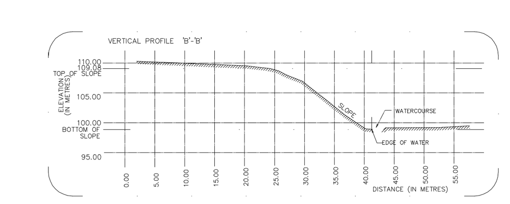
BOREHOLE LOCATION PLAN

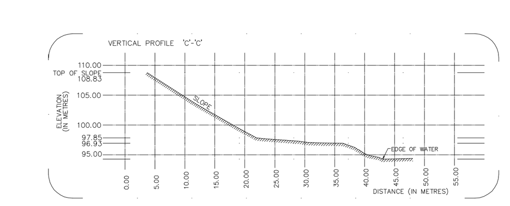
Project No.: 14560-001		Date: April 2022	Rev.:
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: SK	Figure: 2	

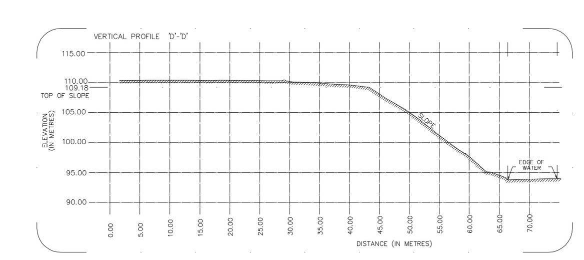
O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-04-11 FIG 2 - Borehole Location Plan.mxd

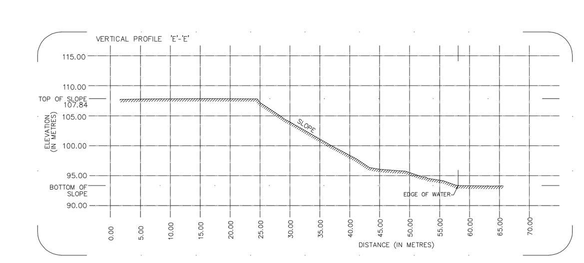












GEOTECHNICAL INVESTIGATION HOSSACK & ASSOCIATES ARCHITECTS

721 Royal York Road,
Etobicoke, Ontario

Notes:
1. Site plan is based on a Plan of Survey, created by J.D. Barnes LTD. Project Ref. no. 22-22-038-PST, dated May 9, 2022.
2. Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
3. This plan is for illustrative purposes only.

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LONG TERM STABLE TOP OF SLOPE

Project No.: 14560-001	Date: July 2022 / Rev.:
Horizontal Scale: 1:750	Vertical Scale:
Drawn By: MAT	Checked By: RG / Figure: 3

P:\14500 to 14599\14560-001 Hossack & Associates Architects - Bishop Allen Academy\Graphics\Drawings\CAD\2022-07-13 Slope Stability Cambium.dwg

Appendix A

Log of Boreholes and Test Pits

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Log of Borehole: BH101-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832426 m N, 620536 m E
Elevation: 109.87 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
0 / 109		ASPHALT: (~ 65 mm thick)	1A						Flushmount	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 3.13 mbgs on April 7, 2022 and 2.9 mbgs on May 16, 2022
		SAND and GRAVEL: FILL, (SP/GP)	1B	SS	50	12			Cap	
		SILTY SAND: brown; non-cohesive, moist, compact, FILL, (SM)								
1 / 108		Sandy SILT: trace gravel; brown, silty sand seams; non-cohesive, wet, loose to dense, (ML)	2	SS	100	17			Bentonite Plug	
			3	SS	100	9				
2 / 107			4	SS	100	33			PVC Standpipe	
3 / 106		SILTY CLAY: trace sand; brown to grey; cohesive, w < PL, very stiff, (CL)	5	SS	60	19				
4 / 105		SILTY CLAY: trace to some sand, trace gravel; grey (TILL); cohesive, w < PL, very stiff, (CL)	6	SS	75	19			Sand Pack	
5 / 104		SHALE: weathered; grey	7	SS	100	50 /50 mm			PVC Screen	
6 / 103										
7 / 102		Borehole terminated at 7.6 mbgs due to auger and split spoon refusal on inferred bedrock	8	SS	0	50 /25 mm			Cap	Groundwater encountered during drilling at a depth of about 3.7 m
8 / 101										
9										

Logged By: EC
Input By: CM

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Log of Borehole: BH102-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832406 m N, 620551 m E
Elevation: 110.17 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
110	0		ASPHALT: (~ 65 mm thick)	1A							
			SAND and GRAVEL: FILL, (SP/GP)	1B	SS	50	13				
			SAND: medium, trace fines; brown; non-cohesive, moist, compact, FILL, (SP)								
109	1			2	SS	100	13				
				3	SS	100	12				
108	2		SILTY SAND to sandy SILT: trace gravel; brown, silty clay seams, oxidation stains; non-cohesive, loose to compact, (SM/ML)	4	SS	100	9				GSA SS4: 1% Gravel 53% Sand 35% Silt 11% Clay
107	3			5	SS	100	25				
106	4		SILTY CLAY: trace to some sand, trace to some gravel; grey (TILL); cohesive, w < PL, hard, (CL)	6	SS	100	31				Atterberg SS6: LL: 21.0% PL: 14.1% PI: 6.9%
105	5										
104	6			7	SS	0	50/ 25 mm				
103	7		Borehole terminated at 6.1 mbgs due to auger and split spoon refusal on inferred bedrock								Groundwater encountered during drilling at a depth of about 3.0 m
102	8										
	9										

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Input By: CM

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Log of Borehole: BH103-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832379 m N, 620534 m E
Elevation: 110.17 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
110	0		ASPHALT: (~ 65 mm thick)	1A							
			SILTY SAND to SAND: medium; brown; non-cohesive, moist, compact, FILL, (SM/SP)	1B	SS	75	22				
109	1			2	SS	100	11				
			SILTY SAND: brown; non-cohesive, moist, compact, (SM)	3	SS	100	12				
108	2										
			sandy SILT: brown, silty sand seams; non-cohesive, moist, compact, (ML)	4	SS	100	22				
107	3			5	SS	100	23				
106	4		SILTY CLAY: trace sand; grey, silty seam; cohesive, w ~ PL, very stiff, (CL)								
				6	SS	100	19				
105	5										
104	6			7	SS	0	50/ 25 mm				
			Borehole terminated at 6.1 mbgs due to auger and split spoon refusal on inferred bedrock								
103	7										
102	8										Groundwater encountered during drilling at a depth of about 3.0 m Caving measured at about 3.0 m upon completion of drilling.
	9										

Logged By: EC
Input By: CM

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Log of Borehole: BH104-22

Client:	Hossack & Associates Architects	**Project Name:**	Geotechnical Invesitagtion	**Project No.:**	14560-001
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	March 18, 2022
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832354 m N, 620583 m E	**Elevation:**	109.79 mASL

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
0 / 109		ASPHALT: (~ 65 mm thick)	1A							
		SAND and GRAVEL: brown; non-cohesive, moist, compact, FILL, (SP/GP)	1B	SS	75	16				
1 / 108		SILTY SAND: fine to medium; brown; non-cohesive, moist to wet, loose to dense, (SM)	2	SS	100	8				
			3	SS	100	39				
2 / 107		-sandy silt seams at depth of about 2.3 mbgs	4	SS	100	33				
3 / 106			5	SS	100	38				
4 / 105		SILTY CLAY: trace sand; grey; cohesive, w < PL, hard, (CL)	6	SS	50	37				
5 / 104		sandy SILTY CLAY to CLAYEY SILT: trace gravel; grey, weathered shale fragments; cohesive, w < PL, hard, (CL-ML)	7	SS	50	50/ 280 mm				
6 / 103										
7 / 102		SHALE: grey	8	SS	0	50/ 50 mm				Groundwater encountered during drilling at a depth of about 3.0 m Caving measured at about 3.0 m upon completion of drilling.
8 / 101		Borehole terminated at 7.7 mbgs due to exploration depth achieved								
9										

Logged By: EC **Input By:** CM

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Log of Borehole: BH105-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832331 m N, 620584 m E
Elevation: 110.14 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
110	0		ASPHALT: (~ 50 mm thick)						
			sandy SILTY CLAY: brown; cohesive, w > PL, FILL, (CL)	1	GS	-	-		
109	1		SILTY SAND: brown; non-cohesive, moist, loose to compact, FILL, (SM)	2	SS	80	6		
				3A	SS	80	12		
	2		sandy SILT: brown; non-cohesive, moist, compact, (ML)	3B					
108			SILTY SAND: brown; non-cohesive, wet, compact, (SM)	4	SS	70	13		GSA SS4: 0% Gravel 75% Sand 22% Silt 3% Clay
	3			5	SS	80	16		
107			-clayey silt seam at 3.4 mbgs						
	4								
106				6	SS	90	24		
	5								
105			SILTY CLAY: trace sand, trace to some gravel; grey (TILL); cohesive, w > PL, very stiff, (CL)						
	6			7	SS	90	26		
104									
	7								
103			SHALE: weathered; grey						
	8			8	SS	0	50/50 mm		
102			Borehole terminated at 7.7 mbgs due to split spoon refusal on inferred bedrock						Borehole caved to a depth of about 3.0 m upon completion of drilling
101	9								

% Moisture: 25 50 75
SPT (N) / DCPT: 10 20 30 40

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Log of Borehole: BH106-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832331 m N, 620584 m E
Elevation: 110.28 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
110 / 0		ASPHALT: (~ 50 mm thick)								
		SILTY SAND: brown; non-cohesive, moist, loose, FILL, (SM)	1	GS	-	-				
109 / 1			2	SS	60	7				
108 / 2			3	SS	70	5				
		SAND to SILTY SAND: fine to medium; brown; non-cohesive, moist to wet, compact to very dense, (SP/SM)	4	SS	80	21				
107 / 3			5	SS	70	29				
106 / 4			6A	SS	70	50/ 150 mm				
105 / 5		SILT: some sand to sandy; grey; non-cohesive, moist, very dense, (ML)	6B							
		SILTY SAND: fine to medium; brown; non-cohesive, moist, very dense, (SM)								
104 / 6			7A	SS	40	50				
		SILTY CLAY: trace sand, trace gravel, grey (TILL); cohesive, w < PL, hard, (CL)	7B							
103 / 7		SHALE: weathered; grey								
102 / 8		Borehole terminated at 7.7 mbgs due to split spoon refusal on inferred bedrock	8	SS	30	50/ 125 mm				Borehole caved to a depth of about 5.3 m upon completion of drilling
9										

Logged By: JS
Input By: CM

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Log of Borehole: BH107-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832313 m N, 620592 m E
Elevation: 110.18 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
110 / 0		ASPHALT: (~ 50 mm thick)						
		SILTY SAND: brown; non-cohesive, moist, loose to compact, FILL, (SM)	1	SS	80	5		
109 / 1			2	SS	70	8		
			3A	SS	80	24		
108 / 2		sandy SILT: brown, stratified, oxidation stains; non-cohesive, moist, compact, (ML)	3B					
		SILTY SAND: brown; non-cohesive, moist, compact, (SM)	4	SS	80	28		
107 / 3		sandy SILT: brown, oxidation stains; non-cohesive, moist, compact, (ML)	5	SS	80	25		
106 / 4		sandy SILT: brown to grey; non-cohesive, wet, compact to dense, (ML)	6	SS	80	30		
105 / 5		-becomes grey at a depth of about 4.9 mbgs						
104 / 6		SILTY CLAY: trace sand, trace to some gravel; grey (TILL); cohesive, w ~ PL, very stiff, (CL)	7	SS	70	24		
103 / 7		SHALE: weathered; grey	8	SS	50	50/100 mm		Groundwater encountered during drilling at a depth of about 4.6 m Caving measured at about 5.3 m upon completion of drilling.
102 / 8		Borehole terminated at 7.9 mbgs due to split spoon refusal on inferred bedrock						
9								

% Moisture: 25 50 75
SPT (N) / DCPT: 10 20 30 40

Logged By: JS
Input By: CM

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Log of Borehole: BH109-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832264 m N, 620623 m E
Elevation: 108.6 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
109	0		ASPHALT: (~ 50 mm thick)							Flushmount Cap	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 3.3 mbgs on April 7, 2022 and 3.2 mbgs on May 16, 2022
			SAND: fine to medium, some non-plastic fine; brown, trace organic matter to a depth of about 0.61 mbgs; non-cohesive, moist, compact, FILL, (SP)	1	GS	-	-				
	1			2	SS	90	15			Bentonite Plug	
108				3	SS	90	23				
	2		SILTY SAND: trace gravel; brown; non-cohesive, wet, compact to dense, (SM)	4	SS	90	16			PVC Standpipe	
107	3			5A	SS	90	40				
			SILT: some sand; brown, slight plasticity; non-cohesive, moist, dense, (ML)	5B							
106	4		SILTY SAND: trace gravel; brown; non-cohesive, wet, compact, (SM)	6A	SS	90	28				
105	5			6B						Sand Pack	
			SILTY CLAY: trace to some sand, trace to some gravel; grey (TILL); cohesive, w < PL, very stiff to hard, (CL)								
104	6			7	SS	20	50/ 50 mm			PVC Screen	
103	7										
102	8		Borehole terminated at 7.7 mbgs due to exploration depth achieved	8	SS	30	50/ 100 mm			Cap	Groundwater encountered during drilling at a depth of about 2.3 m
101	9										

Logged By: JS
Input By: CM

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Log of Borehole: BH110-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832258 m N,620585 m E
Elevation: 109.06 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
109	0		ASPHALT: (~ 50 mm thick)								
			SANDY SILT: brown, trace organic matter to 0.6 mbgs, silty clay inclusions; non-cohesive, moist to wet, loose to compact, FILL, (ML)	1	GS	-	-				
108	1			2	SS	90	9				
			SILTY SAND: brown; non-cohesive, wet, compact to dense, (SM)	3	SS	90	20				
107	2			4	SS	90	33				
106	3			5	SS	90	50/ 225 mm				
105	4										
104	5			6	SS	90	50/ 250 mm				
			SILTY SAND to SANDY SILT: light brown; non-cohesive, wet, compact, (SP/ML)								
103	6		SILTY CLAY: some sand, trace gravel; grey (TILL), shale fragments; cohesive, w < PL, hard, (CL)	7	SS	10	50/ 75 mm				
102	7		-residual soil								
101	8		Borehole terminated at 7.7 mbgs due to exploration depth achieved	8	SS	10	50/ 50 mm				Groundwater encountered during drilling at a depth of about 5.3 m Caving measured at about 5.3 m upon completion of drilling.
100	9										

Logged By: JS
Input By: CM

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Log of Borehole: BH111-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832263 m N,620623 m E
Elevation: 108.6 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 150 mm thick)	1A							
		SILTY SAND: brown to dark brown, trace organic matter to 0.61 mbgs; non-cohesive, moist, loose to very loose, FILL, (SM)	1B	SS	75	7				
107 / 1			2	SS	40	4				
		SILTY SAND: brown; non-cohesive, wet, compact to very dense, (SM)	3	SS	100	11				
106 / 2		-some gravel to gravelly from about 2.3 mbgs	4	SS	60	28				
105 / 3			5	SS	80	55				
104 / 4		SILTY CLAY: some gravel; grey (TILL/residual soil), weathered shale fragments; cohesive, w < PL, hard, (CL)	6	SS	75	55				
103 / 5										
102 / 6		SHALE: weathered; grey	7	SS	10	50/100 mm				
101 / 7		Borehole terminated at 7.0 mbgs due to auger refusal on inferred bedrock								Groundwater level measured in borehole at a depth of about 2.3 m on completion of drilling.
100 / 8										
9										

Logged By: JS
Input By: CM

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Log of Borehole: BH112-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832276 m N,620659 m E
Elevation: 108.26 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 150 mm thick)	1A							
		SILTY SAND: brown, trace organic matter; non-cohesive, moist, loose, FILL, (SM)	1B	SS	75	5				
107 / 1		SILTY SAND: brown; non-cohesive, moist, compact, (SM)	2	SS	80	15				
		SILT: sone sand; brown, clayey silt seams; non-cohesive, moist, compact, (ML)	3	SS	100	13				
106 / 2		SAND and GRAVEL: brown; non-cohesive, moist, dense, (SP/GP)	4	SS	50	32				
105 / 3		SILTY SAND: light brown; non-cohesive, wet, dense to very dense, (SM)	5	SS	100	50				
104 / 4		SILTY CLAY: grey; cohesive, w < PL, hard, (CL)	6	SS	100	50				
103 / 5										
102 / 6		SILTY CLAY: trace sand, trace gravel; grey (TILL); cohesive, w ~ PL, hard, (CL)	7	SS	20	50				
101 / 7		Borehole terminated at 6.7 mbgs due to auger refusal on inferred bedrock								Groundwater level measured in borehole at a depth of about 2.3 m on completion of drilling.
100 / 8										
9										

Logged By: EC
Input By: CM

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Log of Borehole: BH113-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832288 m N,620699 m E
Elevation: 107.925 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
107	0		TOPSOIL: (~ 150 mm thick)	1A							
			SILTY SAND: brown; non-cohesive, moist, loose, FILL, (SM)	1B	SS	60	7				
	1		SANDY SILT: trace gravel; brown; non-cohesive, wet, loose, FILL, (ML)	2	SS	10	5				
106	2		sandy SILT: trace gravel; brown, silty sand seams; non-cohesive, wet, compact, (ML)	3	SS	75	19				
				4	SS	75	23				
105	3		gravelly SILTY SAND: brown; non-cohesive, wet, compact, (SM)	5	SS	80	20				
104	4		SILTY CLAY: trace sand, trace gravel; grey (Residual soil); cohesvie, w < PL, hard, (CL)	6	SS	100	50/ 150 mm				
103	5										
102	6		SHALE: grey	7	SS	0	50/ 25 mm				
101	7										
100	8		Borehole terminated at 7.5 mbgs due to auger refusal on inferred bedrock								Groundwater level measured in borehole at a depth of about 2.3 m on completion of drilling.
99	9										

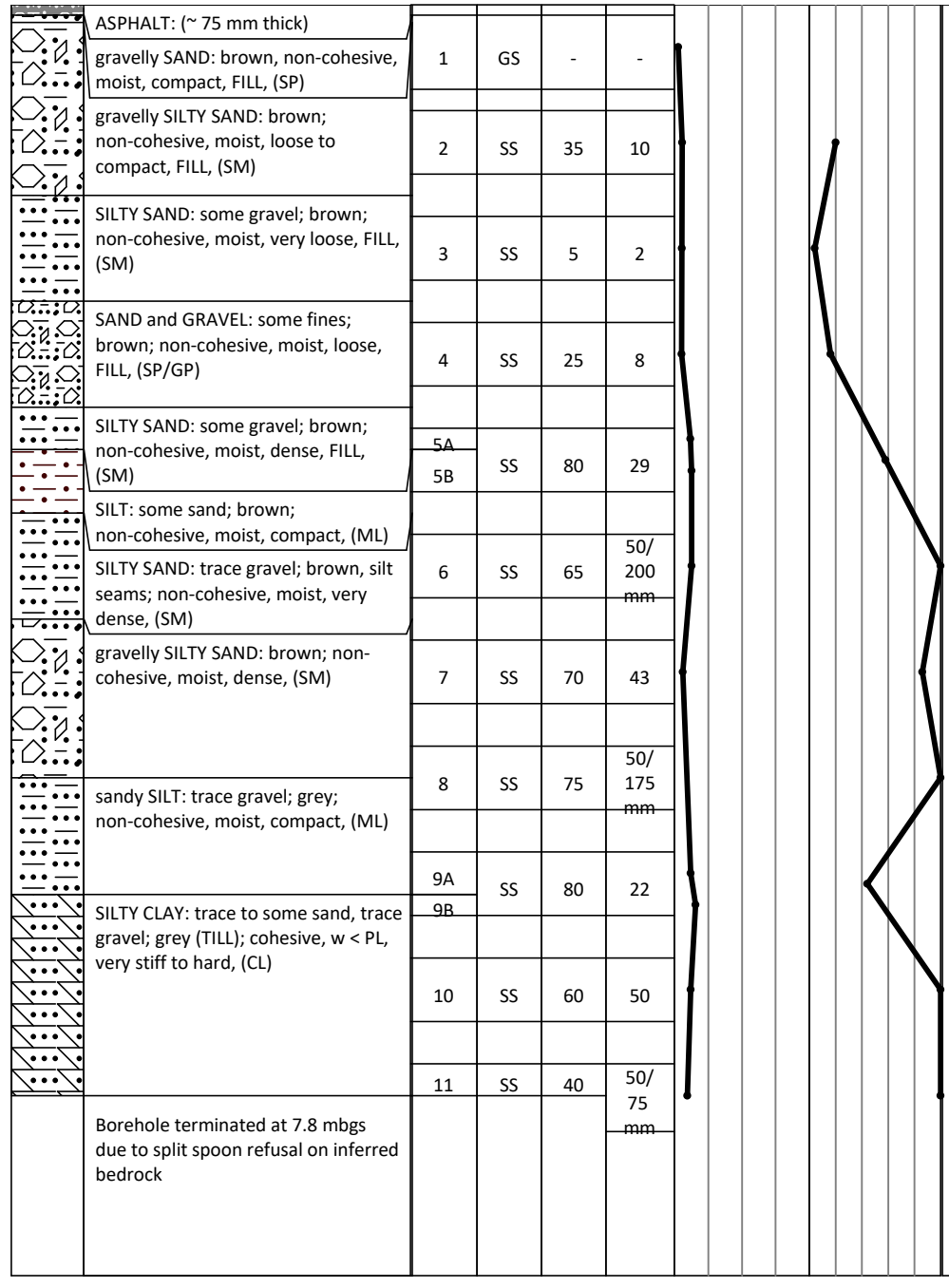
Logged By: EC
Input By: CM

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Kingston
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Log of Borehole: BH114-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832327 m N,620685 m E
Elevation: 110.27 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
110 / 0		ASPHALT: (~ 75 mm thick)					Flushmount	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 5.4 mbgs on April 7, 2022 and 4.5 mbgs on May 16, 2022
		gravelly SAND: brown, non-cohesive, moist, compact, FILL, (SP)	1	GS	-	-	Cap	
109 / 1		gravelly SILTY SAND: brown; non-cohesive, moist, loose to compact, FILL, (SM)	2	SS	35	10	Bentonite Plug	
108 / 2		SILTY SAND: some gravel; brown; non-cohesive, moist, very loose, FILL, (SM)	3	SS	5	2		
		SAND and GRAVEL: some fines; brown; non-cohesive, moist, loose, FILL, (SP/GP)	4	SS	25	8	PVC Standpipe	
107 / 3		SILTY SAND: some gravel; brown; non-cohesive, moist, dense, FILL, (SM)	5A 5B	SS	80	29		
		SILT: some sand; brown; non-cohesive, moist, compact, (ML)						
106 / 4		SILTY SAND: trace gravel; brown, silt seams; non-cohesive, moist, very dense, (SM)	6	SS	65	50/ 200 mm		
105 / 5		gravelly SILTY SAND: brown; non-cohesive, moist, dense, (SM)	7	SS	70	43	Sand Pack	
		sandy SILT: trace gravel; grey; non-cohesive, moist, compact, (ML)	8	SS	75	50/ 175 mm		GSA SS7: 16% Gravel 65% Sand 19% Silt and Clay
104 / 6			9A 9B	SS	80	22	PVC Screen	
103 / 7		SILTY CLAY: trace to some sand, trace gravel; grey (TILL); cohesive, w < PL, very stiff to hard, (CL)	10	SS	60	50		
			11	SS	40	50/ 75 mm	Cap	Groundwater level measured in borehole at a depth of about 6.9 m on completion of drilling.
102 / 8		Borehole terminated at 7.8 mbgs due to split spoon refusal on inferred bedrock						
9								



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Input By: CM

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Log of Borehole: BH116-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832330 m N,620545 m E
Elevation: 111.12 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
111	0		SILTY SAND: brown; non-cohesive, moist, compact, FILL, (SM)	1	SS	90	16				
			SAND: trace to some fines; brown; non-cohesive, moist, very loose to compact, (SP)	2	SS	40	4				
110	1			3	SS	60	11				
				4	SS	60	14				GSA SS4: 0% Gravel 89% Sand 11% Silt and Clay
109	2			5	SS	80	16				
				6	SS	90	21				
108	3			7	SS	70	20				
			SILTY CLAY: trace sand, trace gravel; grey (TILL); cohesive, w ~ PL, very stiff, (CL)	8	SS	60	47				Groundwater encountered during drilling at a depth of about 4.6 m Caving measured at about 5.3 m upon completion of drilling.
107	4										
106	5										
105	6										
104	7		SILTY CLAY: some sand, some gravel; grey (TILL/Residual Soil), weathered shale fragments; cohesive, w < PL, hard, (CL)								
103	8		Borehole terminated at 8.0 mbgs due to exploration depth achieved								
102	9										

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Log of Borehole: BH117-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832333 m N,620704 m E
Elevation: 110.02 mASL

Elevation (m)	Depth	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
110	0	TOPSOIL: (~ 125 mm thick)	1A				Flushmount	50 mm Diameter Monitoring Well with a 3.0 m screen. Monitoring well dry when measured on April 7, 2022 and on May 16, 2022
		SILTY SAND: some gravel; dark brown to brown; non-cohesvie, moist, compact, FILL, (SM)	1B	SS	70	13	Cap	
109	1		2	SS	65	18	PVC Standpipe	
							Bentonite Plug	
			3	SS	70	10		
108	2	SILTY SAND: brown; non-cohesive, wet, compact, (SM)	4A	SS	80	24		
		SILTY CLAY TO CLAYEY SILT: brown; cohesive, w < PL, very stiff, (CL-ML)	4B					
107	3	sandy SILT: brown; non-cohesive, moist, compact, (ML)	5	SS	70	29	PVC Screen	
							Sand Pack	
		gravelly SAND to SAND: medium, some fines; non-cohesive, moist, very dense, (SP)	6	SS	75	50		
106	4							
			7	SS	75	33		GSA SS6: 18% Gravel 60% Sand 22% Silt and Clay
105	5	sandy SILT: grey; non-cohesive, moist, dense, (ML)	8	SS	85	40		
104	6	SILTY CLAY: trace sand, some gravel; grey (TILL), shale fragments; cohesive, w > PL, very stiff, (CL)	9	SS	65	16	Cap	
103	7	Borehole terminated at 6.6 mbgs due to exploration depth achieved						
102	8							
101	9							

% Moisture: 25 50 75
SPT (N) / DCPT: 10 20 30 40

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Input By: CM

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Log of Borehole: BH118-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832324 m N,620716 m E
Elevation: 109.3 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
109 / 0		TOPSOIL: (~ 305 mm thick)	1A	SS	80	7				
		SILTY SAND: fine to medium, trace gravel; dark brown to brown, trace organic matter and rootlets to about 0.61 mbgs; non-cohesive, moist, compact, FILL, (SM)	1B							
108 / 1			2	SS	85	16				
			3	SS	90	17				
107 / 2			4	SS	85	15				
			5	SS	90	11				
106 / 3										
105 / 4		SILTY CLAY: trace sand, trace gravel; grey, weathered grey shale fragments; cohesive, w ~ PL to w > PL, soft to stiff, (CL)	6	SS	65	3				
104 / 5										
103 / 6			7	SS	100	13				
102 / 7		SHALE: weathered; grey								
101 / 8		Borehole terminated at 7.8 mbgs due to split spoon refusal on inferred bedrock	8	SS	20	50/ 175 mm				Groundwater level measured in borehole at a depth of about 7.0 m on completion of drilling.
9										

Logged By: CM
Input By: CM

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Log of Borehole: BH119-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Split Spoon
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832268 m N, 620761 m E
Elevation: 107.7 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
107 / 0		SILTY SAND: trace gravel; dark brown, moist, compact, FILL, (SM)	1	SS	50	17			Flushmount Cap	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 3.1 mbgs on April 7, 2022 and 3.1 mbgs on May 16, 2022
106 / 1		sandy CLAYEY SILT to CLAYEY SILT: brown, silty sand seams; cohesive, w < PL to w ~ PL, very stiff, (ML)	2	SS	100	16			Bentonite Plug	
			3	SS	100	25				
105 / 2		SAND and GRAVEL: some fines; non-cohesive, moist, very dense, (SP/GP)	4	SS	60	58			PVC Standpipe	
104 / 3		SILTY SAND to sandy SILT: light brown to grey; non-cohesive, wet to moist, dense, (SM/ML)	5	SS	100	37				
		-becomes grey at a depth of about 4.0 mbgs								
103 / 4			6	SS	70	39			Sand Pack	
102 / 5		SILTY CLAY: trace sand, some gravel; grey (TILL), cohesive, w ~ PL, very stiff, (CL)								Atterberg SS7: LL: 25.7% PL: 14.9% PI: 10.8%
101 / 6			7	SS	100	22			PVC Screen	
100 / 7										
99 / 8		Borehole terminated at 7.7 mbgs due to auger refusal on inferred bedrock	8	SS	0	50/ 50 mm			Cap	Groundwater encountered during drilling at a depth of about 6.0 m Groundwater level measured in borehole at a depth of about 4.6 m on completion of drilling.
9										

Logged By: EC
Input By: CM

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Log of Borehole: BH120-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832236 m N,620654 m E
Elevation: 108.33 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 205 mm thick)	1A							
		GRAVEL: FILL, (GP)	1B	SS	70	8				
		SILTY SAND: brown to black; non-cohesive, moist, compact, FILL, (SM)	1C							
107 / 1			2	SS	80	11				
		sandy SILT: light brown to brown; non-cohesive, moist, compact, (ML)	3	SS	100	16				
106 / 2			4	SS	60	28				GSA SS4: 2% Gravel 28% Sand 58% Silt 12% Clay
105 / 3		SAND and GRAVEL: brown; non-cohesive, wet, compact, (SP/GP)	5	SS	100	22				
104 / 4		SILTY CLAY: trace sand, trace to some gravel; grey (TILL, Residual soil); cohesive, w < PL, very stiff to hard, (CL)	6	SS	50	27				
103 / 5										
102 / 6			7	SS	50	50/ 50 mm				
101 / 7										Groundwater encountered during drilling at a depth of about 4.6 m Groundwater level measured in borehole at a depth of about 4.6 m on completion of drilling.
100 / 8		Borehole terminated at 7.6 mbgs due to auger refusal on inferred bedrock								
9										

Logged By: EC
Input By: CM

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Log of Borehole: BH121-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832236 m N,620653 m E
Elevation: 108.846 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 150 mm)	1A							
		SILTY SAND: some gravel; brown; non-cohesive, moist, compact, FILL, (SM)	1B	SS	65	12				
108 / 1		SILTY SAND: light brown to brown; clayey silt seams; non-cohesive, moist to wet, compact to very dense, (SM)	2	SS	40	15				
107 / 2			3	SS	80	50/ 275 mm				
			4	SS	60	36				
106 / 3			5	SS	80	23				
105 / 4		SILTY CLAY: trace sand; grey; cohesive, w > PL, stiff to very stiff, (CL)								
104 / 5			6	SS	80	15				
103 / 6		SHALE: weathered; grey	7	SS	30	50/ 75 mm				
102 / 7		Borehole terminated at 6.6 mbgs due to auger refusal on inferred bedrock								
101 / 8										Groundwater level measured in borehole at a depth of about 3.7 m on completion of drilling.
100 / 9										

Logged By: CM
Input By: CM

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Log of Borehole: BH122-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 15, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832233 m N,620738 m E
Elevation: 107.95 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
0		TOPSOIL: (~ 205 mm thick)	1A							
		GRAVEL: FILL, (GP)	1B	SS	100	9				
		SILT: some sand to sandy; brown; non-cohesive, wet to moist, compact, (ML)	1C							
107 — 1			2	SS	100	14				
			3	SS	90	19				
106 — 2		gravelly SILTY SAND: brown; non-cohesive, moist, compact to dense, (SM)	4	SS	100	30				
105 — 3		SAND and GRAVEL: some fines; brown; non-cohesive, wet, compact, (SP/GP)	5	SS	90	16				
104 — 4		SILT: some sand; grey; non-cohesive, moist to wet, compact, (ML)	6	SS	75	14				
103 — 5										
102 — 6			7	SS	100	16				
101 — 7		SILTY CLAY: some gravel; grey (Residual Soil), shale fragments, cohesive, w < PL, hard, (CL)								
100 — 8		Borehole terminated at 7.9 mbgs due to exploration depth achieved	8	SS	100	50/ 125 mm				Groundwater level measured in borehole at a depth of about 4.6 m on completion of drilling.
99 — 9										

Logged By: EC
Input By: CM

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Log of Borehole: BH123-22

Client:	Hossack & Associates Architects	**Project Name:**	Geotechnical Invesitagtion	**Project No.:**	14560-001
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	March 15, 2022
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832220 m N,620700 m E	**Elevation:**	108.22 mASL

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		sandy SILT: brown; non-cohesive, moist, loose, FILL, (ML)	1A 1B 1C	SS	60	9				
107 / 1		SILT: some sand; brown, oxidation stains; non-cohesive, moist, compact, (ML)	2	SS	100	21				
106 / 2		SILTY SAND: brown; non-cohesive, moist, compact, (SM)	3	SS	50	14				
			4	SS	100	19				
105 / 3		SILT: some sand; grey; non-cohesive, moist, compact, (ML)	5	SS	5	14				
104 / 4										
103 / 5			6	SS	50	25				
102 / 6		SILTY CLAY: trace sand, trace gravel; grey (TILL); cohesive, w < PL to w ~ PL, very stiff, (CL)	7	SS	20	19				
101 / 7										
100 / 8		Borehole terminated at 7.3 mbgs due auger refusal on inferred bedrock								Groundwater level measured in borehole at a depth of about 3.0 m on completion of drilling.
9										

Logged By: EC **Input By:** CM

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Log of Borehole: BH124-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 15, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832204 m N,620653 m E
Elevation: 108.56 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 245 mm thick)	1A							
		GRAVEL: FILL, (GP)	1B	SS	60	10				
		SILTY SAND: brown; non-cohesive, moist, compact, FILL, (SM)								
107 / 1		SANDY SILT: trace gravel; brown; non-cohesive, moist, compact, (ML)	2	SS	100	12				
		SILTY SAND: trace gravel; brown, moist to wet, compact to dense, (SM)	3	SS	75	20				
106 / 2			4	SS	100	32				
105 / 3			5	SS	100	38				
104 / 4			6	SS	20	34				
103 / 5										
102 / 6		SHALE: grey	7	SS	100	50				
101 / 7		Borehole terminated at 6.6 mbgs due to auger refusal on inferred bedrock								Groundwater encountered during drilling at a depth of about 3.0 m Groundwater level measured in borehole at a depth of about 3.0 m on completion of drilling.
100 / 8										
9										

Logged By: EC
Input By: CM

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Log of Borehole: BH125-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 15, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832184 m N,620599 m E
Elevation: 109.01 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
109	0		SILTY SAND: brown; non-cohesive, moist, loose, FILL, (SM)	1A / 1B	SS	50	6				
108	1			2	SS	75	8				
			SILTY SAND to sandy SILT: brown to light brown; non-cohesive, moist, compact, (SM/ML)	3	SS	70	13				
107	2			4	SS	100	23				
106	3		SILTY CLAY to CLAYEY SILT: trace sand, trace gravel; grey; silty sand seams; cohesive, w < PL to w > PL, very stiff, (CL-ML/CL)	5	SS	80	18				
105	4										
104	5			6	SS	60	18				Atterberg SS6: LL: 19.2% PL: 13.1% PI: 6.0%
103	6		SILTY CLAY: weathered grey shale; grey; cohesive, w < PL, hard	7	SS	100	50/ 125 mm				
102	7		Borehole terminated at 7.0 mbgs due auger refusal on inferred bedrock								
101	8										Groundwater level measured in borehole at a depth of about 2.3 m on completion of drilling.
100	9										

Logged By: EC
Input By: CM

TEST PIT LOGS
Geotechnical Investigation: Bishop Allen Academy
Technician: CM
Cambium Reference No. 14560-001
Completed: March 18, 2022

Test Pit ID	Depth (mbgs[1])	Soil Sample	Moisture Content (%)	Material Description
TP115-22	0.0 - 0.3	GS1		Black topsoil, some organics, moist
	0.3 - 0.8	GS2		Dark brown sandy silt, some clay, moist, FILL
110.91 mASL	0.8 - 2.6	GS3 & GS4		Light Brown sand, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832357 m N				
620544 m E				Test pit terminated at 2.6 mbgs
TP126-22	0.0 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 1.7	GS2		Dark brown silty sand, moist, FILL
109.67 mASL	1.7 - 2.6	GS3 & GS4		Light brown sand, trace silt, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832359 m N				
620699 m E				Test pit terminated at 2.6 mbgs
TP127-22	0.0 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 1.5	GS2 & GS3		Dark brown silty sand, moist, FILL
109.64 mASL	1.5 - 2.6	GS4 & GS5		Light brown sand, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832372 m N				
620695 m E				Test pit terminated at 2.6 mbgs
TP128-22	0.0 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 1.1	GS2		Dark brown silty sand, trace gravel, trace clay, moist, FILL
110.64 mASL	1.1 - 2.6			Light brown sand, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832308 m N				
620611 m E				Test pit terminated at 2.6 mbgs
TP129-22	0.0 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 2.3	GS2		Brown sand, some silt, trace gravel, moist, FILL
110.17 mASL	2.3 - 2.6	GS3		Grey sand, some gravel, trace silt, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832411 m N				
620555 m E				Test pit terminated at 2.6 mbgs

[1]: metres below ground surface

TEST PIT LOGS

Geotechnical Investigation: Bishop Allen Academy

Technician: CM

Cambium Reference No. 14560-001

Completed: March 18, 2022

Test Pit ID	Depth (mbgs[1])	Soil Sample	Moisture Content (%)	Material Description
TP130-22	0.0 - 0.3	GS1		Black topsoil, some organics, moist
	0.3 - 1.8	GS2		Brown sand, some gravel, moist
109.97 mASL	1.8 - 2.4	GS3 & GS4		Grey sand, some silt, trace gravel, trace clay, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832426 m N				
620513 m E				Test pit terminated at 2.4 mbgs
TP131-22	0.1 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 0.9	GS2		Dark brown silty sand, moist, FILL
108.86 mASL	0.9 - 1.5	GS3		Light brown sand, moist
				Moist to wet at 1.4 mbgs
4832258 m N				
620609 m E				Test pit terminated at 1.5 mbgs

[1]: metres below ground surface

Appendix B

Physical Laboratory Testing Results

Grain Size Distribution Chart

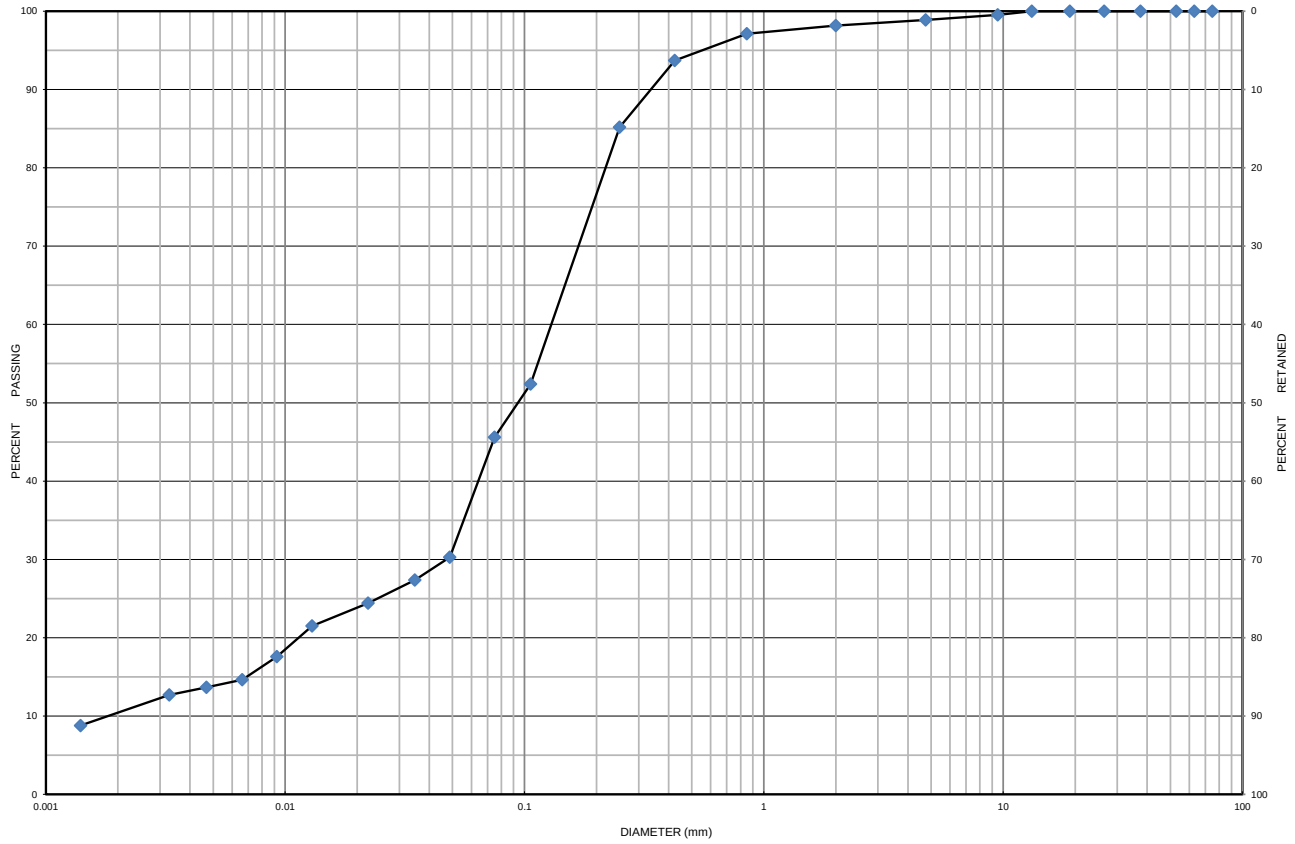
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 102-22 SS 4* **Depth:** *2.3 m to 2.7 m* **Lab Sample No:** *S-22-0604*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 102-22	SS 4	2.3 m to 2.7 m	1	53	35	11	15.5

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
SILTY SAND to sandy SILT, trace Gravel	SM	0.1400	0.0480	0.0018	77.78	9.14

Additional information available upon request

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Plasticity Chart

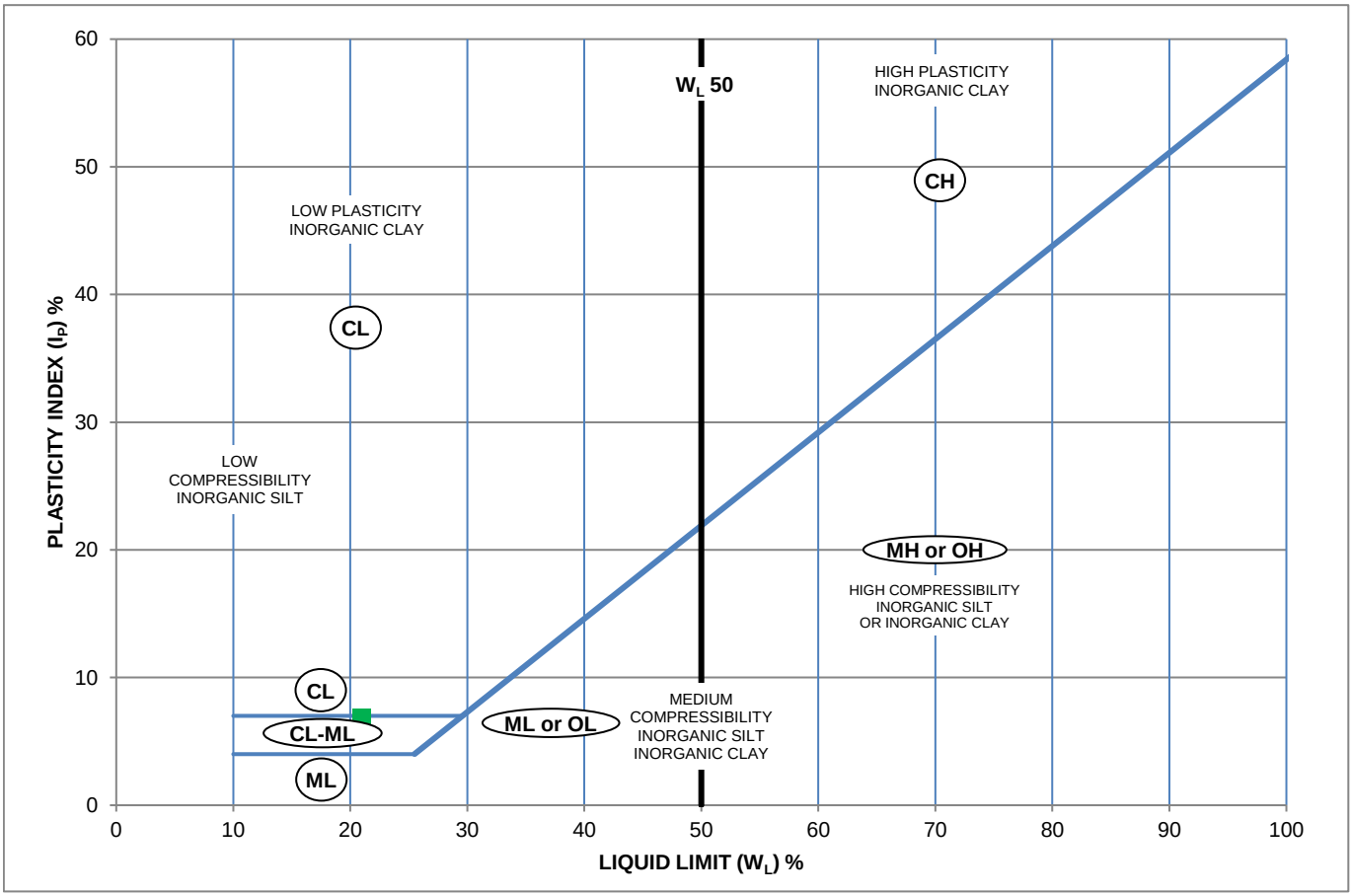
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sampled By: *Various - Cambium Inc.* **Sample Date:** *March 2022*

Hole No.: *BH 102-22 SS 6* **Depth:** *4.6 m to 5 m* **Lab Sample No:** *S-22-0605*

Low Plasticity	High Plasticity



Symbol	Borehole	Sample	Depth	Description
■	BH 102-22	SS 6	4.6 m to 5 m	CL-ML

Liquid Limit (%)	Plastic Limit	Plasticity Index (%)
21.0	***14.1***	***6.9***

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Plasticity Chart

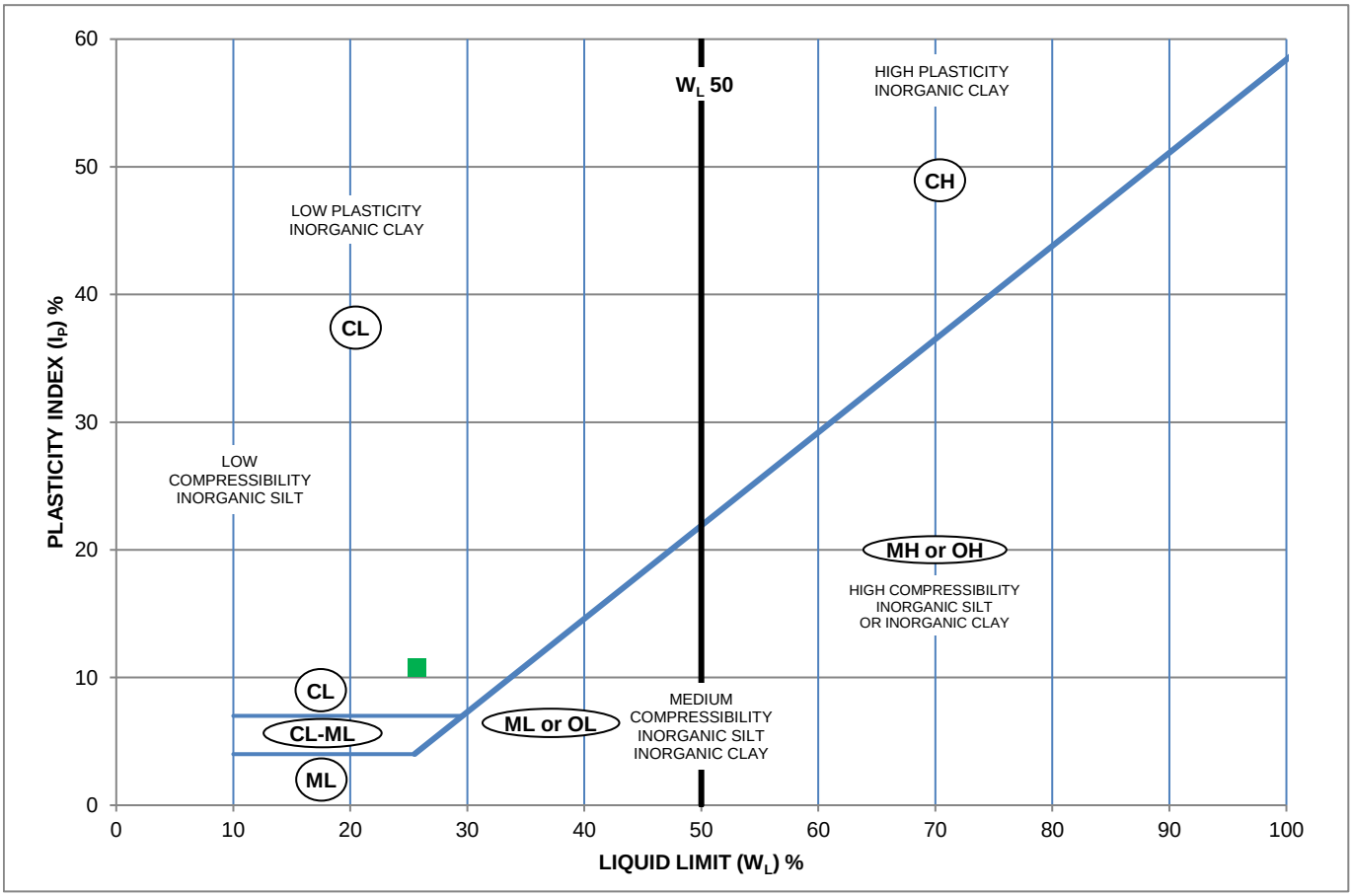
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sampled By: *Various - Cambium Inc.* **Sample Date:** *March 2022*

Hole No.: *BH 119-22 SS 7* **Depth:** *6.1 m to 6.6 m* **Lab Sample No:** *S-22-0607*

Low Plasticity	High Plasticity



Symbol	Borehole	Sample	Depth	Description
■	BH 119-22	SS 7	6.1 m to 6.6 m	CL

Liquid Limit (%)	Plastic Limit	Plasticity Index (%)
25.7	***14.9***	***10.8***

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Grain Size Distribution Chart

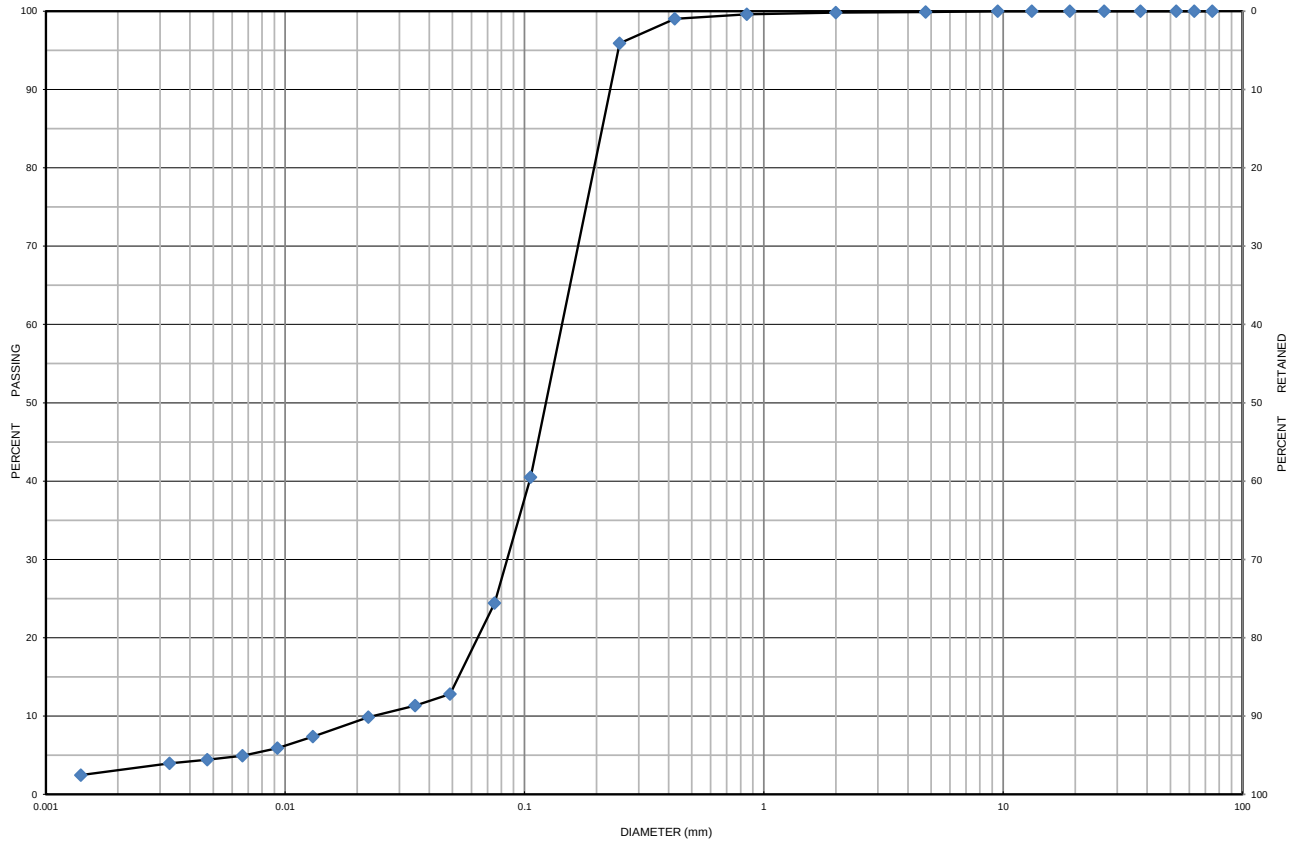
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 105-22 SS 4* **Depth:** *2.3 m to 2.7 m* **Lab Sample No:** *S-22-0608*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 105-22	SS 4	2.3 m to 2.7 m	0	75	22	3	20.0

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
SILTY SAND	SM	0.150	0.084	0.023	6.52	2.05

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Grain Size Distribution Chart

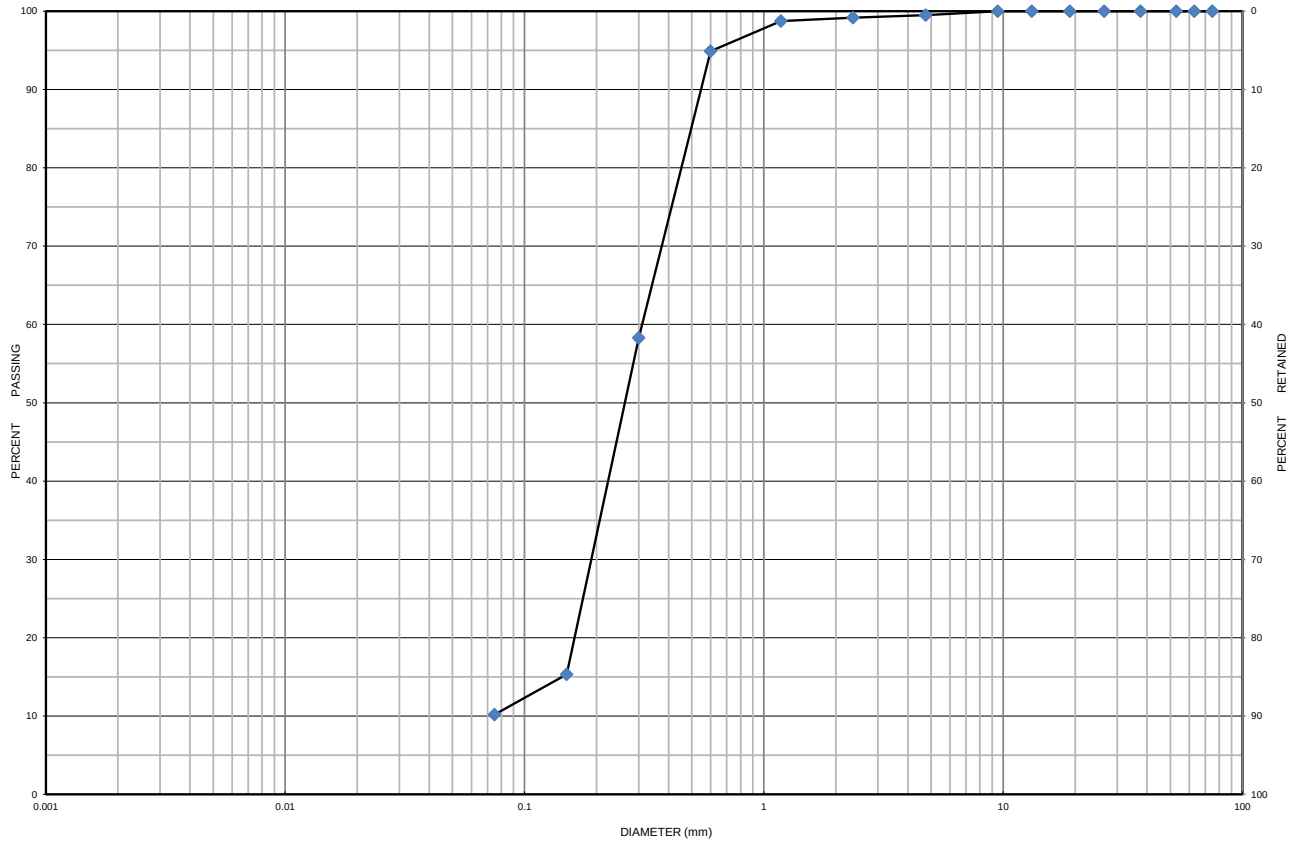
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 116-22 SS 4* **Depth:** *2.3 m to 2.7 m* **Lab Sample No:** *S-22-0609*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 116-22	SS 4	2.3 m to 2.7 m	0	89	11		3.2

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
SAND some fines	SP	0.310	0.190	-	-	-

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Grain Size Distribution Chart

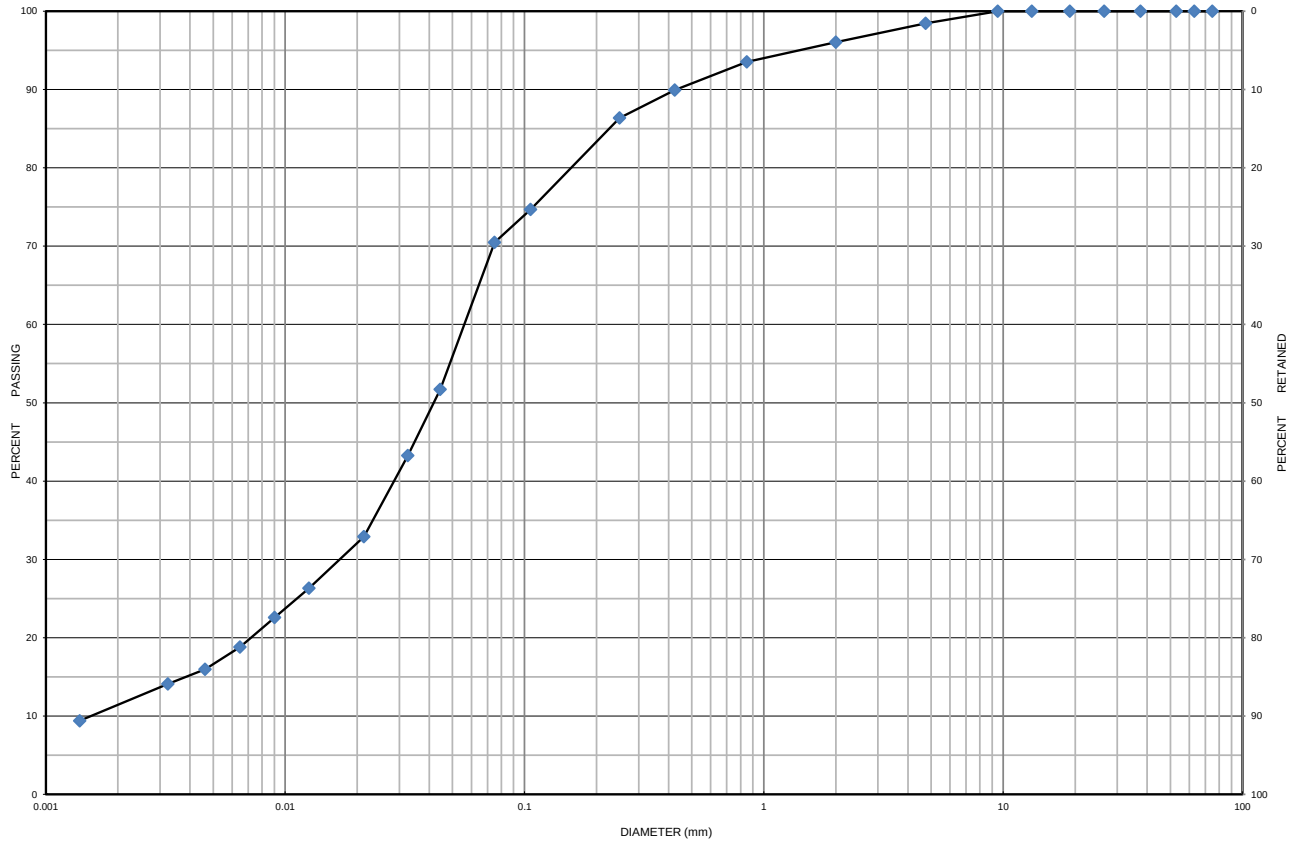
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 120-22 SS 4* **Depth:** *2.3 m to 2.7 m* **Lab Sample No:** *S-22-0610*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 120-22	SS 4	2.3 m to 2.7 m	2	28	58	12	14.6

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
Sandy SILT trace Gravel	ML	0.5600	0.0170	0.0015	373.33	0.34

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Grain Size Distribution Chart

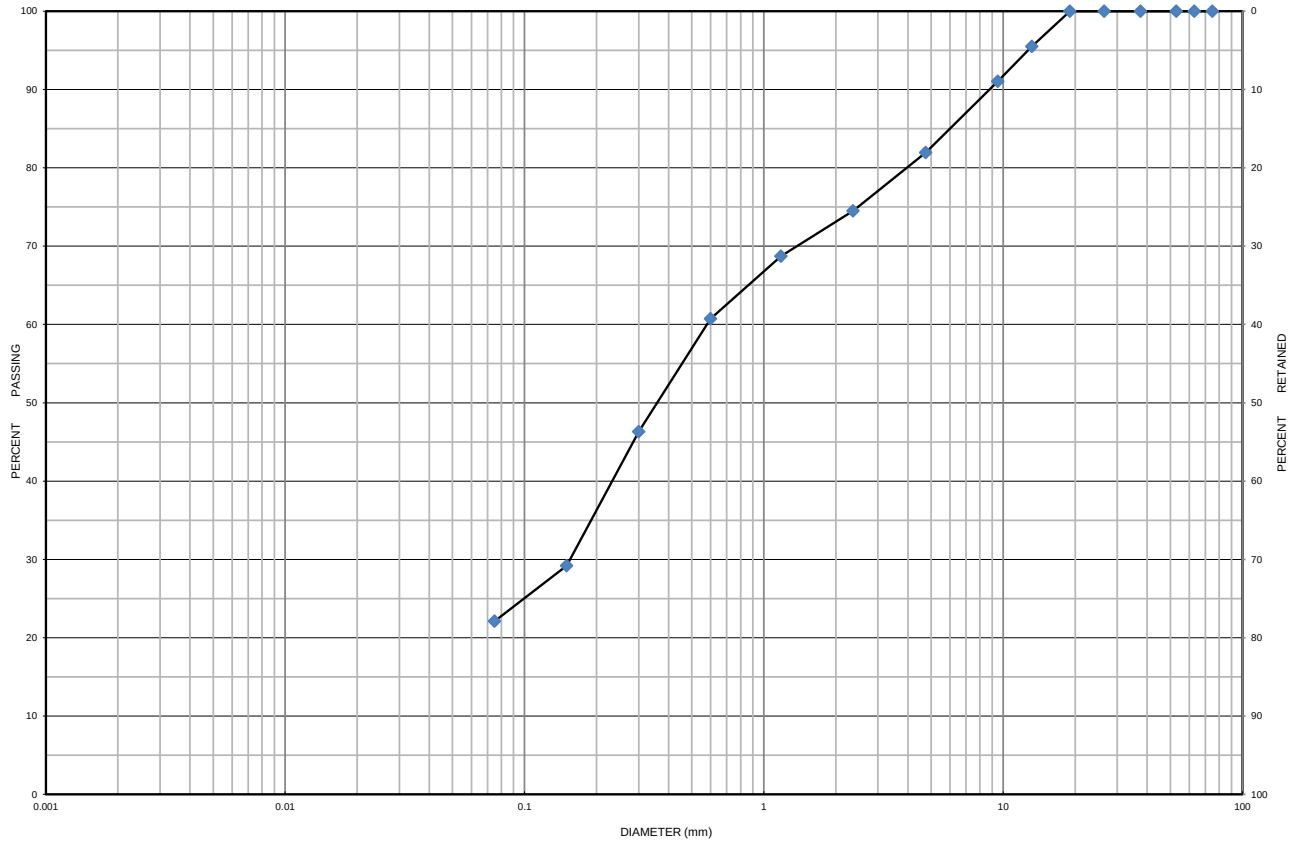
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 117-22 SS 6* **Depth:** *3.8 m to 4.3 m* **Lab Sample No:** *S-22-0611*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 117-22	SS 6	3.8 m to 4.3 m	18	60	22		5.4

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
Gravelly SAND	SM	0.595	0.155	-	-	-

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Grain Size Distribution Chart

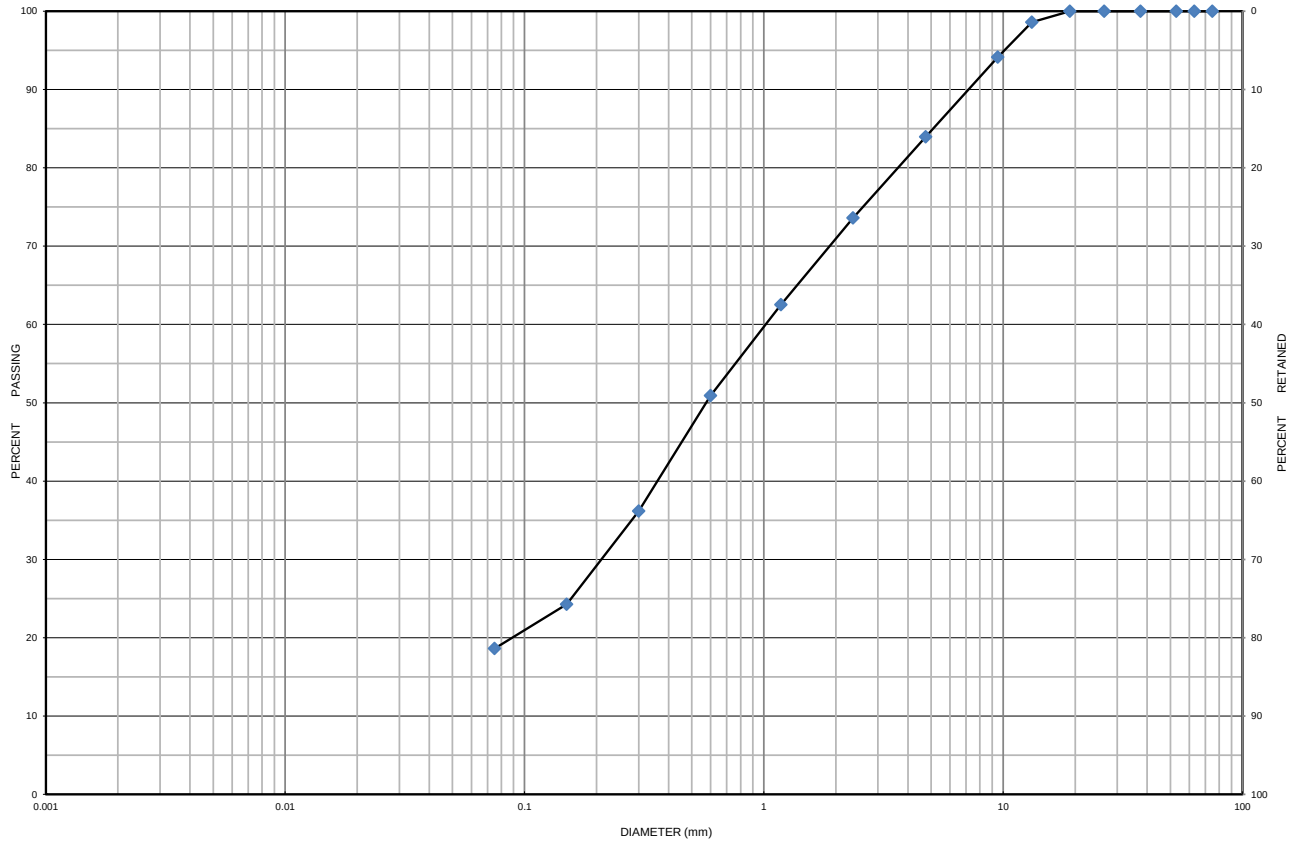
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 114-22 SS 7* **Depth:** *4.6 m to 5 m* **Lab Sample No:** *S-22-0612*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 114-22	SS 7	4.6 m to 5 m	16	65	19		6.1

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
Gravelly SILTY SAND	SM	1.000	0.220	-	-	-

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Plasticity Chart

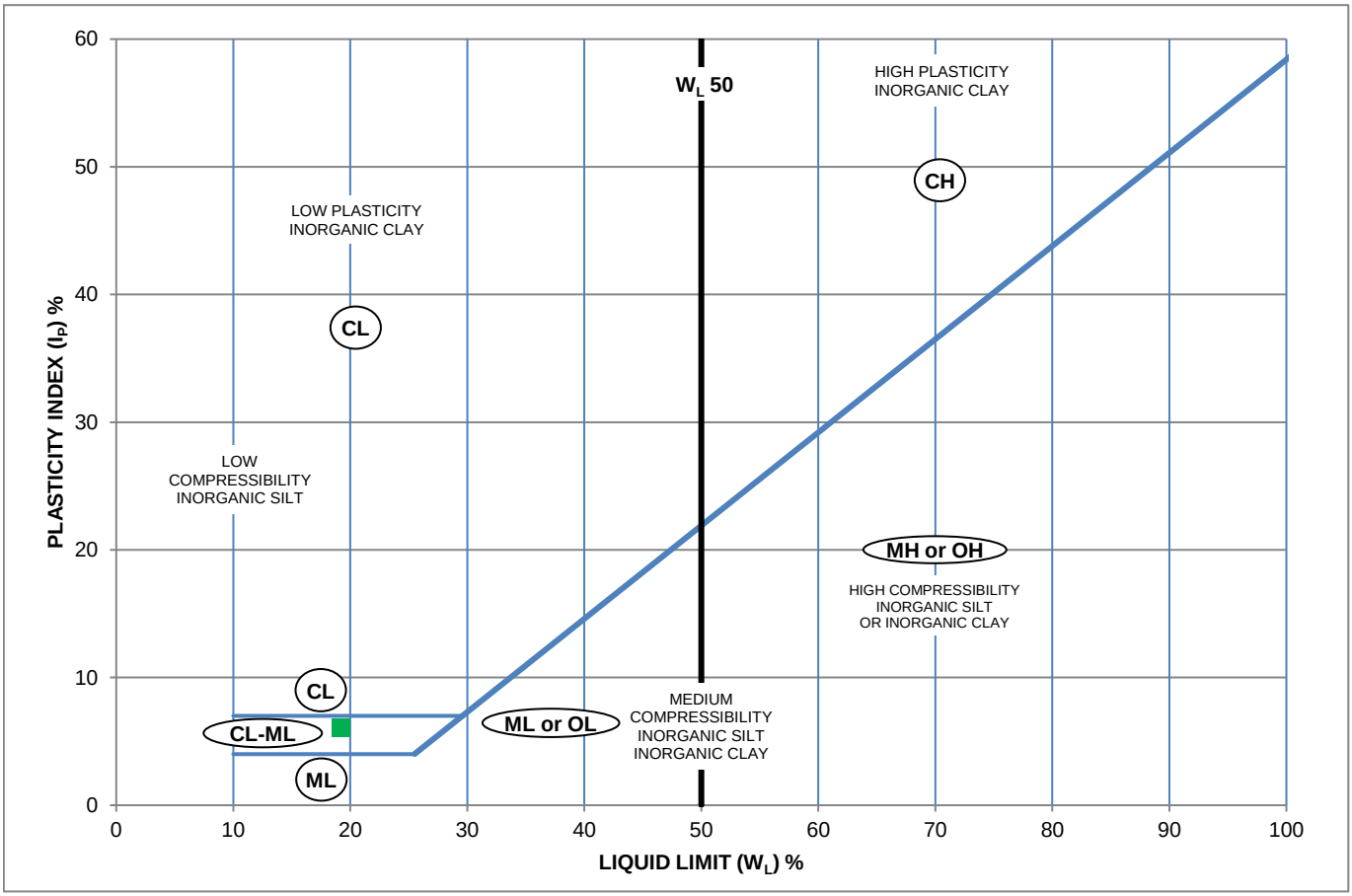
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sampled By: *Various - Cambium Inc.* **Sample Date:** *March 2022*

Hole No.: *BH 125-22 SS 6* **Depth:** *3 m to 3.5 m* **Lab Sample No:** *S-22-0613*

Low Plasticity	High Plasticity



Symbol	Borehole	Sample	Depth	Description
■	BH 125-22	SS 6	3 m to 3.5 m	CL-ML

Liquid Limit (%)	Plastic Limit	Plasticity Index (%)
19.2	***13.1***	***6.0***

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Appendix C

Slope Stability Profiles

Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Compact to Dense Non-cohesive Deposit	19	0	32
	Loose Non-cohesive Deposits	18	0	28
	Very Stiff Silty Clay (Till)	19	10	28

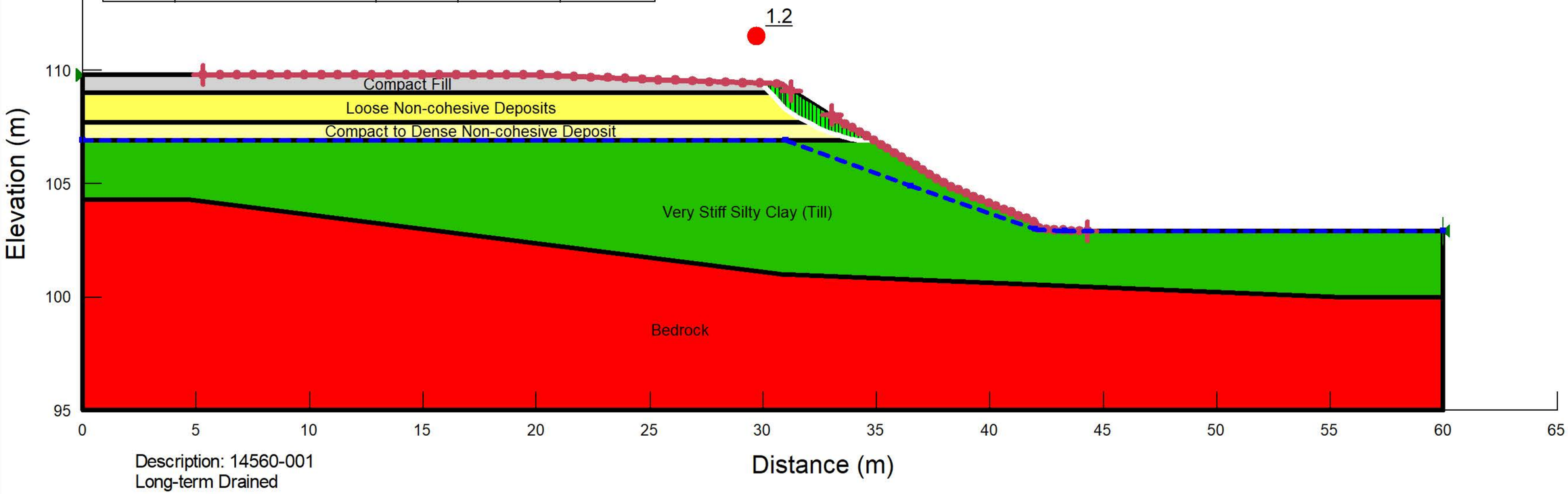


FIGURE C1A
SECTION A-A' EXISTING SLOPE

Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Compact to Dense Non-cohesive Deposit	19	0	32
	Loose Non-cohesive Deposits	18	0	28
	Very Stiff Silty Clay (Till)	19	10	28

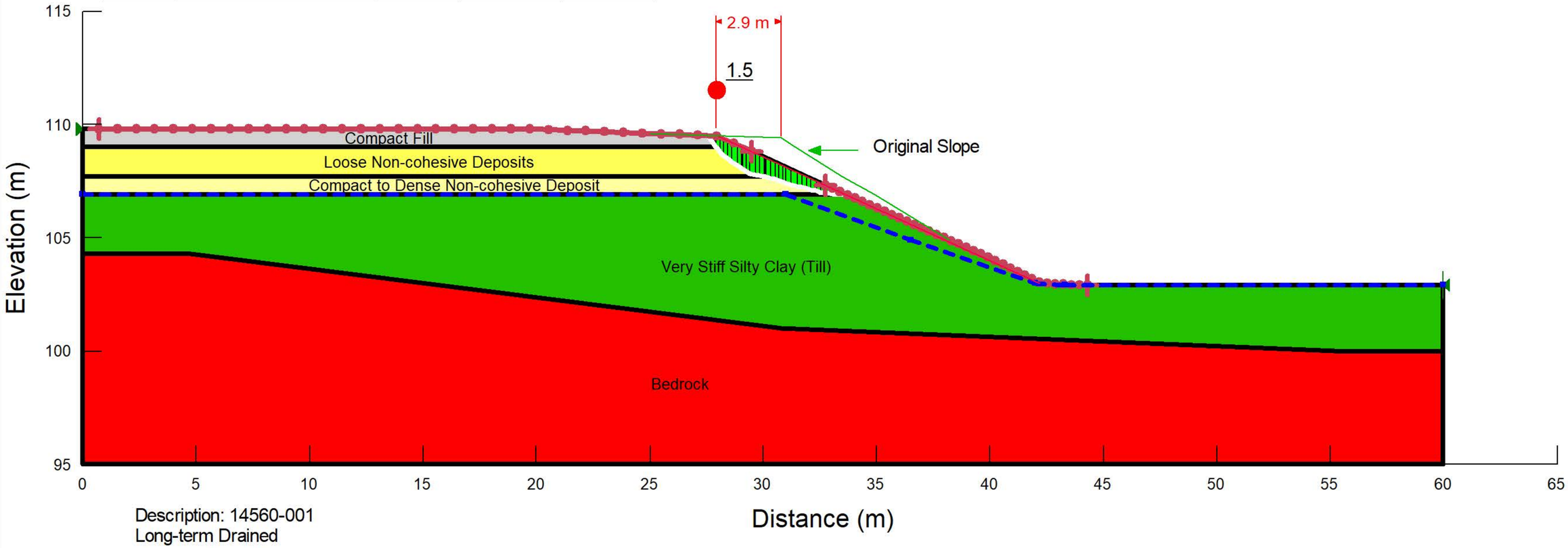
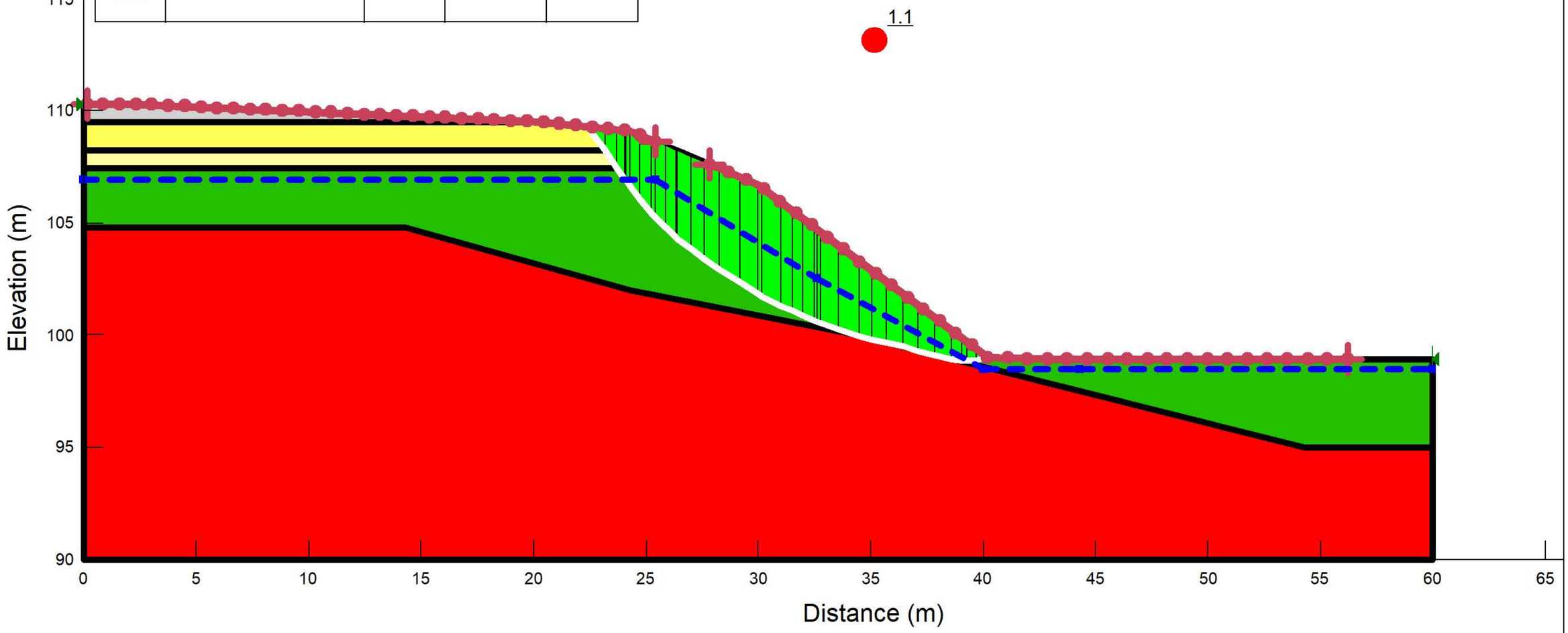


FIGURE C1B
SECTION A-A' SLOPE FOR 1.5 FOS

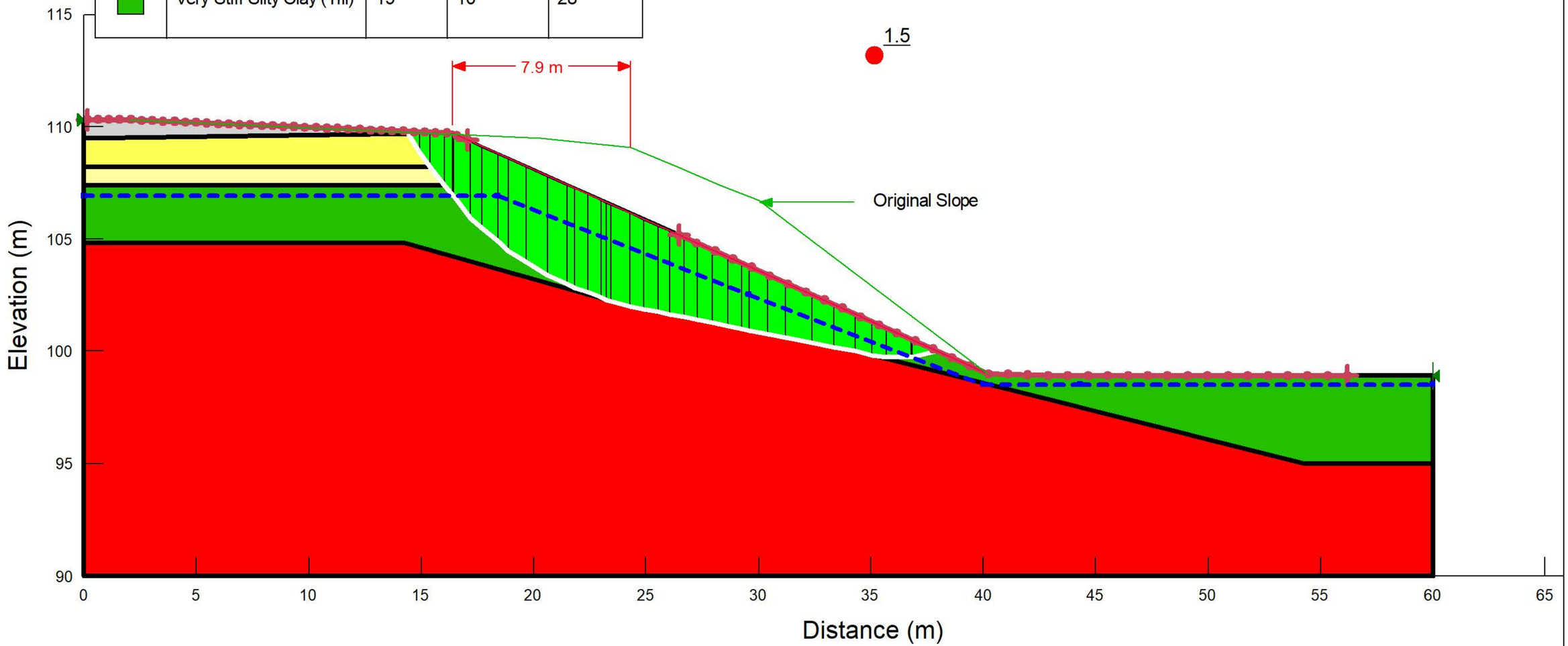
Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Compact to Dense Non-cohesive Deposit	19	0	32
	Loose Non-cohesive Deposits	18	0	28
	Very Stiff Silty Clay (Till)	19	10	28



Description: 14560-001
Long-term Drained
Date: 2022-06-29
Analysis Type: Morgenstern-Price
Name: Section B-B

FIGURE C2A
SECTION B-B' EXISTING SLOPE

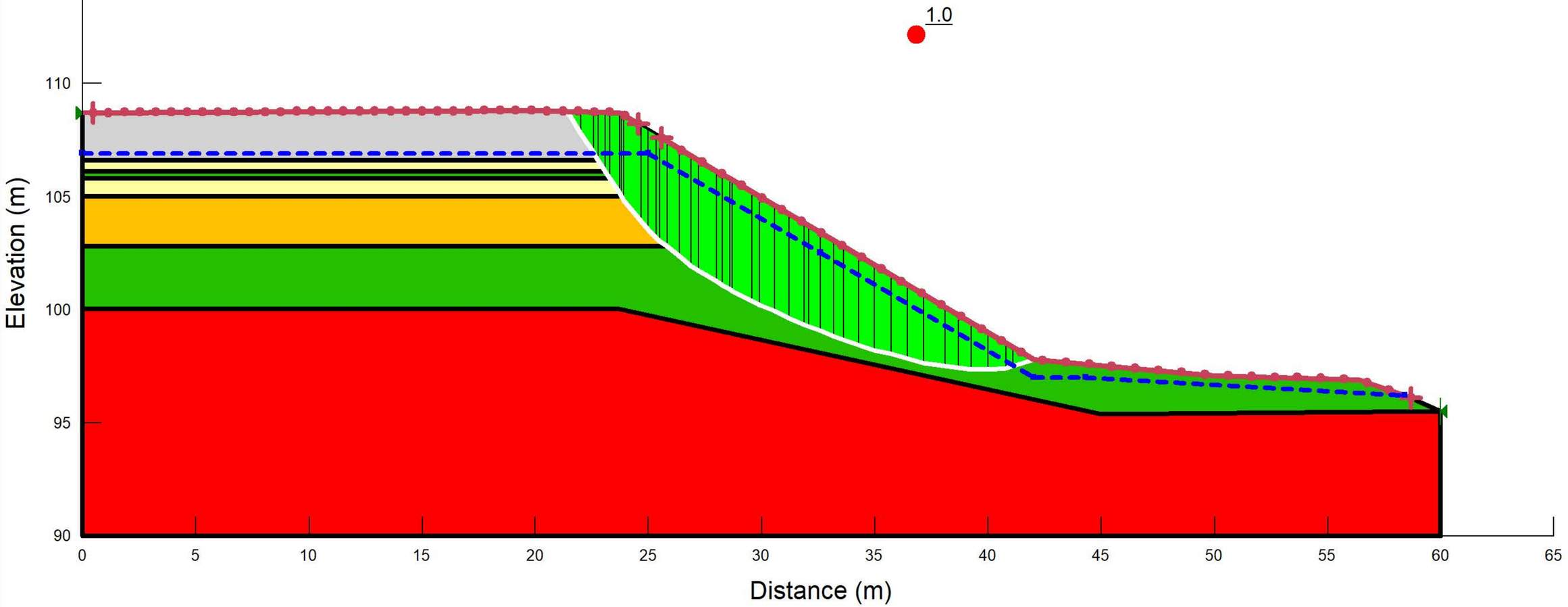
Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Compact to Dense Non-cohesive Deposit	19	0	32
	Loose Non-cohesive Deposits	18	0	28
	Very Stiff Silty Clay (Till)	19	10	28



Description: 14560-001
Long-term Drained
Date: 2022-07-12
Analysis Type: Morgenstern-Price
Name: Section B-B

FIGURE C2B
SECTION B-B' SLOPE FOR 1.5 FOS

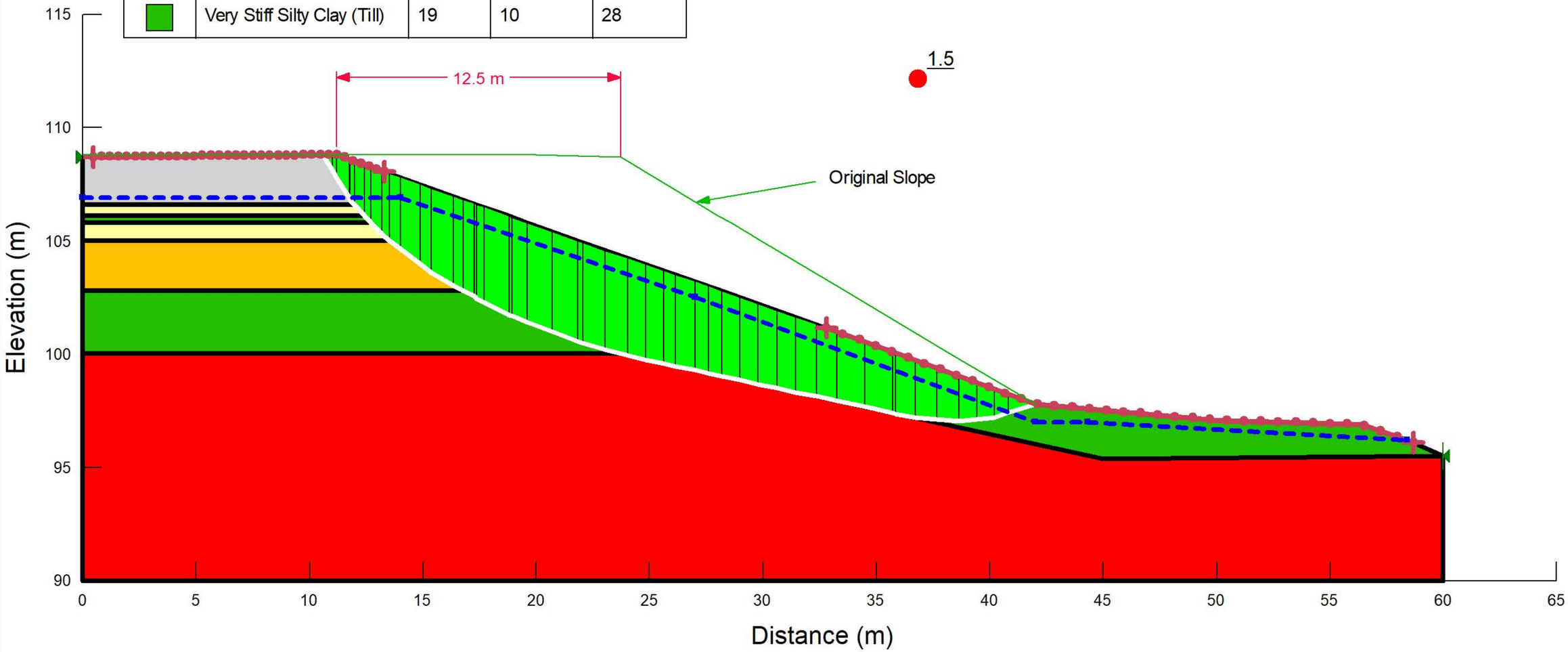
Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Compact to Dense Non-cohesive Deposit	19	0	32
	Dense to Very Dense Non-cohesive Deposit	20	0	34
	Very Stiff Silty Clay (Till)	19	10	28



Project: 14560-001
Long-term Drained
Date: 2022-06-29
Analysis Type: Morgenstern-Price
Name: Section C-C

FIGURE C3A
SECTION C-C' EXISTING SLOPE

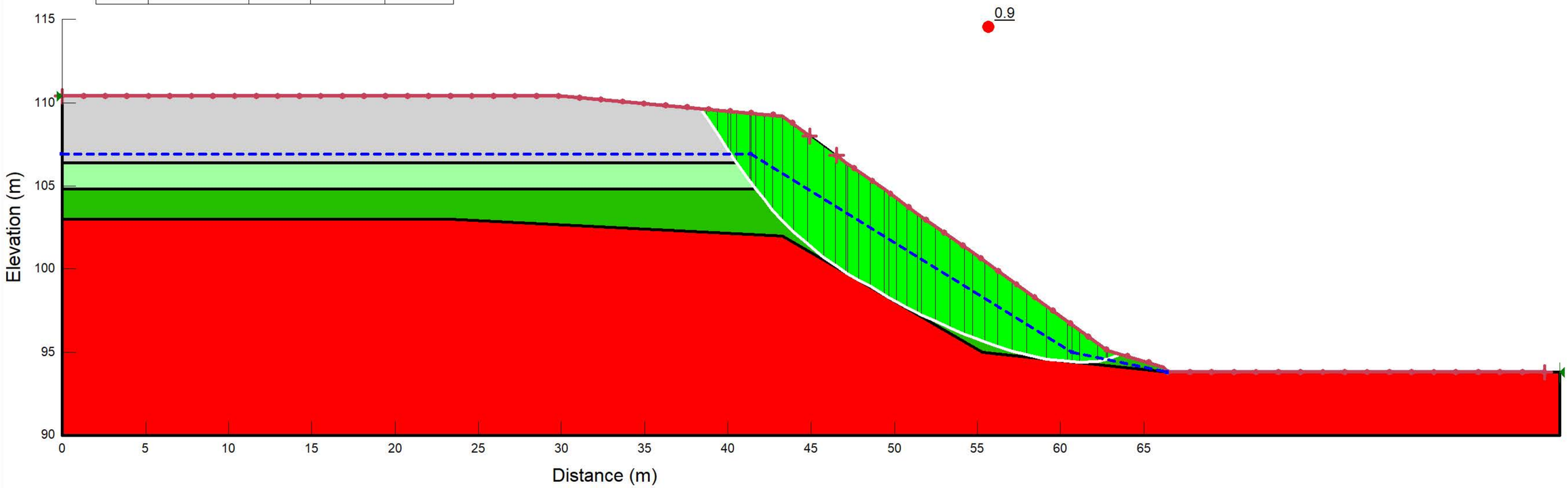
Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Compact to Dense Non-cohesive Deposit	19	0	32
	Dense to Very Dense Non-cohesive Deposit	20	0	34
	Very Stiff Silty Clay (Till)	19	10	28



Project: 14560-001
Long-term Drained
Date: 2022-07-12
Analysis Type: Morgenstern-Price
Name: Section C-C

FIGURE C3B
SECTION C-C' SLOPE FOR 1.5 FOS

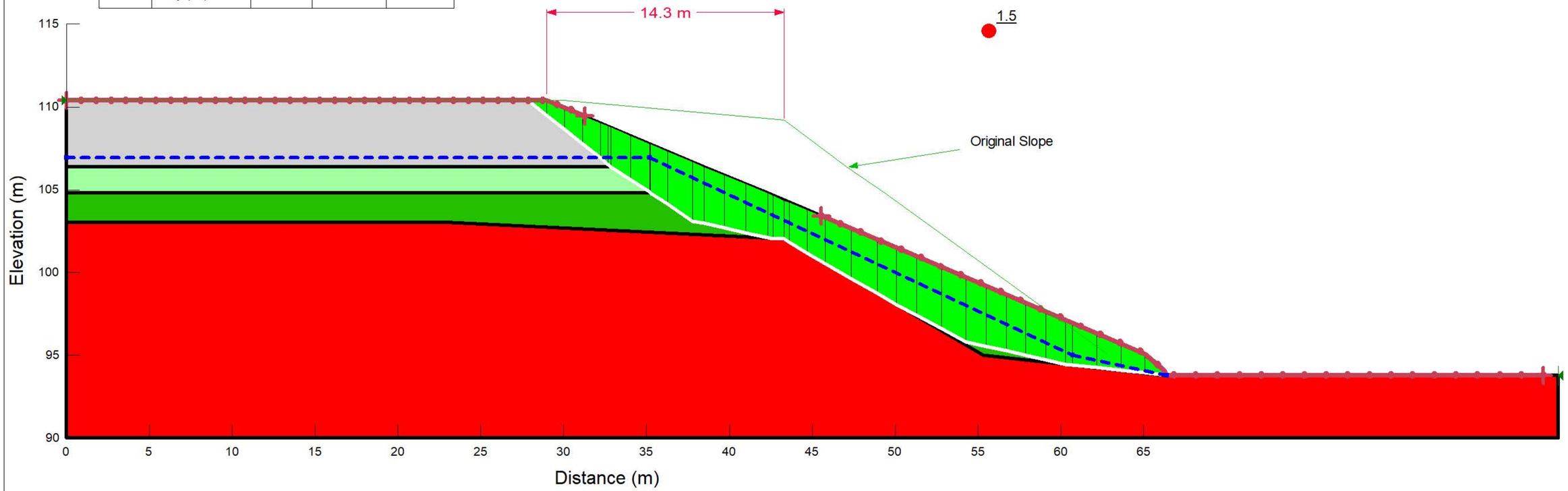
Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Stiff Silty Clay	18.5	6	28
	Very Stiff Silty Clay (Till)	19	10	28



Project: 14560-001
Long-term Drained
Date: 2022-06-29
Analysis Type: Morgenstern-Price
Name: Section D-D

FIGURE C4A
SECTION D-D' EXISTING SLOPE

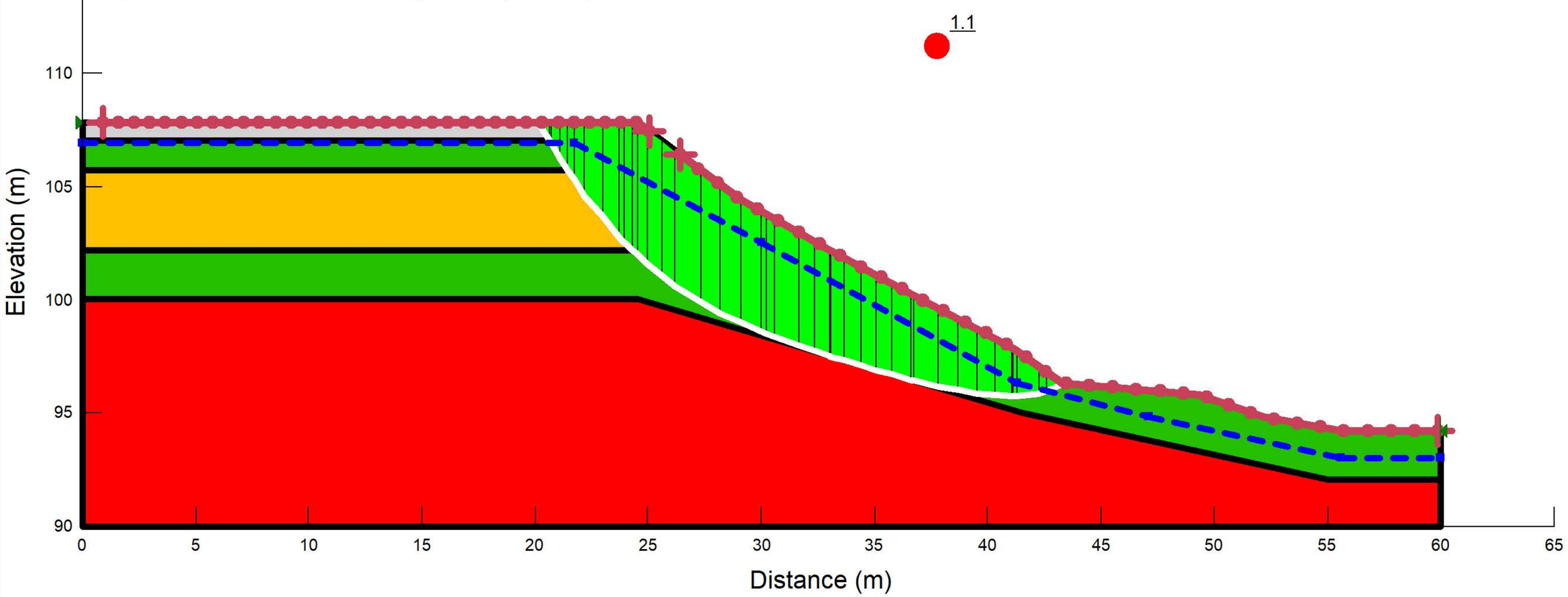
Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Stiff Silty Clay	18.5	6	28
	Very Stiff Silty Clay (Till)	19	10	28



Project: 14560-001
Long-term Drained
Date: 2022-07-12
Analysis Type: Morgenstern-Price
Name: Section D-D

FIGURE C4B
SECTION D-D' SLOPE FOR 1.5 FOS

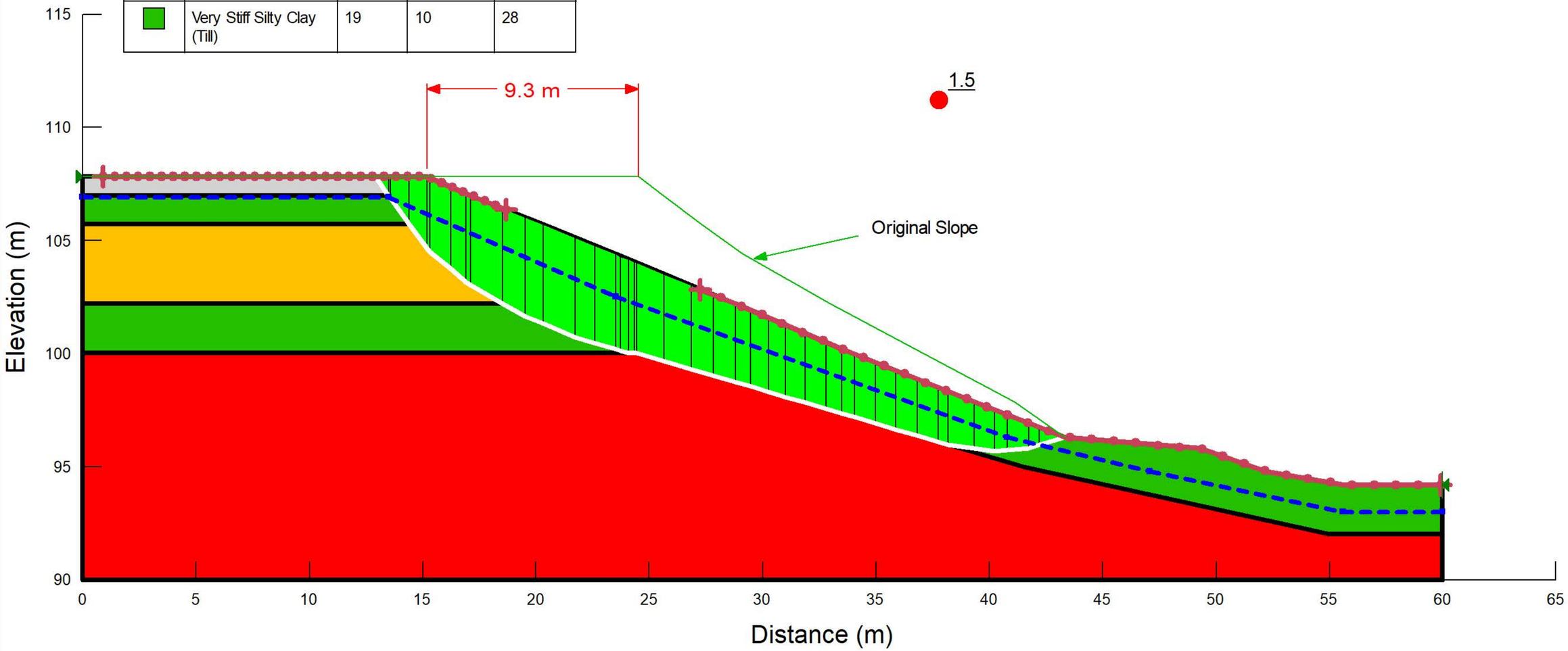
Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Dense to Very Dense Non-cohesive Deposit	20	0	34
	Very Stiff Silty Clay (Till)	19	10	28



Project: 14560-001
Long-term Drained
Date: 2022-06-29
Analysis Type: Morgenstern-Price
Name: Section E-E

FIGURE C5A
SECTION E-E' EXISTING SLOPE

Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
	Bedrock			
	Compact Fill	18	0	30
	Dense to Very Dense Non-cohesive Deposit	20	0	34
	Very Stiff Silty Clay (Till)	19	10	28



Project: 14560-001
Long-term Drained
Date: 2022-07-12
Analysis Type: Morgenstern-Price
Name: Section E-E

FIGURE C5B
SECTION E-E' SLOPE FOR 1.5 FOS

Appendix D

Results of GPR Testing

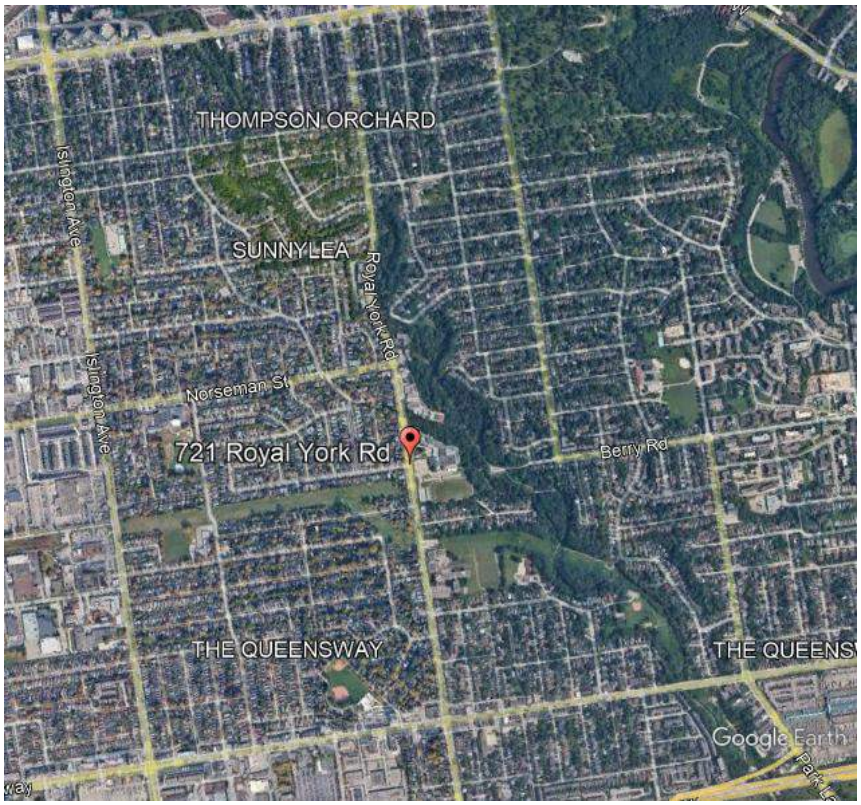
GEOPHYSICS GPR
INTERNATIONAL INC.

GEOPHYSICAL SURVEY AT 721 ROYAL YORK ROAD, ETOBICOKE, ON

Presented to:

CAMBIUM

843 King Street West,
Oshawa, Ontario
L1J 2L4



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info@geophysicsgpr.com
July 2022 **GPR-22-3902**

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1 INTRODUCTION

Geophysics GPR International Inc. (GPR) was requested by Cambium Inc. to carry out a geophysical survey at 721 Royal York Road in Etobicoke, Ontario (Figure 1).

The goal of this investigation was to determine the bedrock depth on the slopes leading down to Mimico Creek from the Bishop Allen Academy (Figure 1). The most accurate geophysical method for this objective is seismic refraction. Additional techniques were proposed to improve the accuracy notably seismic resonance (TISAR).

The geophysical fieldwork was carried out on June 8th and 10th, 2022.

The following report describes the survey design, the principles of the applied methods, the methodology for interpreting the data and finally a culmination of the results in the form of interpreted profiles

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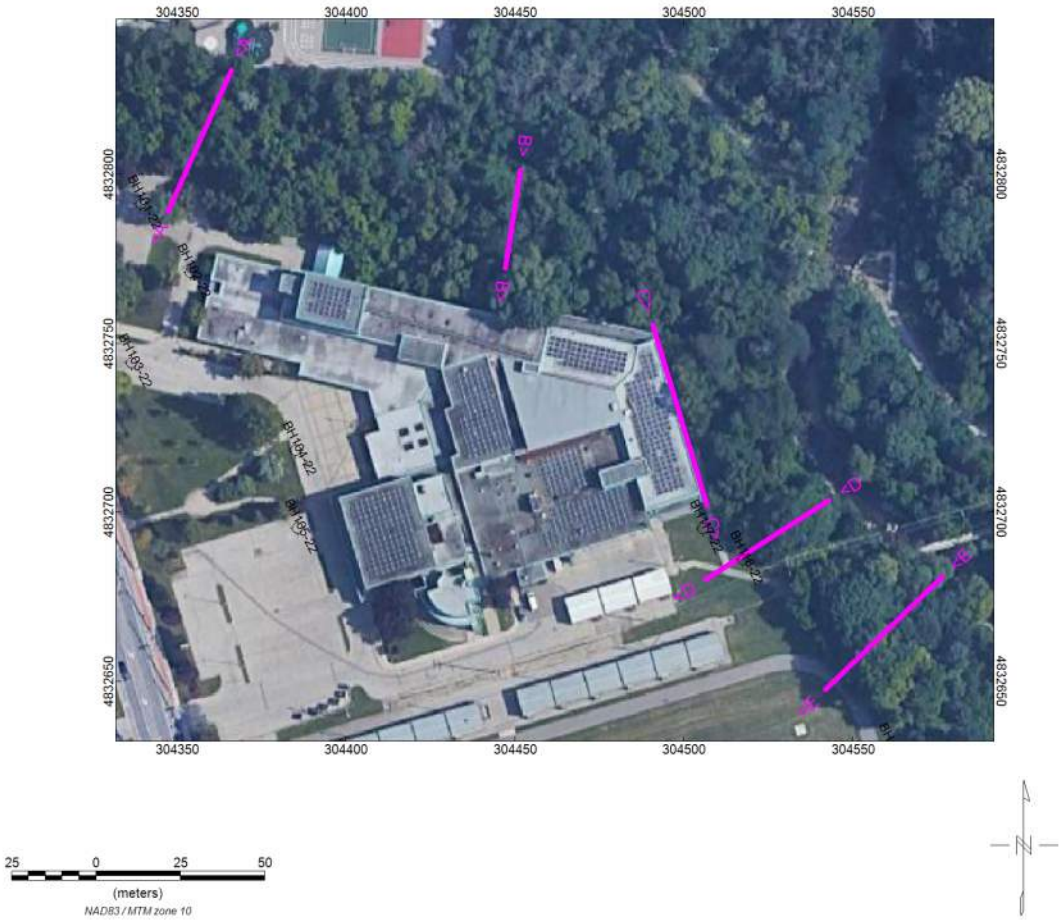


Figure 1: Survey location with seismic lines.

2 METHODOLOGY

2.1 Personnel

The GPR field personnel involved in this project and the dates that they were on-site are outlined in Table 1, below:

Table 1: Field personnel and survey dates

Employee	Title	Dates On-Site
Duro Zejlkovic	GIT	June 8th and 10th, 2022
Johan Mireles	Technician	July 8th and 10th, 2022
Simon Macdiarmad	Technician	July 8th, 2022
Nathan Stoikopoulos	Technician	July 10th, 2022

2.2 Positioning, Topography and Units of Measurement

The horizontal positions are in the NAD83, MTM Zone 10datum.

All geophysical measurements are reported in SI units.

The start and end of line coordinates are provided in Table 2.

Elevations were recorded with a survey level and referenced to borehole elevations provided by the client.

Table 2: Seismic line UTM coordinates (NAD83 MTM Zone 10N datum).

Seismic Line	Start Easting	Northing	End Easting	Northing	Length (m)
A-A	320026	4908924	320015	4908880	46
B-B	320118	4908916	320118	4908873	46
C-C	320165	4908875	320192	4908824	57.5
D-D	320226	4908833	320195	4908804	46
E-E	320261	4908813	320236	4908778	46

2.3 Seismic Refraction

Seismic methods for geologic mapping involve measuring/recording the response of vibration sensors. Multiple techniques and methodologies are available for analysis of the data depending on the ultimate goal of the investigation. The profiles were collected using a standard stationary geophone arrangement.

Basic Theory

The seismic refraction method relies on measuring the transit time of the wave that takes the shortest time to travel from the shot-point to each geophone. The fastest seismic waves are the compressional (P) or acoustic waves, where displaced particles oscillate in the direction of wave propagation. The energy that follows this first arrival, such as reflected waves, transverse (S) waves and resonance, is not considered under routine seismic refraction interpretation. (Figure 2) illustrates the basic operating principle for refraction surveys.

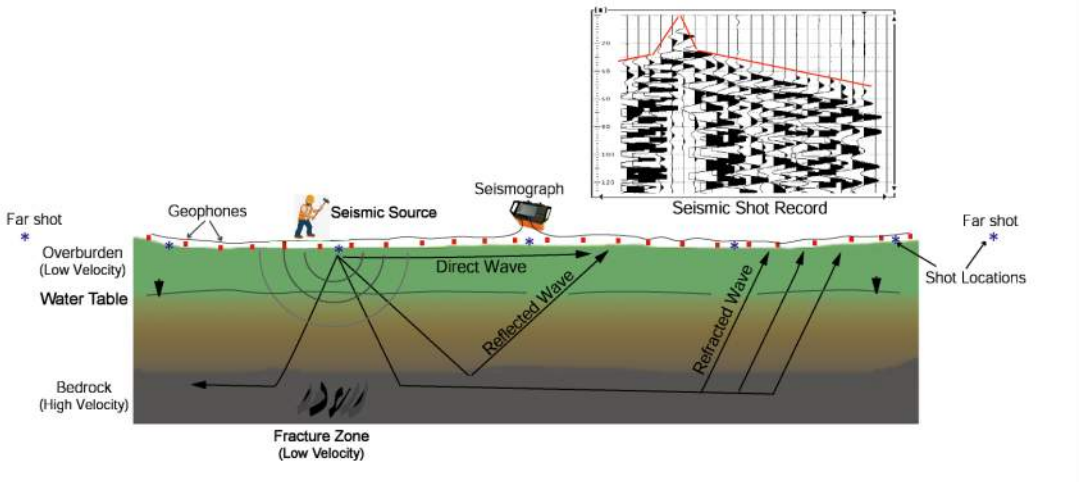


Figure 2: Seismic Refraction Operating Principle

Survey Design

A seismic spread usually consists of 12 to 24 vibration-monitoring devices (geophones and hydrophones) connected in line to a seismograph (Abem Terraloc Pro/Mark 6). Seismic pulses (shots) are generated at various locations with respect to the spread.

The seismic data were acquired along five survey lines. The placement of the survey lines was determined by the client and limited on site to avoid thick brush and very steep topography.

The seismic source selected for this survey was a sledgehammer and metal plate.

Interpretation Method and Accuracy of Results

Interpretation of the seismic data was done using the Hawkins' method and computer refraction tomography. The Hawkins' method allows the computation of the rock depth to every geophone. This method provides information on the thickness of the various overburden layers, depth to bedrock and rock quality. It is based on the closure times of the inner shots. It can calculate the true velocities of the rock using the apparent velocities, measured with information provided by the outer shots. A full description of the strengths and limitations of the refraction seismic method is presented in Appendix A. A basic description of the Hawkins' method can also be found in the article Seismic Refraction Surveys for Civil Engineering by L. Hawkins (1961).

The refraction tomography processing was done using the SeisImager Plotrefa software package (ver 3.1.0.5). The refraction tomography method involves a computer ray tracing inversion process to fit a velocity model to the interpreted time-distance arrival time data. How well the travel-times computed from the velocity model match the interpreted travel-times from the raw data are reported as an RMS error in milliseconds. This RMS error gives an indication of the accuracy of the model but are not a true measure of the velocities. Noisier data will, in general, give higher RMS error values. Tomographic inversion can provide more accurate models than the standard interpretation method in areas of gradational changes in velocity and in areas of extreme topography.

The standard seismic refraction method typically allows the determination of the bedrock profile with a precision of 10% or better for depths greater than 10 m and a precision of 1 m for depths less than 10 m. The precision in the determination of rock velocities is plus or minus 3%. The vertical contacts (lateral velocity change), usually associated with faults and deep valleys, are generally accurate to within 5 m in width; although, this is somewhat site specific.

The two most significant problem areas for refraction mapping are the “hidden” layer and effect of velocity inversions.

A “hidden” layer or “blind zone” is a stratigraphic layer that is not possible to discern from the arrival time data due to insufficient velocity variation or thickness. The unknown presence of a hidden layer has the effect of making the interpreted bedrock depth too shallow. The presence of a “hidden” layer is typically revealed through borehole or test-pit data and calculations can be made to compensate for the presence of such a layer.

Velocity inversions occur when the velocity does not increase with depth. The velocity inversion can result from the presence of a low or high velocity layer. Refractions from low-velocity layers cannot be determined from the arrival time data. The unknown presence of a low velocity layer has the effect of making the interpreted depths deeper than actual depths. At this particular site, the presence of a velocity inversion is unlikely.

Vertical steps, troughs and steep drop-offs in the bedrock will be smoothed over in the refraction interpretation. Steep bedrock pinnacles will appear broader in the interpretation with higher uncertainty at the edges. Narrow troughs will be smoothed over and appear shallower. The degree of smoothing is due to the physics of the refracted wave front and strongly controlled by the bedrock depth. The geophone spacing plays a role up to a limit, again based on the depth. Beyond this limit, the main benefit of tighter geophone spacing is in data redundancy as opposed to horizontal resolution. Figure 3 contains a graphical representation of the typical level of smoothing for a theoretical bedrock model of steeply dipping pinnacles and troughs. As an example, at 10m depth, a 2m deep trough in the bedrock would have to be on the order of approximately 18m wide to resolve the maximum depth. At some depth point, steeply dipping, narrow bedrock valleys or cuts in the bedrock can present themselves as low velocity zones within the bedrock. There were no low velocity bedrock zones detected at this site.

Similarly to the broadening of bedrock pinnacles along the 2D seismic profiles, shallower bedrock offset to the side of a refraction profile (3D effect) can led to decreased accuracy and

results in a calculated depth shallower than actual depths. Visually, the arcs of Figure 3 can represent spherical domes from which the waves can refract. Drill hole data and perpendicular tie-lines can aid in the identification of 3D effects.

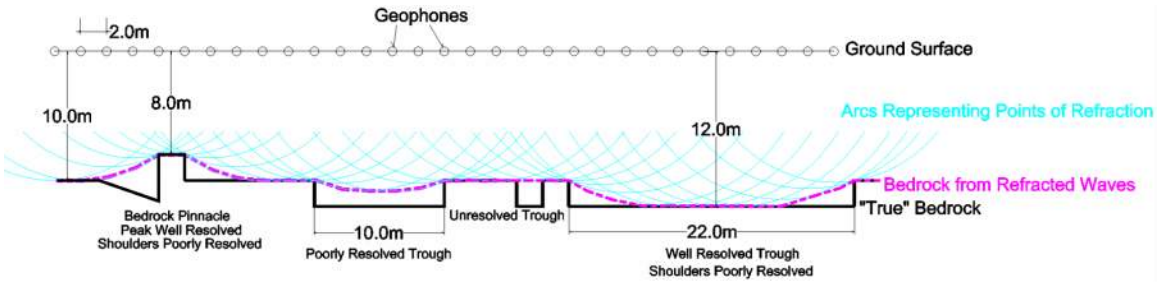


Figure 3: Graphical representation of the smoothing of the refraction method due to the physics of the waves

2.4 TISAR

Basic Theory

The seismic resonance, or *TISAR (Testing & Imaging using Seismic Acoustic Resonance),* method is based on the frequency analysis of seismic records. It considers the seismic resonance within the signal. The method was originally developed for geological sub-surface profiling (1 to 15 m deep); however it has been shown to be effective for ranges smaller than 0.1 m for testing of concrete/asphalt structures, as well as for deep (100 m) geological investigations. Figure 4 is a combination figure showing applications for the method and a small sample of an output that is interpreted for geologic contacts.

The method uses the information from an induced seismic signal in the frequency domain instead of the direct time domain as with classic seismic reflection. For both methods, however, the principal physical parameter involved remains the acoustic impedance contrast, which is the product of the seismic velocity and the volumetric mass of the investigated materials. At the interface between two materials with different acoustic impedance, the seismic signal is partially reflected back to the surface. Under specific conditions, the repetition of such reflections leads to the build-up of a resonance signal, whose frequency is related to the depth of the interface and the seismic velocity of the upper material. The resonance frequency is inversely proportional to the reflection time. The first advantage of the use of frequencies instead of reflection times is the amplitude and the repetitive signal, which is less sensitive to the ambient noise and produces a resolution that increases with shallow depths. The second advantage of using resonance frequencies is the ability to resolve very thin layers (contrary to standard reflection).

Survey Design

The TISAR data was collected simultaneously with the refraction data. Shots were taken at numerous locations within and extended from the geophone arrays. The seismic source used for this survey was a sledgehammer and plate.

Interpretation Method and Accuracy of Results

The seismic resonance method requires adequate geological models and seismic velocities. These parameters are typically derived from seismic refraction measurements. The accuracy of the

depths of TISAR reflectors is related to the accuracy of the layer velocities and thicknesses of the geological model. It may be possible that velocities vary by approximately 10% or more resulting in a similar variation in depth to a given reflector. Layer thicknesses estimated in the model could vary by a few metres resulting in variations of 20 to 30% in the resonance reflector depth. Resonance has the advantage of a vertical resolution that cannot be obtained from conventional seismic methods.

TISAR resonators can occur from geologic contacts, fractures and/or voids. As with seismic reflection and ground penetrating radar, the true nature/source of the resonators cannot be certain. Interpretation involves identifying trends in the relative amplitude of resonators.

The use of the word "relative" is the operative word. The vibration response of each geophone is normalized to itself and then a gain curve is applied to the entire geophone spread to compensate for the decrease in signal amplitude with depth (this is similar to ground radar). The gain curves are kept similar between profiles; however, changes in near surface geology and the resulting geophone coupling and hammer signal amplitude and frequency requires individual adjustment of the gain curves for each profile. Accordingly, discretion must be used when comparing the relative amplitudes of the resonators between profiles and depths.

The TISAR values are unitless. The colour palette is adjusted to highlight the areas with a strong response. The transparent areas (blue in the Figure 4 example) have "relatively" little or no acoustic impedance contrast when compared to the orange/red/pink within an entire data set.

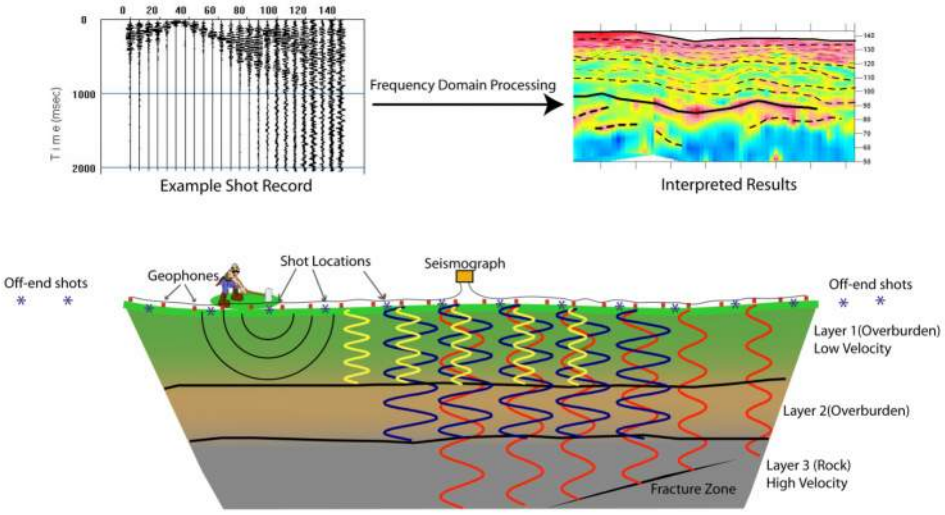


Figure 4: TISAR Operating principle

3 RESULTS

The results of the seismic surveys are presented in Appendix B (Drawing GPR-22-3902_A1 in the form of interpreted cross-sections. The data quality for the surveys was generally good.

The left-most figure in the drawings provides the colour contoured computer tomography compressional (P) wave velocity model overlain by the calculated layer depths based on the Hawkins' method (magenta and red lines). The computer tomography model generally provides a smoother bedrock surface.

The central figure in the drawings provides the TISAR images for each of the lines.

The right most figure provides the simplified interpreted model without the colour contoured images.

Variations between the three methodologies can aid in the identification of potential weathered zones within the bedrock along with provide an indication of the confidence level.

The compressional (P) wave velocity model consisted of three layers: The uppermost layer, with a velocity range of 300 m/s to 400 m/s, is interpreted as soft/lose overburden (low velocity). The second layer, with a velocity range on the order of 1400 to 1500 m/s is interpreted as water saturated overburden or denser overburden. The lowest layer is interpreted as bedrock. The P-wave velocity of the bedrock ranged from 2950 m/s to 3350 m/s. This velocity range is typical for relatively competent shale bedrock. Appendix A contains a table relating compressional wave velocities to typical geological materials.

Interpretation of the TISAR data involves identifying reflectors/resonators. Interpretation involves identifying trends in the relative amplitude of resonators. TISAR resonators occur at locations of contrasts in acoustic impendance (related to changes in seismic velocity or material density). Such contrasts can occur from geologic contacts (changes in mineralization or density), fractures/joints (physical separation or discontinuity) and/or voids. Several trends within the TISAR data set are visible and have been interpreted on the drawing. The use of the word "relative" is the operative word. Accordingly, discretion must be used when comparing the relative amplitudes of the resonators between profiles and depths. As with seismic reflection and ground penetrating radar, the true nature/source of the resonators cannot be certain.

4 CONCLUSIONS

Geophysics GPR was requested by Cambium Inc. to carry out a geophysical survey to map bedrock trends and fracture patterns at 721 Royal York Road in Etobicoke, ON (Figure 1).

The results of the bedrock and overburden mapping are presented in the form of interpreted profiles in appendix B. A total of approximately 240 m of seismic data were collected.

The interpreted bedrock elevation ranged from 91.7 m (SL-E) to 106.2 m (SL-C). The elevation data has been corroborated with borehole data provided by the client.

The P-wave velocity of the bedrock ranged from 2950 m/s to 3350 m/s. This velocity range is typical for moderately weathered to competent shale bedrock.

Seismic lines SL-B and SL-D indicate a potential buried valley near the toe of the slope.

The TISAR data suggests the potential for a more stepped bedrock profile that refraction may be smoothing over (as in Figure 3).

Interpretation of the TISAR data involves identifying reflectors/resonators. TISAR resonators occur at locations of contrasts in acoustic impendance (related to changes in seismic velocity or material density). Such contrasts can occur from geologic contacts (changes in mineralization or density), fractures/joints (physical separation or discontinuity) and/or voids. The amplitudes of the reflectors are relative. As with seismic reflection and ground penetrating radar, the true nature/source of the resonators cannot be certain. In many cases, the horizontal TISAR reflectors may represent bedding or stratigraphy, e.g. shale layer within limestone. Areas with an increased concentration of higher amplitude reflectors near surface may represent areas of increased bedrock weathering. More vertical trends could indicate preferred pathways for groundwater flow.

The vertical accuracy of bedrock depths are estimated to be within 10% for depths greater than 10 metres and 1.0 metre for depths less than 10 metres. The interpretation of the bedrock depths has been done in conjunction with the drill hole data provided by the client. The interpreted seismic data is fit/adjusted to the drill hole data where deemed appropriate with consideration for offsets, quality of the seismic data at a given location and confidence in the drill hole results.

This report has been prepared by Ben McClement, P.Eng.

Ben McClement, P.Eng.



APPENDIX A

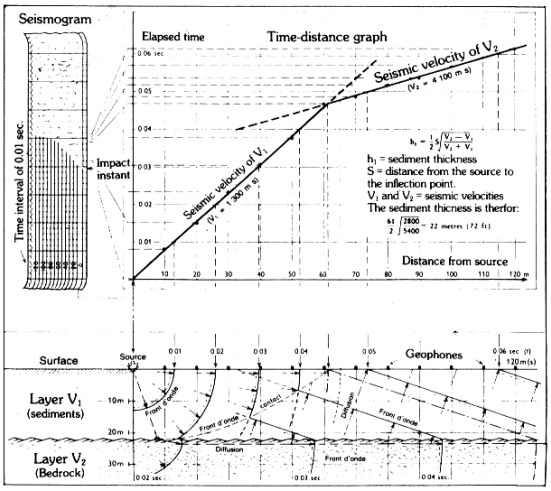
Seismic Refraction Information Fact Sheets

GEOPHYSICS G P R INTERNATIONAL INC.

SEISMIC REFRACTION

Seismic refraction consists of recording the length of time taken for an artificially provoked surface vibration to propagate through the earth. By processing the data, the seismic velocities and depths of the underlying rock layers can be determined. These velocities are characteristic of the nature and quality of the bedrock; a fissured, fractured or sheared rock will be characterized by reduced seismic velocities.

The method is generally used to obtain a better geological analysis of the sub-surface and to determine the following characteristics: the quality, profile and depth of bedrock, its nature, degree of alteration and any other physical contrasts. Seismic refraction ensures that maximum information may be gained from geological field work, and that direct investment costs (drilling, excavation), will be reduced.



PRINCIPLE OF SEISMIC REFRACTION

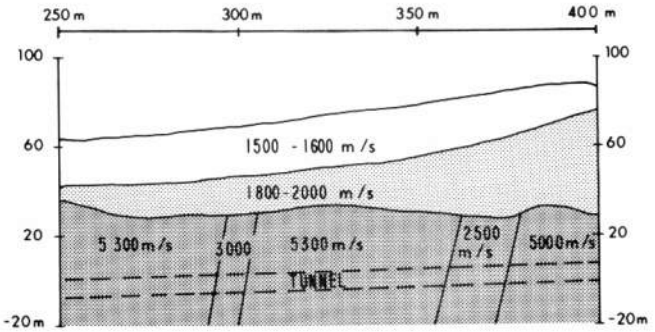
FEATURES

- Precise determination of soil thickness .
- Precise determination of the seismic velocities (rock type and quality).
- Localization and identification of geological units.
- Detailed analysis of soil.
- Year-round use.
- Sea and land surveys (above and below ground).
- Great accessibility possible to rough terrain and remote regions.

AREAS OF APPLICATION

Civil Engineering/Mining Exploration - Exploitation/Petroleum and Gas Sectors/ Geotechnology/Geology/ Hydrology.

- Identification of faults, fractures, shear zones.
- Detection of rock differences (veins, dykes, cavities, etc.).
- Determination of rock topography.
- Evaluation of volume of soil present or to be excavated.
- Excellent complement to geological mapping.
- Recognition of geophysical anomalies such as VLF, gravimetry, etc.
- Drill site selection, better target identification.
- Evaluation of the size, thickness and condition of surface shafts (mining exploitation).
- Mass Rock Quality Determination (MRQD).
- Detection of rock irregularities and breaks.
- Hydrogeology (detection of water tables, veins, reservoirs).
- Excellent complement to any geological analysis.



Interpretation results of a seismic profile

ADDITIONAL REMARKS

Geophysics GPR International Inc. has been recognized for the past fifteen years as a leader in both the application and the development of seismic methods. Seismic refraction is currently used in both civil and mining engineering; the use of lighter high-performance equipment and better tomographical interpretation of the results have contributed to its growing popularity.

GEOPHYSICS G P R INTERNATIONAL INC.

SEISMIC VELOCITIES VERSUS GEOLOGICAL MATERIALS

The seismic refraction differentiates the overburden layers from the bedrock. In general, a layer of overburden material, with associated velocities of 300 - 500 m/sec is seen followed by a second layer under the water table with a velocity corresponding to an impermeable material 1400 - 1600 m/sec.

In some cases, certain limitations may arise, such as differentiation between two different layers having approximately the same velocity. As an example:

- a contact within sand under the water table
- a contact between till and sand, under the water table (both at 1500 m/sec)

As a guideline, the following figure shows a classification of geological material by seismic velocities.

Seismic velocities in the overburden

Variations in the overburden layer can vary over a wide range as a function of its age, its depth of burial, differences in the granular state, degree of porosity, and whether water or air fills the voids (Telford 1976).

Seismic velocities in bedrock

A significant variation in seismic velocities for a particular rock mass may be caused by several factors. These factors include a change in the rock quality when the rock is weathered, sheared, faulted or fractured, a radical topographic change or a rock type change. Other features, such as the distribution of rock types, mineral content, the bonding of the minerals, joints opening, rock pressure, saturation and chemical composition of the minerals may all affect the velocities to some degree, explaining the differences of velocities in sound rock.

Rock type or change in bedrock quality

A rock type change will generally result in a different velocity because of differences in crystallization, mineralization or other physiochemical properties.

In the same way, a change in rock quality such as the presence of large open joints or several small open joints will undoubtedly bring about a velocity change for the same type of rock. Features such as a weathered, sheared, fractured or faulted rock will cause a drop in the velocity.

Faults, deep valleys

A radical topographic change in the bedrock profile may also cause a drop in the measured velocity. The cause of this is geometric and the use of specialized interpretative methods permits an estimation of the true depth of bedrock. A fault will also cause a similar velocity anomaly in the bedrock.

These anomalies may be due to either a deep valley or a cavity like feature (which may be water or sediment filled), or a physical feature in the rock such as a fault or open joints. Since the analysis of the time distance curve does not allow the differentiation of the anomalies, the two possible interpretations are presented on the drawings. In such a case, borehole data gives the best information to assess the true nature of the anomaly.

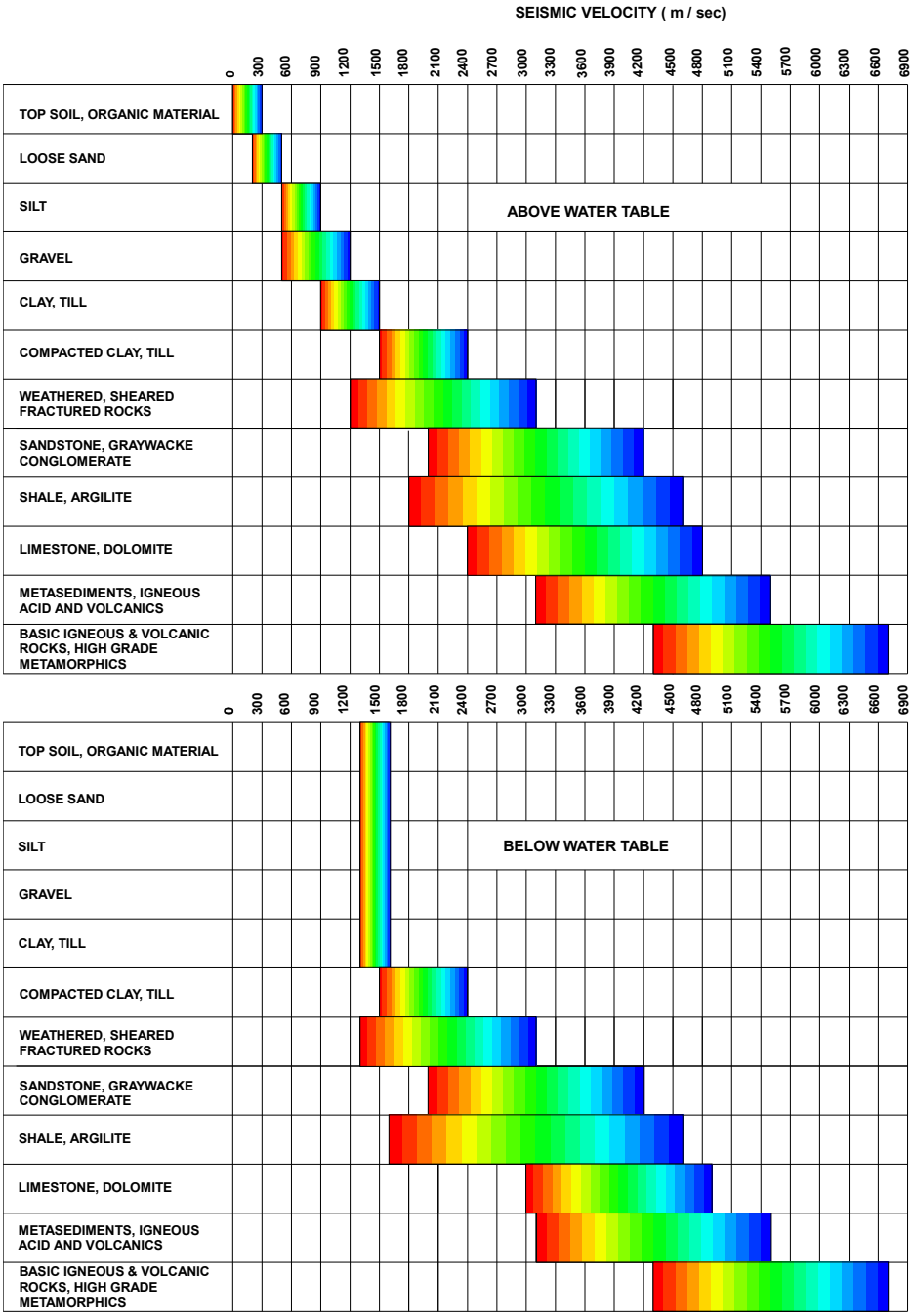


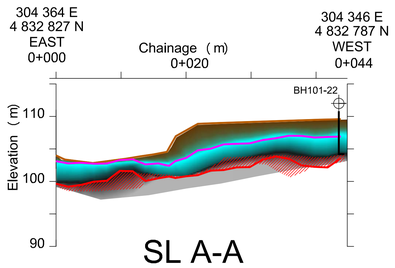
Figure 5: Classification of Geological Materials by Seismic Velocities

APPENDIX B

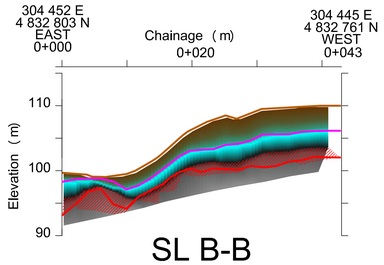
Seismic Drawing

GPR-22-3902

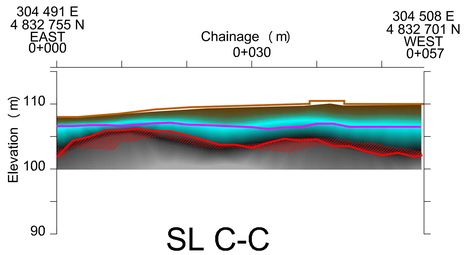
SEISMIC REFRACTION MODELS



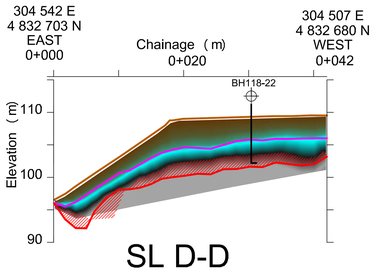
SL A-A



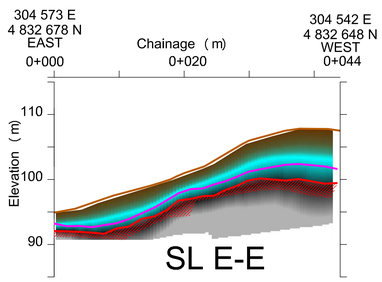
SL B-B



SL C-C

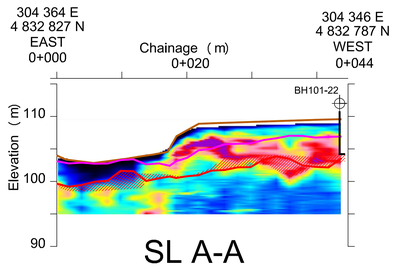


SL D-D

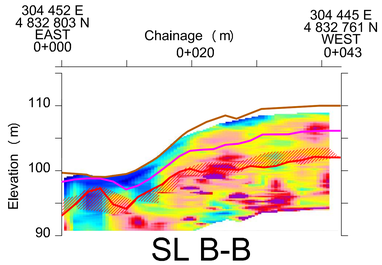


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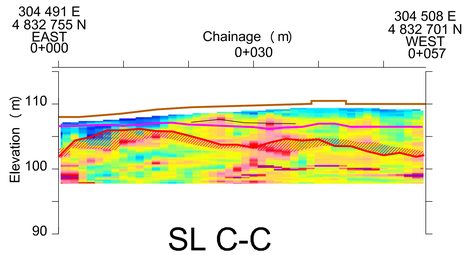
TISAR IMAGES



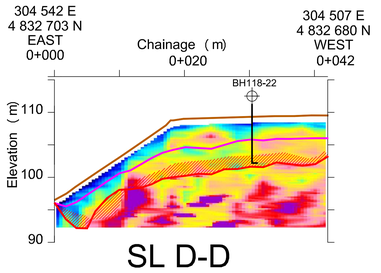
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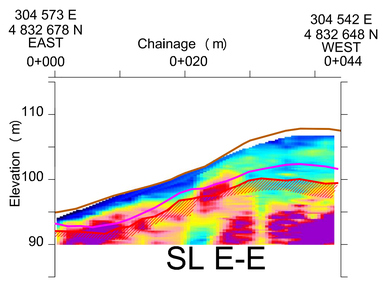
SL B-B



SL C-C

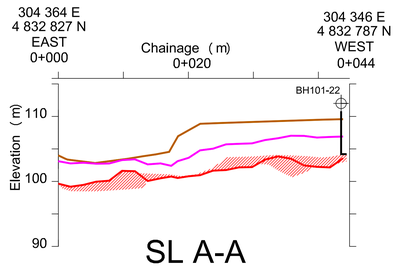


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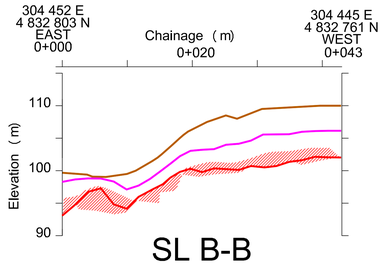


SL E-E

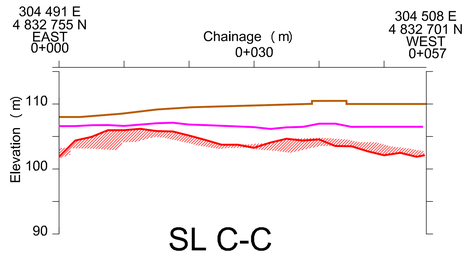
INTERPRETED MODELS



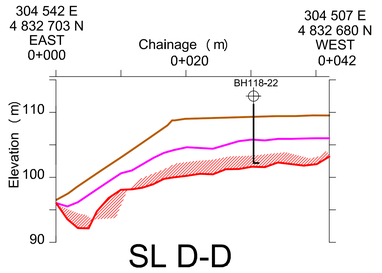
SL A-A



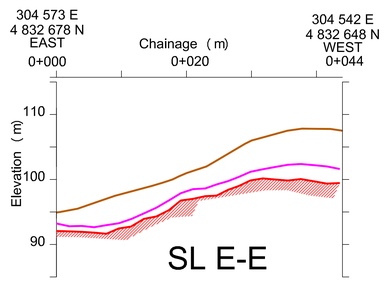
SL B-B



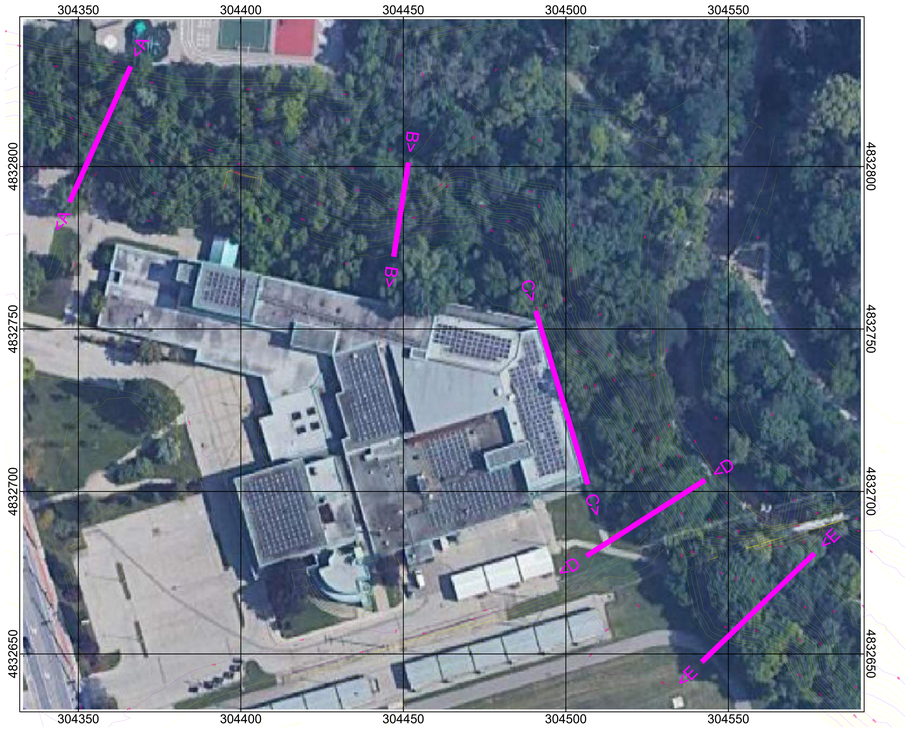
SL C-C



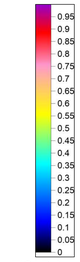
SL D-D



SL E-E

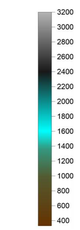


LEGEND



TISAR Amplitude (Unitless)

- Interpreted Water Table or Denser Soils
- Interpreted Competent Bedrock (Calculated Depths)
- Interpreted Weather Rock or Zones of lower Confidence
- TISAR Reflector
- Topography (From DEM)



P-Wave Velocity (m/s)

- Interpreted Bedrock
- Interpreted Water Table or Dense Soils
- Interpreted Softer/Loose Soils

LEGEND

Not valid for Construction

No.	NOTES
1	THE SEISMIC SURVEY WAS PERFORMED BY GEOPHYSICS GPR INTERNATIONAL INC. JUNE 2022
2	THE COORDINATE SYSTEM IS IN MTM NAD83 (CSRS) ZONE 10.
3	REFER TO THE REPORT GPR22-3902 (JUNE 2022) BY GEOPHYSICS GPR FOR A DETAILED DESCRIPTION OF METHODOLOGY, LIMITATIONS AND ACCURACY.
4	

No	DESSINS DE REFERENCE DRAWINGS

No	DATE	MODIFICATIONS	GPR APP.

GEOPHYSICS GPR INTERNATIONAL INC.

DESSINÉ PAR DRAWN BY			
INTERPRÉTÉ PAR INTERPRETATION BY	B.McClement, P.Eng.		
APPROUVÉ PAR APPROVED BY	B.McClement, P.Eng.		
# CONTRAT CONTRACT #	GPR-22-3902	DATE	JUNE 2022
ÉCHELLE SCALE	AS SHOWN	# DESSIN DRAWING #	GPR22-3902_A1

CLIENT: CAMBIUM

PROJET / PROJECT: 721 Royal York Road, Etobicoke, Ontario

TITRE / TITLE: Seismic Refraction Profiles

Hydrogeological Assessment Report - 721 Royal York Road, Etobicoke, Ontario (Rev 1)

February 22, 2024

Prepared for:
Hossack & Associates Architects

Cambium Reference: 14560-001

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1.0 Introduction

Cambium Inc. (Cambium) was retained by Hossack & Associates Architects (Client) to complete a hydrogeological assessment of the property located at 721 Royal York Road, Etobicoke, Ontario, M8Y 2T3 (herein referred to as Site).

The property is currently developed with an existing school building, parking lot, and track area. It is understood that the current development will be demolished and replaced with a new school building, driveways and parking areas, and track.

A hydrogeological investigation is required to demonstrate that the proposed development is consistent with the policies and regulations dictated by the Ministry of the Environment, Conservation and Parks (MECP) and the City of Toronto hydrogeological assessment guidelines and foundation drainage guidelines. It is understood that the property is located within the Etobicoke and Mimico Creeks watershed within the Toronto and Region Conservation Authority (TRCA) and bordered to the east by a ravine/creek (Mimico Creek) and therefore the Site is located in a hydrogeologically sensitive area.

1.1 Scope of Work

This hydrogeological investigation was carried out with the following tasks:

- **Review of available background information**: a review of available geological and hydrogeological information for the site and surrounding areas and the previous investigation reports completed for the Site was conducted to provide background information to allow for characterization of the Site's soil and groundwater conditions.
- **Detailed site inspection**: an inspection of the Site was completed to review existing site conditions including identification of any hydrogeological features such as significant areas of potential groundwater recharge or areas of groundwater discharge.
- **Measurement of groundwater levels:** groundwater levels were measured in the existing monitoring wells to establish and/or confirm the general groundwater flow condition and

elevations. A long-term four-season water level measurement program was established to determine the seasonal high water table conditions.

- **In-Situ Hydraulic Conductivity Tests:** single well response tests (SWRT) i.e., in-situ hydraulic conductivity tests in all monitoring wells conducted to estimate the hydraulic conductivity of the underlying soils and/or bedrock, which will be used for assessing the potential dewatering requirements, if any.
- **In-Situ Infiltration Tests:** completed at selected locations using Guelph Permeameter in order to determine the soil infiltration characteristics for the design and construction of Low Impact Development (LID) measures.
- **Water Quality Assessment:** a groundwater sample was collected and analyzed for the parameters outlined in the City of Toronto Sewer Use By-Law Chapter 681 to assess which discharge option is optimal for the dewatered groundwater during the construction dewatering, if any.
- **Dewatering Assessment** was completed for the proposed 3-storey school building, although the building will be finished as slab-on-grade structure.
- **Water Balance (Preliminary):** a preliminary water balance study was completed for the proposed development using the Thornthwaite-Mather approach and utilizing the climatic data obtained from Environment Canada.
- **Source Water Impact Assessment:** as the Site is situated with a Highly Vulnerable Aquifer (HVA), a Source Water Protection assessment detailing threats to groundwater in terms of water quality and quantity was discussed.
- **Report Preparation:** a hydrogeological report was prepared presenting the results, findings, and recommendations of this investigation.

It should be noted that a geotechnical investigation is being completed at the Site by Cambium and will be provided under a different cover (Cambium, 2022). The data or information obtained in the current and former investigations has been incorporated into this hydrogeological investigation report.

1.2 Site Description and Site Development

The total area of the property is approximately 3.93 hectares (9.71 acres) in size and currently zoned as Utility and Transportation (UT) Zone; the Site is bordered to the north by École élémentaire catholique Sainte-Marguerite-d'Youville also within a UT Zone, to the east by a meandering creek (Mimico Creek) and associated floodplain within a Open Space Natural (ON) Zone, to the south by single-family dwellings within a Residential Detached (RD) Zone, and to the west by Royal York Road followed by more single-family dwellings within an RD Zone.

The property is currently developed with a two-storey, slab-on-grade, institutional school building, originally constructed in approximately 1963, with additions constructed in the 1990's and the early 2000's. The Site property includes 24 portable units, an outdoor running track and football field, and paved parking surfaces. Water and wastewater services are being provided by the City of Toronto.

It is proposed to demolish the existing school building and build a 3-storey school building with associated infrastructure including walkways, driveways, and landscape areas. The school building will be finished as slab-on-grade structure without any basement.

The regional location of the Site is outlined on Figure 1, the property and surrounding areas outlined on Figure 2 and the land information is included in Appendix A.

2.0 Environmental Features

To assess environmental features, databases maintained by the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), and Toronto and Region Conservation Authority (TRCA) were reviewed.

Based on the data reviewed, the Site is situated within the Etobicoke and Mimico Creeks watershed under the jurisdiction of the TRCA Source Protection Area. The local drainage for the majority of the Site is assumed to flow off-site to the east where it will meet with Mimico Creek, approximately 25 m east of the Site. Local drainage along the northern portion of the Site is assumed to flow north into a steep ravine that borders the northern boundary; this ravine is a tributary of Mimico Creek and is assumed to flow to the east into Mimico Creek.

An unevaluated woodland is situated on the Site along the eastern and northern boundary; there are no mapped wetlands situated on the Site. The Site is partially situated in TRCA regulated area (Appendix A) per Ont. Reg. 179/06. (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses).

As per the MNRF Natural Heritage System database, the Site does not have any Areas of Environmental Significance or Areas of Natural and Scientific Interests (ANSI) (Appendix A)

As shown on the MECP Source Water Protection Atlas map, the Site is located within a Highly Vulnerable Aquifer (HVA) area with a vulnerability score of 6 (Appendix A).

3.0 Physical Setting

3.1 Topography and Drainage

The Site is located within the Etobicoke and Mimico Creeks watershed which is fed by an upper west branch and an upper east branch. Based on the Site's topographic map completed on May 5, 2022 by J.D. Barnes Ltd. (Appendix A), the majority of the Site has a gentle slope to the east-southeast with an average maximum elevation of 111 meters above sea level (masl) at the western boundary beside the existing school building, and an average minimum elevation of 108 masl in the southeastern corner by the track; however, there is a steep ravine along the northern boundary that steeply drops to a minimum elevation of 97 masl and a moderate slope along the non-developed eastern side of the property that slopes down to Mimico Creek with a minimum elevation of 94 masl. (Appendix A).

As discussed in Section 2.0, there are no mapped waterbodies on Site; however, Mimico Creek flows directly east of the Site and a tributary of Mimico Creek flows directly north of the Site. The local drainage for the majority of the Site is assumed to flow off-site to the east where it will meet with Mimico Creek, approximately 25 m east of the Site. Local drainage along the northern portion of the Site is assumed to flow north into the steep ravine that follows the northern boundary and contains a tributary of Mimico Creek.

3.2 Physiography

The Site is located in the physiographic region known as the South Slope. The region is characterized by smooth faintly drumlinized, clay till plain that slopes gently towards Lake Ontario. The region has deeply incised stream valleys present throughout (Chapman & Putnam, 1984).

3.3 Overburden Geology

According to Miscellaneous Release – Data 128 from the Ontario Geological Survey (OGS, 2010) the predominant overburden and soils located in the in the western and central area of the Site are coarse-grained glaciolacustrine deposits comprised of sand, gravel, and trace silt

and clay of a foreshore or basinal depositional environment. The eastern portion of the Site contains soils described as clay- to silt-textured till which is interpreted to have been derived from glaciolacustrine deposits.

Based off of the *Etobicoke and Mimico Creeks Watersheds Technical Update Report* (TRCA, 2010a), It is assumed that the coarse-grained glaciolacustrine deposits mapped at the Site is a part of the Thorncliffe Formation. The Thorncliffe Formation which was deposited in a glaciofluvial deposition environment and composed of mainly sand and silty sand. It is assumed that the coarse-grained glaciolacustrine deposits mapped at the Site is a part of the Thorncliffe Formation.

3.4 Bedrock Geology

According to Miscellaneous Release – Data 219 from the Ontario Geological Survey (OGS, 2007), the bedrock in the area of the Site consists of Upper Ordovician rocks from the Georgian Bay Formation composed of shale and limestone.

4.0 MECP Well Records Assessment

Cambium accessed the Ministry of the Environment Conservation and Parks (MECP) Water Well Information System (WWIS) to review water well records within 500 m of the Site.

There were about twenty-five (25) water well records found within approximately 500 m of the Site (Figure 3). Of the well records, twenty-one (21) drilled wells were installed in overburden and four (4) well records were installed in bedrock. The boreholes were installed between the years 2014 and 2019 and were all labelled as test holes/ monitoring wells/ observation wells. The deepest borehole was a test hole (Well Record No. 7233127) installed in overburden to a depth of 7.60 metres below ground surface (mbgs). A summary of the depths and what elevation groundwater was first encountered at are shown in Table 1; a summary of the well records is included as Appendix B.

Table 1 Summary of Surrounding Water Well Record Information

Well Type		Depth (mbgs)	Water Found At (mbgs)
Bedrock Count: 4	Maximum	6.86	1.83
	Minimum	5.18	3.66
	Average	6.25	3.05
Overburden Count: 21	Maximum	7.60	3.66
	Minimum	3.10	1.83
	Average	4.96	2.94

A summary of the information outlined in the well records is provided below:

- Overburden was reported as either clay with gravel horizons or sand with gravel horizons. Bedrock was encountered in four well records and described as shale.
- There were no supply wells within 500 m of the Site indicating that the proposed development will not affect any surrounding groundwater users, if any.

5.0 Borehole Drilling and Monitoring Well Installation

5.1 Borehole Investigation

Cambium completed a geotechnical investigation at the Site between March 15 through March 18, 2022, to assess the subsurface conditions at the Site. A total of twenty-five boreholes, designated as BH101-22 through BH125-22 were advanced to various depths. Boreholes BH108-22 and BH115-22 were not drilled due to access issues; however, a test pit was excavated at the location of BH115-22. Nine of the boreholes continued into bedrock to a maximum depth of 7.9 mbgs. Five of the boreholes (BH101-22, BH109-22, BH114-22, BH117-22, and BH119-22) were outfitted as monitoring wells for stabilized water level monitoring and to define the local groundwater regime across the. Borehole locations are appended as Figure 4. Borehole logs are included in Appendix C.

A summary of general lithological details is presented below.

Topsoil

A surficial layer of loose brown topsoil was encountered in eight boreholes with thicknesses ranging from approximately 0.15 to 0.30 m.

Asphalt

Asphalt overlies the overburden material at Site for nine boreholes with an average thickness of 0.06 m. Boreholes that encounter asphalt do not encounter topsoil.

Fill Materials

Based on a review of past history of the Site, the original topography of Site was not level and backfilling occurred during the development of the current school building and infrastructure. It should therefore be assumed that fill material is present on the Site, with depths correlating to the Site topography before regrading works took place. Fill depths varied greatly across the Site, ranging between 0.20 to 4.02 mbgs. There were two fill materials used; the first fill was generally a sand and gravel fill, underlain by brown silty sand fill.

Silty Sand to Sandy Silt

Native brown silty sand and/or sandy silt was observed immediately below the fill in all boreholes advanced at the Site. The sand was observed to have varying gravel components. The silty sand to sandy silt unit varied in thickness and depth, terminating between 2.90 to 7.09 mbgs.

Silty Clay

Brown to grey silty clay, with trace amounts of sand and gravel in some locations, was encountered in all boreholes underlying the silty sand to sandy silt unit. The silty clay unit varied in thickness and depth, terminating between 5.56 to 8.07 mbgs. Nineteen of the boreholes were terminated in this unit upon auger refusal on assumed bedrock.

Bedrock

Nine of the boreholes were advanced into bedrock to range of depths between 6.55 to 7.87 mbgs. Bedrock was described as grey shale.

Monitoring wells construction details including screen elevations are presented in Table 2 and included in Appendix C.

Table 2 Monitoring Well Construction Details

Monitoring Well	Termination Depth (mbgs)	Ground Elevation (masl)	Screen Top (masl)	Screen Bottom (masl)
BH/MW101-22	7.6	109.87	105.32	102.27
BH/MW109-22	7.7	108.60	103.95	100.90
BH/MW114-22	7.8	110.27	105.52	102.47
BH/MW117-22	6.6	110.02	106.47	103.42
BH/MW119-22	7.7	107.70	103.05	100.00

5.2 Test Pit Investigation

A total of five test pits were excavated throughout the Site to characterize the depth and extent of the native soils and subsurface conditions at each test pit location.

All test pits had a topsoil layer averaging 0.22 m thick and a fill layer described as dark brown sandy silt with varying clay and gravel contents with an average thickness of 1.26 m. Bedrock was not encountered in any of the test pits. The termination depth of the test pits was 2.6 mbgs; no sloughing, seepage, or groundwater was observed in any of the open test pits upon completion.

Overburden sediments were described as light brown sand with some test pits also reporting varying amounts of silt and gravel; the sand unit continues until termination for all test pits. Sediment descriptions are provided in greater detail for each test pit in the test pit logs included as Appendix C.

5.3 Grain Size Analysis

Based on the results of the borehole and test pit investigation, the subsurface conditions below the asphalt or topsoil at the site generally consists of a layer of sand and gravel fill overlying silty sand fill, underlain by native soils described as brown silty sand to sandy silt with varying amounts of gravel, underlain by brown to grey silty clay with trace gravel and sand to a maximum termination depth of 7.9 mbgs.

Physical laboratory testing, including six (6) sieve and hydrometer analyses (LS-702, 705), was completed on selected soil samples to confirm the soil texture. The grain size analyses of the soil samples are included in Appendix D; details are shown in Table 3 below:

Table 3 Grain Size Analysis

Sample	Depth (mbgs)	Soil	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH102-22 SS4	2.3 – 2.7	Sand and Silt some Clay trace Gravel	1	53	35	11
BH105-22 SS4	2.3 – 2.7	Silty Sand trace Clay	0	75	22	3
BH114-22 SS7	4.6 – 5.0	Sand some Silt some Gravel	16	65	19	
BH116-22 SS4	3.2 – 2.7	Sand some Silt	0	89	11	
BH117-22 SS6	3.8 – 4.3	Silty Sand some Gravel	18	60	22	
BH120-22 SS4	2.3 – 2.7	Sandy Silt some Clay trace Gravel	2	28	58	12

5.4 Groundwater Level Monitoring

A four-season water level monitoring is being completed at the Site, between April 2022 and February 2023, in order to assess the seasonal high-water levels and elevations and to assess the feasibility of low impact development (LID) measures across the Site.

Groundwater levels were measured on seven occasions between April 7, 2022, and February 8, 2023; recorded groundwater levels are presented in Table 4 below.

Table 4 Measured Groundwater Details

Well		BH101-22	BH109-22	BH114-22	BH117-22	BH119-22
Top of Pipe Elevation (masl)		109.77	109.75	110.13	109.88	107.62
Ground Surface Elevation (masl)		109.87	109.88	110.27	110.02	107.69
Stick-up (m)		-0.10	-0.13	-0.13	-0.14	-0.07
April 7, 2022	Water Level (mbgs)	3.13	3.31	5.38	dry	3.07
	Groundwater Elev.(masl)	106.74	106.57	104.88	-	104.62
May 16, 2022	Water Level (mbgs)	2.92	3.23	4.45	dry	3.12
	Groundwater Elev.(masl)	106.95	106.65	105.81	-	105.57
June 7, 2022	Water Level (mbgs)	3.03	2.97	5.56	dry	3.04
	Groundwater Elev.(masl)	106.84	106.91	104.70	-	104.65
Sept 20, 2022	Water Level (mbgs)	3.40	2.88	5.71	dry	3.39
	Groundwater Elev.(masl)	106.47	107.00	104.55	-	104.30
Oct 18, 2022	Water Level (mbgs)	3.55	3.09	6.03	dry	4.50
	Groundwater Elev.(masl)	106.32	106.79	104.23	-	103.19
Dec 5, 2022	Water Level (mbgs)	3.47	3.28	6.00	dry	3.47
	Groundwater Elev.(masl)	106.40	106.60	104.26	-	104.23
	Water Level (mbgs)	3.46	3.55	5.74	dry	3.62

Well		BH101-22	BH109-22	BH114-22	BH117-22	BH119-22
Feb 8, 2023	Groundwater Elev.(masl)	106.41	106.33	104.52	-	104.07

As presented above, the measured groundwater levels in the monitoring wells in April through February of 2023 ranged in depth from 2.88 mbgs to 6.03 mbgs, and the elevations ranged from 103.19 masl to 107.00 masl. Accordingly, the maximum groundwater level and elevation were measured in September at 2.88 mbgs and 107.00 masl, respectively.

As per the City of Toronto Foundation Drainage Policy, water level fluctuations will be applied to the groundwater levels measured to determine the maximum anticipated groundwater level, via the flexible, year-round (Option 1). The water levels measured on May 16, 2022 had a water level fluctuation of 1.3 m added to them, for water levels that ranged from 1.62 mbgs to 3.15 mbgs, and elevations that ranged from 105.87 masl to 108.25 masl. Therefore, the maximum anticipated groundwater level (MAGWL) in accordance with to the foundation drainage policy would be 1.62 mbgs and 108.25 masl. These water level values will be used for the dewatering assessment (Section 6.0).

5.5 Groundwater Flow Direction

Based on the groundwater elevation data obtained from the monitoring event (May 16, 2022), a site-specific groundwater elevation contour map was prepared to present the groundwater flow direction across the Site. As shown in Figure 5, the groundwater flow direction was found to be southeast towards Mimico Creek, following the local surficial drainage.

5.6 In-Situ Hydraulic Conductivity Tests

The hydraulic conductivity (k-value) of the soils were estimated based on the results obtained from the single well response tests (slug tests). Aquifer response test (slug tests/single well response tests) was conducted on April 7, 2022. Either falling head tests or rising head tests were performed in the existing monitoring wells BH101-22, BH114-22, and BH119-22. Results of hydraulic conductivity tests are presented below in Table 5 and analytical data is included in Appendix E.

Table 5 Results of Estimated Hydraulic Conductivity as per Slug Testing

Monitoring Well	Estimated Hydraulic Conductivity (m/sec)	Tested Soil Type
BH101-22	9.90×10^{-6}	Silty Clay, trace Sand, trace Gravel to Weathered Shale
BH114-22	2.03×10^{-6}	Silty Clay, trace/some Sand, trace Gravel
BH119-22	1.66×10^{-7}	Silty Clay, trace Sand, some Gravel

The hydraulic conductivity was estimated utilizing Aquifer Test Pro slug test software using the Hvorslev interpretation method. The estimated hydraulic conductivities ranged between 1.66×10^{-7} m/sec and 9.90×10^{-6} m/sec and were consistent with published values for the native soils and weathered shale encountered at the respective boreholes. The geometric mean of hydraulic conductivity was calculated at 1.49×10^{-6} m/sec.

5.7 In-Situ Infiltration Tests

In-situ infiltration tests were conducted at the Site by Cambium personnel using a Guelph Permeameter (GP). The Guelph Permeameter is used to accurately measure in-situ hydraulic conductivity or the field saturated hydraulic conductivity (Kfs). GP infiltration tests method is the most sought-after test method to verify native soil infiltration rates for design purposes.

The infiltration tests were carried out on March 18, 2022, at three (3) locations (TP115-22, TP128-22, TP130-22) which are shown on Figure 4. To perform the infiltration tests, shallow test holes were excavated to a certain depth prior to using a hand auger to complete a test hole of approximately 0.06 m in diameter.

The field results of the in-situ infiltration testing were processed using SOILMOISTURE ® excel based calculation models which yield the saturated hydraulic conductivity of the soil (in m/s). The saturated hydraulic conductivity results are then cross-referenced against established relationships between hydraulic conductivity (m/s) and infiltration rate (mm/hr), as outlined in the *Supplementary Guidelines to the Ontario Building Code: SG-6 Percolation Time and Soil Descriptions* (OMMAH, 1997). The details of the test results are presented in Table 6 below and Appendix F.

Table 6 Infiltration Rates – Guelph Permeameter Method

Test Location	Test Depth (mbgs)	Tested Soil Type	Field Saturated Hydraulic Conductivity, Kfs (m/s)	Percolation Time (min/cm)	Infiltration Rate (mm/hour)
TP115-22	1.65	Brown Sand	3.20×10^{-4}	2.8	212.9
TP128-22	1.61	Brown Sand	1.71×10^{-4}	3.3	180.3
TP130-22	1.67	Brown Sand	3.42×10^{-4}	2.8	216.6

As shown above, the percolation times ranged from 2.8 min/cm to 3.3 min/cm, while the infiltration rates ranged between 180.3 mm/hour to 216.6 mm/hour. The calculated infiltration rates closely resemble the tested native soils at each location. These results indicate the presence of highly transmissive soils for the implementation of LID measures at the Site.

Records of the infiltration tests and the data processing are provided in Appendix F.

6.0 Construction Dewatering Requirements

It is proposed to build a 3 storey school building by demolishing the existing school building with associated infrastructure including walkways, driveways, and landscape areas. The school building will be finished as slab-on-grade structure without any basement.

The finished floor elevation (FFE) of the proposed school building is set at 110.85 masl. Based on the results of the geotechnical investigation, the proposed building can be supported on stepped spread footing established within the compacted engineered fill at a depth of 1.2 metres below final grade (i.e. 109.65 masl).

The maximum anticipated groundwater level (as per the foundation drainage guidelines) indicated a high-water level and elevation measured at the Site were 1.62 mbgs and 108.25 masl, respectively. There is about 2.6 m of separation distance between the FFE and the maximum anticipated water table elevation, while there is 1.2 m separation between the MAGWL (108.25 masl) and the footing elevation (109.65 masl). Accordingly, the construction excavation for the proposed building foundation will not penetrate the deeper water table at the Site and therefore no construction dewatering either short-term or long-term was anticipated at the Site.

If the deep construction activities such as helical piles or caissons are chosen to support the building, the highest anticipated water table elevation (108.25 masl) should be considered. Deep drilling or deep construction activities (piles, caissons, excavations, underground parking etc.) can create a transport pathway for contaminant migration to the deep supply aquifer.

Provided that the slab is at or above the surrounding finished grade and that the ground surface slopes away from the structure at a minimum grade of 2% over the initial 3 m extending laterally outward from the exterior of the foundation wall, no perimeter or under-slab drainage is required.

7.0 Water Balance Assessment

Based on the Thornthwaite and Mather methodology (1957), a water balance is an accounting of water in the hydrologic cycle. Precipitation (P) falls as rain and snow. It can run off towards lakes and streams (R), infiltrate to the groundwater table (I), or evaporate from ground or be transpired by vegetation (ET). When long-term average values of P, R, I, and ET are used, there is minimal or no net change to groundwater storage (ΔS) in a steady-state system.

The annual water budget of a site can be expressed as:

$P = ET + R + I + \Delta S$

Where:

P = Precipitation (mm/year)

ET = Evapotranspiration (mm/year)

R = Run-off (mm/year)

I = Infiltration (mm/year)

ΔS = Change in groundwater storage (taken as zero) (mm/year)

The calculations presented here compare the pre- and post-development water balance changes within the Site boundaries as a result of the proposed development. It is noted that the water balance described herein does not account for catchment areas that extend off-site.

The Site is currently developed with a two-storey, slab-on-grade, institutional school building, originally constructed in approximately 1963, with additions constructed in the 1990's and the early 2000's. The current development also includes 24 portable units, an outdoor running track and football field, and paved parking surfaces.

It is proposed to demolish the existing school building and build a 3-storey school building with associated infrastructure including an outdoor running track and football field, walkways, parking areas, and landscape areas.

Based on the available design information, the pre- and post-development Site coverage can be generally categorized into three types: paved areas, roof areas, and landscaped areas. A summary of the surface areas of the development is listed in Table 7, and the pre-development and post-development plans are shown in Figure 6 and Figure 7, respectively.

Table 7 Pre- and Post-Development Statistics

Type of Land Coverage	Pre-Developments Areas (m^2)	Post Development Areas (m^2)
Paved Area	12,102	15,375
Roof Area	10,491	8,052
Landscaped Area	41,908	41,074
Total (m^2)	**64,501**	**64,501**

7.1 Water Surplus

Water surplus is calculated by determining the difference between precipitation and evapotranspiration at a site over the course of a year (changes in soil water storage were assumed to be negligible). The volume of water surplus is further sub-divided into portions that infiltrate the on-site soils and that are directed off-site as runoff.

The climatic data, including monthly average temperature and precipitation from 1981 to 2010, were obtained from Environment Canada for Toronto weather station (Climate ID: 6158350), located about 9 km distance from the Site. Accordingly, the average annual evapotranspiration was estimated to be about 600 mm/year using the USGS Thornthwaite Monthly Water Balance methodology (Appendix G), and the average annual precipitation was recorded to be 831 mm/year. The water surplus of the Site was calculated to be 231 mm/yr.

Transpiration does not occur from structures, paved areas, or hard gravel surfaces. It was assumed that 10% of precipitation falling on these surfaces is lost directly to evaporation. The remaining depth (i.e., 90% of precipitation) was considered surplus and converted to runoff.

7.2 Infiltration Factor

The volume of surplus water that infiltrates through pervious surfaces on-site was determined by applying an infiltration factor to the surplus depth. The surplus water that does not infiltrate into pervious surfaces will leave the Site as surface water runoff. The infiltration factor varies from 0 to 1 and is estimated based on topography, soils, and vegetation cover as per the *Stormwater Management Planning and Design Manual* (MOE, 2003).

The rate of infiltration at a site is expected to vary, based on a number of factors to be considered in any infiltration model. To partition the available water surpluses into infiltration and surface run-off, the MECP infiltration factor was used. The MECP *Stormwater Management Planning and Design Manual* (MOE, 2003) methodology for calculating total infiltration based on topography, soil type and land cover was used, and a corresponding run-off component was calculated for the soil moisture storage conditions. The infiltration factor calculated for the Site is included in Table 8.

Table 8 Infiltration Factor

Category	Infiltration Factor
Topography	Rolling land (2.8 to 3.8 m/km slope) = 0.2
Soils	Sand to Silty Sand = 0.30
Cover	Cultivated land and woodland = 0.15
Total	**0.65**

It is noted that the slope of the Site was based off the average slope within the area of the Site that is currently developed and has been graded with engineered fill. The steeper slopes to the north and east of the developed portion of the Site were not considered.

The calculation of infiltration and runoff in the stages of pre-development and post-development is provided in Appendix G, and are presented in Table 9 through Table 12, below.

7.3 Pre-Development Water Balance

The water balance for the existing conditions of the Site is summarized in Table 9. The pre-development infiltration rate was calculated to be about 6,292 m^3/yr and the runoff rate was about 20,286 m^3/yr.

Table 9 Pre-Development Water Balance

Land Use		Area (m^2)	Precipitation (m^3)	Evapo-transpiration (m^3)	Infiltration (m^3)	Run-off (m^3)
Impervious Areas	Paved Area	12,102	10,057	1,006	-	9,051
	Roof Area	10,491	8,718	872	-	7,846
Pervious Area	Landscaped Area	41,908	34,826	25,145	6,292	3,388
Total		**64,501**	**53,600**	**27,022**	**6,292**	**20,286**

Assuming no infiltration occurring in paved and roof areas, and 10% of precipitation to be evaporated from paved and roof areas.

7.4 Post-Development Water Balance

The post-development water balance is summarized in Table 10. The post-development infiltration rate was calculated to be approximately 6,197 m^3/yr and the runoff volume was about 20,842 m^3/yr.

Table 10 Post-Development Water Balance

Land Use		Area (m^2)	Precipitation (m^3)	Evapo-transpiration (m^3)	Infiltration (m^3)	Run-off (m^3)
Impervious Areas	Paved Area	15,375	12,777	1,278	-	11,499
	Roof Area	8,052	6,691	669	-	6,022
Pervious Area	Landscaped Area	41,074	34,132	24,644	6,197	3,321
Total		**64,501**	**53,600**	**26,591**	**6,197**	**20,842**

Assuming no infiltration occurring in paved and roof areas, and 10% of precipitation to be evaporated from paved and roof areas.

7.5 Water Balance Comparison

The water balances of the pre-development and post-development scenarios are summarized below in Table 11.

Table 11 Comparison of Pre- and Post Development Water Balance

	Precipitation (m^3)	Evapotranspiration (m^3)	Infiltration (m^3)	Run-off (m^3)
Pre-Development	53,600	27,022	6,292	20,286
Post-Development	53,600	26,591	6,167	20,842
Change in Volume		- 431	- 125	556
Change in %		- 2	- 2	3

Based on the above, there is an infiltration deficit of about 125 m^3/year compared to the pre-development infiltration. The runoff rate upon development of the Site was increased by about 556 m^3/year.

As shown below in Table 12, approximately 2% of roof runoff is required to compensate the pre-development infiltration.

Table 12 Requirement of Infiltration from Roof Run-off

Volume of Pre-Development Infiltration (m^3/year)	6,292
Volume of Post-Development Infiltration (m^3/year)	6,167
Deficit from Pre to Post-Development Infiltration (m^3/year)	125
% of Roof Runoff required to match the Pre-Development Infiltration	2

Based on the above calculations, a summary of the water balance could be provided as follows:

1. There is a net increase in run-off at the Site of about 556 m^3/year, from 20,286 m^3/year to 20,842 m^3/year. This increase is a result of the development of the Site with more impervious areas such as roof and paved areas and decrease in pervious areas.

2. Post-development landscape area was decreased only by about 834 m^2, when compared to the pre-development landscape, causing marginally less infiltration and more run-off across the Site.
3. Without implementing any mitigation measures, there is a net deficit of about 125 m^3 /year in the post-development infiltration on a yearly basis.
4. Based on the estimation, assuming only roof water is allowed to infiltrate, a diversion of 2% of general roof water for infiltration would allow the proposed development to maintain an enhanced infiltration after the development.

7.6 Discussion on LID Measures

It is known that low impact development (LID) practices have received increasing attention as these strategies attempt to capture the runoff and mimic the natural hydrologic cycle. It is important to maintain the natural hydrologic cycle as much as possible as reduction in infiltration reduces groundwater recharge and soil moisture replenishment and can also lead to reductions in stream baseflows which are needed to sustain aquatic life.

In general, there are two primary categories of LIDs. The first promotes the infiltration of stormwater close to the source, besides reducing runoff and to improve the water quality. These infiltration type LIDs are preferred when hydrogeological and physical conditions are optimal and allow for their emplacement. The proposed development does not include a stormwater management pond to maintain storm water quality and also to enhance the lost infiltration due to the Site development with paved and roof areas. Therefore, the second option described below could be considered.

The second option captures and slowly releases the water to the surface water system through the process of storage and filtration by infiltration LIDs. Infiltration targets at the Site may be achieved through the incorporation of a variety of stormwater management practices including reduced lot grading, roof downspout disconnection, roof leaders discharging to ponding areas or soak away pits, infiltration trenches, grassed swales etc.

The conceptual water balance indicates that there will be a minimal infiltration deficit of about 125 m^3/year in the post-development infiltration upon development of the Site and a diversion

of about 2% of the general rainfall roof water for infiltration would allow the proposed development to maintain an enhanced infiltration after the development.

As per the Site Servicing Plan provided (Appendix A), several infiltration features/LID measures are proposed for the Site (i.e. infiltration tank, underground storage, infiltration swale, etc.). As per the in-situ infiltration rates measured at the Site (Section 5.7), the shallow native soils at the Site are very feasible for re-infiltration. It is noted that a minimum of 1 m of vertical separation is required between the measured high water table elevation and the bottom invert of the infiltration feature. A stormwater engineer should be retained to design any LID measures and ensure that the minimum vertical separation is met.

8.0 Groundwater Quality

One groundwater sample was collected from monitoring well BH114-22 was collected on April 14, 2022 and analyzed for those parameters outlined in City of Toronto Combined Sewer Use By-laws, also known as Toronto Municipal Code Chapter 681 – Sewers. The groundwater samples were submitted to Bureau Veritas, a Canadian Association for Laboratory Accreditation (CALA) accredited laboratory, for chemical analysis. The laboratory analytical results are presented in Appendix H.

There were no parameters that exceeded the Toronto Sanitary and Combined Sewer standard. One parameter did exceed the Toronto Storm Sewer standard, as outlined in Table 13

Table 13 Guideline Violation of Groundwater Samples Compared to City of Toronto Storm Sewer Use By-Law (units in mg/L)

Sample ID	Filtration	Parameter	Measured Concentration (mg/L)	Guideline Value (mg/L)
MW101-21	Unfiltered	Total Manganese	2.1	0.05

All volatile organic compounds (VOCs) were found to be below laboratory detection limits.

Based on the results of the chemical analysis, the following comments on the groundwater quality could be made.

- The concentration of Total Manganese in the unfiltered groundwater sample exceeded the guideline values for storm sewer discharge criteria.
- The groundwater generated from the Site should meet the sanitary and combined sewer standard untreated.
- The groundwater generated from the Site may meet the storm sewer standards after appropriate filtration and can be considered to be discharged to either sewer system.

- Since Toronto Water does not allow for groundwater discharge to the sanitary system, we recommend groundwater from dewatering activities (if required) be discharged to the storm sewers.

9.0 Source Water Protection and Risk Management

As per the Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Plan (CTC SPP), the Site is located within a Highly Vulnerable Aquifer (HVA) (Appendix A).

9.1 HVA

As per the CTC SPP, an HVA is an aquifer that can be easily changed or affected by contamination from both human activities and natural processes. This is a result of preferential pathways to the aquifer or the areas intrinsic susceptibility as a function of the thickness and permeability of the overlying soils. In Ontario, an HVA is defined as having an Intrinsic Susceptibility Index (ISI) of less than 30. In general, an HVA will consist of granular materials (e.g., sand and/or gravel) or fractured rock that has a high permeability and is near the surface of the ground. It is important to protect highly vulnerable areas to prevent drinking water contamination.

The land use practices at the proposed development Site are not expected to cause any contamination to the water resources as it is assumed that there are no chemicals, fertilizers, or petroleum hydrocarbons proposed to be stored at or handled in significant amounts at the Site. However, best management practices (BMPs) should be implemented in order to minimize or eliminate the contaminant sources at the Site, especially due to the presence of highly transmissive overburden soils present across the Site.

10.0 Assessment of Potential Impacts

Based on the information available, the property is currently developed with an existing school building, parking lot, and track area. It is understood that the current development will be demolished and replaced with a new school building, driveways and parking areas, and track.

The potential impacts due to the Site development were assessed as below.

10.1 Natural Features

As discussed, an unevaluated woodland is situated on the Site along the eastern and northern boundary; there are no mapped wetlands situated on the Site; however, the Site does border Mimico Creek. Accordingly, the Site is partially situated within TRCA regulated area (Appendix A) per Ont. Reg. 179/06. Therefore, set-back distances or buffer zones as prescribed by the Conservation Authority should be followed to protect the natural features.

Also, there is minimal infiltration deficit of 125 m^3/year, (i.e., less than 0.5 m^3/day), which is considered highly negligible and therefore, no impacts on the natural flow of Mimico Creek were anticipated.

10.2 Water Supply Wells near the Site

It is not anticipated that dewatering activities are required for the proposed development and therefore there will be no impacts on water quantity for water supply wells in the area. Moreover, it is assumed that all the properties surrounding the Site have access to municipal water supply. As such, no impacts are anticipated on the local groundwater users.

10.3 Considerations on Drinking Water Vulnerability

Based on the MECP Source Protection Information Atlas, the Site is situated within an HVA. The land use practices at the proposed development Site are not expected to cause any contamination to the water resources as it is assumed that there are no chemicals, fertilizers, or petroleum hydrocarbons proposed to be stored at or handled on Site and therefore, no impacts, either qualitative or quantitative, are anticipated on the local groundwater regime.

10.4 Ground Settlement/Subsidence

Under certain conditions, dewatering activities can cause ground settlement or subsidence. The ground settlement/subsidence results from the increase in effective stresses caused by the lowering of ground water level and subsequent decrease in pore pressure.

Since no construction dewatering was anticipated at the Site, ground settlement and/or subsidence effects are not anticipated on existing buildings and structures at the Site.

10.5 City Sewage Works

Although no dewatering was expected at the Site, based on the water quality assessment any water generated during the construction dewatering (if required) may be discharged to the City's sewer systems (storm) after filtration treatment. No treatment is required if discharged to the sanitary system. Should discharge to the local sewer systems be selected, permit or agreement to use the local sewer system shall be obtained from the City of Toronto prior to discharge.

11.0 Conclusions and Recommendations

Cambium Inc. (Cambium) was retained by Hossack & Associates Architects (the Client) to complete a hydrogeological assessment of the property located at 721 Royal York Road, Etobicoke, Ontario.

The Site is partially situated in TRCA regulated area as per Ont. Reg. 179/06. Therefore, set-back distances or buffer zones as prescribed by the Conservation Authority should be followed to protect the natural features.

The measured groundwater levels in the monitoring wells during the four-season long-term monitoring program ranged in depth from 2.88 mbgs to 6.03 mbgs, and the elevations ranged from 103.19 masl to 107.00 masl. As per the City of Toronto Foundation Drainage Policy, the maximum anticipated groundwater level and elevation at the Site were estimated at 1.62 mbgs and 108.25 masl, respectively.

Groundwater flow was determined to be southeast towards Mimico Creek, following the local surficial drainage.

The estimated hydraulic conductivities ranged between 1.66×10^{-7} m/sec and 9.90×10^{-6} m/sec and the geometric mean of hydraulic conductivity was calculated at 1.49×10^{-6} m/sec.

The construction excavation for the proposed building foundation will not penetrate the deeper water table at the Site and therefore no construction dewatering either short-term or long-term was anticipated at the Site.

The conceptual water balance indicates that there will be a minimal infiltration deficit of about 125 m³/year in the post-development infiltration upon development of the Site, compared to the pre-development. Based on the estimation, a diversion of about 2% of the general rainfall roof water for infiltration would allow the proposed development to maintain an enhanced infiltration after the development.

Based off of in-situ infiltration tests using a Guelph Permeameter, the percolation times ranged from 2.8 min/cm to 3.3 min/cm, while the infiltration rates ranged between 180.3 mm/hour and

216.6 mm/hour. These results indicate the presence of highly transmissive soils for the implementation of any LID measures.

The Site is situated with an HVA. The land use practices at the proposed development Site are not expected to cause any contamination to the water resources as it is assumed that there are no chemicals, fertilizers, or petroleum hydrocarbons proposed to be stored at or handled on Site.

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12.0 Closing

We trust that the information in this submission meets your current requirements. If you have any questions regarding the contents of this report, please contact the undersigned.

Respectfully submitted,

Cambium Inc.

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Project Coordinator

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2024-02-22

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13.0 References

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14.0 Standard Limitations

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A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

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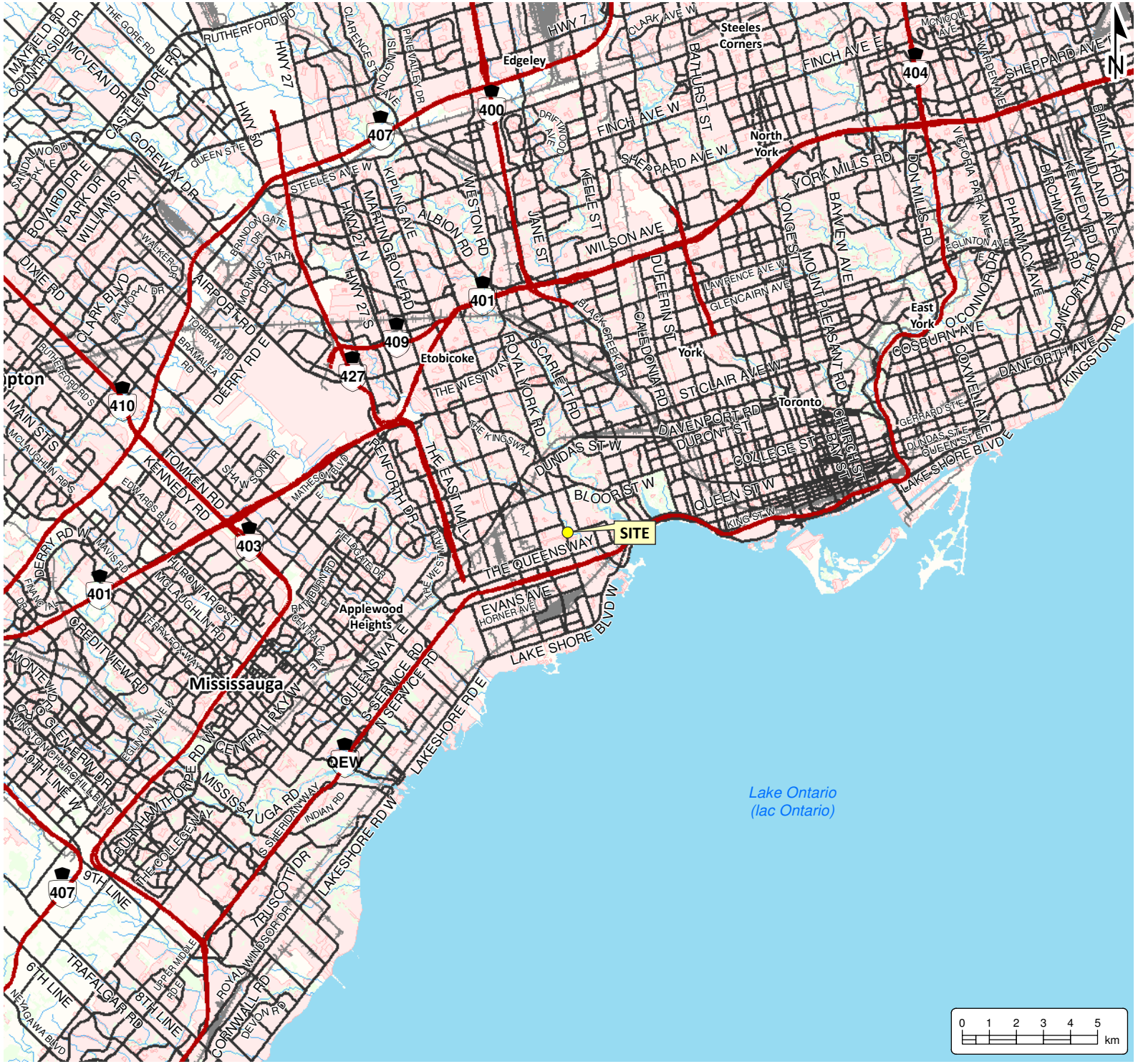
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Appended Figures



HYDROGEOLOGICAL ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario

LEGEND

- Highway
- Major Road
- Railroad
- Watercourse
- Water Area
- Wooded Area
- Built Up Area

Notes:
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REGIONAL SITE LOCATION MAP

Project No.: 14560-001		Date: April 2022	Rev.:
Scale: 1:200,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: SK	Figure: 1	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-04-04 FIG 1 - Regional Site Location Map.mxd



HYDROGEOLOGICAL ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario

LEGEND

Site (approximate)

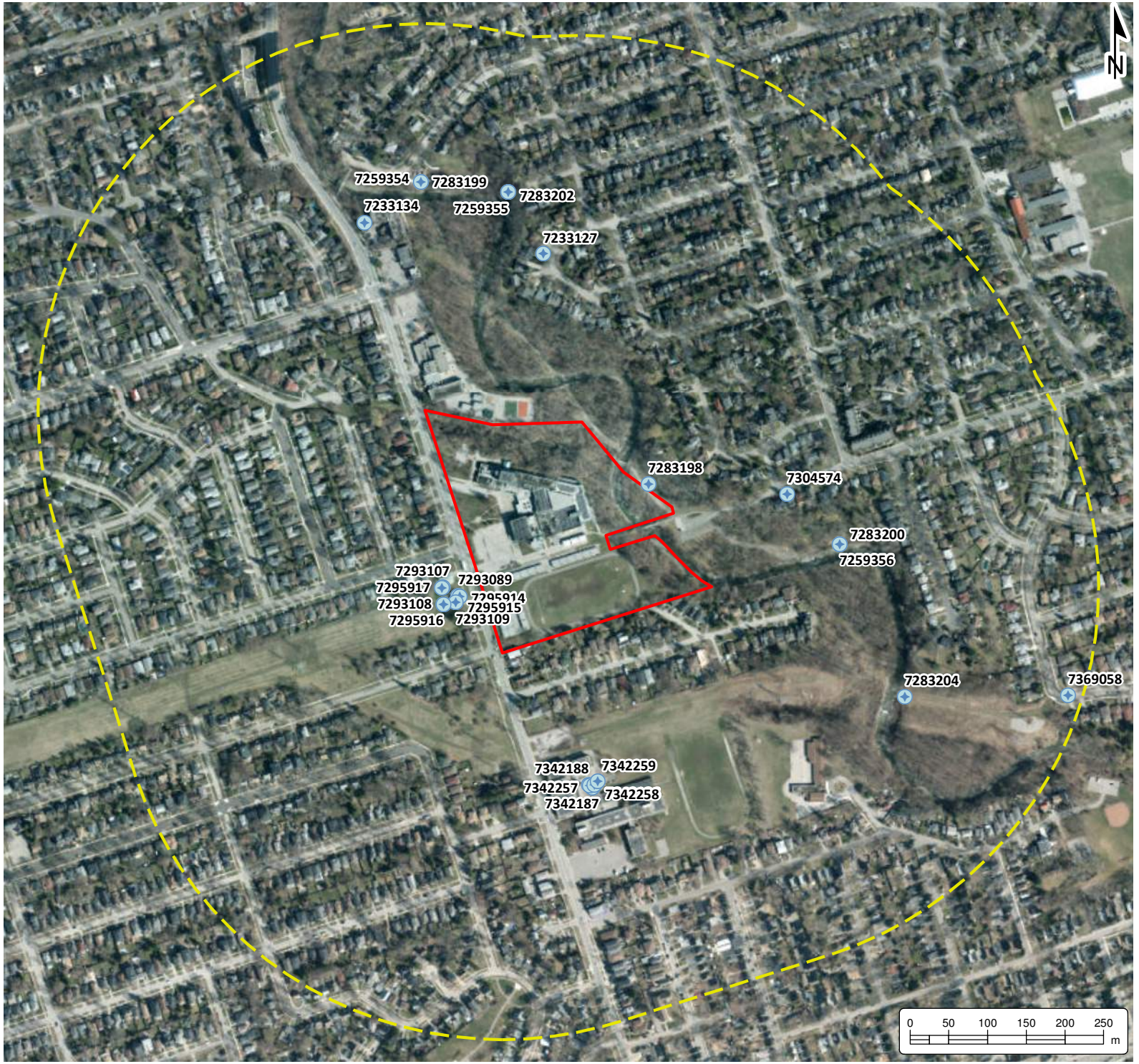
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SITE LOCATION PLAN

Project No.: 14560-001		Date: April 2022	
		Rev.:	
Scale: 1:5,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: SK	Figure:	2

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-04-04 FIG 2 - Site Location Plan.mxd



HYDROGEOLOGICAL ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario

LEGEND

- MECP Well Record
- 500m Study Area
- Site (approximate)

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MECP WELL RECORDS MAP

Project No.: 14560-001		Date: April 2022 Rev.:	
Scale: 1:7,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: SK	Figure:	3

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-04-04 FIG 3 - MECP Well Records Map.mxd

HYDROGEOLOGICAL ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario



LEGEND

- Borehole
- Monitoring Well
- Test Pit
- Site (approximate)

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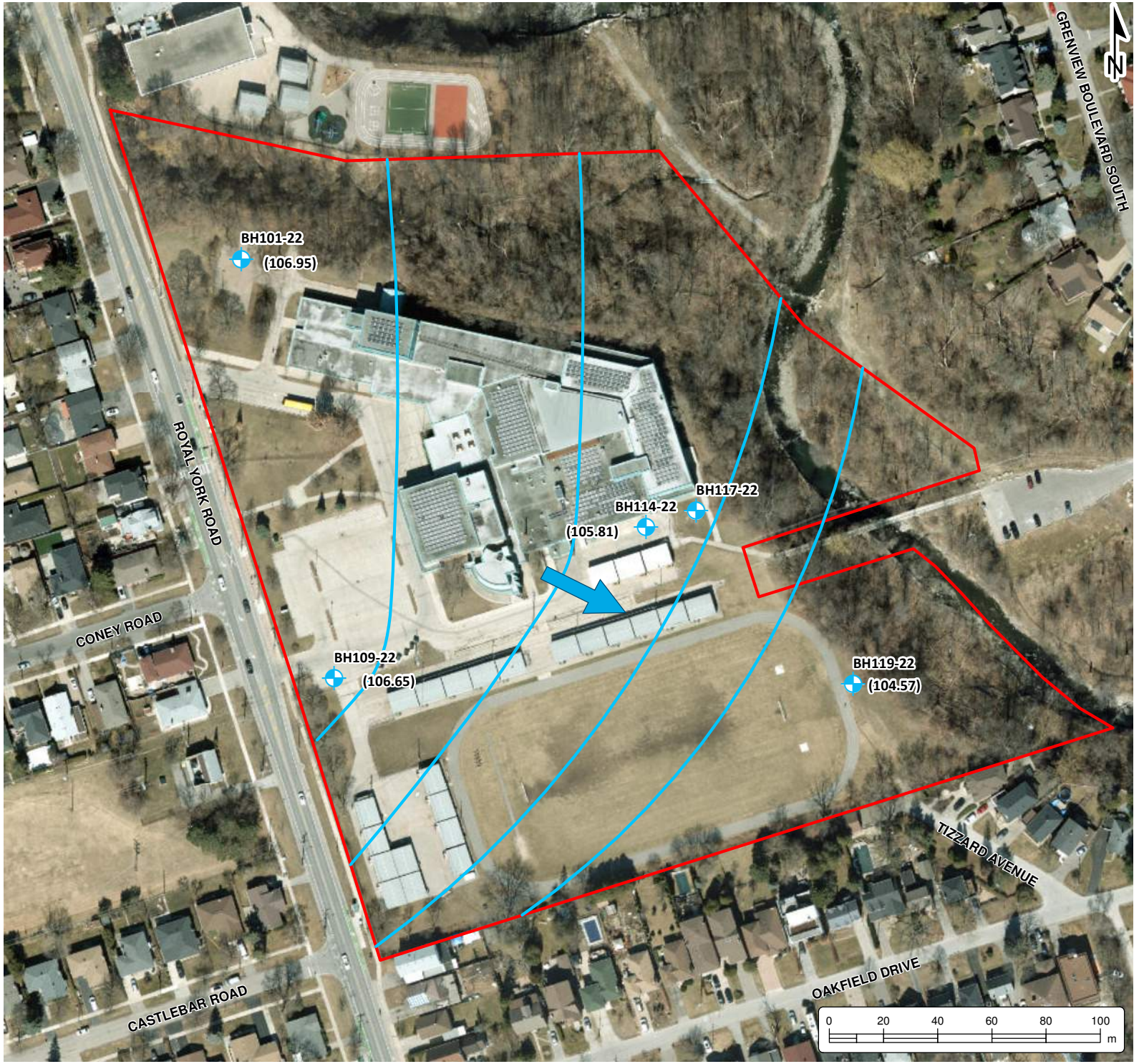
BOREHOLE LOCATION PLAN

Project No.: 14560-001		Date: April 2022	Rev.:
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: SK	Figure: 4	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-04-04 FIG 4 - Borehole Location Plan.mxd

HYDROGEOLOGICAL ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario



LEGEND

- Monitoring Well
- Groundwater Contours (0.5m intervals)
- Site (approximate)
- (109.77) Groundwater Elevations (masl) (May 16. 2022)
- Groundwater Flow Direction

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GROUND WATER CONFIGURATION MAP

Project No.: 14560-001		Date: May 2022 Rev.:	
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: SK	Figure:	5

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-04-04 FIG 5 - Groundwater Configuration Map.mxd

HYDROGEOLOGICAL ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario



	Area (m²)
Roof Area	10,491
Landscaped Area	41,908
Paved Area	12,102
Total Area	64,501

LEGEND

- Roof Area
- PavedArea
- LandscapedArea
- Site (approximate)

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PRE-DEVELOPMENT PLAN

Project No.: 14560-001		Date: April 2022 Rev.:	
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: SK	Figure:	**6**

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-04-04 FIG 6 - Pre-Development Plan.mxd

HYDROGEOLOGICAL ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario



LEGEND

- Roofed
- Paved
- Landscaped
- Site (approximate)

	Area (m^2)
Roofed	8,052
Paved	15,375
Landscaped	41,074
Total	64,501

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.

194 Sophia Street
Peterborough, Ontario, K9H 1E5
Tel: (705) 742.7900 Fax: (705) 742.7907
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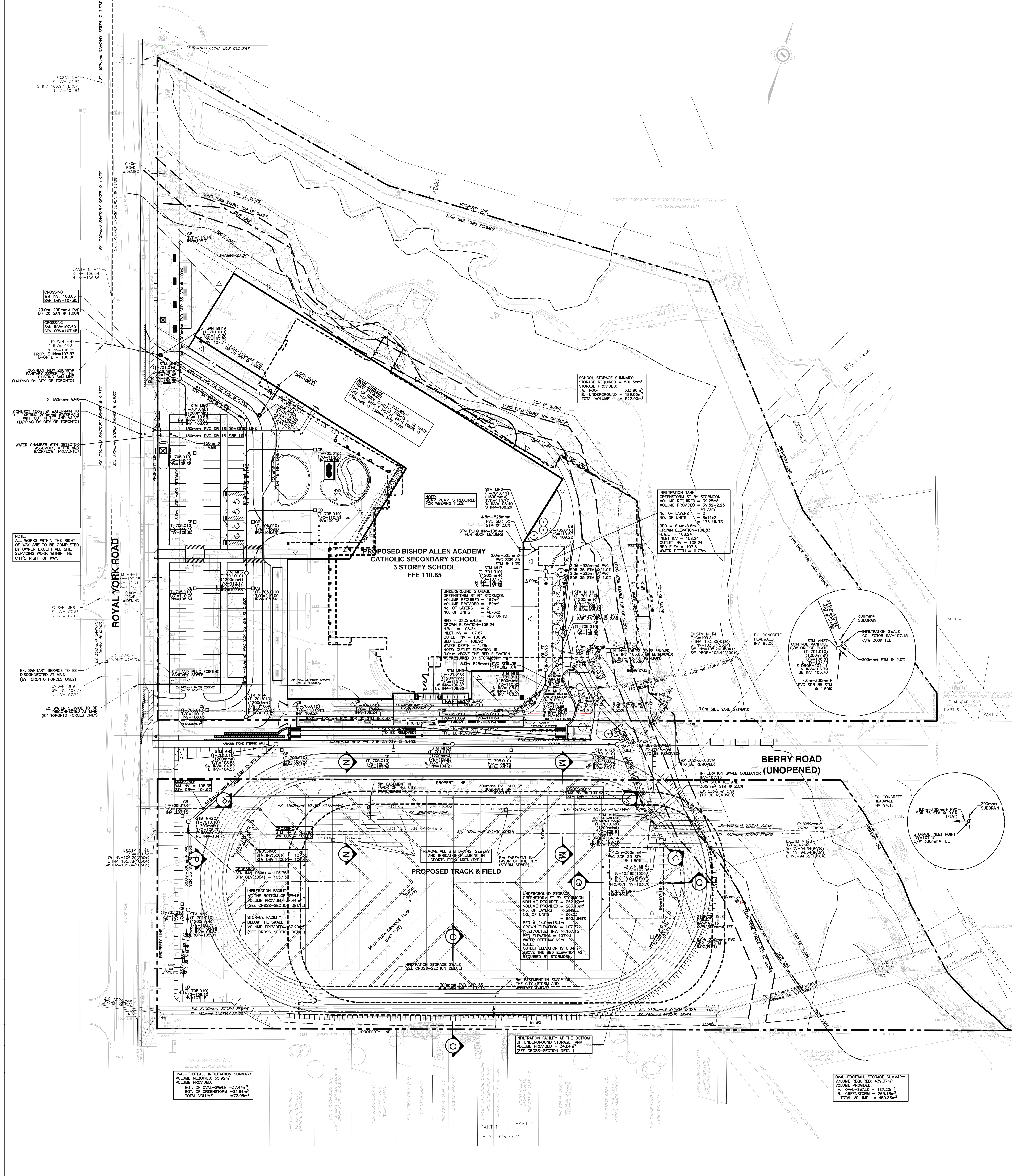
PRE-DEVELOPMENT PLAN

Project No.: 14560-001		Date: April 2022 Rev.:	
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: SK	Figure:	**7**

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-04-04 FIG 7 - Post Development Plan.mxd

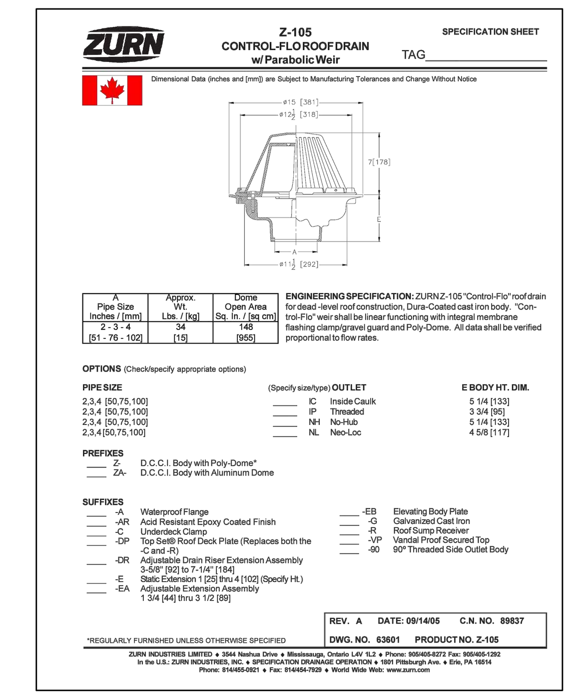
Appendix A

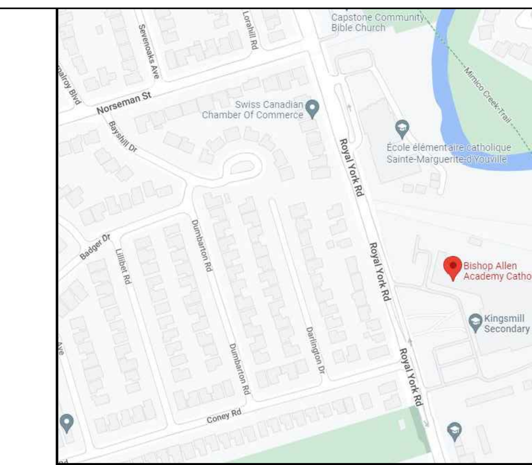
Land Information and Proposed Development Plan



SITE SERVICING NOTES:

1. STAFF HAVE REVIEWED THIS APPLICATION ON THE UNDERSTANDING THAT IT WILL COMPRISE A SINGLE PARCEL OF LAND, UNDER ONE OWNER, UPON COMPLETION. IF ANY PARTY, INCLUDING THE APPLICANT OR ANY SUBSEQUENT OWNER, SUBMITS AN APPLICATION FOR SEVERANCE, PART–LOT CONTROL, SUBDIVISION, CONDOMINIUM APPROVAL OR ANY OTHER FORM OF LAND DIVISION FOR THIS DEVELOPMENT NOT IN ACCORDANCE WITH THIS ASSUMPTION, DIFFERENT SERVICING CONNECTIONS, INCLUDING ALL ASSOCIATED STORMWATER MANAGEMENT FACILITIES AND ANY NECESSARY REVISED PLANS AND STUDIES, MAY BE REQUIRED BY THE CITY AT THE SOLE COST TO THAT APPLICANT.
2. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COMPLY WITH THE SEWER USE BY–LAW AND OBTAIN ALL APPROVALS/PERMITS FROM TORONTO WATER–ENVIRONMENTAL MONITORING AND PROTECTION UNIT FOR ANY PROPOSED TEMPORARY OR PERMANENT DISCHARGE OF PRIVATE WATER INTO MUNICIPAL SEWER SYSTEMS AND WATERCOURSES. THE APPLICANT IS ALSO RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE PROVINCIAL REQUIREMENTS AND OBTAINING THE NECESSARY APPROVALS AND/OR PERMITS FROM THE MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS, WITH REGARD TO ANY PROPOSED DEWATERING AND MITIGATING AND MANAGING EITHER ON–SITE OR OFF–SITE OF ANY PRIVATE WATER ENCOUNTERED DURING CONSTRUCTION.
3. IT IS THE RESPONSIBILITY OF THE APPLICANT TO ENSURE COMPLIANCE WITH ALL APPLICABLE PROVINCIAL STANDARDS AN TO OBTAIN ALL PROVINCIAL APPROVALS, INCLUDING BUT NOT LIMITED TO ENVIRONMENTAL COMPLIANCE APPROVALS.
4. THE SIGNED ACCEPTANCE BY ENGINEERING AND CONSTRUCTION SERVICES PERTAINS TO THE SERVICE CONNECTIONS LOCATED WITHIN THE MUNICIPAL RIGHT OF WAY. SERVICING ON PRIVATE PROPERTY REQUIRES PLUMBING APPROVAL UNDER THE ONTARIO BUILDING CODE IN CONJUNCTION WITH THE PERMIT APPLICATION PROCESS ADMINISTERED BY THE BUILDING DIVISION.
5. THE OWNER IS REQUIRED TO INSTALL AND MAINTAIN A PREMISE ISOLATION DEVICE FOR ALL APPLICABLE WARER SERVICES IN ACCORDANCE WITH TORONTO MUNICIPAL CODE, CHAPTER 851 WATER SUPPLY, THE BUILDING CODE, AND CSA B64 SERIES STANDARDS.





KEY PLAN

Symbol	Description
	PROPERTY LINE
108.75 ×	PROPOSED GRADE
108.75 ×	EXISTING GRADE
	PROPOSED STORM MANHOLE
	PROPOSED SANITARY MANHOLE
	PROPOSED CATCHBASIN
	WATER METER
	VALVE AND BOX
	DETECTOR CHECK VALVE
	LONG TERM STABLE TOP OF SLOPE & 6m SETBACK
	DRIP LINE AS STAKED OUT BY TRCA SEPT. 13, 2022
	TOP OF SLOPE AS STAKED OUT BY TRCA SEPT. 13, 2022
	OUTLINE OF EXISTING SCHOOL TO BE DEMOLISHED
	RAVINE & NATURAL FEATURES PROTECTION (RNFP) LIMIT
	BOTTOM OF SLOPE (TOE OF SLOPE)

SURVEY INFORMATION

TOPOGRAPHIC INFORMATION TAKEN FROM DRAWING NUMBER 22–22–038–00–PST. DATED MAY, 5th 2022. DONE BY J.D BARNES LIMITED. LAND INFORMATION SPECIALISTS.

BENCHMARK INFO:

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM CGVD28:PRE78 AND DERIVED FROM THE CITY OF TORONTO BENCH MARK No12519670185 HAVING PUBLISHED ELEVATION OF 110.52 METERS.

NO.	DESCRIPTION	DATE
5		
4		
3	ADDRESSED CITY COMMENTS	2023.08.21
2	50% PROGRESS ISSUED TO OWNER	2023.05.12
1	FIRST SUBMISSION	2023.01.31

REVISIONS

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCY TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

DRAWINGS SHALL NOT BE SCALED.

THESE DRAWINGS ARE THE PROPERTY OF THE ENGINEER.

THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL SIGNED BY THE ENGINEER.

DATE: ____________ DATE: ____________

TORONTO Engineering & Construction Services

ACCEPTED TO BE IN ACCORDANCE WITH THE CITY OF TORONTO STANDARDS
THIS ACCEPTANCE IS NOT TO BE CONSTRUED AS VERIFICATION OF ENGINEERING CONTENT

MANAGER, DEVELOPMENT ENGINEERING
ETOBICOKE YORK DISTRICT

DATE: ____________

CANDEVCON LIMITED
CONSULTING ENGINEERS AND PLANNERS
TEL. (905) 794–0600 FAX (905) 794–0611

LICENSED PROFESSIONAL ENGINEER J.R. ENDAYA 100085341 Dec. 21, 2023 PROVINCE OF ONTARIO

CONSTRUCTION NORTH
TRUE NORTH

BISHOP ALLEN ACADEMY CATHOLIC SCHOOL REPLACEMENT

721 ROYAL YORK ROAD
ETOBICOKE, ONTARIO
M8Y 2T3

SPA: 23 114992 WET 03 SA

SHEET TITLE:

SERVICING AND PUBLIC UTILITIES PLAN

DRAWN BY: R.V.M	PROJECT No. W22001
CHECKED BY: S.D.L/J.R.E	DRAWING No. SS1
SCALE: 1:500	
DATE: DECEMBER 13,2022	3

PLAN OF SURVEY SHOWING TOPOGRAPHY OF

PART OF LOT 3, RANGE 1 KINGS MILL RESERVE

GEOGRAPHIC TOWNSHIP OF ETOBICOKE

AND

PART OF LOTS 8 AND 9 REGISTERED PLAN 718

CITY OF TORONTO

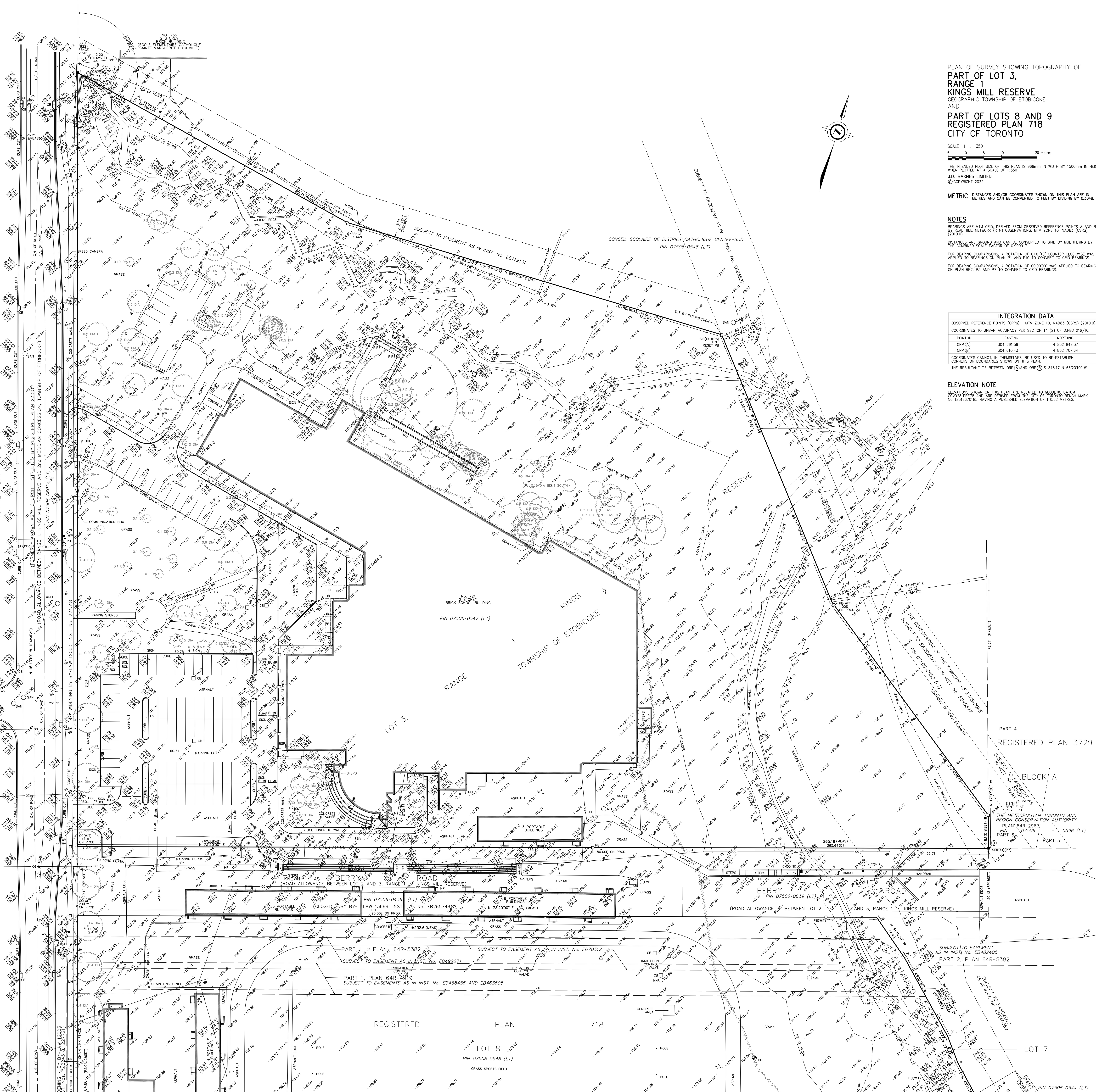
SCALE 1 : 350

5 0 5 10 20 metres

THE INTENDED PLOT SIZE OF THIS PLAN IS 966mm IN WIDTH BY 1500mm IN HEIGHT WHEN PLOTTED AT A SCALE OF 1:350

J.D. BARNES LIMITED
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METRIC DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.



NOTES

BEARINGS ARE MTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS A AND B, BY REAL TIME NETWORK (RTN) OBSERVATIONS, MTM ZONE 10, NAD83 (CSRS) (2010.0).

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999917.

FOR BEARING COMPARISONS, A ROTATION OF 01°01'10" COUNTER-CLOCKWISE WAS APPLIED TO BEARINGS ON PLAN P1 AND P10 TO CONVERT TO GRID BEARINGS.

FOR BEARING COMPARISONS, A ROTATION OF 00°00'00" WAS APPLIED TO BEARINGS ON PLAN RP2, P5 AND P7 TO CONVERT TO GRID BEARINGS.

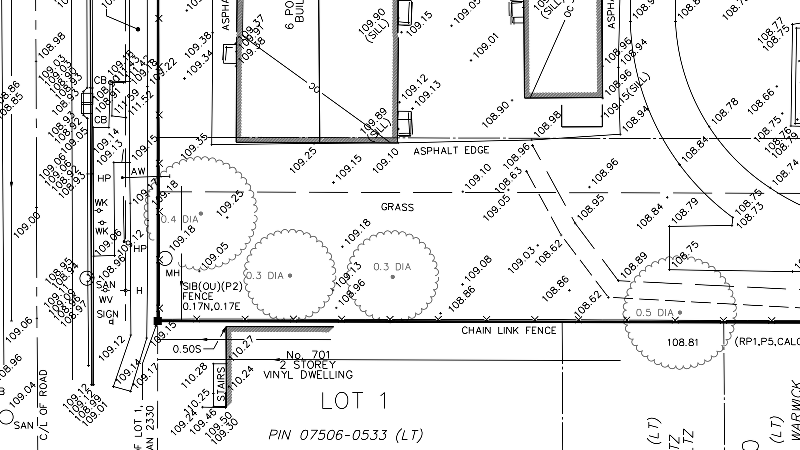
INTEGRATION DATA		
OBSERVED REFERENCE POINTS (ORPs): MTM ZONE 10, NAD83 (CSRS) (2010.0).		
COORDINATES TO URBAN ACCURACY PER SECTION 14 (2) OF O.REG 216/10.		
POINT ID	EASTING	NORTHING
ORP (A)	304 291.56	4 832 847.37
ORP (B)	304 610.43	4 832 707.64
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.		

THE RESULTANT TIE BETWEEN ORP (A) AND ORP (B) IS 348.17 N 66°20'10" W

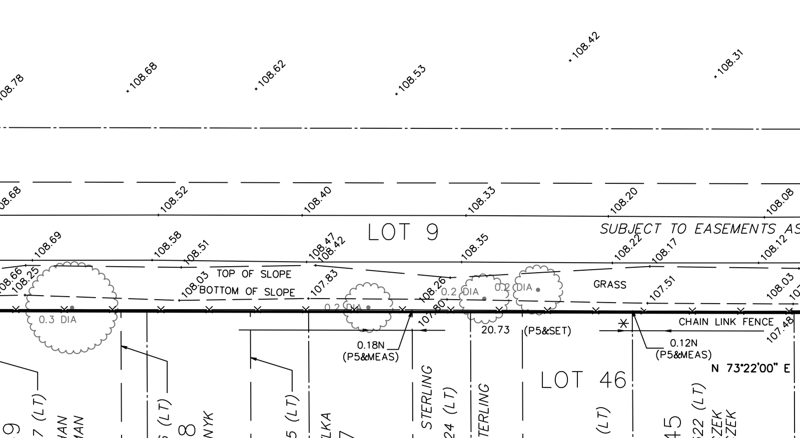
ELEVATION NOTE

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM CGVD28:PRE78 AND ARE DERIVED FROM THE CITY OF TORONTO BENCH MARK No 12519670185 HAVING A PUBLISHED ELEVATION OF 110.52 METRES.

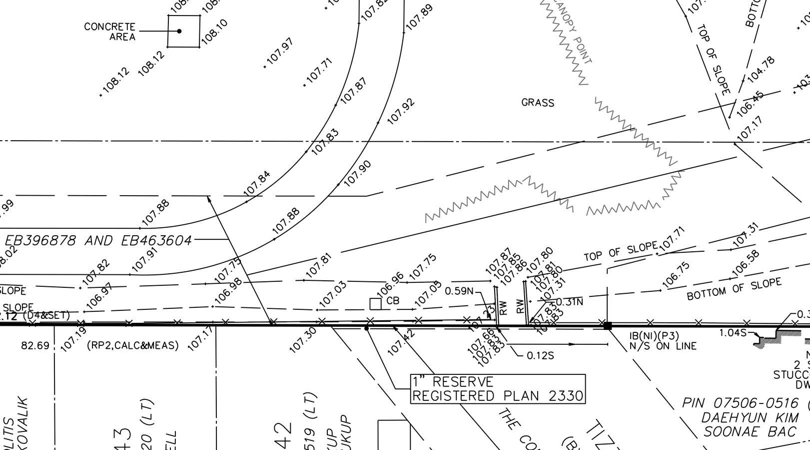
VERTICAL PROFILE 'A'-'A'



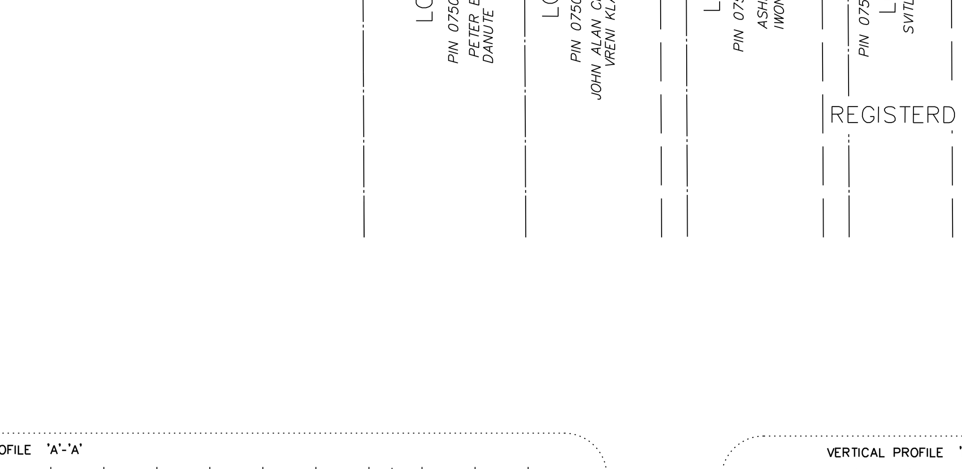
VERTICAL PROFILE 'B'-'B'



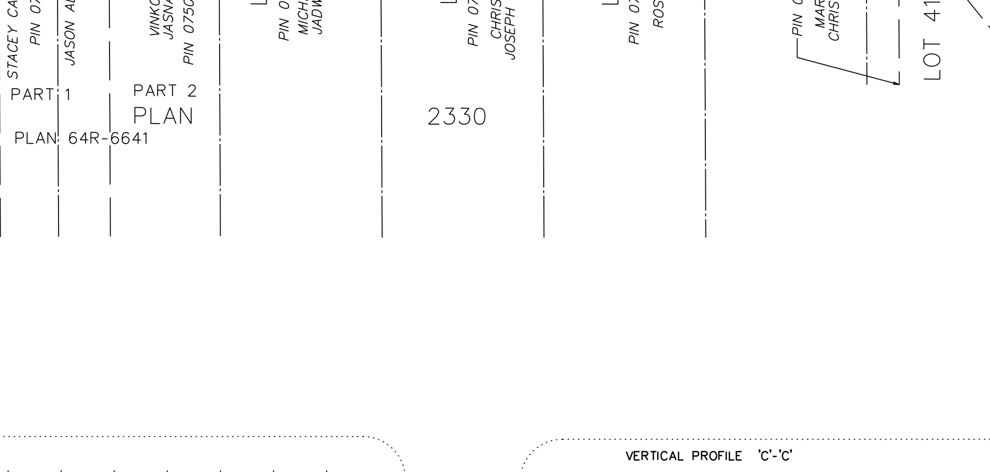
VERTICAL PROFILE 'C'-'C'



VERTICAL PROFILE 'D'-'D'



VERTICAL PROFILE 'E'-'E'



LEGEND

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT SET
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
PB	DENOTES	PLASTIC BAR
WIT	DENOTES	WITNESS
MEAS	DENOTES	MEASURED
JDB	DENOTES	J.D. BARNES LIMITED, O.L.S.
OU	DENOTES	ORIGIN UNKNOWN
NI	DENOTES	NOT IDENTIFIABLE
WW	DENOTES	W.N. WILDMAN, O.L.S.
922	DENOTES	LLYOD & PURCELL LTD., O.L.S.
1457	DENOTES	RONALD J. STEWART, O.L.S.
RP1	DENOTES	REGISTERED PLAN 718
RP2	DENOTES	REGISTERED PLAN 2330
FN1	DENOTES	FIELD NOTE BY CITY OF TORONTO TECHNICAL SERVICES (FILE No. 2007-0163)
P1	DENOTES	PLAN OF SURVEY BY YATES AND YATES, O.L.S. DATED MARCH 13th, 1969 (REVISED SEPTEMBER 10th, 1969).
P2	DENOTES	PLAN 64R-4919
P3	DENOTES	SURVEYOR'S REAL PROPERTY REPORT BY C.E. DOTTERILL LTD., O.L.S., DATED DECEMBER 21st, 2004.
P4	DENOTES	PLAN B. 704-105 (DEPARTMENT OF WORKS)
P5	DENOTES	PLAN 64R-6641
P6	DENOTES	PLAN OF SURVEY BY W.S. GIBSON & SONS, O.L.S., DATED NOVEMBER 25th, 1965.
P7	DENOTES	PLAN 64R-2963
P8	DENOTES	PLAN 64R-8923
P9	DENOTES	PLAN B.1058.04-105S (DEPARTMENT OF WORKS)
P10	DENOTES	EXPROPRIATION PLAN 7532, INSTRUMENT No. EB301966
D1	DENOTES	INSTRUMENT No. EB280146
D2	DENOTES	INSTRUMENT No. EB95527
D3	DENOTES	INSTRUMENT No. EB119131
BS	DENOTES	BUS SHELTER
F.F.E.	DENOTES	FINISH FLOOR ELEVATION
CLF	DENOTES	CHAIN LINK FENCE
HR	DENOTES	HANDRAIL
GR	DENOTES	GARBAGE RECEPTICLE
CB	DENOTES	CATCHBASIN
HJB	DENOTES	HYDRO JUNCTION BOX
GM	DENOTES	GAS METER
SP	DENOTES	STAND PIPE
HW	DENOTES	HANDWELL
MH	DENOTES	MANHOLE
SAN	DENOTES	SANITARY MANHOLE
WMH	DENOTES	WATER MANHOLE
BOL	DENOTES	BOLLARD
FP	DENOTES	FLAG POLE
HP	DENOTES	HYDRO POLE
LS	DENOTES	LIGHT STANDARD
TSC	DENOTES	TRAFFIC SIGNAL CONTROL
H	DENOTES	FIRE HYDRANT
WK	DENOTES	WATER KEY
BSP	DENOTES	BURIED SPRINKLER
AW	DENOTES	ANCHOR WIRE
WV	DENOTES	WATER VALVE
⊙	DENOTES	SHRUB
-OC-	DENOTES	OVERHEAD CABLE
✳	DENOTES	CANNOT SET DUE TO ACCESS OR SAFETY REASONS
—	DENOTES	TRAVERSE LINE
PROD	DENOTES	PRODUCTION
BH	DENOTES	BOREHOLE
0.X DIA	DENOTES	DECIDUOUS TREE WITH 0.X TRUNK DIAMETER
0.X DIA	DENOTES	CONIFEROUS TREE WITH 0.X TRUNK DIAMETER

ALL SET PB MONUMENTS WERE USED DUE TO LACK OF OVERBURDEN AND/OR PROXIMITY OF UNDERGROUND UTILITIES IN ACCORDANCE WITH SECTION 11 (4) OF O.REG. 525/91.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 6th DAY OF MAY, 2022.

MAY 9th, 2022
DATE

FRANCIS BABU
ONTARIO LAND SURVEYOR

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2189932

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29(3)

J. D. BARNES LIMITED
SURVEYING MAPPING GIS
LAND INFORMATION SPECIALISTS
411 RICHMOND ST. EAST, SUITE 107, TORONTO, ON M5A 3S5
T: (416) 368-3737 F: (416) 368-5308 www.jdbarnes.com

DRAWN BY: MJV	CHECKED BY: FB	REFERENCE NO.: 22-22-038-00-PST
PLOTTED: 5/20/2022		DATED: 05/05/22

FILE: G:\22-22-038\00\Drawing\22-22-038-00 PST.dgn

SPIA Map



Legend

- Watercourse Direction
- Source Protection Areas
- Highly Vulnerable Aquifers
- Assessment Parcel with Addre

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Environment, Conservation and Parks (MECP) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.

Ontario

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Map Created: 4/5/2022
Map Center: 43.63416 N, -79.50359 W



Map Layers

- TRCA Conceptual Regulated Area
- Parcel Boundary

Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

Enter map title

Map created:4/5/2022



Legend

- Assessment Parcel
- ANSI
- Earth Science Provincially Significant/sciences de la terre d'importance provinciale
- Earth Science Regionally Significant/sciences de la terre d'importance régionale
- Life Science Provincially Significant/sciences de la vie d'importance provinciale
- Life Science Regionally Significant/sciences de la vie d'importance régionale
- Evaluated Wetland
- Provincially Significant/considérée d'importance provinciale
- Non-Provincially Significant/non considérée d'importance provinciale
- Unevaluated Wetland
- Woodland

Notes:

MNRF Natural Heritage Map

0.2 0 0.08 0.2 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.



This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources and Forestry(OMNRF) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

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Appendix B

MECP Well Records

Water Well Records Summary Report

WELL ID (TAG):	7233127 (Z184196) A13	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2014-12-08	Overburden	BRWN SILT SAND 0008	WELL DEPTH (m):	7.6
UTM (ZONE):	17 620640 4832683 W	Test Hole		STATIC LEVEL (m):	
ERROR:	margin of error : 30 m - 100 m	Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7233134 (Z184199) A16	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2014-12-08	Bedrock	BRWN FILL 0002 GREY SAND SILT 0003 GREY CLAY SILT 0004 GREY SHLE WTHD 0006	WELL DEPTH (m):	6.1
UTM (ZONE):	17 620409 4832724 W	Test Hole		STATIC LEVEL (m):	
ERROR:	margin of error : 30 m - 100 m	Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7259354 (Z221221) A20	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2016-03-17	Bedrock	FILL 0002 GREY SHLE 0007	WELL DEPTH (m):	6.86
UTM (ZONE):	17 620482 4832776 W			STATIC LEVEL (m):	
ERROR:	margin of error : 30 m - 100 m	Monitoring		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7259355 (Z221219) A20	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2016-03-17	Bedrock	FILL 0002 GREY SHLE 0069	WELL DEPTH (m):	68.58
UTM (ZONE): ERROR:	17 620595 4832763 W	Observation Wells		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Monitoring		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7259356 (Z221220) A20	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2016-03-17	Bedrock	FILL 0002 GREY SHLE 0005	WELL DEPTH (m):	5.18
UTM (ZONE): ERROR:	17 621023 4832308 W	Observation Wells		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Monitoring		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7283198 (Z251786) A19	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-03-14	Overburden		WELL DEPTH (m):	
UTM (ZONE): ERROR:	17 620776 4832385 W	Observation Wells		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Monitoring		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7283199 (Z239616) A20	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-03-14	Overburden		WELL DEPTH (m):	
UTM (ZONE): ERROR:	17 620482 4832776 W			STATIC LEVEL (m):	
margin of error : 30 m - 100 m				RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7283200 (Z239615) A20	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-03-14	Overburden		WELL DEPTH (m):	
UTM (ZONE): ERROR:	17 621023 4832308 W			STATIC LEVEL (m):	
margin of error : 30 m - 100 m				RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7283202 (Z251789) A20	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-03-14	Overburden		WELL DEPTH (m):	
UTM (ZONE): ERROR:	17 620595 4832763 W	Observation Wells		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Monitoring		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7283204 (Z251791) A20	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-03-14	Overburden		WELL DEPTH (m):	
UTM (ZONE): ERROR:	17 621107 4832110 W	Observation Wells		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Monitoring		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7293089 (Z263384) A21	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-08-18	Overburden	BRWN LOAM 0002 BRWN CLAY 0003 GREY CLAY 0005	WELL DEPTH (m):	4.57
UTM (ZONE): ERROR:	17 620530 4832241 W	Monitoring and Test Hole		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7293107 (Z263382) A22	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-08-18	Overburden	BLCK LOAM 0001 BRWN CLAY SILT 0003 GREY CLAY SILT 0005	WELL DEPTH (m):	4.57
UTM (ZONE): ERROR:	17 620510 4832252 W	Monitoring and Test Hole		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7293108 (Z263383) A21	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-08-18	Overburden	BRWN LOAM 0001 BRWN CLAY SILT 0003 GREY CLAY SILT 0005	WELL DEPTH (m):	4.57
UTM (ZONE): ERROR:	17 620511 4832230 W	Monitoring and Test Hole		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7293109 (Z263381) A21	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-08-18	Overburden	BRWN GRVL SAND 0001 BRWN CLAY SILT 0003 GREY CLAY 0005	WELL DEPTH (m):	4.57
UTM (ZONE): ERROR:	17 620527 4832232 W	Monitoring and Test Hole		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7295914 (Z268128) A	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-09-29	Overburden		WELL DEPTH (m):	
UTM (ZONE): ERROR:	17 620532 4832240 W	Abandoned Monitoring and Test Hole		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7295915 (Z268127) A	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-09-29	Overburden		WELL DEPTH (m):	
UTM (ZONE):	17 620527 4832232 W	Abandoned Monitoring and Test Hole		STATIC LEVEL (m):	
ERROR:	margin of error : 30 m - 100 m	Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7295916 (Z268125) A	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-09-29	Overburden		WELL DEPTH (m):	
UTM (ZONE):	17 620511 4832230 W	Abandoned Monitoring and Test Hole		STATIC LEVEL (m):	
ERROR:	margin of error : 30 m - 100 m	Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7295917 (Z268126) A	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2017-09-29	Overburden		WELL DEPTH (m):	
UTM (ZONE):	17 620509 4832251 W	Abandoned Monitoring and Test Hole		STATIC LEVEL (m):	
ERROR:	margin of error : 30 m - 100 m	Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7304574 (Z278906) A22	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2018-01-30	Overburden	BRWN SAND FILL 0003 BRWN SILT CLAY 0003	WELL DEPTH (m):	3.1
UTM (ZONE):	17 620955 4832372 W	Observation Wells		STATIC LEVEL (m):	
ERROR:	margin of error : 30 m - 100 m	Monitoring		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7342186 (Z298001) A27	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2019-07-23	Overburden	GREY GRVL 0000 BRWN FILL 0002 BRWN SAND 0004 GREY SAND 0005	WELL DEPTH (m):	5.18
UTM (ZONE): ERROR:	17 620707 4831997 W	Monitoring and Test Hole		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Monitoring and Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7342187 (Z298002) A27	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2019-07-23	Overburden	GREY GRVL 0000 BRWN FILL 0002 BRWN SAND 0004 GREY SAND 0005	WELL DEPTH (m):	4.88
UTM (ZONE): ERROR:	17 620703 4831993 W	Monitoring and Test Hole		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Monitoring and Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7342188 (Z305023) A27	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2019-07-23	Overburden	GREY GRVL 0000 BRWN FILL 0002 BRWN SAND 0004 GREY SAND 0005	WELL DEPTH (m):	5.18
UTM (ZONE): ERROR:	17 620699 4831996 W	Monitoring and Test Hole		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Monitoring and Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7342257 (Z313437) A27	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION	
DATE COMPLETED:	2019-07-23	Overburden	BRWN FILL 0001 BRWN SAND SILT 0003 GREY SAND SILT 0005	WELL DEPTH (m):	5.18
UTM (ZONE): ERROR:	17 620700 4831995 W	Monitoring and Test Hole		STATIC LEVEL (m):	
margin of error : 30 m - 100 m		Monitoring and Test Hole		RECOMMENDED PUMP RATE (LPM)	

WELL ID (TAG):	7342258 (Z313438) A27	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION
DATE COMPLETED:	2019-07-23	Overburden	BRWN FILL 0001 BRWN SAND SILT 0003 GREY SAND SILT 0005	WELL DEPTH (m): 4.88
UTM (ZONE):	17 620706 4831996 W	Monitoring and Test Hole		STATIC LEVEL (m):
ERROR:	margin of error : 30 m - 100 m	Monitoring and Test Hole		RECOMMENDED PUMP RATE (LPM)

WELL ID (TAG):	7342259 (Z313439) A27	WELL TYPE AND USAGE	REPORTED STRATIGRAPHY (m bgs)	WATER INFORMATION
DATE COMPLETED:	2019-07-23	Overburden	BRWN FILL 0001 BRWN SAND SILT 0003 GREY SAND SILT 0005	WELL DEPTH (m): 5.18
UTM (ZONE):	17 620710 4832001 W	Monitoring and Test Hole		STATIC LEVEL (m):
ERROR:	margin of error : 30 m - 100 m	Monitoring and Test Hole		RECOMMENDED PUMP RATE (LPM)

1. Core Material and Descriptive terms

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
BLDR	BOULDERS	FCRD	FRACTURED	IRFM	IRON FORMATION	PORS	POROUS	SOFT	SOFT
BSLT	BASALT	FGRD	FINE-GRAINED	LIMY	LIMY	PRDG	PREVIOUSLY DUG	SPST	SOAPSTONE
CGRD	COARSE-GRAINED	FGVL	FINE GRAVEL	LMSN	LIMESTONE	PRDR	PREV. DRILLED	STKY	STICKY
CGVL	COARSE GRAVEL	FILL	FILL	LOAM	TOPSOIL	QRTZ	QUARTZITE	STNS	STONES
CHRT	CHERT	FLDS	FELDSPAR	LOOS	LOOSE	QSND	QUICKSAND	STNY	STONEY
CLAY	CLAY	FLNT	FLINT	LTCL	LIGHT-COLOURED	QTZ	QUARTZ	THIK	THICK
CLN	CLEAN	FOSS	FOSILIFEROUS	LYRD	LAYERED	ROCK	ROCK	THIN	THIN
CLYY	CLAYEY	FSND	FINE SAND	MARL	MARL	SAND	SAND	TILL	TILL
CMTD	CEMENTED	GNIS	GNEISS	MGRD	MEDIUM-GRAINED	SHLE	SHALE	UNKN	UNKNOWN TYPE
CONG	CONGLOMERATE	GRNT	GRANITE	MGVL	MEDIUM GRAVEL	SHLY	SHALY	VERY	VERY
CRYS	CRYSTALLINE	GRSN	GREENSTONE	MRBL	MARBLE	SHRP	SHARP	WBRG	WATER-BEARING
CSND	COARSE SAND	GRVL	GRAVEL	MSND	MEDIUM SAND	SHST	SCHIST	WDFR	WOOD FRAGMENTS
DKCL	DARK-COLOURED	GRWK	GREYWACKE	MUCK	MUCK	SILT	SILT	WTHD	WEATHERED
DLMT	DOLOMITE	GVLY	GRAVELLY	OBDN	OVERBURDEN	SLTE	SLATE		
DNSE	DENSE	GYPS	GYPSUM	PCKD	PACKED	SLTY	SILTY		
DRTY	DIRTY	HARD	HARD	PEAT	PEAT	SNDS	SANDSTONE		
DRY	DRY	HPAN	HARDPAN	PGVL	PEA GRAVEL	SNDY	SANDYOAPSTONE		

2. Core Colour

Code	Description
WHIT	WHITE
GREY	GREY
BLUE	BLUE
GREN	GREEN
YLLW	YELLOW
BRWN	BROWN
RED	RED
BLCK	BLACK
BLGY	BLUE-GREY

Appendix C

Borehole and Test Pit Logs

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Log of Borehole: BH101-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832426 m N, 620536 m E
Elevation: 109.87 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
0 / 109		ASPHALT: (~ 65 mm thick)	1A						Flushmount	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 3.13 mbgs on April 7, 2022 and 2.9 mbgs on May 16, 2022
		SAND and GRAVEL: FILL, (SP/GP)	1B	SS	50	12			Cap	
		SILTY SAND: brown; non-cohesive, moist, compact, FILL, (SM)								
1 / 108		Sandy SILT: trace gravel; brown, silty sand seams; non-cohesive, wet, loose to dense, (ML)	2	SS	100	17			Bentonite Plug	
			3	SS	100	9				
2 / 107			4	SS	100	33			PVC Standpipe	
3 / 106		SILTY CLAY: trace sand; brown to grey; cohesive, w < PL, very stiff, (CL)	5	SS	60	19				
4 / 105		SILTY CLAY: trace to some sand, trace gravel; grey (TILL); cohesive, w < PL, very stiff, (CL)	6	SS	75	19			Sand Pack	
5 / 104		SHALE: weathered; grey	7	SS	100	50 /50 mm			PVC Screen	
6 / 103										
7 / 102		Borehole terminated at 7.6 mbgs due to auger and split spoon refusal on inferred bedrock	8	SS	0	50 /25 mm			Cap	Groundwater encountered during drilling at a depth of about 3.7 m
8 / 101										
9										

Logged By: EC
Input By: CM

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Log of Borehole: BH102-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832406 m N, 620551 m E
Elevation: 110.17 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
110	0		ASPHALT: (~ 65 mm thick)	1A							
			SAND and GRAVEL: FILL, (SP/GP)	1B	SS	50	13				
			SAND: medium, trace fines; brown; non-cohesive, moist, compact, FILL, (SP)								
109	1			2	SS	100	13				
				3	SS	100	12				
108	2		SILTY SAND to sandy SILT: trace gravel; brown, silty clay seams, oxidation stains; non-cohesive, loose to compact, (SM/ML)	4	SS	100	9				GSA SS4: 1% Gravel 53% Sand 35% Silt 11% Clay
107	3			5	SS	100	25				
106	4		SILTY CLAY: trace to some sand, trace to some gravel; grey (TILL); cohesive, w < PL, hard, (CL)	6	SS	100	31				Atterberg SS6: LL: 21.0% PL: 14.1% PI: 6.9%
105	5										
104	6			7	SS	0	50/ 25 mm				
103	7		Borehole terminated at 6.1 mbgs due to auger and split spoon refusal on inferred bedrock								Groundwater encountered during drilling at a depth of about 3.0 m
102	8										
	9										

Logged By: EC
Input By: CM

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Log of Borehole: BH103-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832379 m N, 620534 m E
Elevation: 110.17 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
110	0		ASPHALT: (~ 65 mm thick)	1A							
			SILTY SAND to SAND: medium; brown; non-cohesive, moist, compact, FILL, (SM/SP)	1B	SS	75	22				
109	1			2	SS	100	11				
			SILTY SAND: brown; non-cohesive, moist, compact, (SM)	3	SS	100	12				
108	2										
			sandy SILT: brown, silty sand seams; non-cohesive, moist, compact, (ML)	4	SS	100	22				
107	3			5	SS	100	23				
106	4		SILTY CLAY: trace sand; grey, silty seam; cohesive, w ~ PL, very stiff, (CL)								
				6	SS	100	19				
105	5										
104	6			7	SS	0	50/ 25 mm				
			Borehole terminated at 6.1 mbgs due to auger and split spoon refusal on inferred bedrock								
103	7										
102	8										Groundwater encountered during drilling at a depth of about 3.0 m Caving measured at about 3.0 m upon completion of drilling.
	9										

Logged By: EC
Input By: CM

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Log of Borehole: BH104-22

Client:	Hossack & Associates Architects	**Project Name:**	Geotechnical Invesitagtion	**Project No.:**	14560-001
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	March 18, 2022
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832354 m N, 620583 m E	**Elevation:**	109.79 mASL

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
0 / 109		ASPHALT: (~ 65 mm thick)	1A							
		SAND and GRAVEL: brown; non-cohesive, moist, compact, FILL, (SP/GP)	1B	SS	75	16				
1 / 108		SILTY SAND: fine to medium; brown; non-cohesive, moist to wet, loose to dense, (SM)	2	SS	100	8				
			3	SS	100	39				
2 / 107		-sandy silt seams at depth of about 2.3 mbgs	4	SS	100	33				
3 / 106			5	SS	100	38				
4 / 105		SILTY CLAY: trace sand; grey; cohesive, w < PL, hard, (CL)	6	SS	50	37				
5 / 104		sandy SILTY CLAY to CLAYEY SILT: trace gravel; grey, weathered shale fragments; cohesive, w < PL, hard, (CL-ML)	7	SS	50	50/ 280 mm				
6 / 103										
7 / 102		SHALE: grey	8	SS	0	50/ 50 mm				Groundwater encountered during drilling at a depth of about 3.0 m Caving measured at about 3.0 m upon completion of drilling.
8 / 101		Borehole terminated at 7.7 mbgs due to exploration depth achieved								
9										

Logged By: EC **Input By:** CM

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Log of Borehole: BH105-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832331 m N, 620584 m E
Elevation: 110.14 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
110	0		ASPHALT: (~ 50 mm thick)						
			sandy SILTY CLAY: brown; cohesive, w > PL, FILL, (CL)	1	GS	-	-		
109	1		SILTY SAND: brown; non-cohesive, moist, loose to compact, FILL, (SM)	2	SS	80	6		
				3A	SS	80	12		
	2		sandy SILT: brown; non-cohesive, moist, compact, (ML)	3B					
108			SILTY SAND: brown; non-cohesive, wet, compact, (SM)	4	SS	70	13		GSA SS4: 0% Gravel 75% Sand 22% Silt 3% Clay
	3			5	SS	80	16		
107			-clayey silt seam at 3.4 mbgs						
	4								
106				6	SS	90	24		
	5								
105			SILTY CLAY: trace sand, trace to some gravel; grey (TILL); cohesive, w > PL, very stiff, (CL)						
	6			7	SS	90	26		
104									
	7								
103			SHALE: weathered; grey						
	8			8	SS	0	50/50 mm		
102			Borehole terminated at 7.7 mbgs due to split spoon refusal on inferred bedrock						Borehole caved to a depth of about 3.0 m upon completion of drilling
101	9								

% Moisture: 25 50 75
SPT (N) / DCPT: 10 20 30 40

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Input By: CM

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Log of Borehole: BH106-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832331 m N, 620584 m E
Elevation: 110.28 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
110 / 0		ASPHALT: (~ 50 mm thick)								
		SILTY SAND: brown; non-cohesive, moist, loose, FILL, (SM)	1	GS	-	-				
109 / 1			2	SS	60	7				
108 / 2			3	SS	70	5				
		SAND to SILTY SAND: fine to medium; brown; non-cohesive, moist to wet, compact to very dense, (SP/SM)	4	SS	80	21				
107 / 3			5	SS	70	29				
106 / 4			6A	SS	70	50/ 150 mm				
105 / 5		SILT: some sand to sandy; grey; non-cohesive, moist, very dense, (ML)	6B							
		SILTY SAND: fine to medium; brown; non-cohesive, moist, very dense, (SM)								
104 / 6			7A	SS	40	50				
		SILTY CLAY: trace sand, trace gravel, grey (TILL); cohesive, w < PL, hard, (CL)	7B							
103 / 7		SHALE: weathered; grey								
102 / 8		Borehole terminated at 7.7 mbgs due to split spoon refusal on inferred bedrock	8	SS	30	50/ 125 mm				Borehole caved to a depth of about 5.3 m upon completion of drilling
9										

Logged By: JS
Input By: CM

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Log of Borehole: BH107-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832313 m N, 620592 m E
Elevation: 110.18 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
110 / 0		ASPHALT: (~ 50 mm thick)						
		SILTY SAND: brown; non-cohesive, moist, loose to compact, FILL, (SM)	1	SS	80	5		
109 / 1			2	SS	70	8		
			3A	SS	80	24		
108 / 2		sandy SILT: brown, stratified, oxidation stains; non-cohesive, moist, compact, (ML)	3B					
		SILTY SAND: brown; non-cohesive, moist, compact, (SM)	4	SS	80	28		
107 / 3		sandy SILT: brown, oxidation stains; non-cohesive, moist, compact, (ML)	5	SS	80	25		
106 / 4		sandy SILT: brown to grey; non-cohesive, wet, compact to dense, (ML)	6	SS	80	30		
105 / 5		-becomes grey at a depth of about 4.9 mbgs						
104 / 6		SILTY CLAY: trace sand, trace to some gravel; grey (TILL); cohesive, w ~ PL, very stiff, (CL)	7	SS	70	24		
103 / 7		SHALE: weathered; grey	8	SS	50	50/100 mm		Groundwater encountered during drilling at a depth of about 4.6 m Caving measured at about 5.3 m upon completion of drilling.
102 / 8		Borehole terminated at 7.9 mbgs due to split spoon refusal on inferred bedrock						
9								

% Moisture: 25 50 75
SPT (N) / DCPT: 10 20 30 40

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Log of Borehole: BH109-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832264 m N, 620623 m E
Elevation: 108.6 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
109	0		ASPHALT: (~ 50 mm thick)							Flushmount Cap	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 3.3 mbgs on April 7, 2022 and 3.2 mbgs on May 16, 2022
			SAND: fine to medium, some non-plastic fine; brown, trace organic matter to a depth of about 0.61 mbgs; non-cohesive, moist, compact, FILL, (SP)	1	GS	-	-				
	1			2	SS	90	15			Bentonite Plug	
108				3	SS	90	23				
	2		SILTY SAND: trace gravel; brown; non-cohesive, wet, compact to dense, (SM)	4	SS	90	16			PVC Standpipe	
107	3			5A	SS	90	40				
			SILT: some sand; brown, slight plasticity; non-cohesive, moist, dense, (ML)	5B							
106	4		SILTY SAND: trace gravel; brown; non-cohesive, wet, compact, (SM)	6A	SS	90	28				
105	5			6B						Sand Pack	
			SILTY CLAY: trace to some sand, trace to some gravel; grey (TILL); cohesive, w < PL, very stiff to hard, (CL)								
104	6			7	SS	20	50/ 50 mm			PVC Screen	
103	7										
102	8		Borehole terminated at 7.7 mbgs due to exploration depth achieved	8	SS	30	50/ 100 mm			Cap	Groundwater encountered during drilling at a depth of about 2.3 m
101	9										

Logged By: JS
Input By: CM

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Log of Borehole: BH110-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832258 m N,620585 m E
Elevation: 109.06 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
109	0		ASPHALT: (~ 50 mm thick)								
			SANDY SILT: brown, trace organic matter to 0.6 mbgs, silty clay inclusions; non-cohesive, moist to wet, loose to compact, FILL, (ML)	1	GS	-	-				
108	1			2	SS	90	9				
			SILTY SAND: brown; non-cohesive, wet, compact to dense, (SM)	3	SS	90	20				
107	2			4	SS	90	33				
106	3			5	SS	90	50/ 225 mm				
105	4										
104	5			6	SS	90	50/ 250 mm				
			SILTY SAND to SANDY SILT: light brown; non-cohesive, wet, compact, (SP/ML)								
103	6		SILTY CLAY: some sand, trace gravel; grey (TILL), shale fragments; cohesive, w < PL, hard, (CL)	7	SS	10	50/ 75 mm				
102	7		-residual soil								
101	8		Borehole terminated at 7.7 mbgs due to exploration depth achieved	8	SS	10	50/ 50 mm				Groundwater encountered during drilling at a depth of about 5.3 m Caving measured at about 5.3 m upon completion of drilling.
100	9										

Logged By: JS
Input By: CM

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Log of Borehole: BH111-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832263 m N,620623 m E
Elevation: 108.6 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 150 mm thick)	1A							
		SILTY SAND: brown to dark brown, trace organic matter to 0.61 mbgs; non-cohesive, moist, loose to very loose, FILL, (SM)	1B	SS	75	7				
107 / 1			2	SS	40	4				
		SILTY SAND: brown; non-cohesive, wet, compact to very dense, (SM)	3	SS	100	11				
106 / 2		-some gravel to gravelly from about 2.3 mbgs	4	SS	60	28				
105 / 3			5	SS	80	55				
104 / 4		SILTY CLAY: some gravel; grey (TILL/residual soil), weathered shale fragments; cohesive, w < PL, hard, (CL)	6	SS	75	55				
103 / 5										
102 / 6		SHALE: weathered; grey	7	SS	10	50/100 mm				
101 / 7		Borehole terminated at 7.0 mbgs due to auger refusal on inferred bedrock								Groundwater level measured in borehole at a depth of about 2.3 m on completion of drilling.
100 / 8										
9										

Logged By: JS
Input By: CM

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Log of Borehole: BH112-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832276 m N,620659 m E
Elevation: 108.26 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 150 mm thick)	1A							
		SILTY SAND: brown, trace organic matter; non-cohesive, moist, loose, FILL, (SM)	1B	SS	75	5				
107 / 1		SILTY SAND: brown; non-cohesive, moist, compact, (SM)	2	SS	80	15				
		SILT: sone sand; brown, clayey silt seams; non-cohesive, moist, compact, (ML)	3	SS	100	13				
106 / 2		SAND and GRAVEL: brown; non-cohesive, moist, dense, (SP/GP)	4	SS	50	32				
105 / 3		SILTY SAND: light brown; non-cohesive, wet, dense to very dense, (SM)	5	SS	100	50				
104 / 4		SILTY CLAY: grey; cohesive, w < PL, hard, (CL)	6	SS	100	50				
103 / 5										
102 / 6		SILTY CLAY: trace sand, trace gravel; grey (TILL); cohesive, w ~ PL, hard, (CL)	7	SS	20	50				
101 / 7		Borehole terminated at 6.7 mbgs due to auger refusal on inferred bedrock								Groundwater level measured in borehole at a depth of about 2.3 m on completion of drilling.
100 / 8										
9										

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Log of Borehole: BH113-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832288 m N,620699 m E
Elevation: 107.925 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
107	0		TOPSOIL: (~ 150 mm thick)	1A							
			SILTY SAND: brown; non-cohesive, moist, loose, FILL, (SM)	1B	SS	60	7				
	1		SANDY SILT: trace gravel; brown; non-cohesive, wet, loose, FILL, (ML)	2	SS	10	5				
106	2		sandy SILT: trace gravel; brown, silty sand seams; non-cohesive, wet, compact, (ML)	3	SS	75	19				
				4	SS	75	23				
105	3		gravelly SILTY SAND: brown; non-cohesive, wet, compact, (SM)	5	SS	80	20				
104	4		SILTY CLAY: trace sand, trace gravel; grey (Residual soil); cohesvie, w < PL, hard, (CL)	6	SS	100	50/ 150 mm				
103	5										
102	6		SHALE: grey	7	SS	0	50/ 25 mm				
101	7										
100	8		Borehole terminated at 7.5 mbgs due to auger refusal on inferred bedrock								Groundwater level measured in borehole at a depth of about 2.3 m on completion of drilling.
99	9										

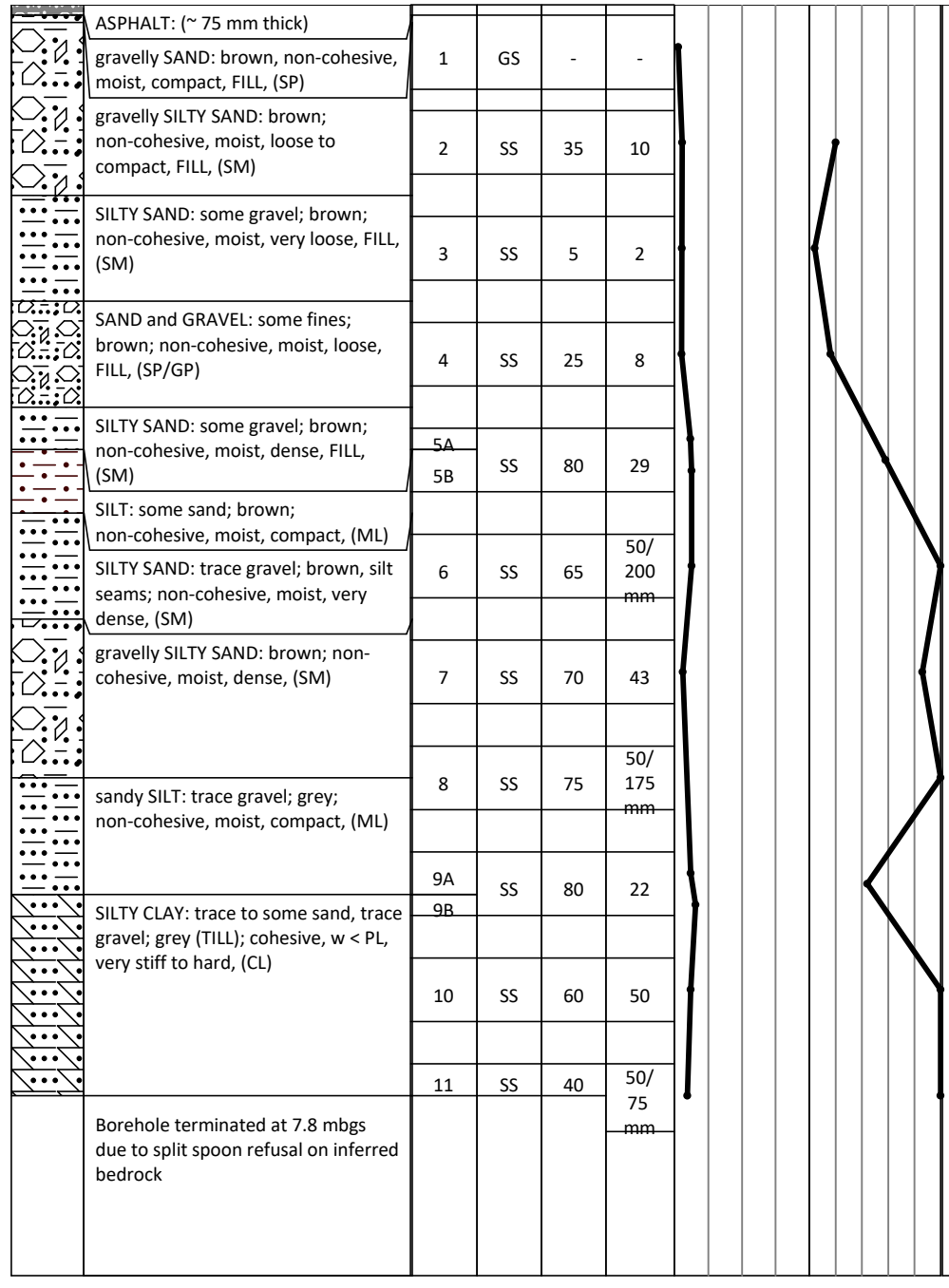
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Log of Borehole: BH114-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832327 m N,620685 m E
Elevation: 110.27 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
110 / 0		ASPHALT: (~ 75 mm thick)					Flushmount	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 5.4 mbgs on April 7, 2022 and 4.5 mbgs on May 16, 2022
		gravelly SAND: brown, non-cohesive, moist, compact, FILL, (SP)	1	GS	-	-	Cap	
109 / 1		gravelly SILTY SAND: brown; non-cohesive, moist, loose to compact, FILL, (SM)	2	SS	35	10	Bentonite Plug	
108 / 2		SILTY SAND: some gravel; brown; non-cohesive, moist, very loose, FILL, (SM)	3	SS	5	2		
		SAND and GRAVEL: some fines; brown; non-cohesive, moist, loose, FILL, (SP/GP)	4	SS	25	8	PVC Standpipe	
107 / 3		SILTY SAND: some gravel; brown; non-cohesive, moist, dense, FILL, (SM)	5A 5B	SS	80	29		
		SILT: some sand; brown; non-cohesive, moist, compact, (ML)						
106 / 4		SILTY SAND: trace gravel; brown, silt seams; non-cohesive, moist, very dense, (SM)	6	SS	65	50/ 200 mm		
105 / 5		gravelly SILTY SAND: brown; non-cohesive, moist, dense, (SM)	7	SS	70	43	Sand Pack	
		sandy SILT: trace gravel; grey; non-cohesive, moist, compact, (ML)	8	SS	75	50/ 175 mm		GSA SS7: 16% Gravel 65% Sand 19% Silt and Clay
104 / 6			9A 9B	SS	80	22	PVC Screen	
103 / 7		SILTY CLAY: trace to some sand, trace gravel; grey (TILL); cohesive, w < PL, very stiff to hard, (CL)	10	SS	60	50		
			11	SS	40	50/ 75 mm	Cap	Groundwater level measured in borehole at a depth of about 6.9 m on completion of drilling.
102 / 8		Borehole terminated at 7.8 mbgs due to split spoon refusal on inferred bedrock						
9								



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Input By: CM

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Log of Borehole: BH116-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 18, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832330 m N,620545 m E
Elevation: 111.12 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
111	0		SILTY SAND: brown; non-cohesive, moist, compact, FILL, (SM)	1	SS	90	16				
			SAND: trace to some fines; brown; non-cohesive, moist, very loose to compact, (SP)	2	SS	40	4				
110	1			3	SS	60	11				
				4	SS	60	14				GSA SS4: 0% Gravel 89% Sand 11% Silt and Clay
109	2			5	SS	80	16				
				6	SS	90	21				
108	3			7	SS	70	20				
			SILTY CLAY: trace sand, trace gravel; grey (TILL); cohesive, w ~ PL, very stiff, (CL)	8	SS	60	47				Groundwater encountered during drilling at a depth of about 4.6 m Caving measured at about 5.3 m upon completion of drilling.
107	4										
106	5										
105	6										
104	7		SILTY CLAY: some sand, some gravel; grey (TILL/Residual Soil), weathered shale fragments; cohesive, w < PL, hard, (CL)								
103	8		Borehole terminated at 8.0 mbgs due to exploration depth achieved								
102	9										

Logged By: JS
Input By: CM

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Log of Borehole: BH117-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832333 m N,620704 m E
Elevation: 110.02 mASL

Elevation (m)	Depth	Description	Number	Type	% Recovery	SPT (N) / DCPT	Well Installation	Remarks
110	0	TOPSOIL: (~ 125 mm thick)	1A				Flushmount	50 mm Diameter Monitoring Well with a 3.0 m screen. Monitoring well dry when measured on April 7, 2022 and on May 16, 2022
		SILTY SAND: some gravel; dark brown to brown; non-cohesvie, moist, compact, FILL, (SM)	1B	SS	70	13	Cap	
109	1		2	SS	65	18	PVC Standpipe	
							Bentonite Plug	
			3	SS	70	10		
108	2	SILTY SAND: brown; non-cohesive, wet, compact, (SM)	4A	SS	80	24		
		SILTY CLAY TO CLAYEY SILT: brown; cohesive, w < PL, very stiff, (CL-ML)	4B					
107	3	sandy SILT: brown; non-cohesive, moist, compact, (ML)	5	SS	70	29	PVC Screen	
							Sand Pack	
		gravelly SAND to SAND: medium, some fines; non-cohesive, moist, very dense, (SP)	6	SS	75	50		
106	4							
			7	SS	75	33		GSA SS6: 18% Gravel 60% Sand 22% Silt and Clay
105	5	sandy SILT: grey; non-cohesive, moist, dense, (ML)	8	SS	85	40		
104	6	SILTY CLAY: trace sand, some gravel; grey (TILL), shale fragments; cohesive, w > PL, very stiff, (CL)	9	SS	65	16	Cap	
103	7	Borehole terminated at 6.6 mbgs due to exploration depth achieved						
102	8							
101	9							

% Moisture: 25 50 75
SPT (N) / DCPT: 10 20 30 40

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Input By: CM

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Log of Borehole: BH118-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832324 m N,620716 m E
Elevation: 109.3 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
109 / 0		TOPSOIL: (~ 305 mm thick)	1A	SS	80	7				
		SILTY SAND: fine to medium, trace gravel; dark brown to brown, trace organic matter and rootlets to about 0.61 mbgs; non-cohesive, moist, compact, FILL, (SM)	1B							
108 / 1			2	SS	85	16				
			3	SS	90	17				
107 / 2			4	SS	85	15				
			5	SS	90	11				
106 / 3										
105 / 4		SILTY CLAY: trace sand, trace gravel; grey, weathered grey shale fragments; cohesive, w ~ PL to w > PL, soft to stiff, (CL)	6	SS	65	3				
104 / 5										
103 / 6			7	SS	100	13				
102 / 7		SHALE: weathered; grey								
101 / 8		Borehole terminated at 7.8 mbgs due to split spoon refusal on inferred bedrock	8	SS	20	50/ 175 mm				Groundwater level measured in borehole at a depth of about 7.0 m on completion of drilling.
9										

Logged By: CM
Input By: CM

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Log of Borehole: BH119-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Split Spoon
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832268 m N, 620761 m E
Elevation: 107.7 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
107 / 0		SILTY SAND: trace gravel; dark brown, moist, compact, FILL, (SM)	1	SS	50	17			Flushmount Cap	50 mm Diameter Monitoring Well with a 3.0 m screen. Groundwater level measured in monitoring well at a depth of about 3.1 mbgs on April 7, 2022 and 3.1 mbgs on May 16, 2022
106 / 1		sandy CLAYEY SILT to CLAYEY SILT: brown, silty sand seams; cohesive, w < PL to w ~ PL, very stiff, (ML)	2	SS	100	16			Bentonite Plug	
			3	SS	100	25				
105 / 2		SAND and GRAVEL: some fines; non-cohesive, moist, very dense, (SP/GP)	4	SS	60	58			PVC Standpipe	
104 / 3		SILTY SAND to sandy SILT: light brown to grey; non-cohesive, wet to moist, dense, (SM/ML)	5	SS	100	37				
		-becomes grey at a depth of about 4.0 mbgs								
103 / 4			6	SS	70	39			Sand Pack	
102 / 5		SILTY CLAY: trace sand, some gravel; grey (TILL), cohesive, w ~ PL, very stiff, (CL)								Atterberg SS7: LL: 25.7% PL: 14.9% PI: 10.8%
101 / 6			7	SS	100	22			PVC Screen	
100 / 7										
99 / 8		Borehole terminated at 7.7 mbgs due to auger refusal on inferred bedrock	8	SS	0	50/ 50 mm			Cap	Groundwater encountered during drilling at a depth of about 6.0 m Groundwater level measured in borehole at a depth of about 4.6 m on completion of drilling.
9										

Logged By: EC
Input By: CM

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Log of Borehole: BH120-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 16, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832236 m N,620654 m E
Elevation: 108.33 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 205 mm thick)	1A							
		GRAVEL: FILL, (GP)	1B	SS	70	8				
		SILTY SAND: brown to black; non-cohesive, moist, compact, FILL, (SM)	1C							
107 / 1			2	SS	80	11				
		sandy SILT: light brown to brown; non-cohesive, moist, compact, (ML)	3	SS	100	16				
106 / 2			4	SS	60	28				GSA SS4: 2% Gravel 28% Sand 58% Silt 12% Clay
105 / 3		SAND and GRAVEL: brown; non-cohesive, wet, compact, (SP/GP)	5	SS	100	22				
104 / 4		SILTY CLAY: trace sand, trace to some gravel; grey (TILL, Residual soil); cohesive, w < PL, very stiff to hard, (CL)	6	SS	50	27				
103 / 5										
102 / 6			7	SS	50	50/ 50 mm				
101 / 7										Groundwater encountered during drilling at a depth of about 4.6 m Groundwater level measured in borehole at a depth of about 4.6 m on completion of drilling.
100 / 8		Borehole terminated at 7.6 mbgs due to auger refusal on inferred bedrock								
9										

Logged By: EC
Input By: CM

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Log of Borehole: BH121-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 17, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832236 m N,620653 m E
Elevation: 108.846 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 150 mm)	1A							
		SILTY SAND: some gravel; brown; non-cohesive, moist, compact, FILL, (SM)	1B	SS	65	12				
108 / 1		SILTY SAND: light brown to brown; clayey silt seams; non-cohesive, moist to wet, compact to very dense, (SM)	2	SS	40	15				
107 / 2			3	SS	80	50/ 275 mm				
			4	SS	60	36				
106 / 3			5	SS	80	23				
105 / 4		SILTY CLAY: trace sand; grey; cohesive, w > PL, stiff to very stiff, (CL)								
104 / 5			6	SS	80	15				
103 / 6		SHALE: weathered; grey	7	SS	30	50/ 75 mm				
102 / 7		Borehole terminated at 6.6 mbgs due to auger refusal on inferred bedrock								
101 / 8										Groundwater level measured in borehole at a depth of about 3.7 m on completion of drilling.
100 / 9										

Logged By: CM
Input By: CM

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Log of Borehole: BH122-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 15, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832233 m N,620738 m E
Elevation: 107.95 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
0		TOPSOIL: (~ 205 mm thick)	1A							
		GRAVEL: FILL, (GP)	1B	SS	100	9				
		SILT: some sand to sandy; brown; non-cohesive, wet to moist, compact, (ML)	1C							
107 — 1			2	SS	100	14				
			3	SS	90	19				
106 — 2		gravelly SILTY SAND: brown; non-cohesive, moist, compact to dense, (SM)	4	SS	100	30				
105 — 3		SAND and GRAVEL: some fines; brown; non-cohesive, wet, compact, (SP/GP)	5	SS	90	16				
104 — 4		SILT: some sand; grey; non-cohesive, moist to wet, compact, (ML)	6	SS	75	14				
103 — 5										
102 — 6			7	SS	100	16				
101 — 7		SILTY CLAY: some gravel; grey (Residual Soil), shale fragments, cohesive, w < PL, hard, (CL)								
100 — 8		Borehole terminated at 7.9 mbgs due to exploration depth achieved	8	SS	100	50/ 125 mm				Groundwater level measured in borehole at a depth of about 4.6 m on completion of drilling.
99 — 9										

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Input By: CM

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Log of Borehole: BH123-22

Client:	Hossack & Associates Architects	**Project Name:**	Geotechnical Invesitagtion	**Project No.:**	14560-001
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	March 15, 2022
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832220 m N,620700 m E	**Elevation:**	108.22 mASL

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		sandy SILT: brown; non-cohesive, moist, loose, FILL, (ML)	1A 1B 1C	SS	60	9				
107 / 1		SILT: some sand; brown, oxidation stains; non-cohesive, moist, compact, (ML)	2	SS	100	21				
106 / 2		SILTY SAND: brown; non-cohesive, moist, compact, (SM)	3	SS	50	14				
			4	SS	100	19				
105 / 3		SILT: some sand; grey; non-cohesive, moist, compact, (ML)	5	SS	5	14				
104 / 4										
103 / 5			6	SS	50	25				
102 / 6		SILTY CLAY: trace sand, trace gravel; grey (TILL); cohesive, w < PL to w ~ PL, very stiff, (CL)	7	SS	20	19				
101 / 7										
100 / 8		Borehole terminated at 7.3 mbgs due auger refusal on inferred bedrock								Groundwater level measured in borehole at a depth of about 3.0 m on completion of drilling.
9										

Logged By: EC **Input By:** CM

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Log of Borehole: BH124-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 15, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832204 m N,620653 m E
Elevation: 108.56 mASL

Elevation (m) / Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
108 / 0		TOPSOIL: (~ 245 mm thick)	1A							
		GRAVEL: FILL, (GP)	1B	SS	60	10				
		SILTY SAND: brown; non-cohesive, moist, compact, FILL, (SM)								
107 / 1		SANDY SILT: trace gravel; brown; non-cohesive, moist, compact, (ML)	2	SS	100	12				
		SILTY SAND: trace gravel; brown, moist to wet, compact to dense, (SM)	3	SS	75	20				
106 / 2			4	SS	100	32				
105 / 3			5	SS	100	38				
104 / 4			6	SS	20	34				
103 / 5										
102 / 6		SHALE: grey	7	SS	100	50				
101 / 7		Borehole terminated at 6.6 mbgs due to auger refusal on inferred bedrock								Groundwater encountered during drilling at a depth of about 3.0 m Groundwater level measured in borehole at a depth of about 3.0 m on completion of drilling.
100 / 8										
9										

Logged By: EC
Input By: CM

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Log of Borehole: BH125-22

Client: Hossack & Associates Architects
Project Name: Geotechnical Invesitagtion
Project No.: 14560-001
Contractor: Terra Firma
Method: Hollow Steam Auger
Date Completed: March 15, 2022
Location: 721 Royal York Road, Etobicoke, ON
UTM: 17T, 4832184 m N,620599 m E
Elevation: 109.01 mASL

Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N) / DCPT	% Moisture (25 50 75)	SPT (N) / DCPT (10 20 30 40)	Well Installation	Remarks
109	0		SILTY SAND: brown; non-cohesive, moist, loose, FILL, (SM)	1A / 1B	SS	50	6				
108	1			2	SS	75	8				
			SILTY SAND to sandy SILT: brown to light brown; non-cohesive, moist, compact, (SM/ML)	3	SS	70	13				
107	2			4	SS	100	23				
106	3		SILTY CLAY to CLAYEY SILT: trace sand, trace gravel; grey; silty sand seams; cohesive, w < PL to w > PL, very stiff, (CL-ML/CL)	5	SS	80	18				
105	4										
104	5			6	SS	60	18				Atterberg SS6: LL: 19.2% PL: 13.1% PI: 6.0%
103	6		SILTY CLAY: weathered grey shale; grey; cohesive, w < PL, hard	7	SS	100	50/ 125 mm				
102	7		Borehole terminated at 7.0 mbgs due auger refusal on inferred bedrock								
101	8										Groundwater level measured in borehole at a depth of about 2.3 m on completion of drilling.
100	9										

Logged By: EC
Input By: CM

TEST PIT LOGS
Geotechnical Investigation: Bishop Allen Academy
Technician: CM
Cambium Reference No. 14560-001
Completed: March 18, 2022

Test Pit ID	Depth (mbgs[1])	Soil Sample	Moisture Content (%)	Material Description
TP115-22	0.0 - 0.3	GS1		Black topsoil, some organics, moist
	0.3 - 0.8	GS2		Dark brown sandy silt, some clay, moist, FILL
110.91 mASL	0.8 - 2.6	GS3 & GS4		Light Brown sand, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832357 m N				
620544 m E				Test pit terminated at 2.6 mbgs
TP126-22	0.0 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 1.7	GS2		Dark brown silty sand, moist, FILL
109.67 mASL	1.7 - 2.6	GS3 & GS4		Light brown sand, trace silt, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832359 m N				
620699 m E				Test pit terminated at 2.6 mbgs
TP127-22	0.0 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 1.5	GS2 & GS3		Dark brown silty sand, moist, FILL
109.64 mASL	1.5 - 2.6	GS4 & GS5		Light brown sand, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832372 m N				
620695 m E				Test pit terminated at 2.6 mbgs
TP128-22	0.0 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 1.1	GS2		Dark brown silty sand, trace gravel, trace clay, moist, FILL
110.64 mASL	1.1 - 2.6			Light brown sand, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832308 m N				
620611 m E				Test pit terminated at 2.6 mbgs
TP129-22	0.0 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 2.3	GS2		Brown sand, some silt, trace gravel, moist, FILL
110.17 mASL	2.3 - 2.6	GS3		Grey sand, some gravel, trace silt, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832411 m N				
620555 m E				Test pit terminated at 2.6 mbgs

[1]: metres below ground surface

TEST PIT LOGS

Geotechnical Investigation: Bishop Allen Academy

Technician: CM

Cambium Reference No. 14560-001

Completed: March 18, 2022

Test Pit ID	Depth (mbgs[1])	Soil Sample	Moisture Content (%)	Material Description
TP130-22	0.0 - 0.3	GS1		Black topsoil, some organics, moist
	0.3 - 1.8	GS2		Brown sand, some gravel, moist
109.97 mASL	1.8 - 2.4	GS3 & GS4		Grey sand, some silt, trace gravel, trace clay, moist
				No sloughing, seepage or groundwater observed in open test pit upon completion
4832426 m N				
620513 m E				Test pit terminated at 2.4 mbgs
TP131-22	0.1 - 0.2	GS1		Black topsoil, some organics, moist
	0.2 - 0.9	GS2		Dark brown silty sand, moist, FILL
108.86 mASL	0.9 - 1.5	GS3		Light brown sand, moist
				Moist to wet at 1.4 mbgs
4832258 m N				
620609 m E				Test pit terminated at 1.5 mbgs

[1]: metres below ground surface

Appendix D

Grain Size Analysis Results

Grain Size Distribution Chart

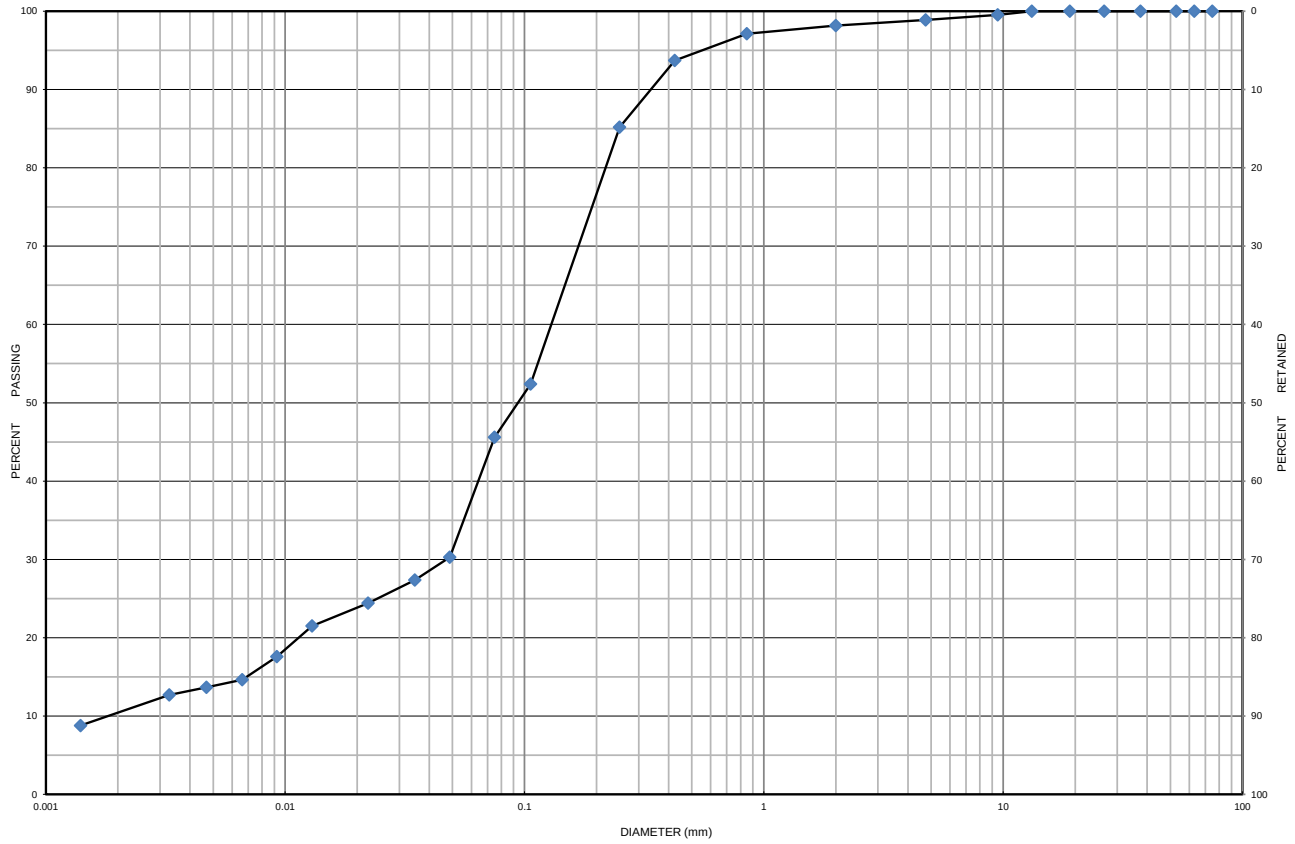
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 102-22 SS 4* **Depth:** *2.3 m to 2.7 m* **Lab Sample No:** *S-22-0604*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 102-22	SS 4	2.3 m to 2.7 m	1	53	35	11	15.5

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
SILTY SAND to sandy SILT, trace Gravel	SM	0.1400	0.0480	0.0018	77.78	9.14

Additional information available upon request

Issued By: _____ *Date Issued:* *May 3, 2022*

(Senior Project Manager)

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Grain Size Distribution Chart

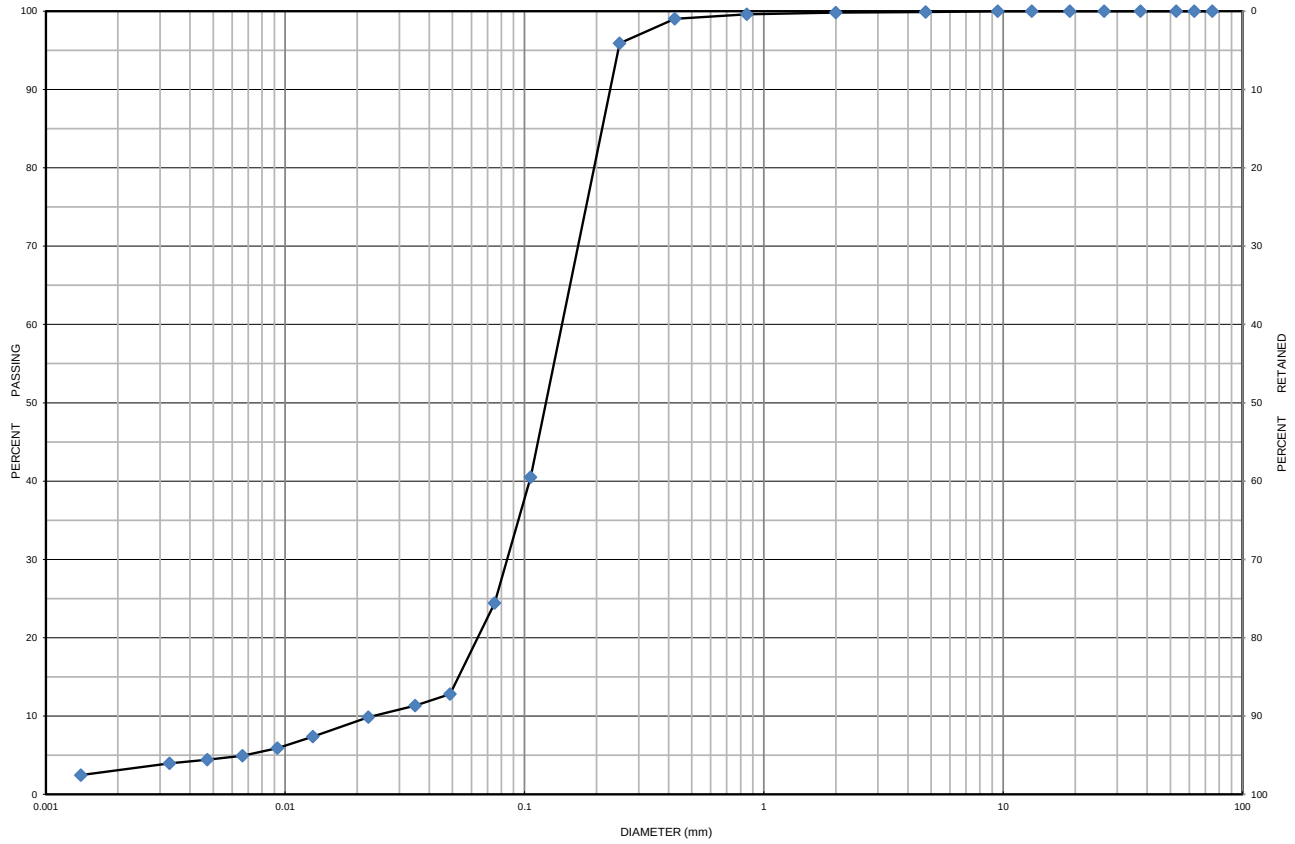
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 105-22 SS 4* **Depth:** *2.3 m to 2.7 m* **Lab Sample No:** *S-22-0608*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 105-22	SS 4	2.3 m to 2.7 m	0	75	22	3	20.0

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
SILTY SAND	SM	0.150	0.084	0.023	6.52	2.05

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Grain Size Distribution Chart

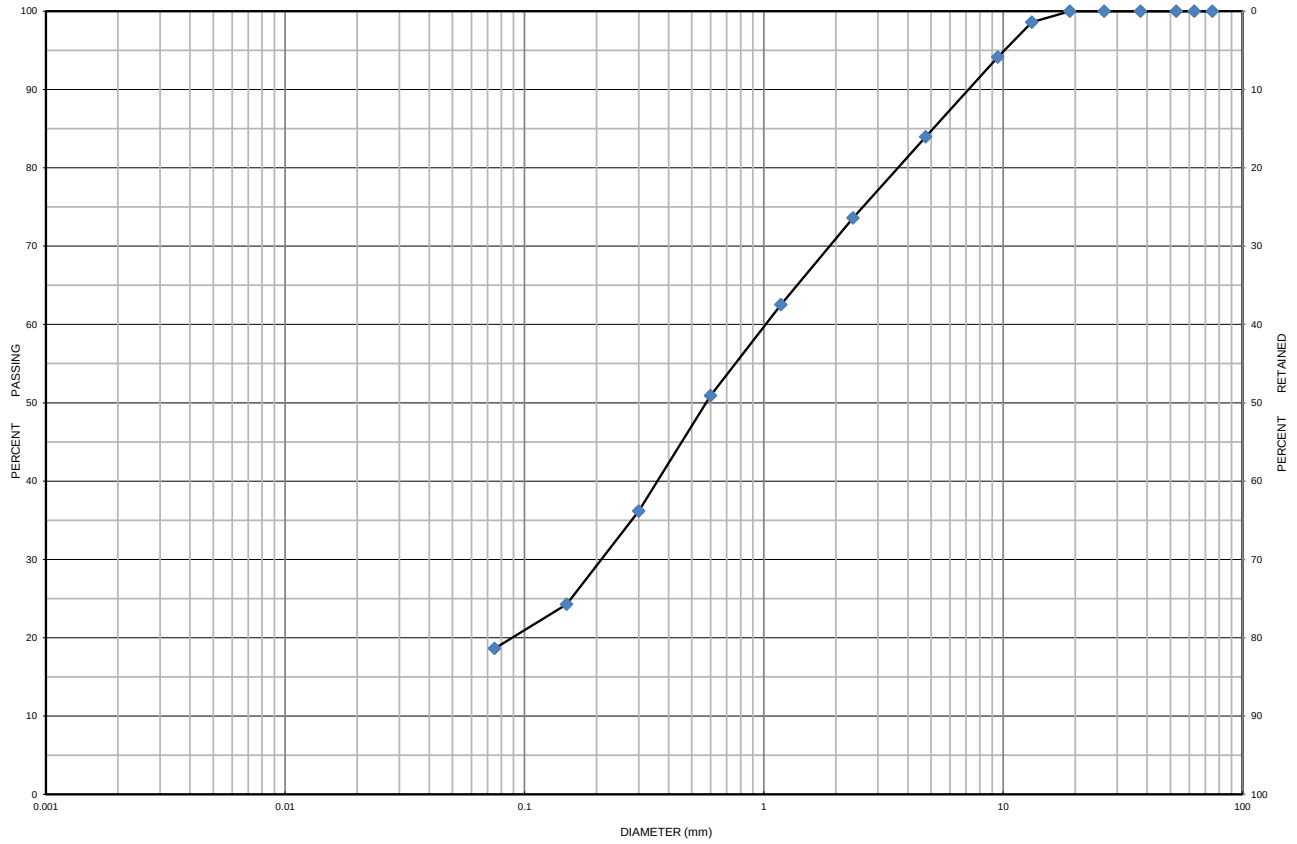
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 114-22 SS 7* **Depth:** *4.6 m to 5 m* **Lab Sample No:** *S-22-0612*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 114-22	SS 7	4.6 m to 5 m	16	65	19		6.1

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
Gravelly SILTY SAND	SM	1.000	0.220	-	-	-

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Grain Size Distribution Chart

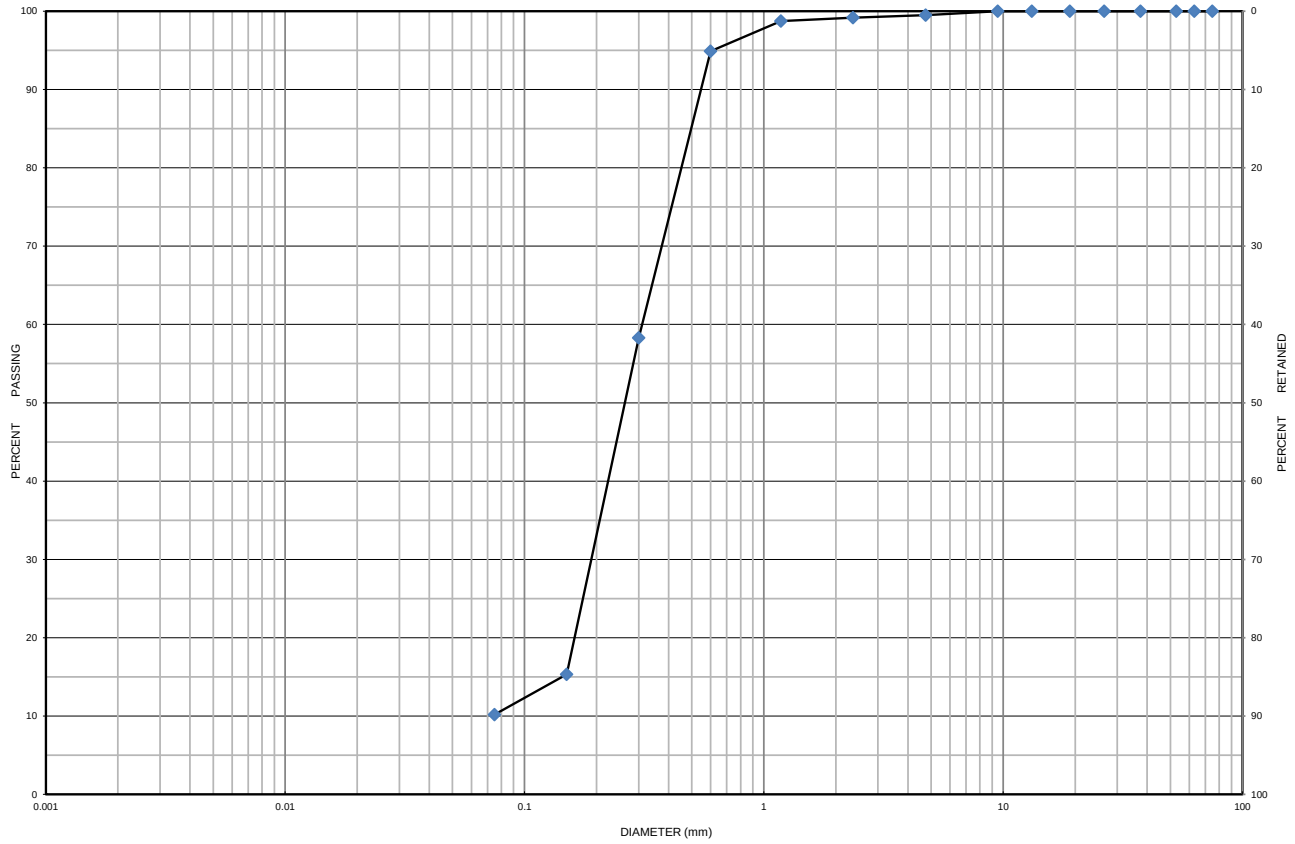
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 116-22 SS 4* **Depth:** *2.3 m to 2.7 m* **Lab Sample No:** *S-22-0609*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 116-22	SS 4	2.3 m to 2.7 m	0	89	11		3.2

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
SAND some fines	SP	0.310	0.190	-	-	-

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Grain Size Distribution Chart

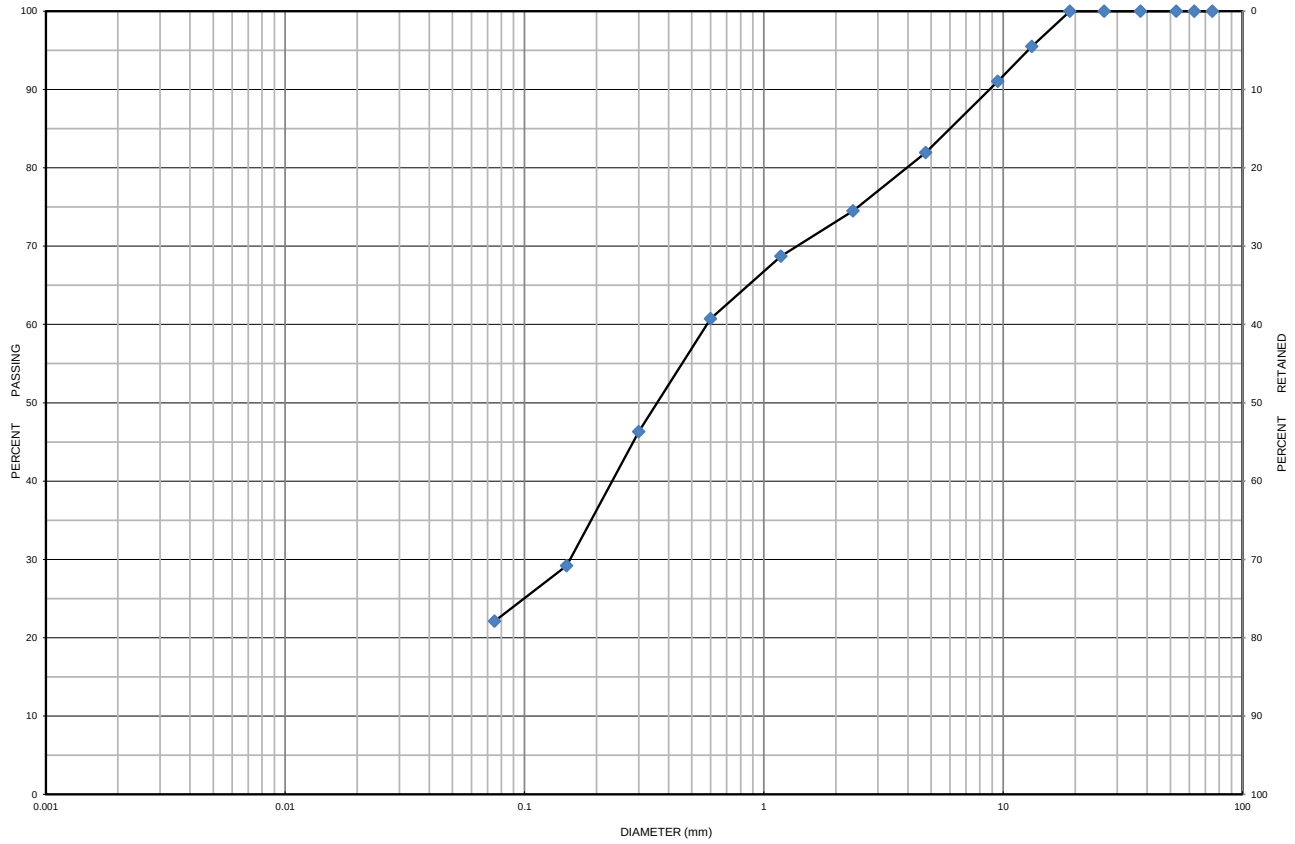
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 117-22 SS 6* **Depth:** *3.8 m to 4.3 m* **Lab Sample No:** *S-22-0611*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 117-22	SS 6	3.8 m to 4.3 m	18	60	22		5.4

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
Gravelly SAND	SM	0.595	0.155	-	-	-

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Grain Size Distribution Chart

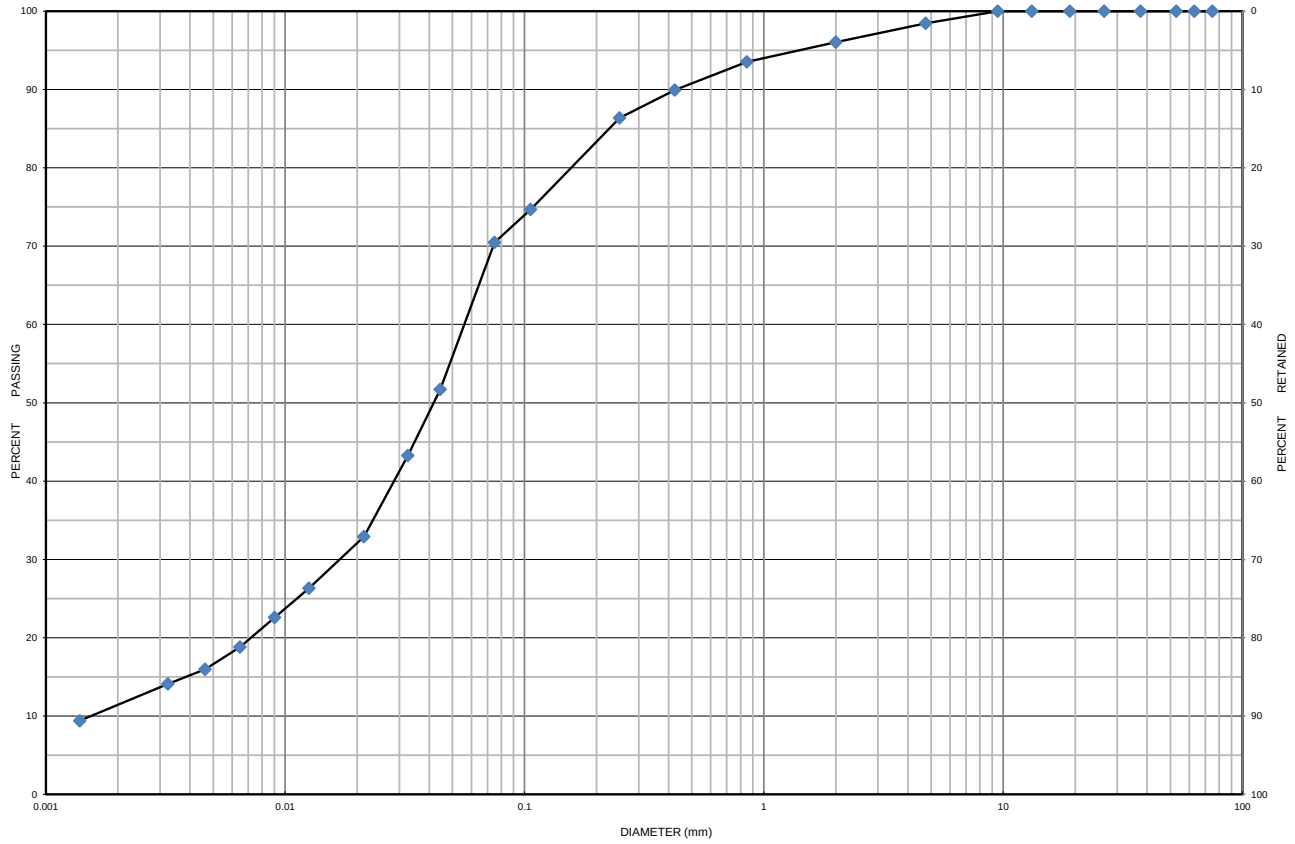
Project Number: *14560-001* **Client:** *Hossack & Associates Architects*

Project Name: *Bishop Allen Academy*

Sample Date: *March 2022* **Sampled By:** *Various - Cambium Inc.*

Location: *BH 120-22 SS 4* **Depth:** *2.3 m to 2.7 m* **Lab Sample No:** *S-22-0610*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Borehole No.	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
BH 120-22	SS 4	2.3 m to 2.7 m	2	28	58	12	14.6

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
Sandy SILT trace Gravel	ML	0.5600	0.0170	0.0015	373.33	0.34

Additional information available upon request

Issued By: _____ *Date Issued:* *May 3, 2022*

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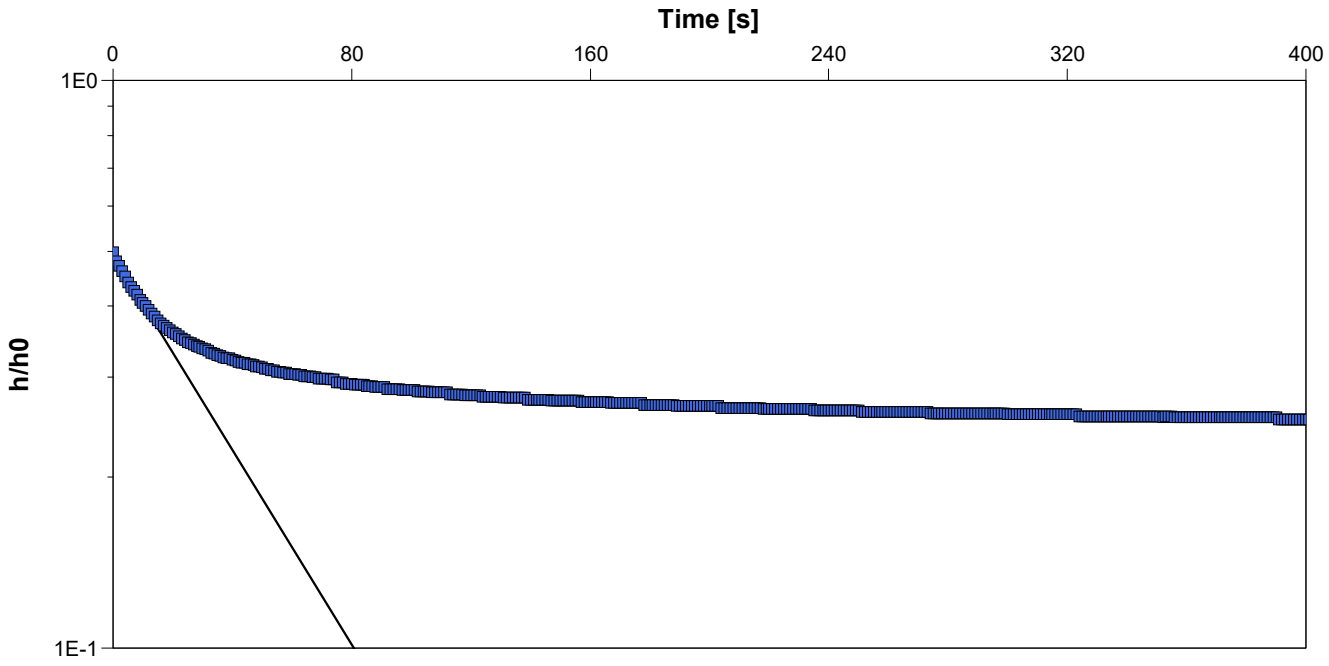
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Appendix E

SWRT Analysis

194 Sophia St. Peterborough, ON K9H1E5	**Slug Test Analysis Report**	
	Project: Hydrogeolgical Assessment	
	Number: 14560-001	
	Client: Hossack & Associates Architects	

Location: 721 Royal York Road, Etobicoke	Slug Test: BH101-22 - Slug Test 1	Test Well: BH101-22
Test Conducted by: N. Heikoop		Test Date: 4/7/2022
Analysis Performed by: N. Heikoop	BH101-22 - Slug Test 1	Analysis Date: 5/12/2022
Aquifer Thickness: 4.13 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH101-22	9.90×10^{-6}	

194 Sophia St.
Peterborough, ON
K9H1E5

Slug Test - Analyses Report

Project: Hydrogeolgical Assessment

Number: 14560-001

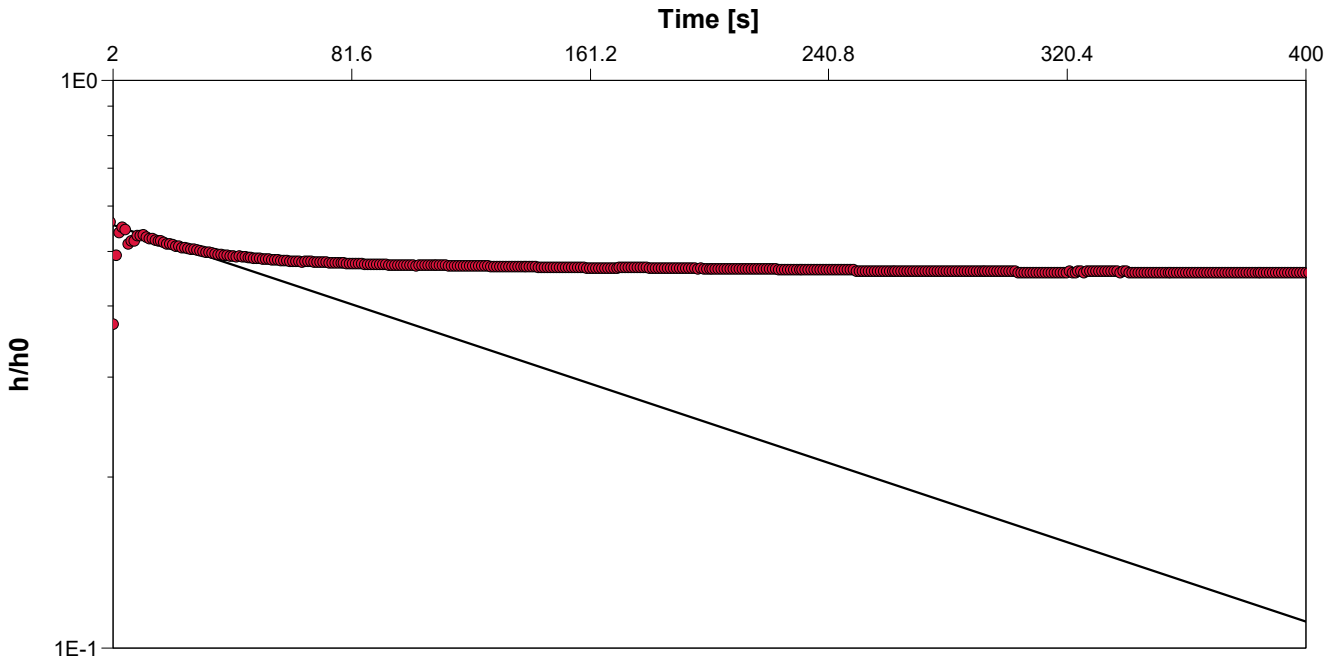
Client: Hossack & Associates Architects

Location: 721 Royal York Road, Etobicoke	Slug Test: BH101-22 - Slug Test 1	Test Well: BH101-22
Test Conducted by: N. Heikoop		Test Date: 4/7/2022
Aquifer Thickness: 4.13 m		

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/s]	K [m/s]	S
1	BH101-22 - Slug Test	N. Heikoop	5/12/2022	Hvorslev	BH101-22		9.90×10^{-6}	

194 Sophia St. Peterborough, ON K9H1E5	**Slug Test Analysis Report**	
	Project: Hydrogeolgical Assessment	
	Number: 14560-001	
	Client: Hossack & Associates Architects	

Location: 721 Royal York Road, Etobicoke	Slug Test: BH114-22 - Slug Test 1	Test Well: BH114-22
Test Conducted by: N. Heikoop		Test Date: 4/7/2022
Analysis Performed by: N. Heikoop	BH114-22 - Slug Test 1	Analysis Date: 5/12/2022
Aquifer Thickness: 2.04 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH114-22	2.03×10^{-6}	

194 Sophia St.
Peterborough, ON
K9H1E5

Slug Test - Analyses Report

Project: Hydrogeolgical Assessment

Number: 14560-001

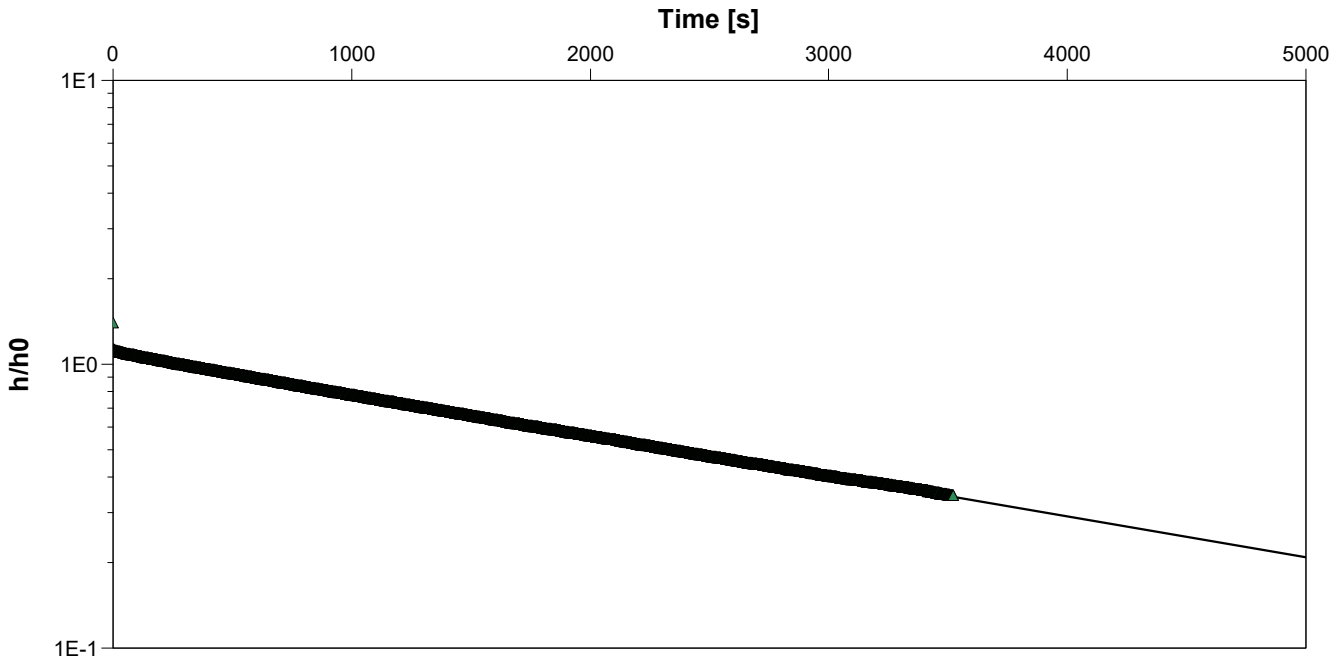
Client: Hossack & Associates Architects

Location: 721 Royal York Road, Etobicoke	Slug Test: BH114-22 - Slug Test 1	Test Well: BH114-22
Test Conducted by: N. Heikoop		Test Date: 4/7/2022
Aquifer Thickness: 2.04 m		

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/s]	K [m/s]	S
1	BH114-22 - Slug Test	N. Heikoop	5/12/2022	Hvorslev	BH114-22		2.03×10^{-6}	

194 Sophia St. Peterborough, ON K9H1E5	**Slug Test Analysis Report**	
	Project: Hydrogeolgical Assessment	
	Number: 14560-001	
	Client: Hossack & Associates Architects	

Location: 721 Royal York Road, Etobicoke	Slug Test: BH119-22 - Slug Test 1	Test Well: BH119-22
Test Conducted by: N. Heikoop		Test Date: 4/7/2022
Analysis Performed by: N. Heikoop	BH119-22 - Slug Test 1	Analysis Date: 5/12/2022
Aquifer Thickness: 3.66 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH119-22	1.66×10^{-7}	

194 Sophia St.
Peterborough, ON
K9H1E5

Slug Test - Analyses Report

Project: Hydrogeolgical Assessment

Number: 14560-001

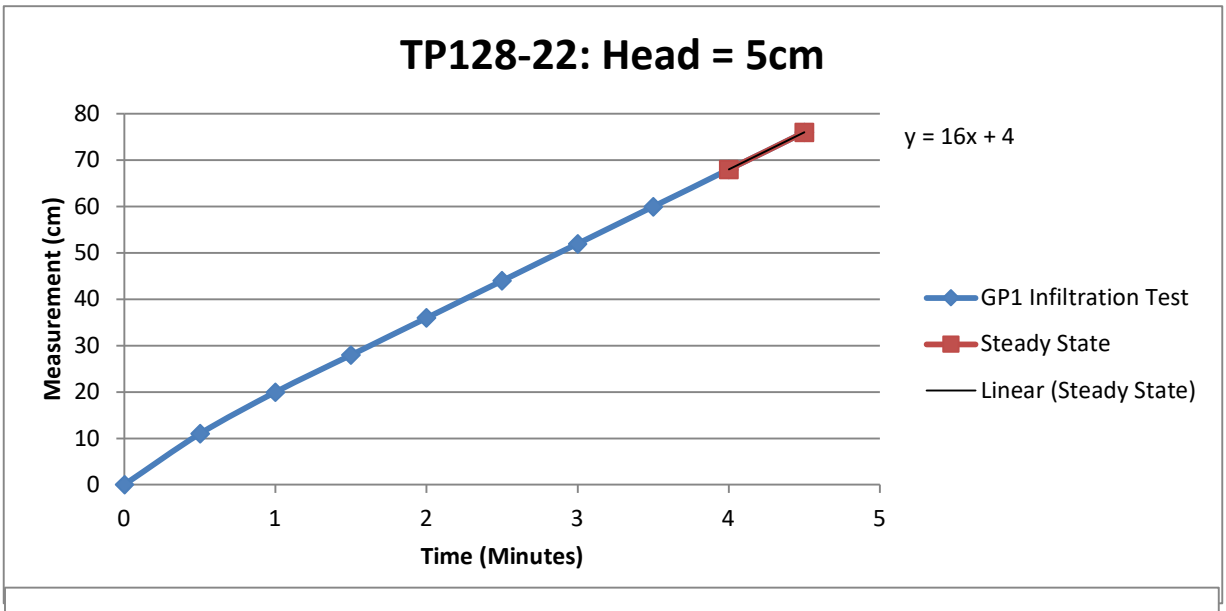
Client: Hossack & Associates Architects

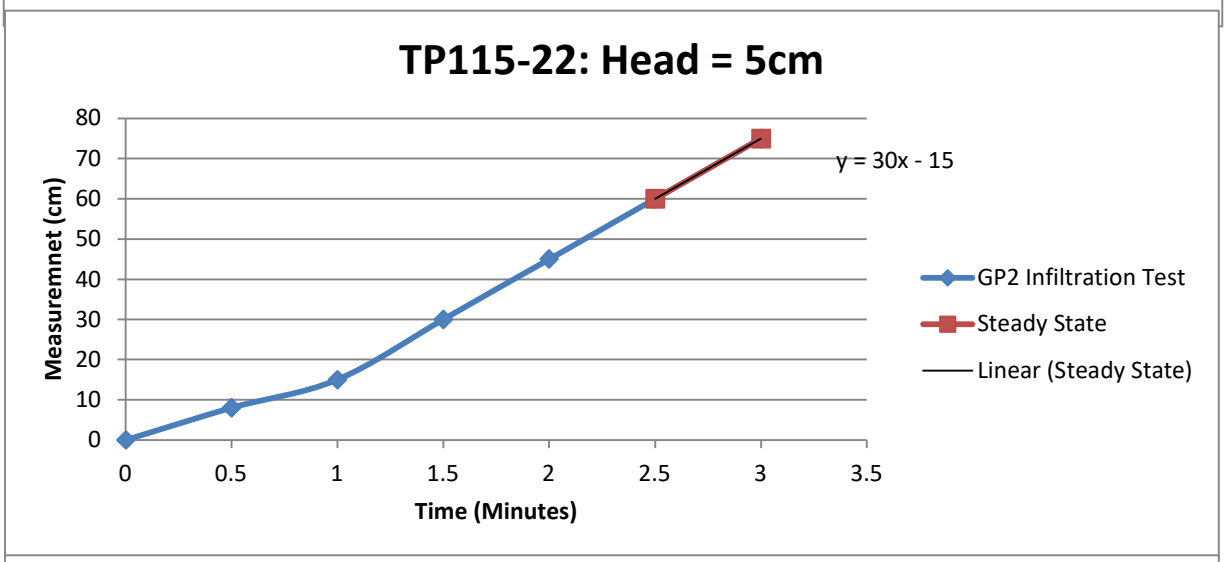
Location: 721 Royal York Road, Etobicoke	Slug Test: BH119-22 - Slug Test 1	Test Well: BH119-22
Test Conducted by: N. Heikoop		Test Date: 4/7/2022
Aquifer Thickness: 3.66 m		

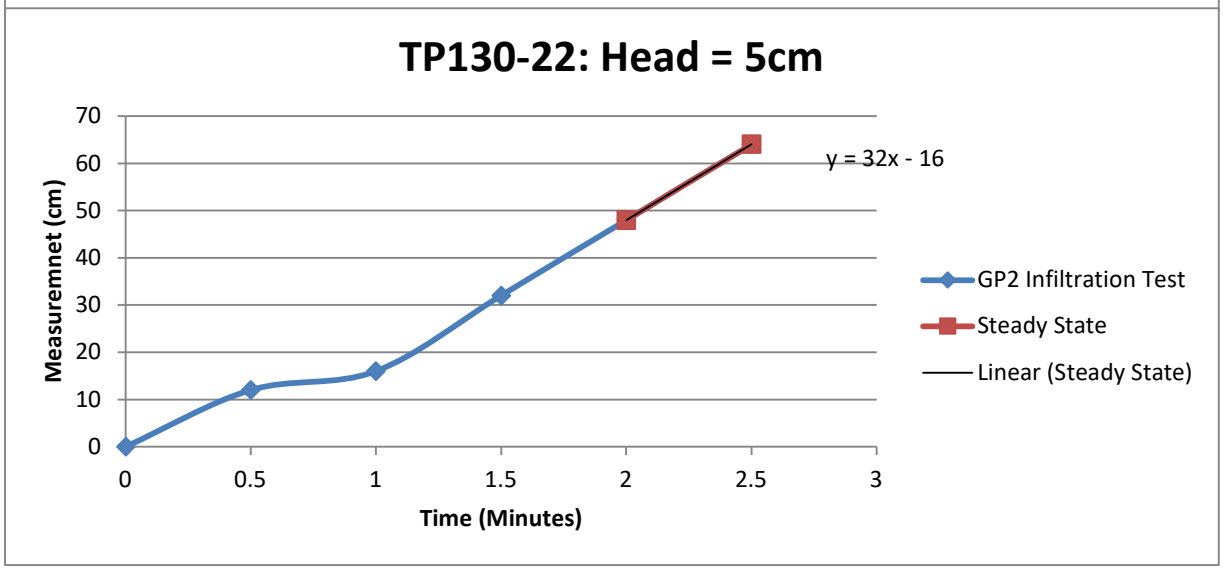
	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/s]	K [m/s]	S
1	BH119-22 - Slug Test	N. Heikoop	5/12/2022	Hvorslev	BH119-22		1.66×10^{-7}	

Appendix F

Guelph Permeameter Analysis


TP128-22: Head = 5cm
Measurement (cm)
Time (Minutes)
y = 16x + 4
GP1 Infiltration Test
Steady State
Linear (Steady State)


TP115-22: Head = 5cm
Measuremnet (cm)
Time (Minutes)
y = 30x - 15
GP2 Infiltration Test
Steady State
Linear (Steady State)


TP130-22: Head = 5cm
Measuremnet (cm)
Time (Minutes)
y = 32x - 16
GP2 Infiltration Test
Steady State
Linear (Steady State)

Guelph Permeameter Calculations - TP115-22

Input

Result

Single Head Method (1)

Reservoir Cross-sectional area in cm^2 (enter "35.22" for Combined and "2.16" for Inner reservoir): 35.22

Enter water Head Height ("H" in cm): 5

Enter the Borehole Radius ("a" in cm): 3

Enter the soil texture-structure category (enter one of the below numbers): 3

1. Compacted, Structure-less, clayey or silty materials such as landfill caps and liners, lacustrine or marine sediments, etc.
2. Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.
3. Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.
4. Coarse and gravely sands; may also include some highly structured soils with large and/or numerous cracks, macropors, etc

Steady State Rate of Water Level Change ("R" in cm/min): 30.0000

Res Type	35.22
H	5
a	3
H/a	1.667
a*	0.12
C0.01	0.809
C0.04	0.842
C0.12	0.803
C0.36	0.803
C	0.803
R	30.000
Q	17.61
pi	3.142

α^*= 0.12 cm^{-1}

C = 0.803154

Q = 17.61

K_{fs} =	3.20E-02	cm/sec
	1.92E+00	cm/min
	3.20E-04	m/sec
	7.57E-01	inch/min
	1.26E-02	inch/sec

Φ_m = 2.67E-01 cm^2/min

Single Head Method (2)

Reservoir Cross-sectional area in cm^2 (enter "35.22" for Combined and "2.16" for Inner reservoir):

Enter water Head Height ("H" in cm):

Enter the Borehole Radius ("a" in cm):

Enter the soil texture-structure category (enter one of the below numbers):

1. Compacted, Structure-less, clayey or silty materials such as landfill caps and liners, lacustrine or marine sediments, etc.
2. Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.
3. Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.
4. Coarse and gravely sands; may also include some highly structured soils with large and/or numerous cracks, macropors, etc

Steady State Rate of Water Level Change ("R" in cm/min):

Res Type	0
H	0
a	0
H/a	#DIV/0!
a*	0
C0.01	#DIV/0!
C0.04	#DIV/0!
C0.12	#DIV/0!
C0.36	#DIV/0!
C	0
R	0.000
Q	0
pi	3.1415

α^*= 0 cm^{-1}

C = 0

Q = 0

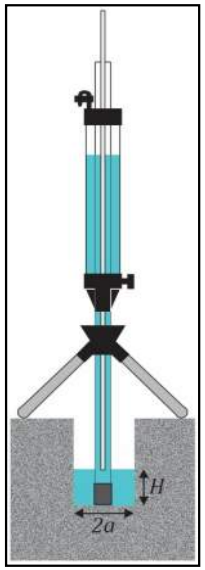
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	#DIV/0!	m/ses
	#DIV/0!	inch/min
	#DIV/0!	inch/sec

Φ_m = #DIV/0! cm^2/min

Average

K_{fs} =	#DIV/0!	cm/sec
	#DIV/0!	cm/min
	#DIV/0!	m/s
	#DIV/0!	inch/min
	#DIV/0!	inch/sec

Φ_m = #DIV/0! cm^2/min



Calculation formulas related to one-head and two-head methods. Where R is steady-state rate of fall of water in reserve

Guelph Permeameter Calculations - TP128-22

Input

Result

Single Head Method (1)

Reservoir Cross-sectional area in cm^2

(enter "35.22" for Combined and "2.16" for Inner reservoir): 35.22

Enter water Head Height ("H" in cm): 5

Enter the Borehole Radius ("a" in cm): 3

Enter the soil texture-structure category (enter one of the below numbers): 3

1. Compacted, Structure-less, clayey or silty materials such as landfill caps and liners, lacustrine or marine sediments, etc.
2. Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.
3. Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.
4. Coarse and gravely sands; may also include some highly structured soils with large and/or numerous cracks, macropors, etc

Steady State Rate of Water Level Change ("R" in cm/min): 16.0000

Res Type	35.22
H	5
a	3
H/a	1.667
a*	0.12
C0.01	0.809
C0.04	0.842
C0.12	0.803
C0.36	0.803
C	0.803
R	16.000
Q	9.392
pi	3.142

α^*= 0.12 cm^{-1}

C = 0.803154

Q = 9.392

K_{fs} =		
	1.71E-02	cm/sec
	1.02E+00	cm/min
	1.71E-04	m/sec
	4.04E-01	inch/min
	6.73E-03	inch/sec

Φ_m = 1.42E-01 cm^2/min

Single Head Method (2)

Reservoir Cross-sectional area in cm^2

(enter "35.22" for Combined and "2.16" for Inner reservoir):

Enter water Head Height ("H" in cm):

Enter the Borehole Radius ("a" in cm):

Enter the soil texture-structure category (enter one of the below numbers):

1. Compacted, Structure-less, clayey or silty materials such as landfill caps and liners, lacustrine or marine sediments, etc.
2. Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.
3. Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.
4. Coarse and gravely sands; may also include some highly structured soils with large and/or numerous cracks, macropors, etc

Steady State Rate of Water Level Change ("R" in cm/min):

Res Type	0
H	0
a	0
H/a	#DIV/0!
a*	0
C0.01	#DIV/0!
C0.04	#DIV/0!
C0.12	#DIV/0!
C0.36	#DIV/0!
C	0
R	0.000
Q	0
pi	3.1415

α^*= 0 cm^{-1}

C = 0

Q = 0

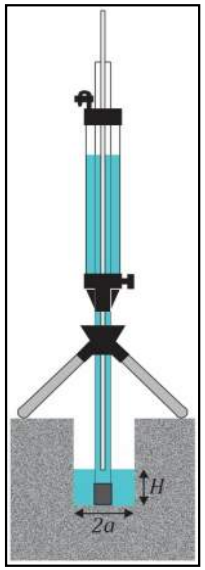
K_{fs} =		
	#DIV/0!	cm/sec
	#DIV/0!	cm/min
	#DIV/0!	m/ses
	#DIV/0!	inch/min
	#DIV/0!	inch/sec

Φ_m = #DIV/0! cm^2/min

Average

K_{fs} =		
	#DIV/0!	cm/sec
	#DIV/0!	cm/min
	#DIV/0!	m/s
	#DIV/0!	inch/min
	#DIV/0!	inch/sec

Φ_m = #DIV/0! cm^2/min



Calculation formulas related to one-head and two-head methods. Where R is steady-state rate of fall of water in reserve

Guelph Permeameter Calculations - TP130-22

Input

Result

Single Head Method (1)

Reservoir Cross-sectional area in cm^2

(enter "35.22" for Combined and "2.16" for Inner reservoir): 35.22

Enter water Head Height ("H" in cm): 5

Enter the Borehole Radius ("a" in cm): 3

Enter the soil texture-structure category (enter one of the below numbers): 3

1. Compacted, Structure-less, clayey or silty materials such as landfill caps and liners, lacustrine or marine sediments, etc.
2. Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.
3. Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.
4. Coarse and gravely sands; may also include some highly structured soils with large and/or numerous cracks, macropors, etc

Steady State Rate of Water Level Change ("R" in cm/min): 32.0000

Res Type	35.22		
H	5		
a	3	α^*=	0.12 cm^{-1}
H/a	1.667		
a*	0.12	C =	0.803154
C0.01	0.809	Q =	18.784
C0.04	0.842		
C0.12	0.803	K_{fs} =	3.42E-02 *cm/sec*
C0.36	0.803		2.05E+00 *cm/min*
C	0.803		3.42E-04 *m/sec*
R	32.000		8.07E-01 *inch/min*
Q	18.78		1.35E-02 *inch/sec*
pi	3.142		
		Φ_m =	2.85E-01 cm^2/min

Single Head Method (2)

Reservoir Cross-sectional area in cm^2

(enter "35.22" for Combined and "2.16" for Inner reservoir):

Enter water Head Height ("H" in cm):

Enter the Borehole Radius ("a" in cm):

Enter the soil texture-structure category (enter one of the below numbers):

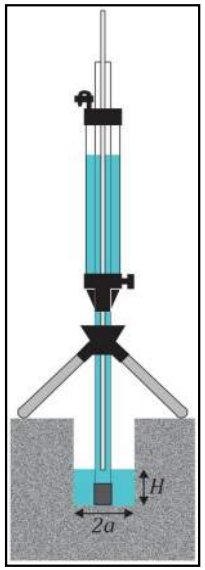
1. Compacted, Structure-less, clayey or silty materials such as landfill caps and liners, lacustrine or marine sediments, etc.
2. Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.
3. Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.
4. Coarse and gravely sands; may also include some highly structured soils with large and/or numerous cracks, macropors, etc

Steady State Rate of Water Level Change ("R" in cm/min):

Res Type	0		
H	0		
a	0	α^*=	0 cm^{-1}
H/a	#DIV/0!		
a*	0	C =	0
C0.01	#DIV/0!	Q =	0
C0.04	#DIV/0!		
C0.12	#DIV/0!	K_{fs} =	#DIV/0! *cm/sec*
C0.36	#DIV/0!		#DIV/0! *cm/min*
C	0		#DIV/0! *m/ses*
R	0.000		#DIV/0! *inch/min*
Q	0		#DIV/0! *inch/sec*
pi	3.1415		
		Φ_m =	#DIV/0! cm^2/min

Average

K_{fs} =	#DIV/0!	*cm/sec*
	#DIV/0!	*cm/min*
	#DIV/0!	*m/s*
	#DIV/0!	*inch/min*
	#DIV/0!	*inch/sec*
Φ_m =	#DIV/0!	cm^2/min



Calculation formulas related to one-head and two-head methods. Where *R* is steady-state rate of fall of water in reserve

Infiltration Location	Soil Type	Soil Type Class	Test Depth (m)	Test	Head (mm)	Hydraulic Conductivity K (m/s)	Infiltration Rate (mm/hr)	Percolation Rate T (min/cm)
TP115-22	Brown Sand	3	1.65	Dual	50	3.20E-04	212.9	2.8
TP128-22	Brown Sand	3	1.61	Dual	50	1.71E-04	180.3	3.3
TP130-22	Brown Sand	3	1.67	Dual	50	3.42E-04	216.6	2.8

Appendix G

Water Balance Calculations

Water Balance Calculations

721 Royal York Road, Etobicoke, Ontario

THORNTHWAITE-TYPE MONTHLY WATER-BALANCE MODEL													
modified from Dingman 2015: Box 6-8 (pg 299) using ET model of Hamon (1963)													
		Input Data				Computed Values							
											Surplus	231	mm/yr
Weather Station Location:	**Toronto, ON**				**Latitude:**	**43.4**	**degree**						
Solar Declination (degree)	-20.6	-12.6	-1.5	10.0	19.0	23.1	21.0	13.4	2.6	-9.0	-18.5	-23.0	
DayLength (hr)*	9.2	10.4	11.8	13.3	14.5	15.2	14.8	13.7	12.3	10.9	9.5	8.8	
Available Water Storage Capacity			0.18	m/m	**Root Depth**	1000	mm		**SOILmax**	180.0	mm		

MONTHLY WATER BALANCE DATA													
Temperatures in C, water-balance terms in mm.													
Month:	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**Year**
TEMPERATURE (T)	-3.7	-2.6	1.4	7.9	14.1	19.4	22.3	21.5	17.2	10.7	4.9	-0.5	
PRECIPITATION (P)	61.5	55.4	53.7	68.0	82.0	70.9	63.9	81.1	84.7	64.4	84.1	61.5	831
RAIN	29.1	29.7	33.6	61.1	82.0	70.9	63.9	81.1	84.7	64.3	75.4	38.2	714
SNOW	32	26	20	7	0	0	0	0	0	0	9	23	117
MELT FACTOR (F)	0.00	0.00	0.23	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.00	
PACK	57	83	79	0	0	0	0	0	0	0	2	25	
MELT	0	0	24	86	0	0	0	0	0	0	7	0	117
INPUT (W)	29	30	58	147	82	71	64	81	85	64	83	38	831
POTENTIAL ET (PET)	0	0	27	45	75	105	125	111	75	46	27	0	635
NET INPUT (ΔW)	29	30	31	102	7	-34	-61	-30	10	19	56	38	
SOIL MOISTURE (SOIL)	180	180	180	180	180	149	106	90	100	119	175	180	
ΔSOIL	0	0	0	0	0	-31	-43	-16	10	19	56	5	0
ET	0	0	27	45	75	102	107	97	75	46	27	0	600
SURPLUS=W-ET-ΔSOIL	29	30	31	102	7	0	0	0	0	0	0	33	231

Notes:

Precipitation, Rain, Temperature, and Latitude are inputted parameters

SOILmax = available water storage capacity * root depth

m = month

D = Day length (hrs) $=2*\cos^{-1}(-\tan(\text{Latitude})*\tan(\text{Declination}))/0.2618$ [calculation is in radians]

$SNOW_m = P_m - RAIN_m$

$F_m = 0$ if $T_m <= 0^oC$; $F_m = 0.167*T_m$ if $0^oC<T_m<6^oC$; $F_m = 1$ if $T_m>=6^oC$

$PACK_m = (1-F_m)*(SNOW_m+PACK_{m-1})$

$MELT = F_m*(SNOW_m+PACK_{m-1})$

$W_m = RAIN_m+MELT_m$.

PET = 0 if $T_m<0$; otherwise $PET = 2.98*0.611*\exp(17.3*T_m/(T_m+237))/(T_m+237.2)*$Number of days in month [Hamon ET model (1963)]

$\Delta W_m = W_m - PET_m$

$SOIL = \min\{[\Delta W_m+SOIL_{m-1}], SOILmax\}$, if $\Delta Wm>0$; otherwise $SOIL = SOIL_{m-1}* \exp(\Delta W/SOILmax)$

$\Delta SOIL = SOIL_{m-1}-SOIL_m$

ET = PET if W_m > PET; otherwise, $ET=W_m-\Delta SOIL$

Pre- and Post-Development Water Balance Calculations

721 Royal York Road, Etobicoke, Ontario

1 Climate Information

Precipitation	831	mm/yr
Actual Evapotranspiration	600	mm/yr
Water Surplus	231	mm/yr

2 Infiltration Rates

Table 2 Approach - Infiltration factors		
Topography: Rolling Land	0.2	
Soil Type: Sand to Silty Sand	0.3	
Cover: Cultivated land/Woodland	0.15	
Total Infiltration Factor	**0.65**	
Infiltration (Water Surplus * Infiltration Factor)	**150**	mm/yr
Run-off (Water Surplus - Infiltration)	**81**	mm/yr

Table 3 Approach - Typical Recharge Rates		
Coarse Sand and Gravel	>250	mm/yr
Fine to medium sand	200-250	mm/yr
Silty sand to sandy silt	150-200	mm/yr
Silt	125-150	mm/yr
Clayey Silt	100- 125	mm/yr
Clay	<100	mm/yr

Site development area is underlain predominantly by sand to silty sand		
Based on the above, the recharge rate is typically	200-250	mm/yr

3 Pre-Development Property Statistics	**ha**	**m^2**
Total Paved Area	1.21	12,102
Total Roof Area	1.05	10,491
Total Landscape Area	4.19	41,908
Total	**6.45**	**64,501**

4 Post-Development Property Statistics	**ha**	**m^2**
Total Paved Area	0.41	15,375
Total Roof Area	0.28	8,052
Total Landscape Area	0.31	41,074
Total	**1.01**	**64,501**

Pre- and Post-Development Water Balance Calculations

721 Royal York Road, Etobicoke, Ontario

5 Pre-Development Water Balance

Land Use		Area (m^2)	Precipitation (m^3)	Evapotranspiration (m^3)	Infiltration (m^3)	Run-off (m^3)
Impervious Areas	Paved Area	12,102	10,057	1,006	-	9,051
	Roof Area	10,491	8,718	872	-	7,846
Pervious Areas	Landscape Area	41,908	34,826	25,145	6,292	3,388
	Totals	64,501	53,600	27,022	6,292	20,286

Assuming no infiltration occurring in paved and roof areas, and 10% of precipitation to be evaporated from paved and roof areas.

6 Post-Development Water Balance

Land Use		Area (m^2)	Precipitation (m^3)	Evapotranspiration (m^3)	Infiltration (m^3)	Run-off (m^3)
Impervious Areas	Paved Area	15,375	12,777	1,278	-	11,499
	Roof Area	8,052	6,691	669	-	6,022
Pervious Areas	Landscape Area	41,074	34,132	24,644	6,167	3,321
	Totals	64,501	53,600	26,591	6,167	20,842

Assuming no infiltration occurring in paved and roof areas, and 10% of precipitation to be evaporated from paved and roof areas.

7 Comparision of Pre- and Post -Development

	Precipitation (m^3)	Evapotranspiration (m^3)	Infiltration (m^3)	Run-off (m^3)
Pre-Development	53,600	27,022	6,292	20,286
Post-Development	53,600	26,591	6,167	20,842
Change in Volume	-	- 431	- 125	556
Change in %	-	- 2	- 2	3

8 Requirement for Infiltration of Roof Run-off

Volume of Pre-Development Infiltration (m^3/yr)	6,292
Volume of Post-Development Infiltration (m^3/yr)	6,167
Deficit from Pre to Post Development Infiltration (m^3/yr)	125
Percentage of Roof Runoff required to match the pre-development infiltration (%)	2

Appendix H

Certificate of Laboratory Analysis

Your Project #: 14560-001
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Your C.O.C. #: 873852-01-01

Attention: Nicole Heikoop

Cambium Environmental Inc
135 Bayfield Street
Unit 102
Barrie, ON
Canada L4M 3B3

Report Date: 2022/05/12
Report #: R7121980
Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2A3696
Received: 2022/04/20, 08:58

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Sewer Use By-Law Semivolatile Organics	1	2022/04/21	2022/04/21	CAM SOP 00301	EPA 8270 m
Biochemical Oxygen Demand (BOD)	1	2022/04/20	2022/04/25	CAM SOP-00427	SM 23 5210B m
Chromium (VI) in Water	1	N/A	2022/04/21	CAM SOP-00436	EPA 7199 m
Total Cyanide	1	2022/04/21	2022/04/21	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2022/04/21	2022/04/23	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2022/04/21	2022/04/21	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by Axial ICP	1	2022/04/25	2022/04/25	CAM SOP-00408	EPA 6010D m
Total Nonylphenol in Liquids by HPLC	1	2022/04/26	2022/04/27	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2022/04/26	2022/04/27	CAM SOP-00313	In-house Method
Animal and Vegetable Oil and Grease	1	N/A	2022/04/26	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2022/04/25	2022/04/26	CAM SOP-00326	EPA1664B m,SM5520B m
Polychlorinated Biphenyl in Water	1	2022/04/21	2022/04/23	CAM SOP-00309	EPA 8082A m
pH	1	2022/04/21	2022/04/23	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2022/04/21	CAM SOP-00444	OMOE E3179 m
Total Kjeldahl Nitrogen in Water	1	2022/04/20	2022/04/21	CAM SOP-00938	OMOE E3516 m
Total PAHs (1)	1	N/A	2022/04/22	CAM SOP - 00301	
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2022/04/25	2022/04/25	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2022/04/20	2022/04/21	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2022/04/21	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas 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 Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas 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.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or

Your Project #: 14560-001
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Your C.O.C. #: 873852-01-01

Attention: Nicole Heikoop

Cambium Environmental Inc
135 Bayfield Street
Unit 102
Barrie, ON
Canada L4M 3B3

Report Date: 2022/05/12
Report #: R7121980
Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2A3696
Received: 2022/04/20, 08:58

implied. Bureau Veritas 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 Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas 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 Bureau Veritas, 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) Total PAHs include only those PAHs specified in the sewer use by-by-law.
(2) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Gemarie Balatico, Project Manager
Email: Gemarie.Balatico@bureauveritas.com
Phone# (905)817-5787
==========
Bureau Veritas 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 Job #: C2A3696
Report Date: 2022/05/12

Cambium Environmental Inc
Client Project #: 14560-001
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Sampler Initials: LW

TORONTO SANITARY & COM. SEWER (100-2016)

Bureau Veritas ID				SKB939			SKB939		
Sampling Date				2022/04/14 16:25			2022/04/14 16:25		
	UNITS	Criteria	Criteria-2	BH14	RDL	QC Batch	BH14 Lab-Dup	RDL	QC Batch
Calculated Parameters									
Total Animal/Vegetable Oil and Grease	mg/L	150	-	1.5	0.50	7948544			
Inorganics									
Total BOD	mg/L	300	15	<2	2	7948527			
Fluoride (F-)	mg/L	10	-	<0.10	0.10	7952573	<0.10	0.10	7952573
Total Kjeldahl Nitrogen (TKN)	mg/L	100	-	1.0	0.10	7950379			
pH	pH	6.0:11.5	6.0:9.5	7.59		7952583	7.63		7952583
Phenols-4AAP	mg/L	1.0	0.008	0.0014	0.0010	7951400			
Total Suspended Solids	mg/L	350	15	<10	10	7949294			
Total Cyanide (CN)	mg/L	2	0.02	<0.0050	0.0050	7952351	<0.0050	0.0050	7952351
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	-	-	1.5	0.50	7957918			
Total Oil & Grease Mineral/Synthetic	mg/L	15	-	<0.50	0.50	7957932			
Miscellaneous Parameters									
Nonylphenol Ethoxylate (Total)	mg/L	0.2	0.01	**<0.025 (1)**	0.025	7960572			
Nonylphenol (Total)	mg/L	0.02	0.001	<0.001	0.001	7960569			
Metals									
Total Aluminum (Al)	mg/L	50	-	<0.1	0.1	7956939			
Total Antimony (Sb)	mg/L	5	-	<0.02	0.02	7956939			
Total Arsenic (As)	mg/L	1	0.02	<0.01	0.01	7956939			
Total Cadmium (Cd)	mg/L	0.7	0.008	<0.002	0.002	7956939			
Total Chromium (Cr)	mg/L	4	0.08	<0.01	0.01	7956939			
Chromium (VI)	ug/L	2000	40	<0.50	0.50	7951144			
Total Cobalt (Co)	mg/L	5	-	0.010	0.002	7956939			
Total Copper (Cu)	mg/L	2	0.04	<0.01	0.01	7956939			
Total Lead (Pb)	mg/L	1	0.12	<0.01	0.01	7956939			
Total Manganese (Mn)	mg/L	5	0.05	2.1	0.001	7956939			
Mercury (Hg)	mg/L	0.01	0.0004	<0.00010	0.00010	7951150	<0.00010	0.00010	7951150
Total Molybdenum (Mo)	mg/L	5	-	<0.005	0.005	7956939			
Total Nickel (Ni)	mg/L	2	0.08	0.021	0.005	7956939			
Total Phosphorus (P)	mg/L	10	0.4	<0.05	0.05	7956939			
Total Selenium (Se)	mg/L	1	0.02	<0.02	0.02	7956939			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Toronto Sanitary and Combined Sewers Discharge Guidelines. Referenced to the Chapter 681.
Criteria-2: Toronto Storm Sewer Discharge Use By-Law
(1) RDL exceeds criteria

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C2A3696
Report Date: 2022/05/12

Cambium Environmental Inc
Client Project #: 14560-001
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Sampler Initials: LW

TORONTO SANITARY & COM. SEWER (100-2016)

Bureau Veritas ID				SKB939			SKB939		
Sampling Date				2022/04/14 16:25			2022/04/14 16:25		
	UNITS	Criteria	Criteria-2	BH14	RDL	QC Batch	BH14 Lab-Dup	RDL	QC Batch
Total Silver (Ag)	mg/L	5	0.12	<0.01	0.01	7956939			
Total Tin (Sn)	mg/L	5	-	<0.02	0.02	7956939			
Total Titanium (Ti)	mg/L	5	-	<0.005	0.005	7956939			
Total Zinc (Zn)	mg/L	2	0.04	0.005	0.005	7956939			
Semivolatile Organics									
Di-N-butyl phthalate	ug/L	80	15	<2	2	7951070			
Bis(2-ethylhexyl)phthalate	ug/L	12	8.8	<2	2	7951070			
3,3'-Dichlorobenzidine	ug/L	2	0.8	<0.8	0.8	7951070			
Pentachlorophenol	ug/L	5	2	<1	1	7951070			
Phenanthrene	ug/L	-	-	<0.2	0.2	7951070			
Anthracene	ug/L	-	-	<0.2	0.2	7951070			
Fluoranthene	ug/L	-	-	<0.2	0.2	7951070			
Pyrene	ug/L	-	-	<0.2	0.2	7951070			
Benzo(a)anthracene	ug/L	-	-	<0.2	0.2	7951070			
Chrysene	ug/L	-	-	<0.2	0.2	7951070			
Benzo(b/j)fluoranthene	ug/L	-	-	<0.2	0.2	7951070			
Benzo(k)fluoranthene	ug/L	-	-	<0.2	0.2	7951070			
Benzo(a)pyrene	ug/L	-	-	<0.2	0.2	7951070			
Indeno(1,2,3-cd)pyrene	ug/L	-	-	<0.2	0.2	7951070			
Dibenzo(a,h)anthracene	ug/L	-	-	<0.2	0.2	7951070			
Benzo(g,h,i)perylene	ug/L	-	-	<0.2	0.2	7951070			
Dibenzo(a,i)pyrene	ug/L	-	-	<0.2	0.2	7951070			
Benzo(e)pyrene	ug/L	-	-	<0.2	0.2	7951070			
Perylene	ug/L	-	-	<0.2	0.2	7951070			
Dibenzo(a,j) acridine	ug/L	-	-	<0.4	0.4	7951070			
7H-Dibenzo(c,g) Carbazole	ug/L	-	-	<0.4	0.4	7951070			
1,6-Dinitropyrene	ug/L	-	-	<0.4	0.4	7951070			
1,3-Dinitropyrene	ug/L	-	-	<0.4	0.4	7951070			
1,8-Dinitropyrene	ug/L	-	-	<0.4	0.4	7951070			
Calculated Parameters									
Total PAHs (18 PAHs)	ug/L	5	2	<1	1	7949459			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Toronto Sanitary and Combined Sewers Discharge Guidelines. Referenced to the Chapter 681.
Criteria-2: Toronto Storm Sewer Discharge Use By-Law

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Bureau Veritas Job #: C2A3696
Report Date: 2022/05/12

Cambium Environmental Inc
Client Project #: 14560-001
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Sampler Initials: LW

TORONTO SANITARY & COM. SEWER (100-2016)

Bureau Veritas ID				SKB939			SKB939		
Sampling Date				2022/04/14 16:25			2022/04/14 16:25		
	UNITS	Criteria	Criteria-2	BH14	RDL	QC Batch	BH14 Lab-Dup	RDL	QC Batch
Volatile Organics									
Benzene	ug/L	10	2	**<10 (1)**	10	7950505			
Chloroform	ug/L	40	2	**<10 (1)**	10	7950505			
1,2-Dichlorobenzene	ug/L	50	5.6	**<20 (1)**	20	7950505			
1,4-Dichlorobenzene	ug/L	80	6.8	**<20 (1)**	20	7950505			
cis-1,2-Dichloroethylene	ug/L	4000	5.6	**<25 (1)**	25	7950505			
trans-1,3-Dichloropropene	ug/L	140	5.6	**<20 (1)**	20	7950505			
Ethylbenzene	ug/L	160	2	**<10 (1)**	10	7950505			
Methylene Chloride(Dichloromethane)	ug/L	2000	5.2	**<100 (1)**	100	7950505			
1,1,2,2-Tetrachloroethane	ug/L	1400	17	**<20 (1)**	20	7950505			
Tetrachloroethylene	ug/L	1000	4.4	**<10 (1)**	10	7950505			
Toluene	ug/L	16	2	**<10 (1)**	10	7950505			
Trichloroethylene	ug/L	400	7.6	**<10 (1)**	10	7950505			
p+m-Xylene	ug/L	-	-	<10	10	7950505			
o-Xylene	ug/L	-	-	<10	10	7950505			
Total Xylenes	ug/L	1400	4.4	**<10 (1)**	10	7950505			
PCBs									
Total PCB	ug/L	1	0.4	<0.05	0.05	7953280			
Surrogate Recovery (%)									
2,4,6-Tribromophenol	%	-	-	110		7951070			
2-Fluorobiphenyl	%	-	-	45		7951070			
D14-Terphenyl (FS)	%	-	-	97		7951070			
D5-Nitrobenzene	%	-	-	55		7951070			
D8-Acenaphthylene	%	-	-	53		7951070			
Decachlorobiphenyl	%	-	-	67		7953280			
4-Bromofluorobenzene	%	-	-	100		7950505			
D4-1,2-Dichloroethane	%	-	-	91		7950505			
D8-Toluene	%	-	-	90		7950505			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Toronto Sanitary and Combined Sewers Discharge Guidelines. Referenced to the Chapter 681.
Criteria-2: Toronto Storm Sewer Discharge Use By-Law
(1) RDL exceeds criteria

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Bureau Veritas Job #: C2A3696
Report Date: 2022/05/12

Cambium Environmental Inc
Client Project #: 14560-001
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Sampler Initials: LW

TEST SUMMARY

Bureau Veritas ID: SKB939
Sample ID: BH14
Matrix: Water

Collected: 2022/04/14
Shipped:
Received: 2022/04/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sewer Use By-Law Semivolatile Organics	GC/MS	7951070	2022/04/21	2022/04/21	Milijana Avramovic
Biochemical Oxygen Demand (BOD)	DO	7948527	2022/04/20	2022/04/25	Frank Zhang
Chromium (VI) in Water	IC	7951144	N/A	2022/04/21	Theodora LI
Total Cyanide	SKAL/CN	7952351	2022/04/21	2022/04/21	Aditiben Patel
Fluoride	ISE	7952573	2022/04/21	2022/04/23	Surinder Rai
Mercury in Water by CVAA	CV/AA	7951150	2022/04/21	2022/04/21	Jaswinder Kaur
Total Metals Analysis by Axial ICP	ICPX	7956939	2022/04/25	2022/04/25	Gagandeep Rai
Total Nonylphenol in Liquids by HPLC	LC/FLU	7960569	2022/04/26	2022/04/27	Dennis Boodram
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	7960572	2022/04/26	2022/04/27	Dennis Boodram
Animal and Vegetable Oil and Grease	BAL	7948544	N/A	2022/04/26	Automated Statchk
Total Oil and Grease	BAL	7957918	2022/04/25	2022/04/26	Niravkumar Patel
Polychlorinated Biphenyl in Water	GC/ECD	7953280	2022/04/21	2022/04/23	Dawn Howard
pH	AT	7952583	2022/04/21	2022/04/23	Surinder Rai
Phenols (4AAP)	TECH/PHEN	7951400	N/A	2022/04/21	Louise Harding
Total Kjeldahl Nitrogen in Water	SKAL	7950379	2022/04/20	2022/04/21	Rajni Tyagi
Total PAHs	CALC	7949459	N/A	2022/04/22	Automated Statchk
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	7957932	2022/04/25	2022/04/25	Niravkumar Patel
Total Suspended Solids	BAL	7949294	2022/04/20	2022/04/21	Shaneil Hall
Volatile Organic Compounds in Water	GC/MS	7950505	N/A	2022/04/21	Narayan Ghimire

Bureau Veritas ID: SKB939 Dup
Sample ID: BH14
Matrix: Water

Collected: 2022/04/14
Shipped:
Received: 2022/04/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Cyanide	SKAL/CN	7952351	2022/04/21	2022/04/21	Aditiben Patel
Fluoride	ISE	7952573	2022/04/21	2022/04/23	Surinder Rai
Mercury in Water by CVAA	CV/AA	7951150	2022/04/21	2022/04/21	Jaswinder Kaur
pH	AT	7952583	2022/04/21	2022/04/23	Surinder Rai

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Cambium Environmental Inc
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GENERAL COMMENTS

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

Package 1	6.0°C

Revised Report (2022/05/12): Requested regulatory criteria, Toronto Storm Sewer, has been included on this report.

pH and Biochemical Oxygen Demand Analysis: Sample analyzed past hold time. Analysis performed with client's consent.

Mercury and CrVI Analysis: Sample submitted was field filtered. Analysis performed with client's consent.

Sample SKB939 [BH14] : VOC Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Nonylphenol and Nonylphenol Ethoxylates Analysis:
Due to background interference, sample required dilution. The Detection limit was adjusted accordingly.

Results relate only to the items tested.

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Bureau Veritas Job #: C2A3696
Report Date: 2022/05/12

QUALITY ASSURANCE REPORT

Cambium Environmental Inc
Client Project #: 14560-001
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Sampler Initials: LW

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7950505	4-Bromofluorobenzene	2022/04/21	102	70 - 130	101	70 - 130	103	%				
7950505	D4-1,2-Dichloroethane	2022/04/21	109	70 - 130	102	70 - 130	94	%				
7950505	D8-Toluene	2022/04/21	98	70 - 130	100	70 - 130	93	%				
7951070	2,4,6-Tribromophenol	2022/04/21	83	10 - 130	105	10 - 130	85	%				
7951070	2-Fluorobiphenyl	2022/04/21	60	30 - 130	76	30 - 130	65	%				
7951070	D14-Terphenyl (FS)	2022/04/21	92	30 - 130	98	30 - 130	101	%				
7951070	D5-Nitrobenzene	2022/04/21	70	30 - 130	97	30 - 130	86	%				
7951070	D8-Acenaphthylene	2022/04/21	59	30 - 130	82	30 - 130	73	%				
7953280	Decachlorobiphenyl	2022/04/23	71	60 - 130	69	60 - 130	67	%				
7948527	Total BOD	2022/04/25					<2	mg/L	0.36	30	90	80 - 120
7949294	Total Suspended Solids	2022/04/21					<10	mg/L	6.6	25	95	85 - 115
7950379	Total Kjeldahl Nitrogen (TKN)	2022/04/21	NC	80 - 120	100	80 - 120	<0.10	mg/L	7.8	20	93	80 - 120
7950505	1,1,2,2-Tetrachloroethane	2022/04/21	97	70 - 130	93	70 - 130	<0.40	ug/L				
7950505	1,2-Dichlorobenzene	2022/04/21	90	70 - 130	93	70 - 130	<0.40	ug/L				
7950505	1,4-Dichlorobenzene	2022/04/21	110	70 - 130	115	70 - 130	<0.40	ug/L				
7950505	Benzene	2022/04/21	93	70 - 130	93	70 - 130	<0.20	ug/L				
7950505	Chloroform	2022/04/21	101	70 - 130	100	70 - 130	<0.20	ug/L				
7950505	cis-1,2-Dichloroethylene	2022/04/21	102	70 - 130	101	70 - 130	<0.50	ug/L				
7950505	Ethylbenzene	2022/04/21	88	70 - 130	92	70 - 130	<0.20	ug/L				
7950505	Methylene Chloride(Dichloromethane)	2022/04/21	101	70 - 130	97	70 - 130	<2.0	ug/L				
7950505	o-Xylene	2022/04/21	86	70 - 130	92	70 - 130	<0.20	ug/L				
7950505	p+m-Xylene	2022/04/21	94	70 - 130	99	70 - 130	<0.20	ug/L				
7950505	Tetrachloroethylene	2022/04/21	85	70 - 130	89	70 - 130	<0.20	ug/L				
7950505	Toluene	2022/04/21	90	70 - 130	94	70 - 130	<0.20	ug/L	NC	30		
7950505	Total Xylenes	2022/04/21					<0.20	ug/L				
7950505	trans-1,3-Dichloropropene	2022/04/21	109	70 - 130	104	70 - 130	<0.40	ug/L				
7950505	Trichloroethylene	2022/04/21	101	70 - 130	102	70 - 130	<0.20	ug/L				
7951070	1,3-Dinitropyrene	2022/04/21	98	30 - 130	102	30 - 130	<0.4	ug/L	NC	40		
7951070	1,6-Dinitropyrene	2022/04/21	117	30 - 130	125	30 - 130	<0.4	ug/L	NC	40		
7951070	1,8-Dinitropyrene	2022/04/21	90	30 - 130	111	30 - 130	<0.4	ug/L	NC	40		
7951070	3,3'-Dichlorobenzidine	2022/04/21	103	30 - 130	113	30 - 130	<0.8	ug/L	NC	40		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7951070	7H-Dibenzo(c,g) Carbazole	2022/04/21	86	30 - 130	92	30 - 130	<0.4	ug/L	NC	40		
7951070	Anthracene	2022/04/21	74	30 - 130	93	30 - 130	<0.2	ug/L	NC	40		
7951070	Benzo(a)anthracene	2022/04/21	100	30 - 130	100	30 - 130	<0.2	ug/L	NC	40		
7951070	Benzo(a)pyrene	2022/04/21	94	30 - 130	99	30 - 130	<0.2	ug/L	NC	40		
7951070	Benzo(b/j)fluoranthene	2022/04/21	91	30 - 130	99	30 - 130	<0.2	ug/L	NC	40		
7951070	Benzo(e)pyrene	2022/04/21	93	30 - 130	98	30 - 130	<0.2	ug/L	NC	40		
7951070	Benzo(g,h,i)perylene	2022/04/21	99	30 - 130	107	30 - 130	<0.2	ug/L	NC	40		
7951070	Benzo(k)fluoranthene	2022/04/21	87	30 - 130	100	30 - 130	<0.2	ug/L	NC	40		
7951070	Bis(2-ethylhexyl)phthalate	2022/04/21	92	30 - 130	95	30 - 130	<2	ug/L	NC	40		
7951070	Chrysene	2022/04/21	93	30 - 130	101	30 - 130	<0.2	ug/L	NC	40		
7951070	Dibenzo(a,h)anthracene	2022/04/21	101	30 - 130	109	30 - 130	<0.2	ug/L	NC	40		
7951070	Dibenzo(a,i)pyrene	2022/04/21	116	30 - 130	127	30 - 130	<0.2	ug/L	NC	40		
7951070	Dibenzo(a,j) acridine	2022/04/21	96	30 - 130	102	30 - 130	<0.4	ug/L	NC	40		
7951070	Di-N-butyl phthalate	2022/04/21	89	30 - 130	101	30 - 130	<2	ug/L	NC	40		
7951070	Fluoranthene	2022/04/21	93	30 - 130	100	30 - 130	<0.2	ug/L	NC	40		
7951070	Indeno(1,2,3-cd)pyrene	2022/04/21	102	30 - 130	110	30 - 130	<0.2	ug/L	NC	40		
7951070	Pentachlorophenol	2022/04/21	59	30 - 130	50	30 - 130	<1	ug/L	NC	40		
7951070	Perylene	2022/04/21	89	30 - 130	95	30 - 130	<0.2	ug/L	NC	40		
7951070	Phenanthrene	2022/04/21	75	30 - 130	95	30 - 130	<0.2	ug/L	NC	40		
7951070	Pyrene	2022/04/21	93	30 - 130	100	30 - 130	<0.2	ug/L	NC	40		
7951144	Chromium (VI)	2022/04/21	99	80 - 120	99	80 - 120	<0.50	ug/L	NC	20		
7951150	Mercury (Hg)	2022/04/21	95	75 - 125	96	80 - 120	<0.00010	mg/L	NC	20		
7951400	Phenols-4AAP	2022/04/21	104	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20		
7952351	Total Cyanide (CN)	2022/04/21	91	80 - 120	93	80 - 120	<0.0050	mg/L	NC	20		
7952573	Fluoride (F-)	2022/04/23	96	80 - 120	105	80 - 120	<0.10	mg/L	NC	20		
7952583	pH	2022/04/23			101	98 - 103			0.63	N/A		
7953280	Total PCB	2022/04/23	78	60 - 130	71	60 - 130	<0.05	ug/L	NC	40		
7956939	Total Aluminum (Al)	2022/04/25	103	80 - 120	92	80 - 120	<0.1	mg/L	NC	20		
7956939	Total Antimony (Sb)	2022/04/25	109	80 - 120	107	80 - 120	<0.02	mg/L	NC	20		
7956939	Total Arsenic (As)	2022/04/25	113	80 - 120	108	80 - 120	<0.01	mg/L	NC	20		
7956939	Total Cadmium (Cd)	2022/04/25	110	80 - 120	108	80 - 120	<0.002	mg/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7956939	Total Chromium (Cr)	2022/04/25	110	80 - 120	109	80 - 120	<0.01	mg/L	NC	20		
7956939	Total Cobalt (Co)	2022/04/25	102	80 - 120	105	80 - 120	<0.002	mg/L	NC	20		
7956939	Total Copper (Cu)	2022/04/25	106	80 - 120	106	80 - 120	<0.01	mg/L	NC	20		
7956939	Total Lead (Pb)	2022/04/25	101	80 - 120	105	80 - 120	<0.01	mg/L	NC	20		
7956939	Total Manganese (Mn)	2022/04/25	103	80 - 120	105	80 - 120	<0.001	mg/L	0.14	20		
7956939	Total Molybdenum (Mo)	2022/04/25	107	80 - 120	105	80 - 120	<0.005	mg/L	3.8	20		
7956939	Total Nickel (Ni)	2022/04/25	102	80 - 120	106	80 - 120	<0.005	mg/L	NC	20		
7956939	Total Phosphorus (P)	2022/04/25	106	80 - 120	101	80 - 120	<0.05	mg/L	NC	20		
7956939	Total Selenium (Se)	2022/04/25	110	80 - 120	107	80 - 120	<0.02	mg/L	NC	20		
7956939	Total Silver (Ag)	2022/04/25	102	80 - 120	101	80 - 120	<0.01	mg/L	NC	20		
7956939	Total Tin (Sn)	2022/04/25	101	80 - 120	104	80 - 120	<0.02	mg/L	NC	20		
7956939	Total Titanium (Ti)	2022/04/25	103	80 - 120	103	80 - 120	<0.005	mg/L	NC	20		
7956939	Total Zinc (Zn)	2022/04/25	105	80 - 120	106	80 - 120	<0.005	mg/L	NC	20		
7957918	Total Oil & Grease	2022/04/26			99	85 - 115	<0.50	mg/L	0.76	25		
7957932	Total Oil & Grease Mineral/Synthetic	2022/04/25			99	85 - 115	<0.50	mg/L	3.1	25		
7960569	Nonylphenol (Total)	2022/04/27	88	50 - 130	90	50 - 130	<0.001	mg/L	NC	40		
7960572	Nonylphenol Ethoxylate (Total)	2022/04/27	72	50 - 130	71	50 - 130	<0.005	mg/L	NC	40		

N/A = Not Applicable

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.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Brad Newman, B.Sc., C.Chem., Scientific Service Specialist



Cristina Carriere, Senior Scientific Specialist

Bureau Veritas 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.

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Page of

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#17950 Cambium Environmental Inc	Company Name:	#24915 Cambium Environmental Inc	Quotation #:	Bottle order: 873852	Bureau Veritas Job #:	Bottle Order #: 873852
Attention:	ACCOUNTS PAYABLE	Attention:	Nicole Heikoop	P.O. #:			
Address:	194 Sophia Street PO Box 325	Address:	135 Bayfield Street Unit 102	Project:	14560-001		
	Peterborough ON K9H 1E5		Barrie ON L4M 3B3	Project Name:		COC #: C#873852-01-01	Project Manager: Gemarie Balatico
Tel:	(705) 742-7900 Fax: (705) 742-7907	Tel:	(705) 719-0700 Fax:	Site #:	721 Royal York Road, Etobicoke		
Email:	accounting@cambium-inc.com; Evan.Black@cambium-	Email:	nicole.heikoop@cambium-inc.com	Sampled By:	Logan Wintemute		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine	☐ CCME ☐ Sanitary Sewer Bylaw	
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ Reg 558 ☐ Storm Sewer Bylaw	
☐ Table 3 ☐ Agri/Other ☐ For RSC	☐ MISA Municipality	
☐ Table ___	☐ PWQO ☐ Reg 406 Table	
	☐ Other Toronto Sanitary + Com. Sewer.	

Include Criteria on Certificate of Analysis (Y/N)? Y

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Field Filtered (please circle): Metals / Hg / Cr VI

Toronto Sanitary & Com. Sewer (100-2016)

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 #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	# of Bottles	Comments
1		BH14	22/04/14	16:25	GW	18	
2							
3							
4							
5							
6							
7							
8							
9							
10							

20-Apr-22 08:58
Gemarie Balatico
C2A3696
SBS ENV-1603

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
Logan Wintemute	22/04/19	9:30	TRINA	22/04/20	08:58			2/10/6	Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S 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.BVNA.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.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Exceedance Summary Table – Toronto Sanitary Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Exceedance Summary Table – Toronto Storm Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
BH14	SKB939-13	Total Manganese (Mn)	0.05	2.1	0.001	mg/L

Detection Limit Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
BH14	SKB939-16	1,1,2,2-Tetrachloroethane	17	<20	20	ug/L
BH14	SKB939-16	1,2-Dichlorobenzene	5.6	<20	20	ug/L
BH14	SKB939-16	1,4-Dichlorobenzene	6.8	<20	20	ug/L
BH14	SKB939-16	Benzene	2	<10	10	ug/L
BH14	SKB939-16	Chloroform	2	<10	10	ug/L
BH14	SKB939-16	cis-1,2-Dichloroethylene	5.6	<25	25	ug/L
BH14	SKB939-16	Ethylbenzene	2	<10	10	ug/L
BH14	SKB939-16	Methylene Chloride (Dichloromethane)	5.2	<100	100	ug/L
BH14	SKB939-01	Nonylphenol Ethoxylate (Total)	0.01	<0.025	0.025	mg/L
BH14	SKB939-16	Tetrachloroethylene	4.4	<10	10	ug/L
BH14	SKB939-16	Toluene	2	<10	10	ug/L
BH14	SKB939-16	Total Xylenes	4.4	<10	10	ug/L
BH14	SKB939-16	trans-1,3-Dichloropropene	5.6	<20	20	ug/L
BH14	SKB939-16	Trichloroethylene	7.6	<10	10	ug/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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October 7, 2022

Hossack & Associates Architects
4-2150 Dunwin Drive
Mississauga, ON L5L 5M8

Attn: Christine Clark

Re: Bishop Allen Academy – 721 Royal York Road, Etobicoke, ON – Hydrovac Excavation Works to Expose Potential Underground Storage Tank (UST)
Cambium Reference #: 14560-001

Dear Ms. Clark,

Cambium Inc. (Cambium) is pleased to provide you with this letter summarizing the results of a hydrovac excavation conducted at the location of a potential underground storage tank at 721 Royal York Road in Etobicoke, ON (Site). The excavation works were conducted by a specialized contractor under the supervision of Cambium personnel on August 25, 2022.

REVIEWED DOCUMENTS

The following documents were reviewed by Cambium in preparation for the hydrovac excavation conducted at the Site:

[1] Cambium Inc., Barrie, Ontario: Phase I Environmental Site Assessment – 721 Royal York Road, Etobicoke, Ontario; Cambium Reference: 14560-001; March 10, 2022.

[2] Geophysics GPR International Inc., Mississauga, ON: Geophysical Services – 721 Royal York Road, Etobicoke, Ontario; File No. T223690; March 18, 2022.

[3] Onsite Locates Inc., Markham, ON: GPR Investigation – 721 Royal York Road, Toronto, Ontario; August 10, 2022.

BACKGROUND AND PURPOSE

The existing school building at the Site (Bishop Allen Academy) is proposed to be removed, and subsequently constructed within a similar footprint. Based on historical information known to the Client, it was suspected that an underground storage tank (UST) may exist under the asphalt driveway/access area bordered by the southern building line of the existing school and the northern building line of an adjacent row of three portable buildings.

The possible existence of a UST in the above-mentioned area at the Site was supported by the results of the Phase I Environmental Site Assessment (ESA) conducted by Cambium [1], which identified a possible waste oil UST onsite. The suspected UST identified by the Phase I ESA may have been used by the automotive service shop (classroom) at the school.

Subsequent to the Phase I ESA, two separate geophysical surveys of the affected area were conducted in March 2022 [2] and April 2022 [3] with the purpose of searching for a UST or any features indicating the prior existence of a former UST.

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The geophysical survey results from March 2022 indicated the possibility of a buried tank or structure around the termination point (lost signal) of a vent pipe visible from the ground surface on the southern building line [2]. The vent pipe extended southward from the building line, roughly perpendicular to the outside wall. Potential concrete and metal debris were located throughout the surveyed area.

The survey conducted in April 2022 did not provide comprehensive proof that a UST was present within the surveyed area. The letter summarizing the survey results indicated that the anomalies found were more likely to indicate an underground structure that had previously existed in the surveyed area, but that had been removed and backfilled with fill material [3].

Given the inconclusive geophysical survey results, the Client requested that Cambium provide a proposal to conduct a hydrovac excavation in the area indicated by both geophysical surveys as the potential location or potential previous location of a UST. The purpose was to provide further information on whether a UST was present, in order to support tendering processes for the excavation works required to remove the existing school and construct the proposed new build.

Figure 1 shows the Site area with the vent pipe and the area identified by the geophysical surveys as potentially being the location of a present or former UST.

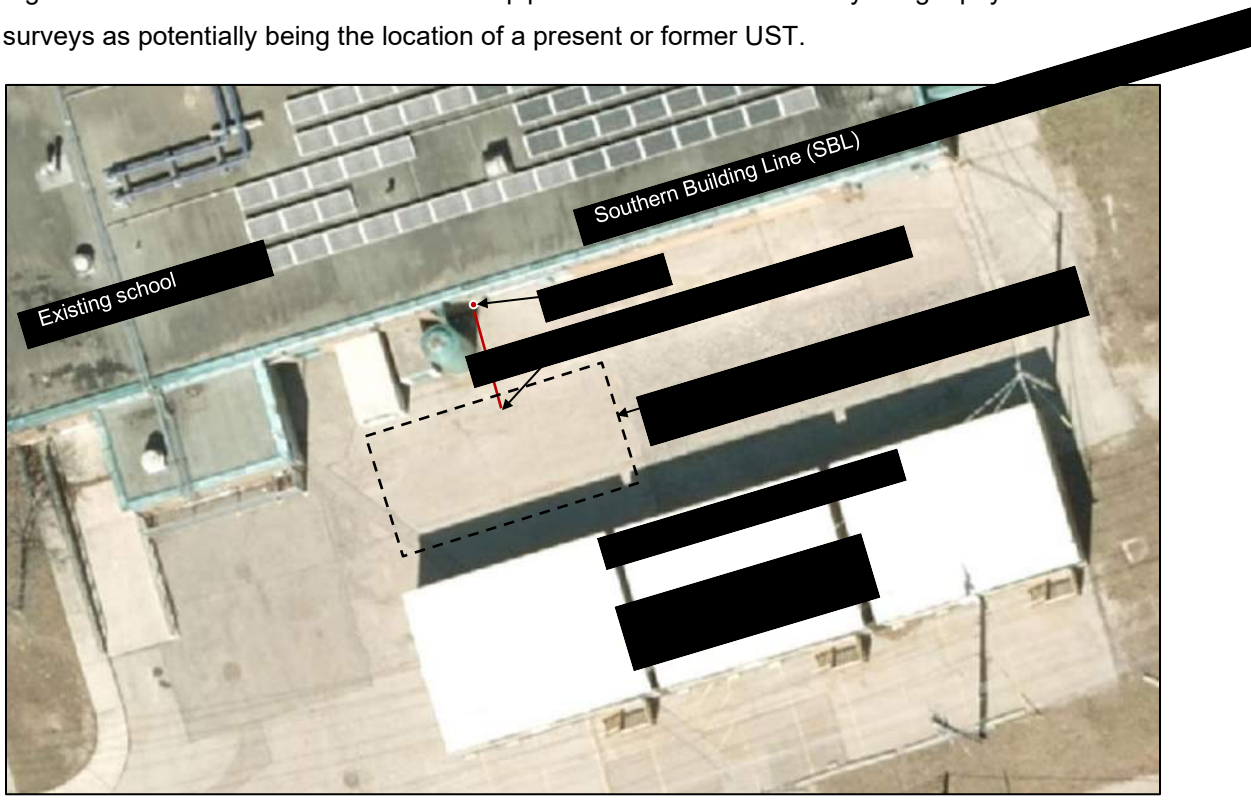


Figure 1: Site Layout (from City of Toronto Infrastructure Viewer on Oct. 3, 2022)

METHODOLOGY AND OBSERVATIONS

Prior to beginning the excavation works, a private locate was conducted to re-confirm the extent of the vent pipe, as measured from its location on the southern building line to the loss of signal.

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Based on the private locate survey, the vent pipe visible along the southern building wall was traceable to ±5.7 m outward from the building line (perpendicular to the southern building line).

At the location where the signal for the vent pipe was lost, one test hole (TH1) was advanced. The test holes had a diameter of 450 mm. Within the first test hole, the vent pipe was exposed at a depth of approximately 0.9 m below ground surface (mbgs). In TH1, the vent pipe turned to the west and extended further downward.

A further test hole (TH2) was therefore advanced to the west of TH1 to further uncover the vent pipe along its apparent alignment. In TH2, the vent pipe was further exposed and at a depth of approximately 1.5 mbgs, the pipe appeared to connect to an underground structure.

The top of the apparent structure consisted of concrete and measured 1.0 m in width (north-south dimensions). During the excavation works, fill materials were encountered to the top of the potential structure, often consisting of large debris/fragments of reinforced concrete. Following the confirmation of a potential underground structure, per the Client's request, the excavation was terminated and backfilled with unshrinkable fill material. The asphalt cores were reinstated and sealed using appropriate materials, and the asphalt surface was restored as close as possible/practical to pre-existing conditions.

Table 1 summarizes the field notes taken during the excavation works.

Table 1 Excavation field note summary

Test Hole ID	Location	Notes
TH1	Loss of vent pipe signal; approximately 5.7 m from southern building line of existing school, east of silo	Asphalt core at surface (450 mm dia.). Asphalt thickness 90 mm. Fill material below asphalt; sandy gravel/gravelly sand/sand. Reinforced concrete debris extracted. Vent pipe located at 0.9 mbgs. Vent pipe extends downward and turns west. Test hole terminated at approximately 1.5 mbgs.
TH2	Centre of core distance from TH1 approximately 1.7 m southwest (parallel to SBL) and 0.4 m southeast (perpendicular to SBL)	Asphalt core at surface (450 mm dia.). Asphalt thickness 90 mm. Vent pipe exposed in TH1 located. Vent pipe exposed down to apparent entry below potential underground concrete structure. Width (perpendicular to SBL) of potential concrete structure measured at 1 m. Eastern edge of potential concrete structure located within TH1; western edge of potential structure not located. Top of potential concrete structure measured at 1.52 mbgs. Test hole terminated at top of potential concrete structure.

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Figure 2 shows the excavation area, approximate test hole locations and the measured dimensions of the potential concrete structure. It is noted that the drawing shows the approximate test hole locations and is intended to provide a qualitative demonstration of the investigation findings (test hole dimensions, etc., not to scale).

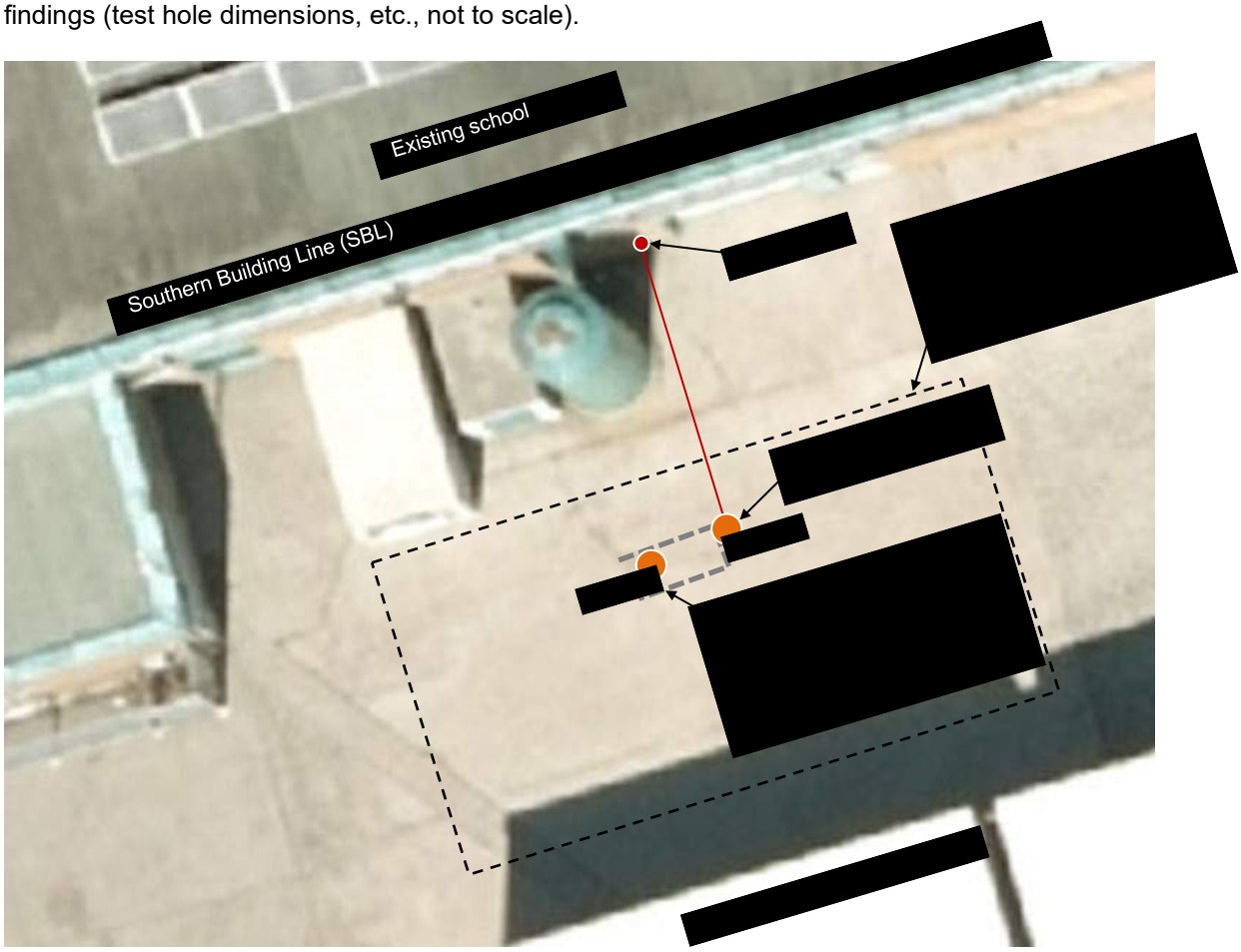


Figure 2: Excavation area and test hole locations (Note: not to scale)

DISCUSSION AND RECOMMENDATIONS

Based on the results provided above, the apparent top of an underground structure was located during the hydrovac excavation works. The uncovered portion of the potential structure consists of concrete, with the top being located at a depth of 1.5 mbgs and having a width (measured roughly perpendicular to the south building line of the existing school) of approximately 1 m. The eastern edge of the potential structure was exposed during the excavation; however, the western edge could not be located from TH2. Based on the Client's request that the potential presence of an underground structure solely be confirmed as part of this investigation, the investigation was terminated following completion of TH2. Further daylighting of the potential structure by advancing additional test holes to the west or by extending the excavations deeper was beyond the scope of this investigation.

Given the following findings:

- the historical data available to the Client indicated possible the presence of an underground structure in the affected area;
- the Phase I ESA concluded that a potential UST was an environmental concern within the excavation area; and
- two geophysical surveys (although inconclusive) separately found anomalies within the excavation area.

It is plausible that an underground tank structure exists and that the uncovered potential structure could be an oil tank or similar.

Due to the limited scope of this investigation, the exact nature of the exposed potential underground structure is unknown and will likely require full excavation/daylighting to confirm its condition and contents (if any). The findings of this investigation could indicate the following possibilities, which are not an exhaustive list:

- A concrete structure with metal lining, to which the vent pipe is connected.
- A concrete slab overlying a metal tank, which the vent pipe is connected to, where the slab was utilized to protect the tank from vehicular loads at the ground surface (i.e., during tank filling operations, etc.).

Given that the Phase I ESA identified a possible waste oil UST in connection with the school auto shop as a concern, with interior (plugged) manhole covers within the shop area, it is also possible that additional piping leads from the potential tank area to the shop (with the shop located to the east of the current dig area).

Due to the remaining uncertainty regarding the usage of the potential UST and its contents, Cambium would recommend that the property owner consider removing the tank and remediating the surrounding area prior to the start of construction on the new school building. In Cambium's opinion, the information known to date about the potential UST is not sufficient to adequately support tendering the potential UST removal and the remediation of the soil surrounding it as a part of the tendering process for the proposed school construction, as these uncertainties may result in significantly greater costs during construction, if required remediation works are extensive.

It is therefore recommended that the property owner retains a specialty contractor (licensed under the Technical Standards and Safety Act, TSSA) to remove the potential UST prior to the start of construction/excavation works for the new school building. Separately, an environmental consultant should be retained to conduct confirmatory soil sampling within the excavation following removal of the structure. As an alternative, the property owner can solely retain an environmental consultant for both the tank removal and required sampling/testing, where the consultant would be responsible for retaining a TSSA-licensed contractor.

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If it is determined or suspected that the structure had been used for fuel storage, the collection of soil samples from the excavation should be completed in accordance with the TSSA document *Environmental Management Protocol for Operating Fuel Handling Facilities in Ontario*.

Costs for remediating the area (including possible contaminated soils surrounding/below the potential UST) will depend on the volume of soil requiring removal. If the potentially contaminated soils extend to the groundwater table, the environmental consultant will likely recommend that one or more groundwater monitoring wells be installed and sampled.

If it is determined during current planning stages that the potential UST will not be removed prior to beginning excavation works for construction, Cambium recommends completing further investigation (i.e., boreholes combined with environmental screening and chemical testing of samples) in the immediate area of the uncovered potential UST to determine the potential extent of environmental impacts (if any) to provide more information prior to tendering.

ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations apply to the findings presented in this letter:

- The scope of the investigation works was limited to providing further information on the potential existence of an underground structure in a limited area of the Site, as defined by two geophysical surveys conducted by others and as presented on a drawing provided to Cambium by the Client. This letter pertains to the limited area (shown on both Figures provided above) only. The presence of underground piping, tanks/structures, etc., which may be located outside of the investigation area shown is beyond the scope of this investigation and letter.
- Cambium has provided possible interpretations of the information obtained during the investigation in the *Discussion and Recommendations* section above. The possible interpretations are not exhaustive, and the final confirmation of the presence of an underground storage tank will only be possible during actual excavation (and potential structure removal) works. The results presented in this letter are therefore intended for preliminary planning/tendering purposes only and should not be construed as providing a final confirmation of the existence, nature or contents of an underground structure or tank in the excavation area.

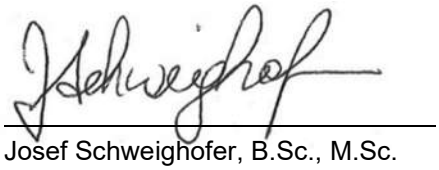
October 7, 2022

CLOSING

Cambium trusts that this letter and the comments and recommendations provided will satisfy the requirements detailed above. For further details and clarifications, please do not hesitate to contact the undersigned.

Best regards,

Cambium Inc.



Josef Schweighofer, B.Sc., M.Sc.
Project Coordinator - Geotechnical



Rob Gethin, P.Eng.
Group Manager - Geotechnical

RG/NW/js

Encl. *Photos taken during hydrovac excavation works (August 25, 2022)*

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A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

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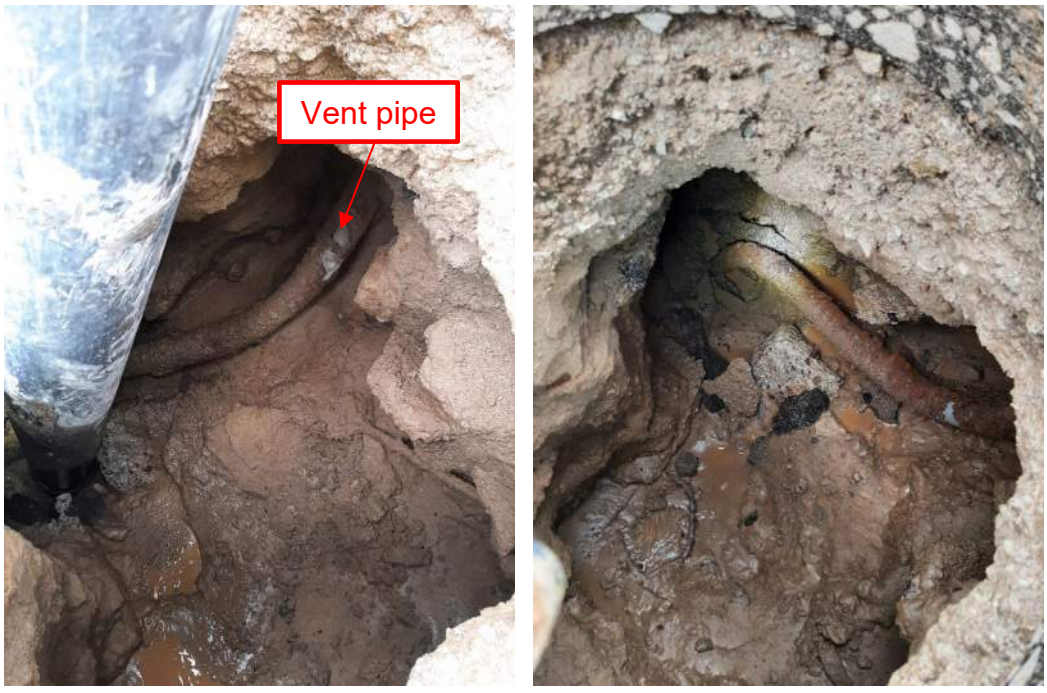
Professional Engineers Ontario

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Photos taken during hydrovac excavation works (August 25, 2022):



Appended Figure 1: Vent pipe and TH1 location

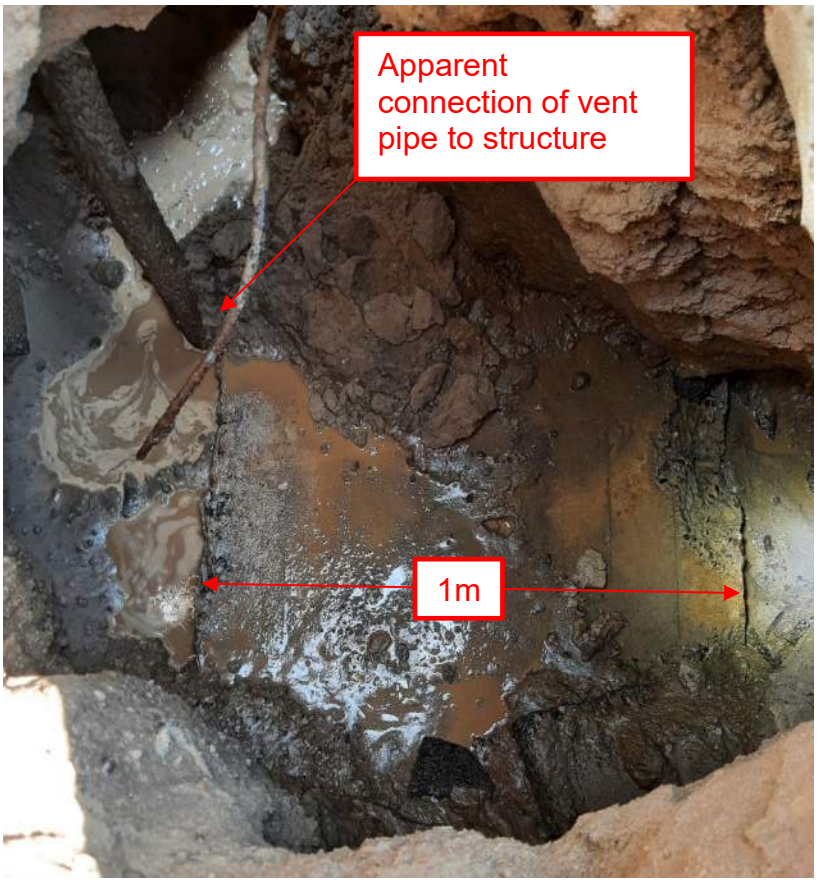


Appended Figure 2: Vent pipe in TH1 (L); Vent pipe seen from TH1 extending downward and westward (R)





Appended Figure 3: Excavated reinforced concrete debris (L); location of TH2 in relation to TH1, with TH1 plugged (R)



Appended Figure 4: Vent pipe and potential concrete structure, from TH2

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Phase I Environmental Site Assessment - 721 Royal York Road, Etobicoke, Ontario

March 10, 2022

Prepared for:
Hossack and Associates Architects

Cambium Reference: 14560-001

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Executive Summary

Hossack and Associates Architects retained Cambium Inc. to complete a Phase I Environmental Site Assessment of the property at 721 Royal York Road in Etobicoke, Ontario (the Site). The 6.45 ha Site consists of an irregular land parcel that is developed with a two-storey slab-on-grade institutional building, currently occupied by the Bishop Allen Academy Secondary School.

The Phase I Environmental Site Assessment was undertaken to identify potential and actual environmental concerns associated with current and historical activities at the Site and surrounding properties, for the purpose of property redevelopment. The Phase I Environmental Site Assessment was conducted consistent with the standard practices established in Canadian Standards Association Standard Z768-01 (Reaffirmed 2016).

The Phase I Environmental Site Assessment identified the following actual and/or potential sources of environmental contamination:

- The on-site operation of an automotive service shop (classroom) and possible waste oil underground storage tank
- Potential on-site fill material of unknown quality
- Potential use of pesticides related to a former on-site greenhouse operations

The Phase I Environmental Site Assessment identified evidence of environmental concerns associated with the Site; therefore, Cambium recommends a Phase II Environmental Site Assessment to evaluate soil and groundwater quality at the Site.

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1.0 Introduction

Hossack and Associates Architects (the 'Client') retained Cambium Inc. (Cambium) to complete a Phase I Environmental Site Assessment (ESA) of the property at 721 Royal York Road in Etobicoke, Ontario (the Site). The due diligence assessment was completed to identify actual and potential environmental concerns associated with current and historical activities at the Site and surrounding properties, in advance of property redevelopment.

This Phase I ESA was conducted consistent with the standard practices established in the Canadian Standards Association (CSA) Standard Z768-01 (CSA, 2016). This report describes the methods used to investigate environmental concerns that may affect the Site at the time of the assessment.

1.1 Scope of Work

The Phase I ESA consisted of the following:

- A review of pertinent background and historical information including documents such as aerial photographs, city directories, and topographic maps (as available).
- A review and summary of available environmental records obtained from the Site and/or public and private sources.
- A site visit and observation of the surrounding properties from publicly accessible areas.
- Interview(s) with person(s) knowledgeable of the history of the Site.
- Preparation of this report documenting the findings of the Phase I ESA and recommendations for further work, if any, required to ascertain the environmental condition of the Site.

No intrusive sampling was completed as part of this Phase I ESA. While the report considers environmental concerns, both past and present, it is limited by the availability of information obtained at the time of the assessment.

2.0 Site Description

The Site consists of a 6.45 ha (15.93 acre), irregular land parcel at 721 Royal York Road in Etobicoke, Ontario. The Universal Transverse Mercator coordinates for the centre of the Site are Zone 17T, 620,635 m east, 4,832,311 m north. The Site location is shown on Figure 1.

The Site is developed with a two-storey, slab-on-grade, institutional building, originally constructed in approximately 1963, with additions constructed in the 1990s, and the early 2000s. The Site property includes 24 portable units, an outdoor running track and football field, and paved parking surfaces. The current occupant is Bishop Allen Academy Secondary School, part of the Toronto Catholic District School Board.

The Site is generally flat, with a gradual slope down to the east. The Site is surrounded by residential and institutional properties, with the east portion of the Site fronting on Mimico Creek.

The Site and surrounding land uses are shown on Figure 2. Photographs of the Site are included in Appendix A.

3.0 Phase I ESA Investigation Methodology

The Phase I ESA methodology is described in the following sub-sections.

3.1 Records Review

Cambium made appropriate inquiries to obtain information and documents as were reasonably ascertainable and pertained to the Site. The following documents were available for review and were used to develop the information database for this report.

- Ontario Base Mapping accessed through Land Information Ontario.
- Natural Heritage mapping accessed through the Ministry of Natural Resources and Forestry and the municipal Official Plan.
- The Physiography of Southern Ontario map (Chapman & Putnam, 2007).
- 1939, 1954, 1965, 1978, 1992, 2005, and 2015 aerial imagery (Figure 3 to Figure 9).
- A Freedom of Information (FOI) request was submitted to the Ministry of the Environment, Conservation and Parks (Ministry). A copy of the FOI request is included in Appendix B.
- A search of available city directories for the Site and surrounding properties was completed by Environmental Risk Information Services Ltd. (ERIS). The search results are included in Appendix C.
- A Property Registry search was completed for the Site by ERIS. A copy of the Property Registry is included in Appendix D.
- Cambium contracted ERIS to provide a Database Report for the Site (ERIS, 2022). ERIS is a private environmental database and information service company. The ERIS report summarizes the findings of a search of various federal, provincial, and private source databases for the Site and properties within a search radius of 250 m from the centre of the Site. This search radius was chosen to ensure that all parts of the adjacent properties were included in the database search. A copy of the ERIS report is provided in Appendix D.

- A request was submitted to Opta Information Intelligence (Opta) for available Fire Insurance Plans (FIPs), Insurance Inspection Reports, and Site Plans pertaining to the Site. A copy of the Opta report is included in Appendix E.
- The *Waste Disposal Site Inventory* (MOE, 1991) was reviewed to identify waste disposal sites within 1,000 m of the Site.
- The *Inventory of Industrial Facilities Producing or Using Coal Tar or Related Tars in Ontario* (MOE, 1988a) was reviewed to identify facilities that produced or used coal or related tars within 1,000 m of the Site.
- The *Inventory of Coal Gasification Plant Waste Sites in Ontario* (MOE, 1988b) was reviewed to identify coal gasification plant waste sites within 1,000 m of the Site.
- Previous environmental reports pertaining to the Site were requested from the Client.

3.2 Site Visit

A site visit was conducted on March 2, 2022, to observe the Site and adjacent properties (from the Site as well as nearby publicly accessible areas) to identify actual and potential on-site and off-site sources of environmental contamination. The site visit was used to identify the following, if present:

- Areas of surface staining or stressed vegetation.
- Areas with fill and/or debris.
- The location, contents, construction details, and volumes of ASTs and USTs, and drums, totes, bins, or other containers.
- Potable or non-potable water sources, including current and/or historical water sources.
- Current and historical sewage works, including locations.
- Wastewater discharge points.
- Water bodies and intermittent ditches.
- Ground cover and surface materials.
- Below ground access points (e.g., manholes).

- Location of current or historical railway lines or spurs.
- Unidentified substances, staining, or corrosion observed at the Site, including within buildings and/or structures.
- Existing structures to obtain a general description of the structures, including the number, age, and height of all buildings.
- Improvements to the building(s) and/or structures at the Site.
- Entries and exits to the buildings and structures.
- Heating and cooling systems of each building and/or structure.
- Drains, pits, and sumps, including documenting the purpose and use.

Additionally, the following aspects were discussed and identified, if applicable:

- Hazardous materials currently and historically stored at the Site.
- By-products and/or wastes of the current or historical operations at the Site.
- Raw materials currently or historically stored/handled at the Site.
- Oil/water separators and/or hydraulic lift equipment (e.g., elevators, in-ground hoists, and loading docks), if any, at the Site.
- Vehicle or equipment maintenance areas.
- Spills or releases of materials, including dates, locations, materials involved, and volumes.

3.3 Site Interviews

In an effort to obtain further information regarding the site use, occupancy history, and environmental conditions at the Site, interviews are conducted with persons knowledgeable of the Site. This may include current occupants and/or owners of the Site, or an individual with control of the Site or authority to act on behalf of the owner; previous owners and/or occupants; and/or, where the owner/occupant is not available, at least one owner or occupant of an adjacent property and one provincial or municipal government official, both of whom should be familiar with the Site.

4.0 Phase I ESA Findings

4.1 Records Review

Information obtained from the documents summarized in Section 3.1 is discussed below.

4.1.1 Miscellaneous Document Review

The following information was obtained from the documents collected as part of the records review:

- A topographic map (MNRF, 2022) of the study area provided information regarding the regional topography, inferred groundwater flow direction, surface water drainage, and general development in the area surrounding the Site. Refer to Figure 1.
    - The ground surface at the Site slopes down towards the east.
    - Surface water drainage at the Site is expected to infiltrate the ground surface and be directed toward catch basins on the Site (or on the adjacent roadways).
    - Regional surface water drainage is expected to flow overland to the east toward Mimico Creek (adjacent to the Site); and overland to the north towards a tributary of the Mimico Creek.
    - Based on the topography and proximity to Mimico Creek, the inferred shallow groundwater flow is easterly. Regionally, groundwater is inferred to flow to the southeast towards Lake Ontario, approximately 2.3 km southeast of the Site.
- A Natural Heritage Areas map (MNRF, 2022b) and the Toronto Official Plan (Toronto, 2022) were reviewed. No Ministry of Natural Resources heritage sites, areas of natural and scientific interest, or environmentally significant/sensitive areas were identified within 250 m of the Site. In addition, the Site did not include an area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan, or property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan applies.

- Physiography of Southern Ontario mapping (Chapman & Putnam, 2007) indicates that the Site is within the Sand Plains physiographic region, characterized by coarse textured glaciolacustrine deposits.
- Overburden is mapped as sand and gravel soils with minor inclusions of silts and clay (OGS, 2010).
- Bedrock is mapped as shale, limestone, dolostone, and siltstone, as a part of the Georgian Bay Formation, Blue Mountain Formation, and Billings Formation (OGS, 2007).
- In the 1939 aerial photograph, a portion of the Site utilized for agricultural purposes, while the remainder of the Site is developed with extensive ornate gardens, greenhouses, and a state house. Surrounding properties at this time are largely developed for agricultural purposes with farmhouses. By 1965, the Site is redeveloped with an institutional-style building, largely as it exists today. Residential neighbourhoods surround the Site. An addition is present by 1992. A detailed review of aerial imagery is presented in Appendix F.
- The Parcel Registry search indicated that the most recent transfer of site ownership was from the City of Toronto to the Toronto Catholic District School Board in May 2004.
- City directories dated 1951 to 2001 were reviewed in approximately five year intervals. The Site is first listed in 1989 as Bella Vista College. In 1996, the Site is listed as Metropolitan Separate School B-L Con D Eco Cat, and as the Toronto District School Board in 2001. There were no significant listings for nearby properties.
- Review of the *Waste Disposal Site Inventory* (MOE, 1991) did not identify waste disposal sites within 1,000 m of the Site. The ERIS report contained one listing in the Anderson's Waste Disposal Sites database. Refer to Section 4.1.2 for further information.
- Review of the *Inventory of Industrial Facilities Producing or Using Coal Tar or Related Tars in Ontario* (MOE, 1988a) did not identify industrial facilities that produced or used coal tar or related tars within 1,000 m of the Site.
- Review of the *Inventory of Coal Gasification Plant Waste Sites in Ontario* (MOE, 1988b) did not identify coal gasification plant waste sites within 1,000 m of the Site.

- Review of 1944 and 1954 FIPs provided by Opta indicate the Site was developed with multiple stone and wood structures: dwellings and auto garages, a single greenhouse on the north portion of the property, and a large greenhouse operation on the south portion of the property. Surrounding properties contained dwellings and an Ontario hydro-electric station to the west.

4.1.2 Regulatory Records Review

Responses to FOI requests to regulatory bodies are summarized below. Copies of the FOI requests and responses are included in Appendix B.

A response from the Ministry was not received prior to completion of this report. The FOI response will be provided under separate cover if it changes the findings of the Phase I ESA.

The ERIS report contained the following pertinent listings for the Site and neighbouring properties. A copy of the ERIS report is provided in Appendix D.

On-Site Records

- The Ontario Regulation 347 Waste Generators Summary database contained listings for most years from 1986 to 2021 for the generation of oil skimmings and sludges, waste oils and lubricants, aromatic solvents, aliphatic solvents, light fuels, halogenated solvents, PCBs, chemicals, alkaline solutions – containing heavy metals, photoprocessing wastes, acid solutions – containing heavy metals, waste compressed gases, pathological wastes, and alkaline waste – containing other metals and non-metals (not cyanide). Not all wastes were listed for each year.

In the absence of documented spills or other indicators of releases (e.g., surface staining), hazardous wastes generation at the Site do not to pose a significant environmental concern for the Site.

Off-Site Records

714 Royal York Road (35 m to the west)

- Ontario Regulation 347 Waste Generators Summary database contains listings registered to Etobicoke Hydro for the generation of oil skimmings and sludges, and inert organic waste, in 1990, 1992 – 2001, and 2017.

755 Royal York Road (adjacent to the north)

- Ontario Regulation 347 Waste Generators Summary database contains listings registered to the Metropolitan Separate School Board for the generation of light fuels, and PCBs from 1986 - 2001.

In the absence of documented spills or other indicators of releases (e.g., surface staining), hazardous waste generation at 714 Royal York Road and 755 Royal York Road does not to pose a significant environmental concern for the Site.

64 Grenview Boulevard South (140 m to the northeast)

- The Ontario Spills and the TSSA Historic Incidents databases contain listings for a furnace oil leak in 2009. No details were available of the quantity of fuel that was released, or whether the fuel oil was properly remediated.

The property is east of Mimico Creek and cross-gradient with respect to the inferred groundwater flow direction. Accordingly, the spill does not pose an environmental concern for the Site.

Prince Edward Drive and Berry Road (260 m to the east)

- The Anderson's Waste Disposal Sites database contains one listing for a landfill, due to a record dated December 1945 detailing the import of 2,000 loads of ash fill material to the property.

Based on the distance of the property (260 m)and direction (cross- to down-gradient) from the Site with respect to the inferred groundwater flow direction, the importation of ash fill does not pose an environmental concern for the Site.

Other ERIS Listings

The ERIS report also contained additional off-site listings in various databases. Review of these records indicated the data was for properties not in close proximity to the Site or was not environmentally significant.

Several unplottable records were identified in the ERIS report. A review of these records did not identify additional environmental concerns for the Site.

4.2 Site Visit

Mr. Matthew Cunningham C.E.T., T.Ag., conducted a site visit on March 2, 2022. Doug McDougall, the head caretaker at the Site, was available to provide access.

The weather during the site visit was cool and clear. Due to partial snow cover at the time of the assessment, visual observations of some of the landscaped areas of the Site were not possible. This limitation is not expected to affect or limit the findings and conclusions of this Phase I ESA. A photographic record of the site visit is presented in Appendix A. The site visit findings are described below.

4.2.1 Buildings and Site Usage

The Site is occupied by a two-storey slab-on-grade institutional building, originally constructed in approximately 1963, with additions constructed in the 1990s, and 2000s. The building comprises about 12,876 m^2 of finished interior space, with an additional 1,400 m^2 of finished classroom space in on-site portables. Access to the Site is from Royal York Road. Landscaped areas are located at street side (west side), a running track and football field are present on the south side of the Site, and asphalt parking south and west the building.

4.2.2 Storage Tanks

Reportedly, a waste oil UST may have been present and used by the former automotive shop classroom. The automotive shop classroom was located in the southeast portion of the building with overhead doors exiting to the parking lot area. A cut was observed in the asphalt exterior to the former automotive shop area. Three in-floor steel man-hole caps were observed

in the former automotive shop area but could not be opened for further inspection. One floor drain in the former automotive shop area was filled with soil and miscellaneous garbage. The former automotive shop and potential waste oil UST pose an environmental concern for the Site.

The building is heated by natural gas and no backup generator is present on the Site.

Cambium's presence/absence assessment of storage tanks was based on visual observations, review of available historical mapping (e.g., FIPs), and information available from relevant regulatory agencies (e.g., the TSSA). Visual observation may not identify storage tanks that may have been present historically or that currently exist without documentation.

A roughly 50 L hydraulic oil AST, used in the operation of the on-site elevator, was present in a utility room accessed via the roof. The AST was observed to be in good condition. A service contractor, CEE Elevator Service Inc., performs monthly inspections of the hydraulic oil AST levels, and of the elevator itself.

In the absence of documented leaks or other indicators of releases (e.g., surface staining), the hydraulic elevator and AST pose a low environmental concern for the Site.

4.2.3 Materials and Storage

Significant quantities of chemicals or materials storage were not observed on the Site. Small amounts of chemicals, including microbicide and corrosion inhibitors for the radiant heating and cooling system, cleaning chemicals, compressor oil, and classroom laboratory chemicals, were observed stored in sealed containers of up to 20 L. These chemicals were in appropriate containers and stored on shelves. No significant staining or spills were observed in the vicinity of these materials.

Approximately 25 small backup batteries are present, scattered throughout the Site building, utilized to light access and egress pathways in the event of a power failure event. The batteries were observed to be in good condition, and are kept in sealed, wall-mounted enclosures.

4.2.4 Oil/Water Separators

No oil/water separators were observed during the site visit.

4.2.5 Vehicle and Equipment Maintenance

No vehicle or equipment maintenance was observed during the site visit. Reportedly, a portion of the Site was historically used as an automotive shop class.

The presence of former automotive shop operations poses an environmental concern for the Site.

4.2.6 Waste – Solid, Liquid, or Hazardous/Industrial

Domestic waste is stored in on-site containers and is picked-up regularly for disposal. A woodchip and sawdust cyclone silo is present along the south building wall, which collects wood particulate from the shop class. The silo is emptied on a quarterly basis by a contracted third-party company, for off-site disposal.

The ERIS report contained listings as early as 1986 for the generation of hazardous wastes at the Site. In the absence of documented spills or other indicators of releases (e.g., surface staining), hazardous wastes generation at the Site do not to pose a significant environmental concern for the Site.

4.2.7 Sumps, Drains, Pits, and Lagoons

No pits or lagoons were observed during the site visit. Floor drains were observed in the boiler room, utility rooms, and the former automotive shop classroom. A sump was observed within the boiler room. No petroleum hydrocarbon sheen was noted on the surface of the water within the drains or sump.

4.2.8 Spills

No spills were observed or reported during the site visit.

4.2.9 Stains

No significant staining was observed during the site visit.

4.2.10 Fill

Hydro poles were installed at the Site to support the addition of portable unit. Reportedly, waste fill material was visually identified and excavated during installation of the hydro poles.

The presence of fill material of unknown quality poses an environmental concern for the Site.

4.2.11 Air Emissions

There was no evidence of sources of process-related air emissions at the Site.

4.2.12 Special Attention Items

4.2.12.1 Polychlorinated Biphenyls

Fluorescent light fixtures were observed throughout the building. Based on the age of the building (circa 1960s), PCB containing light ballasts are potentially present. Prior to disposal, light ballasts should be checked for the presence or absence of PCBs to determine proper disposal. Several transformers were observed at the Site, potentially containing PCBs, and the ERIS report contained listings for the generation of PCB wastes. Special consideration should be provided for on-site transformers, and PCB containing light ballasts prior to any servicing of these units, renovation work, or materials disposal.

4.2.12.2 Asbestos

Suspected asbestos-containing materials (ACM) observed during the site visit included parging cement on pipe fittings, pipe wrap, fireproofing spray, acoustic ceiling tiles, and vinyl floor tiles. These materials were in generally good condition.

4.2.12.3 Lead

Based on the age (circa 1960s) of the building, there is potential for the presence of lead in originally painted surfaces. Painted surfaces were observed to be in good condition throughout the Site building.

4.2.12.4 Microbial Contamination and Mould

No evidence of mould (e.g., odour or surficial mould) was observed during the site visit.

4.2.12.5 Ozone Depleting Substances

Ozone depleting substances may be present as R22 refrigerant in roof top heating, ventilation, and air conditioning (HVAC) units.

No evidence of ozone depleting substances was observed at the Site with the possible exception of refrigerants in on-site refrigerators and fire extinguishers.

4.2.12.6 Urea Formaldehyde Foam Insulation

No evidence of urea formaldehyde foam insulation (UFFI) was observed during the site visit; however, based on the age (circa 1960s) of the building, it is possible that UFFI is within building cavities. The use of UFFI was banned in Canada in 1980.

4.2.12.7 Radon, Noise, Electric and Magnetic Fields, and Vibration

Radon is a colourless, odourless, and tasteless gas formed by the natural breakdown of uranium in soil, rocks and water. Based on a review of the Radon Potential Map of Ontario (REMC, 2013), the Site is within Zone 3 for radon potential. Zone 3 depicts geologic conditions where lower radon concentrations might be found when compared to Zones 1 or 2. Actual radon concentrations can only be determined using an on-site test.

A review of testing completed in residential homes by the City of Toronto Health Unit indicated the risk of radon concentrations in Etobicoke is low. Only 3% of residences tested in The City of Toronto Health Unit area had radon at levels exceeding the Canadian standard of 200 Bq/m^3 (Carex, 2019).

No significant sources of noise, electric or magnetic fields, or vibration were observed during the site visit.

4.2.13 Pesticides and Herbicides

No pesticides or insecticides were observed during the site visit. Reportedly, a greenhouse was present at the Site as recently as 15 years ago, which was located on a cement pad on the north-central portion of the Site building. The presence of this greenhouse is not expected to pose as an environmental concern for the Site.

According to the 1944 and 1955 FIPs greenhouses were present at the Site. The potential use of pesticides related to former greenhouse operations, poses an environmental concern for the Site.

4.2.14 Potable Water Supply

The Site is serviced by a municipal water system. No evidence of drinking water wells was observed during the site visit.

4.2.15 Septic Fields

The Site is serviced by a municipal sewer system. No evidence of a septic field was observed during the site visit.

4.2.16 Environmental Monitoring

No explicit evidence of previous environmental monitoring (e.g., groundwater monitoring wells) was observed or reported during the site visit. Small circular patches observed in the asphalt surrounding the building, may be an indication of previous borehole advancement at the Site. Reportedly, no environmental monitoring work has previously been completed at the Site.

4.2.17 Stressed Vegetation

There was no evidence of stressed vegetation or differential plant growth observed during the site visit.

4.2.18 Fires

There was no evidence of historical fires observed during the site visit. Reportedly, the Site has had two fires within the Site building. A staff washroom by the kitchen reportedly caught fire in 2018 during plumbing renovation work. A second fire occurred in 2014 in one of the HVAC utility rooms. The areas of the building damaged by fire were reportedly repaired and renovated, and any damaged materials were removed from the Site. These historical fires do not pose a significant environmental concern for the Site.

4.2.19 Odours

No strong, pungent, or noxious odours were observed during the site visit.

4.2.20 Unidentified Substances

No unidentified substances were observed or reported during the site visit.

4.2.21 Adjacent Land Uses

The properties within 100 m surrounding the Site are utilized for residential and institutional purposes, with the east portion of the Site fronting on Mimico Creek. No significant environmental concerns are expected associated with the current and former uses of the adjacent properties.

Adjacent property uses include:

North – Institutional - École élémentaire catholique Sainte-Marguerite-d'Youville

South – Residential

East – Parkland - Mimico Creek

West – Residential

4.3 Interviews

Cambium interviewed Doug Mcdougall, head caretaker at the Site. Mr. McDougall has been employed at the Site in various capacities since 2010. Information obtained during the interview is incorporated throughout Section 4.0.

5.0 Environmental Concerns

Based on the findings of the records review and site visit, the following sources of environmental concern were identified:

- The on-site operation of an automotive service shop (classroom) and possible waste oil underground storage tank
- Potential on-site fill material of unknown quality
- Potential use of pesticides related to a former on-site greenhouse operations

6.0 Conclusions and Recommendations

Conclusions and recommendations regarding the current environmental conditions at the Site were based solely on the results from the document review, regulatory records review, and site visit.

The Phase I ESA identified evidence of environmental concerns associated with the Site; therefore, Cambium recommends a Phase II ESA to evaluate soil and groundwater quality at the Site.

Due to the age of the building and the potential for designated substances (e.g., asbestos, lead), a designated substance survey should be completed prior to renovation or demolition of the site building.

A response to an FOI request to the Ministry was not received prior to completion of the report. The response will be provided under separate cover if it changes the findings of the Phase I ESA.

7.0 Qualifications of the Assessor

This Phase I ESA was completed by Mr. Matthew Cunningham, under the supervision of Mrs. Natalie Wright as per CSA Standard Z768-01. Credentials are presented in Appendix G. Information presented in this report is true and accurate to the best of the assessors' knowledge.

Respectfully submitted,



Cambium Inc.

Matthew Cunningham, C.E.T., T.Ag
Project Coordinator

Natalie Wright, P.Eng, PMP
Project Manager

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9.0 Standard Limitations

Limited Warranty

In performing work on behalf of a client, Cambium relies on its client to provide instructions on the scope of its retainer and, on that basis, Cambium determines the precise nature of the work to be performed. Cambium undertakes all work in accordance with applicable accepted industry practices and standards. Unless required under local laws, other than as expressly stated herein, no other warranties or conditions, either expressed or implied, are made regarding the services, work or reports provided.

Reliance on Materials and Information

The findings and results presented in reports prepared by Cambium are based on the materials and information provided by the client to Cambium and on the facts, conditions and circumstances encountered by Cambium during the performance of the work requested by the client. In formulating its findings and results into a report, Cambium assumes that the information and materials provided by the client or obtained by Cambium from the client or otherwise are factual, accurate and represent a true depiction of the circumstances that exist. Cambium relies on its client to inform Cambium if there are changes to any such information and materials. Cambium does not review, analyze or attempt to verify the accuracy or completeness of the information or materials provided, or circumstances encountered, other than in accordance with applicable accepted industry practice. Cambium will not be responsible for matters arising from incomplete, incorrect or misleading information or from facts or circumstances that are not fully disclosed to or that are concealed from Cambium during the provision of services, work or reports.

Facts, conditions, information and circumstances may vary with time and locations and Cambium's work is based on a review of such matters as they existed at the particular time and location indicated in its reports. No assurance is made by Cambium that the facts, conditions, information, circumstances or any underlying assumptions made by Cambium in connection with the work performed will not change after the work is completed and a report is submitted. If any such changes occur or additional information is obtained, Cambium should be advised and requested to consider if the changes or additional information affect its findings or results.

When preparing reports, Cambium considers applicable legislation, regulations, governmental guidelines and policies to the extent they are within its knowledge, but Cambium is not qualified to advise with respect to legal matters. The presentation of information regarding applicable legislation, regulations, governmental guidelines and policies is for information only and is not intended to and should not be interpreted as constituting a legal opinion concerning the work completed or conditions outlined in a report. All legal matters should be reviewed and considered by an appropriately qualified legal practitioner.

Site Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

Only conditions at the site and locations chosen for study by the client are evaluated; no adjacent or other properties are evaluated unless specifically requested by the client. Any physical or other aspects of the site chosen for study by the client, or any other matter not specifically addressed in a report prepared by Cambium, are beyond the scope of the work performed by Cambium and such matters have not been investigated or addressed.

Reliance

Cambium's services, work and reports may be relied on by the client and its corporate directors and officers, employees, and professional advisors. Cambium is not responsible for the use of its work or reports by any other party, or for the reliance on, or for any decision which is made by any party using the services or work performed by or a report prepared by Cambium without Cambium's express written consent. Any party that relies on services or work performed by Cambium or a report prepared by Cambium without Cambium's express written consent, does so at its own risk. No report of Cambium may be disclosed or referred to in any public document without Cambium's express prior written consent. Cambium specifically disclaims any liability or responsibility to any such party for any loss, damage, expense, fine, penalty or other such thing which may arise or result from the use of any information, recommendation or other matter arising from the services, work or reports provided by Cambium.

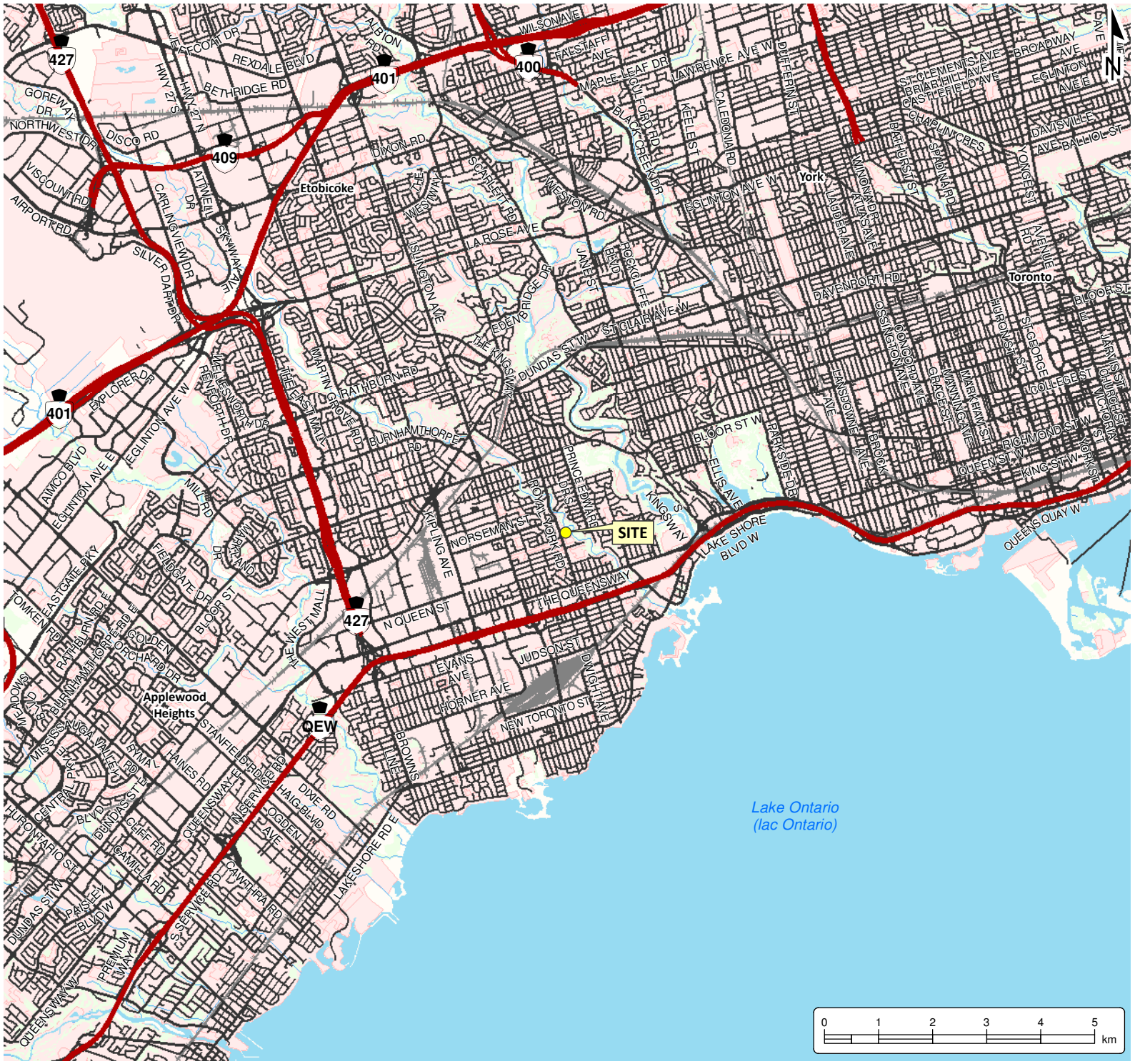
Limitation of Liability

Potential liability to the client arising out of the report is limited to the amount of Cambium's professional liability insurance coverage. Cambium shall only be liable for direct damages to the extent caused by Cambium's negligence and/or breach of contract. Cambium shall not be liable for consequential damages.

Personal Liability

The client expressly agrees that Cambium employees shall have no personal liability to the client with respect to a claim, whether in contract, tort and/or other cause of action in law. Furthermore, the client agrees that it will bring no proceedings nor take any action in any court of law against Cambium employees in their personal capacity.

Appended Figures



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

- Highway
- Major Road
- Minor Road
- Railroad
- Watercourse
- Water Area
- Wooded Area
- Built Up Area

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.

194 Sophia Street
Peterborough, Ontario, K9H 1E5
Tel: (705) 742.7900 Fax: (705) 742.7907
www.cambium-inc.com

SITE LOCATION MAP

Project No.: 14560-001		Date: March 2022 Rev.:	
Scale: 1:100,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: NW	Figure:	1

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 1 - Site Location Map.mxd



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

Site (approximate)

LAND USE

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SITE PLAN AND SURROUNDING LAND USE

Project No.: 14560-001		Date: March 2022	Rev.:
Scale: 1:3,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: NW	Figure: 2	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 2 - Site Plan and Surrounding Land Use.mxd



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

Site (approximate)

Notes:
- 1939 imagery was obtained from the City of Toronto online GIS.
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1939 AERIAL IMAGERY

Project No.: 14560-001		Date: March 2022	Rev.:
Scale: 1:3,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: NW	Figure: 3	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 3 - 1939 Aerial Imagery.mxd



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

Site (approximate)

Notes:
- 1954 imagery was obtained from the City of Toronto online GIS.
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1954 AERIAL IMAGERY

Project No.: 14560-001		Date: March 2022	Rev.:
Scale: 1:3,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: NW	Figure: 4	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 4 - 1954 Aerial Imagery.mxd



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES
ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

Site (approximate)

Notes:
- 1965 imagery was obtained from the City of Toronto online GIS.
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1965 AERIAL IMAGERY

Project No.:	Date:
14560-001	March 2022
	Rev.:
Scale:	Projection:
1:3,000	NAD 1983 UTM Zone 17N
Created by: ACS	Checked by: NW
Figure: 5	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 5 - 1965 Aerial Imagery.mxd



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

Site (approximate)

Notes:
- 1978 imagery was obtained from the City of Toronto online GIS.
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1978 AERIAL IMAGERY

Project No.: 14560-001		Date: March 2022	Rev.:
Scale: 1:3,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: NW	Figure: 6	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 6 - 1978 Aerial Imagery.mxd



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES
ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

Site (approximate)

Notes:
- 1992 imagery was obtained from the Toronto Public Library online hisotrical photo database.
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1992 AERIAL IMAGERY

Project No.: 14560-001		Date: March 2022	Rev.:
Scale: 1:3,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: NW	Figure: 7	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 7 - 1992 Aerial Imagery.mxd



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

Site (approximate)

Notes:
- 2005 imagery was obtained from the City of Toronto online GIS.
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
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2005 AERIAL IMAGERY

Project No.: 14560-001		Date: March 2022 Rev.:	
Scale: 1:3,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: NW	Figure:	8

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 8 - 2005 Aerial Imagery.mxd



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

Site (approximate)

Notes:
- 2015 imagery was obtained from the City of Toronto online GIS.
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
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2015 AERIAL IMAGERY

Project No.: 14560-001		Date: March 2022	Rev.:
Scale: 1:3,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: NW	Figure: 9	

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 9 - 2015 Aerial Imagery.mxd



PHASE I ENVIRONMENTAL SITE ASSESSMENT

HOSSACK AND ASSOCIATES ARCHITECTS
721 Royal York Rd
Etobicoke, Ontario

LEGEND

Site (approximate)

Notes:
- 2021 imagery was obtained from the City of Toronto online GIS.
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
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2021 AERIAL IMAGERY

Project No.: 14560-001		Date: March 2022 Rev.:	
Scale: 1:3,000		Projection: NAD 1983 UTM Zone 17N	
Created by: ACS	Checked by: NW	Figure:	**10**

O:\GIS\MXDs\14500-14999\14560-001 Hossack & Associates Architects - Bishop Allen Academy\2022-03-07 FIG 10 - 2021 Aerial Imagery.mxd

Appendix A

Photographs



Photo 1 Site building, fronting on Royal York Road, February 2022.



Photo 2 Boiler room chemical storage, February 2022.



Photo 3 Science classroom chemical storage, February 2022.



Photo 4 Science classroom chemical storage, February 2022.



Photo 5 On-site elevator, February 2022.



Photo 6 Elevator hydraulic oil reservoir, February 2022.

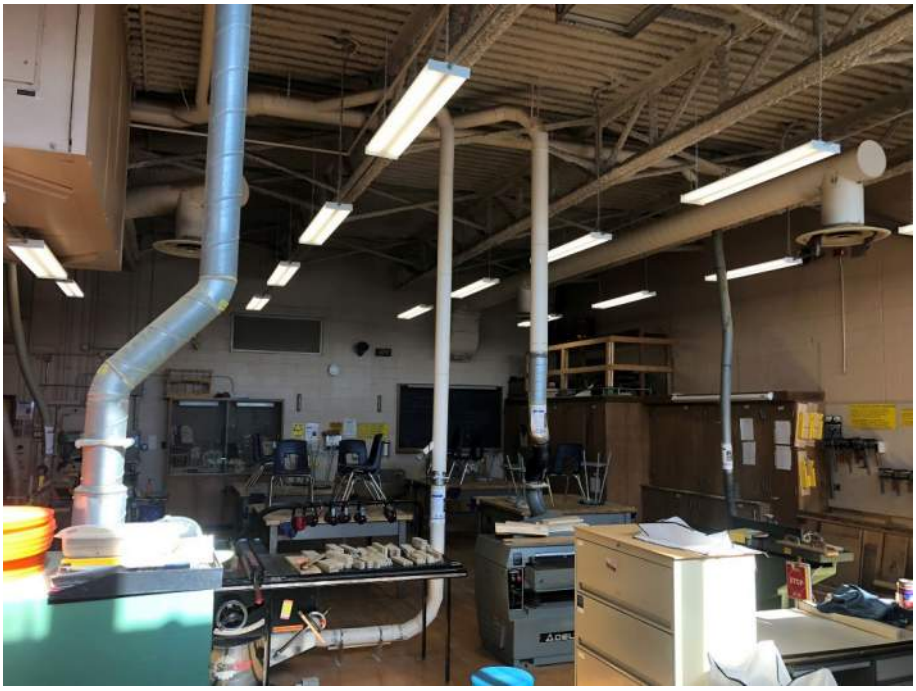


Photo 7 Shop class with dust collection, February 2022.



Photo 8 Shop class sawdust silo, February 2022.



Photo 9 Suspect former UST area, February 2022.



Photo 10 Manhole covers in area of suspect former UST, February 2022.



Photo 11 Potential historic environmental borehole location, February 2022.



Photo 12 Pipe wrap – potential ACM, February 2022.

Appendix B

Freedom of Information Requests

Ontario

Ministry of the Environment, Conservation and Parks

Freedom of Information Request for Property Information

Instructions

Use this form to:

- submit and pay for a new FOI request for access to records/information about a property
- pay for a deposit or a final fee on an existing FOI request

Fields marked with an asterisk (*) are mandatory.

Are you: *

☑ Submitting a new FOI Request for Property Information

☐ Paying a deposit or final fee for an existing FOI Request for Property Information

Section 1 – Description of Records Requested

Time Period for Records Requested

From (yyyy/mm/dd) * 1900/01/01

To (yyyy/mm/dd) * 2022/03/03

Type of Record(s) *

☑ All environmental records relating to the identified property/site exclusive of Environmental Approvals and Registrations

☐ Environmental Approvals and Registrations (e.g. Environmental Compliance Approvals; Certificate of Approval; Renewable Energy Approvals; Environmental Activity and Sector Registry Registrations)

Select only if you are seeking access to an Approval or Registration that is not publicly available or if you are also seeking supporting documents relating to the Approval or Registration.

Operator and vendor Pesticide Licenses from September 4, 2018, final Approvals and Registrations are publicly available on the Access Environment website at:
https://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/GoSearch.action?search=basic&lang=en.

Records of Site Condition (RSC) records are publicly available on the Brownfields Environmental Site Registry (BSER).

- RSC records between 2004 to June 30, 2011 are available at: https://www.lrcsde.lrc.gov.on.ca/besrWebPublic/generalSearch
- RSC records filed after July 2011 are available at: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/earchFiledRsc_search?request_locale=en

☐ Other Specific Document(s)

List any record(s) that should be excluded from the scope of your request (e.g. email correspondences; records originating from your organization/business; records already in your possession, prior year(s) annual reports for approvals)

 © Queen's Printer for Ontario, 2021

Please provide any additional relevant information relating to your request. For example, does your request relate to any other ministry business? Please note that this information is being requested only in order to provide contextual information to the Access and Privacy Office and will not in any way affect or expedite the status of any related ministry business identified.

Section 2 – Requester Information

Last Name * Cunningham

First Name * Matthew

Middle Initial

Business/Organization Name (if applicable or indicate "N/A") * Cambium Inc.

Project/Reference Number (if applicable) 14560-001

Are you submitting this request on behalf of a client? *

☐ Yes ☑ No

Mailing Address

Unit Number 102

Street Number * 135

Street Name * Bayfield Street

PO Box

City/Town * Barrie

Province * ON

Postal Code * L4M 3B3

Telephone Number * 705-719-0700

ext.

Email Address * matt.cunningham@cambium-inc.com

Is there an alternate contact (e.g. office admin)? *

☐ Yes ☑ No

Section 3 – Current Property Address Information

Is the property a:

☐ Park ☐ Lake ☐ First Nation Band ☐ Wind Farm ☐ Federal Land ☐ Island ☐ Unsurveyed Land

Are you requesting information about multiple addresses? *

☐ Yes ☑ No

Property Address

Unit Number

Street Number 721

Street Name Royal York Road

Full Lot Number

Concession

Geographic Township

City/Town/Village * Etobicoke

Closest Intersection

Royal York Road & Coney Rd

Section 4 – Previous Property Address Information

Do you want the ministry to search all prior historical addresses for this property/site for the time period of the records requested? *

☐ Yes ☑ No

Section 5 – Supporting Documents

Please upload any documents (e.g. Maps) that are relevant to your FOI request.

The total size of all attachments must not be more than 8 MB.

1. File Name

Total File Size

Appendix C
City Directories

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

CITY DIRECTORY

Project Property: *721 Royal York Road, Etobicoke, Ontario*
Report Type: *City Directory*
Order No: *22021000292*
Information Source: *Etobicoke-Polk City Directory & Criss Cross Directories*
Date Completed: *18/02/2022*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

City Directory Information Source
Etobicoke-Polk City Directory & Criss Cross Directories

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 2001	
Site Listing:	-Toronto Catholic School Board
Adjacent Properties:	
701 Royal York Road	-Residential (1 tenant)
708 Royal York Road	-Residential (1 tenant)
718 Royal York Road	-Residential (1 tenant)
730 Royal York Road	-Residential (1 tenant)
734 Royal York Road	-Residential (1 tenant)
738 Royal York Road	-Rosemount Retirement Residence
4 Oakfield Drive	-Residential (1 tenant)

10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Residential (1 tenant)
20 Oakfield Drive	-Meteor Electric Co.

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 1996	
Site Listing:	-Metropolitan Separate School B-L Con D Eco Cat
Adjacent Properties:	
701 Royal York Road	-Address Not Listed
708 Royal York Road	-Residential (1 tenant)
718 Royal York Road	-Residential (1 tenant)
730 Royal York Road	-Residential (1 tenant)
734 Royal York Road	-Residential (1 tenant)

738 Royal York Road	-Rosemount Retirement Residence
4 Oakfield Drive	-Residential (1 tenant)
10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Residential (1 tenant)
20 Oakfield Drive	-Meteor Electric Co.

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 1989	
Site Listing:	-Bella Vista College
Adjacent Properties:	
701 Royal York Road	-Under Construction
708 Royal York Road	-Residential (1 tenant)
718 Royal York Road	-Residential (1 tenant)

730 Royal York Road	-Residential (1 tenant)
734 Royal York Road	-Residential (1 tenant)
738 Royal York Road	-Rosemount Retirement Residence
4 Oakfield Drive	-Residential (1 tenant)
10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Residential (1 tenant)
20 Oakfield Drive	-Residential (1 tenant)

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 1980	
Site Listing:	-Address Not Listed
Adjacent Properties:	
701 Royal York Road	-Residential (1 tenant)

708 Royal York Road	-Residential (1 tenant)
718 Royal York Road	-Residential (1 tenant)
730 Royal York Road	-Address Not Listed
734 Royal York Road	-Address Not Listed
738 Royal York Road	-Address Not Listed
4 Oakfield Drive	-Residential (1 tenant)
10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Residential (1 tenant)
20 Oakfield Drive	-Residential (1 tenant)

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 1975	
Site Listing:	-Address Not Listed

Adjacent Properties:	
701 Royal York Road	-Residential (1 tenant)
708 Royal York Road	-No Return
718 Royal York Road	-Residential (1 tenant)
730 Royal York Road	-Address Not Listed
734 Royal York Road	-Address Not Listed
738 Royal York Road	-Address Not Listed
4 Oakfield Drive	-Residential (1 tenant)
10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Residential (1 tenant)
20 Oakfield Drive	-Residential (1 tenant)

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario

Year: 1971	
Site Listing:	-Address Not Listed
Adjacent Properties:	
701 Royal York Road	-Address Not Listed
708 Royal York Road	-Residential (1 tenant)
718 Royal York Road	-No Return
730 Royal York Road	-Residential (1 tenant)
734 Royal York Road	-Residential (1 tenant)
738 Royal York Road	-No Return
4 Oakfield Drive	-Residential (1 tenant)
10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Residential (1 tenant)

20 Oakfield Drive	-Residential (1 tenant)

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 1964	
Site Listing:	-Address Not Listed
Adjacent Properties:	
701 Royal York Road	-Best George CL
708 Royal York Road	-Address Not Listed
718 Royal York Road	-Address Not Listed
730 Royal York Road	-Address Not Listed
734 Royal York Road	-Address Not Listed
738 Royal York Road	-Address Not Listed
4 Oakfield Drive	-Residential (1 tenant)

10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Residential (1 tenant)
20 Oakfield Drive	-Residential (1 tenant)

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 1959	
Site Listing:	-Address Not Listed
Adjacent Properties:	
701 Royal York Road	-Address Not Listed
708 Royal York Road	-Address Not Listed
718 Royal York Road	-Address Not Listed
730 Royal York Road	-Address Not Listed
734 Royal York Road	-Address Not Listed

738 Royal York Road	-Address Not Listed
4 Oakfield Drive	-Residential (1 tenant)
10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Residential (1 tenant)
20 Oakfield Drive	-Residential (1 tenant)

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 1955	
Site Listing:	-Address Not Listed
Adjacent Properties:	
701 Royal York Road	-Address Not Listed
708 Royal York Road	-Address Not Listed
718 Royal York Road	-Address Not Listed

730 Royal York Road	-Address Not Listed
734 Royal York Road	-Address Not Listed
738 Royal York Road	-Address Not Listed
4 Oakfield Drive	-Residential (1 tenant)
10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Address Not Listed
20 Oakfield Drive	-Hawkins Geo CL

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 1955	
Site Listing:	-Address Not Listed
Adjacent Properties:	
701 Royal York Road	-Address Not Listed

708 Royal York Road	-Address Not Listed
718 Royal York Road	-Address Not Listed
730 Royal York Road	-Address Not Listed
734 Royal York Road	-Address Not Listed
738 Royal York Road	-Address Not Listed
4 Oakfield Drive	-Residential (1 tenant)
10 Oakfield Drive	-Residential (1 tenant)
16 Oakfield Drive	-Address Not Listed
20 Oakfield Drive	-Hawkins Geo CL

PROJECT NUMBER: 22021000292	
Site Address:	721 Royal York Road, Etobicoke, Ontario
Year: 1951	
Site Listing:	-Address Not Listed

Adjacent Properties:	
701 Royal York Road	-Address Not Listed
708 Royal York Road	-Address Not Listed
718 Royal York Road	-Address Not Listed
730 Royal York Road	-Address Not Listed
734 Royal York Road	-Address Not Listed
738 Royal York Road	-Address Not Listed
4 Oakfield Drive	-Address Not Listed
10 Oakfield Drive	-Address Not Listed
16 Oakfield Drive	-Address Not Listed
20 Oakfield Drive	-Address Not Listed

-All listings for businesses were listed as they are in the city directory.

-Listings that are residential are listed as “residential” with the number of tenants. The name of the residential tenant is not listed in the above city directory.

Appendix D

Parcel Registry and ERIS Report

PROPERTY DESCRIPTION: PT LT 3, RANGE 1 KINGS MILL RESERVE , AS IN EB280146; ; ETOBICOKE , CITY OF TORONTO

PROPERTY REMARKS:

ESTATE/QUALIFIER:
FEE SIMPLE
LT CONVERSION QUALIFIED

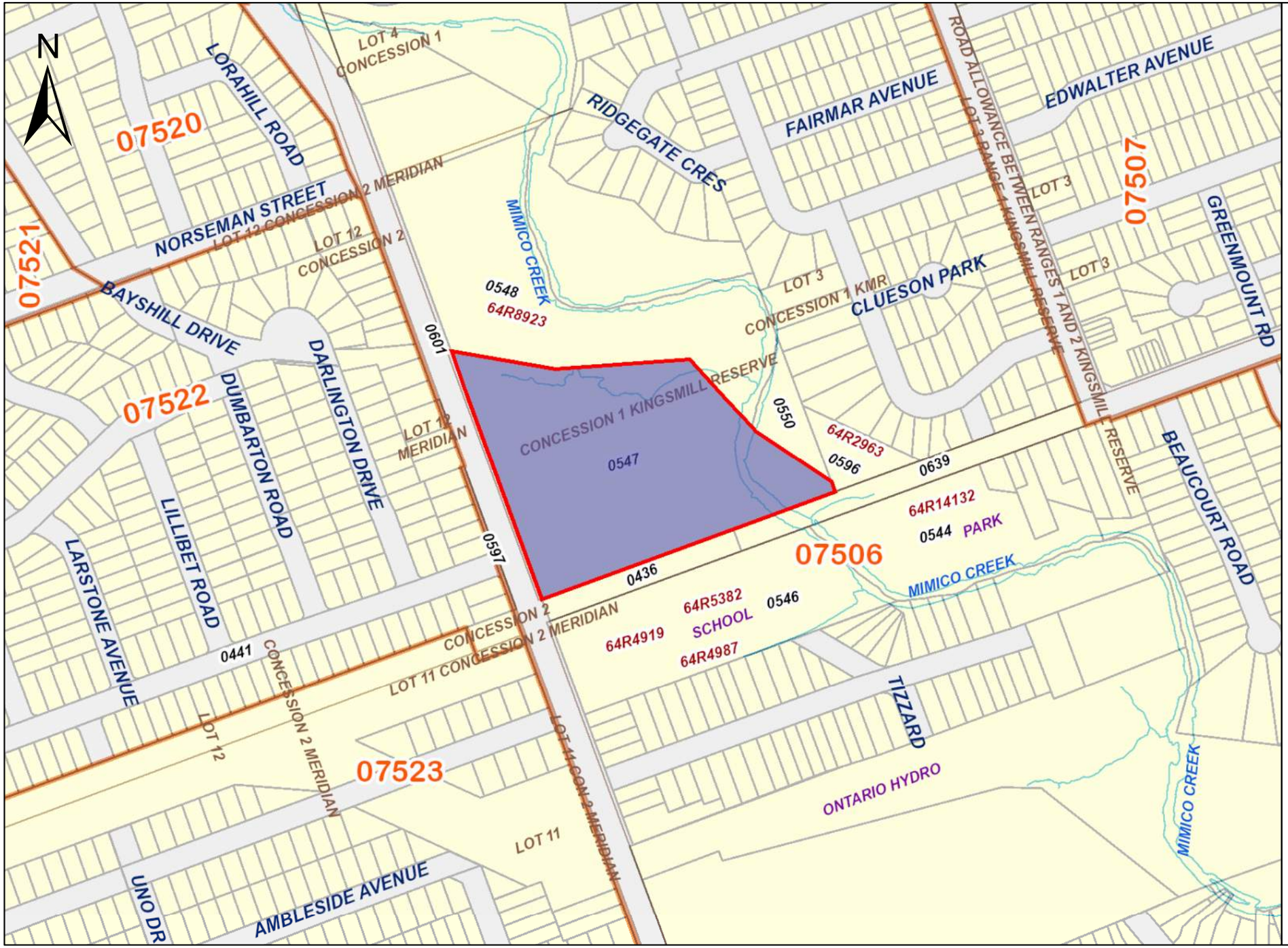
RECENTLY:
FIRST CONVERSION FROM BOOK 1776

PIN CREATION DATE:
1995/09/25

OWNERS' NAMES
TORONTO DISTRICT SCHOOL BOARD

CAPACITY SHARE
BENO

REG. NUM.	DATE	INSTRUMENT TYPE	AMOUNT	PARTIES FROM	PARTIES TO	CERT/ CHKD
EFFECTIVE 2000/07/29 THE NOTATION OF THE "BLOCK IMPLEMENTATION DATE" OF 1995/09/25 ON THIS PIN						
WAS REPLACED WITH THE "PIN CREATION DATE" OF 1995/09/25						
*** PRINTOUT INCLUDES ALL DOCUMENT TYPES (DELETED INSTRUMENTS NOT INCLUDED) ***						
***SUBJECT, ON FIRST REGISTRATION UNDER THE LAND TITLES ACT, TO:*						
*** SUBSECTION 44(1) OF THE LAND TITLES ACT, EXCEPT PARAGRAPH 11, PARAGRAPH 14, PROVINCIAL SUCCESSION DUTIES **						
*** AND ESCHEATS OR FORFEITURE TO THE CROWN.*						
*** THE RIGHTS OF ANY PERSON WHO WOULD, BUT FOR THE LAND TITLES ACT, BE ENTITLED TO THE LAND OR ANY PART OF*						
*** IT THROUGH LENGTH OF ADVERSE POSSESSION, PRESCRIPTION, MISDESCRIPTION OR BOUNDARIES SETTLED BY*						
*** CONVENTION.*						
*** ANY LEASE TO WHICH THE SUBSECTION 70(2) OF THE REGISTRY ACT APPLIES.*						
***DATE OF CONVERSION TO LAND TITLES: 1995/09/25 ***						
EB280146	1964/01/02	TRANSFER	$1		THE BOARD OF EDUCATION FOR THE TOWNSHIP OF ETOBICOKE	C
AT465007	2004/04/26	APL CH NAME OWNER		THE BOARD OF EDUCATION FOR THE TOWNSHIP OF ETOBICOKE	TORONTO DISTRICT SCHOOL BOARD	C
AT491772	2004/05/21	NOTICE		CITY OF TORONTO	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	C



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SCALE

0 30 60 90 120 150
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PROPERTY INDEX MAP

TORONTO(No. 80)

LEGEND

FREEHOLD PROPERTY	
LEASEHOLD PROPERTY	
LIMITED INTEREST PROPERTY	
CONDOMINIUM PROPERTY	
RETIRED PIN (MAP UPDATE PENDING)	
PROPERTY NUMBER	*0449*
BLOCK NUMBER	**08050**
GEOGRAPHIC FABRIC	
EASEMENT	

THIS IS NOT A PLAN OF SURVEY

NOTES

REVIEW THE TITLE RECORDS FOR COMPLETE PROPERTY INFORMATION AS THIS MAP MAY NOT REFLECT RECENT REGISTRATIONS

THIS MAP WAS COMPILED FROM PLANS AND DOCUMENTS RECORDED IN THE LAND REGISTRATION SYSTEM AND HAS BEEN PREPARED FOR PROPERTY INDEXING PURPOSES ONLY

FOR DIMENSIONS OF PROPERTIES BOUNDARIES SEE RECORDED PLANS AND DOCUMENTS

ONLY MAJOR EASEMENTS ARE SHOWN

REFERENCE PLANS UNDERLYING MORE RECENT REFERENCE PLANS ARE NOT ILLUSTRATED

Ontario

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DATABASE REPORT

Project Property:	*Phase I ESA - 721 Royal York Road, Etobicoke, ON* *721 Royal York Rd, Etobicoke* *Etobicoke ON M8Y 2T3*
Project No:	*14560-P*
Report Type:	*Quote - Custom-Build Your Own Report*
Order No:	*22021000292*
Requested by:	*Cambium Inc.*
Date Completed:	*February 15, 2022*

Environmental Risk Information Services
A division of Glacier Media Inc.
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Executive Summary

Property Information:

Project Property:	*Phase I ESA - 721 Royal York Road, Etobicoke, ON* *721 Royal York Rd, Etobicoke Etobicoke ON M8Y 2T3*
Project No:	*14560-P*

Order Information:

Order No:	*22021000292*
Date Requested:	*February 10, 2022*
Requested by:	*Cambium Inc.*
Report Type:	*Quote - Custom-Build Your Own Report*

Historical/Products:

City Directory Search	*CD - Subject Site plus 10 Adjacent Properties*
Insurance Products	*Fire Insurance Maps/Inspection Reports/Site Plans*
Land Title Search	*Current Land Title Search*

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Boundary to 0.25km	Total
AAGR	Abandoned Aggregate Inventory	Y	0	0	0
AGR	Aggregate Inventory	Y	0	0	0
AMIS	Abandoned Mine Information System	Y	0	0	0
ANDR	Anderson's Waste Disposal Sites	Y	0	2	2
AST	Aboveground Storage Tanks	Y	0	0	0
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
BORE	Borehole	Y	15	4	19
CA	Certificates of Approval	Y	0	2	2
CDRY	Dry Cleaning Facilities	Y	0	0	0
CFOT	Commercial Fuel Oil Tanks	Y	0	0	0
CHEM	Chemical Manufacturers and Distributors	Y	0	0	0
CHM	Chemical Register	Y	0	0	0
CNG	Compressed Natural Gas Stations	Y	0	0	0
COAL	Inventory of Coal Gasification Plants and Coal Tar Sites	Y	0	0	0
CONV	Compliance and Convictions	Y	0	0	0
CPU	Certificates of Property Use	Y	0	0	0
DRL	Drill Hole Database	Y	0	0	0
DTNK	Delisted Fuel Tanks	Y	0	0	0
EASR	Environmental Activity and Sector Registry	Y	0	1	1
EBR	Environmental Registry	Y	0	1	1
ECA	Environmental Compliance Approval	Y	0	2	2
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	0	9	9
EIIS	Environmental Issues Inventory System	Y	0	0	0
EMHE	Emergency Management Historical Event	Y	0	0	0
EPAR	Environmental Penalty Annual Report	Y	0	0	0
EXP	List of Expired Fuels Safety Facilities	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	0
FOFT	Fisheries & Oceans Fuel Tanks	Y	0	0	0
FRST	Federal Identification Registry for Storage Tank Systems (FIRSTS)	Y	0	0	0
FST	Fuel Storage Tank	Y	0	0	0
FSTH	Fuel Storage Tank - Historic	Y	0	0	0
GEN	Ontario Regulation 347 Waste Generators Summary	Y	17	28	45
GHG	Greenhouse Gas Emissions from Large Facilities	Y	0	0	0
HINC	TSSA Historic Incidents	Y	0	5	5

Database	Name	Searched	Project Property	Boundary to 0.25km	Total
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0
INC	Fuel Oil Spills and Leaks	Y	0	2	2
LIMO	Landfill Inventory Management Ontario	Y	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0
MNR	Mineral Occurrences	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0
NCPL	Non-Compliance Reports	Y	0	0	0
NDFT	National Defense & Canadian Forces Fuel Tanks	Y	0	0	0
NDSP	National Defense & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEBI	National Energy Board Pipeline Incidents	Y	0	0	0
NEBP	National Energy Board Wells	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	0	0
NPRI	National Pollutant Release Inventory	Y	0	0	0
OGWE	Oil and Gas Wells	Y	0	0	0
OOGW	Ontario Oil and Gas Wells	Y	0	0	0
OPCB	Inventory of PCB Storage Sites	Y	0	0	0
ORD	Orders	Y	0	0	0
PAP	Canadian Pulp and Paper	Y	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PES	Pesticide Register	Y	0	0	0
PINC	Pipeline Incidents	Y	0	4	4
PRT	Private and Retail Fuel Storage Tanks	Y	0	0	0
PTTW	Permit to Take Water	Y	0	0	0
REC	Ontario Regulation 347 Waste Receivers Summary	Y	0	0	0
RSC	Record of Site Condition	Y	0	0	0
RST	Retail Fuel Storage Tanks	Y	0	1	1
SCT	Scott's Manufacturing Directory	Y	0	2	2
SPL	Ontario Spills	Y	0	6	6
SRDS	Wastewater Discharger Registration Database	Y	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0
VAR	Variances for Abandonment of Underground Storage Tanks	Y	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	0	0
WWIS	Water Well Information System	Y	0	19	19
	Total:		32	88	120

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
1	BORE		ON	SW/0.0	0.83	34
2	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	NNW/0.0	-0.42	35
2	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	NNW/0.0	-0.42	36
3	BORE		ON	NW/0.0	-1.00	37
4	BORE		ON	NE/0.0	-3.09	38
5	BORE		ON	WSW/0.0	-0.19	40
6	BORE		ON	NW/0.0	-0.75	42
7	BORE		ON	W/0.0	-0.16	43

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
8	BORE		ON	E/0.0	-12.63	44
8	BORE		ON	E/0.0	-12.63	46
9	BORE		ON	NNW/0.0	-5.64	48
10	GEN	ETOBICOKE BOARD OF EDUCATION	KINGSMILL SECONDARY SCHOOL 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	49
10	GEN	ETOBICOKE BOARD OF EDUCATION 14-040	KINGSMILL SECONDARY SCHOOL 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	49
10	GEN	METROPOLITAN SEPARATE SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	50
10	GEN	METROPOLITAN SEPARATE SCHOOL BRD. 26-363	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	50
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	51
10	GEN	KINGSMILL (SEE & USE ON0077711 ETOBICO)	721 ROYAL YORK RD. TORONTO ON M8Y 2T3	E/0.0	-16.83	52
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	52

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	53
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	53
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	54
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON	E/0.0	-16.83	55
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	55
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	56
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	57
10	GEN	TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	E/0.0	-16.83	58
11	BORE		ON	WNW/0.0	-0.73	58

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
12	BORE		ON	NW/0.0	-4.47	60
13	BORE		ON	SSW/0.0	-4.83	61
14	BORE		ON	SSW/0.0	-5.28	63
15	BORE		ON	ESE/0.0	-14.38	64
15	BORE		ON	ESE/0.0	-14.38	66

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
16	WWIS		GARDINER EXP ETOBICOKE ON ***Well ID:*** 7283198	ENE/5.7	-12.01	68
17	SPL		The Rear of #3 Tizzard Ave Toronto ON M8Y 3Z4	ESE/24.1	-14.29	70
18	EASR	CITY OF TORONTO	260 Berry RD Toronto ON M8Y 1X8	E/28.2	-9.78	70
19	WWIS		714 ROYAL YORK ROAD Toronto ON ***Well ID:*** 7295914	WSW/29.8	-0.58	71
20	WWIS		714 ROYAL YORK RD. TORONTO ON ***Well ID:*** 7293089	WSW/31.4	-0.58	72
21	SPL		26 Oakfield Drive, Etobicoke Toronto ON M8Y 1N7	SE/32.3	-9.32	75
21	HINC		26 OAKFIELD DRIVE TORONTO ON M8Y 1N7	SE/32.3	-9.32	76
22	BORE		ON	ESE/35.2	-12.40	76
23	GEN	ETOBICOKE HYDRO	714 ROYAL YORK ROAD C/O 2 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T5	WSW/35.5	-0.32	78
23	GEN	ETOBICOKE HYDRO	714 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T5	WSW/35.5	-0.32	78
23	GEN	ETOBICOKE HYDRO 14-813	714 ROYAL YORK ROAD C/O 2 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T5	WSW/35.5	-0.32	78
23	EHS		714 Royal York Road Toronto ON	WSW/35.5	-0.32	79

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
24	EBR	Toronto Hydro-Electric System Limited	714 Royal York Road Toronto CITY OF TORONTO ON	WSW/35.6	-0.32	79
24	GEN	TORONTO HYDRO C/O BLACK AND MCDONALD LIMITED	714 ROYAL YORK ROAD TORONTO ON M8Y 2T5	WSW/35.6	-0.32	79
24	ECA	Toronto Hydro-Electric System Limited	714 Royal York Rd Toronto ON M1B 3C3	WSW/35.6	-0.32	79
25	WWIS		714 ROYAL YORK RD. TORONTO ON ***Well ID:*** 7293109	WSW/37.0	-0.76	80
25	WWIS		714 ROYAL YORK ROAD Toronto ON ***Well ID:*** 7295915	WSW/37.0	-0.76	83
26	WWIS		714 ROYAL YORK RD. TORONTO ON ***Well ID:*** 7293107	WSW/47.1	0.31	85
27	GEN	METROPOLITAN SEPARATE SCHOOL BOARD26-796	ECOLE SAINTE MARGUERITE D'YOUVILLE 755 YORK ROAD ETOBICOKE ON M8Y 2T3	NW/47.7	-0.39	88
27	GEN	METROPOLITAN SEPARATE SCHOOL BOARD	ECOLE SAINTE MARGUERITE D'YOUVILLE 755 YORK ROAD ETOBICOKE ON M8Y 2T3	NW/47.7	-0.39	88
27	GEN	ST FELIX SCHOOL	755 ROYAL YORK ROAD TORONTO ON M8Y 2T3	NW/47.7	-0.39	88
28	WWIS		714 ROYAL YORK ROAD Toronto ON ***Well ID:*** 7295917	WSW/48.3	0.31	89
29	WWIS		714 RPYAL YORK RD. TORONTO ON ***Well ID:*** 7293108	WSW/52.9	-0.58	91
29	WWIS		714 RPYAL YORK ROAD Toronto ON ***Well ID:*** 7295916	WSW/52.9	-0.58	94

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
30	ANDR	Berry Rd Park Fill	Toronto ON M8Y	E/81.5	-11.75	96
31	HINC		691 ROYAL YORK RD ETOBICOKE (TORONTO) ON M8Y 2T1	S/85.4	-8.56	96
32	SCT	Neek	40 Grenview Blvd S Toronto ON M8Y 3S2	ENE/88.9	-6.39	97
33	INC		20 BAYSHILL DR, TORONTO ON	WNW/99.4	-0.39	97
34	HINC		38 Grenview Blvd TORONTO ON	E/102.5	-5.74	97
35	HINC		760 ROYAL YORK ROAD TORONTO ON M8Y 2T6	NW/115.2	-0.90	98
36	SPL		55 Oakfields Drive, Etobicoke Toronto ON	ESE/137.4	-10.14	98
36	INC		55 Oakfields Drive, Etobicoke ON	ESE/137.4	-10.14	99
37	SPL		64 Grenview BLvd South Toronto ON M8Y 3S4	NE/139.4	0.66	99
37	HINC		64 GRENVIEW BOULEVARD SOUTH TORONTO ON M8Y 3S4	NE/139.4	0.66	100
38	WWIS		259 BERRY ROAD Toronto ON ***Well ID:*** 7304574	E/150.5	-7.35	100
39	PINC	ENBRIDGE GAS INC	19 DUMBARTON RD,,ETOBICOKE,ON, M8Z 3P4,CA ON	WNW/159.5	-0.39	103
40	CA	ETOBICOKE CITY	ROYAL YORK RD/NORSEMAN ST. ETOBICOKE CITY ON	NW/164.1	-0.88	104

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
41	SCT	Kong-It Enterprises	250 Berry Rd Toronto ON M8Y 1X9	E/165.4	-4.16	104
42	RST	SUNOCO	51 GRENVIEW BLVD S ETOBICOKE ON M8Y3S3	NE/168.6	0.32	104
43	WWIS		60 REID MANOR Toronto ON ***Well ID:*** 7259356	E/176.8	-14.60	104
43	WWIS		60 REID MANOR Toronto ON ***Well ID:*** 7283200	E/176.8	-14.60	107
44	EHS		58 and 65 Oakfield Drive Etobicoke ON M8Y 1N8	E/184.2	-18.50	109
45	ANDR	Pr Edward Dr Fill	Toronto ON M8Y	ENE/186.7	-3.53	109
46	BORE		ON	SW/188.5	-0.39	110
47	EHS		763 Royal York Road Etobicoke ON M8Y 2T3	NW/189.6	-0.88	111
47	EHS		763 Royal York Road Etobicoke ON M8Y 2T3	NW/189.6	-0.88	111
47	EHS		763 Royal York Road Etobicoke ON M8Y 2T3	NW/189.6	-0.88	112
47	EHS		763 Royal York Road Etobicoke ON M8Y 2T3	NW/189.6	-0.88	112
47	EHS		763 Royal York Road Etobicoke ON M8Y 2T3	NW/189.6	-0.88	112
47	EHS		763 Royal York Road Etobicoke ON M8Y 2T3	NW/189.6	-0.88	112

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
47	EHS		763 Royal York Road Etobicoke ON M8Y 2T3	NW/189.6	-0.88	112
48	BORE		ON	SW/190.9	-0.39	113
49	WWIS		675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342259	SSE/195.7	-7.84	114
50	SPL	PUC	763 ROYAL YORK ROAD SANITARY SEWER TORONTO CITY ON M8Y 2T3	NW/197.1	-0.37	117
51	WWIS		675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342188	S/197.1	-7.40	118
52	WWIS		675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342257	S/198.4	-7.40	121
53	WWIS		675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342186	SSE/198.6	-7.70	125
54	WWIS		675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342258	SSE/199.3	-7.70	128
55	WWIS		675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342187	S/201.2	-7.40	131
56	SPL	Enbridge Gas Distribution Inc.	19 Fairman Avenue Toronto ON	NE/208.4	1.09	135
56	PINC	PIPELINE HIT - 1/2"	19 FAIRMAR AVENUE,,TORONTO,ON, M8Y 2C7,CA ON	NE/208.4	1.09	135
56	PINC	ALLAN T SOWDEN	19 FAIRMAR AVE,,TORONTO,ON,M8Y 2C7,CA ON	NE/208.4	1.09	136
57	WWIS		23 RIDGEGATE CRES. TORONTO ON	N/218.1	0.30	136

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
			Well ID: 7233127			
58	PINC	ENBRIDGE GAS INC	86 PRINCE EDWARD DR S,,TORONTO, ON,M8Y 3V7,CA ON	ENE/224.8	-1.23	138
59	GEN	ETOBICOKE BOARD OF EDUCATION	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD C/O 1 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T1	SE/225.2	-10.29	139
59	GEN	ETOBICOKE BOARD OF EDUCATION 14-509	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T1	SE/225.2	-10.29	140
59	GEN	ETOBICOKE BOARD OF EDUCATION 14-509	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD C/O 1 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T1	SE/225.2	-10.29	141
59	GEN	ETOBICOKE BOARD OF EDUCATION	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T1	SE/225.2	-10.29	142
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	143
59	GEN	ETOBICOKE SCHOOL OF THE ARTS	675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	144
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	144
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	145
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	146
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	147

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON	SE/225.2	-10.29	148
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	149
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	150
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	151
59	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	SE/225.2	-10.29	152
59	GEN	City Of Toronto	675 Royal York Road Etobicoke ON M8Y 2T1	SE/225.2	-10.29	153
60	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	S/233.8	-5.61	154
60	GEN	City Of Toronto	675 Royal York Road Etobicoke ON M8Y 2T1	S/233.8	-5.61	155
60	GEN	TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	S/233.8	-5.61	156
60	GEN	City Of Toronto	675 Royal York Road Etobicoke ON M8Y 2T1	S/233.8	-5.61	157
61	BORE		ON	ESE/238.0	-10.11	157
62	GEN	Ukrainian Home for the aged	767 Royal York Rd. Toronto ON	NW/242.5	-3.49	159
62	ECA	Ukrainian Home for the aged	767 Royal York Road Toronto ON M8Y 2T3	NW/242.5	-3.49	159

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
63	CA	Ukrainian Home for the aged	767 Royal York Road Toronto ON M8Y 2T3	NW/243.7	-5.30	159

Executive Summary: Summary By Data Source

ANDR - Anderson's Waste Disposal Sites

A search of the ANDR database, dated 1860s-Present has found that there are 2 ANDR site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Berry Rd Park Fill	Toronto ON M8Y	81.5	30
Pr Edward Dr Fill	Toronto ON M8Y	186.7	45

BORE - Borehole

A search of the BORE database, dated 1875-Jul 2018 has found that there are 19 BORE site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	ON	0.0	1
	ON	0.0	3
	ON	0.0	4
	ON	0.0	5
	ON	0.0	6
	ON	0.0	7

Site	Address	Distance (m)	Map Key
	ON	0.0	8
	ON	0.0	8
	ON	0.0	9
	ON	0.0	11
	ON	0.0	12
	ON	0.0	13
	ON	0.0	14
	ON	0.0	15
	ON	0.0	15
	ON	35.2	22
	ON	188.5	46

Site	Address	Distance (m)	Map Key
	ON	190.9	48
	ON	238.0	61

CA - Certificates of Approval

A search of the CA database, dated 1985-Oct 30, 2011* has found that there are 2 CA site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
ETOBICOKE CITY	ROYAL YORK RD/NORSEMAN ST. ETOBICOKE CITY ON	164.1	40
Ukrainian Home for the aged	767 Royal York Road Toronto ON M8Y 2T3	243.7	63

EASR - Environmental Activity and Sector Registry

A search of the EASR database, dated Oct 2011- Dec 31, 2021 has found that there are 1 EASR site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
CITY OF TORONTO	260 Berry RD Toronto ON M8Y 1X8	28.2	18

EBR - Environmental Registry

A search of the EBR database, dated 1994 - Dec 31, 2021 has found that there are 1 EBR site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Toronto Hydro-Electric System Limited	714 Royal York Road Toronto CITY OF TORONTO ON	35.6	24

ECA - Environmental Compliance Approval

A search of the ECA database, dated Oct 2011- Dec 31, 2021 has found that there are 2 ECA site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Toronto Hydro-Electric System Limited	714 Royal York Rd Toronto ON M1B 3C3	35.6	24
Ukrainian Home for the aged	767 Royal York Road Toronto ON M8Y 2T3	242.5	62

EHS - ERIS Historical Searches

A search of the EHS database, dated 1999-Nov 30, 2021 has found that there are 9 EHS site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	714 Royal York Road Toronto ON	35.5	23
	58 and 65 Oakfield Drive Etobicoke ON M8Y 1N8	184.2	44
	763 Royal York Road Etobicoke ON M8Y 2T3	189.6	47
	763 Royal York Road Etobicoke ON M8Y 2T3	189.6	47
	763 Royal York Road Etobicoke ON M8Y 2T3	189.6	47
	763 Royal York Road Etobicoke ON M8Y 2T3	189.6	47
	763 Royal York Road Etobicoke ON M8Y 2T3	189.6	47

Site	Address	Distance (m)	Map Key
	763 Royal York Road Etobicoke ON M8Y 2T3	189.6	47
	763 Royal York Road Etobicoke ON M8Y 2T3	189.6	47

GEN - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-Nov 30, 2021 has found that there are 45 GEN site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	2
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	2
ETOBICOKE BOARD OF EDUCATION	KINGSMILL SECONDARY SCHOOL 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
ETOBICOKE BOARD OF EDUCATION 14-040	KINGSMILL SECONDARY SCHOOL 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
METROPOLITAN SEPARATE SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
METROPOLITAN SEPARATE SCHOOL BRD. 26-363	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10

Site	Address	Distance (m)	Map Key
KINGSMILL (SEE & USE ON0077711 ETOBICO)	721 ROYAL YORK RD. TORONTO ON M8Y 2T3	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
TORONTO CATHOLIC DISTRICT SCHOOL BOARD	BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	0.0	10
ETOBICOKE HYDRO	714 ROYAL YORK ROAD C/O 2 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T5	35.5	23
ETOBICOKE HYDRO	714 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T5	35.5	23

Site	Address	Distance (m)	Map Key
ETOBICOKE HYDRO 14-813	714 ROYAL YORK ROAD C/O 2 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T5	35.5	23
TORONTO HYDRO C/O BLACK AND MCDONALD LIMITED	714 ROYAL YORK ROAD TORONTO ON M8Y 2T5	35.6	24
METROPOLITAN SEPARATE SCHOOL BOARD26-796	ECOLE SAINTE MARGUERITE D'YOUVILLE 755 YORK ROAD ETOBICOKE ON M8Y 2T3	47.7	27
METROPOLITAN SEPARATE SCHOOL BOARD	ECOLE SAINTE MARGUERITE D'YOUVILLE 755 YORK ROAD ETOBICOKE ON M8Y 2T3	47.7	27
ST FELIX SCHOOL	755 ROYAL YORK ROAD TORONTO ON M8Y 2T3	47.7	27
ETOBICOKE BOARD OF EDUCATION	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD C/O 1 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T1	225.2	59
ETOBICOKE BOARD OF EDUCATION 14-509	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T1	225.2	59
ETOBICOKE BOARD OF EDUCATION 14-509	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD C/O 1 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T1	225.2	59
ETOBICOKE BOARD OF EDUCATION	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T1	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59
ETOBICOKE SCHOOL OF THE ARTS	675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59

Site	Address	Distance (m)	Map Key
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	225.2	59
City Of Toronto	675 Royal York Road Etobicoke ON M8Y 2T1	225.2	59
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	233.8	60

Site	Address	Distance (m)	Map Key
City Of Toronto	675 Royal York Road Etobicoke ON M8Y 2T1	233.8	60
TORONTO DISTRICT SCHOOL BOARD	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	233.8	60
City Of Toronto	675 Royal York Road Etobicoke ON M8Y 2T1	233.8	60
Ukrainian Home for the aged	767 Royal York Rd. Toronto ON	242.5	62

HINC - TSSA Historic Incidents

A search of the HINC database, dated 2006-June 2009* has found that there are 5 HINC site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	26 OAKFIELD DRIVE TORONTO ON M8Y 1N7	32.3	21
	691 ROYAL YORK RD ETOBICOKE (TORONTO) ON M8Y 2T1	85.4	31
	38 Grenview Blvd TORONTO ON	102.5	34
	760 ROYAL YORK ROAD TORONTO ON M8Y 2T6	115.2	35
	64 GRENVIEW BOULEVARD SOUTH TORONTO ON M8Y 3S4	139.4	37

INC - Fuel Oil Spills and Leaks

A search of the INC database, dated May 31, 2021 has found that there are 2 INC site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	20 BAYSHILL DR, TORONTO ON	99.4	33
	55 Oakfields Drive, Etobicoke ON	137.4	36

PINC - Pipeline Incidents

A search of the PINC database, dated May 31, 2021 has found that there are 4 PINC site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
ENBRIDGE GAS INC	19 DUMBARTON RD,,ETOBICOKE,ON,M8Z 3P4,CA ON	159.5	39
ALLAN T SOWDEN	19 FAIRMAR AVE,,TORONTO,ON,M8Y 2C7, CA ON	208.4	56
PIPELINE HIT - 1/2"	19 FAIRMAR AVENUE,,TORONTO,ON,M8Y 2C7,CA ON	208.4	56
ENBRIDGE GAS INC	86 PRINCE EDWARD DR S,,TORONTO,ON, M8Y 3V7,CA ON	224.8	58

RST - Retail Fuel Storage Tanks

A search of the RST database, dated 1999-Sep 30, 2021 has found that there are 1 RST site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
SUNOCO	51 GRENVIEW BLVD S ETOBICOKE ON M8Y3S3	168.6	42

SCT - Scott's Manufacturing Directory

A search of the SCT database, dated 1992-Mar 2011* has found that there are 2 SCT site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Neek	40 Grenview Blvd S Toronto ON M8Y 3S2	88.9	32
Kong-It Enterprises	250 Berry Rd Toronto ON M8Y 1X9	165.4	41

SPL - Ontario Spills

A search of the SPL database, dated 1988-Sep 2020 has found that there are 6 SPL site(s) within approximately 0.25 kilometers of the project property.

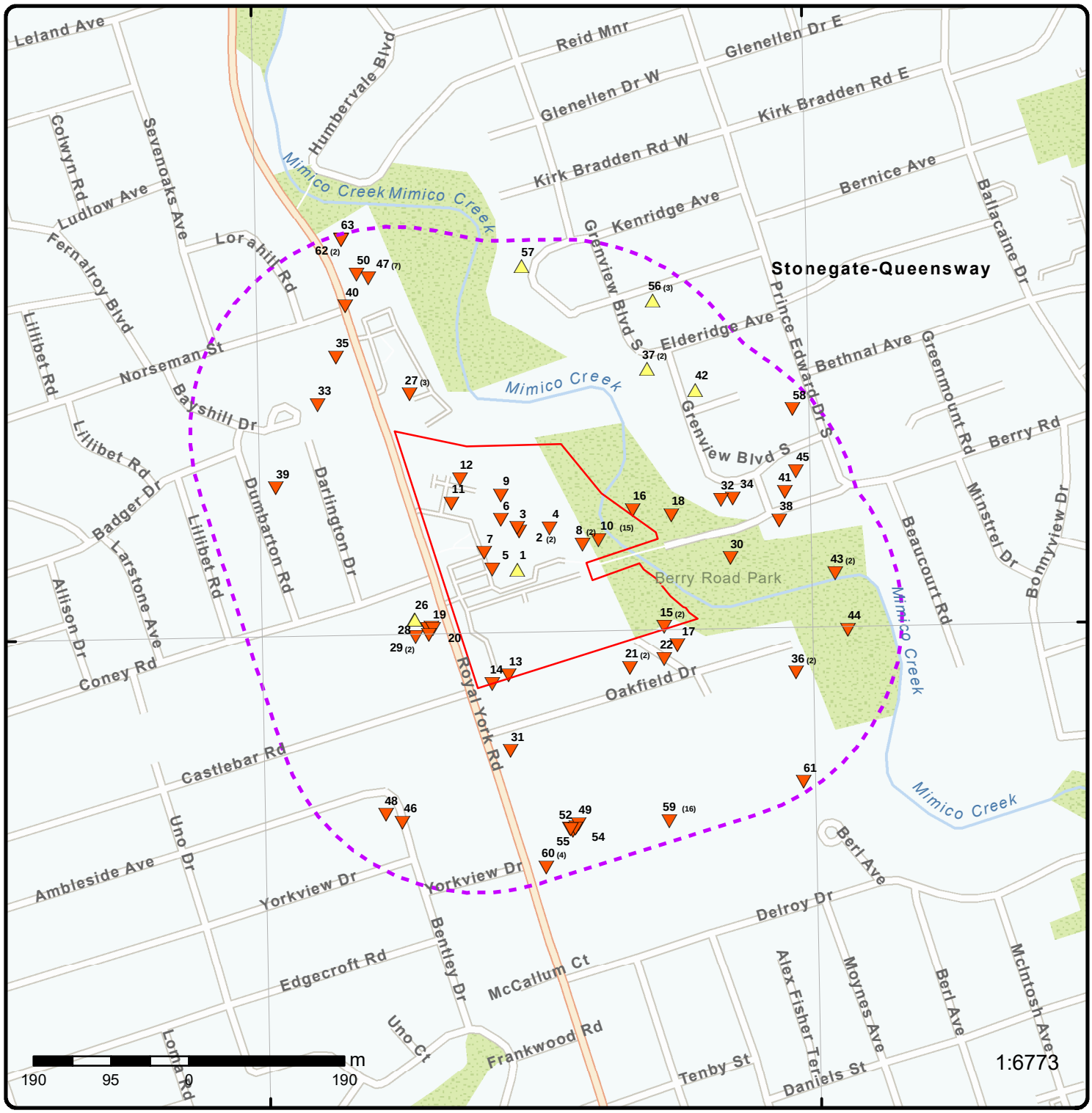
Site	Address	Distance (m)	Map Key
	The Rear of #3 Tizzard Ave Toronto ON M8Y 3Z4	24.1	17
	26 Oakfield Drive, Etobicoke Toronto ON M8Y 1N7	32.3	21
	55 Oakfields Drive, Etobicoke Toronto ON	137.4	36
	64 Grenview BLvd South Toronto ON M8Y 3S4	139.4	37
PUC	763 ROYAL YORK ROAD SANITARY SEWER TORONTO CITY ON M8Y 2T3	197.1	50
Enbridge Gas Distribution Inc.	19 Fairman Avenue Toronto ON	208.4	56

WWIS - Water Well Information System

A search of the WWIS database, dated Sep 30, 2021 has found that there are 19 WWIS site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	GARDINER EXP ETOBICOKE ON ***Well ID:*** 7283198	5.7	16
	714 ROYAL YORK ROAD Toronto ON ***Well ID:*** 7295914	29.8	19
	714 ROYAL YORK RD. TORONTO ON ***Well ID:*** 7293089	31.4	20
	714 ROYAL YORK RD. TORONTO ON ***Well ID:*** 7293109	37.0	25
	714 ROYAL YORK ROAD Toronto ON ***Well ID:*** 7295915	37.0	25
	714 ROYAL YORK RD. TORONTO ON ***Well ID:*** 7293107	47.1	26
	714 ROYAL YORK ROAD Toronto ON ***Well ID:*** 7295917	48.3	28
	714 RPYAL YORK RD. TORONTO ON ***Well ID:*** 7293108	52.9	29
	714 RPYAL YORK ROAD Toronto ON ***Well ID:*** 7295916	52.9	29
	259 BERRY ROAD Toronto ON ***Well ID:*** 7304574	150.5	38
	60 REID MANOR Toronto ON ***Well ID:*** 7259356	176.8	43

Site	Address	Distance (m)	Map Key
	60 REID MANOR Toronto ON ***Well ID:*** 7283200	176.8	43
	675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342259	195.7	49
	675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342188	197.1	51
	675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342257	198.4	52
	675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342186	198.6	53
	675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342258	199.3	54
	675 ROYAL YORK RD Toronto ON ***Well ID:*** 7342187	201.2	55
	23 RIDGEGATE CRES. TORONTO ON ***Well ID:*** 7233127	218.1	57



Map: 0.25 Kilometer Radius

Order Number: 22021000292

Address: 721 Royal York Rd, Etobicoke, Etobicoke, ON

ERIS

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major Arterial; Minor Arterial
- Local Road
- Service Road; Traffic Circle; Ramp
- Rail
- Beach
- Airport
- Industrial Area
- Military Base
- Aircraft Roads
- Native Reservation
- Hospital
- Shopping & Sports Area
- University/College
- Cemetery; Golf Course
- Parkt (National)
- Park (City/County)

Source: © 2021 ESRI StreetMap Premium.

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79°30'W



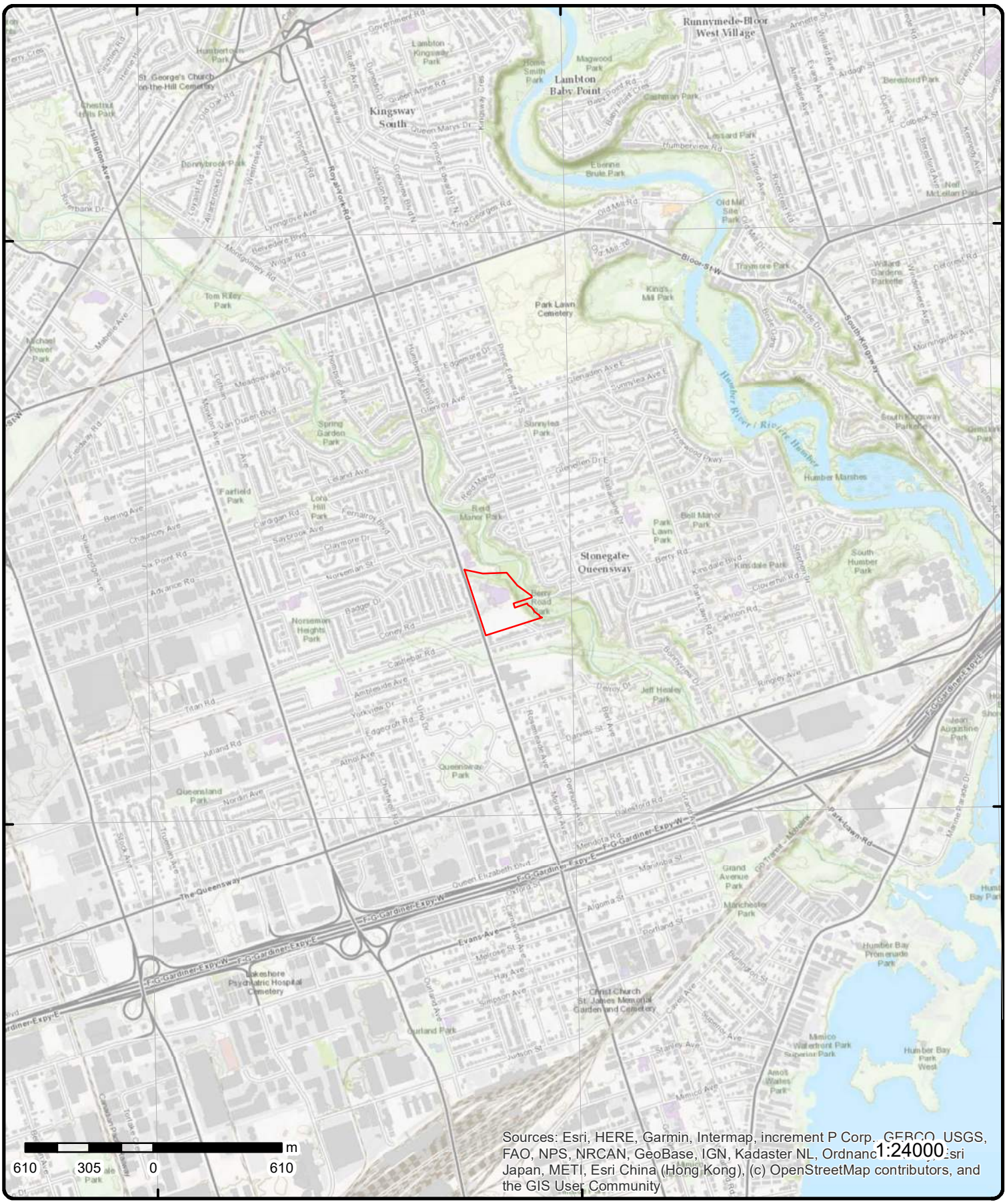
Aerial **Year: 2020**

Order Number: 22021000292

Address: 721 Royal York Rd, Etobicoke, Etobicoke, ON

Source: ESRI World Imagery

© ERIS Information Limited Partnership



Topographic Map

Order Number: 22021000292

Address: 721 Royal York Rd, Etobicoke, ON

Source: ESRI World Topographic Map

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Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
1	1 of 1	SW/0.0	111.1 / 0.83	ON	BORE

Borehole ID: 644502
OGF ID: 215544885
Status:
Type: Borehole
Use: Geotechnical/Geological Investigation
Completion Date: MAY-1962
Static Water Level: 0.6
Primary Water Use: Not Used
Sec. Water Use:
Total Depth m: 6.1
Depth Ref: Ground Surface
Depth Elev:
Drill Method: Boring
Orig Ground Elev m: 109
Elev Reliabil Note:
DEM Ground Elev m: 110
Concession:
Location D:
Survey D:
Comments:

Inclin FLG: No
SP Status: Initial Entry
Surv Elev: No
Piezometer: No
Primary Name:
Municipality:
Lot:
Township:
Latitude DD: 43.634027
Longitude DD: -79.504512
UTM Zone: 17
Easting: 620635
Northing: 4832313
Location Accuracy:
Accuracy: Not Applicable

Borehole Geology Stratum

Geology Stratum ID: 218507800
Top Depth: 4.1
Bottom Depth: 6.1
Material Color: Grey
Material 1: Till
Material 2: Silt
Material 3: Clay
Material 4: Gravel
Gsc Material Description:
Stratum Description: TILL,SILT,CLAY, GRAVEL. GREY,GLACIAL,HARD,AGE GLACIAL.00007005000750300013501600009Y **Note: Many records provided by the department have a truncated [Stratum Description] field.

Mat Consistency: Hard
Material Moisture:
Material Texture:
Non Geo Mat Type:
Geologic Formation:
Geologic Group:
Geologic Period:
Depositional Gen: glacial

Geology Stratum ID: 218507797
Top Depth: 0
Bottom Depth: .2
Material Color:
Material 1: Soil
Material 2:
Material 3:
Material 4:
Gsc Material Description:
Stratum Description: SOIL.

Mat Consistency:
Material Moisture:
Material Texture:
Non Geo Mat Type:
Geologic Formation:
Geologic Group:
Geologic Period:
Depositional Gen:

Geology Stratum ID: 218507799
Top Depth: 2.3
Bottom Depth: 4.1
Material Color: Brown
Material 1: Sand
Material 2: Silt

Mat Consistency: Dense
Material Moisture:
Material Texture: Medium
Non Geo Mat Type:
Geologic Formation:
Geologic Group:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Material 3:	Clay	**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,SILT, CLAY. BROWN,FLUVIO-GLACIAL,DENSE, AGE GLACIAL, WATER STABLE AT 358.0 FEET.		

Geology Stratum ID:	218507798	**Mat Consistency:**	Loose
Top Depth:	.2	**Material Moisture:**	
Bottom Depth:	2.3	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,SILT. BROWN,FLUVIO-GLACIAL,LOOSE, AGE GLACIAL.		

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Details:	File: TOR2.txt RecordID: 125240 NTS_Sheet: 30M12H		
Confiden 1:	Logged by professional. Exact and complete description of material and properties.		

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Originators:	Geological Survey of Canada		

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
2	1 of 2	NNW/0.0	109.8 / -0.42	**TORONTO CATHOLIC DISTRICT SCHOOL BOARD** **BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD** **ETOBICOKE ON M8Y 2T3**	GEN

Generator No:	ON0121839	**Status:**	Registered
SIC Code:		**Co Admin:**	
SIC Description:		**Choice of Contact:**	
Approval Years:	As of Jul 2020	**Phone No Admin:**	
PO Box No:		**Contam. Facility:**	
Country:	Canada	**MHSW Facility:**	

Detail(s)

Waste Class:	263 I
Waste Class Desc:	Misc. waste organic chemicals
Waste Class:	148 C
Waste Class Desc:	Misc. wastes and inorganic chemicals
Waste Class:	121 C
Waste Class Desc:	Alkaline slutions - containing heavy metals
Waste Class:	264 L

Waste Class Desc: Photoprocessing wastes

Waste Class: 112 C
Waste Class Desc: Acid solutions - containing heavy metals

Waste Class: 148 B
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 264 C
Waste Class Desc: Photoprocessing wastes

Waste Class: 331 I
Waste Class Desc: Waste compressed gases including cylinders

Waste Class: 312 P
Waste Class Desc: Pathological wastes

Waste Class: 263 B
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 122 C
Waste Class Desc: Alkaline slutions - containing other metals and non-metals (not cyanide)

2	2 of 2	NNW/0.0	109.8 / -0.42	TORONTO CATHOLIC DISTRICT SCHOOL BOARD BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	GEN

Generator No: ON0121839
SIC Code:
SIC Description:
Approval Years: As of Nov 2021
PO Box No:
Country: Canada

Status: Registered
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 263 I
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 312 P
Waste Class Desc: Pathological wastes

Waste Class: 148 R
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 331 I
Waste Class Desc: Waste compressed gases including cylinders

Waste Class: 264 C
Waste Class Desc: Photoprocessing wastes

Waste Class: 121 C
Waste Class Desc: Alkaline slutions - containing heavy metals

Waste Class: 112 C
Waste Class Desc: Acid solutions - containing heavy metals

Waste Class: 148 B
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 148 C
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 122 C
Waste Class Desc: Alkaline slutions - containing other metals and non-metals (not cyanide)

Waste Class: 264 L
Waste Class Desc: Photoprocessing wastes

Waste Class: 263 B
Waste Class Desc: Misc. waste organic chemicals

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3 **1 of 1** **NW/0.0** **109.2 / -1.00** **ON** **BORE**

Borehole ID: 644503
OGF ID: 215544886
Status:
Type: Borehole
Use: Geotechnical/Geological Investigation
Completion Date: MAY-1962
Static Water Level: 0.5
Primary Water Use: Not Used
Sec. Water Use:
Total Depth m: 4.7
Depth Ref: Ground Surface
Depth Elev:
Drill Method: Boring
Orig Ground Elev m: 109
Elev Reliabil Note:
DEM Ground Elev m: 110
Concession:
Location D:
Survey D:
Comments:

Inclin FLG: No
SP Status: Initial Entry
Surv Elev: No
Piezometer: No
Primary Name:
Municipality:
Lot:
Township:
Latitude DD: 43.634477
Longitude DD: -79.504501
UTM Zone: 17
Easting: 620635
Northing: 4832363
Location Accuracy:
Accuracy: Not Applicable

Borehole Geology Stratum

Geology Stratum ID: 218507803
Top Depth: 1.2
Bottom Depth: 2.6
Material Color: Brown
Material 1: Sand
Material 2: Gravel
Material 3: Silt
Material 4: Clay
Gsc Material Description:
Stratum Description: SAND-MEDIUM,GRAVEL, SILT,CLAY. BROWN,FLUVIO-GLACIAL,DENSE, LAYERED,AGE GLACIAL, WATER STABLE AT 358.5 FEET.

Mat Consistency: Dense
Material Moisture:
Material Texture: Medium
Non Geo Mat Type:
Geologic Formation:
Geologic Group:
Geologic Period:
Depositional Gen: glacial

Geology Stratum ID: 218507804
Top Depth: 2.6
Bottom Depth: 4
Material Color: Brown
Material 1: Sand
Material 2: Gravel
Material 3: Silt
Material 4: Clay
Gsc Material Description:
Stratum Description: SAND-MEDIUM,GRAVEL, SILT,CLAY. BROWN,FLUVIO-GLACIAL,DENSE, LAYERED,AGE GLACIAL.

Mat Consistency: Dense
Material Moisture:
Material Texture: Medium
Non Geo Mat Type:
Geologic Formation:
Geologic Group:
Geologic Period:
Depositional Gen: glacial

Geology Stratum ID: 218507805
Top Depth: 4
Bottom Depth: 4.7
Material Color: Brown
Material 1: Gravel

Mat Consistency: Dense
Material Moisture:
Material Texture:
Non Geo Mat Type:
Geologic Formation:

Material 2:	Sand	**Geologic Group:**	
Material 3:	Silt	**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial

Gsc Material Description:
Stratum Description: GRAVEL,SAND,SILT. BROWN,GLACIAL,VERY DENSE, AGE GLACIAL. 0001000400040015000850200013008000014 **Note: Many records provided by the department have a truncated [Stratum Description] field.

Geology Stratum ID:	218507802	**Mat Consistency:**	Loose
Top Depth:	.3	**Material Moisture:**	
Bottom Depth:	1.2	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial

Gsc Material Description:
Stratum Description: SAND-MEDIUM,SILT. BROWN,FLUVIO-GLACIAL,LOOSE, AGE GLACIAL.

Geology Stratum ID:	218507801	**Mat Consistency:**	
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.3	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Soil	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SOIL.

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level

Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR2.txt RecordID: 125250 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		

Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

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4 **1 of 1** **NE/0.0** **107.1 / -3.09** **ON** **BORE**

Borehole ID:	644501	**Inclin FLG:**	No
OGF ID:	215544884	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	MAY-1962	**Municipality:**	
Static Water Level:	0.6	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.63447
Total Depth m:	6.3	**Longitude DD:**	-79.504005

Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620675
Drill Method:	Boring	**Northing:**	4832363
Orig Ground Elev m:	109	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	109		

Concession:
Location D:
Survey D:
Comments:

Borehole Geology Stratum

Geology Stratum ID:	218507793	**Mat Consistency:**	Loose
Top Depth:	.3	**Material Moisture:**	
Bottom Depth:	2.4	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial

Gsc Material Description:
Stratum Description: SAND-MEDIUM,SILT, CLAY. BROWN,FLUVIO-GLACIAL,LOOSE, LENSES,AGE GLACIAL.

Geology Stratum ID:	218507796	**Mat Consistency:**	Hard
Top Depth:	5.5	**Material Moisture:**	
Bottom Depth:	6.3	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:	Shale	**Depositional Gen:**	glacial

Gsc Material Description:
Stratum Description: TILL,SILT,CLAY,SHALEGREY,GLACIAL,HARD,AGE GLACIAL.0010002500180050000015900010 **Note: Many records provided by the department have a truncated [Stratum Description] field.

Geology Stratum ID:	218507792	**Mat Consistency:**	
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.3	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Soil	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SOIL.

Geology Stratum ID:	218507794	**Mat Consistency:**	Hard
Top Depth:	2.4	**Material Moisture:**	
Bottom Depth:	3	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Silt	**Geologic Formation:**	
Material 2:	Clay	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	lacustrine

Gsc Material Description:
Stratum Description: SILT,CLAY. GREY,LACUSTRINE,HARD, AGE GLACIAL, WATER STABLE AT 357.9 FEET.

Geology Stratum ID:	218507795	**Mat Consistency:**	Dense
Top Depth:	3	**Material Moisture:**	
Bottom Depth:	5.5	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Gravel	**Geologic Group:**	
Material 3:	Silt	**Geologic Period:**	

Material 4:	Clay	**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,GRAVEL, SILT,CLAY. BROWN,FLUVIO-GLACIAL,DENSE, LENSES,AGE GLACIAL.		

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Details:	File: TOR2.txt RecordID: 125230 NTS_Sheet: 30M12H		
Confiden 1:	Logged by professional. Exact and complete description of material and properties.		

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Originators:	Geological Survey of Canada		

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5 ***1 of 1*** ***WSW/0.0*** ***110.0 / -0.19*** ***ON*** ***BORE***

Borehole ID:	644500	**Inclin FLG:**	No
OGF ID:	215544883	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	MAY-1962	**Municipality:**	
Static Water Level:	0.6	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.634032
Total Depth m:	6.6	**Longitude DD:**	-79.504884
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620605
Drill Method:	Boring	**Northing:**	4832313
Orig Ground Elev m:	109	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	110		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218507788	**Mat Consistency:**	Loose
Top Depth:	.2	**Material Moisture:**	
Bottom Depth:	2.7	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,SILT, CLAY. BROWN,FLUVIO-GLACIAL,LOOSE, AGE GLACIAL.		

Geology Stratum ID:	218507787	**Mat Consistency:**	

Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.2	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Soil	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SOIL.

Geology Stratum ID:	218507791	**Mat Consistency:**	Hard
Top Depth:	5.5	**Material Moisture:**	
Bottom Depth:	6.6	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:	Limestone	**Depositional Gen:**	glacial

Gsc Material Description:
Stratum Description: TILL,SILT,CLAY, LIMESTONE. GREY,GLACIAL,HARD,AGE GLACIAL.0009001500150040001800190010
**Note: Many records provided by the department have a truncated [Stratum Description] field.

Geology Stratum ID:	218507789	**Mat Consistency:**	Dense
Top Depth:	2.7	**Material Moisture:**	
Bottom Depth:	4.6	**Material Texture:**	
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Gravel	**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial

Gsc Material Description:
Stratum Description: SAND,SILT,GRAVEL. BROWN,FLUVIO-GLACIAL,DENSE, LENSES,AGE GLACIAL, WATER STABLE AT 357.9 FEET.

Geology Stratum ID:	218507790	**Mat Consistency:**	Hard
Top Depth:	4.6	**Material Moisture:**	
Bottom Depth:	5.5	**Material Texture:**	Medium
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Silt	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:		**Depositional Gen:**	lacustrine

Gsc Material Description:
Stratum Description: SILT,SAND-MEDIUM, CLAY. GREY,LACUSTRINE,HARD, AGE GLACIAL.

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level

Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR2.txt RecordID: 125220 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		

Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
6	1 of 1	NW/0.0	109.5 / -0.75	ON	BORE

Borehole ID:	644504	**Inclin FLG:**	No
OGF ID:	215544887	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	MAY-1962	**Municipality:**	
Static Water Level:	0.6	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.63457
Total Depth m:	6.1	**Longitude DD:**	-79.504746
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620615
Drill Method:	Boring	**Northing:**	4832373
Orig Ground Elev m:	109	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	110		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218507809	**Mat Consistency:**	Hard
Top Depth:	4.6	**Material Moisture:**	
Bottom Depth:	6.1	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:	Gravel	**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	TILL,SILT,CLAY, GRAVEL. GREY,GLACIAL,HARD,AGE GLACIAL.00006020001250280015002300010. GR **Note: Many records provided by the department have a truncated [Stratum Description] field.		

Geology Stratum ID:	218507807	**Mat Consistency:**	Dense
Top Depth:	.2	**Material Moisture:**	
Bottom Depth:	3.8	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,SILT, CLAY. BROWN,FLUVIO-GLACIAL,DENSE, LENSES,AGE GLACIAL.		

Geology Stratum ID:	218507806	**Mat Consistency:**	
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.2	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Soil	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SOIL.		

Geology Stratum ID:	218507808	**Mat Consistency:**	Dense
Top Depth:	3.8	**Material Moisture:**	
Bottom Depth:	4.6	**Material Texture:**	

Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Gravel	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:	Silt	**Geologic Period:**	
Material 4:	Clay	**Depositional Gen:**	glacial

Gsc Material Description:
Stratum Description: GRAVEL,SAND,SILT, CLAY. BROWN,GLACIAL,DENSE, AGE GLACIAL, WATER STABLE AT 358.0 FEET.

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level

Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR2.txt RecordID: 125260 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		

Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

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7 | ***1 of 1*** | ***W/0.0*** | ***110.1 / -0.16*** | ***ON*** | ***BORE***

Borehole ID:	644499	**Inclin FLG:**	No
OGF ID:	215544882	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	MAY-1962	**Municipality:**	
Static Water Level:	0.3	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.634213
Total Depth m:	6.4	**Longitude DD:**	-79.505003
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620595
Drill Method:	Boring	**Northing:**	4832333
Orig Ground Elev m:	109	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	110		

Concession:
Location D:
Survey D:
Comments:

Borehole Geology Stratum

Geology Stratum ID:	218507784	**Mat Consistency:**	Dense
Top Depth:	.2	**Material Moisture:**	
Bottom Depth:	4.3	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial

Gsc Material Description:
Stratum Description: SAND-MEDIUM,SILT, CLAY. BROWN,FLUVIO-GLACIAL,DENSE, AGE GLACIAL.

Geology Stratum ID:	218507785	**Mat Consistency:**	Dense
Top Depth:	4.3	**Material Moisture:**	
Bottom Depth:	5.5	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Silt	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	lacustrine

Gsc Material Description:
Stratum Description: SILT,SAND-MEDIUM. BROWN,LACUSTRINE,DENSE, AGE GLACIAL, WATER STABLE AT 358.9 FEET.

Geology Stratum ID:	218507786	**Mat Consistency:**	Stiff
Top Depth:	5.5	**Material Moisture:**	
Bottom Depth:	6.4	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:	Gravel	**Depositional Gen:**	glacial

Gsc Material Description:
Stratum Description: TILL,SILT,CLAY, GRAVEL. GREY,GLACIAL,STIFF, AGE GLACIAL. 00008020001400420018000500010 **Note: Many records provided by the department have a truncated [Stratum Description] field.

Geology Stratum ID:	218507783	**Mat Consistency:**	
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.2	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Soil	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SOIL.

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level

Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR2.txt RecordID: 125210 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		

Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

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8 ***1 of 2*** ***E/0.0*** ***97.6 / -12.63*** ***ON*** ***BORE***

Borehole ID:	653549	**Inclin FLG:**	No
OGF ID:	215553899	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No

Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	JUN-1963	**Municipality:**	
Static Water Level:		**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.634284
Total Depth m:	6.2	**Longitude DD:**	-79.503514
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620715
Drill Method:	Boring	**Northing:**	4832343
Orig Ground Elev m:	108	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	105		

Concession:
Location D:
Survey D:
Comments:

Borehole Geology Stratum

Geology Stratum ID:	218539488	**Mat Consistency:**	Dense
Top Depth:	1.5	**Material Moisture:**	
Bottom Depth:	3.4	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SAND-FINE TO MEDIUM.BROWN,DENSE.

Geology Stratum ID:	218539487	**Mat Consistency:**	Loose
Top Depth:	.9	**Material Moisture:**	
Bottom Depth:	1.5	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SAND-FINE TO MEDIUM,SAND-MEDIUM. BROWN,LOOSE.

Geology Stratum ID:	218539490	**Mat Consistency:**	Dense
Top Depth:	5.6	**Material Moisture:**	
Bottom Depth:	6.2	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SAND-MEDIUM,SILT. BROWN,VERY DENSE. 0000000300030021000500290011006300185075 **Note: Many records provided by the department have a truncated [Stratum Description] field.

Geology Stratum ID:	218539486	**Mat Consistency:**	
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.9	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SAND-FINE TO MEDIUM,SAND-MEDIUM. BROWN.

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Geology Stratum ID:	218539489	**Mat Consistency:**	Dense
Top Depth:	3.4	**Material Moisture:**	
Bottom Depth:	5.6	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:	Gravel	**Geologic Period:**	
Material 4:	Clay	**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SAND-FINE TO MEDIUM,SAND-MEDIUM,GRAVEL, CLAY. BROWN,VERY DENSE.

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level

Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR3.txt RecordID: 242120 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		

Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

8	2 of 2	E/0.0	97.6 / -12.63	ON	BORE

Borehole ID:	654393	**Inclin FLG:**	No
OGF ID:	215554738	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	JUN-1963	**Municipality:**	
Static Water Level:		**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.634284
Total Depth m:	6.2	**Longitude DD:**	-79.503514
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620715
Drill Method:	Boring	**Northing:**	4832343
Orig Ground Elev m:	108	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	105		

Concession:
Location D:
Survey D:
Comments:

Borehole Geology Stratum

Geology Stratum ID:	218543198	**Mat Consistency:**	
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.9	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	

Material 2:	Sand	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SAND-FINE TO MEDIUM,SAND-MEDIUM. BROWN.		

Geology Stratum ID:	218543200	**Mat Consistency:**	Dense
Top Depth:	1.5	**Material Moisture:**	
Bottom Depth:	3.4	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SAND-FINE TO MEDIUM.BROWN,DENSE.		

Geology Stratum ID:	218543199	**Mat Consistency:**	Loose
Top Depth:	.9	**Material Moisture:**	
Bottom Depth:	1.5	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SAND-FINE TO MEDIUM,SAND-MEDIUM. BROWN,LOOSE.		

Geology Stratum ID:	218543201	**Mat Consistency:**	Dense
Top Depth:	3.4	**Material Moisture:**	
Bottom Depth:	5.6	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:	Gravel	**Geologic Period:**	
Material 4:	Clay	**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SAND-FINE TO MEDIUM,SAND-MEDIUM,GRAVEL, CLAY. BROWN,VERY DENSE.		

Geology Stratum ID:	218543202	**Mat Consistency:**	Dense
Top Depth:	5.6	**Material Moisture:**	
Bottom Depth:	6.2	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,SILT. BROWN,VERY DENSE. 0000000300030021000500290011006300185075 **Note: Many records provided by the department have a truncated [Stratum Description] field.		

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Details:	File: TOR3.txt RecordID: 250580 NTS_Sheet: 30M12H		
Confiden 1:	Logged by professional. Exact and complete description of material and properties.		

Source List

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Originators:	Geological Survey of Canada		

9 **1 of 1** **NNW/0.0** **104.6 / -5.64** **ON** **BORE**

Borehole ID:	644754	**Inclin FLG:**	No
OGF ID:	215545137	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	MAY-1962	**Municipality:**	
Static Water Level:	0.5	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.63484
Total Depth m:	5.7	**Longitude DD:**	-79.50474
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620615
Drill Method:	Boring	**Northing:**	4832403
Orig Ground Elev m:	109	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	109		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218508730	**Mat Consistency:**	Hard
Top Depth:	4.3	**Material Moisture:**	
Bottom Depth:	5.7	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:	Gravel	**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	TILL,SILT,CLAY, GRAVEL. GREY,GLACIAL,HARD,AGE GLACIAL.00003002000700220014001400012 **Note: Many records provided by the department have a truncated [Stratum Description] field.		

Geology Stratum ID:	218508728	**Mat Consistency:**	Loose
Top Depth:	.1	**Material Moisture:**	
Bottom Depth:	2.1	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,SILT. BROWN,FLUVIO-GLACIAL,LOOSE, LAYERED,AGE GLACIAL.		

Geology Stratum ID:	218508727	**Mat Consistency:**	
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.1	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Soil	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Gsc Material Description:
Stratum Description: SOIL.

Geology Stratum ID: 218508729
Top Depth: 2.1
Bottom Depth: 4.3
Material Color: Brown
Material 1: Sand
Material 2: Gravel
Material 3: Silt
Material 4: Clay
Mat Consistency: Dense
Material Moisture:
Material Texture: Medium
Non Geo Mat Type:
Geologic Formation:
Geologic Group:
Geologic Period:
Depositional Gen: glacial

Gsc Material Description:
Stratum Description: SAND-MEDIUM,GRAVEL, SILT,CLAY. GREY,BROWN,FLUVIO-GLACIAL, DENSE,LAYERED,AGE GLACIAL, WATER STABLE AT 358.2 FEET.

Source

Source Type: Data Survey
Source Orig: Geological Survey of Canada
Source Date: 1956-1972
Confidence: H
Observatio:
Source Appl: Spatial/Tabular
Source Iden: 1
Scale or Res: Varies
Horizontal: NAD27
Verticalda: Mean Average Sea Level
Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR2.txt RecordID: 127760 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source List

Source Identifier: 1
Source Type: Data Survey
Source Date: 1956-1972
Scale or Resolution: Varies
Horizontal Datum: NAD27
Vertical Datum: Mean Average Sea Level
Projection Name: Universal Transverse Mercator
Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

10	1 of 15	E/0.0	93.4 / -16.83	ETOBICOKE BOARD OF EDUCATION KINGSMILL SECONDARY SCHOOL 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	GEN

Generator No: ON0077711
SIC Code: 8163
SIC Description: EDUCATION ADMIN.
Approval Years: 86,87,88,89,90,98
PO Box No:
Country:
Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 251
Waste Class Desc: OIL SKIMMINGS & SLUDGES

Waste Class: 252
Waste Class Desc: WASTE OILS & LUBRICANTS

10	2 of 15	E/0.0	93.4 / -16.83	ETOBICOKE BOARD OF EDUCATION 14-040 KINGSMILL SECONDARY SCHOOL 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	GEN

Generator No: ON0077711
Status:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

SIC Code: 8163
SIC Description: EDUCATION ADMIN.
Approval Years: 92,93,94,95,96,97
PO Box No:
Country:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 251
Waste Class Desc: OIL SKIMMINGS & SLUDGES

Waste Class: 252
Waste Class Desc: WASTE OILS & LUBRICANTS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
10	3 of 15	E/0.0	93.4 / -16.83	METROPOLITAN SEPARATE SCHOOL BOARD BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	GEN

Generator No: ON0121839
SIC Code: 8511
SIC Description: ELEMT./SECON. EDUC.
Approval Years: 89,90,92,93,97,98,99,00,01
PO Box No:
Country:
Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 241
Waste Class Desc: HALOGENATED SOLVENTS

Waste Class: 243
Waste Class Desc: PCB'S

Waste Class: 251
Waste Class Desc: OIL SKIMMINGS & SLUDGES

Waste Class: 252
Waste Class Desc: WASTE OILS & LUBRICANTS

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 211
Waste Class Desc: AROMATIC SOLVENTS

Waste Class: 212
Waste Class Desc: ALIPHATIC SOLVENTS

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
10	4 of 15	E/0.0	93.4 / -16.83	METROPOLITAN SEPARATE SCHOOL BRD. 26-363 BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD	GEN

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

ETOBICOKE ON M8Y 2T3

Generator No:	ON0121839	***Status:***	
SIC Code:	8511	***Co Admin:***	
SIC Description:	ELEMT./SECON. EDUC.	***Choice of Contact:***	
Approval Years:	94,95,96	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	251
Waste Class Desc:	OIL SKIMMINGS & SLUDGES
Waste Class:	252
Waste Class Desc:	WASTE OILS & LUBRICANTS
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES
Waste Class:	241
Waste Class Desc:	HALOGENATED SOLVENTS
Waste Class:	243
Waste Class Desc:	PCB'S
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	211
Waste Class Desc:	AROMATIC SOLVENTS
Waste Class:	212
Waste Class Desc:	ALIPHATIC SOLVENTS
Waste Class:	221
Waste Class Desc:	LIGHT FUELS

10	***5 of 15***	***E/0.0***	***93.4 / -16.83***	***TORONTO CATHOLIC DISTRICT SCHOOL BOARD*** ***BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD*** ***ETOBICOKE ON M8Y 2T3***	***GEN***

Generator No:	ON0121839	***Status:***	
SIC Code:	611110	***Co Admin:***	
SIC Description:	Elementary & Secondary Schools	***Choice of Contact:***	
Approval Years:	02,03,04,05,06,07,08	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	312
Waste Class Desc:	PATHOLOGICAL WASTES
Waste Class:	211
Waste Class Desc:	AROMATIC SOLVENTS
Waste Class:	212

Waste Class Desc: ALIPHATIC SOLVENTS

Waste Class: 241
Waste Class Desc: HALOGENATED SOLVENTS

Waste Class: 251
Waste Class Desc: OIL SKIMMINGS & SLUDGES

Waste Class: 252
Waste Class Desc: WASTE OILS & LUBRICANTS

Waste Class: 243
Waste Class Desc: PCB'S

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
10	6 of 15	E/0.0	93.4 / -16.83	KINGSMILL (SEE & USE ON0077711 ETOBICO) 721 ROYAL YORK RD. TORONTO ON M8Y 2T3	GEN

Generator No: ON0219600
SIC Code: 0009
SIC Description: *** ERROR RECORD ***
Approval Years: 92,93
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
10	7 of 15	E/0.0	93.4 / -16.83	TORONTO CATHOLIC DISTRICT SCHOOL BOARD BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	GEN

Generator No: ON0121839
SIC Code: 611110
SIC Description: Elementary and Secondary Schools
Approval Years: 2009
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 243
Waste Class Desc: PCBS

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 312
Waste Class Desc: PATHOLOGICAL WASTES

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
10	8 of 15	E/0.0	93.4 / -16.83	TORONTO CATHOLIC DISTRICT SCHOOL BOARD BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	GEN

Generator No: ON0121839
SIC Code: 611110
SIC Description: Elementary and Secondary Schools
Approval Years: 2010
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 121
Waste Class Desc: ALKALINE WASTES - HEAVY METALS

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 243
Waste Class Desc: PCBS

Waste Class: 312
Waste Class Desc: PATHOLOGICAL WASTES

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
10	9 of 15	E/0.0	93.4 / -16.83	TORONTO CATHOLIC DISTRICT SCHOOL BOARD BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T3	GEN

Generator No: ON0121839
SIC Code: 611110

Status:
Co Admin:

SIC Description:	Elementary and Secondary Schools	***Choice of Contact:***	
Approval Years:	2011	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES
Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	112
Waste Class Desc:	ACID WASTE - HEAVY METALS
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	312
Waste Class Desc:	PATHOLOGICAL WASTES
Waste Class:	243
Waste Class Desc:	PCBS
Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
10	10 of 15	E/0.0	93.4 / -16.83	***TORONTO CATHOLIC DISTRICT SCHOOL BOARD*** ***BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD*** ***ETOBICOKE ON M8Y 2T3***	***GEN***

Generator No:	ON0121839	***Status:***	
SIC Code:	611110	***Co Admin:***	
SIC Description:	Elementary and Secondary Schools	***Choice of Contact:***	
Approval Years:	2012	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	112
Waste Class Desc:	ACID WASTE - HEAVY METALS
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	243
Waste Class Desc:	PCBS
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES

Waste Class: 121
Waste Class Desc: ALKALINE WASTES - HEAVY METALS

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 312
Waste Class Desc: PATHOLOGICAL WASTES

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
10	11 of 15	E/0.0	93.4 / -16.83	TORONTO CATHOLIC DISTRICT SCHOOL BOARD BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD ETOBICOKE ON	GEN

Generator No: ON0121839
SIC Code: 611110
SIC Description: ELEMENTARY AND SECONDARY SCHOOLS
Approval Years: 2013
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 122
Waste Class Desc: ALKALINE WASTES - OTHER METALS

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 312
Waste Class Desc: PATHOLOGICAL WASTES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 121
Waste Class Desc: ALKALINE WASTES - HEAVY METALS

Waste Class: 243
Waste Class Desc: PCBS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
10	12 of 15	E/0.0	93.4 / -16.83	TORONTO CATHOLIC DISTRICT SCHOOL BOARD BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD	GEN

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

ETOBICOKE ON M8Y 2T3

Generator No:	ON0121839	***Status:***	
SIC Code:	611110	***Co Admin:***	Kelly Kwon
SIC Description:	ELEMENTARY AND SECONDARY SCHOOLS	***Choice of Contact:***	CO_OFFICIAL
Approval Years:	2016	***Phone No Admin:***	416-222-8282 Ext.2111
PO Box No:		***Contam. Facility:***	No
Country:	Canada	***MHSW Facility:***	No

Detail(s)

Waste Class:	122
Waste Class Desc:	ALKALINE WASTES - OTHER METALS
Waste Class:	112
Waste Class Desc:	ACID WASTE - HEAVY METALS
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES
Waste Class:	243
Waste Class Desc:	PCBS
Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS
Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	312
Waste Class Desc:	PATHOLOGICAL WASTES

10	***13 of 15***	***E/0.0***	***93.4 / -16.83***	***TORONTO CATHOLIC DISTRICT SCHOOL BOARD*** ***BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD*** ***ETOBICOKE ON M8Y 2T3***	***GEN***

Generator No:	ON0121839	***Status:***	
SIC Code:	611110	***Co Admin:***	Kelly Kwon
SIC Description:	ELEMENTARY AND SECONDARY SCHOOLS	***Choice of Contact:***	CO_OFFICIAL
Approval Years:	2015	***Phone No Admin:***	416-222-8282 Ext.2111
PO Box No:		***Contam. Facility:***	No
Country:	Canada	***MHSW Facility:***	No

Detail(s)

Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	243
Waste Class Desc:	PCBS

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 122
Waste Class Desc: ALKALINE WASTES - OTHER METALS

Waste Class: 121
Waste Class Desc: ALKALINE WASTES - HEAVY METALS

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 312
Waste Class Desc: PATHOLOGICAL WASTES

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10 | ***14 of 15*** | ***E/0.0*** | ***93.4 / -16.83*** | ***TORONTO CATHOLIC DISTRICT SCHOOL BOARD***
BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD
ETOBICOKE ON M8Y 2T3 | ***GEN***

Generator No:	ON0121839	***Status:***	
SIC Code:	611110	***Co Admin:***	Kelly Kwon
SIC Description:	ELEMENTARY AND SECONDARY SCHOOLS	***Choice of Contact:***	CO_OFFICIAL
Approval Years:	2014	***Phone No Admin:***	416-222-8282 Ext.2111
PO Box No:		***Contam. Facility:***	No
Country:	Canada	***MHSW Facility:***	No

Detail(s)

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 122
Waste Class Desc: ALKALINE WASTES - OTHER METALS

Waste Class: 312
Waste Class Desc: PATHOLOGICAL WASTES

Waste Class: 121
Waste Class Desc: ALKALINE WASTES - HEAVY METALS

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 243
Waste Class Desc: PCBS

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10 | ***15 of 15*** | ***E/0.0*** | ***93.4 / -16.83*** | ***TORONTO CATHOLIC DISTRICT SCHOOL BOARD***
BISHOP ALLEN ACADEMY 721 ROYAL YORK ROAD
ETOBICOKE ON M8Y 2T3 | ***GEN***

Generator No:	ON0121839	***Status:***	Registered
SIC Code:		***Co Admin:***	
SIC Description:		***Choice of Contact:***	
Approval Years:	As of Dec 2018	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:	Canada	***MHSW Facility:***	

Detail(s)

Waste Class: 112 C
Waste Class Desc: Acid solutions - containing heavy metals

Waste Class: 121 C
Waste Class Desc: Alkaline slutions - containing heavy metals

Waste Class: 122 C
Waste Class Desc: Alkaline slutions - containing other metals and non-metals (not cyanide)

Waste Class: 148 B
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 148 C
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 263 B
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 263 I
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 264 C
Waste Class Desc: Photoprocessing wastes

Waste Class: 264 L
Waste Class Desc: Photoprocessing wastes

Waste Class: 312 P
Waste Class Desc: Pathological wastes

Waste Class: 331 I
Waste Class Desc: Waste compressed gases including cylinders

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11 | ***1 of 1*** | ***WNW/0.0*** | ***109.5 / -0.73*** | ***ON*** | ***BORE***

Borehole ID:	644506	***Inclin FLG:***	No
OGF ID:	215544889	***SP Status:***	Initial Entry
Status:		***Surv Elev:***	No
Type:	Borehole	***Piezometer:***	No
Use:	Geotechnical/Geological Investigation	***Primary Name:***	

Completion Date:	MAY-1962	**Municipality:**	
Static Water Level:	0.6	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.63476
Total Depth m:	6.1	**Longitude DD:**	-79.505485
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620555
Drill Method:	Boring	**Northing:**	4832393
Orig Ground Elev m:	109	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	110		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218507815	**Mat Consistency:**	Dense
Top Depth:	.3	**Material Moisture:**	
Bottom Depth:	4.6	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Gravel	**Geologic Group:**	
Material 3:	Silt	**Geologic Period:**	
Material 4:	Clay	**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,GRAVEL, SILT,CLAY. BROWN,FLUVIO-GLACIAL,DENSE, LAYERED,AGE GLACIAL.		

Geology Stratum ID:	218507816	**Mat Consistency:**	Dense
Top Depth:	4.6	**Material Moisture:**	
Bottom Depth:	4.9	**Material Texture:**	
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:	Gravel	**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND,SILT,CLAY, GRAVEL. BROWN,GLACIAL,DENSE,LENSES, AGE GLACIAL, WATER STABLE AT 357.9 FEET.		

Geology Stratum ID:	218507817	**Mat Consistency:**	Stiff
Top Depth:	4.9	**Material Moisture:**	
Bottom Depth:	6.1	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:	Gravel	**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	TILL,SILT,CLAY, GRAVEL. GREY,GLACIAL,STIFF, AGE GLACIAL. 000100240016001600008 **Note: Many records provided by the department have a truncated [Stratum Description] field.		

Geology Stratum ID:	218507814	**Mat Consistency:**	
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.3	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Soil	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SOIL.		

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Source

Source Type:	Data Survey	***Source Appl:***	Spatial/Tabular
Source Orig:	Geological Survey of Canada	***Source Iden:***	1
Source Date:	1956-1972	***Scale or Res:***	Varies
Confidence:	H	***Horizontal:***	NAD27
Observatio:		***Verticalda:***	Mean Average Sea Level

Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR2.txt RecordID: 125280 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source List

Source Identifier:	1	***Horizontal Datum:***	NAD27
Source Type:	Data Survey	***Vertical Datum:***	Mean Average Sea Level
Source Date:	1956-1972	***Projection Name:***	Universal Transverse Mercator
Scale or Resolution:	Varies		

Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

12	***1 of 1***	***NW/0.0***	***105.8 / -4.47***	***ON***	***BORE***

Borehole ID:	644505	***Inclin FLG:***	No
OGF ID:	215544888	***SP Status:***	Initial Entry
Status:		***Surv Elev:***	No
Type:	Borehole	***Piezometer:***	No
Use:	Geotechnical/Geological Investigation	***Primary Name:***	
Completion Date:	MAY-1962	***Municipality:***	
Static Water Level:	0.4	***Lot:***	
Primary Water Use:	Not Used	***Township:***	
Sec. Water Use:		***Latitude DD:***	43.635028
Total Depth m:	4.1	***Longitude DD:***	-79.505355
Depth Ref:	Ground Surface	***UTM Zone:***	17
Depth Elev:		***Easting:***	620565
Drill Method:	Boring	***Northing:***	4832423
Orig Ground Elev m:	109	***Location Accuracy:***	
Elev Reliabil Note:		***Accuracy:***	Not Applicable
DEM Ground Elev m:	108		

Concession:
Location D:
Survey D:
Comments:

Borehole Geology Stratum

Geology Stratum ID:	218507811	***Mat Consistency:***	Stiff
Top Depth:	.3	***Material Moisture:***	
Bottom Depth:	2	***Material Texture:***	
Material Color:	Brown	***Non Geo Mat Type:***	
Material 1:	Silt	***Geologic Formation:***	
Material 2:	Clay	***Geologic Group:***	
Material 3:	Sand	***Geologic Period:***	
Material 4:	Gravel	***Depositional Gen:***	lacustrine

Gsc Material Description:
Stratum Description: SILT,CLAY,SAND, GRAVEL. BROWN,LACUSTRINE,STIFF, LAYERED,AGE GLACIAL.

Geology Stratum ID:	218507810	***Mat Consistency:***	
Top Depth:	0	***Material Moisture:***	
Bottom Depth:	.3	***Material Texture:***	
Material Color:		***Non Geo Mat Type:***	
Material 1:	Soil	***Geologic Formation:***	
Material 2:		***Geologic Group:***	

Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SOIL.		

Geology Stratum ID:	218507812	**Mat Consistency:**	Dense
Top Depth:	2	**Material Moisture:**	
Bottom Depth:	2.7	**Material Texture:**	Medium
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Silt	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	lacustrine
Gsc Material Description:			
Stratum Description:	SILT,SAND-MEDIUM. GREY,LACUSTRINE,DENSE, AGE GLACIAL, WATER STABLE AT 358.7 FEET.		

Geology Stratum ID:	218507813	**Mat Consistency:**	Stiff
Top Depth:	2.7	**Material Moisture:**	
Bottom Depth:	4.1	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	
Material 4:	Gravel	**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	TILL,SILT,CLAY, GRAVEL. GREY,GLACIAL,STIFF, AGE GLACIAL. 0001000800065022000870140000601O. GR **Note: Many records provided by the department have a truncated [Stratum Description] field.		

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Details:	File: TOR2.txt RecordID: 125270 NTS_Sheet: 30M12H		
Confiden 1:	Logged by professional. Exact and complete description of material and properties.		

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Originators:	Geological Survey of Canada		

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13 ***1 of 1*** ***SSW/0.0*** ***105.4 / -4.83*** ***ON*** ***BORE***

Borehole ID:	652265	**Inclin FLG:**	No
OGF ID:	215552617	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	NOV-1971	**Municipality:**	
Static Water Level:		**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.632858
Total Depth m:	15.5	**Longitude DD:**	-79.504665
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620625

Drill Method:	Power auger	**Northing:**	4832183
Orig Ground Elev m:	109	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	108		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218535594	**Mat Consistency:**	Stiff
Top Depth:	3.7	**Material Moisture:**	
Bottom Depth:	5.5	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Clay	**Geologic Group:**	
Material 3:	Silt	**Geologic Period:**	Quaternary
Material 4:	Gravel	**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	TILL,CLAY,SILT, GRAVEL. GREY,STIFF,AGE QUATERNARY.		

Geology Stratum ID:	218535595	**Mat Consistency:**	
Top Depth:	5.5	**Material Moisture:**	
Bottom Depth:	15.5	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Shale	**Geologic Formation:**	
Material 2:	Bedrock	**Geologic Group:**	
Material 3:	Mudstone	**Geologic Period:**	Ordovician
Material 4:	Claystone	**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SHALE,BEDROCK, MUDSTONE,CLAYSTONE. GREY,WEATHERED,BEDDED, AGE ORDOVICIAN. 013 01 **Note: Many records provided by the department have a truncated [Stratum Description] field.		

Geology Stratum ID:	218535593	**Mat Consistency:**	Compact
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	3.7	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Gravel	**Geologic Group:**	
Material 3:		**Geologic Period:**	Quaternary
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,GRAVEL. BROWN,COMPACT,AGE QUATERNARY.		

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Details:	File: TOR3.txt RecordID: 229260 NTS_Sheet: 30M12H		
Confiden 1:	Logged by professional. Exact and complete description of material and properties.		

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		
Source Name:	Urban Geology Automated Information System (UGAIS)		

Source Originators: Geological Survey of Canada

14 **1 of 1** **SSW/0.0** **105.0 / -5.28** **ON** **BORE**

Borehole ID:	651345	**Inclin FLG:**	No
OGF ID:	215551697	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	OCT-1971	**Municipality:**	
Static Water Level:	0.2	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.632772
Total Depth m:	15.5	**Longitude DD:**	-79.504915
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620605
Drill Method:	Power auger	**Northing:**	4832173
Orig Ground Elev m:	109	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	108		

Concession:
Location D:
Survey D:
Comments:

Borehole Geology Stratum

Geology Stratum ID:	218532823	**Mat Consistency:**	Stiff
Top Depth:	3.7	**Material Moisture:**	
Bottom Depth:	5.5	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Clay	**Geologic Group:**	
Material 3:	Silt	**Geologic Period:**	Quaternary
Material 4:	Gravel	**Depositional Gen:**	

Gsc Material Description:
Stratum Description: TILL,CLAY,SILT, GRAVEL. GREY,STIFF,AGE QUATERNARY, WATER STABLE AT 357.5 FEET.

Geology Stratum ID:	218532825	**Mat Consistency:**	
Top Depth:	7.6	**Material Moisture:**	
Bottom Depth:	15.5	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Shale	**Geologic Formation:**	
Material 2:	Mudstone	**Geologic Group:**	
Material 3:	Claystone	**Geologic Period:**	Ordovician
Material 4:	Limestone	**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SHALE,MUDSTONE, CLAYSTONE,LIMESTONE.BEDDED,AGE ORDOVICIAN. 013 015 006 **Note: Many records provided by the department have a truncated [Stratum Description] field.

Geology Stratum ID:	218532824	**Mat Consistency:**	
Top Depth:	5.5	**Material Moisture:**	
Bottom Depth:	7.6	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Shale	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	Ordovician
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SHALE. GREY,WEATHERED,AGE ORDOVICIAN.

Geology Stratum ID:	218532821	**Mat Consistency:**	
Top Depth:	0	**Material Moisture:**	

Bottom Depth:	.1	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Soil	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SOIL.		

Geology Stratum ID:	218532822	**Mat Consistency:**	Compact
Top Depth:	.1	**Material Moisture:**	
Bottom Depth:	3.7	**Material Texture:**	
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Gravel	**Geologic Period:**	Quaternary
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SAND,SILT,GRAVEL. BROWN,COMPACT,AGE QUATERNARY.		

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Details:	File: TOR3.txt RecordID: 220060 NTS_Sheet: 30M12H		
Confiden 1:	Logged by professional. Exact and complete description of material and properties.		

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Originators:	Geological Survey of Canada		

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15 | ***1 of 2*** | ***ESE/0.0*** | ***95.9 / -14.38*** | ***ON*** | ***BORE***

Borehole ID:	651346	**Inclin FLG:**	No
OGF ID:	215551698	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	OCT-1971	**Municipality:**	
Static Water Level:		**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.633368
Total Depth m:	15.2	**Longitude DD:**	-79.502297
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620815
Drill Method:	Power auger	**Northing:**	4832243
Orig Ground Elev m:	107	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	105		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218532827	***Mat Consistency:***	
Top Depth:	.6	***Material Moisture:***	
Bottom Depth:	1.2	***Material Texture:***	Medium
Material Color:	Brown	***Non Geo Mat Type:***	
Material 1:	Sand	***Geologic Formation:***	
Material 2:		***Geologic Group:***	
Material 3:		***Geologic Period:***	Quaternary
Material 4:		***Depositional Gen:***	

Gsc Material Description:
Stratum Description: SAND-MEDIUM. BROWN,AGE QUATERNARY.

Geology Stratum ID:	218532831	***Mat Consistency:***	
Top Depth:	7.6	***Material Moisture:***	
Bottom Depth:	15.2	***Material Texture:***	
Material Color:		***Non Geo Mat Type:***	
Material 1:	Shale	***Geologic Formation:***	
Material 2:	Claystone	***Geologic Group:***	
Material 3:	Limestone	***Geologic Period:***	Ordovician
Material 4:		***Depositional Gen:***	

Gsc Material Description:
Stratum Description: SHALE,CLAYSTONE, LIMESTONE. BEDDED,AGE ORDOVICIAN. 005 008 016 **Note: Many records provided by the department have a truncated [Stratum Description] field.

Geology Stratum ID:	218532829	***Mat Consistency:***	Dense
Top Depth:	2.7	***Material Moisture:***	
Bottom Depth:	4.9	***Material Texture:***	Medium
Material Color:	Brown	***Non Geo Mat Type:***	
Material 1:	Sand	***Geologic Formation:***	
Material 2:	Silt	***Geologic Group:***	
Material 3:		***Geologic Period:***	Quaternary
Material 4:		***Depositional Gen:***	

Gsc Material Description:
Stratum Description: SAND-MEDIUM,SILT. BROWN,DENSE,AGE QUATERNARY.

Geology Stratum ID:	218532828	***Mat Consistency:***	Dense
Top Depth:	1.2	***Material Moisture:***	
Bottom Depth:	2.7	***Material Texture:***	Medium
Material Color:	Brown	***Non Geo Mat Type:***	
Material 1:	Silt	***Geologic Formation:***	
Material 2:	Sand	***Geologic Group:***	
Material 3:		***Geologic Period:***	Quaternary
Material 4:		***Depositional Gen:***	

Gsc Material Description:
Stratum Description: SILT,SAND-MEDIUM. BROWN,DENSE,SEAMS, AGE QUATERNARY.

Geology Stratum ID:	218532826	***Mat Consistency:***	Loose
Top Depth:	0	***Material Moisture:***	
Bottom Depth:	.6	***Material Texture:***	
Material Color:	Brown	***Non Geo Mat Type:***	
Material 1:	Fill	***Geologic Formation:***	
Material 2:	Silt	***Geologic Group:***	
Material 3:	Sand	***Geologic Period:***	
Material 4:	Gravel	***Depositional Gen:***	fill

Gsc Material Description:
Stratum Description: FILL,SILT,SAND, GRAVEL. BROWN,LOOSE.

Geology Stratum ID:	218532830	***Mat Consistency:***	Stiff
Top Depth:	4.9	***Material Moisture:***	
Bottom Depth:	7.6	***Material Texture:***	
Material Color:	Grey	***Non Geo Mat Type:***	
Material 1:	Till	***Geologic Formation:***	
Material 2:	Silt	***Geologic Group:***	

Material 3:	Clay	**Geologic Period:**	Quaternary
Material 4:	Gravel	**Depositional Gen:**	

Gsc Material Description:
Stratum Description: TILL,SILT,CLAY, GRAVEL. GREY,STIFF,AGE QUATERNARY.

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level

Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR3.txt RecordID: 220070 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source List

Source Identifier:	1	**Horizontal Datum:**	NAD27
Source Type:	Data Survey	**Vertical Datum:**	Mean Average Sea Level
Source Date:	1956-1972	**Projection Name:**	Universal Transverse Mercator
Scale or Resolution:	Varies		

Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

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15 ***2 of 2*** ***ESE/0.0*** ***95.9 / -14.38*** ***ON*** ***BORE***

Borehole ID:	652270	**Inclin FLG:**	No
OGF ID:	215552622	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	NOV-1971	**Municipality:**	
Static Water Level:		**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.633368
Total Depth m:	15.1	**Longitude DD:**	-79.502297
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620815
Drill Method:	Power auger	**Northing:**	4832243
Orig Ground Elev m:	107	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	105		

Concession:
Location D:
Survey D:
Comments:

Borehole Geology Stratum

Geology Stratum ID:	218535605	**Mat Consistency:**	Compact
Top Depth:	.6	**Material Moisture:**	
Bottom Depth:	1.2	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	Quaternary
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SAND-MEDIUM. BROWN,COMPACT,AGE QUATERNARY.

Geology Stratum ID:	218535607	**Mat Consistency:**	Dense
Top Depth:	2.7	**Material Moisture:**	
Bottom Depth:	4.9	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Gravel	**Geologic Period:**	Quaternary
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SAND-MEDIUM,SILT, GRAVEL. BROWN,VERY DENSE,SEAMS, AGE QUATERNARY.

Geology Stratum ID:	218535606	**Mat Consistency:**	Dense
Top Depth:	1.2	**Material Moisture:**	
Bottom Depth:	2.7	**Material Texture:**	
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Silt	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:		**Geologic Period:**	Quaternary
Material 4:		**Depositional Gen:**	

Gsc Material Description:
Stratum Description: SILT,SAND. BROWN,DENSE,SEAMS, AGE QUATERNARY.

Geology Stratum ID:	218535609	**Mat Consistency:**	
Top Depth:	7.6	**Material Moisture:**	
Bottom Depth:	15.1	**Material Texture:**	
Material Color:		**Non Geo Mat Type:**	
Material 1:	Bedrock	**Geologic Formation:**	
Material 2:	Mudstone	**Geologic Group:**	
Material 3:	Shale	**Geologic Period:**	Ordovician
Material 4:	Limestone	**Depositional Gen:**	

Gsc Material Description:
Stratum Description: BEDROCK,MUDSTONE, SHALE,LIMESTONE. BEDDED,AGE ORDOVICIAN. 005 008 016 **Note: Many records provided by the department have a truncated [Stratum Description] field.

Geology Stratum ID:	218535604	**Mat Consistency:**	Loose
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.6	**Material Texture:**	
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Fill	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Sand	**Geologic Period:**	
Material 4:	Gravel	**Depositional Gen:**	fill

Gsc Material Description:
Stratum Description: FILL,SILT,SAND, GRAVEL. BROWN,LOOSE.

Geology Stratum ID:	218535608	**Mat Consistency:**	Stiff
Top Depth:	4.9	**Material Moisture:**	
Bottom Depth:	7.6	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Clay	**Geologic Period:**	Quaternary
Material 4:	Gravel	**Depositional Gen:**	

Gsc Material Description:
Stratum Description: TILL,SILT,CLAY, GRAVEL. GREY,STIFF,AGE QUATERNARY.

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level

Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR3.txt RecordID: 229310 NTS_Sheet: 30M12H

Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source List

Source Identifier:	1	***Horizontal Datum:***	NAD27
Source Type:	Data Survey	***Vertical Datum:***	Mean Average Sea Level
Source Date:	1956-1972	***Projection Name:***	Universal Transverse Mercator
Scale or Resolution:	Varies		
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Originators:	Geological Survey of Canada		

16 ***1 of 1*** ***ENE/5.7*** ***98.2 / -12.01*** ***GARDINER EXP ETOBICOKE ON*** ***WWIS***

Well ID:	7283198	***Data Entry Status:***	
Construction Date:		***Data Src:***	
Primary Water Use:	Monitoring	***Date Received:***	3/14/2017
Sec. Water Use:		***Selected Flag:***	TRUE
Final Well Status:	Observation Wells	***Abandonment Rec:***	
Water Type:		***Contractor:***	7360
Casing Material:		***Form Version:***	7
Audit No:	Z251786	***Owner:***	
Tag:	A193982	***Street Name:***	GARDINER EXP
Construction Method:		***County:***	YORK AND TORONTO
Elevation (m):		***Municipality:***	ETOBICOKE BOROUGH
Elevation Reliability:		***Site Info:***	
Depth to Bedrock:		***Lot:***	
Well Depth:		***Concession:***	
Overburden/Bedrock:		***Concession Name:***	
Pump Rate:		***Easting NAD83:***	
Static Water Level:		***Northing NAD83:***	
Flowing (Y/N):		***Zone:***	
Flow Rate:		***UTM Reliability:***	
Clear/Cloudy:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/728\7283198.pdf

Additional Detail(s) (Map)

Well Completed Date:	2017/02/10
Year Completed:	2017
Depth (m):	
Latitude:	43.6346535610178
Longitude:	-79.5027439610725
Path:	728\7283198.pdf

Bore Hole Information

Bore Hole ID:	1006367350	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	620776.00
Code OB Desc:		***North83:***	4832385.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	10-Feb-2017 00:00:00	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			

Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 1006594504
Layer:
Color:
General Color:
Mat1:
Most Common Material:
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth:
Formation End Depth:
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1006594510
Method Construction Code: E
Method Construction: Auger
Other Method Construction:

Pipe Information

Pipe ID: 1006594503
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1006594507
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From:
Depth To:
Casing Diameter: 2.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1006594508
Layer: 1
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.5

Water Details

Water ID: 1006594506

Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1006594505
Diameter:
Depth From:
Depth To:
Hole Depth UOM: ft
Hole Diameter UOM: inch

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17 | ***1 of 1*** | ***ESE/24.1*** | ***95.9 / -14.29*** | ***The Rear of #3 Tizzard Ave Toronto ON M8Y 3Z4*** | ***SPL***

Ref No: 4822-8MYLAD
Site No:
Incident Dt: 10/25/2011
Year:
Incident Cause: Discharge Or Bypass To A Watercourse
Incident Event:
Contaminant Code: 44
Contaminant Name: SEWAGE,RAW UNCHLORINATED
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: Possible
Nature of Impact: Surface Water Pollution
Receiving Medium:
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 10/25/2011
Dt Document Closed:
Incident Reason: Spill
Site Name: Surcharging Manhole<UNOFFICIAL>
Site County/District:
Site Geo Ref Meth:
Incident Summary: City of Toronto: Manhole Surcharging to Mimico Creek.
Contaminant Qty: 0 other - see incident description

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type: Sewer
Agency Involved:
Nearest Watercourse:
Site Address: The Rear of #3 Tizzard Ave
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: Toronto
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class: Sewage Bypasses / Overflows
Source Type:

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18 | ***1 of 1*** | ***E/28.2*** | ***100.5 / -9.78*** | ***CITY OF TORONTO 260 Berry RD Toronto ON M8Y 1X8*** | ***EASR***

Approval No: R-009-6110177354
Status: REGISTERED
Date: 2017-07-11
Record Type: EASR
Link Source: MOFA
Project Type: Water Taking - Construction Dewatering
Full Address:
Approval Type: EASR-Water Taking - Construction Dewatering
Full PDF Link: http://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/ViewDocument.action?documentRefID=2039192
PDF URL:
PDF Site Location:

SWP Area Name: Toronto
MOE District: Metro Toronto
Municipality: Toronto
Latitude: 43.63472222
Longitude: -79.50222222
Geometry X:
Geometry Y:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
19	1 of 1	WSW/29.8	109.7 / -0.58	714 ROYAL YORK ROAD Toronto ON	WWIS

Well ID: 7295914
Construction Date:
Primary Water Use: Test Hole
Sec. Water Use: Monitoring
Final Well Status: Abandoned Monitoring and Test Hole
Water Type:
Casing Material:
Audit No: Z268128
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src:
Date Received: 9/29/2017
Selected Flag: TRUE
Abandonment Rec: Yes
Contractor: 7241
Form Version: 7
Owner:
Street Name: 714 ROYAL YORK ROAD
County: YORK AND TORONTO
Municipality: ETOBICOKE BOROUGH
Site Info: WKQ-010301 A0-A0
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date: 2017/08/18
Year Completed: 2017
Depth (m):
Latitude: 43.6333879860786
Longitude: -79.5058001510749
Path:

Bore Hole Information

Bore Hole ID: 1006741441
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 18-Aug-2017 00:00:00
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 620532.00
North83: 4832240.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Annular Space/Abandonment Sealing Record

Plug ID: 1006907331
Layer: 1
Plug From: 0.0
Plug To: 75.0
Plug Depth UOM: ft

Method of Construction & Well

Use

Method Construction ID:	1006907330
Method Construction Code:	D
Method Construction:	Direct Push
Other Method Construction:	

Pipe Information

Pipe ID:	1006907322
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1006907326
Layer:	1
Material:	5
Open Hole or Material:	PLASTIC
Depth From:	0.0
Depth To:	5.0
Casing Diameter:	2.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1006907327
Layer:	1
Slot:	10
Screen Top Depth:	5.0
Screen End Depth:	15.0
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	2.25

Water Details

Water ID:	1006907325
Layer:	
Kind Code:	
Kind:	
Water Found Depth:	
Water Found Depth UOM:	ft

Hole Diameter

Hole ID:	1006907324
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

20	***1 of 1***	***WSW/31.4***	***109.7 / -0.58***	***714 ROYAL YORK RD. TORONTO ON***	***WWIS***

Well ID:	7293089	***Data Entry Status:***	
Construction Date:		***Data Src:***	

Primary Water Use:	Test Hole	***Date Received:***	8/18/2017
Sec. Water Use:		***Selected Flag:***	TRUE
Final Well Status:	Monitoring and Test Hole	***Abandonment Rec:***	
Water Type:		***Contractor:***	7241
Casing Material:		***Form Version:***	7
Audit No:	Z263384	***Owner:***	
Tag:	A211635	***Street Name:***	714 ROYAL YORK RD.
Construction Method:		***County:***	YORK AND TORONTO
Elevation (m):		***Municipality:***	TORONTO CITY
Elevation Reliability:		***Site Info:***	
Depth to Bedrock:		***Lot:***	
Well Depth:		***Concession:***	
Overburden/Bedrock:		***Concession Name:***	
Pump Rate:		***Easting NAD83:***	
Static Water Level:		***Northing NAD83:***	
Flowing (Y/N):		***Zone:***	
Flow Rate:		***UTM Reliability:***	
Clear/Cloudy:			

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date:	2017/07/25
Year Completed:	2017
Depth (m):	4.572
Latitude:	43.6333973111261
Longitude:	-79.5058247131252
Path:	

Bore Hole Information

Bore Hole ID:	1006712946	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	620530.00
Code OB Desc:		***North83:***	4832241.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	25-Jul-2017 00:00:00	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1006851214
Layer:	3
Color:	2
General Color:	GREY
Mat1:	05
Most Common Material:	CLAY
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	10.0
Formation End Depth:	15.0

Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1006851212
Layer: 1
Color: 6
General Color: BROWN
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 5.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1006851213
Layer: 2
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 5.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006851222
Layer: 2
Plug From: 6.0
Plug To: 4.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006851221
Layer: 1
Plug From: 0.0
Plug To: 6.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006851223
Layer: 3
Plug From: 4.0
Plug To: 15.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID:	1006851220
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	

Pipe Information

Pipe ID:	1006851211
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1006851217
Layer:	1
Material:	5
Open Hole or Material:	PLASTIC
Depth From:	0.0
Depth To:	5.0
Casing Diameter:	2.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1006851218
Layer:	1
Slot:	10
Screen Top Depth:	5.0
Screen End Depth:	15.0
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	5.0

Water Details

Water ID:	1006851216
Layer:	
Kind Code:	
Kind:	
Water Found Depth:	
Water Found Depth UOM:	ft

Hole Diameter

Hole ID:	1006851215
Diameter:	6.0
Depth From:	0.0
Depth To:	15.0
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

21	***1 of 2***	***SE/32.3***	***100.9 / -9.32***	***26 Oakfield Drive, Etobicoke Toronto ON M8Y 1N7***	***SPL***

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Ref No: 4345-7K7QGR
Site No:
Incident Dt:
Year:
Incident Cause:
Incident Event:
Contaminant Code: 35
Contaminant Name: NATURAL GAS (METHANE)
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: Confirmed
Nature of Impact: Air Pollution
Receiving Medium:
Receiving Env:
MOE Response: No Field Response
Dt MOE Arvl on Scn:
MOE Reported Dt: 10/7/2008
Dt Document Closed:
Incident Reason:
Site Name: Construction Sit<UNOFFICIAL>
Site County/District:
Site Geo Ref Meth:
Incident Summary: TSSA: gas leak, 1/2 " plastic.
Contaminant Qty:

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office: Toronto - District
Site Postal Code:
Site Region:
Site Municipality: Toronto
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class: Air Spills - Gases and Vapours
Source Type:

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21 | **2 of 2** | **SE/32.3** | **100.9 / -9.32** | **26 OAKFIELD DRIVE TORONTO ON M8Y 1N7** | **HINC**

External File Num: FS INC 0810-06007
Fuel Occurrence Type: Pipeline Strike
Date of Occurrence: 10/7/2008
Fuel Type Involved: Natural Gas
Status Desc: Completed - Causal Analysis(End)
Job Type Desc: Incident/Near-Miss Occurrence (FS)
Oper. Type Involved: Private Dwelling
Service Interruptions: No
Property Damage: No
Fuel Life Cycle Stage: Utilization
Root Cause: Root Cause: Equipment/Material/Component:No Procedures:Yes Maintenance:No Design:No Training:No Management:No Human Factors:No
Reported Details:
Fuel Category: Gaseous Fuel
Occurrence Type: Incident
Affiliation: Industry Stakeholder (Licensee/Registration/Certificate Holder, Facility Owner, etc.)
County Name: Toronto
Approx. Quant. Rel:
Nearby body of water:
Enter Drainage Syst.:
Approx. Quant. Unit:
Environmental Impact:

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22 | **1 of 1** | **ESE/35.2** | **97.8 / -12.40** | **ON** | **BORE**

Borehole ID: 636629
OGF ID: 215537026
Status:
Type: Borehole
Use: Geotechnical/Geological Investigation
Completion Date: JUN-1963

Inclin FLG: No
SP Status: Initial Entry
Surv Elev: No
Piezometer: No
Primary Name:
Municipality:

Static Water Level:	0.6	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.633007
Total Depth m:	6.3	**Longitude DD:**	-79.502306
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620815
Drill Method:	Power auger	**Northing:**	4832203
Orig Ground Elev m:	108	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	107		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218477659	**Mat Consistency:**	Dense
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	3.4	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	lacustrine
Gsc Material Description:			
Stratum Description:	SAND-FINE TO MEDIUM.BROWN,LACUSTRINE,DENSE, AGE GLACIAL.		

Geology Stratum ID:	218477660	**Mat Consistency:**	Dense
Top Depth:	3.4	**Material Moisture:**	
Bottom Depth:	5.6	**Material Texture:**	Fine to Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Clay	**Geologic Group:**	
Material 3:	Gravel	**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-FINE TO MEDIUM,CLAY,GRAVEL. BROWN,GLACIAL,DENSE, AGE GLACIAL, WATER STABLE AT 353.1 FEET.		

Geology Stratum ID:	218477661	**Mat Consistency:**	Dense
Top Depth:	5.6	**Material Moisture:**	
Bottom Depth:	6.3	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,SILT. BROWN,GLACIAL,VERY DENSE, AGE GLACIAL. 00000027001100600018507500014 **Note: Many records provided by the department have a truncated [Stratum Description] field.		

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	M	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Details:	File: TOR1A.txt RecordID: 045890 NTS_Sheet: 30M12H		
Confiden 1:	Logs are approximately correct. Lack of information. Doubtful terminology.		

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Source List

Source Identifier: 1
Source Type: Data Survey
Source Date: 1956-1972
Scale or Resolution: Varies
Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada
Horizontal Datum: NAD27
Vertical Datum: Mean Average Sea Level
Projection Name: Universal Transverse Mercator

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23 ***1 of 4*** ***WSW/35.5*** ***109.9 / -0.32*** ***ETOBICOKE HYDRO*** ***GEN***
714 ROYAL YORK ROAD C/O 2 CIVIC CENTRE COURT
ETOBICOKE ON M8Y 2T5

Generator No: ON0577607
SIC Code: 4911
SIC Description: ELECT. POWER SYS.
Approval Years: 90
PO Box No:
Country:
Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 251
Waste Class Desc: OIL SKIMMINGS & SLUDGES

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23 ***2 of 4*** ***WSW/35.5*** ***109.9 / -0.32*** ***ETOBICOKE HYDRO*** ***GEN***
714 ROYAL YORK ROAD
ETOBICOKE ON M8Y 2T5

Generator No: ON0577607
SIC Code: 4911
SIC Description: ELECT. POWER SYS.
Approval Years: 92,93,97,98,99,00,01
PO Box No:
Country:
Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 251
Waste Class Desc: OIL SKIMMINGS & SLUDGES

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23 ***3 of 4*** ***WSW/35.5*** ***109.9 / -0.32*** ***ETOBICOKE HYDRO 14-813*** ***GEN***
714 ROYAL YORK ROAD C/O 2 CIVIC CENTRE COURT
ETOBICOKE ON M8Y 2T5

Generator No: ON0577607
SIC Code: 4911
SIC Description: ELECT. POWER SYS.
Approval Years: 94,95,96
PO Box No:
Country:
Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 251
Waste Class Desc: OIL SKIMMINGS & SLUDGES

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
23	4 of 4	WSW/35.5	109.9 / -0.32	714 Royal York Road Toronto ON	EHS

Order No: 20170517060
Status: C
Report Type: Standard Report
Report Date: 23-MAY-17
Date Received: 17-MAY-17
Previous Site Name:
Lot/Building Size:
Additional Info Ordered: Fire Insur. Maps and/or Site Plans

Nearest Intersection:
Municipality:
Client Prov/State: ON
Search Radius (km): .25
X: -79.505874
Y: 43.633389

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
24	1 of 3	WSW/35.6	109.9 / -0.32	Toronto Hydro-Electric System Limited 714 Royal York Road Toronto CITY OF TORONTO ON	EBR

EBR Registry No: 013-1321
Ministry Ref No: 8636-APNK6E
Notice Type: Instrument Decision
Notice Stage:
Notice Date: February 07, 2018
Proposal Date: August 18, 2017
Year: 2017
Instrument Type: (EPA Part II.1-sewage) - Environmental Compliance Approval (project type: sewage)
Off Instrument Name:
Posted By:
Company Name: Toronto Hydro-Electric System Limited
Site Address:
Location Other:
Proponent Name:
Proponent Address: 715 Milner avenue, Toronto Ontario, Canada M1B 3C3
Comment Period:
URL:

Decision Posted:
Exception Posted:
Section:
Act 1:
Act 2:
Site Location Map:

Site Location Details:

714 Royal York Road Toronto CITY OF TORONTO

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
24	2 of 3	WSW/35.6	109.9 / -0.32	TORONTO HYDRO C/O BLACK AND MCDONALD LIMITED 714 ROYAL YORK ROAD TORONTO ON M8Y 2T5	GEN

Generator No: ON9356672
SIC Code:
SIC Description:
Approval Years: As of Dec 2017
PO Box No:
Country: Canada

Status: Registered
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 150 L
Waste Class Desc: Inert organic wastes

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
24	3 of 3	WSW/35.6	109.9 / -0.32	Toronto Hydro-Electric System Limited 714 Royal York Rd Toronto ON M1B 3C3	ECA

Approval No:	0555-ASFMZ9	**MOE District:**	
Approval Date:	2018-01-31	**City:**	
Status:	Approved	**Longitude:**	
Record Type:	ECA	**Latitude:**	
Link Source:	IDS	**Geometry X:**	
SWP Area Name:		**Geometry Y:**	
Approval Type:	ECA-INDUSTRIAL SEWAGE WORKS		
Project Type:	INDUSTRIAL SEWAGE WORKS		
Business Name:	Toronto Hydro-Electric System Limited		
Address:	714 Royal York Rd		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/8636-APNK6E-14.pdf		
PDF Site Location:			

25 **1 of 2** **WSW/37.0** **109.5 / -0.76** **714 ROYAL YORK RD. TORONTO ON** **WWIS**

Well ID:	7293109	**Data Entry Status:**	
Construction Date:		**Data Src:**	
Primary Water Use:	Test Hole	**Date Received:**	8/18/2017
Sec. Water Use:	Monitoring	**Selected Flag:**	TRUE
Final Well Status:	Monitoring and Test Hole	**Abandonment Rec:**	
Water Type:		**Contractor:**	7241
Casing Material:		**Form Version:**	7
Audit No:	Z263381	**Owner:**	
Tag:	A211641	**Street Name:**	714 ROYAL YORK RD.
Construction Method:		**County:**	YORK AND TORONTO
Elevation (m):		**Municipality:**	TORONTO CITY
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	
Well Depth:		**Concession:**	
Overburden/Bedrock:		**Concession Name:**	
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date:	2017/07/25
Year Completed:	2017
Depth (m):	4.572
Latitude:	43.6333167879497
Longitude:	-79.5058638982415
Path:	

Bore Hole Information

Bore Hole ID:	1006713069	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	620527.00
Code OB Desc:		**North83:**	4832232.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	25-Jul-2017 00:00:00	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Elevrc Desc:			
Location Source Date:			

Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 1006852983
Layer: 1
Color: 6
General Color: BROWN
Mat1: 11
Most Common Material: GRAVEL
Mat2: 28
Mat2 Desc: SAND
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 3.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1006852985
Layer: 3
Color: 2
General Color: GREY
Mat1: 05
Most Common Material: CLAY
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 10.0
Formation End Depth: 15.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1006852984
Layer: 2
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2: 06
Mat2 Desc: SILT
Mat3:
Mat3 Desc:
Formation Top Depth: 3.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006852995
Layer: 3
Plug From: 4.0

Plug To: 15.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006852993
Layer: 1
Plug From: 0.0
Plug To: 6.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006852994
Layer: 2
Plug From: 6.0
Plug To: 4.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1006852992
Method Construction Code: 2
Method Construction: Rotary (Convent.)
Other Method Construction: DIRECT PUSH

Pipe Information

Pipe ID: 1006852982
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1006852988
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 5.0
Casing Diameter: 2.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1006852989
Layer: 1
Slot: 10
Screen Top Depth: 5.0
Screen End Depth: 15.0
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.25

Water Details

Water ID: 1006852987
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1006852986
Diameter: 6.0
Depth From: 0.0
Depth To: 15.0
Hole Depth UOM: ft
Hole Diameter UOM: inch

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25 ***2 of 2*** ***WSW/37.0*** ***109.5 / -0.76*** ***714 ROYAL YORK ROAD Toronto ON*** ***WWIS***

Well ID: 7295915
Construction Date:
Primary Water Use: Test Hole
Sec. Water Use: Monitoring
Final Well Status: Abandoned Monitoring and Test Hole
Water Type:
Casing Material:
Audit No: Z268127
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src:
Date Received: 9/29/2017
Selected Flag: TRUE
Abandonment Rec: Yes
Contractor: 7241
Form Version: 7
Owner:
Street Name: 714 ROYAL YORK ROAD
County: YORK AND TORONTO
Municipality: ETOBICOKE BOROUGH
Site Info: WKQ-0103010 A0-A0
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date: 2017/08/18
Year Completed: 2017
Depth (m):
Latitude: 43.6333167879497
Longitude: -79.5058638982415
Path:

Bore Hole Information

Bore Hole ID: 1006741444
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:

Elevation:
Elevrc:
Zone: 17
East83: 620527.00
North83: 4832232.00
Org CS: UTM83
UTMRC: 4

Date Completed: 18-Aug-2017 00:00:00
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Annular Space/Abandonment Sealing Record

Plug ID: 1006907341
Layer: 1
Plug From: 2.0
Plug To: 15.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1006907340
Method Construction Code: D
Method Construction: Direct Push
Other Method Construction:

Pipe Information

Pipe ID: 1006907332
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1006907336
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 5.0
Casing Diameter: 2.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1006907337
Layer: 1
Slot: 10
Screen Top Depth: 5.0
Screen End Depth: 15.0
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.25

Water Details

Water ID: 1006907335
Layer:

Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1006907334
Diameter:
Depth From:
Depth To:
Hole Depth UOM: ft
Hole Diameter UOM: inch

---

26 ***1 of 1*** ***WSW/47.1*** ***110.5 / 0.31*** ***714 ROYAL YORK RD. TORONTO ON*** ***WWIS***

Well ID: 7293107
Construction Date:
Primary Water Use: Test Hole
Sec. Water Use: Monitoring
Final Well Status: Monitoring and Test Hole
Water Type:
Casing Material:
Audit No: Z263382
Tag: A221780
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src:
Date Received: 8/18/2017
Selected Flag: TRUE
Abandonment Rec:
Contractor: 7241
Form Version: 7
Owner:
Street Name: 714 ROYAL YORK RD.
County: YORK AND TORONTO
Municipality: TORONTO CITY
Site Info:
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date: 2017/07/25
Year Completed: 2017
Depth (m): 4.572
Latitude: 43.6334995623383
Longitude: -79.5060701110321
Path:

Bore Hole Information

Bore Hole ID: 1006713063
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 25-Jul-2017 00:00:00
Remarks:
Elevrc Desc:
Location Source Date:

Elevation:
Elevrc:
Zone: 17
East83: 620510.00
North83: 4832252.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 1006852906
Layer: 1
Color: 8
General Color: BLACK
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 3.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1006852907
Layer: 2
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2: 06
Mat2 Desc: SILT
Mat3:
Mat3 Desc:
Formation Top Depth: 3.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1006852908
Layer: 3
Color: 2
General Color: GREY
Mat1: 05
Most Common Material: CLAY
Mat2: 06
Mat2 Desc: SILT
Mat3:
Mat3 Desc:
Formation Top Depth: 10.0
Formation End Depth: 15.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006852916
Layer: 1
Plug From: 0.0

Plug To: 6.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006852917
Layer: 2
Plug From: 6.0
Plug To: 4.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006852918
Layer: 3
Plug From: 4.0
Plug To: 15.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1006852915
Method Construction Code: 2
Method Construction: Rotary (Convent.)
Other Method Construction: DIRECT PUSH

Pipe Information

Pipe ID: 1006852905
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1006852911
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 5.0
Casing Diameter: 2.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1006852912
Layer: 1
Slot: 10
Screen Top Depth: 5.0
Screen End Depth: 15.0
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.25

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Water Details

Water ID: 1006852910
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1006852909
Diameter: 6.0
Depth From: 0.0
Depth To: 15.0
Hole Depth UOM: ft
Hole Diameter UOM: inch

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27 ***1 of 3*** ***NW/47.7*** ***109.8 / -0.39*** ***METROPOLITAN SEPARATE SCHOOL BOARD26-796 ECOLE SAINTE MARGUERITE D'YOUVILLE 755 YORK ROAD ETOBICOKE ON M8Y 2T3*** ***GEN***

Generator No: ON0121868
SIC Code: 8511
SIC Description: ELEMT./SECON. EDUC.
Approval Years: 92,93,94,95,96,97
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 243
Waste Class Desc: PCB'S

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27 ***2 of 3*** ***NW/47.7*** ***109.8 / -0.39*** ***METROPOLITAN SEPARATE SCHOOL BOARD ECOLE SAINTE MARGUERITE D'YOUVILLE 755 YORK ROAD ETOBICOKE ON M8Y 2T3*** ***GEN***

Generator No: ON0121868
SIC Code: 8511
SIC Description: ELEMT./SECON. EDUC.
Approval Years: 98,99,00,01
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 243
Waste Class Desc: PCB'S

Waste Class: 221
Waste Class Desc: LIGHT FUELS

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27 ***3 of 3*** ***NW/47.7*** ***109.8 / -0.39*** ***ST FELIX SCHOOL 755 ROYAL YORK ROAD*** ***GEN***

TORONTO ON M8Y 2T3

Generator No:	ON0327800	**Status:**	
SIC Code:	0000	**Co Admin:**	
SIC Description:	*** NOT DEFINED ***	**Choice of Contact:**	
Approval Years:	86,87,88,89,90,92,93,94	**Phone No Admin:**	
PO Box No:		**Contam. Facility:**	
Country:		**MHSW Facility:**	

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28 | **1 of 1** | **WSW/48.3** | **110.5 / 0.31** | **714 ROYAL YORK ROAD Toronto ON** | **WWIS**

Well ID:	7295917	**Data Entry Status:**	
Construction Date:		**Data Src:**	
Primary Water Use:	Test Hole	**Date Received:**	9/29/2017
Sec. Water Use:	Monitoring	**Selected Flag:**	TRUE
Final Well Status:	Abandoned Monitoring and Test Hole	**Abandonment Rec:**	Yes
Water Type:		**Contractor:**	7241
Casing Material:		**Form Version:**	7
Audit No:	Z268126	**Owner:**	
Tag:		**Street Name:**	714 ROYAL YORK ROAD
Construction Method:		**County:**	YORK AND TORONTO
Elevation (m):		**Municipality:**	ETOBICOKE BOROUGH
Elevation Reliability:		**Site Info:**	WKQ-010301 A0-A0
Depth to Bedrock:		**Lot:**	
Well Depth:		**Concession:**	
Overburden/Bedrock:		**Concession Name:**	
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date:	2017/08/18
Year Completed:	2017
Depth (m):	
Latitude:	43.6334907232992
Longitude:	-79.506082726628
Path:	

Bore Hole Information

Bore Hole ID:	1006741450	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	620509.00
Code OB Desc:		**North83:**	4832251.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	18-Aug-2017 00:00:00	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Annular Space/Abandonment Sealing Record

Plug ID:	1006907361
Layer:	1
Plug From:	0.0
Plug To:	15.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	1006907360
Method Construction Code:	D
Method Construction:	Direct Push
Other Method Construction:	

Pipe Information

Pipe ID:	1006907352
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1006907356
Layer:	1
Material:	5
Open Hole or Material:	PLASTIC
Depth From:	0.0
Depth To:	5.0
Casing Diameter:	2.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1006907357
Layer:	1
Slot:	10
Screen Top Depth:	5.0
Screen End Depth:	15.0
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	2.25

Water Details

Water ID:	1006907355
Layer:	
Kind Code:	
Kind:	
Water Found Depth:	
Water Found Depth UOM:	ft

Hole Diameter

Hole ID:	1006907354
Diameter:	

Depth From:
Depth To:
Hole Depth UOM: ft
Hole Diameter UOM: inch

---

29 | **1 of 2** | **WSW/52.9** | **109.7 / -0.58** | **714 RPYAL YORK RD. TORONTO ON** | **WWIS**

Well ID: 7293108
Construction Date:
Primary Water Use: Test Hole
Sec. Water Use: Monitoring
Final Well Status: Monitoring and Test Hole
Water Type:
Casing Material:
Audit No: Z263383
Tag: A211553
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src:
Date Received: 8/18/2017
Selected Flag: TRUE
Abandonment Rec:
Contractor: 7241
Form Version: 7
Owner:
Street Name: 714 RPYAL YORK RD.
County: YORK AND TORONTO
Municipality: TORONTO CITY
Site Info:
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date: 2017/07/25
Year Completed: 2017
Depth (m): 4.572
Latitude: 43.633301377838
Longitude: -79.5060626249153
Path:

Bore Hole Information

Bore Hole ID: 1006713066
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 25-Jul-2017 00:00:00
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 620511.00
North83: 4832230.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 1006852923

Layer:	1
Color:	6
General Color:	BROWN
Mat1:	02
Most Common Material:	TOPSOIL
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	4.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1006852924
Layer:	2
Color:	6
General Color:	BROWN
Mat1:	05
Most Common Material:	CLAY
Mat2:	06
Mat2 Desc:	SILT
Mat3:	
Mat3 Desc:	
Formation Top Depth:	4.0
Formation End Depth:	10.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1006852925
Layer:	3
Color:	2
General Color:	GREY
Mat1:	05
Most Common Material:	CLAY
Mat2:	06
Mat2 Desc:	SILT
Mat3:	
Mat3 Desc:	
Formation Top Depth:	10.0
Formation End Depth:	15.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1006852933
Layer:	1
Plug From:	0.0
Plug To:	6.0
Plug Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1006852935
Layer:	3
Plug From:	4.0

Plug To: 15.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006852934
Layer: 2
Plug From: 6.0
Plug To: 4.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1006852932
Method Construction Code: 2
Method Construction: Rotary (Convent.)
Other Method Construction: DIRECT PUSH

Pipe Information

Pipe ID: 1006852922
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1006852928
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 5.0
Casing Diameter: 2.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1006852929
Layer: 1
Slot: 10
Screen Top Depth: 5.0
Screen End Depth: 15.0
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.25

Water Details

Water ID: 1006852927
Layer:
Kind Code:
Kind:
Water Found Depth:
Water Found Depth UOM: ft

Hole Diameter

Hole ID:	1006852926
Diameter:	6.0
Depth From:	0.0
Depth To:	15.0
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

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29 ***2 of 2*** ***WSW/52.9*** ***109.7 / -0.58*** ***714 RPYAL YORK ROAD Toronto ON*** ***WWIS***

Well ID:	7295916	***Data Entry Status:***	
Construction Date:		***Data Src:***	
Primary Water Use:	Test Hole	***Date Received:***	9/29/2017
Sec. Water Use:	Monitoring	***Selected Flag:***	TRUE
Final Well Status:	Abandoned Monitoring and Test Hole	***Abandonment Rec:***	Yes
Water Type:		***Contractor:***	7241
Casing Material:		***Form Version:***	7
Audit No:	Z268125	***Owner:***	
Tag:		***Street Name:***	714 RPYAL YORK ROAD
Construction Method:		***County:***	YORK AND TORONTO
Elevation (m):		***Municipality:***	ETOBICOKE BOROUGH
Elevation Reliability:		***Site Info:***	WKQ-010301 A0-A0
Depth to Bedrock:		***Lot:***	
Well Depth:		***Concession:***	
Overburden/Bedrock:		***Concession Name:***	
Pump Rate:		***Easting NAD83:***	
Static Water Level:		***Northing NAD83:***	
Flowing (Y/N):		***Zone:***	
Flow Rate:		***UTM Reliability:***	
Clear/Cloudy:			

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date:	2017/08/18
Year Completed:	2017
Depth (m):	
Latitude:	43.633301377838
Longitude:	-79.5060626249153
Path:	

Bore Hole Information

Bore Hole ID:	1006741447	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	620511.00
Code OB Desc:		***North83:***	4832230.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	18-Aug-2017 00:00:00	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Annular Space/Abandonment Sealing Record

Plug ID:	1006907351
Layer:	1
Plug From:	0.0
Plug To:	15.0
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	1006907350
Method Construction Code:	D
Method Construction:	Direct Push
Other Method Construction:	

Pipe Information

Pipe ID:	1006907342
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1006907346
Layer:	1
Material:	5
Open Hole or Material:	PLASTIC
Depth From:	0.0
Depth To:	5.0
Casing Diameter:	2.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1006907347
Layer:	1
Slot:	10
Screen Top Depth:	5.0
Screen End Depth:	15.0
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	2.25

Water Details

Water ID:	1006907345
Layer:	
Kind Code:	
Kind:	
Water Found Depth:	
Water Found Depth UOM:	ft

Hole Diameter

Hole ID:	1006907344
Diameter:	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Depth From:
Depth To:
Hole Depth UOM: ft
Hole Diameter UOM: inch

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30 | 1 of 1 | E/81.5 | 98.5 / -11.75 | Berry Rd Park Fill, Toronto ON M8Y | ANDR

Legal Description: Etobicoke
Location Description: at west end of Berry Rd, adjoining graded parking area in parkland E of Mimico Creek
Municipality: Toronto City
Current Municipality: Toronto City
RM: Toronto City
Facility: Fill
Date Active: 1960s
Date Begun:
Date Complete:
Area (Ha): 0.2953
Landfill Type: graded park fill
Group Name: Mimico Creek
Operated By:
Serial: ETO67
NTS: 30M12
Diameter (m):

Historical Summary:

Berry Rd Park Fill On a field visit 6 June 2003 Richard Anderson and Ed Freeman noticed waste materials, concrete slabs and asphalt chunks had been used to fill a greded parkland area at west end of Berry Rd, adjoining the parking area E of Mimico Creek and on the S side of the line of Berry Rd.

Waste Type: concrete slabs
UTM X Nad 27: 620881.93
UTM Y Nad 27: 4832104.62
UTM Zone: 17

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31 | 1 of 1 | S/85.4 | 101.7 / -8.56 | 691 ROYAL YORK RD, ETOBICOKE (TORONTO) ON M8Y 2T1 | HINC

External File Num: FS INC 0706-02830
Fuel Occurrence Type: Pipeline Strike
Date of Occurrence: 5/29/2007
Fuel Type Involved: Natural Gas
Status Desc: Completed - Causal Analysis(End)
Job Type Desc: Incident/Near-Miss Occurrence (FS)
Oper. Type Involved: Construction Site (pipeline strike)
Service Interruptions: Yes
Property Damage: No
Fuel Life Cycle Stage: Transmission, Distribution and Transportation
Root Cause: Root Cause: Equipment/Material/Component:No Procedures:No Maintenance:No Design:No Training:No Management:No Human Factors:Yes

Reported Details:
Fuel Category: Gaseous Fuel
Occurrence Type: Incident
Affiliation: Industry Stakeholder (Licensee/Registration/Certificate Holder, Facility Owner, etc.)
County Name: Toronto
Approx. Quant. Rel:
Nearby body of water:
Enter Drainage Syst.:
Approx. Quant. Unit:
Environmental Impact:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
32	1 of 1	ENE/88.9	103.8 / -6.39	Neek 40 Grenview Blvd S Toronto ON M8Y 3S2	SCT

Established: 01-JUN-02
Plant Size (ft²):
Employment:

--Details--
Description: Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance
SIC/NAICS Code: 811310

Description: Machine Shops
SIC/NAICS Code: 332710

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
33	1 of 1	WNW/99.4	109.8 / -0.39	20 BAYSHILL DR, TORONTO ON	INC

Incident No: 1493646
Incident ID:
Instance No:
Status Code:
Attribute Category: FS-Perform L1 Incident Insp
Context:
Date of Occurrence: 2014/10/06 00:00:00
Time of Occurrence: 17:48:00
Incident Created On:
Instance Creation Dt:
Instance Install Dt:
Occur Insp Start Date: 2014/10/07 00:00:00
Approx Quant Rel:
Tank Capacity:
Fuels Occur Type: CO Release
Fuel Type Involved: Natural Gas
Enforcement Policy: NULL
Prc Escalation Req: NULL
Tank Material Type:
Tank Storage Type:
Tank Location Type:
Pump Flow Rate Cap:
Task No: 5208327
Notes:
Drainage System:
Sub Surface Contam.:
Aff Prop Use Water:
Contam. Migrated:
Contact Natural Env:
Incident Location: 20 BAYSHILL DR, TORONTO - CO RELEASE
Occurence Narrative: 20 BAYSHILL DR, TORONTO - CO RELEASE
Operation Type Involved: Private Dwelling
Item:
Item Description:
Device Installed Location:

Any Health Impact: No
Any Enviro Impact: No
Service Interrupted: Yes
Was Prop Damaged: No
Reside App. Type:
Commer App. Type:
Indus App. Type:
Institut App. Type:
Venting Type:
Vent Conn Mater:
Vent Chimney Mater:
Pipeline Type:
Pipeline Involved:
Pipe Material:
Depth Ground Cover:
Regulator Location:
Regulator Type:
Operation Pressure:
Liquid Prop Make:
Liquid Prop Model:
Liquid Prop Serial No:
Liquid Prop Notes:
Equipment Type:
Equipment Model:
Serial No:
Cylinder Capacity:
Cylinder Cap Units:
Cylinder Mat Type:
Near Body of Water:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
34	1 of 1	E/102.5	104.5 / -5.74	38 Grenview Blvd TORONTO ON	HINC

External File Num: FS INC 0706-02654
Fuel Occurrence Type:
Date of Occurrence:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Fuel Type Involved:	
Status Desc:	Complete
Job Type Desc:	Incident/Near-Miss Occurrence (FS)
Oper. Type Involved:	
Service Interruptions:	
Property Damage:	
Fuel Life Cycle Stage:	
Root Cause:	
Reported Details:	
Fuel Category:	Gaseous Fuel
Occurrence Type:	Incident
Affiliation:	Industry Stakeholder (Licensee/Registration/Certificate Holder, Facility Owner, etc.)
County Name:	Toronto
Approx. Quant. Rel:	
Nearby body of water:	
Enter Drainage Syst.:	
Approx. Quant. Unit:	
Environmental Impact:	

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35 | **1 of 1** | **NW/115.2** | **109.3 / -0.90** | **760 ROYAL YORK ROAD TORONTO ON M8Y 2T6** | **HINC**

External File Num:	FS INC 0810-06084
Fuel Occurrence Type:	Pipeline Strike
Date of Occurrence:	10/1/2008
Fuel Type Involved:	Natural Gas
Status Desc:	Completed - Causal Analysis(End)
Job Type Desc:	Incident/Near-Miss Occurrence (FS)
Oper. Type Involved:	Construction Site (pipeline strike)
Service Interruptions:	No
Property Damage:	No
Fuel Life Cycle Stage:	Transmission, Distribution and Transportation
Root Cause:	Root Cause: Equipment/Material/Component:No Procedures:No Maintenance:No Design:No Training:No Management:Yes Human Factors:Yes
Reported Details:	
Fuel Category:	Gaseous Fuel
Occurrence Type:	Incident
Affiliation:	Industry Stakeholder (Licensee/Registration/Certificate Holder, Facility Owner, etc.)
County Name:	Toronto
Approx. Quant. Rel:	
Nearby body of water:	
Enter Drainage Syst.:	
Approx. Quant. Unit:	
Environmental Impact:	

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36 | **1 of 2** | **ESE/137.4** | **100.1 / -10.14** | **55 Oakfields Drive, Etobicoke Toronto ON** | **SPL**

Ref No:	6527-86BLNU	**Discharger Report:**	
Site No:		**Material Group:**	
Incident Dt:		**Health/Env Conseq:**	
Year:		**Client Type:**	
Incident Cause:	Discharge or Emission to Air	**Sector Type:**	Other
Incident Event:		**Agency Involved:**	
Contaminant Code:	35	**Nearest Watercourse:**	
Contaminant Name:	NATURAL GAS (METHANE)	**Site Address:**	
Contaminant Limit 1:		**Site District Office:**	
Contam Limit Freq 1:		**Site Postal Code:**	
Contaminant UN No 1:		**Site Region:**	
Environment Impact:	Confirmed	**Site Municipality:**	
Nature of Impact:	Air Pollution	**Site Lot:**	
Receiving Medium:		**Site Conc:**	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Receiving Env:		**Northing:**	
MOE Response:		**Easting:**	
Dt MOE Arvl on Scn:		**Site Geo Ref Accu:**	
MOE Reported Dt:	6/11/2010	**Site Map Datum:**	
Dt Document Closed:		**SAC Action Class:**	TSSA - Fuel Safety Branch
Incident Reason:	Spill	**Source Type:**	
Site Name:	private residence<UNOFFICIAL>		
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	TSSA FSB: 1.25 inch plastic service damage		
Contaminant Qty:	0 other - see incident description		

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36 | ***2 of 2*** | ***ESE/137.4*** | ***100.1 / -10.14*** | ***55 Oakfields Drive, Etobicoke ON*** | ***INC***

Incident No:	404208	**Any Health Impact:**	
Incident ID:	2555878	**Any Enviro Impact:**	
Instance No:		**Service Interrupted:**	
Status Code:	Causal Analysis Complete	**Was Prop Damaged:**	
Attribute Category:	FS-Incident	**Reside App. Type:**	
Context:		**Commer App. Type:**	
Date of Occurrence:		**Indus App. Type:**	
Time of Occurrence:		**Institut App. Type:**	
Incident Created On:		**Venting Type:**	
Instance Creation Dt:		**Vent Conn Mater:**	
Instance Install Dt:		**Vent Chimney Mater:**	
Occur Insp Start Date:		**Pipeline Type:**	Main Distribution Pipeline
Approx Quant Rel:		**Pipeline Involved:**	
Tank Capacity:		**Pipe Material:**	Plastic
Fuels Occur Type:		**Depth Ground Cover:**	
Fuel Type Involved:		**Regulator Location:**	Outside
Enforcement Policy:		**Regulator Type:**	Service Regulator (up to 60 psi intake)
Prc Escalation Req:		**Operation Pressure:**	IP
Tank Material Type:		**Liquid Prop Make:**	
Tank Storage Type:		**Liquid Prop Model:**	
Tank Location Type:		**Liquid Prop Serial No:**	
Pump Flow Rate Cap:		**Liquid Prop Notes:**	
Task No:		**Equipment Type:**	
Notes:		**Equipment Model:**	
Drainage System:		**Serial No:**	
Sub Surface Contam.:		**Cylinder Capacity:**	
Aff Prop Use Water:		**Cylinder Cap Units:**	
Contam. Migrated:		**Cylinder Mat Type:**	
Contact Natural Env:		**Near Body of Water:**	
Incident Location:	55 Oakfields Drive, Etobicoke - 1 1/4" Pipeline Hit		
Occurence Narrative:			
Operation Type Involved:			
Item:			
Item Description:			
Device Installed Location:			

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37 | ***1 of 2*** | ***NE/139.4*** | ***110.9 / 0.66*** | ***64 Grenview BLvd South Toronto ON M8Y 3S4*** | ***SPL***

Ref No:	6806-7QEN4Z	**Discharger Report:**	
Site No:		**Material Group:**	
Incident Dt:		**Health/Env Conseq:**	
Year:		**Client Type:**	
Incident Cause:	Tank (Underground) Leak	**Sector Type:**	Other
Incident Event:		**Agency Involved:**	
Contaminant Code:		**Nearest Watercourse:**	
Contaminant Name:	FURNACE OIL	**Site Address:**	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Contaminant Limit 1:		**Site District Office:**	
Contam Limit Freq 1:		**Site Postal Code:**	
Contaminant UN No 1:		**Site Region:**	
Environment Impact:	Confirmed	**Site Municipality:**	Toronto
Nature of Impact:	Soil Contamination	**Site Lot:**	
Receiving Medium:		**Site Conc:**	
Receiving Env:		**Northing:**	
MOE Response:	No Field Response	**Easting:**	
Dt MOE Arvl on Scn:		**Site Geo Ref Accu:**	
MOE Reported Dt:	3/23/2009	**Site Map Datum:**	
Dt Document Closed:		**SAC Action Class:**	TSSA - Fuel Safety Branch
Incident Reason:	Corrosion - All forms of internal/external corrosion	**Source Type:**	
Site Name:	UST<UNOFFICIAL>		
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	Grenview Blvd - UST soil contamination		
Contaminant Qty:			

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37 | ***2 of 2*** | ***NE/139.4*** | ***110.9 / 0.66*** | ***64 GRENVIEW BOULEVARD SOUTH TORONTO ON M8Y 3S4*** | ***HINC***

External File Num:	FS INC 0903-01496
Fuel Occurrence Type:	Discovery of a Petroleum Product
Date of Occurrence:	3/23/2009
Fuel Type Involved:	Fuel Oil
Status Desc:	Completed - Causal Analysis(End)
Job Type Desc:	Incident/Near-Miss Occurrence (FS)
Oper. Type Involved:	Private Dwelling
Service Interruptions:	No
Property Damage:	No
Fuel Life Cycle Stage:	Utilization
Root Cause:	Root Cause: Equipment/Material/Component:Yes Procedures:No Maintenance:No Design:No Training:No Management:No Human Factors:No
Reported Details:	
Fuel Category:	Liquid Fuel
Occurrence Type:	Incident
Affiliation:	Industry Stakeholder (Licensee/Registration/Certificate Holder, Facility Owner, etc.)
County Name:	Toronto
Approx. Quant. Rel:	
Nearby body of water:	
Enter Drainage Syst.:	
Approx. Quant. Unit:	
Environmental Impact:	

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38 | ***1 of 1*** | ***E/150.5*** | ***102.9 / -7.35*** | ***259 BERRY ROAD Toronto ON*** | ***WWIS***

Well ID:	7304574	**Data Entry Status:**	
Construction Date:		**Data Src:**	
Primary Water Use:	Monitoring	**Date Received:**	1/30/2018
Sec. Water Use:		**Selected Flag:**	TRUE
Final Well Status:	Observation Wells	**Abandonment Rec:**	
Water Type:		**Contractor:**	7147
Casing Material:		**Form Version:**	7
Audit No:	Z278906	**Owner:**	
Tag:	A223478	**Street Name:**	259 BERRY ROAD
Construction Method:		**County:**	YORK AND TORONTO
Elevation (m):		**Municipality:**	ETOBICOKE BOROUGH
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	
Well Depth:		**Concession:**	

Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date:
Year Completed:
Depth (m): 3.1
Latitude: 43.6345074660734
Longitude: -79.5005285624026
Path:

Bore Hole Information

Bore Hole ID: 1006979439
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed:
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 620955.00
North83: 4832372.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 1007163093
Layer: 1
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2: 01
Mat2 Desc: FILL
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 3.0999999046325684
Formation End Depth UOM: m

Overburden and Bedrock Materials Interval

Formation ID: 1007163094
Layer: 2
Color: 6
General Color: BROWN
Mat1: 06
Most Common Material: SILT

Mat2: 05
Mat2 Desc: CLAY
Mat3:
Mat3 Desc:
Formation Top Depth: 3.0999999046325684
Formation End Depth: 3.0999999046325684
Formation End Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1007163102
Layer: 2
Plug From: 0.30000001192092896
Plug To: 1.899999976158142
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1007163103
Layer: 3
Plug From: 1.899999976158142
Plug To: 5.300000190734863
Plug Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1007163101
Layer: 1
Plug From: 0.0
Plug To: 0.30000001192092896
Plug Depth UOM: m

Method of Construction & Well Use

Method Construction ID: 1007163100
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 1007163092
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1007163097
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 2.200000047683716
Casing Diameter: 5.0
Casing Diameter UOM: cm
Casing Depth UOM: m

Construction Record - Screen

Screen ID:	1007163098
Layer:	1
Slot:	
Screen Top Depth:	2.200000047683716
Screen End Depth:	5.300000190734863
Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	5.300000190734863

Water Details

Water ID:	1007163096
Layer:	1
Kind Code:	8
Kind:	Untested
Water Found Depth:	3.0999999046325684
Water Found Depth UOM:	m

Hole Diameter

Hole ID:	1007163095
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	m
Hole Diameter UOM:	cm

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39 | ***1 of 1*** | ***WNW/159.5*** | ***109.8 / -0.39*** | ***ENBRIDGE GAS INC***
19 DUMBARTON RD,,ETOBICOKE,ON,M8Z 3P4, CA
ON | ***PINC***

Incident ID:		***Pipe Material:***	
Incident No:	2872642	***Fuel Category:***	
Incident Reported Dt:	6/22/2020	***Health Impact:***	
Type:	FS-Pipeline Incident	***Environment Impact:***	
Status Code:		***Property Damage:***	
Tank Status:	Pipeline Damage Reason Est	***Service Interrupt:***	
Task No:		***Enforce Policy:***	
Spills Action Centre:		***Public Relation:***	
Fuel Type:		***Pipeline System:***	
Fuel Occurrence Tp:		***PSIG:***	
Date of Occurrence:		***Attribute Category:***	
Occurrence Start Dt:		***Regulator Location:***	
Depth:		***Method Details:***	
Customer Acct Name:	ENBRIDGE GAS INC		
Incident Address:	19 DUMBARTON RD,,ETOBICOKE,ON,M8Z 3P4,CA		
Operation Type:			
Pipeline Type:			
Regulator Type:			
Summary:			
Reported By:			
Affiliation:			
Occurrence Desc:			
Damage Reason:			
Notes:			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
40	1 of 1	NW/164.1	109.3 / -0.88	ETOBICOKE CITY ROYAL YORK RD/NORSEMAN ST. ETOBICOKE CITY ON	CA

Certificate #: 7-0003-97-
Application Year: 97
Issue Date: 1/10/1997
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
41	1 of 1	E/165.4	106.1 / -4.16	Kong-It Enterprises 250 Berry Rd Toronto ON M8Y 1X9	SCT

Established: 1998
Plant Size (ft²):
Employment:

--Details--
Description: Doll, Toy and Game Manufacturing
SIC/NAICS Code: 339930

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
42	1 of 1	NE/168.6	110.6 / 0.32	SUNOCO 51 GRENVIEW BLVD S ETOBICOKE ON M8Y3S3	RST

Headcode: 1186800
Headcode Desc: Service Stations-Gasoline, Oil & Natural Gas
Phone: 4162390955
List Name:
Description:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
43	1 of 2	E/176.8	95.6 / -14.60	60 REID MANOR Toronto ON	WWIS

Well ID: 7259356
Construction Date:
Primary Water Use: Monitoring
Sec. Water Use:
Final Well Status: Observation Wells
Water Type:
Casing Material:
Audit No: Z221220
Tag: A201927
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:

Data Entry Status:
Data Src:
Date Received: 3/17/2016
Selected Flag: TRUE
Abandonment Rec: Yes
Contractor: 7360
Form Version: 7
Owner:
Street Name: 60 REID MANOR
County: YORK AND TORONTO
Municipality: ETOBICOKE BOROUGH
Site Info:
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:

Flowing (Y/N): ***Zone:***
Flow Rate: ***UTM Reliability:***
Clear/Cloudy:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/725\7259356.pdf

Additional Detail(s) (Map)

Well Completed Date: 2016/03/10
Year Completed: 2016
Depth (m): 5.1816
Latitude: 43.6339203432052
Longitude: -79.4997001899838
Path: 725\7259356.pdf

Bore Hole Information

Bore Hole ID: 1005908481 ***Elevation:***
DP2BR: ***Elevrc:***
Spatial Status: ***Zone:*** 17
Code OB: ***East83:*** 621023.00
Code OB Desc: ***North83:*** 4832308.00
Open Hole: ***Org CS:*** UTM83
Cluster Kind: ***UTMRC:*** 4
Date Completed: 10-Mar-2016 00:00:00 ***UTMRC Desc:*** margin of error : 30 m - 100 m
Remarks: ***Location Method:*** wwr
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 1006039004
Layer: 1
Color:
General Color:
Mat1: 01
Most Common Material: FILL
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 5.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1006039005
Layer: 2
Color: 2
General Color: GREY
Mat1: 17
Most Common Material: SHALE
Mat2:
Mat2 Desc:
Mat3:

Mat3 Desc:
Formation Top Depth: 5.0
Formation End Depth: 17.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1006039012
Layer: 1
Plug From: 6.0
Plug To: 0.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1006039011
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 1006039003
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1006039008
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 7.0
Casing Diameter: 2.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1006039009
Layer: 1
Slot: 0.1
Screen Top Depth: 7.0
Screen End Depth: 17.0
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.5

Water Details

Water ID: 1006039007
Layer: 1
Kind Code: 8
Kind: Untested
Water Found Depth: 6.0
Water Found Depth UOM: ft

Hole Diameter

Hole ID:	1006039006
Diameter:	6.0
Depth From:	0.0
Depth To:	17.0
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

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43 ***2 of 2*** ***E/176.8*** ***95.6 / -14.60*** ***60 REID MANOR Toronto ON*** ***WWIS***

Well ID:	7283200	***Data Entry Status:***	
Construction Date:		***Data Src:***	
Primary Water Use:		***Date Received:***	3/14/2017
Sec. Water Use:		***Selected Flag:***	TRUE
Final Well Status:	0	***Abandonment Rec:***	
Water Type:		***Contractor:***	7360
Casing Material:		***Form Version:***	7
Audit No:	Z239615	***Owner:***	
Tag:	A201927	***Street Name:***	60 REID MANOR
Construction Method:		***County:***	YORK AND TORONTO
Elevation (m):		***Municipality:***	ETOBICOKE BOROUGH
Elevation Reliability:		***Site Info:***	
Depth to Bedrock:		***Lot:***	
Well Depth:		***Concession:***	
Overburden/Bedrock:		***Concession Name:***	
Pump Rate:		***Easting NAD83:***	
Static Water Level:		***Northing NAD83:***	
Flowing (Y/N):		***Zone:***	
Flow Rate:		***UTM Reliability:***	
Clear/Cloudy:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/728\7283200.pdf

Additional Detail(s) (Map)

Well Completed Date:	2017/02/10
Year Completed:	2017
Depth (m):	
Latitude:	43.6339203432052
Longitude:	-79.4997001899838
Path:	728\7283200.pdf

Bore Hole Information

Bore Hole ID:	1006367356	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	621023.00
Code OB Desc:		***North83:***	4832308.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	10-Feb-2017 00:00:00	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1006594519
Layer:	
Color:	
General Color:	
Mat1:	
Most Common Material:	
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	
Formation End Depth:	
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1006594525
Layer:	1
Plug From:	
Plug To:	
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	1006594524
Method Construction Code:	E
Method Construction:	Auger
Other Method Construction:	

Pipe Information

Pipe ID:	1006594518
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1006594522
Layer:	1
Material:	5
Open Hole or Material:	PLASTIC
Depth From:	0.0
Depth To:	7.0
Casing Diameter:	2.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1006594523
Layer:	1
Slot:	.10
Screen Top Depth:	7.0
Screen End Depth:	17.0

Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	2.5

Water Details

Water ID:	1006594521
Layer:	1
Kind Code:	8
Kind:	Untested
Water Found Depth:	6.0
Water Found Depth UOM:	ft

Hole Diameter

Hole ID:	1006594520
Diameter:	6.0
Depth From:	0.0
Depth To:	17.0
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

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44 | ***1 of 1*** | ***E/184.2*** | ***91.7 / -18.50*** | ***58 and 65 Oakfield Drive Etobicoke ON M8Y 1N8*** | ***EHS***

Order No:	20190314163	**Nearest Intersection:**	
Status:	C	**Municipality:**	
Report Type:	Custom Report	**Client Prov/State:**	ON
Report Date:	22-MAR-19	**Search Radius (km):**	.25
Date Received:	14-MAR-19	**X:**	-79.499521
Previous Site Name:		**Y:**	43.633291
Lot/Building Size:			

Additional Info Ordered: Fire Insur. Maps and/or Site Plans; City Directory

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45 | ***1 of 1*** | ***ENE/186.7*** | ***106.7 / -3.53*** | ***Pr Edward Dr Fill*** | ***ANDR***

Toronto ON M8Y

Legal Description:	Etobicoke KMR Range 1 Lot 3 pt.
Location Description:	cor Prince Edward & Berry Rd;
Municipality:	Etobicoke Township
Current Municipality:	Toronto City
RM:	Toronto City
Facility:	Dump
Date Active:	1945-46
Date Begun:	1945.12.00
Date Complete:	
Area (Ha):	0.3108
Landfill Type:	
Group Name:	Mimico Creek
Operated By:	Toronto DSC
Serial:	ETO40
NTS:	30M12
Diameter (m):	

Historical Summary:

Pr Edward Dr Fill In December 1945 D K Orr of Accurate Block & Supply, requested Toronto DSC to dump approximately 2000 loads of ashes on the property at corner of Prince Edward & Berry Rd. The DSC postponed the work until Fall 1946 (CTA Deposits of Fill RG8 Box 74 File 34). 1953 Air Photo Map Sheet #168 Fill dump marked 0.3108 HA [CTA: 1953 Air Photo Map (Photographic Survey Corp Ltd)]

Waste Type:	2000 loads ashes
UTM X Nad 27:	620962
UTM Y Nad 27:	4832211
UTM Zone:	17

46 **1 of 1** **SW/188.5** **109.8 / -0.39** **ON** **BORE**

Borehole ID:	652453	**Inclin FLG:**	No
OGF ID:	215552804	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	NOV-1971	**Municipality:**	
Static Water Level:		**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.631259
Total Depth m:	6.4	**Longitude DD:**	-79.506316
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620495
Drill Method:	Power auger	**Northing:**	4832003
Orig Ground Elev m:	110	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	109		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218536198	**Mat Consistency:**	Firm
Top Depth:	4	**Material Moisture:**	
Bottom Depth:	4.6	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Clay	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:		**Geologic Period:**	Quaternary
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	CLAY,SILT. GREY,FIRM,AGE QUATERNARY.		

Geology Stratum ID:	218536196	**Mat Consistency:**	Loose
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.6	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Fill	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	fill
Gsc Material Description:			
Stratum Description:	FILL,SAND-MEDIUM. BROWN,LOOSE.		

Geology Stratum ID:	218536197	**Mat Consistency:**	Compact
Top Depth:	.6	**Material Moisture:**	
Bottom Depth:	4	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:		**Geologic Period:**	Quaternary
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM,SILT. BROWN,COMPACT,LAYERED, AGE QUATERNARY.		

Geology Stratum ID: 218536199
Top Depth: 4.6
Bottom Depth: 6.1
Material Color: Grey
Material 1: Till
Material 2: Silt
Material 3: Gravel
Material 4:
Gsc Material Description:
Stratum Description: TILL,SILT,GRAVEL. GREY,VERY DENSE, AGE QUATERNARY.

Mat Consistency: Dense
Material Moisture:
Material Texture:
Non Geo Mat Type:
Geologic Formation:
Geologic Group:
Geologic Period: Quaternary
Depositional Gen:

Geology Stratum ID: 218536200
Top Depth: 6.1
Bottom Depth: 6.4
Material Color: Grey
Material 1: Shale
Material 2:
Material 3:
Material 4:
Gsc Material Description:
Stratum Description: SHALE. GREY,WEATHERED,SOFT, AGE ORDOVICIAN. 009 015 020 015 **Note: Many records provided by the department have a truncated [Stratum Description] field.

Mat Consistency: Soft
Material Moisture:
Material Texture:
Non Geo Mat Type:
Geologic Formation:
Geologic Group:
Geologic Period: Ordovician
Depositional Gen:

Source

Source Type: Data Survey
Source Orig: Geological Survey of Canada
Source Date: 1956-1972
Confidence: H
Observatio:
Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR3.txt RecordID: 231140 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source Appl: Spatial/Tabular
Source Iden: 1
Scale or Res: Varies
Horizontal: NAD27
Verticalda: Mean Average Sea Level

Source List

Source Identifier: 1
Source Type: Data Survey
Source Date: 1956-1972
Scale or Resolution: Varies
Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

Horizontal Datum: NAD27
Vertical Datum: Mean Average Sea Level
Projection Name: Universal Transverse Mercator

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47 | **1 of 7** | **NW/189.6** | **109.4 / -0.88** | **763 Royal York Road Etobicoke ON M8Y 2T3** | **EHS**

Order No: 20200114109
Status: C
Report Type: Standard Report
Report Date: 17-JAN-20
Date Received: 14-JAN-20
Previous Site Name:
Lot/Building Size:
Additional Info Ordered: Fire Insur. Maps and/or Site Plans; City Directory

Nearest Intersection:
Municipality:
Client Prov/State: ON
Search Radius (km): .25
X: -79.506683
Y: 43.637255

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47 | **2 of 7** | **NW/189.6** | **109.4 / -0.88** | **763 Royal York Road Etobicoke ON M8Y 2T3** | **EHS**

Order No: 20200114109
Status: C
Report Type: Standard Report

Nearest Intersection:
Municipality:
Client Prov/State: ON

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Report Date:	17-JAN-20	**Search Radius (km):**	.25
Date Received:	14-JAN-20	**X:**	-79.506683
Previous Site Name:		**Y:**	43.637255
Lot/Building Size:			
Additional Info Ordered:	Fire Insur. Maps and/or Site Plans; City Directory		

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47 **3 of 7** **NW/189.6** **109.4 / -0.88** **763 Royal York Road Etobicoke ON M8Y 2T3** **EHS**

Order No:	20200114109	**Nearest Intersection:**	
Status:	C	**Municipality:**	
Report Type:	Standard Report	**Client Prov/State:**	ON
Report Date:	17-JAN-20	**Search Radius (km):**	.25
Date Received:	14-JAN-20	**X:**	-79.506683
Previous Site Name:		**Y:**	43.637255
Lot/Building Size:			
Additional Info Ordered:	Fire Insur. Maps and/or Site Plans; City Directory		

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47 **4 of 7** **NW/189.6** **109.4 / -0.88** **763 Royal York Road Etobicoke ON M8Y 2T3** **EHS**

Order No:	20200114109	**Nearest Intersection:**	
Status:	C	**Municipality:**	
Report Type:	Standard Report	**Client Prov/State:**	ON
Report Date:	17-JAN-20	**Search Radius (km):**	.25
Date Received:	14-JAN-20	**X:**	-79.506683
Previous Site Name:		**Y:**	43.637255
Lot/Building Size:			
Additional Info Ordered:	Fire Insur. Maps and/or Site Plans; City Directory		

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47 **5 of 7** **NW/189.6** **109.4 / -0.88** **763 Royal York Road Etobicoke ON M8Y 2T3** **EHS**

Order No:	20200114109	**Nearest Intersection:**	
Status:	C	**Municipality:**	
Report Type:	Standard Report	**Client Prov/State:**	ON
Report Date:	17-JAN-20	**Search Radius (km):**	.25
Date Received:	14-JAN-20	**X:**	-79.506683
Previous Site Name:		**Y:**	43.637255
Lot/Building Size:			
Additional Info Ordered:	Fire Insur. Maps and/or Site Plans; City Directory		

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47 **6 of 7** **NW/189.6** **109.4 / -0.88** **763 Royal York Road Etobicoke ON M8Y 2T3** **EHS**

Order No:	20200114109	**Nearest Intersection:**	
Status:	C	**Municipality:**	
Report Type:	Standard Report	**Client Prov/State:**	ON
Report Date:	17-JAN-20	**Search Radius (km):**	.25
Date Received:	14-JAN-20	**X:**	-79.506683
Previous Site Name:		**Y:**	43.637255
Lot/Building Size:			
Additional Info Ordered:	Fire Insur. Maps and/or Site Plans; City Directory		

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47 **7 of 7** **NW/189.6** **109.4 / -0.88** **763 Royal York Road Etobicoke ON M8Y 2T3** **EHS**

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Order No:	20200114109	**Nearest Intersection:**	
Status:	C	**Municipality:**	
Report Type:	Standard Report	**Client Prov/State:**	ON
Report Date:	17-JAN-20	**Search Radius (km):**	.25
Date Received:	14-JAN-20	**X:**	-79.506683
Previous Site Name:		**Y:**	43.637255
Lot/Building Size:			
Additional Info Ordered:	Fire Insur. Maps and/or Site Plans; City Directory		

48 **1 of 1** **SW/190.9** **109.8 / -0.39** **ON** **BORE**

Borehole ID:	651344	**Inclin FLG:**	No
OGF ID:	215551696	**SP Status:**	Initial Entry
Status:		**Surv Elev:**	No
Type:	Borehole	**Piezometer:**	No
Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	OCT-1971	**Municipality:**	
Static Water Level:	0.4	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.631352
Total Depth m:	6.4	**Longitude DD:**	-79.506561
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620475
Drill Method:	Power auger	**Northing:**	4832013
Orig Ground Elev m:	110	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	110		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218532816	**Mat Consistency:**	Loose
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.6	**Material Texture:**	
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Fill	**Geologic Formation:**	
Material 2:	Sand	**Geologic Group:**	
Material 3:	Silt	**Geologic Period:**	
Material 4:		**Depositional Gen:**	fill
Gsc Material Description:			
Stratum Description:	FILL,SAND,SILT. BROWN,LOOSE.		

Geology Stratum ID:	218532819	**Mat Consistency:**	Dense
Top Depth:	4.6	**Material Moisture:**	
Bottom Depth:	6.1	**Material Texture:**	
Material Color:	Grey	**Non Geo Mat Type:**	
Material 1:	Till	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:	Gravel	**Geologic Period:**	Quaternary
Material 4:		**Depositional Gen:**	
Gsc Material Description:			
Stratum Description:	TILL,SILT,GRAVEL. GREY,VERY DENSE, AGE QUATERNARY.		

Geology Stratum ID:	218532817	**Mat Consistency:**	Compact
Top Depth:	.6	**Material Moisture:**	
Bottom Depth:	4	**Material Texture:**	
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	

Material 3: **Geologic Period:** Quaternary
Material 4: **Depositional Gen:**
Gsc Material Description:
Stratum Description: SAND,SILT. BROWN,COMPACT,LAYERED, AGE QUATERNARY, WATER STABLE AT 360.3 FEET.

Geology Stratum ID: 218532820
Top Depth: 6.1
Bottom Depth: 6.4
Material Color: Grey
Material 1: Shale
Material 2:
Material 3:
Material 4:
Gsc Material Description:
Stratum Description: SHALE. GREY,WEATHERED,SOFT, AGE ORDOVICIAN. 009 012 020 015 **Note: Many records provided by the department have a truncated [Stratum Description] field.

Mat Consistency: Soft
Material Moisture:
Material Texture:
Non Geo Mat Type:
Geologic Formation:
Geologic Group:
Geologic Period: Ordovician
Depositional Gen:

Geology Stratum ID: 218532818
Top Depth: 4
Bottom Depth: 4.6
Material Color: Grey
Material 1: Clay
Material 2: Silt
Material 3:
Material 4:
Gsc Material Description:
Stratum Description: CLAY,SILT. GREY,FIRM,AGE QUATERNARY.

Mat Consistency: Firm
Material Moisture:
Material Texture:
Non Geo Mat Type:
Geologic Formation:
Geologic Group:
Geologic Period: Quaternary
Depositional Gen:

Source

Source Type: Data Survey
Source Orig: Geological Survey of Canada
Source Date: 1956-1972
Confidence: H
Observatio:
Source Name: Urban Geology Automated Information System (UGAIS)
Source Details: File: TOR3.txt RecordID: 220050 NTS_Sheet: 30M12H
Confiden 1: Logged by professional. Exact and complete description of material and properties.

Source Appl: Spatial/Tabular
Source Iden: 1
Scale or Res: Varies
Horizontal: NAD27
Verticalda: Mean Average Sea Level

Source List

Source Identifier: 1
Source Type: Data Survey
Source Date: 1956-1972
Scale or Resolution: Varies
Source Name: Urban Geology Automated Information System (UGAIS)
Source Originators: Geological Survey of Canada

Horizontal Datum: NAD27
Vertical Datum: Mean Average Sea Level
Projection Name: Universal Transverse Mercator

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49 **1 of 1** **SSE/195.7** **102.4 / -7.84** **675 ROYAL YORK RD Toronto ON** **WWIS**

Well ID: 7342259
Construction Date:
Primary Water Use: Monitoring and Test Hole
Sec. Water Use:
Final Well Status: Monitoring and Test Hole
Water Type:
Casing Material:
Audit No: Z313439
Tag: A270914
Construction Method:
Elevation (m):
Elevation Reliability:

Data Entry Status:
Data Src:
Date Received: 7/23/2019
Selected Flag: TRUE
Abandonment Rec:
Contractor: 7241
Form Version: 7
Owner:
Street Name: 675 ROYAL YORK RD
County: YORK AND TORONTO
Municipality: ETOBICOKE BOROUGH
Site Info:

Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date: 2019/06/24
Year Completed: 2019
Depth (m): 5.1816
Latitude: 43.6312078837243
Longitude: -79.5036476651995
Path:

Bore Hole Information

Bore Hole ID: 1007677631
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 24-Jun-2019 00:00:00
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 620710.00
North83: 4832001.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 1008205423
Layer: 2
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2: 06
Mat2 Desc: SILT
Mat3:
Mat3 Desc:
Formation Top Depth: 4.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1008205424
Layer: 3
Color: 2
General Color: GREY

Mat1: 28
Most Common Material: SAND
Mat2: 06
Mat2 Desc: SILT
Mat3:
Mat3 Desc:
Formation Top Depth: 10.0
Formation End Depth: 17.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1008205422
Layer: 1
Color: 6
General Color: BROWN
Mat1: 01
Most Common Material: FILL
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 4.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205945
Layer: 3
Plug From: 6.0
Plug To: 17.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205943
Layer: 1
Plug From: 0.0
Plug To: 0.5
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205944
Layer: 2
Plug From: 0.5
Plug To: 6.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1008206470
Method Construction Code: B
Method Construction: Other Method
Other Method Construction: DIRECT PUSH

Pipe Information

Pipe ID:	1008204650
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1008206683
Layer:	1
Material:	5
Open Hole or Material:	PLASTIC
Depth From:	0.0
Depth To:	7.0
Casing Diameter:	2.0
Casing Diameter UOM:	Inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1008206896
Layer:	1
Slot:	10
Screen Top Depth:	7.0
Screen End Depth:	17.0
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	2.25

Results of Well Yield Testing

Pump Test ID:	1008207128
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	0
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	

Hole Diameter

Hole ID:	1008206241
Diameter:	4.0
Depth From:	0.0
Depth To:	17.0
Hole Depth UOM:	ft
Hole Diameter UOM:	Inch

50	*1 of 1*	*NW/197.1*	*109.9 / -0.37*	***PUC*** ***763 ROYAL YORK ROAD SANITARY SEWER***	*SPL*

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

TORONTO CITY ON M8Y 2T3

Ref No:	112164	***Discharger Report:***	
Site No:		***Material Group:***	
Incident Dt:	4/20/1995	***Health/Env Conseq:***	
Year:		***Client Type:***	
Incident Cause:	CONTAINER OVERFLOW	***Sector Type:***	
Incident Event:		***Agency Involved:***	
Contaminant Code:		***Nearest Watercourse:***	
Contaminant Name:		***Site Address:***	
Contaminant Limit 1:		***Site District Office:***	
Contam Limit Freq 1:		***Site Postal Code:***	
Contaminant UN No 1:		***Site Region:***	
Environment Impact:	POSSIBLE	***Site Municipality:***	1106
Nature of Impact:	Soil contamination	***Site Lot:***	
Receiving Medium:	LAND	***Site Conc:***	
Receiving Env:		***Northing:***	
MOE Response:		***Easting:***	METRO
Dt MOE Arvl on Scn:		***Site Geo Ref Accu:***	
MOE Reported Dt:	4/20/1995	***Site Map Datum:***	
Dt Document Closed:		***SAC Action Class:***	
Incident Reason:	OTHER	***Source Type:***	
Site Name:			
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	ETOBICOKE CITY-RAW SEWAGETO GROUND FROM SANITARY.		
Contaminant Qty:			

51	*1 of 1*	*S/197.1*	*102.8 / -7.40*	***675 ROYAL YORK RD Toronto ON***	***WWIS***

Well ID:	7342188	***Data Entry Status:***	
Construction Date:		***Data Src:***	
Primary Water Use:	Monitoring and Test Hole	***Date Received:***	7/23/2019
Sec. Water Use:		***Selected Flag:***	TRUE
Final Well Status:	Monitoring and Test Hole	***Abandonment Rec:***	
Water Type:		***Contractor:***	7241
Casing Material:		***Form Version:***	7
Audit No:	Z305023	***Owner:***	
Tag:	A270912	***Street Name:***	675 ROYAL YORK RD
Construction Method:		***County:***	YORK AND TORONTO
Elevation (m):		***Municipality:***	ETOBICOKE BOROUGH
Elevation Reliability:		***Site Info:***	
Depth to Bedrock:		***Lot:***	
Well Depth:		***Concession:***	
Overburden/Bedrock:		***Concession Name:***	
Pump Rate:		***Easting NAD83:***	
Static Water Level:		***Northing NAD83:***	
Flowing (Y/N):		***Zone:***	
Flow Rate:		***UTM Reliability:***	
Clear/Cloudy:			

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date:	2019/06/24
Year Completed:	2019
Depth (m):	5.1816
Latitude:	43.6311646632035
Longitude:	-79.5037850949448
Path:	

Bore Hole Information

Bore Hole ID:	1007664812	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	620699.00
Code OB Desc:		***North83:***	4831996.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	24-Jun-2019 00:00:00	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1008205228
Layer:	4
Color:	2
General Color:	GREY
Mat1:	28
Most Common Material:	SAND
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	13.0
Formation End Depth:	17.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1008205225
Layer:	1
Color:	2
General Color:	GREY
Mat1:	11
Most Common Material:	GRAVEL
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	0.5
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1008205226
Layer:	2
Color:	6
General Color:	BROWN
Mat1:	01
Most Common Material:	FILL

Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.5
Formation End Depth: 6.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1008205227
Layer: 3
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 6.0
Formation End Depth: 13.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205756
Layer: 2
Plug From: 0.5
Plug To: 6.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205757
Layer: 3
Plug From: 6.0
Plug To: 17.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205755
Layer: 1
Plug From: 0.0
Plug To: 0.5
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1008206402
Method Construction Code: B
Method Construction: Other Method
Other Method Construction: DIRECT PUSH

Pipe Information

Pipe ID: 1008204583
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1008206617
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 7.0
Casing Diameter: 2.0
Casing Diameter UOM: Inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1008206830
Layer: 1
Slot: 10
Screen Top Depth: 7.0
Screen End Depth: 17.0
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.25

Results of Well Yield Testing

Pump Test ID: 1008207061
Pump Set At:
Static Level:
Final Level After Pumping:
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate:
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method: 0
Pumping Duration HR:
Pumping Duration MIN:
Flowing:

Hole Diameter

Hole ID: 1008206169
Diameter: 4.0
Depth From: 0.0
Depth To: 17.0
Hole Depth UOM: ft
Hole Diameter UOM: Inch

52	1 of 1	S/198.4	102.8 / -7.40	675 ROYAL YORK RD Toronto ON	WWIS

Well ID: 7342257 ***Data Entry Status:***

Construction Date:		**Data Src:**	
Primary Water Use:	Monitoring and Test Hole	**Date Received:**	7/23/2019
Sec. Water Use:		**Selected Flag:**	TRUE
Final Well Status:	Monitoring and Test Hole	**Abandonment Rec:**	
Water Type:		**Contractor:**	7241
Casing Material:		**Form Version:**	7
Audit No:	Z313437	**Owner:**	
Tag:	A270912	**Street Name:**	675 ROYAL YORK RD
Construction Method:		**County:**	YORK AND TORONTO
Elevation (m):		**Municipality:**	ETOBICOKE BOROUGH
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	
Well Depth:		**Concession:**	
Overburden/Bedrock:		**Concession Name:**	
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date:	2019/06/24
Year Completed:	2019
Depth (m):	5.1816
Latitude:	43.6311554999596
Longitude:	-79.5037729262049
Path:	

Bore Hole Information

Bore Hole ID:	1007677625	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	620700.00
Code OB Desc:		**North83:**	4831995.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	24-Jun-2019 00:00:00	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1008205418
Layer:	3
Color:	2
General Color:	GREY
Mat1:	28
Most Common Material:	SAND
Mat2:	06
Mat2 Desc:	SILT
Mat3:	
Mat3 Desc:	
Formation Top Depth:	10.0

Formation End Depth: 17.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1008205417
Layer: 2
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2: 06
Mat2 Desc: SILT
Mat3:
Mat3 Desc:
Formation Top Depth: 4.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1008205416
Layer: 1
Color: 6
General Color: BROWN
Mat1: 01
Most Common Material: FILL
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 4.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205939
Layer: 3
Plug From: 6.0
Plug To: 17.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205938
Layer: 2
Plug From: 0.5
Plug To: 6.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205937
Layer: 1
Plug From: 0.0
Plug To: 0.5

Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1008206468
Method Construction Code: B
Method Construction: Other Method
Other Method Construction: DIRECT PUSH

Pipe Information

Pipe ID: 1008204648
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1008206681
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 7.0
Casing Diameter: 2.0
Casing Diameter UOM: Inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1008206894
Layer: 1
Slot: 10
Screen Top Depth: 7.0
Screen End Depth: 17.0
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.25

Results of Well Yield Testing

Pump Test ID: 1008207126
Pump Set At:
Static Level:
Final Level After Pumping:
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate:
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method: 0
Pumping Duration HR:
Pumping Duration MIN:
Flowing:

Hole Diameter

Hole ID: 1008206239
Diameter: 4.0
Depth From: 0.0
Depth To: 17.0
Hole Depth UOM: ft
Hole Diameter UOM: Inch

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53 | **1 of 1** | **SSE/198.6** | **102.5 / -7.70** | **675 ROYAL YORK RD Toronto ON** | **WWIS**

Well ID: 7342186
Construction Date:
Primary Water Use: Monitoring and Test Hole
Sec. Water Use:
Final Well Status: Monitoring and Test Hole
Water Type:
Casing Material:
Audit No: Z298001
Tag: A270914
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src:
Date Received: 7/23/2019
Selected Flag: TRUE
Abandonment Rec:
Contractor: 7241
Form Version: 7
Owner:
Street Name: 675 ROYAL YORK RD
County: YORK AND TORONTO
Municipality: ETOBICOKE BOROUGH
Site Info:
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date: 2019/06/24
Year Completed: 2019
Depth (m): 5.1816
Latitude: 43.6311723663719
Longitude: -79.5036857349115
Path:

Bore Hole Information

Bore Hole ID: 1007664806
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 24-Jun-2019 00:00:00
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 620707.00
North83: 4831997.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock

Materials Interval

Formation ID:	1008205217
Layer:	1
Color:	2
General Color:	GREY
Mat1:	11
Most Common Material:	GRAVEL
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	0.5
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1008205220
Layer:	4
Color:	2
General Color:	GREY
Mat1:	28
Most Common Material:	SAND
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	13.0
Formation End Depth:	17.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1008205219
Layer:	3
Color:	6
General Color:	BROWN
Mat1:	28
Most Common Material:	SAND
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	6.0
Formation End Depth:	13.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1008205218
Layer:	2
Color:	6
General Color:	BROWN
Mat1:	01
Most Common Material:	FILL
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	

Formation Top Depth: 0.5
Formation End Depth: 6.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205750
Layer: 2
Plug From: 0.5
Plug To: 6.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205751
Layer: 3
Plug From: 6.0
Plug To: 17.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205749
Layer: 1
Plug From: 0.0
Plug To: 0.5
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1008206400
Method Construction Code: B
Method Construction: Other Method
Other Method Construction: DIRECT PUSH

Pipe Information

Pipe ID: 1008204581
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1008206615
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 7.0
Casing Diameter: 2.0
Casing Diameter UOM: Inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID:	1008206828
Layer:	1
Slot:	10
Screen Top Depth:	7.0
Screen End Depth:	17.0
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	2.25

Results of Well Yield Testing

Pump Test ID:	1008207059
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	0
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	

Hole Diameter

Hole ID:	1008206167
Diameter:	4.0
Depth From:	0.0
Depth To:	17.0
Hole Depth UOM:	ft
Hole Diameter UOM:	Inch

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54 | ***1 of 1*** | ***SSE/199.3*** | ***102.5 / -7.70*** | ***675 ROYAL YORK RD Toronto ON*** | ***WWIS***

Well ID:	7342258	**Data Entry Status:**	
Construction Date:		**Data Src:**	
Primary Water Use:	Monitoring and Test Hole	**Date Received:**	7/23/2019
Sec. Water Use:		**Selected Flag:**	TRUE
Final Well Status:	Monitoring and Test Hole	**Abandonment Rec:**	
Water Type:		**Contractor:**	7241
Casing Material:		**Form Version:**	7
Audit No:	Z313438	**Owner:**	
Tag:	A270913	**Street Name:**	675 ROYAL YORK RD
Construction Method:		**County:**	YORK AND TORONTO
Elevation (m):		**Municipality:**	ETOBICOKE BOROUGH
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	
Well Depth:		**Concession:**	
Overburden/Bedrock:		**Concession Name:**	
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date: 2019/06/24
Year Completed: 2019
Depth (m): 4.8768
Latitude: 43.6311635275905
Longitude: -79.5036983503535
Path:

Bore Hole Information

Bore Hole ID: 1007677628
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 24-Jun-2019 00:00:00
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 620706.00
North83: 4831996.00
Org CS: UTM83
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 1008205421
Layer: 3
Color: 2
General Color: GREY
Mat1: 28
Most Common Material: SAND
Mat2: 06
Mat2 Desc: SILT
Mat3:
Mat3 Desc:
Formation Top Depth: 10.0
Formation End Depth: 16.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1008205420
Layer: 2
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2: 06
Mat2 Desc: SILT
Mat3:
Mat3 Desc:
Formation Top Depth: 4.0
Formation End Depth: 10.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID:	1008205419
Layer:	1
Color:	6
General Color:	BROWN
Mat1:	01
Most Common Material:	FILL
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	4.0
Formation End Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1008205941
Layer:	2
Plug From:	0.5
Plug To:	5.0
Plug Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1008205942
Layer:	3
Plug From:	5.0
Plug To:	16.0
Plug Depth UOM:	ft

Annular Space/Abandonment Sealing Record

Plug ID:	1008205940
Layer:	1
Plug From:	0.0
Plug To:	0.5
Plug Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	1008206469
Method Construction Code:	B
Method Construction:	Other Method
Other Method Construction:	DIRECT PUSH

Pipe Information

Pipe ID:	1008204649
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1008206682
Layer:	1
Material:	5
Open Hole or Material:	PLASTIC
Depth From:	0.0
Depth To:	6.0
Casing Diameter:	2.0
Casing Diameter UOM:	Inch
Casing Depth UOM:	ft

Construction Record - Screen

Screen ID:	1008206895
Layer:	1
Slot:	10
Screen Top Depth:	6.0
Screen End Depth:	16.0
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	2.25

Results of Well Yield Testing

Pump Test ID:	1008207127
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	0
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	

Hole Diameter

Hole ID:	1008206240
Diameter:	4.0
Depth From:	0.0
Depth To:	16.0
Hole Depth UOM:	ft
Hole Diameter UOM:	Inch

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55 | ***1 of 1*** | ***S/201.2*** | ***102.8 / -7.40*** | ***675 ROYAL YORK RD Toronto ON*** | ***WWIS***

Well ID:	7342187	***Data Entry Status:***	
Construction Date:		***Data Src:***	
Primary Water Use:	Monitoring and Test Hole	***Date Received:***	7/23/2019
Sec. Water Use:		***Selected Flag:***	TRUE
Final Well Status:	Monitoring and Test Hole	***Abandonment Rec:***	
Water Type:		***Contractor:***	7241
Casing Material:		***Form Version:***	7
Audit No:	Z298002	***Owner:***	
Tag:	A270913	***Street Name:***	675 ROYAL YORK RD

Construction Method:		***County:***	YORK AND TORONTO
Elevation (m):		***Municipality:***	ETOBICOKE BOROUGH
Elevation Reliability:		***Site Info:***	
Depth to Bedrock:		***Lot:***	
Well Depth:		***Concession:***	
Overburden/Bedrock:		***Concession Name:***	
Pump Rate:		***Easting NAD83:***	
Static Water Level:		***Northing NAD83:***	
Flowing (Y/N):		***Zone:***	
Flow Rate:		***UTM Reliability:***	
Clear/Cloudy:			

PDF URL (Map):

Additional Detail(s) (Map)

Well Completed Date:	2019/06/24
Year Completed:	2019
Depth (m):	4.8768
Latitude:	43.6311370112377
Longitude:	-79.5037361966572
Path:	

Bore Hole Information

Bore Hole ID:	1007664809	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:		***East83:***	620703.00
Code OB Desc:		***North83:***	4831993.00
Open Hole:		***Org CS:***	UTM83
Cluster Kind:		***UTMRC:***	4
Date Completed:	24-Jun-2019 00:00:00	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1008205222
Layer:	2
Color:	6
General Color:	BROWN
Mat1:	01
Most Common Material:	FILL
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	0.5
Formation End Depth:	6.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	1008205224

Layer: 4
Color: 2
General Color: GREY
Mat1: 28
Most Common Material: SAND
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 13.0
Formation End Depth: 16.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1008205221
Layer: 1
Color: 2
General Color: GREY
Mat1: 11
Most Common Material: GRAVEL
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 0.5
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 1008205223
Layer: 3
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 6.0
Formation End Depth: 13.0
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205752
Layer: 1
Plug From: 0.0
Plug To: 0.5
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205753
Layer: 2
Plug From: 0.5

Plug To: 5.0
Plug Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1008205754
Layer: 3
Plug From: 5.0
Plug To: 16.0
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1008206401
Method Construction Code: B
Method Construction: Other Method
Other Method Construction: DIRECT PUSH

Pipe Information

Pipe ID: 1008204582
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1008206616
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0.0
Depth To: 6.0
Casing Diameter: 2.0
Casing Diameter UOM: Inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1008206829
Layer: 1
Slot: 10
Screen Top Depth: 6.0
Screen End Depth: 16.0
Screen Material: 5
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 2.25

Results of Well Yield Testing

Pump Test ID: 1008207060
Pump Set At:
Static Level:
Final Level After Pumping:
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate:

Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	0
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	

Hole Diameter

Hole ID:	1008206168
Diameter:	4.0
Depth From:	0.0
Depth To:	16.0
Hole Depth UOM:	ft
Hole Diameter UOM:	Inch

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56 | ***1 of 3*** | ***NE/208.4*** | ***111.3 / 1.09*** | ***Enbridge Gas Distribution Inc.*** ***19 Fairman Avenue*** ***Toronto ON*** | ***SPL***

Ref No:	0017-9W4RM9	**Discharger Report:**	
Site No:	NA	**Material Group:**	
Incident Dt:	5/1/2015	**Health/Env Conseq:**	
Year:		**Client Type:**	
Incident Cause:	Unknown / N/A	**Sector Type:**	
Incident Event:		**Agency Involved:**	
Contaminant Code:	35	**Nearest Watercourse:**	
Contaminant Name:	NATURAL GAS (METHANE)	**Site Address:**	19 Fairman Avenue
Contaminant Limit 1:		**Site District Office:**	
Contam Limit Freq 1:		**Site Postal Code:**	
Contaminant UN No 1:		**Site Region:**	
Environment Impact:		**Site Municipality:**	Toronto
Nature of Impact:	Air	**Site Lot:**	
Receiving Medium:		**Site Conc:**	
Receiving Env:		**Northing:**	
MOE Response:	N	**Easting:**	
Dt MOE Arvl on Scn:		**Site Geo Ref Accu:**	
MOE Reported Dt:	5/1/2015	**Site Map Datum:**	
Dt Document Closed:		**SAC Action Class:**	TSSA - Fuel Safety Branch - Hydrocarbon Fuel Release/Spill
Incident Reason:	Unknown / N/A	**Source Type:**	
Site Name:	Residential Property<UNOFFICIAL>		
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	TSSA FSB: 1/2" damage, safe		
Contaminant Qty:	0 other - see incident description		

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56 | ***2 of 3*** | ***NE/208.4*** | ***111.3 / 1.09*** | ***PIPELINE HIT - 1/2"*** ***19 FAIRMAR AVENUE,,TORONTO,ON,M8Y 2C7,*** ***CA*** ***ON*** | ***PINC***

Incident ID:		**Pipe Material:**	
Incident No:	1633176	**Fuel Category:**	Natural Gas
Incident Reported Dt:	5/4/2015	**Health Impact:**	
Type:	FS-Pipeline Incident	**Environment Impact:**	
Status Code:		**Property Damage:**	No
Tank Status:	Pipeline Damage Reason Est	**Service Interrupt:**	
Task No:	5475401	**Enforce Policy:**	Yes
Spills Action Centre:		**Public Relation:**	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Fuel Type:		**Pipeline System:**	
Fuel Occurrence Tp:		**PSIG:**	
Date of Occurrence:		**Attribute Category:**	FS-Perform P-line Inc Invest
Occurrence Start Dt:	2015/05/22	**Regulator Location:**	
Depth:		**Method Details:**	E-mail

Customer Acct Name: PIPELINE HIT - 1/2"
Incident Address: 19 FAIRMAR AVENUE,,TORONTO,ON,M8Y 2C7,CA
Operation Type:
Pipeline Type:
Regulator Type:
Summary: 19 FAIRMAR AVENUE, TORONTO - PIPELINE HIT - 1/2"
Reported By: Daneil Muscat - ENBRIDGE
Affiliation:
Occurrence Desc:
Damage Reason: No notification made to the one call center
Notes:

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56 | ***3 of 3*** | ***NE/208.4*** | ***111.3 / 1.09*** | ***ALLAN T SOWDEN 19 FAIRMAR AVE,,TORONTO,ON,M8Y 2C7,CA ON*** | ***PINC***

Incident ID:		**Pipe Material:**	
Incident No:	1633330	**Fuel Category:**	
Incident Reported Dt:	5/4/2015	**Health Impact:**	
Type:	FS-Pipeline Incident	**Environment Impact:**	
Status Code:		**Property Damage:**	
Tank Status:	Pipeline Damage Reason Est	**Service Interrupt:**	
Task No:		**Enforce Policy:**	
Spills Action Centre:		**Public Relation:**	
Fuel Type:		**Pipeline System:**	
Fuel Occurrence Tp:		**PSIG:**	
Date of Occurrence:		**Attribute Category:**	
Occurrence Start Dt:		**Regulator Location:**	
Depth:		**Method Details:**	

Customer Acct Name: ALLAN T SOWDEN
Incident Address: 19 FAIRMAR AVE,,TORONTO,ON,M8Y 2C7,CA
Operation Type:
Pipeline Type:
Regulator Type:
Summary:
Reported By:
Affiliation:
Occurrence Desc:
Damage Reason:
Notes:

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57 | ***1 of 1*** | ***N/218.1*** | ***110.5 / 0.30*** | ***23 RIDGEGATE CRES. TORONTO ON*** | ***WWIS***

Well ID:	7233127	**Data Entry Status:**	
Construction Date:		**Data Src:**	
Primary Water Use:	Test Hole	**Date Received:**	12/8/2014
Sec. Water Use:		**Selected Flag:**	TRUE
Final Well Status:	Test Hole	**Abandonment Rec:**	
Water Type:		**Contractor:**	6988
Casing Material:		**Form Version:**	7
Audit No:	Z184196	**Owner:**	
Tag:	A138561	**Street Name:**	23 RIDGEGATE CRES.
Construction Method:		**County:**	YORK AND TORONTO
Elevation (m):		**Municipality:**	ETOBICOKE BOROUGH
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	

Well Depth:		**Concession:**	
Overburden/Bedrock:		**Concession Name:**	
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/723\7233127.pdf

Additional Detail(s) (Map)

Well Completed Date:	2014/04/28
Year Completed:	2014
Depth (m):	7.6
Latitude:	43.6373579297455
Longitude:	-79.5043628419387
Path:	723\7233127.pdf

Bore Hole Information

Bore Hole ID:	1005251351	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	620640.00
Code OB Desc:		**North83:**	4832683.00
Open Hole:		**Org CS:**	UTM83
Cluster Kind:		**UTMRC:**	4
Date Completed:	28-Apr-2014 00:00:00	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1005418647
Layer:	1
Color:	6
General Color:	BROWN
Mat1:	06
Most Common Material:	SILT
Mat2:	28
Mat2 Desc:	SAND
Mat3:	
Mat3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	7.599999904632568
Formation End Depth UOM:	m

Annular Space/Abandonment Sealing Record

Plug ID:	1005418654
Layer:	1
Plug From:	0.10000000149011612
Plug To:	5.800000190734863
Plug Depth UOM:	m

Method of Construction & Well Use

Method Construction ID:	1005418653
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	

Pipe Information

Pipe ID:	1005418646
Casing No:	0
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	1005418650
Layer:	1
Material:	5
Open Hole or Material:	PLASTIC
Depth From:	0.0
Depth To:	6.099999904632568
Casing Diameter:	2.5399999618530273
Casing Diameter UOM:	cm
Casing Depth UOM:	m

Construction Record - Screen

Screen ID:	1005418651
Layer:	1
Slot:	10
Screen Top Depth:	6.099999904632568
Screen End Depth:	7.599999904632568
Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	3.299999952316284

Water Details

Water ID:	1005418649
Layer:	
Kind Code:	
Kind:	
Water Found Depth:	
Water Found Depth UOM:	m

Hole Diameter

Hole ID:	1005418648
Diameter:	10.0
Depth From:	0.0
Depth To:	7.599999904632568
Hole Depth UOM:	m
Hole Diameter UOM:	cm

58	*1 of 1*	*ENE/224.8*	*109.0 / -1.23*	***ENBRIDGE GAS INC*** ***86 PRINCE EDWARD DR S,,TORONTO,ON,M8Y***	***PINC***

3V7,CA
ON

Incident ID:
Incident No: 2853664
Incident Reported Dt: 5/27/2020
Type: FS-Pipeline Incident
Status Code:
Tank Status: Pipeline Damage Reason Est
Task No:
Spills Action Centre:
Fuel Type:
Fuel Occurrence Tp:
Date of Occurrence:
Occurrence Start Dt:
Depth:
Pipe Material:
Fuel Category:
Health Impact:
Environment Impact:
Property Damage:
Service Interrupt:
Enforce Policy:
Public Relation:
Pipeline System:
PSIG:
Attribute Category:
Regulator Location:
Method Details:
Customer Acct Name: ENBRIDGE GAS INC
Incident Address: 86 PRINCE EDWARD DR S,,TORONTO,ON,M8Y 3V7,CA
Operation Type:
Pipeline Type:
Regulator Type:
Summary:
Reported By:
Affiliation:
Occurrence Desc:
Damage Reason:
Notes:

59	1 of 16	SE/225.2	99.9 / -10.29	ETOBICOKE BOARD OF EDUCATION ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD C/O 1 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T1	GEN

Generator No: ON0077727
SIC Code: 8511
SIC Description: ELEMT./SECON. EDUC.
Approval Years: 88,89,90
PO Box No:
Country:
Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 269
Waste Class Desc: NON-HALOGENATED PESTICIDES

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 145
Waste Class Desc: PAINT/PIGMENT/COATING RESIDUES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 150
Waste Class Desc: INERT INORGANIC WASTES

Waste Class: 211
Waste Class Desc: AROMATIC SOLVENTS

Waste Class: 212
Waste Class Desc: ALIPHATIC SOLVENTS

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 113
Waste Class Desc: ACID WASTE - OTHER METALS

Waste Class: 114
Waste Class Desc: OTHER INORGANIC ACID WASTES

Waste Class: 121
Waste Class Desc: ALKALINE WASTES - HEAVY METALS

Waste Class: 213
Waste Class Desc: PETROLEUM DISTILLATES

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 253
Waste Class Desc: EMULSIFIED OILS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
59	2 of 16	SE/225.2	99.9 / -10.29	ETOBICOKE BOARD OF EDUCATION 14-509 ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD ETOBICOKE ON M8Y 2T1	GEN

Generator No: ON0077727
SIC Code: 8511
SIC Description: ELEMT./SECON. EDUC.
Approval Years: 92,93,95,96,97
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 121
Waste Class Desc: ALKALINE WASTES - HEAVY METALS

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 113
Waste Class Desc: ACID WASTE - OTHER METALS

Waste Class: 114
Waste Class Desc: OTHER INORGANIC ACID WASTES

Waste Class: 145
Waste Class Desc: PAINT/PIGMENT/COATING RESIDUES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 150
Waste Class Desc: INERT INORGANIC WASTES

Waste Class: 211
Waste Class Desc: AROMATIC SOLVENTS

Waste Class: 212
Waste Class Desc: ALIPHATIC SOLVENTS

Waste Class: 213
Waste Class Desc: PETROLEUM DISTILLATES

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 269
Waste Class Desc: NON-HALOGENATED PESTICIDES

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 243
Waste Class Desc: PCB'S

Waste Class: 253
Waste Class Desc: EMULSIFIED OILS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
59	3 of 16	SE/225.2	99.9 / -10.29	ETOBICOKE BOARD OF EDUCATION 14-509 ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD C/O 1 CIVIC CENTRE COURT ETOBICOKE ON M8Y 2T1	GEN

Generator No: ON0077727
SIC Code: 8511
SIC Description: ELEMT./SECON. EDUC.
Approval Years: 94
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 150
Waste Class Desc: INERT INORGANIC WASTES

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 113
Waste Class Desc: ACID WASTE - OTHER METALS

Waste Class: 114
Waste Class Desc: OTHER INORGANIC ACID WASTES

Waste Class: 145
Waste Class Desc: PAINT/PIGMENT/COATING RESIDUES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 211
Waste Class Desc: AROMATIC SOLVENTS

Waste Class: 212

Waste Class Desc:	ALIPHATIC SOLVENTS
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	243
Waste Class Desc:	PCB'S
Waste Class:	253
Waste Class Desc:	EMULSIFIED OILS
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	269
Waste Class Desc:	NON-HALOGENATED PESTICIDES
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS

59	4 of 16	SE/225.2	99.9 / -10.29	**ETOBICOKE BOARD OF EDUCATION** **ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD** **ETOBICOKE ON M8Y 2T1**	GEN

Generator No:	ON0077727	**Status:**	
SIC Code:	8511	**Co Admin:**	
SIC Description:	ELEMT./SECON. EDUC.	**Choice of Contact:**	
Approval Years:	98,99,00,01	**Phone No Admin:**	
PO Box No:		**Contam. Facility:**	
Country:		**MHSW Facility:**	

Detail(s)

Waste Class:	112
Waste Class Desc:	ACID WASTE - HEAVY METALS
Waste Class:	113
Waste Class Desc:	ACID WASTE - OTHER METALS
Waste Class:	114
Waste Class Desc:	OTHER INORGANIC ACID WASTES
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS
Waste Class:	145
Waste Class Desc:	PAINT/PIGMENT/COATING RESIDUES
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	150
Waste Class Desc:	INERT INORGANIC WASTES

Waste Class: 211
Waste Class Desc: AROMATIC SOLVENTS

Waste Class: 212
Waste Class Desc: ALIPHATIC SOLVENTS

Waste Class: 213
Waste Class Desc: PETROLEUM DISTILLATES

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 243
Waste Class Desc: PCB'S

Waste Class: 253
Waste Class Desc: EMULSIFIED OILS

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 269
Waste Class Desc: NON-HALOGENATED PESTICIDES

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

59	5 of 16	SE/225.2	99.9 / -10.29	TORONTO DISTRICT SCHOOL BOARD ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	GEN

Generator No: ON0077727
SIC Code: 611110
SIC Description: Elementary & Secondary Schools
Approval Years: 02,03,04,05,06,07,08
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 114
Waste Class Desc: OTHER INORGANIC ACID WASTES

Waste Class: 121
Waste Class Desc: ALKALINE WASTES - HEAVY METALS

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 113
Waste Class Desc: ACID WASTE - OTHER METALS

Waste Class: 145
Waste Class Desc: PAINT/PIGMENT/COATING RESIDUES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 212
Waste Class Desc: ALIPHATIC SOLVENTS

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 269
Waste Class Desc: NON-HALOGENATED PESTICIDES

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 213
Waste Class Desc: PETROLEUM DISTILLATES

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 243
Waste Class Desc: PCB'S

Waste Class: 150
Waste Class Desc: INERT INORGANIC WASTES

Waste Class: 211
Waste Class Desc: AROMATIC SOLVENTS

Waste Class: 253
Waste Class Desc: EMULSIFIED OILS

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
59	6 of 16	SE/225.2	99.9 / -10.29	ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	GEN

Generator No: ON0288700
SIC Code: 0000
SIC Description: *** NOT DEFINED ***
Approval Years: 86,87,88,89,90,92,93,94
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
59	7 of 16	SE/225.2	99.9 / -10.29	TORONTO DISTRICT SCHOOL BOARD ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1	GEN

Generator No: ON0077727
SIC Code: 611110
SIC Description: Elementary and Secondary Schools
Approval Years: 2009
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 113
Waste Class Desc: ACID WASTE - OTHER METALS

Waste Class: 114

Waste Class Desc:	OTHER INORGANIC ACID WASTES
Waste Class:	150
Waste Class Desc:	INERT INORGANIC WASTES
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS
Waste Class:	145
Waste Class Desc:	PAINT/PIGMENT/COATING RESIDUES
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	211
Waste Class Desc:	AROMATIC SOLVENTS
Waste Class:	212
Waste Class Desc:	ALIPHATIC SOLVENTS
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	243
Waste Class Desc:	PCBS
Waste Class:	253
Waste Class Desc:	EMULSIFIED OILS
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	269
Waste Class Desc:	NON-HALOGENATED PESTICIDES
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES

59 | ***8 of 16*** | ***SE/225.2*** | ***99.9 / -10.29*** | ***TORONTO DISTRICT SCHOOL BOARD***
ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD
TORONTO ON M8Y 2T1 | ***GEN***

Generator No:	ON0077727	***Status:***	
SIC Code:	611110	***Co Admin:***	
SIC Description:	Elementary and Secondary Schools	***Choice of Contact:***	
Approval Years:	2010	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 269
Waste Class Desc: NON-HALOGENATED PESTICIDES

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 150
Waste Class Desc: INERT INORGANIC WASTES

Waste Class: 211
Waste Class Desc: AROMATIC SOLVENTS

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 113
Waste Class Desc: ACID WASTE - OTHER METALS

Waste Class: 145
Waste Class Desc: PAINT/PIGMENT/COATING RESIDUES

Waste Class: 114
Waste Class Desc: OTHER INORGANIC ACID WASTES

Waste Class: 243
Waste Class Desc: PCBS

Waste Class: 213
Waste Class Desc: PETROLEUM DISTILLATES

Waste Class: 253
Waste Class Desc: EMULSIFIED OILS

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 212
Waste Class Desc: ALIPHATIC SOLVENTS

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59 | ***9 of 16*** | ***SE/225.2*** | ***99.9 / -10.29*** | ***TORONTO DISTRICT SCHOOL BOARD ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1*** | ***GEN***

Generator No: ON0077727
SIC Code: 611110
SIC Description: Elementary and Secondary Schools
Approval Years: 2011
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 264
Waste Class Desc: PHOTOPROCESSING WASTES

Waste Class: 150
Waste Class Desc: INERT INORGANIC WASTES

Waste Class: 114
Waste Class Desc: OTHER INORGANIC ACID WASTES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 243
Waste Class Desc: PCBS

Waste Class: 269
Waste Class Desc: NON-HALOGENATED PESTICIDES

Waste Class: 331
Waste Class Desc: WASTE COMPRESSED GASES

Waste Class: 112
Waste Class Desc: ACID WASTE - HEAVY METALS

Waste Class: 145
Waste Class Desc: PAINT/PIGMENT/COATING RESIDUES

Waste Class: 253
Waste Class Desc: EMULSIFIED OILS

Waste Class: 213
Waste Class Desc: PETROLEUM DISTILLATES

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Waste Class: 211
Waste Class Desc: AROMATIC SOLVENTS

Waste Class: 113
Waste Class Desc: ACID WASTE - OTHER METALS

Waste Class: 121
Waste Class Desc: ALKALINE WASTES - HEAVY METALS

Waste Class: 212
Waste Class Desc: ALIPHATIC SOLVENTS

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59 | ***10 of 16*** | ***SE/225.2*** | ***99.9 / -10.29*** | ***TORONTO DISTRICT SCHOOL BOARD ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1*** | ***GEN***

Generator No: ON0077727
SIC Code: 611110
SIC Description: Elementary and Secondary Schools
Approval Years: 2012
PO Box No:
Country:

Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 243
Waste Class Desc: PCBS

Waste Class: 264

Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	113
Waste Class Desc:	ACID WASTE - OTHER METALS
Waste Class:	114
Waste Class Desc:	OTHER INORGANIC ACID WASTES
Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS
Waste Class:	112
Waste Class Desc:	ACID WASTE - HEAVY METALS
Waste Class:	212
Waste Class Desc:	ALIPHATIC SOLVENTS
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES
Waste Class:	145
Waste Class Desc:	PAINT/PIGMENT/COATING RESIDUES
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	150
Waste Class Desc:	INERT INORGANIC WASTES
Waste Class:	253
Waste Class Desc:	EMULSIFIED OILS
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	269
Waste Class Desc:	NON-HALOGENATED PESTICIDES
Waste Class:	211
Waste Class Desc:	AROMATIC SOLVENTS

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
59	11 of 16	SE/225.2	99.9 / -10.29	TORONTO DISTRICT SCHOOL BOARD ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON	GEN

Generator No:	ON0077727	**Status:**	
SIC Code:	611110	**Co Admin:**	
SIC Description:	ELEMENTARY AND SECONDARY SCHOOLS	**Choice of Contact:**	
Approval Years:	2013	**Phone No Admin:**	
PO Box No:		**Contam. Facility:**	
Country:		**MHSW Facility:**	

Detail(s)

Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES

Waste Class:	269
Waste Class Desc:	NON-HALOGENATED PESTICIDES
Waste Class:	145
Waste Class Desc:	PAINT/PIGMENT/COATING RESIDUES
Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	253
Waste Class Desc:	EMULSIFIED OILS
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES
Waste Class:	211
Waste Class Desc:	AROMATIC SOLVENTS
Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	212
Waste Class Desc:	ALIPHATIC SOLVENTS
Waste Class:	150
Waste Class Desc:	INERT INORGANIC WASTES
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	112
Waste Class Desc:	ACID WASTE - HEAVY METALS
Waste Class:	113
Waste Class Desc:	ACID WASTE - OTHER METALS
Waste Class:	114
Waste Class Desc:	OTHER INORGANIC ACID WASTES
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS
Waste Class:	243
Waste Class Desc:	PCBS

59	***12 of 16***	***SE/225.2***	***99.9 / -10.29***	***TORONTO DISTRICT SCHOOL BOARD ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1***	***GEN***

Generator No:	ON0077727	***Status:***	
SIC Code:	611110	***Co Admin:***	
SIC Description:	ELEMENTARY AND SECONDARY SCHOOLS	***Choice of Contact:***	CO_OFFICIAL
Approval Years:	2016	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	No
Country:	Canada	***MHSW Facility:***	No

Detail(s)

Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS
Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES
Waste Class:	114
Waste Class Desc:	OTHER INORGANIC ACID WASTES
Waste Class:	112
Waste Class Desc:	ACID WASTE - HEAVY METALS
Waste Class:	269
Waste Class Desc:	NON-HALOGENATED PESTICIDES
Waste Class:	211
Waste Class Desc:	AROMATIC SOLVENTS
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	150
Waste Class Desc:	INERT INORGANIC WASTES
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	212
Waste Class Desc:	ALIPHATIC SOLVENTS
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	145
Waste Class Desc:	PAINT/PIGMENT/COATING RESIDUES
Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	253
Waste Class Desc:	EMULSIFIED OILS
Waste Class:	113
Waste Class Desc:	ACID WASTE - OTHER METALS
Waste Class:	243
Waste Class Desc:	PCBS

59	13 of 16	SE/225.2	99.9 / -10.29	**TORONTO DISTRICT SCHOOL BOARD** **ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD** **TORONTO ON M8Y 2T1**	GEN

Generator No:	ON0077727	**Status:**	
SIC Code:	611110	**Co Admin:**	
SIC Description:	ELEMENTARY AND SECONDARY SCHOOLS	**Choice of Contact:**	CO_OFFICIAL
Approval Years:	2015	**Phone No Admin:**	
PO Box No:		**Contam. Facility:**	No
Country:	Canada	**MHSW Facility:**	No

Detail(s)

Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS
Waste Class:	269
Waste Class Desc:	NON-HALOGENATED PESTICIDES
Waste Class:	212
Waste Class Desc:	ALIPHATIC SOLVENTS
Waste Class:	114
Waste Class Desc:	OTHER INORGANIC ACID WASTES
Waste Class:	113
Waste Class Desc:	ACID WASTE - OTHER METALS
Waste Class:	112
Waste Class Desc:	ACID WASTE - HEAVY METALS
Waste Class:	145
Waste Class Desc:	PAINT/PIGMENT/COATING RESIDUES
Waste Class:	243
Waste Class Desc:	PCBS
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	150
Waste Class Desc:	INERT INORGANIC WASTES
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	253
Waste Class Desc:	EMULSIFIED OILS
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	211
Waste Class Desc:	AROMATIC SOLVENTS

59	***14 of 16***	***SE/225.2***	***99.9 / -10.29***	***TORONTO DISTRICT SCHOOL BOARD ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1***	***GEN***

Generator No:	ON0077727	***Status:***	
SIC Code:	611110	***Co Admin:***	
SIC Description:	ELEMENTARY AND SECONDARY SCHOOLS	***Choice of Contact:***	CO_OFFICIAL
Approval Years:	2014	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	No
Country:	Canada	***MHSW Facility:***	No

Detail(s)

Waste Class:	221
Waste Class Desc:	LIGHT FUELS
Waste Class:	112
Waste Class Desc:	ACID WASTE - HEAVY METALS
Waste Class:	269
Waste Class Desc:	NON-HALOGENATED PESTICIDES
Waste Class:	114
Waste Class Desc:	OTHER INORGANIC ACID WASTES
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	121
Waste Class Desc:	ALKALINE WASTES - HEAVY METALS
Waste Class:	253
Waste Class Desc:	EMULSIFIED OILS
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	264
Waste Class Desc:	PHOTOPROCESSING WASTES
Waste Class:	331
Waste Class Desc:	WASTE COMPRESSED GASES
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	243
Waste Class Desc:	PCBS
Waste Class:	113
Waste Class Desc:	ACID WASTE - OTHER METALS
Waste Class:	212
Waste Class Desc:	ALIPHATIC SOLVENTS
Waste Class:	150
Waste Class Desc:	INERT INORGANIC WASTES
Waste Class:	145
Waste Class Desc:	PAINT/PIGMENT/COATING RESIDUES
Waste Class:	211
Waste Class Desc:	AROMATIC SOLVENTS

59	***15 of 16***	***SE/225.2***	***99.9 / -10.29***	***TORONTO DISTRICT SCHOOL BOARD ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1***	***GEN***

Generator No:	ON0077727	***Status:***	Registered
SIC Code:		***Co Admin:***	
SIC Description:		***Choice of Contact:***	
Approval Years:	As of Dec 2018	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	

Country: Canada ***MHSW Facility:***

Detail(s)

Waste Class: 148 B
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 148 C
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 264 C
Waste Class Desc: Photoprocessing wastes

Waste Class: 331 I
Waste Class Desc: Waste compressed gases including cylinders

Waste Class: 150 L
Waste Class Desc: Inert organic wastes

Waste Class: 212 L
Waste Class Desc: Aliphatic solvents and residues

Waste Class: 213 I
Waste Class Desc: Petroleum distillates

Waste Class: 221 L
Waste Class Desc: Light fuels

Waste Class: 251 L
Waste Class Desc: Waste oils/sludges (petroleum based)

Waste Class: 252 L
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 253 L
Waste Class Desc: Emulsified oils

Waste Class: 263 B
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 263 C
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 263 I
Waste Class Desc: Misc. waste organic chemicals

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59 ***16 of 16*** ***SE/225.2*** ***99.9 / -10.29*** ***City Of Toronto***
675 Royal York Road
Etobicoke ON M8Y 2T1 ***GEN***

Generator No: ON9806241 ***Status:*** Registered
SIC Code: ***Co Admin:***
SIC Description: ***Choice of Contact:***
Approval Years: As of Dec 2018 ***Phone No Admin:***
PO Box No: ***Contam. Facility:***
Country: Canada ***MHSW Facility:***

Detail(s)

Waste Class: 145 I
Waste Class Desc: Wastes from the use of pigments, coatings and paints

Waste Class: 145 L

Waste Class Desc: Wastes from the use of pigments, coatings and paints

Waste Class: 148 B
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 148 C
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 212 L
Waste Class Desc: Aliphatic solvents and residues

Waste Class: 242 A
Waste Class Desc: Halogenated pesticides and herbicides

Waste Class: 252 L
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 261 A
Waste Class Desc: Pharmaceuticals

Waste Class: 263 B
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 263 I
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 312 P
Waste Class Desc: Pathological wastes

Waste Class: 331 I
Waste Class Desc: Waste compressed gases including cylinders

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60 ***1 of 4*** ***S/233.8*** ***104.6 / -5.61*** ***TORONTO DISTRICT SCHOOL BOARD***
ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD
TORONTO ON M8Y 2T1 ***GEN***

Generator No: ON0077727
SIC Code:
SIC Description:
Approval Years: As of Jul 2020
PO Box No:
Country: Canada

Status: Registered
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 253 L
Waste Class Desc: Emulsified oils

Waste Class: 148 B
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 263 C
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 331 I
Waste Class Desc: Waste compressed gases including cylinders

Waste Class: 263 B
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 264 C
Waste Class Desc: Photoprocessing wastes

Waste Class: 148 I
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 252 L
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 221 L
Waste Class Desc: Light fuels

Waste Class: 251 L
Waste Class Desc: Waste oils/sludges (petroleum based)

Waste Class: 213 I
Waste Class Desc: Petroleum distillates

Waste Class: 212 L
Waste Class Desc: Aliphatic solvents and residues

Waste Class: 263 I
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 150 L
Waste Class Desc: Inert organic wastes

Waste Class: 148 C
Waste Class Desc: Misc. wastes and inorganic chemicals

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60 | **2 of 4** | **S/233.8** | **104.6 / -5.61** | **City Of Toronto**
675 Royal York Road
Etobicoke ON M8Y 2T1 | **GEN**

Generator No: ON9806241
SIC Code:
SIC Description:
Approval Years: As of Jul 2020
PO Box No:
Country: Canada

Status: Registered
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 252 L
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 261 A
Waste Class Desc: Pharmaceuticals

Waste Class: 145 L
Waste Class Desc: Wastes from the use of pigments, coatings and paints

Waste Class: 331 I
Waste Class Desc: Waste compressed gases including cylinders

Waste Class: 312 P
Waste Class Desc: Pathological wastes

Waste Class: 145 I
Waste Class Desc: Wastes from the use of pigments, coatings and paints

Waste Class: 263 I
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 263 B
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 148 B
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 242 A
Waste Class Desc: Halogenated pesticides and herbicides

Waste Class: 212 L
Waste Class Desc: Aliphatic solvents and residues

Waste Class: 148 C
Waste Class Desc: Misc. wastes and inorganic chemicals

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60 | **3 of 4** | **S/233.8** | **104.6 / -5.61** | **TORONTO DISTRICT SCHOOL BOARD ETOBICOKE SCHOOL OF THE ARTS 675 ROYAL YORK ROAD TORONTO ON M8Y 2T1** | **GEN**

Generator No: ON0077727
SIC Code:
SIC Description:
Approval Years: As of Nov 2021
PO Box No:
Country: Canada

Status: Registered
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 150 L
Waste Class Desc: Inert organic wastes

Waste Class: 264 C
Waste Class Desc: Photoprocessing wastes

Waste Class: 253 L
Waste Class Desc: Emulsified oils

Waste Class: 251 L
Waste Class Desc: Waste oils/sludges (petroleum based)

Waste Class: 221 L
Waste Class Desc: Light fuels

Waste Class: 252 L
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 263 B
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 213 I
Waste Class Desc: Petroleum distillates

Waste Class: 331 I
Waste Class Desc: Waste compressed gases including cylinders

Waste Class: 263 C
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 148 C
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 212 L
Waste Class Desc: Aliphatic solvents and residues

Waste Class: 263 I
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 148 I
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 148 B
Waste Class Desc: Misc. wastes and inorganic chemicals

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60 **4 of 4** **S/233.8** **104.6 / -5.61** **City Of Toronto**
675 Royal York Road
Etobicoke ON M8Y 2T1 **GEN**

Generator No: ON9806241
SIC Code:
SIC Description:
Approval Years: As of Nov 2021
PO Box No:
Country: Canada

Status: Registered
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 261 A
Waste Class Desc: Pharmaceuticals

Waste Class: 148 B
Waste Class Desc: Misc. wastes and inorganic chemicals

Waste Class: 145 L
Waste Class Desc: Wastes from the use of pigments, coatings and paints

Waste Class: 331 I
Waste Class Desc: Waste compressed gases including cylinders

Waste Class: 263 I
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 212 L
Waste Class Desc: Aliphatic solvents and residues

Waste Class: 145 I
Waste Class Desc: Wastes from the use of pigments, coatings and paints

Waste Class: 252 L
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 242 A
Waste Class Desc: Halogenated pesticides and herbicides

Waste Class: 312 P
Waste Class Desc: Pathological wastes

Waste Class: 263 B
Waste Class Desc: Misc. waste organic chemicals

Waste Class: 148 C
Waste Class Desc: Misc. wastes and inorganic chemicals

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61 **1 of 1** **ESE/238.0** **100.1 / -10.11** **ON** **BORE**

Borehole ID: 634541
OGF ID: 215534938
Status:
Type: Borehole

Inclin FLG: No
SP Status: Initial Entry
Surv Elev: No
Piezometer: No

Use:	Geotechnical/Geological Investigation	**Primary Name:**	
Completion Date:	MAR-1968	**Municipality:**	
Static Water Level:	0.5	**Lot:**	
Primary Water Use:	Not Used	**Township:**	
Sec. Water Use:		**Latitude DD:**	43.63163
Total Depth m:	4.9	**Longitude DD:**	-79.500233
Depth Ref:	Ground Surface	**UTM Zone:**	17
Depth Elev:		**Easting:**	620985
Drill Method:	Power auger	**Northing:**	4832053
Orig Ground Elev m:	107	**Location Accuracy:**	
Elev Reliabil Note:		**Accuracy:**	Not Applicable
DEM Ground Elev m:	106		
Concession:			
Location D:			
Survey D:			
Comments:			

Borehole Geology Stratum

Geology Stratum ID:	218469879	**Mat Consistency:**	
Top Depth:	.5	**Material Moisture:**	
Bottom Depth:	4.3	**Material Texture:**	Coarse
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM TO COARSE. BROWN,GLACIAL,AGE GLACIAL, WATER STABLE AT 350.4 FEET.		

Geology Stratum ID:	218469880	**Mat Consistency:**	
Top Depth:	4.3	**Material Moisture:**	Wet
Bottom Depth:	4.9	**Material Texture:**	Coarse
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:	Silt	**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM TO COARSE,SILT. BROWN,GLACIAL,WET,AGE GLACIAL.000180200014003900015 **Note: Many records provided by the department have a truncated [Stratum Description] field.		

Geology Stratum ID:	218469878	**Mat Consistency:**	Loose
Top Depth:	0	**Material Moisture:**	
Bottom Depth:	.5	**Material Texture:**	Medium
Material Color:	Brown	**Non Geo Mat Type:**	
Material 1:	Sand	**Geologic Formation:**	
Material 2:		**Geologic Group:**	
Material 3:		**Geologic Period:**	
Material 4:		**Depositional Gen:**	glacial
Gsc Material Description:			
Stratum Description:	SAND-MEDIUM. BROWN,GLACIAL,LOOSE, AGE GLACIAL.		

Source

Source Type:	Data Survey	**Source Appl:**	Spatial/Tabular
Source Orig:	Geological Survey of Canada	**Source Iden:**	1
Source Date:	1956-1972	**Scale or Res:**	Varies
Confidence:	H	**Horizontal:**	NAD27
Observatio:		**Verticalda:**	Mean Average Sea Level
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Details:	File: TOR1A.txt RecordID: 024960 NTS_Sheet: 30M12H		
Confiden 1:	Logged by professional. Exact and complete description of material and properties.		

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Source List

Source Identifier:	1	***Horizontal Datum:***	NAD27
Source Type:	Data Survey	***Vertical Datum:***	Mean Average Sea Level
Source Date:	1956-1972	***Projection Name:***	Universal Transverse Mercator
Scale or Resolution:	Varies		
Source Name:	Urban Geology Automated Information System (UGAIS)		
Source Originators:	Geological Survey of Canada		

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
62	1 of 2	NW/242.5	106.7 / -3.49	***Ukrainian Home for the aged*** ***767 Royal York Rd.*** ***Toronto ON***	GEN

Generator No:	ON4678370	***Status:***	
SIC Code:	623999	***Co Admin:***	
SIC Description:	All Other Residential Care Facilities	***Choice of Contact:***	
Approval Years:	2012	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
62	2 of 2	NW/242.5	106.7 / -3.49	***Ukrainian Home for the aged*** ***767 Royal York Road*** ***Toronto ON M8Y 2T3***	ECA

Approval No:	6584-6MRM26	***MOE District:***	Metro Toronto
Approval Date:	2006-03-14	***City:***	
Status:	Approved	***Longitude:***	-79.50667
Record Type:	ECA	***Latitude:***	43.637848
Link Source:	IDS	***Geometry X:***	
SWP Area Name:	Toronto	***Geometry Y:***	
Approval Type:	ECA-AIR		
Project Type:	AIR		
Business Name:	Ukrainian Home for the aged		
Address:	767 Royal York Road		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/6559-6JDSP5-14.pdf		
PDF Site Location:			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
63	1 of 1	NW/243.7	104.9 / -5.30	***Ukrainian Home for the aged*** ***767 Royal York Road*** ***Toronto ON M8Y 2T3***	CA

Certificate #:	6584-6MRM26
Application Year:	2006
Issue Date:	3/14/2006
Approval Type:	Air
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	
Contaminants:	
Emission Control:	

Unplottable Summary

Total: 50 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
CA	City of Toronto	Royal York Road	Toronto ON	
CA	City of Toronto	Royal York Road (between Bloor Street West, Usher Avenue and Kingsgrove Boulevar	Toronto ON	
CA	City of Toronto	From Norseman Street to Mimico Creek Bridge	Toronto ON	
CA	City of Toronto	From Norseman Street to Mimico Creek Bridge	Toronto ON	
CA	City of Toronto	Royal York Road	Toronto ON	
CA		Royal York Road	Toronto ON	
CA	Toronto and Region Conservation Authority		Toronto ON	
CA	City of Toronto	Royal York Road Royal York Road from 94m north of McCallum Court to 235m south o	Toronto ON	
CA	City of Toronto	Royal York Road From Dundas Street West to Ashley Road	Toronto ON	
CA	ETOBICOKE CITY	ROYAL YORK ROAD	ETOBICOKE CITY ON	
CA	ETOBICOKE CITY	BERRY ROAD PUMPING STATION	ETOBICOKE CITY ON	
CA	ETOBICOKE CITY	BERRY ROAD PUMPING STATION	ETOBICOKE CITY ON	
CA	ETOBICOKE CITY	BERRY RD. SAN.SEW. P.S./F-MAIN	ETOBICOKE CITY ON	
CA	ETOBICOKE CITY	ROYAL YORK RD. SANITARY TANK	ETOBICOKE CITY ON	
ECA	City of Toronto	Norseman St	Toronto ON	M9C 2Y2
ECA	Toronto and Region Conservation Authority		Toronto ON	M3N 1S4
ECA	City of Toronto	Royal York Road	Toronto ON	M9C 2Y2

ECA	City of Toronto	Royal York Road	Toronto ON	M9C 2Y2
ECA	City of Toronto	Royal York Road Royal York Road from 94m north of McCallum Court to 235m south of Norseman Street	Toronto ON	M9C 2Y2
ECA	City of Toronto	Royal York Road Royal York Road from 94m north of McCallum Court to 235m south of Norseman Street	Toronto ON	M9C 2Y2
ECA	City of Toronto	From Norseman Street to Mimico Creek Bridge	Toronto ON	M9C 2Y2
ECA	City of Toronto	Royal York Road	Toronto ON	M9C 2Y2
ECA	City of Toronto	From Norseman Street to Mimico Creek Bridge	Toronto ON	M9C 2Y2
ECA	City of Toronto	Royal York Road	Toronto ON	M9C 2Y2
ECA	City of Toronto	From Norseman Street to Mimico Creek Bridge	Toronto ON	M9C 2Y2
EHS		Section of Lakeshore West Go Line Tecumseh St to Royal York Rd	Toronto ON	
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	M1B 2K4
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	M1B 2K4
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	M1B 2K4
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	M1B 2K4
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	M1B 2K4
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	
GEN	Harrison Muir Inc.	CP Bridge Royal York Rd north of Dundas St	Toronto ON	
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	
GEN	TORONTO HYDRO-ELECTRIC SYSTEM LTD.	VAULTS, MANHOLES & SPILL SITES	TORONTO ON	M1B 2K4
PINC	PIPELINE HIT - 1/2"	TORONTO,,TORONTO,ON,,CA	ON	

PINC	PIPELINE HIT - 1/2"	TORONTO,,TORONTO,ON,,CA	ON
RSC	TORONTO DISTRICT SCHOOL BOARD	No Municipal Address	Toronto ON
SPL	METROPOLITAN TORONTO, MUNICIPA	BERRY ROAD OVERFLOW, HUMBER RIVER SANITARY SEWER/SEWAGE PUMPING STATION	TORONTO ON
SPL	Toronto Hydro-Electric System Limited		Toronto ON
SPL	Toronto Hydro-Electric System Limited		Toronto ON
SPL	UNKNOWN	HUMBER RIVER, WEST TRIBUTARY TO, AT ROYAL YORK ROAD BRIDGE	TORONTO CITY ON
SPL	ETOBICOKE HYDRO	TRANSFORMER	TORONTO CITY ON
SPL	METROPOLITAN TORONTO, MUNICIPA	HUMBER RIVER, FROM BERRY ST PUMPING STATION SANITARY SEWER/ SEWAGE PUMPING STATION	TORONTO CITY ON
SPL		Mimico Creek, Off Oakfield Drive, Etobicoke	Toronto ON
SPL	Toronto Hydro-Electric System Limited		Toronto ON
SPL	Toronto Hydro-Electric System Limited		Toronto ON
SPL	Toronto Hydro-Electric System Limited		Toronto ON

Unplottable Report

Site: ***City of Toronto***
Royal York Road Toronto ON

Database: ***CA***

Certificate #:	9468-6E3HEU
Application Year:	2005
Issue Date:	7/7/2005
Approval Type:	Municipal and Private Sewage Works
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	
Contaminants:	
Emission Control:	

Site: ***City of Toronto***
Royal York Road (between Bloor Street West, Usher Avenue and Kingsgrove Boulevar Toronto ON

Database: ***CA***

Certificate #:	5134-6GLQDD
Application Year:	2005
Issue Date:	9/28/2005
Approval Type:	Municipal and Private Sewage Works
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	
Contaminants:	
Emission Control:	

Site: ***City of Toronto***
From Norseman Street to Mimico Creek Bridge Toronto ON

Database: ***CA***

Certificate #:	4906-78ANGR
Application Year:	2007
Issue Date:	10/25/2007
Approval Type:	Municipal and Private Sewage Works
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	
Contaminants:	
Emission Control:	

Site: ***City of Toronto***
From Norseman Street to Mimico Creek Bridge Toronto ON

Database: ***CA***

Certificate #:	2614-765KSQ

Application Year: 2007
Issue Date: 8/16/2007
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***City of Toronto***
Royal York Road Toronto ON

Database: ***CA***

Certificate #: 7685-62XJ5E
Application Year: 2004
Issue Date: 7/20/2004
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site:
Royal York Road Toronto ON

Database: ***CA***

Certificate #: 5468-4Q6NWJ
Application Year: 00
Issue Date: 10/25/00
Approval Type: Municipal & Private sewage
Status: Approved
Application Type: New Certificate of Approval
Client Name: Corporation of the City of Toronto
Client Address: 399 The West Mall
Client City: Toronto
Client Postal Code: M9C 2Y2
Project Description: Installation of a 375 mm diameter storm sewer on Royal York Road form Bloor Street to Birchview Boulevard.
Contaminants:
Emission Control:

Site: ***Toronto and Region Conservation Authority***
Toronto ON

Database: ***CA***

Certificate #: 7990-6FJJC3
Application Year: 2005
Issue Date: 8/29/2005
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***City of Toronto***
Royal York Road Royal York Road from 94m north of McCallum Court to 235m south o Toronto ON

Database: ***CA***

Certificate #: 7198-6TELFD
Application Year: 2006
Issue Date: 9/14/2006
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***City of Toronto***
Royal York Road From Dundas Street West to Ashley Road Toronto ON

Database: ***CA***

Certificate #: 9095-8HVJ57
Application Year: 2011
Issue Date: 6/27/2011
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***ETOBICOKE CITY***
ROYAL YORK ROAD ETOBICOKE CITY ON

Database: ***CA***

Certificate #: 3-0182-96-
Application Year: 96
Issue Date: 4/1/1996
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***ETOBICOKE CITY***
BERRY ROAD PUMPING STATION ETOBICOKE CITY ON

Database: ***CA***

Certificate #: 8-3372-94-
Application Year: 94
Issue Date: 8/18/1994
Approval Type: Industrial air
Status: Approved
Application Type:
Client Name:
Client Address:

Client City:
Client Postal Code:
Project Description: STANDBY POWER FOR SEWAGE PUMP STATION
Contaminants: Nitrogen Oxides
Emission Control: No Controls

Site: ***ETOBICOKE CITY***
BERRY ROAD PUMPING STATION ETOBICOKE CITY ON

Database: ***CA***

Certificate #: 3-0902-94-
Application Year: 94
Issue Date: 7/20/1994
Approval Type: Municipal sewage
Status: Cancelled
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***ETOBICOKE CITY***
BERRY RD. SAN.SEW. P.S./F-MAIN ETOBICOKE CITY ON

Database: ***CA***

Certificate #: 3-0902-94-
Application Year: 94
Issue Date: 8/11/1994
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***ETOBICOKE CITY***
ROYAL YORK RD. SANITARY TANK ETOBICOKE CITY ON

Database: ***CA***

Certificate #: 3-0661-95-
Application Year: 95
Issue Date: 6/16/1995
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: ***City of Toronto***
Norseman St Toronto ON M9C 2Y2

Database: ***ECA***

Approval No: 6153-8SZPFD
Approval Date: 2012-04-10
MOE District:
City:

Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	

Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: City of Toronto
Address: Norseman St
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/2331-8SUJVX-14.pdf
PDF Site Location:

Site: ***Toronto and Region Conservation Authority***
Toronto ON M3N 1S4

Database: ***ECA***

Approval No:	7990-6FJJC3	***MOE District:***	
Approval Date:	2005-08-29	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	

Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: Toronto and Region Conservation Authority
Address:
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/9529-6DLPRN-14.pdf
PDF Site Location:

Site: ***City of Toronto***
Royal York Road Toronto ON M9C 2Y2

Database: ***ECA***

Approval No:	7685-62XJ5E	***MOE District:***	
Approval Date:	2004-07-20	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	

Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: City of Toronto
Address: Royal York Road
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/9916-62VNJK-14.pdf
PDF Site Location:

Site: ***City of Toronto***
Royal York Road Toronto ON M9C 2Y2

Database: ***ECA***

Approval No:	9468-6E3HEU	***MOE District:***	
Approval Date:	2005-07-07	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	

Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: City of Toronto
Address: Royal York Road
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/9175-6DZHB7-14.pdf
PDF Site Location:

Site: ***City of Toronto***
Royal York Road Royal York Road from 94m north of McCallum Court to 235m south of Norseman Street Toronto ON M9C 2Y2

Database: ***ECA***

Approval No:	3582-6TEM6H	***MOE District:***	
Approval Date:	2006-09-14	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	
Approval Type:	ECA-Municipal Drinking Water Systems		
Project Type:	Municipal Drinking Water Systems		
Business Name:	City of Toronto		
Address:	Royal York Road Royal York Road from 94m north of McCallum Court to 235m south of Norseman Street		
Full Address:			
Full PDF Link:			
PDF Site Location:			

Site: ***City of Toronto***
Royal York Road Royal York Road from 94m north of McCallum Court to 235m south of Norseman Street Toronto ON M9C 2Y2

Database: ***ECA***

Approval No:	7198-6TELFD	***MOE District:***	
Approval Date:	2006-09-14	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	
Approval Type:	ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS		
Project Type:	MUNICIPAL AND PRIVATE SEWAGE WORKS		
Business Name:	City of Toronto		
Address:	Royal York Road Royal York Road from 94m north of McCallum Court to 235m south of Norseman Street		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/8010-6TDPMA-14.pdf		
PDF Site Location:			

Site: ***City of Toronto***
From Norseman Street to Mimico Creek Bridge Toronto ON M9C 2Y2

Database: ***ECA***

Approval No:	2614-765KSQ	***MOE District:***	
Approval Date:	2007-08-16	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	
Approval Type:	ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS		
Project Type:	MUNICIPAL AND PRIVATE SEWAGE WORKS		
Business Name:	City of Toronto		
Address:	From Norseman Street to Mimico Creek Bridge		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/7598-763R87-14.pdf		
PDF Site Location:			

Site: ***City of Toronto***
Royal York Road Toronto ON M9C 2Y2

Database: ***ECA***

Approval No:	4367-6E3HC9	***MOE District:***	
Approval Date:	2005-07-07	***City:***	
Status:	Approved	***Longitude:***	
Record Type:	ECA	***Latitude:***	
Link Source:	IDS	***Geometry X:***	
SWP Area Name:		***Geometry Y:***	
Approval Type:	ECA-Municipal Drinking Water Systems		

Project Type: Municipal Drinking Water Systems
Business Name: City of Toronto
Address: Royal York Road
Full Address:
Full PDF Link:
PDF Site Location:

Site: ***City of Toronto***
From Norseman Street to Mimico Creek Bridge Toronto ON M9C 2Y2

Database: ***ECA***

Approval No: 3385-765L47
Approval Date: 2007-08-16
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:
Approval Type: ECA-Municipal Drinking Water Systems
Project Type: Municipal Drinking Water Systems
Business Name: City of Toronto
Address: From Norseman Street to Mimico Creek Bridge
Full Address:
Full PDF Link:
PDF Site Location:

Site: ***City of Toronto***
Royal York Road Toronto ON M9C 2Y2

Database: ***ECA***

Approval No: 9208-62XHQB
Approval Date: 2004-07-20
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:
Approval Type: ECA-Municipal Drinking Water Systems
Project Type: Municipal Drinking Water Systems
Business Name: City of Toronto
Address: Royal York Road
Full Address:
Full PDF Link:
PDF Site Location:

Site: ***City of Toronto***
From Norseman Street to Mimico Creek Bridge Toronto ON M9C 2Y2

Database: ***ECA***

Approval No: 4906-78ANGR
Approval Date: 2007-10-25
Status: Approved
Record Type: ECA
Link Source: IDS
SWP Area Name:
MOE District:
City:
Longitude:
Latitude:
Geometry X:
Geometry Y:
Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Business Name: City of Toronto
Address: From Norseman Street to Mimico Creek Bridge
Full Address:
Full PDF Link: https://www.accessenvironment.ene.gov.on.ca/instruments/8141-75LN7Q-14.pdf
PDF Site Location:

Site:
Section of Lakeshore West Go Line Tecumseh St to Royal York Rd Toronto ON

Database: ***EHS***

Order No: 20100108011
Nearest Intersection:

Status:	C	***Municipality:***	
Report Type:		***Client Prov/State:***	ON
Report Date:	1/11/2010	***Search Radius (km):***	0.25
Date Received:	1/8/2010	***X:***	-79.481774
Previous Site Name:		***Y:***	1
Lot/Building Size:			
Additional Info Ordered:			

Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON

Database: ***GEN***

Generator No:	ON0173231	***Status:***	
SIC Code:	221122	***Co Admin:***	
SIC Description:	Electric Power Distribution	***Choice of Contact:***	
Approval Years:	2010	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	146
Waste Class Desc:	OTHER SPECIFIED INORGANICS
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	251
Waste Class Desc:	OIL SKIMMINGS & SLUDGES
Waste Class:	243
Waste Class Desc:	PCBS

Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON M1B 2K4

Database: ***GEN***

Generator No:	ON0173231	***Status:***	
SIC Code:	221122	***Co Admin:***	Aaron Wilhelm
SIC Description:	ELECTRIC POWER DISTRIBUTION	***Choice of Contact:***	CO_OFFICIAL
Approval Years:	2015	***Phone No Admin:***	4165423100 Ext.59769
PO Box No:		***Contam. Facility:***	No
Country:	Canada	***MHSW Facility:***	No

Detail(s)

Waste Class:	146
Waste Class Desc:	OTHER SPECIFIED INORGANICS
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	251
Waste Class Desc:	OIL SKIMMINGS & SLUDGES
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS

Waste Class: 243
Waste Class Desc: PCBS

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON M1B 2K4

Database: ***GEN***

Generator No:	ON0173231	***Status:***	Registered
SIC Code:		***Co Admin:***	
SIC Description:		***Choice of Contact:***	
Approval Years:	As of Dec 2018	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:	Canada	***MHSW Facility:***	

Detail(s)

Waste Class: 146 L
Waste Class Desc: Other specified inorganic sludges, slurries or solids

Waste Class: 146 T
Waste Class Desc: Other specified inorganic sludges, slurries or solids

Waste Class: 221 I
Waste Class Desc: Light fuels

Waste Class: 221 L
Waste Class Desc: Light fuels

Waste Class: 243 D
Waste Class Desc: PCB

Waste Class: 251 L
Waste Class Desc: Waste oils/sludges (petroleum based)

Waste Class: 251 T
Waste Class Desc: Waste oils/sludges (petroleum based)

Waste Class: 252 L
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 252 T
Waste Class Desc: Waste crankcase oils and lubricants

Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON M1B 2K4

Database: ***GEN***

Generator No:	ON0173231	***Status:***	Registered
SIC Code:		***Co Admin:***	
SIC Description:		***Choice of Contact:***	
Approval Years:	As of Jul 2020	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:	Canada	***MHSW Facility:***	

Detail(s)

Waste Class: 270 L
Waste Class Desc: Other specified organic sludges, slurries or solids

Waste Class: 221 L
Waste Class Desc: Light fuels

Waste Class: 243 D
Waste Class Desc: PCB

Waste Class: 146 L
Waste Class Desc: Other specified inorganic sludges, slurries or solids

Waste Class: 252 L
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 252 T
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 251 T
Waste Class Desc: Waste oils/sludges (petroleum based)

Waste Class: 251 L
Waste Class Desc: Waste oils/sludges (petroleum based)

Waste Class: 221 I
Waste Class Desc: Light fuels

Waste Class: 146 T
Waste Class Desc: Other specified inorganic sludges, slurries or solids

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Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON M1B 2K4

Database: ***GEN***

Generator No: ON0173231
SIC Code:
SIC Description:
Approval Years: As of Nov 2021
PO Box No:
Country: Canada

Status: Registered
Co Admin:
Choice of Contact:
Phone No Admin:
Contam. Facility:
MHSW Facility:

Detail(s)

Waste Class: 270 L
Waste Class Desc: Other specified organic sludges, slurries or solids

Waste Class: 146 T
Waste Class Desc: Other specified inorganic sludges, slurries or solids

Waste Class: 146 L
Waste Class Desc: Other specified inorganic sludges, slurries or solids

Waste Class: 221 L
Waste Class Desc: Light fuels

Waste Class: 252 L
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 252 T
Waste Class Desc: Waste crankcase oils and lubricants

Waste Class: 221 I
Waste Class Desc: Light fuels

Waste Class: 251 T
Waste Class Desc: Waste oils/sludges (petroleum based)

Waste Class: 251 L
Waste Class Desc: Waste oils/sludges (petroleum based)

Waste Class: 243 D
Waste Class Desc: PCB

Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON

Database: ***GEN***

Generator No: ON0173231
Status:

SIC Code:	221122	***Co Admin:***	
SIC Description:	Electric Power Distribution	***Choice of Contact:***	
Approval Years:	2009	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	146
Waste Class Desc:	OTHER SPECIFIED INORGANICS
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	243
Waste Class Desc:	PCBS
Waste Class:	251
Waste Class Desc:	OIL SKIMMINGS & SLUDGES
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS

Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON M1B 2K4

Database: ***GEN***

Generator No:	ON0173231	***Status:***	
SIC Code:	221122	***Co Admin:***	Aaron Wilhelm
SIC Description:	ELECTRIC POWER DISTRIBUTION	***Choice of Contact:***	CO_OFFICIAL
Approval Years:	2016	***Phone No Admin:***	4165423100 Ext.59769
PO Box No:		***Contam. Facility:***	No
Country:	Canada	***MHSW Facility:***	No

Detail(s)

Waste Class:	146
Waste Class Desc:	OTHER SPECIFIED INORGANICS
Waste Class:	252
Waste Class Desc:	WASTE OILS & LUBRICANTS
Waste Class:	243
Waste Class Desc:	PCBS
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	251
Waste Class Desc:	OIL SKIMMINGS & SLUDGES
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	221
Waste Class Desc:	LIGHT FUELS

Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON

Database: ***GEN***

Generator No:	ON0173231	***Status:***	

SIC Code:	221122	***Co Admin:***	
SIC Description:	Electric Power Distribution	***Choice of Contact:***	
Approval Years:	2011	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	148
Waste Class Desc:	INORGANIC LABORATORY CHEMICALS
Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	146
Waste Class Desc:	OTHER SPECIFIED INORGANICS
Waste Class:	251
Waste Class Desc:	OIL SKIMMINGS & SLUDGES
Waste Class:	243
Waste Class Desc:	PCBS
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS

Site: ***Harrison Muir Inc.***
CP Bridge Royal York Rd north of Dundas St Toronto ON

Database: ***GEN***

Generator No:	ON4144979	***Status:***	
SIC Code:	238320	***Co Admin:***	
SIC Description:	PAINTING AND WALL COVERING CONTRACTORS	***Choice of Contact:***	
Approval Years:	2013	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	146
Waste Class Desc:	OTHER SPECIFIED INORGANICS

Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON

Database: ***GEN***

Generator No:	ON0173231	***Status:***	
SIC Code:	221122	***Co Admin:***	
SIC Description:	ELECTRIC POWER DISTRIBUTION	***Choice of Contact:***	
Approval Years:	2013	***Phone No Admin:***	
PO Box No:		***Contam. Facility:***	
Country:		***MHSW Facility:***	

Detail(s)

Waste Class:	213
Waste Class Desc:	PETROLEUM DISTILLATES
Waste Class:	263
Waste Class Desc:	ORGANIC LABORATORY CHEMICALS
Waste Class:	146
Waste Class Desc:	OTHER SPECIFIED INORGANICS
Waste Class:	221
Waste Class Desc:	LIGHT FUELS

Waste Class: 243
Waste Class Desc: PCBS

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 251
Waste Class Desc: OIL SKIMMINGS & SLUDGES

Site: ***TORONTO HYDRO-ELECTRIC SYSTEM LTD.***
VAULTS, MANHOLES & SPILL SITES TORONTO ON M1B 2K4

Database: ***GEN***

Generator No: ON0173231
SIC Code: 221122
SIC Description: ELECTRIC POWER DISTRIBUTION
Approval Years: 2014
PO Box No:
Country: Canada

Status:
Co Admin: Aaron Wilhelm
Choice of Contact: CO_OFFICIAL
Phone No Admin: 4165423100 Ext.59769
Contam. Facility: No
MHSW Facility: No

Detail(s)

Waste Class: 213
Waste Class Desc: PETROLEUM DISTILLATES

Waste Class: 243
Waste Class Desc: PCBS

Waste Class: 146
Waste Class Desc: OTHER SPECIFIED INORGANICS

Waste Class: 221
Waste Class Desc: LIGHT FUELS

Waste Class: 251
Waste Class Desc: OIL SKIMMINGS & SLUDGES

Waste Class: 148
Waste Class Desc: INORGANIC LABORATORY CHEMICALS

Waste Class: 263
Waste Class Desc: ORGANIC LABORATORY CHEMICALS

Site: ***PIPELINE HIT - 1/2"***
TORONTO,,TORONTO,ON,,CA ON

Database: ***PINC***

Incident ID:
Incident No: 1113372
Incident Reported Dt: 6/6/2013
Type: FS-Pipeline Incident
Status Code:
Tank Status: Pipeline Damage Reason Est
Task No:
Spills Action Centre:
Fuel Type:
Fuel Occurrence Tp:
Date of Occurrence:
Occurrence Start Dt:
Depth:
Customer Acct Name: PIPELINE HIT - 1/2"
Incident Address: TORONTO,,TORONTO,ON,,CA
Operation Type:
Pipeline Type:
Regulator Type:
Summary:
Reported By:
Affiliation:

Pipe Material:
Fuel Category:
Health Impact:
Environment Impact:
Property Damage:
Service Interrupt:
Enforce Policy:
Public Relation:
Pipeline System:
PSIG:
Attribute Category:
Regulator Location:
Method Details:

Occurrence Desc:
Damage Reason:
Notes:

Site: ***PIPELINE HIT - 1/2"***
TORONTO,,TORONTO,ON,,CA ON

Database: ***PINC***

Incident ID:
Incident No: 1113372
Incident Reported Dt: 6/6/2013
Type: FS-Pipeline Incident
Status Code:
Tank Status: Pipeline Damage Reason Est
Task No:
Spills Action Centre:
Fuel Type:
Fuel Occurrence Tp:
Date of Occurrence:
Occurrence Start Dt:
Depth:
Customer Acct Name: PIPELINE HIT - 1/2"
Incident Address: TORONTO,,TORONTO,ON,,CA
Operation Type:
Pipeline Type:
Regulator Type:
Summary:
Reported By:
Affiliation:
Occurrence Desc:
Damage Reason:
Notes:

Pipe Material:
Fuel Category:
Health Impact:
Environment Impact:
Property Damage:
Service Interrupt:
Enforce Policy:
Public Relation:
Pipeline System:
PSIG:
Attribute Category:
Regulator Location:
Method Details:

Site: ***TORONTO DISTRICT SCHOOL BOARD***
No Municipal Address Toronto ON

Database: ***RSC***

RSC ID: 219733
RA No:
RSC Type: Phase 1 and 2 RSC
Curr Property Use: Institutional
Ministry District: Toronto District Office
Filing Date: 2015/10/08
Date Ack:
Date Returned:
Restoration Type:
Soil Type:
Criteria:
CPU Issued Sect 1686:
Asmt Roll No: 1901-051-020-00500
Prop ID No (PIN): 06296-0071 (LT)
Property Municipal Address: No Municipal Address
Mailing Address:
Latitude & Latitude:
UTM Coordinates:
Consultant:
Legal Desc:
Measurement Method:
Applicable Standards:
RSC PDF: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/viewDocument.action?attachmentId=55655&fileName=BROWNFIELDS-E.pdf

Cert Date:
Cert Prop Use No:
Intended Prop Use: Community
Qual Person Name: CHAD STEWART
Stratified (Y/N):
Audit (Y/N):
Entire Leg Prop. (Y/N):
Accuracy Estimate:
Telephone:
Fax:
Email:

Document(s) Detail

Document Heading: Supporting Documents
Document Name: Survey w RSC prop.pdf

Document Type: A Current plan of Survey
Document Link: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/viewDocument.action?attachmentId=55650&fileName=Survey+w+RSC+prop.pdf

Document Heading: Supporting Documents
Document Name: APEC Table Mar 19 2015.pdf
Document Type: Area(s) of Potential Environmental Concern
Document Link: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/viewDocument.action?attachmentId=55659&fileName=APEC+Table+Mar+19+2015.pdf

Document Heading: Supporting Documents
Document Name: PIN-2012-BendaleBTI-1555 Midland Ave.pdf
Document Type: Copy of any deed(s), transfer(s) or other document(s)
Document Link: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/viewDocument.action?attachmentId=55654&fileName=PIN-2012-BendaleBTI-1555+Midland+Ave.pdf

Document Heading: Supporting Documents
Document Name: Property Use Table Mar 19 2015.pdf
Document Type: Table of Current and Past Property Use
Document Link: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/viewDocument.action?attachmentId=55658&fileName=Property+Use+Table+Mar+19+2015.pdf

Document Heading: Supporting Documents
Document Name: Phase II CSM Sept 25 2015.pdf
Document Type: Phase 2 Conceptual Site Model
Document Link: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/viewDocument.action?attachmentId=55657&fileName=Phase+II+CSM+Sept+25+2015.pdf

Document Heading: Supporting Documents
Document Name: Letter of No Objection Sept 28 2015.pdf
Document Type: A copy of No Objection Statement from municipality
Document Link: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/viewDocument.action?attachmentId=55652&fileName=Letter+of+No+Objection+Sept+28+2015.pdf

Document Heading: Supporting Documents
Document Name: 201509251337 Cert of Status.pdf
Document Type: Certificate of Status
Document Link: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/viewDocument.action?attachmentId=55660&fileName=201509251337+Cert+of+Status.pdf

Document Heading: Supporting Documents
Document Name: Lawyer Ltr re 1555 Midland.pdf
Document Type: Lawyer's letter consisting of a legal description of the property
Document Link: https://www.lrcsde.lrc.gov.on.ca/BFISWebPublic/pub/viewDocument.action?attachmentId=55656&fileName=Lawyer+Ltr+re+1555+Midland.pdf

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Site: ***METROPOLITAN TORONTO, MUNICIPA***
BERRY ROAD OVERFLOW, HUMBER RIVER SANITARY SEWER/SEWAGE PUMPING STATION TORONTO ON

Database: ***SPL***

Ref No:	182158	***Discharger Report:***	
Site No:		***Material Group:***	
Incident Dt:	5/12/2000	***Health/Env Conseq:***	
Year:		***Client Type:***	
Incident Cause:	WASTEWATER DISCHARGE TO WATERCOURSE	***Sector Type:***	
Incident Event:		***Agency Involved:***	
Contaminant Code:		***Nearest Watercourse:***	
Contaminant Name:		***Site Address:***	
Contaminant Limit 1:		***Site District Office:***	
Contam Limit Freq 1:		***Site Postal Code:***	
Contaminant UN No 1:		***Site Region:***	
Environment Impact:	POSSIBLE	***Site Municipality:***	1106
Nature of Impact:	Water course or lake	***Site Lot:***	
Receiving Medium:	WATER	***Site Conc:***	
Receiving Env:		***Northing:***	
MOE Response:		***Easting:***	
Dt MOE Arvl on Scn:		***Site Geo Ref Accu:***	
MOE Reported Dt:	5/29/2000	***Site Map Datum:***	
Dt Document Closed:		***SAC Action Class:***	

Incident Reason: STORM/FLOOD/WIND
Source Type:
Site Name:
Site County/District:
Site Geo Ref Meth:
Incident Summary: METRO TORONTO:BACK ENTRY;SPILL OF 692.94 M3 OF SEWAGE DUE TO RAIN.
Contaminant Qty:

Site: ***Toronto Hydro-Electric System Limited***
Toronto ON

Database: ***SPL***

Ref No: 1327-9QENVL
Site No: NA
Incident Dt: 2014/10/31
Year:
Incident Cause: Leak/Break
Incident Event:
Contaminant Code: 15
Contaminant Name: TRANSFORMER OIL (N.O.S.)
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: Possible
Nature of Impact: Soil Contamination; Surface Water Pollution
Receiving Medium:
Receiving Env:
MOE Response: No Field Response
Dt MOE Arvl on Scn:
MOE Reported Dt: 2014/10/31
Dt Document Closed:
Incident Reason: Unknown / N/A
Site Name: 16 Dentonia Park Avenue<UNOFFICIAL>
Site County/District:
Site Geo Ref Meth:
Incident Summary: Toronto Hydro; Transform to grd;Non-pcb suspect.
Contaminant Qty: 10 L

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type: Transformer
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: Toronto
Site Lot:
Site Conc:
Northing: 4839049
Easting: 637059
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class: Land Spills
Source Type:

Site: ***Toronto Hydro-Electric System Limited***
Toronto ON

Database: ***SPL***

Ref No: 7812-ADZTT6
Site No: NA
Incident Dt: 9/21/2016
Year:
Incident Cause:
Incident Event: Leak/Break
Contaminant Code: 15
Contaminant Name: TRANSMISSION OIL
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact:
Nature of Impact:
Receiving Medium:
Receiving Env: Land
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 9/21/2016
Dt Document Closed: 10/14/2016
Incident Reason: Corrosion
Site Name: 83 Mondeo Drive<UNOFFICIAL>
Site County/District:
Site Geo Ref Meth:
Incident Summary: Toronto Hydro: < 2 L trans. oil, non-PCB to vault
Contaminant Qty: 2 L

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type: Miscellaneous Industrial
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: Toronto
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class: Land Spills
Source Type:

Site: ***UNKNOWN***
HUMBER RIVER, WEST TRIBUTARY TO, AT ROYAL YORK ROAD BRIDGE TORONTO CITY ON

Database: SPL

Ref No:	125466	**Discharger Report:**	
Site No:		**Material Group:**	
Incident Dt:	4/24/1996	**Health/Env Conseq:**	
Year:		**Client Type:**	
Incident Cause:	UNKNOWN	**Sector Type:**	
Incident Event:		**Agency Involved:**	
Contaminant Code:		**Nearest Watercourse:**	
Contaminant Name:		**Site Address:**	
Contaminant Limit 1:		**Site District Office:**	
Contam Limit Freq 1:		**Site Postal Code:**	
Contaminant UN No 1:		**Site Region:**	
Environment Impact:	CONFIRMED	**Site Municipality:**	01106
Nature of Impact:	Water course or lake	**Site Lot:**	
Receiving Medium:	WATER	**Site Conc:**	
Receiving Env:		**Northing:**	
MOE Response:		**Easting:**	CITY OF ETOBICOKE WORKS
Dt MOE Arvl on Scn:		**Site Geo Ref Accu:**	
MOE Reported Dt:	4/24/1996	**Site Map Datum:**	
Dt Document Closed:		**SAC Action Class:**	
Incident Reason:	UNKNOWN	**Source Type:**	
Site Name:			
Site County/District:			
Site Geo Ref Meth:			

Incident Summary: UNK SOURCE-RESIDENT RE- PORTS OIL/GAS SHEEN TO HUMBER R TRIBUTARY.WORKS.
Contaminant Qty:

Site: ***ETOBICOKE HYDRO***
TRANSFORMER TORONTO CITY ON

Database: SPL

Ref No:	93114	**Discharger Report:**	
Site No:		**Material Group:**	
Incident Dt:	11/6/1993	**Health/Env Conseq:**	
Year:		**Client Type:**	
Incident Cause:	COOLING SYSTEM LEAK	**Sector Type:**	
Incident Event:		**Agency Involved:**	
Contaminant Code:		**Nearest Watercourse:**	
Contaminant Name:		**Site Address:**	
Contaminant Limit 1:		**Site District Office:**	
Contam Limit Freq 1:		**Site Postal Code:**	
Contaminant UN No 1:		**Site Region:**	
Environment Impact:	NOT ANTICIPATED	**Site Municipality:**	01106
Nature of Impact:		**Site Lot:**	
Receiving Medium:	LAND	**Site Conc:**	
Receiving Env:		**Northing:**	
MOE Response:		**Easting:**	
Dt MOE Arvl on Scn:		**Site Geo Ref Accu:**	
MOE Reported Dt:	11/6/1993	**Site Map Datum:**	
Dt Document Closed:		**SAC Action Class:**	
Incident Reason:	EQUIPMENT FAILURE	**Source Type:**	
Site Name:			
Site County/District:			
Site Geo Ref Meth:			

Incident Summary: ETOBICOKE HYDRO-5L <2PPM PCB TRANSFORMER OIL TO LAND: DEFECTIVE TRANSFORMER
Contaminant Qty:

Site: ***METROPOLITAN TORONTO, MUNICIPA***
HUMBER RIVER, FROM BERRY ST PUMPING STATION SANITARY SEWER/ SEWAGE PUMPING STATION
TORONTO CITY ON

Database: SPL

Ref No:	177401	**Discharger Report:**	
Site No:		**Material Group:**	
Incident Dt:	2/1/2000	**Health/Env Conseq:**	

Year:		***Client Type:***	
Incident Cause:	CONTAINER OVERFLOW	***Sector Type:***	
Incident Event:		***Agency Involved:***	
Contaminant Code:		***Nearest Watercourse:***	
Contaminant Name:		***Site Address:***	
Contaminant Limit 1:		***Site District Office:***	
Contam Limit Freq 1:		***Site Postal Code:***	
Contaminant UN No 1:		***Site Region:***	
Environment Impact:	CONFIRMED	***Site Municipality:***	1106
Nature of Impact:	Water course or lake	***Site Lot:***	
Receiving Medium:	WATER	***Site Conc:***	
Receiving Env:		***Northing:***	
MOE Response:		***Easting:***	
Dt MOE Arvl on Scn:		***Site Geo Ref Accu:***	
MOE Reported Dt:	2/10/2000	***Site Map Datum:***	
Dt Document Closed:		***SAC Action Class:***	
Incident Reason:	EQUIPMENT FAILURE	***Source Type:***	
Site Name:			
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	TORONTO BERRY ST PUMP STN-3.71 M3 RAW SEWAGE TO HUMBER RIVER,POWER OUTAGE		
Contaminant Qty:			

Site: ***Database:*** ***SPL***

Mimico Creek, Off Oakfield Drive, Etobicoke Toronto ON

Ref No:	4587-AAQL89	***Discharger Report:***	
Site No:	NA	***Material Group:***	
Incident Dt:	2016/06/08	***Health/Env Conseq:***	
Year:		***Client Type:***	
Incident Cause:		***Sector Type:***	Unknown / N/A
Incident Event:	Unknown / N/A	***Agency Involved:***	
Contaminant Code:	44	***Nearest Watercourse:***	
Contaminant Name:	SEWAGE,RAW UNCHLORINATED	***Site Address:***	Mimico Creek, Off Oakfield Drive, Etobicoke
Contaminant Limit 1:		***Site District Office:***	
Contam Limit Freq 1:		***Site Postal Code:***	
Contaminant UN No 1:		***Site Region:***	
Environment Impact:		***Site Municipality:***	Toronto
Nature of Impact:		***Site Lot:***	
Receiving Medium:		***Site Conc:***	
Receiving Env:	Surface Water	***Northing:***	4832272
MOE Response:	No	***Easting:***	620825
Dt MOE Arvl on Scn:		***Site Geo Ref Accu:***	
MOE Reported Dt:	2016/06/08	***Site Map Datum:***	
Dt Document Closed:		***SAC Action Class:***	Watercourse Spills
Incident Reason:	Unknown / N/A	***Source Type:***	
Site Name:	outfall: 3243804582<UNOFFICIAL>		
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	Suspected Sewage from Outfall into Mimico Creek		
Contaminant Qty:	0 L		

Site: ***Toronto Hydro-Electric System Limited*** ***Database:*** ***SPL***

Toronto ON

Ref No:	3401-9XAK3Y	***Discharger Report:***	
Site No:	NA	***Material Group:***	
Incident Dt:	6/8/2015	***Health/Env Conseq:***	
Year:		***Client Type:***	
Incident Cause:	Leak/Break	***Sector Type:***	
Incident Event:		***Agency Involved:***	
Contaminant Code:	15	***Nearest Watercourse:***	
Contaminant Name:	TRANSFORMER OIL (N.O.S.)	***Site Address:***	
Contaminant Limit 1:		***Site District Office:***	
Contam Limit Freq 1:		***Site Postal Code:***	
Contaminant UN No 1:		***Site Region:***	

Environment Impact:		***Site Municipality:***	Toronto
Nature of Impact:	Surface Water	***Site Lot:***	
Receiving Medium:		***Site Conc:***	
Receiving Env:		***Northing:***	
MOE Response:	N	***Easting:***	
Dt MOE Arvl on Scn:		***Site Geo Ref Accu:***	
MOE Reported Dt:	6/8/2015	***Site Map Datum:***	
Dt Document Closed:		***SAC Action Class:***	Radioactive Liquid Emission Response Procedure (LERP)
Incident Reason:	Equipment Failure	***Source Type:***	
Site Name:	80 Aviemore Drive <UNOFFICIAL>		
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	Toronto Hydro: transformer oil to vault unknown quantity		
Contaminant Qty:	0 L		

Site: ***Toronto Hydro-Electric System Limited***
Toronto ON

Database: ***SPL***

Ref No:	1755-9NYKRK	***Discharger Report:***	
Site No:	NA	***Material Group:***	
Incident Dt:	2014/09/15	***Health/Env Conseq:***	
Year:		***Client Type:***	
Incident Cause:	Leak/Break	***Sector Type:***	Transformer
Incident Event:		***Agency Involved:***	
Contaminant Code:	15	***Nearest Watercourse:***	
Contaminant Name:	TRANSFORMER OIL (N.O.S.)	***Site Address:***	
Contaminant Limit 1:		***Site District Office:***	
Contam Limit Freq 1:		***Site Postal Code:***	
Contaminant UN No 1:		***Site Region:***	
Environment Impact:	Not Anticipated	***Site Municipality:***	Toronto
Nature of Impact:	Soil Contamination	***Site Lot:***	
Receiving Medium:		***Site Conc:***	
Receiving Env:		***Northing:***	
MOE Response:	Deferred Field Response	***Easting:***	
Dt MOE Arvl on Scn:		***Site Geo Ref Accu:***	
MOE Reported Dt:	2014/09/15	***Site Map Datum:***	
Dt Document Closed:		***SAC Action Class:***	Land Spills
Incident Reason:	Unknown / N/A	***Source Type:***	
Site Name:	21 Michael Drive<UNOFFICIAL>		
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	Toronto Hydro - non-pcb oil leak from subm trans.		
Contaminant Qty:	0 other - see incident description		

Site: ***Toronto Hydro-Electric System Limited***
Toronto ON

Database: ***SPL***

Ref No:	6711-9QLMPN	***Discharger Report:***	
Site No:	NA	***Material Group:***	
Incident Dt:	2014/11/06	***Health/Env Conseq:***	
Year:		***Client Type:***	
Incident Cause:	Leak/Break	***Sector Type:***	Transformer
Incident Event:		***Agency Involved:***	
Contaminant Code:	15	***Nearest Watercourse:***	
Contaminant Name:	TRANSFORMER OIL (N.O.S.)	***Site Address:***	
Contaminant Limit 1:		***Site District Office:***	
Contam Limit Freq 1:		***Site Postal Code:***	
Contaminant UN No 1:		***Site Region:***	
Environment Impact:	Possible	***Site Municipality:***	Toronto
Nature of Impact:	Surface Water Pollution	***Site Lot:***	
Receiving Medium:		***Site Conc:***	
Receiving Env:		***Northing:***	4843781
MOE Response:	Deferred Field Response	***Easting:***	613302
Dt MOE Arvl on Scn:		***Site Geo Ref Accu:***	
MOE Reported Dt:	2014/11/06	***Site Map Datum:***	

Dt Document Closed:
Incident Reason: Equipment Failure
Site Name: 55 Saltan Pool Drive<UNOFFICIAL>
Site County/District:
Site Geo Ref Meth:
Incident Summary: Toronto Hydro: 10L Transformer oil; non pcb
Contaminant Qty: 10 L
SAC Action Class: Land Spills
Source Type:

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ***Note:*** *Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.*

Abandoned Aggregate Inventory: Provincial AAGR

The MAAP Program maintains a database of abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.*

Government Publication Date: Sept 2002*

Aggregate Inventory: Provincial AGR

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

Government Publication Date: Up to Nov 2021

Abandoned Mine Information System: Provincial AMIS

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

Government Publication Date: 1800-Oct 2018

Anderson's Waste Disposal Sites: Private ANDR

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1860s-Present

Aboveground Storage Tanks: Provincial AST

Historical listing of aboveground storage tanks made available by the Department of Natural Resources and Forestry. Includes tanks used to hold water or petroleum. This dataset has been retired as of September 25, 2014 and will no longer be updated.

Government Publication Date: May 31, 2014

Automobile Wrecking & Supplies: Private AUWR

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 1999-Sep 30, 2021

Borehole: Provincial BORE

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

Government Publication Date: 1875-Jul 2018

Certificates of Approval: Provincial CA

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

Government Publication Date: 1985-Oct 30, 2011*

Dry Cleaning Facilities: Federal CDRY

List of dry cleaning facilities made available by Environment and Climate Change Canada. Environment and Climate Change Canada's Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations (SOR/2003-79) are intended to reduce releases of tetrachloroethylene to the environment from dry cleaning facilities.

Government Publication Date: Jan 2004-Dec 2019

Commercial Fuel Oil Tanks: Provincial CFOT

Locations of commercial underground fuel oil tanks. This is not a comprehensive or complete inventory of commercial fuel tanks in the province; this listing is a copy of records of registered commercial underground fuel oil tanks obtained under Access to Public Information.
Note that the following types of tanks do not require registration: waste oil tanks in apartments, office buildings, residences, etc.; aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: May 31, 2021

Chemical Manufacturers and Distributors: Private CHEM

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

Government Publication Date: 1999-Jan 31, 2020

Chemical Register: Private CHM

This database includes a listing of locations of facilities within the Province or Territory that either manufacture and/or distributes chemicals.

Government Publication Date: 1999-Sep 30, 2021

Compressed Natural Gas Stations: Private CNG

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 2012 -Nov 2021

Inventory of Coal Gasification Plants and Coal Tar Sites: Provincial COAL

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

Government Publication Date: Apr 1987 and Nov 1988*

Compliance and Convictions: Provincial CONV

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

Government Publication Date: 1989-Jul 2021

Certificates of Property Use: Provincial CPU

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

Government Publication Date: 1994 - Dec 31, 2021

Drill Hole Database: Provincial DRL

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

Government Publication Date: 1886 - Sep 2020

Delisted Fuel Tanks: Provincial DTNK

List of fuel storage tank sites that were once found in - and have since been removed from - the list of fuel storage tanks made available by the regulatory agency under Access to Public Information.

Government Publication Date: May 31, 2021

Environmental Activity and Sector Registry: Provincial EASR

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

Government Publication Date: Oct 2011- Dec 31, 2021

Environmental Registry: Provincial EBR

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

Government Publication Date: 1994 - Dec 31, 2021

Environmental Compliance Approval: Provincial ECA

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For certificates of approval prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

Government Publication Date: Oct 2011- Dec 31, 2021

Environmental Effects Monitoring: Federal EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

Government Publication Date: 1992-2007*

ERIS Historical Searches: Private EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Nov 30, 2021

Environmental Issues Inventory System: Federal EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Government Publication Date: 1992-2001*

Emergency Management Historical Event: Provincial EMHE

List of locations of historical occurrences of emergency events, including those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under the Emergency Management and Civil Protection Act, as well as events where MNR provided requested emergency response assistance. Many of these events will have involved community evacuations, significant structural loss, and/or involvement of MNR emergency response staff. These events fall into one of ten (10) type categories: Dam Failure; Drought / Low Water; Erosion; Flood; Forest Fire; Soil and Bedrock Instability; Petroleum Resource Center Event, EMO Requested Assistance, Continuity of Operations Event, Other Requested Assistance. EMHE record details are reproduced by ERIS under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2017.

Government Publication Date: Dec 31, 2016

Environmental Penalty Annual Report: Provincial EPAR

This database contains data from Ontario's annual environmental penalty report published by the Ministry of the Environment and Climate Change. These reports provide information on environmental penalties for land or water violations issued to companies in one of the nine industrial sectors covered by the Municipal Industrial Strategy for Abatement (MISA) regulations.

Government Publication Date: Jan 1, 2011 - Dec 31, 2020

List of Expired Fuels Safety Facilities: Provincial EXP

List of facilities and tanks for which there was once a fuel registration. This is not a comprehensive or complete inventory of expired tanks/tank facilities in the province; this listing is a copy of previously registered tanks and facilities obtained under Access to Public Information. Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc; includes tanks which have been removed from the ground.
Notes: registration was not required for private fuel underground/aboveground storage tanks prior to January 1990, nor for furnace oil tanks prior to May 1, 2002; registration is not required for waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: May 31, 2020

Federal Convictions: Federal FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

Government Publication Date: 1988-Jun 2007*

Contaminated Sites on Federal Land: Federal FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government. Includes fire training sites and sites at which Per- and Polyfluoroalkyl Substances (PFAS) are a concern.

Government Publication Date: Jun 2000-Nov 2021

Fisheries & Oceans Fuel Tanks: Federal FOFT

Fisheries & Oceans Canada maintains an inventory of aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Government Publication Date: 1964-Sep 2019

Federal Identification Registry for Storage Tank Systems (FIRSTS): Federal FRST

A list of federally regulated Storage tanks from the Federal Identification Registry for Storage Tank Systems (FIRSTS). FIRSTS is Environment and Climate Change Canada's database of storage tank systems subject to the Storage Tank for Petroleum Products and Allied Petroleum Products Regulations. The main objective of the Regulations is to prevent soil and groundwater contamination from storage tank systems located on federal and aboriginal lands. Storage tank systems that do not have a valid identification number displayed in a readily visible location on or near the storage tank system may be refused product delivery.

Government Publication Date: May 31, 2018

Fuel Storage Tank: Provincial FST

List of registered private and retail fuel storage tanks. This is not a comprehensive or complete inventory of private and retail fuel storage tanks in the province; this listing is a copy of registered private and retail fuel storage tanks, obtained under Access to Public Information.
Notes: registration was not required for private fuel underground/aboveground storage tanks prior to January 1990, nor for furnace oil tanks prior to May 1, 2002; registration is not required for waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: May 31, 2021

Fuel Storage Tank - Historic: Provincial FSTH

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

Government Publication Date: Pre-Jan 2010*

Ontario Regulation 347 Waste Generators Summary: Provincial GEN

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

Government Publication Date: 1986-Nov 30, 2021

Greenhouse Gas Emissions from Large Facilities: Federal GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO2 eq).

Government Publication Date: 2013-Dec 2019

TSSA Historic Incidents: Provincial HINC

List of historic incidences of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen recorded by the TSSA in their previous incident tracking system. The TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of historical fuel spills and leaks in the province. This listing is a copy of the data captured at one moment in time and is hence limited by the record date provided here.

Government Publication Date: 2006-June 2009*

Indian & Northern Affairs Fuel Tanks: Federal IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

Fuel Oil Spills and Leaks: Provincial INC

Listing of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen reported to the Spills Action Centre (SAC). This is not a comprehensive or complete inventory of fuel-related leaks, spills, and incidents in the province; this listing in a copy of incidents reported to the SAC, obtained under Access to Public Information. Includes incidents from fuel-related hazards such as spills, fires, and explosions. Records are not verified for accuracy or completeness.

Government Publication Date: May 31, 2021

Landfill Inventory Management Ontario: Provincial LIMO

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the Ministry of the Environment, Conservation and Parks compiles new and updated information. Includes small and large landfills currently operating as well as those which are closed and historic. Operators of larger landfills provide landfill information for the previous operating year to the ministry for LIMO including: estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills include information such as site owner, site location and certificate of approval # and status.

Government Publication Date: Feb 28, 2019

Canadian Mine Locations: Private MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Government Publication Date: 1998-2009*

Mineral Occurrences: Provincial MNR

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the plan metric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

Government Publication Date: 1846-Dec 2020

National Analysis of Trends in Emergencies System (NATES): Federal NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

Government Publication Date: 1974-1994*

Non-Compliance Reports: Provincial NCPL

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

Government Publication Date: Dec 31, 2019

National Defense & Canadian Forces Fuel Tanks: Federal NDFT

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

Government Publication Date: Up to May 2001*

National Defense & Canadian Forces Spills: Federal NDSP

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Apr 2018

National Defence & Canadian Forces Waste Disposal Sites: Federal NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

Government Publication Date: 2001-Apr 2007*

National Energy Board Pipeline Incidents: Federal NEBI

Locations of pipeline incidents from 2008 to present, made available by the Canada Energy Regulator (CER) - previously the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008-Jun 30, 2021

National Energy Board Wells: Federal NEBP

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES): Federal NEES

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003*

National PCB Inventory: Federal NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory: Federal NPRI

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-May 2017

Oil and Gas Wells: Private OGWE

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Nov 30, 2021

Ontario Oil and Gas Wells: Provincial OOGW

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, and well cap date, license No., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record.

Government Publication Date: 1800-Jan 2021

Inventory of PCB Storage Sites: Provincial OPCB

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

Government Publication Date: 1987-Oct 2004; 2012-Dec 2013

Orders: Provincial ORD

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Government Publication Date: 1994 - Dec 31, 2021

Canadian Pulp and Paper: Private PAP

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009-2014

Parks Canada Fuel Storage Tanks: Federal PCFT

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Pesticide Register: Provincial PES

The Ontario Ministry of the Environment and Climate Change maintains a database of licensed operators and vendors of registered pesticides.

Government Publication Date: Oct 2011- Dec 31, 2021

Pipeline Incidents: Provincial PINC

List of pipeline incidents (strikes, leaks, spills). This is not a comprehensive or complete inventory of pipeline incidents in the province; this listing in an historical copy of records previously obtained under Access to Public Information. Records are not verified for accuracy or completeness.

Government Publication Date: May 31, 2021

Private and Retail Fuel Storage Tanks: Provincial PRT

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

Government Publication Date: 1989-1996*

Permit to Take Water: Provincial PTTW

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all PTTW's on the registry such as OWRA s. 34 - Permit to take water.

Government Publication Date: 1994 - Dec 31, 2021

Ontario Regulation 347 Waste Receivers Summary: Provincial REC

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

Government Publication Date: 1986-1990, 1992-2019

Record of Site Condition: Provincial RSC

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.
RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

Government Publication Date: 1997-Sept 2001, Oct 2004-Dec 2021

Retail Fuel Storage Tanks: Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999-Sep 30, 2021

Scott's Manufacturing Directory: Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Ontario Spills: Provincial SPL

List of spills and incidents made available the Ministry of the Environment, Conservation and Parks. This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

Government Publication Date: 1988-Sep 2020

Wastewater Discharger Registration Database: Provincial SRDS

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS).

Government Publication Date: 1990-Dec 31, 2018

Anderson's Storage Tanks: Private TANK

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1915-1953*

Transport Canada Fuel Storage Tanks: Federal TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970 - Dec 2020

Variances for Abandonment of Underground Storage Tanks: Provincial VAR

Listing of variances granted for storage tank abandonment. This is not a comprehensive or complete inventory of tank abandonment variances in the province; this listing is a copy of tank abandonment variance records previously obtained under Access to Public Information. In Ontario, registered underground storage tanks must be removed within two years of disuse; if removal of a tank is not feasible, an application may be sought for a variance from this code requirement.
Records are not verified for accuracy or completeness.

Government Publication Date: May 31, 2021

Waste Disposal Sites - MOE CA Inventory: Provincial WDS

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Government Publication Date: Oct 2011- Dec 31, 2021

Waste Disposal Sites - MOE 1991 Historical Approval Inventory: Provincial WDSH

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

Government Publication Date: Up to Oct 1990*

Water Well Information System: Provincial WWIS

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

Government Publication Date: Sep 30, 2021

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

Appendix E

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An SCM Company

175 Commerce Valley Drive W
Markham, Ontario L3T 7Z3

T: 905-882-6300
W: www.optaintel.ca

Report Completed By:

Stephanie

Site Address:

721 Royal York Road Etobicoke ON

Project No:

22021000292

Opta Order ID:

104923

Requested by:

Eleanor Goolab
Ecolog Eris

Date Completed:

2/17/2022 7:48:13 AM

Project Name: Phase I ESA 721 Royal York Road Etobicoke ON

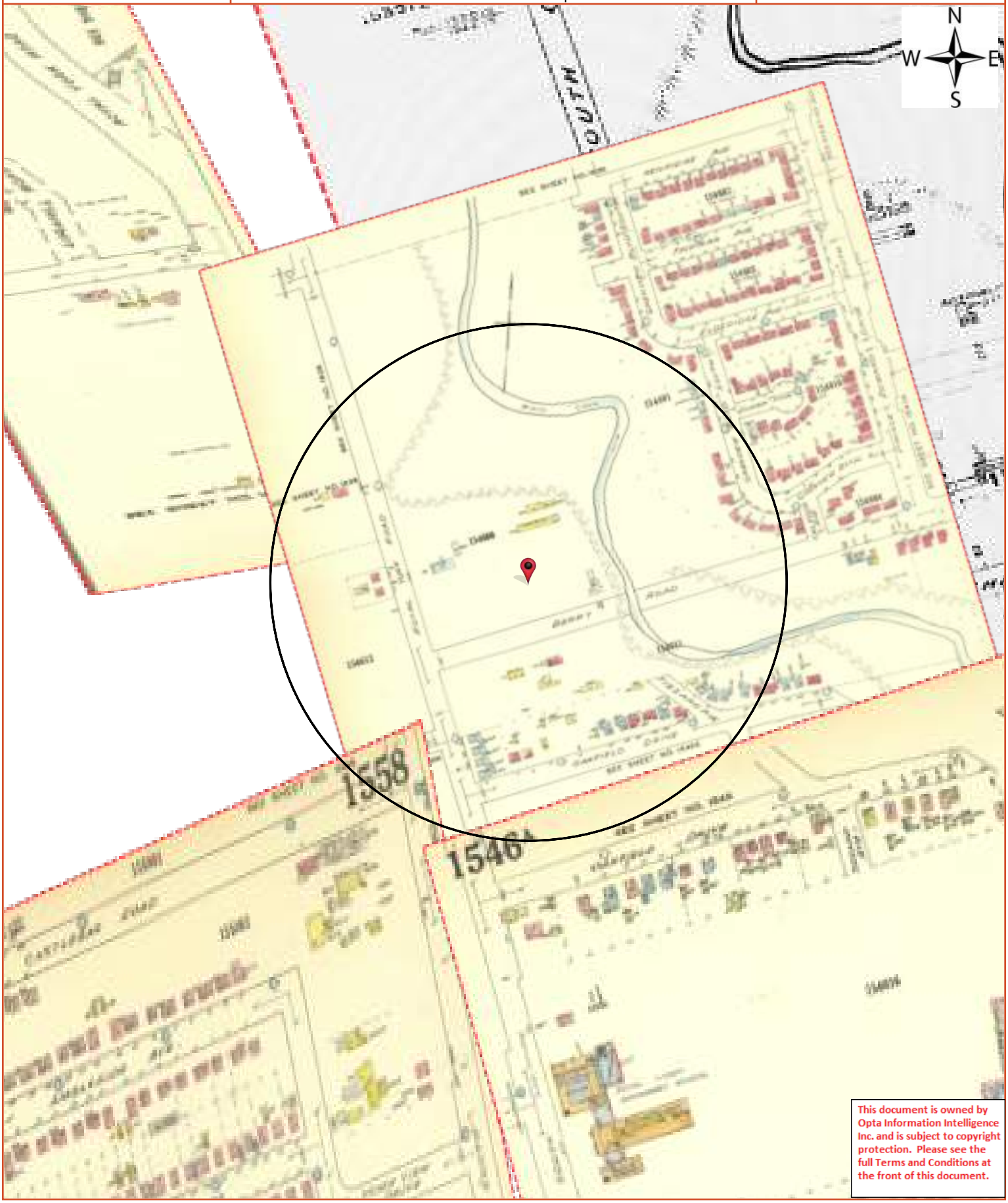
Project #: 22021000292
P.O. #: 14560P

ENVIROSCAN Report

Search Area: 721 Royal York Road Etobicoke ON

Requested by:
Eleanor Goolab
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The documents (hereinafter referred to as the "Documents") to be released as part of the report (hereinafter referred to as the "Report") to be delivered to the purchaser as set out above are documents in Opta's records relating to the described property (hereinafter referred to as the "Property"). Opta makes no representations or warranties respecting the Documents whatsoever, including, without limitation, with respect to the completeness, accuracy or usefulness of the Documents, and does not represent or warrant that these are the only plans and reports prepared in association with the Property or in Opta's possession at the time of Report delivery to the purchaser. The Documents are current as of the date(s) indicated on them. Interpretation of the Documents, if any, is by inference based upon the information which is apparent and obvious on the face of the Documents only. Opta does not represent, warrant or guarantee that interpretations other than those referred to do not exist from other sources. The Report will be prepared for use by the purchaser of the services as shown above hereof only.

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The parties hereto acknowledge and agree to be bound by the terms and conditions hereof. The request form constitutes the entire agreement between the parties pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements, negotiations and discussions, whether oral or written, and there are no representations or warranties, or other agreements between the parties in connection with the subject matter hereof except as specifically set forth herein. No supplement, modification, waiver, or termination of the request shall be binding, unless confirmed in writing by the parties hereto.

Governing Document

In the event of any conflicts or inconsistencies between the provisions hereof and the Reports, the rights and obligations of the parties shall be deemed to be governed by the request form, which shall be the paramount document.

Law

This agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein.

ENVIROSCAN Report

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Page	Report Title
6	(1944) Volume: Toronto Volume 13 Firemap: 1529
8	(1944) Volume: Toronto Volume 13 Firemap: 1539
10	(1954) Volume: Toronto Volume 15 Firemap: 1538
12	(1954) Volume: Toronto Volume 15 Firemap: 1546
14	(1954) Volume: Toronto Volume 15 Firemap: 1558
16	(1954) Volume: Toronto Volume 15 Firemap: 1546A

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Project #: 22021000292
P.O. #: 14560P

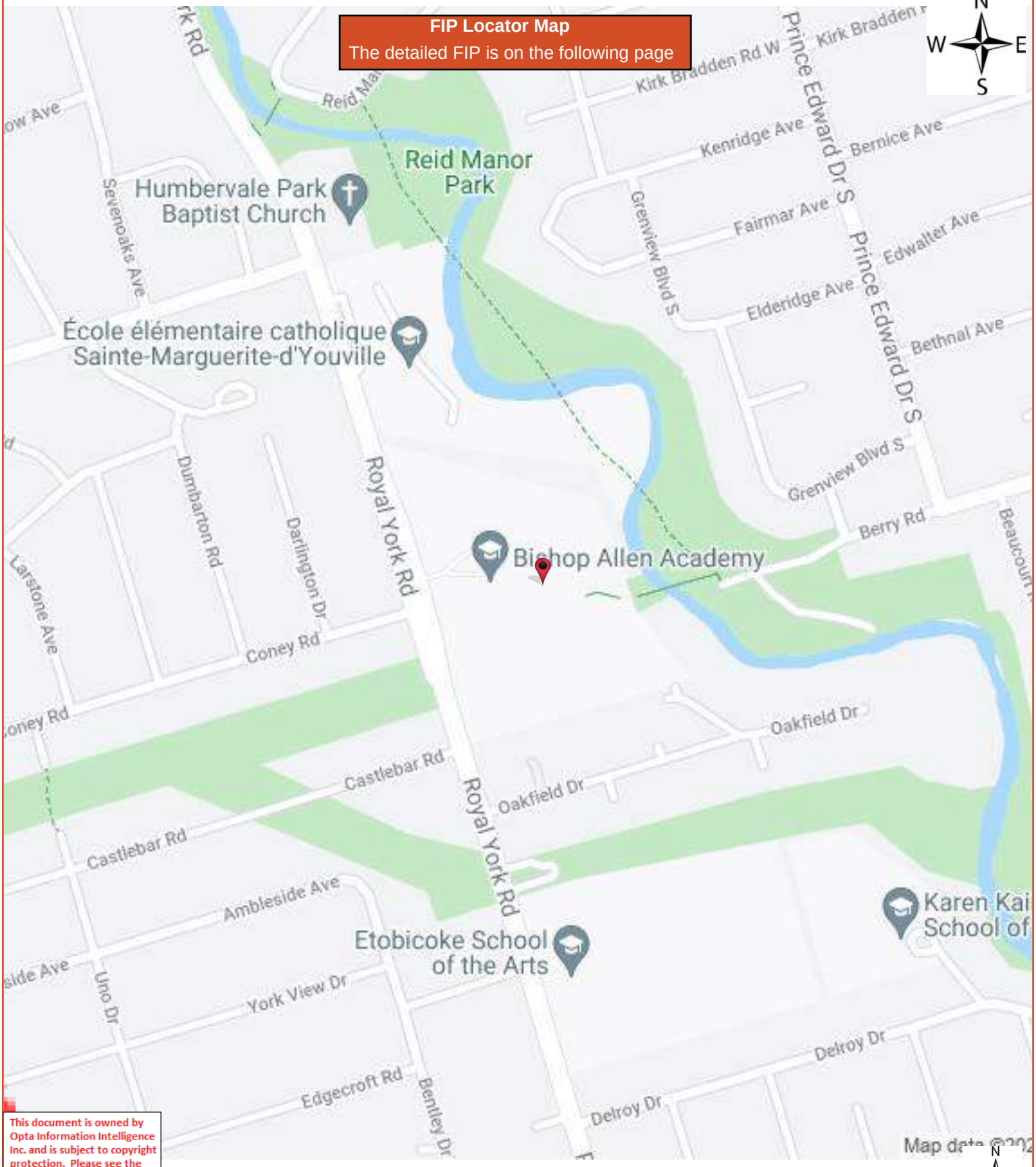
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1944 Volume: Toronto 13 Firemap: 1529
Toronto Vol. 15 & 16 Plan: 2146 (1935)
Sheet: 1529 (1944)

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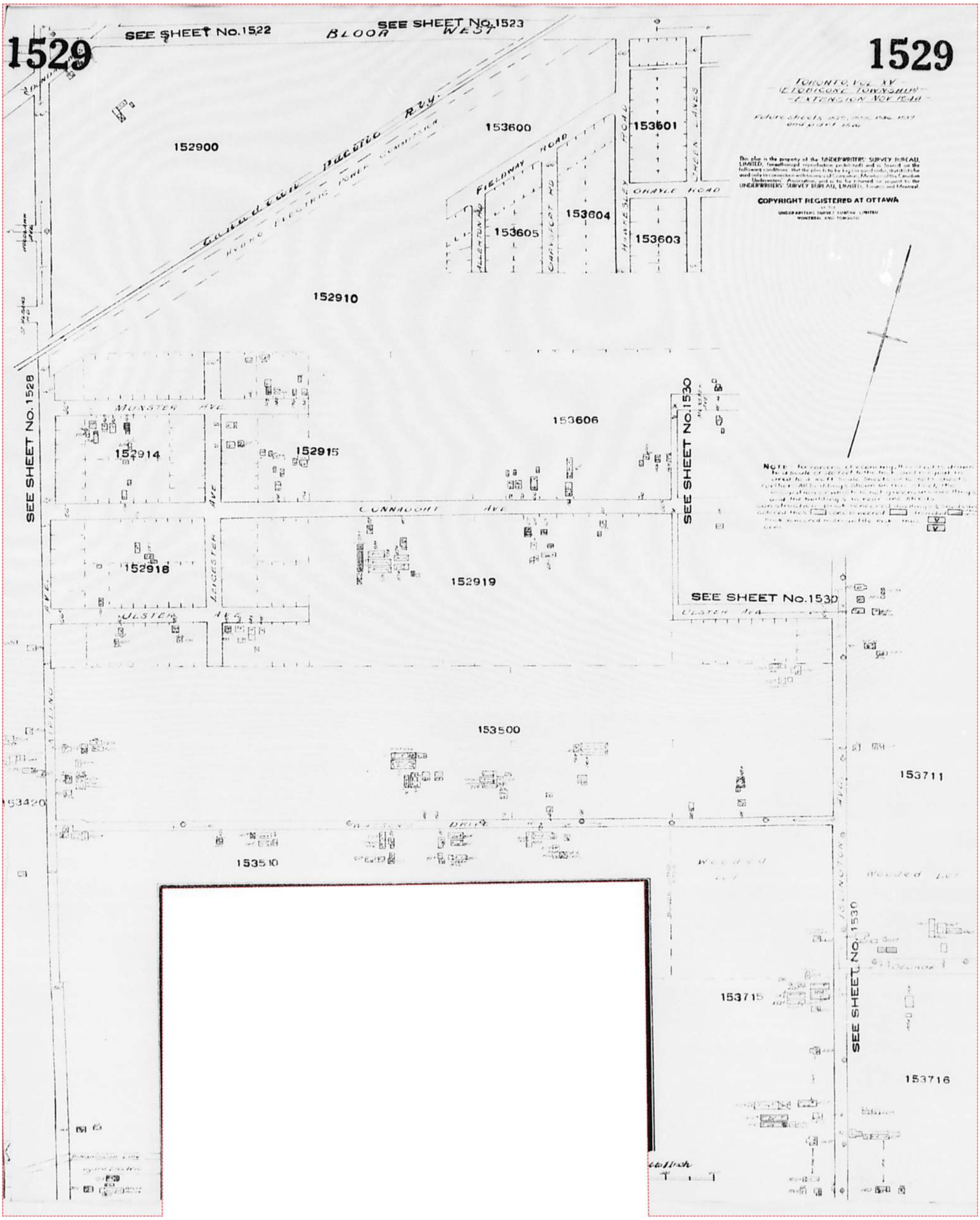
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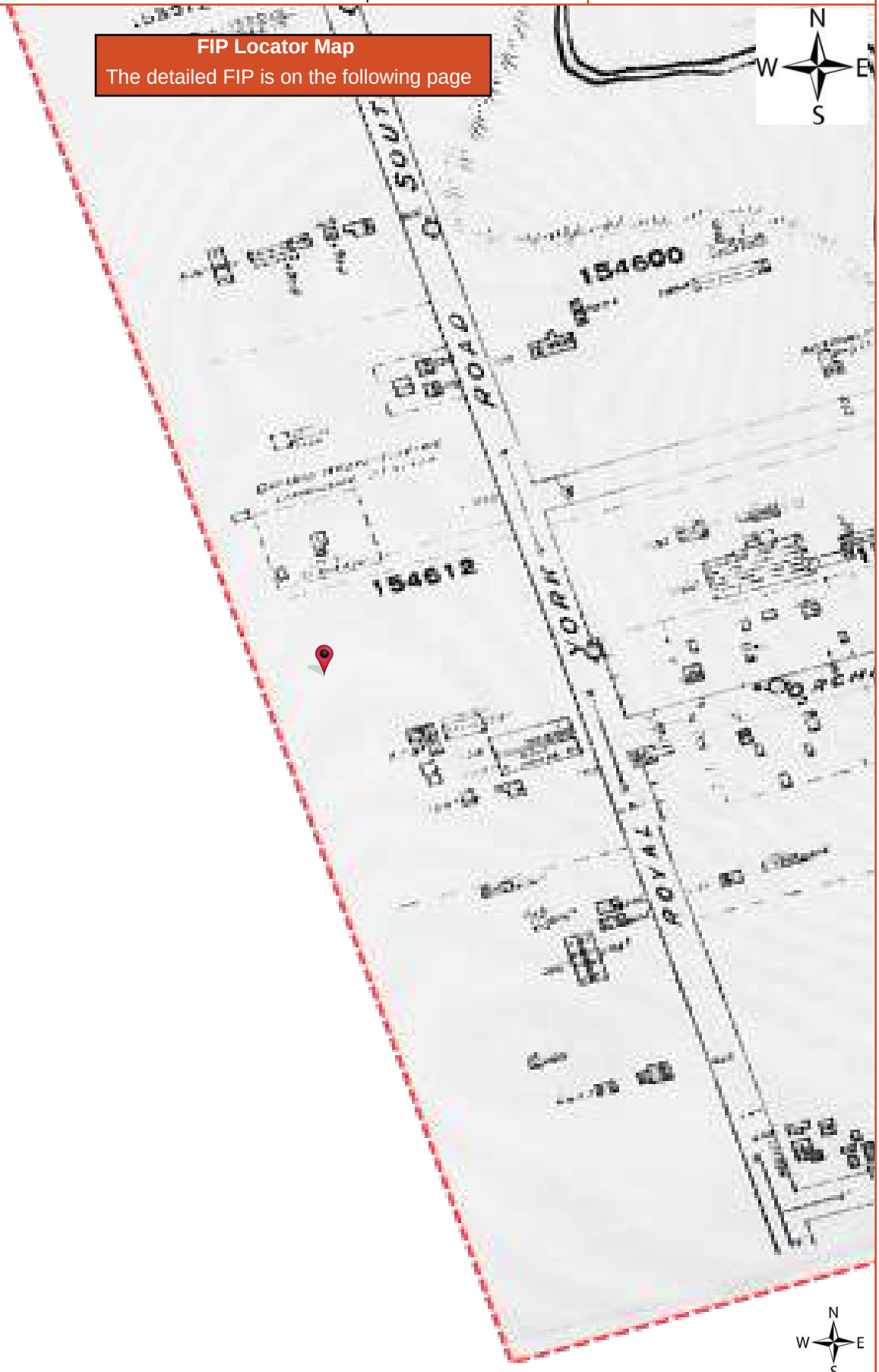
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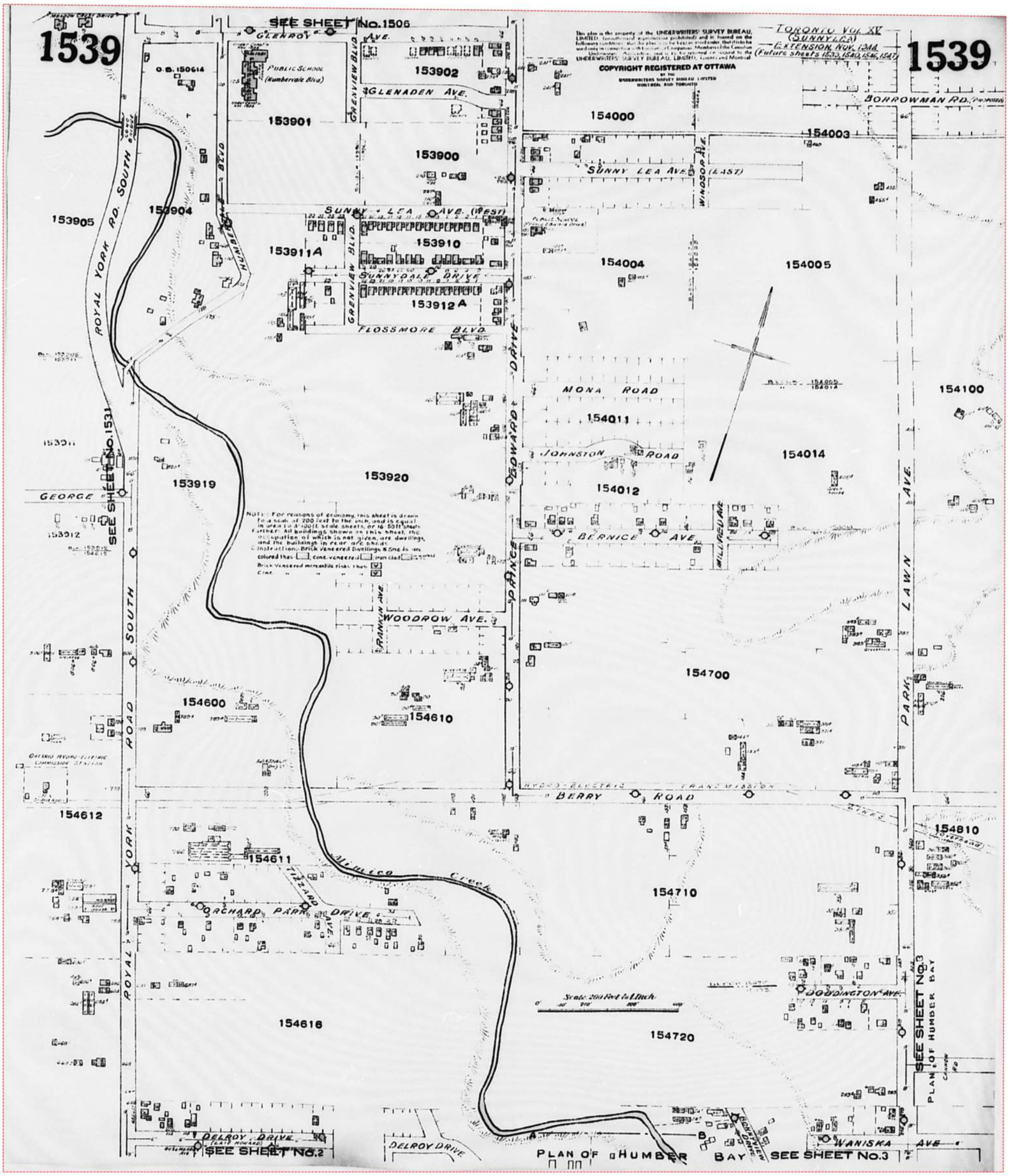
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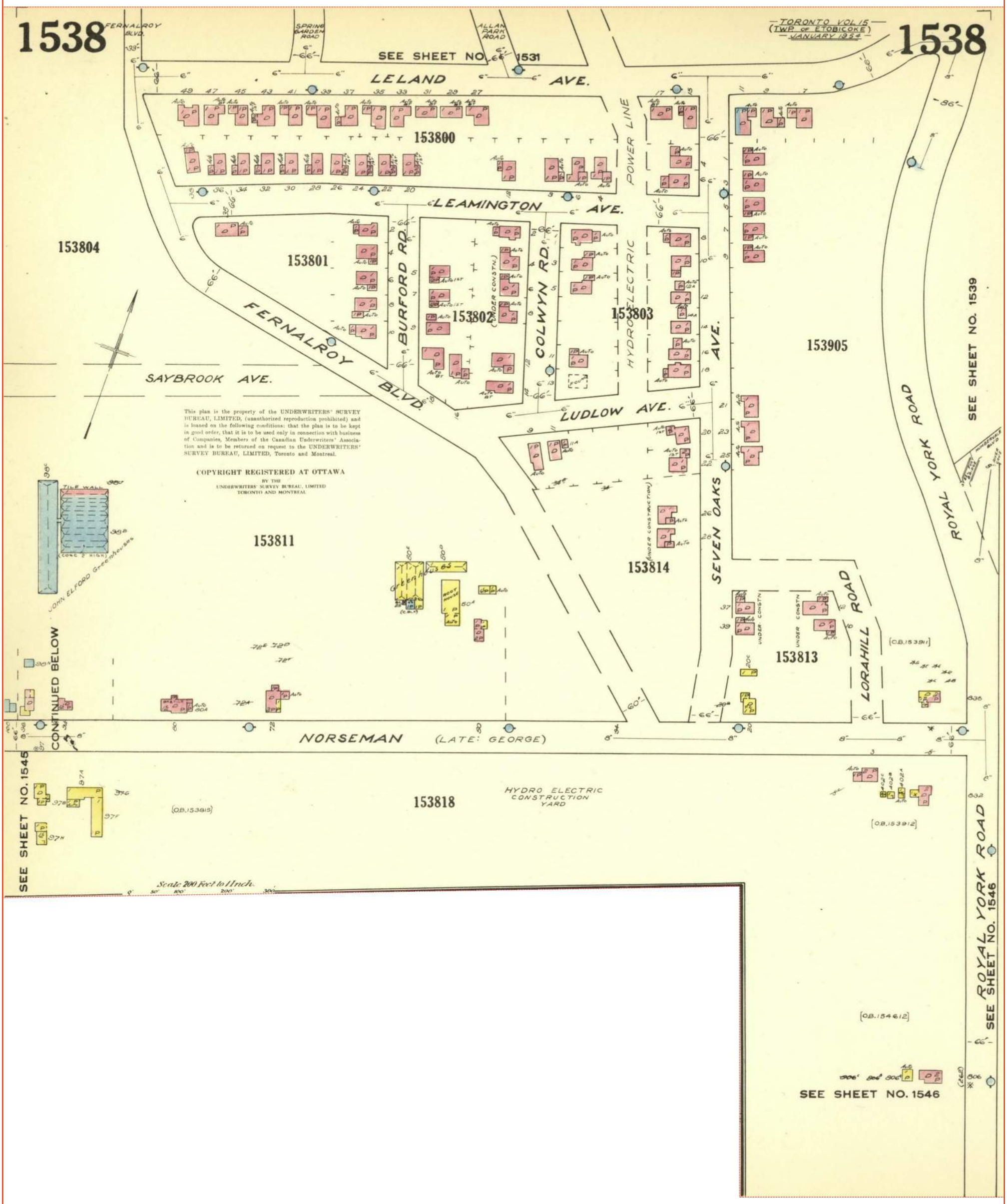
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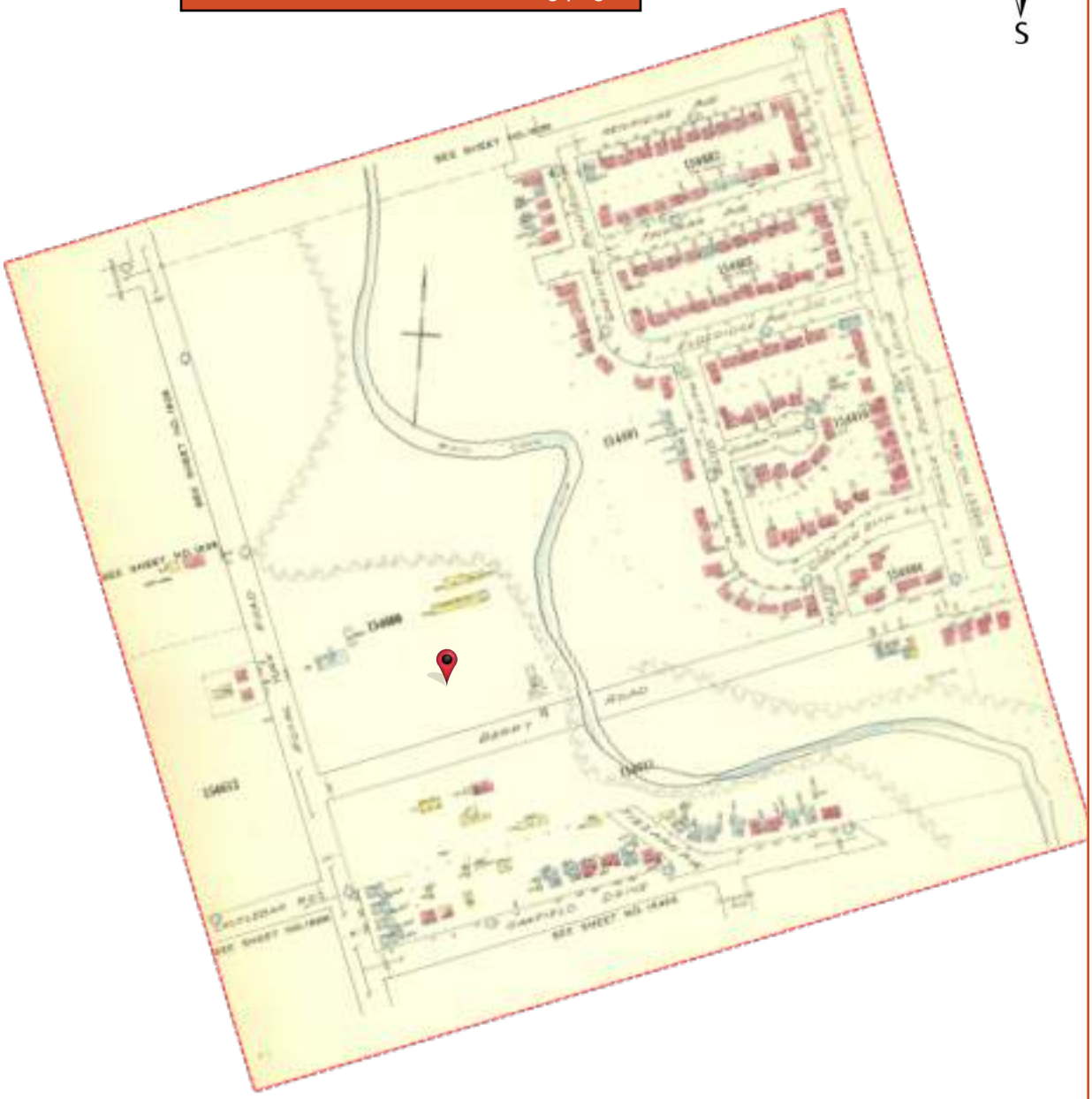
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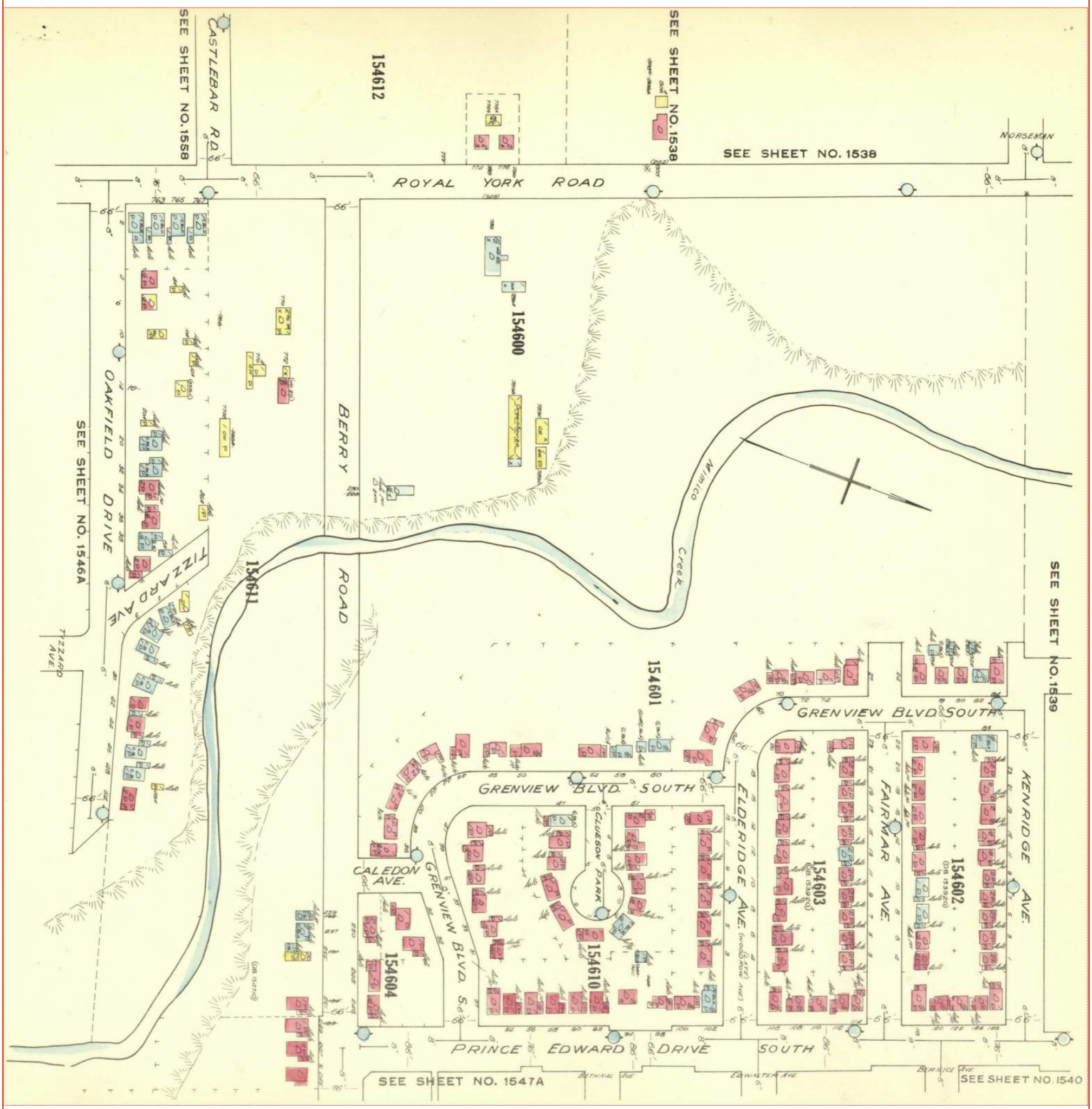


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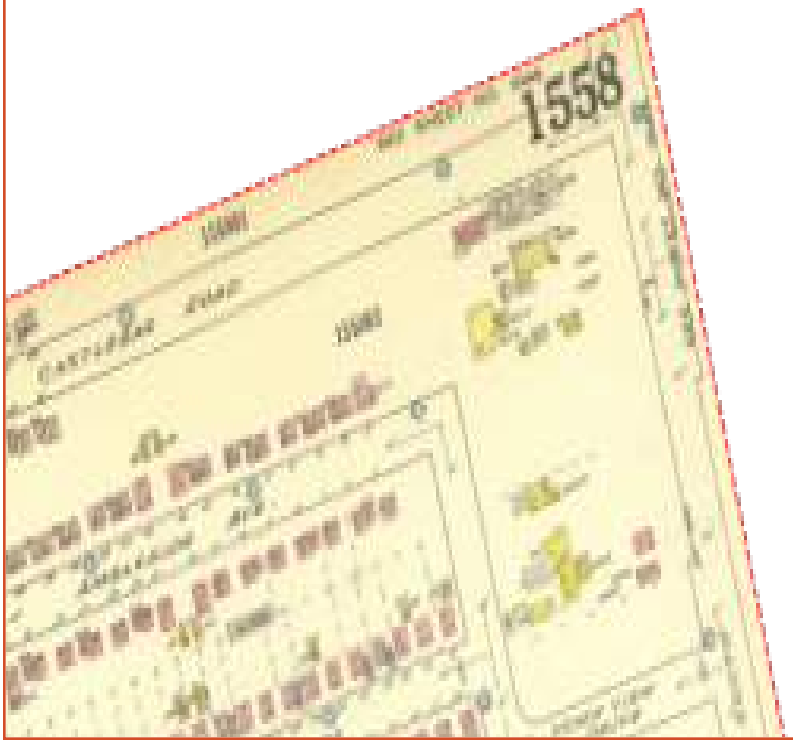
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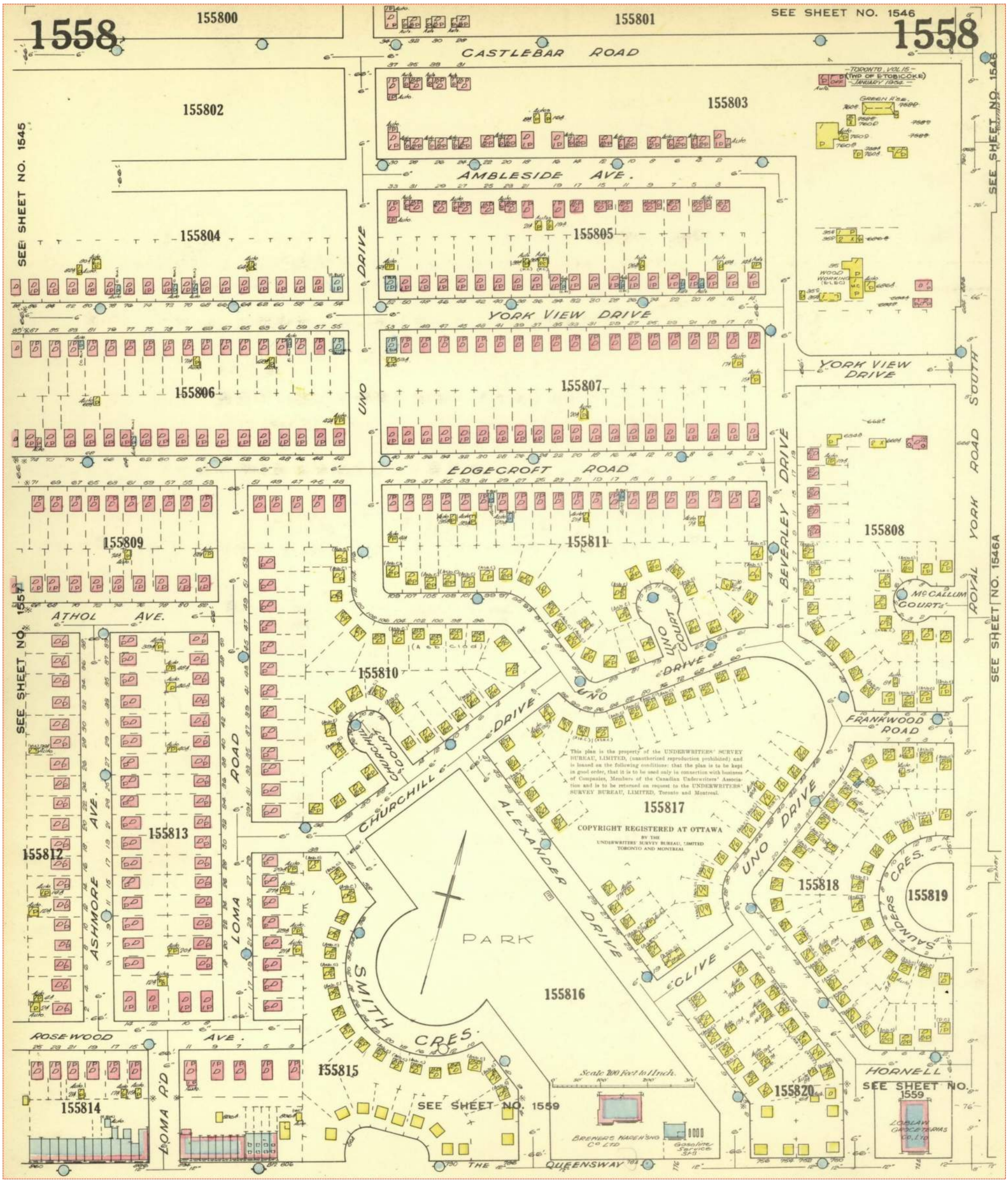
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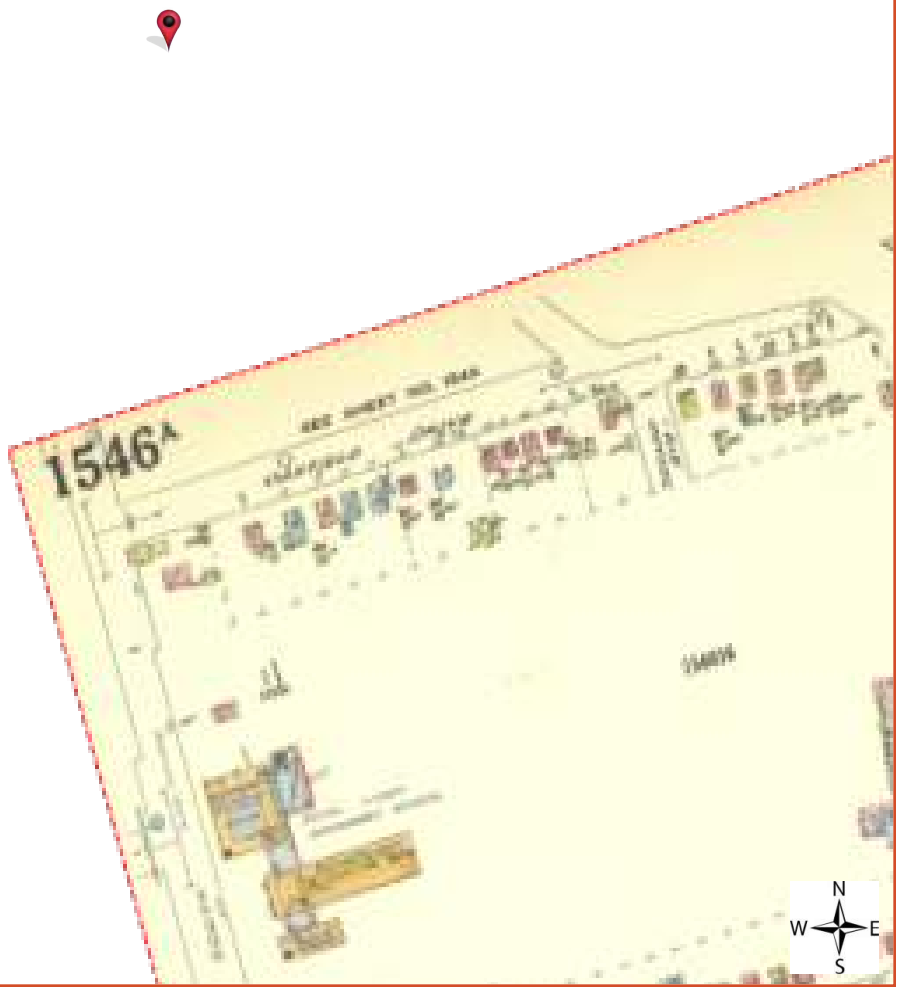
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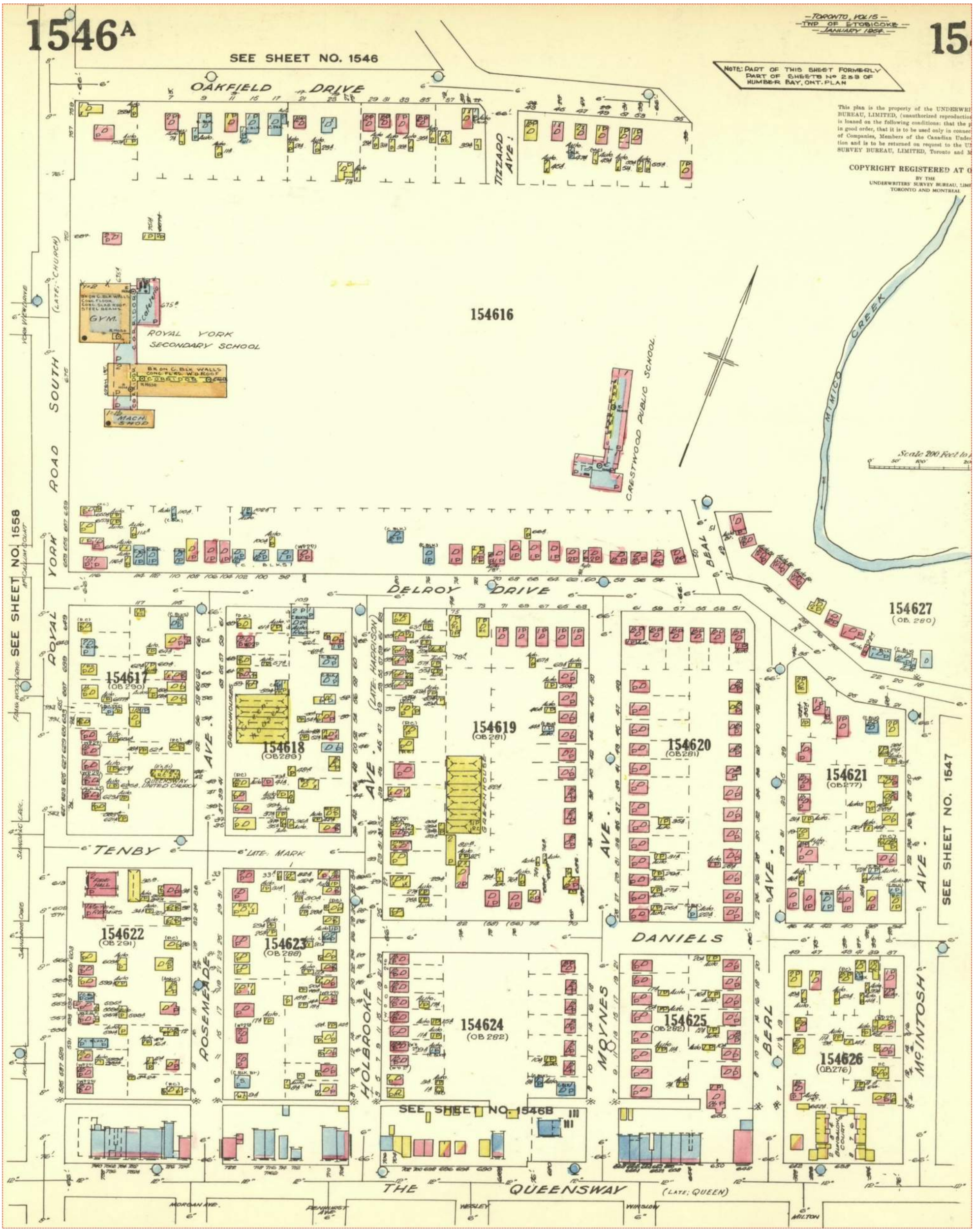
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Appendix F

Aerial Imagery Review

Year	Source	Notes
1939	CTGIS	In the 1939 aerial photograph it appears that a portion of the Site is agricultural fields, while the remainder of the Site is developed with two dwellings, extensive ornate gardens, a greenhouse on the northeast portion of the property, and a large greenhouse operation on the southern property boundary. Surrounding properties are largely developed as agricultural properties with farmhouses.
1954	CTGIS	No notable changes are present for the Site. Surrounding properties to the south and east have been developed into residential neighbourhoods.
1965	CTGIS	The Site has been redeveloped with a large institutional building, largely as it exists today. A greenhouse is present along the north side of the building. Surrounding properties to the east, south, and west have been developed into residential neighbourhoods.
1978	TPL	The Site has been further developed to include a running-track and football field area, and four portable units east of the building. The neighbouring property to the north has been developed with an institutional building.
1992	TPL	An addition has been added on the east side of the building. The portable units south of the building, have been replaced with two larger portable-style classrooms. The institutional property to the north has been further developed.

Year	Source	Notes
2005	CTGIS	The greenhouse has been removed and additional portable-style classrooms have been added south of the building. Further development has occurred on the institutional property to the north.
2015	CTGIS	The Site has reconfigured the on-site running track and additional portable style classrooms have been added. Roof-mounted solar panels are present. Further development has occurred on the institutional property to the north.
2021	CTGIS	The Site and surrounding properties are present as they currently exist. There are no notable changes to the Site and neighbouring properties from the 2015 photograph.

Sources: CTGIS – City of Toronto GIS
TPL – Toronto Public Library Online Historical Photo Database

Appendix G

Curriculum Vitae

NATALIE WRIGHT, P.Eng., PMP *Project Manager*

Ms. Wright holds a Bachelor of Engineering degree from Western University and a Post-Graduate Certificate in Environmental Engineering Applications from Conestoga College. Ms. Wright is a licensed Professional Engineer (P.Eng.) with Professional Engineers Ontario (PEO) and is a Qualified Person (QP_{ESA}) for Environmental Site Assessments under the Environmental Protection Act. Ms. Wright is certified as a Project Management Professional (PMP) with the Project Management Institute. Ms. Wright's professional experience includes over 7 years in the environmental consulting industry, where she has developed extensive experience completing Environmental Site Assessments, remediation projects, monitoring of Brownfield sites, and excess soils management.

SUMMARY OF PROFESSIONAL EXPERIENCE

2015 - Present	Project Manager. Cambium Inc. Barrie, Ontario, Canada *Ms. Wright's responsibilities include the supervision and management of projects related to brownfield redevelopment, environmental site assessments, soil and groundwater remediation, and excess soil management. Ms. Wright has extensive experience with proposal and report preparation, data interpretation, and review of final reports.*
2013 - 2015	Environmental Scientist. MTE Consultants Inc. Kitchener, Ontario, Canada *Completed environmental site assessments for various industrial, commercial, and residential properties and for future filing for Records of Site Condition. Responsibilities included conducting site inspections, designing work plans, driller supervision, sampling, surveying, and completion of final reports.*
2011	Water Resources Intern. Water Resources Commission Bolgatanga, Upper East Region, Ghana *Conducted field visits and met with community members and government representatives to assess the progress of projects in rainwater harvesting, environmental restoration, and climate change adaptation.*
2008-2011	Project Manager. Teva Canada Limited Toronto, Ontario, Canada *Led the successful launch of products in 10 European countries ensuring all country-specific regulatory, quality and design requirements were met. Designed detailed phase-in plans to complete a successful company name change preventing product supply and service interruptions.*

EDUCATION

2013	Environmental Engineering Applications, Post-Graduate Certificate. Conestoga College Cambridge, Ontario, Canada
2010	Project Management Professional Certification. Project Management Institute Toronto, Ontario, Canada
2004	Bachelor of Engineering Science, Chemical Engineering. Western University London, Ontario, Canada

SELECTED EXPERIENCE

RISK MANAGEMENT MONITORING AND ENVIRONMENTAL PROTECTION – ORILLIA, ONTARIO

Annual assessment of on- and off-site groundwater, surface water and sediment sampling, soil vapour sampling, in addition to an ecological assessment of plants, the aquatic community, and wildlife. Environmental services are conducted as per the Certificate of Property Use (CPU) and the Risk Management Measures developed for the site.

Once approved for development, the City moved forward to prepare the site as home for their future Recreation Centre. Cambium continues to work on the project as an environmental consultant for the use and management of this brownfield site. Activities coordinated or completed by Ms. Wright include dewatering treatment system sampling, construction air monitoring, soil and water sampling, risk management measures oversight, soil management, etc.

FORMER BULK FUEL PLAN AND RETAIL SERVICE STATION, PHASE ONE AND PHASE TWO ESA AND RSC – PETERBOROUGH, ONTARIO

Phase One and Phase Two ESA conducted at a former bulk fuel plant and retail service station site to summarize existing conditions, including the delineation of soil and groundwater impacts (PHCs, PAHs and metals), for the purpose of filing an RSC.

RECORD OF SITE CONDITION (RSC)

Successful filing and acceptance by the MECP of RSCs for numerous sites of varying complexity throughout the GTA, including the required framework for completion of Risk Assessments. Ms. Wright designed Phase One and Two Environmental Site Assessment (ESA) work plans, conducted fieldwork and/or coordinated field staff for the collection of soil and groundwater samples, completed Phase One and Two ESA reports in accordance with O.Reg. 153/04, and corresponded with the MECP on the filing and review process.

LIMITED PHASE II ESA AND REMEDIATION OF HEATING TANK SPILL – TINY, ONTARIO

A limited Phase II ESA conducted determined the presence of environmental impacts resulting from an oil spill at a residential property. Scope consisted of a soil investigation conducted by use of a hand auger, and advancing up to 7 boreholes in the vicinity of the suspected spills. Contaminants of concern included petroleum hydrocarbons (PHC) fractions 1 through 4 (F1-F4), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Cambium completed confirmatory soil and groundwater sampling following the excavation of impacted soils located beneath the basement floor, in addition to a temporary monitoring well. The remediation was successful with no significant environmental liability in soil or groundwater.

MATTHEW CUNNINGHAM, C.E.T., T.Ag. *Project Coordinator*

Mr. Cunningham graduated from McMaster University in 2011 with an Honours Degree in Physical Geography and Environmental Studies, and from Niagara College with a Post Graduate Diploma in Environmental Management and Assessment in 2012, and is currently employed as an Environmental Technologist with Cambium. Mr. Cunningham's professional experience includes 6 years in the environmental consulting industry, during which he has developed extensive experience completing Phase I and Phase II Environmental Site Assessments, Pre-Disturbance Soil and Vegetation Assessments, Contaminated Site Remediation projects, Environmental Monitoring for construction sites and large scale oil and gas facilities, Peatland Assessments, and he has personally overseen over 15,000 soil inspection sites.

SUMMARY OF PROFESSIONAL EXPERIENCE

2015 – Present Project Coordinator, Cambium Inc.
Barrie, Ontario, Canada

Mr. Cunningham's responsibilities include project support, coordination, and field work related to environmental site assessments, soil and groundwater remediation, Feed-In Tariff Land Evaluation Assessments, and environmental monitoring at construction and contaminated sites. Mr. Cunningham has extensive experience with report preparation including project costing, data compilation, interpretation, and completion of final reports.

2012 – 2015 Project Manager, Navus Environmental.
Edmonton, Alberta, Canada

Mr. Cunningham's responsibilities included project coordination and field work related to Pre-Disturbance Assessments, Environmental Oilfield Site Monitoring, Site Remediation, Phase I and Phase II Environmental Site Assessments, Peatland Assessments, Vegetation Assessments, and Long-Term Plot Network Assessments in accordance with applicable provincial and federal standards. Mr. Cunningham was involved with providing project proposals and costing for all aspects of a project, the scheduling of staff and field work, arranging for required sub-contractors, hiring and training new staff, and analyzing and interpreting the field data in order to write the related reports.

PROFESSIONAL ASSOCIATIONS

- Certified Engineering Technologist (CET); Ontario Association of Certified Engineering Technicians and Technologists
- Technical Agrologist (T.Ag); Ontario Institute of Agrologists

EDUCATION & TRAINING

2018 Class II Backpack Electrofishing Certification

2015 Standard First Aid Recertification
Ground Disturbance Level II Training
ATV Safety Training Recertification
Wildlife Awareness Training Recertification
Workplace Hazardous Materials Information System Training

2014 Wilderness First Aid Training Level III

2012 Post Graduate Diploma in Environmental Management and Assessment,
Niagara College, Saint Catharines, Ontario, Canada

2011 Honours Bachelor of Arts in Geography and Environmental Studies,
McMaster University, Hamilton, Ontario, Canada

SELECTED PROJECT EXPERIENCE

ENVIRONMENTAL SITE ASSESSMENTS – ALBERTA & ONTARIO: 2012 - 2021

Mr. Cunningham has completed multiple Phase I and Phase II Environmental Site Assessments on Brownfield sites, existing commercial and industrial properties, vacant lands, and residential properties to evaluate environmental liability for clients. Phase I assessments typically require a desktop review of historical materials, a site walkover, personnel interviews and report preparation. Phase II assessments typically require a detailed subsurface investigation that includes the excavation of test pits or boreholes, advancement of overburden and bedrock groundwater wells, obtaining overburden soil samples and groundwater samples, and report preparation. These subsurface investigations determine the extent of contamination, if any, and to delineate both horizontally and vertically, the area of impact.

IMPACTED SOIL REMEDIATION

Orillia, Ontario: 2017 to 2018 – Project included the remediation of 16,177 tonnes of contaminated soil impacted by petroleum hydrocarbons at an abandoned industrial yard in Orillia, Ontario. The work involved the delineation and excavating of impacted material, the removal of below-ground piping, the disposal of impacted material at a suitable landfill facility, and backfilling and contouring the excavation.

Camrose, Alberta: 2013 – Project included the remediation of 21,678 tonnes of contaminated soil impacted by produced water and petroleum hydrocarbons at a sour-gas plant near Camrose, Alberta. The

work involved the delineation and excavating of impacted material, the removal of five underground storage tanks and associated above-ground and below-ground piping, the disposal of impacted material at a suitable landfill facility, and backfilling and contouring the excavation.

Bonnyville, Alberta: 2012 – Project included the remediation of 40,509 tonnes of contaminated soil caused by a brackish water leak at a sand holding facility near Bonnyville, Alberta. The work involved the delineation and excavating of impacted material, the disposal of impacted material at a suitable landfill facility, and backfilling and contouring the excavation.

ENVIRONMENTAL MONITORING – ORILLIA RECREATION CENTRE – ONTARIO

Environmental Specialist for the construction of Orillia, Ontario's Recreation Centre facility. Within this project, Mr. Cunningham's role included risk management and mitigation, PHC remediation, DNAPL air monitoring system installation and inspections, ongoing sampling for groundwater, sediment, soil vapour, air quality and surface water monitoring, and daily, monthly and annual reporting duties.

LAND EVALUATION AND SOIL STUDY – ONTARIO

Mr. Cunningham completed the work necessary to classify a 60 hectare site for a FIT Land Evaluation Study. Within this project Mr. Cunningham's role included: planning field logistics, data and sample collection, soil database development, soil and vegetation mapping, and reporting. Using the analysis of the FIT Land Evaluation soil survey data and laboratory analysis data, a determination of soil subclasses and a final CLI class was achieved; each of the subclasses were reviewed to determine the breadth of severity of potentially limiting factors for soil productivity and crop production.

PRE-DISTURBANCE ASSESSMENTS – ALBERTA: 2012 - 2015

Completion of detailed large-scale pre-disturbance vegetation and soil assessment projects in remote-access northern Alberta for sites up to 400 hectares in size. Within these projects Mr. Cunningham's role included the hiring and training of new staff, planning field logistics, client coordination, daily cost tracking, and billing, acting as a field lead, daily data QA/QC, data entry QA/QC, soil database development, soil and vegetation mapping, and reporting.

ENVIRONMENTAL MONITORING – STEAM ASSISTED GRAVITY DRAINAGE (SAGD) OILFIELD FACILITY – LAC LA BICHE AND COLD LAKE, ALBERTA: 2012 - 2015

Environmental Coordinator and Environmental Site Specialist for two SAGD facilities based in the Lac La Biche and Cold Lake areas of Alberta. Within these projects Mr. Cunningham's role included training new staff, client coordination, daily cost tracking and billing, soil salvage monitoring, wildlife monitoring and

reporting, GIS technician, spill response, drilling for subsurface investigations, groundwater well sampling and characterization, soil sampling and characterization, and daily reporting duties.

Phase II Environmental Site Assessment - 721 Royal York Road, Etobicoke, Ontario

July 7, 2022

Prepared for:
Hossack and Associates Architects

Cambium Reference: 14560-002

CAMBIUM INC.

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Peterborough |Barrie | Oshawa | Kingston |Calgary

Executive Summary

Hossack and Associates Architects retained Cambium Inc. (Cambium) to complete a Phase II Environmental Site Assessment (ESA) at 721 Royal York Road in Etobicoke, Ontario (Site). The Site is developed with a two-storey, slab-on-grade, institutional building, originally constructed in approximately 1963, with additions constructed in the 1990s and early 2000s. The Site contains 24 portable units, an outdoor running track and football field, and paved parking surfaces. The current occupant of the Site is the Bishop Allen Academy Secondary School, operated by the Toronto Catholic District School Board.

Cambium completed a Phase I ESA for the Site (Cambium, 2022), which identified environmental concerns for the Site related to the on-site operation of an automotive service shop (classroom) and possible waste oil underground storage tank, potential on-site fill material of unknown quality, and potential use of pesticides related to a former on-site greenhouse operation.

A Phase II ESA work program was developed to investigate contaminants of potential concern: volatile organic compounds, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, and metals in soil and groundwater, and organochlorine pesticides in soil.

The Phase II ESA included 13 boreholes, two of which were completed as groundwater monitoring wells, and one test pit. Seventeen soil samples and one groundwater sample were submitted for laboratory analysis of the contaminants of potential concern.

Based on the results of the Phase II ESA, contaminants are present at the Site in soil at concentrations greater than the Table 1 SCS and Table 3 SCS; therefore, Cambium recommends remediation of the identified soil exceedances.

While the concentration of cobalt and sodium in groundwater at BH114 exceed the Table 1 SCS, the concentrations are still within recorded background concentrations and was less than the standard for use within 30 m of a water body; therefore, Cambium does not recommend further groundwater investigation or remediation at this time.

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1.0 Introduction

Hossack and Associates Architects (the Client) retained Cambium to complete a Phase II ESA at 721 Royal York Road, in Etobicoke, Ontario. The Phase II ESA was completed consistent with the *Canadian Standards Association (CSA) Standard Z769-00* (CSA, 2013), with reference to Ontario Regulation (O.Reg.) 153/04.

1.1 Previous Environmental Investigations

A Phase I ESA (Cambium, 2022) identified environmental concerns for the Site related to:

- The operation of an on-site automotive service shop (classroom) and possible waste oil underground storage tank
- Potential on-site fill material of unknown quality
- Potential use of pesticides related to a former on-site greenhouse operation

1.2 Scope of Work

Cambium conducted the following activities as part of the Phase II ESA.

- Review of previous environmental reports to determine contaminants of potential concern (COPCs) and areas of potential environmental concern.
- Obtained public and private locates for identification of buried services and utilities via Ontario One Call and a private locate company.
- Developed a site-specific Health and Safety Plan (HASP) prior to commencement of the fieldwork.
- Arranged for a Ministry of the Environment, Conservation and Parks (Ministry) licensed driller to advance four boreholes and install three monitoring wells on the Site.
- Arranged for a Canadian Association of Laboratory Accreditation Inc. (CALA) accredited laboratory to supply Cambium with appropriate sample containers for the proposed soil and

groundwater testing program and to undertake analytical services in accordance with standard operating protocols (MOE, 2011a).

2.0 Site Description

The Site is at 721 Royal York Road in Etobicoke, Ontario and consists of a 6.45 ha irregular shaped land parcel. The Universal Transverse Mercator (UTM) coordinates for the centre of the Site are Zone 17T, 620,635 m east, 4,832,311 m north. The Site location is shown on Figure 1.

The Site is developed with a two-storey, slab-on-grade, institutional building, originally constructed in approximately 1963, with additions constructed in the 1990s and early 2000s. The Site contains 24 portable units, an outdoor running track and football field, and paved parking surfaces. The current occupant of the Site is the Bishop Allen Academy Secondary School, operated by the Toronto Catholic District School Board.

The Site is bound by a tributary of Mimico Creek to the north with an institutional property beyond, Mimico Creek to the east with parkland and residential beyond, residential to the south, and Royal York Road the west with residential beyond.

2.1 Applicable Site Condition Standards

The following site characteristics were reviewed to determine the applicable site condition standards (SCS) in the *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (MOE, 2011b).

- The Site is an institutional property in the City of Toronto.
- The Site and surrounding properties rely on a municipal water supply that relies on a surface water source (no groundwater).
- The Site may be within an area of natural significance based on NHIC mapping that states threatened and endangered species have been spotted within a 1 km area inclusive of the Site.

- Laboratory results for soil pH were within the acceptable ranges of 5 to 9 and 5 to 11 for surface and subsurface soil, respectively.
- The average overburden thickness was greater than 2 m based on observations made during the subsurface investigation; as such, Section 43.1(a) of O.Reg. 153/04 applies/does not apply.
- The Site is within 30 m of a water body as defined in O.Reg. 153/04; however, borehole locations are outside of 30 m of the waterbody, as such, Section 43.1(b) of O.Reg. 153/04 does not apply.

Based on the review of site characteristics, the Table 1 Standards - Full Depth Background Site Condition Standards - All Types, and the Table 3 Full Generic Site Condition Standard in a Non-Potable Ground Water Condition (SCS) for residential/parkland/institutional property use and coarse-grained soil are applicable.

3.0 Methodology

The following sections provide a detailed description of the investigations completed and methodologies used to conduct the Phase II ESA. The aspects of environmental concern for the Site were identified based on review of the historical and current operations at the Site and surrounding properties as described in Section 1.0.

The COPCs related to these environmental concerns are volatile organic compounds (VOCs), petroleum hydrocarbon fractions 1 to 4 (PHC F1-F4), polycyclic aromatic hydrocarbons (PAHs), metals, and organochlorine pesticides (OC pesticides).

3.1 Soil Sampling

Prior to commencing the drilling program, Cambium arranged for underground services to be located and marked for public and private utilities. Utility Marx attended the Site on March 14, 2022, and Geophysics GPR International Inc. attended the Site on March 15, 2022, to provide clearance for buried services at the proposed drilling locations. Geophysics GPR also attempted to verify if an on-site UST was still present at the Site, however, the results of the scan were inconclusive. The drilling locations were clear of utilities.

From March 15 to March 18, 2022, in conjunction with a geotechnical drilling performed by Cambium, Terra Firma Environmental Services Ltd. advanced 25 boreholes at the Site to a maximum depth of 8.10 m below ground surface (mbgs) using a Diedrich D 50 Morooka drilling rig equipped with hollow-stem augers and split-spoon sampling. Thirteen of the boreholes were sampled as part of the Phase II ESA. On March 18, 2022, Wee Digger Excavating and Posthole Service completed four test pits at the Site, to a maximum depth of 2.6 mbgs using a CAT 301.8 mini excavator. One of test pits was sampled as part of the Phase II ESA.

Boreholes and test pits were advanced at the following locations (Figure 2). Borehole logs are provided in Appendix A.

- Boreholes BH101, BH103, BH105, BH106, BH110, and BH125, on the west side of the Site, to investigate soil quality due to the import of fill of unknown quality

- Borehole BH114, on the east-central portion of the Site, to investigate soil quality due to the import of fill of unknown quality; and, to investigate soil and groundwater quality due to the operation of an automotive service shop (classroom) and possible waste oil underground storage tank
- Borehole BH116, on the west-central portion of the Site, to investigate soil quality due to the import of fill of unknown quality and the potential use of pesticides related to a former on-site greenhouse operation
- Boreholes BH117, BH120, BH121, BH122, BH123, BH124, and test pit TP126, on the east-central and south portions of the Site, to investigate soil quality due to the potential use of pesticides related to a former on-site greenhouse operation

Samples were collected consistent with accepted industry practices and regulatory guidance. During the soil investigation program using a drill rig, soil samples were collected in 0.46 m sections every 0.76 m for the first 3.5 m and every 1.5 m thereafter. Each sample was handled solely by the field technician using dedicated nitrile gloves to reduce the potential for cross-contamination. Gloves were replaced after collection of each sample. Samples to be submitted for analysis of VOCs and/or PHC F1 were collected using a pre-calibrated syringe sampler and methanol preserved vials.

Olfactory and visual observations of the soil samples were documented immediately upon extraction for soil characteristics and potential indicators of environmental contamination. In locations where volatile or organic contaminants were a potential concern, soil samples, which were placed in plastic sample bags and sealed, were used to determine if volatile and/or organic contaminants were present in the sample headspace. An RKI Eagle 2 portable gas detector was used to screen the soil samples for concentrations of combustible soil vapour (CSV) and organic vapour (OV). The RKI was calibrated to hexane and isobutylene standards. After agitating the sample, the peak concentration was recorded by inserting the RKI probe into the sample bag. Refer to the borehole logs in Appendix A for the measured vapour concentrations.

Soil samples were selected for laboratory analysis based on the soil screening results, visual and olfactory observation, and location of the sample with respect to an environmental concern. Soil samples from fourteen boreholes and one test pit were submitted to the laboratory for analysis. The soil analysis results are discussed in Section 4.3.

3.2 Monitoring Well Installation

Five boreholes were instrumented with groundwater monitoring wells in accordance with Ontario Regulation 903 – Wells. The monitoring wells were constructed using 51 mm flush-threaded environmental quality PVC well pipe. Each well was constructed with a riser pipe and 3 m section of screen installed to intersect the groundwater table. Silica sand filter-pack was placed in the annular space to approximately 0.3 m above the top of the screen. Bentonite was placed in the remaining annular space to about 6 cm below ground surface to seal the well. The bentonite was hydrated using store bought distilled water. Flush mount protective covers were installed, to protect the wells from damage.

Monitoring well BH114 was sampled as part of the Phase II ESA. An attempt was made to obtain a groundwater sample from BH117, however this groundwater well was found to be dry. Well construction details are shown on the borehole logs in Appendix A.

3.3 Groundwater Sampling

Following installation, monitoring well BH114 was developed by purging at least three well volumes, to remove sediment from the well, stabilize and grade the filter pack, improve connectivity between the well and the formation, and restore groundwater that may have been disturbed during the drilling process.

On April 14, 2022, the depth to groundwater was measured in groundwater monitoring well BH114 prior to purging or sampling. An interface probe, which can accurately measure the depth to groundwater and the thickness of dense and light non-aqueous phase liquids (DNAPL and LNAPL, respectively) that may be present in the monitoring wells, was used to measure fluid levels. The probe was cleaned between wells with a mixture of Alconox^{TM} soap and water

and rinsed with distilled water to reduce the potential for cross-contamination between the monitoring wells.

A groundwater sample was collected using a peristaltic pump, with dedicated tubing installed in each of the monitoring wells. The peristatic pump reduces the amount of sediment entrained in the collected groundwater samples, as agitation of the water column is reduced by lowering the pumping rate and limiting the movement of the tubing in the water column.

Field staff wore nitrile sample gloves while collecting the groundwater samples. Gloves were replaced between each sample location. The groundwater analysis results are discussed in Section 4.4.

3.4 Laboratory Testing and Analysis

Soil and groundwater samples were maintained at a temperature less than 10°C. Select samples were transported to Bureau Veritas, a CALA accredited analytical laboratory in Mississauga, Ontario, for analysis of the COPCs in soil and groundwater. The analysis results are discussed in Section 4.0. Copies of the original laboratory Certificates of Analysis as received from Caduceon are included in Appendix B.

4.0 Results

4.1 Stratigraphy

Subsurface conditions at the Site generally consisted of a shallow topsoil layer, underlain by a fill layer consisting of brown, moist, sand and/or gravel. The fill was underlain by a variety of overburden till. Grey shale bedrock was encountered in a number of the boreholes at depths ranging from 5 to 7.6 mbgs. There was no olfactory evidence of hydrocarbon contamination detected in the soil samples recovered from the boreholes.

4.2 Water levels and Flow Direction

Depth to groundwater ranged from 2.92 to 4.45 mbgs on May 16, 2022. BH117 was dry on May 16, 2022. Based on the measured groundwater levels, the groundwater flow direction is southeast.

4.3 Soil Quality

Concentrations of the parameters exceeding the Table 1 and/or Table 3 SCS are listed in Embedded Table 1.

Embedded Table 1 – Soil Exceedances

Sample Location and Depth	Parameter	Reported Concentration (µg/g)	Table 1 SCS (µg/g)	Table 3 SCS (µg/g)
BH101 0.06 – 0.24 mbgs	PHC F3 PHC F4 Acenapthylene	**603** **4990** **< 0.3**	240 120 0.093	300 2800 0.15
BH114 0.07 – 0.61 mbgs	PHC F4	**330**	120	2800
BH114 5.33-5.70 mbgs	PHC F2	**51**	10	98

Bold and Red = Table 1 SCS Exceedance

Bold and Underlined = Reported detection limit exceeds the Table 1 and Table 3 SCS

The soil analytical results are summarized in Table 1 to Table 4, and exceedances are shown on Figure 3.

4.4 Groundwater Quality

No free phase product, hydrocarbon sheen, or unusual odours or discoloration was observed in the purge water or recovered groundwater samples. Concentrations of the select parameters exceeding the Table 1 SCS are provided in Embedded Table 2:

Embedded Table 2 – Groundwater Exceedances

Sample Location	Parameter	Reported Concentration (µg/g)	Table 1 SCS (µg/g)	Table 3 SCS (µg/g)
BH114	Cobalt	**5**	3.8	66
	Sodium	**960,000**	490,000	2,300,000

Bold and Red = Table 1 SCS Exceedance

Groundwater results are summarized in Table 5 to Table 7, and exceedances are shown on Figure 4.

4.5 Quality Assurance / Quality Control

Bureau Veritas reported that the laboratory analytical data is within statistical control and has met quality control and method performance criteria as provided in the appended Certificates of Analysis.

Based on the laboratory QA/QC data, the soil and groundwater analysis results can be interpreted with confidence.

5.0 Discussion and Conclusions

Conclusions regarding the current environmental conditions at the Site are based solely on the results of the Phase II ESA. The Phase II ESA included advancement of 13 boreholes and one test pit to investigate soil quality at the Site. One groundwater monitoring well was sampled to investigate groundwater quality at the Site.

Seventeen soil samples and one groundwater sample were submitted for laboratory analysis of the identified COPCs.

The laboratory analysis results indicated concentrations of petroleum hydrocarbons in soil exceeded the applicable standards at BH101 and BH114.

The concentration of cobalt and sodium in the groundwater collected at BH114 exceeded the Table 1 SCS which are based on the 97.5 percent of background concentration values; however, the concentrations were less than the 99 percent of background concentration values (5.09 µg/L for cobalt; 1,470,000 µg/L for sodium) and were less than the standard for use within 30 m of a water body (52 µg/L for cobalt; 1,800,000 µg/L for sodium).

Based on the results of the Phase II ESA, contaminants are present at the Site in soil at concentrations greater than the Table 1 SCS and Table 3 SCS; therefore, Cambium recommends remediation of the identified soil exceedances.

While the concentration of cobalt and sodium in groundwater at BH114 exceed the Table 1 SCS, the concentrations are still within recorded background concentrations and was less than the standard for use within 30 m of a water body; therefore, Cambium does not recommend further groundwater investigation or remediation at this time.

6.0 Qualifications of the Assessor

This Phase II ESA was completed by Matthew Cunningham, C.E.T., T.Ag, and Natalie Wright, P.Eng. Credentials are presented in Appendix C. Information presented in this report is true and accurate to the best of the assessors' knowledge.

Respectfully submitted,

Cambium Inc.

Matthew Cunningham, C.E.T., T.Ag
Project Coordinator

LICENSED PROFESSIONAL ENGINEER
N. C. WRIGHT
100224943
July 7, 2022
PROVINCE OF ONTARIO

Natalie Wright, P.Eng.
Project Manager

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7.0 References

Cambium Inc. (2022). *Phase I Environmental Site Assessment - 721 Royal York Road, Etobicoke, Ontario.*

CSA. (2013). *CSA Standard Z769-00 Phase II Environmental Site Assessment (R2013).* Canadian Standards Association.

MOE. (2011a). *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act.* Ministry of the Environment. July 1, 2011.

MOE. (2011b). *Soil, Groundwater, and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act.* Ministry of the Environment. April 15, 2011.

8.0 Standard Limitations

Limited Warranty

In performing work on behalf of a client, Cambium relies on its client to provide instructions on the scope of its retainer and, on that basis, Cambium determines the precise nature of the work to be performed. Cambium undertakes all work in accordance with applicable accepted industry practices and standards. Unless required under local laws, other than as expressly stated herein, no other warranties or conditions, either expressed or implied, are made regarding the services, work or reports provided.

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Site Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

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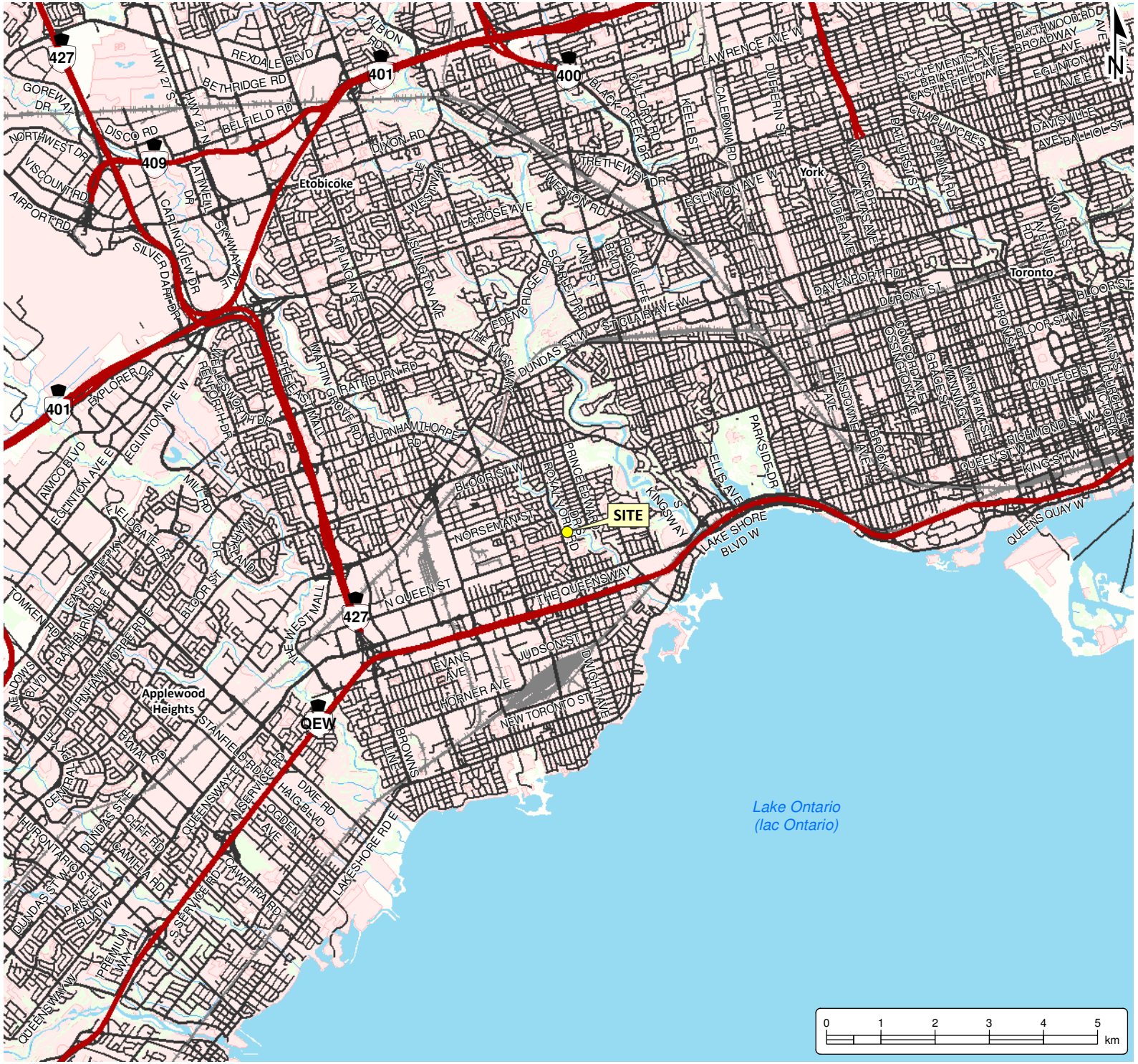
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Personal Liability

The client expressly agrees that Cambium employees shall have no personal liability to the client with respect to a claim, whether in contract, tort and/or other cause of action in law. Furthermore, the client agrees that it will bring no proceedings nor take any action in any court of law against Cambium employees in their personal capacity.

Appended Figures



PHASE II ENVIRONMENTAL SITE ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario

LEGEND

- Highway
- Major Road
- Minor Road
- Railroad
- Watercourse
- Water Area
- Wooded Area
- Built Up Area

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.

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SITE LOCATION MAP

Project No.: 14560-002		Date: May 2022 Rev.:	
Scale: 1:100,000		Projection: NAD 1983 UTM Zone 17N	
Created by: TLC	Checked by: NW	Figure:	1

O:\GIS\MXDs\14500-14999\14560-002 Hossack & Associates Architects - Phase II ESA - Bishop Allen Academy\2022-05-19 FIG 1 - Site Location Map.mxd

PHASE II ENVIRONMENTAL SITE ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario



LEGEND

- Borehole
- Monitoring Well
- Test Pit
- Site (approximate)

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
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SITE PLAN

Project No.: 14560-002		Date: May 2022 Rev.:	
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: TLC	Checked by: NW	Figure:	2

O:\GIS\MXDs\14500-14999\14560-002 Hossack & Associates Architects - Phase II ESA - Bishop Allen Academy\2022-05-19 FIG 2 - Site Plan.mxd

PHASE II ENVIRONMENTAL SITE ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario



BH101	
Depth	0.06 - 0.24
PHC F3	603
PHC F4	4990
Acenaphthylene	< 0.3

BH114	
Depth	0.07 - 0.61
PHC F4	330
Depth	5.33 - 5.70
PHC F2	51

LEGEND

- Borehole
- Monitoring Well
- Test Pit
- Monitoring Well (not included in sampling program)
- Meets Table 1 and Table 3, RPI
- Exceeds Table 1 and Table 3, RPI
- Site (approximate)

Contaminant	Table 1	Table 3, RPI
PHC F2	10	150
PHC F3	240	1300
PHC F4	120	5600
Acenaphthylene	0.093	0.15

Table 1 Standards - Full Depth BackgroundSiteCondition Standards - All Types
Table 3 (RPI Property Use, Coarse Texture)

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.

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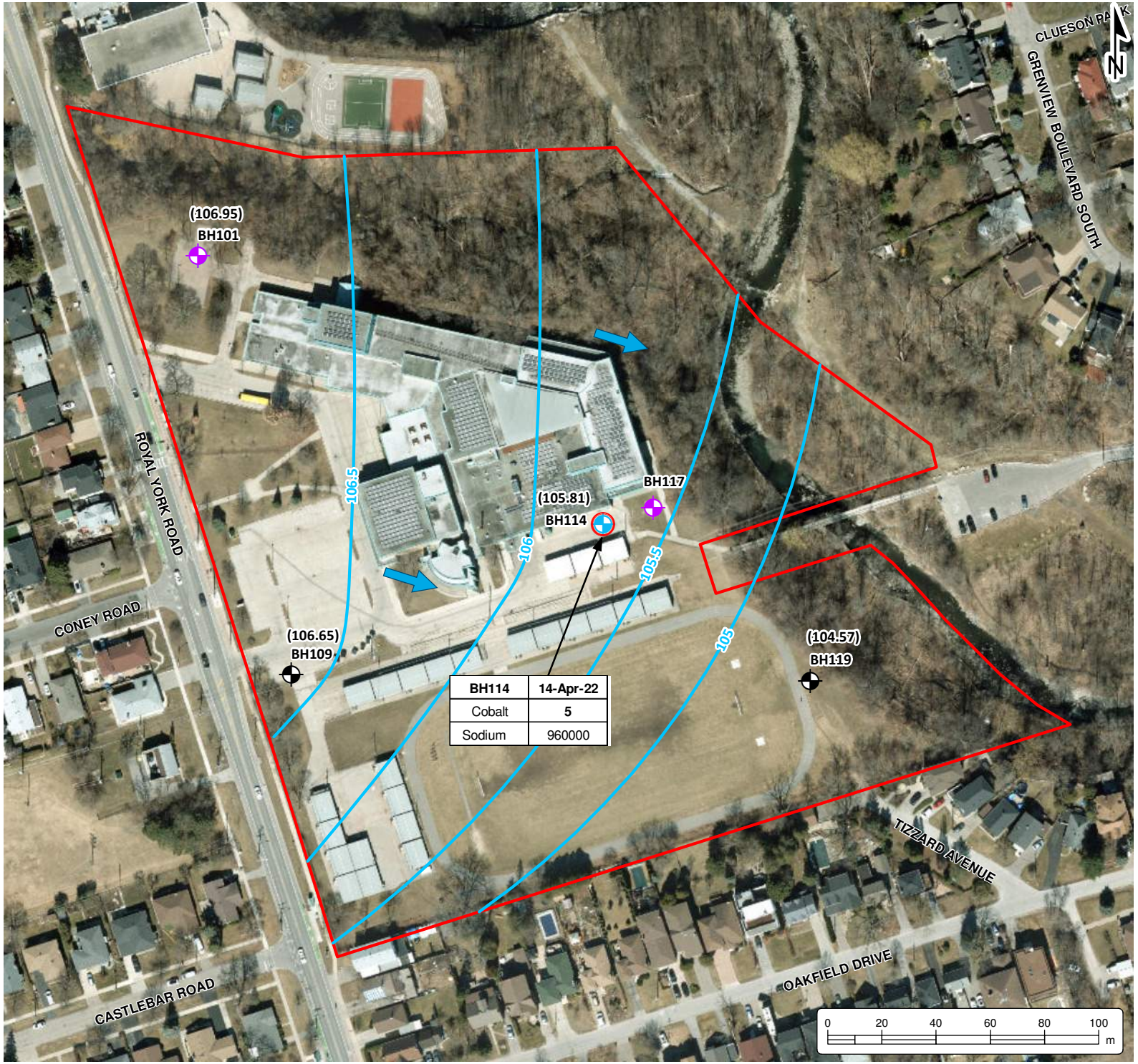
SOIL QUALITY

Project No.: 14560-002		Date: May 2022 Rev.:	
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: TLC	Checked by: NW	Figure:	3

O:\GIS\MXDs\14500-14999\14560-002 Hossack & Associates Architects - Phase II ESA - Bishop Allen Academy\2022-05-19 FIG 3 - Soil Quality.mxd

PHASE II ENVIRONMENTAL SITE ASSESSMENT

HOSSACK & ASSOCIATES
ARCHITECTS
721 Royal York Road
Etobicoke, Ontario



BH114	14-Apr-22
Cobalt	5
Sodium	960000

LEGEND

- (109.77) Groundwater Elevation May 16, 2022
- Monitoring Well
- Monitoring Well (only included in soil sampling program)
- Monitoring Well (not included in sampling program)
- Meets Table 1 and Table 3, RPI
- Exceeds Table 1 and Table 3, RPI
- Groundwater Contours May 16, 2022
- Site (approximate)
- Groundwater Flow Direction May 16, 2022

Parameter	Table 1	Table 3
Cobalt	3.8	66
Sodium	490000	2300000

Table 1 Standards - Full Depth Background Site Condition Standards - Residential/Parkland/ Institutional/Industrial/Commercial/ Community Property Use
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - All Types of Property Use - Coarse Soil

Notes:
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GROUNDWATER QUALITY

Project No.:	Date:
14560-002	May 2022
	Rev.:
Scale:	Projection:
1:2,000	NAD 1983 UTM Zone 17N
Created by: TLC	Checked by: NW
	Figure: 4

O:\GIS\MXDs\14500-14999\14560-002 Hossack & Associates Architects - Phase II ESA - Bishop Allen Academy\2022-05-19 FIG 4 - Groundwater Quality.mxd

Tables

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Table 1 - Summary of Soil Quality: VOCs & PHCs

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH101	BH103	BH105
Sample ID					BH101-22_0.06-0.24	BH103-22_0.06-0.24	BH105-22_0.8-1.2
Sample Date (dd-mmm-yy)					18-Mar-22	18-Mar-22	17-Mar-22
Sample Depth (mbgs)					0.06 - 0.24	0.06 - 0.24	0.80 - 1.20
Acetone	µg/g	0.5	0.5	28	< 0.5	< 0.5	< 0.5
Benzene	µg/g	0.02	0.02	0.17	< 0.02	< 0.02	< 0.02
Bromodichloromethane	µg/g	0.02	0.05	13	< 0.02	< 0.02	< 0.02
Bromoform	µg/g	0.02	0.05	0.26	< 0.02	< 0.02	< 0.02
Bromomethane	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05
Carbon Tetrachloride	µg/g	0.05	0.05	0.12	< 0.05	< 0.05	< 0.05
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	0.05	2.7	< 0.02	< 0.02	< 0.02
Chloroform	µg/g	0.02	0.05	0.18	< 0.02	< 0.02	< 0.02
Dibromochloromethane	µg/g	0.02	0.05	9.4	< 0.02	< 0.02	< 0.02
Dichlorobenzene,1,2-	µg/g	0.05	0.05	4.3	< 0.05	< 0.05	< 0.05
Dichlorobenzene,1,3-	µg/g	0.05	0.05	6	< 0.05	< 0.05	< 0.05
Dichlorobenzene,1,4-	µg/g	0.05	0.05	0.097	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	µg/g	0.05	0.05	25	< 0.05	< 0.05	< 0.05
Dichloroethane,1,1-	µg/g	0.02	0.05	11	< 0.02	< 0.02	< 0.02
Dichloroethane,1,2-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Dichloroethylene,1,1-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Dichloroethene, cis-1,2-	µg/g	0.02	0.05	30	< 0.02	< 0.02	< 0.02
Dichloroethene, trans-1,2-	µg/g	0.02	0.05	0.75	< 0.02	< 0.02	< 0.02
Dichloropropane,1,2-	µg/g	0.02	0.05	0.085	< 0.02	< 0.02	< 0.02
Dichloropropene, cis-1,3-	µg/g	0.02	NV	NV	< 0.02	< 0.02	< 0.02
Dichloropropene, trans-1,3-	µg/g	0.02	NV	NV	< 0.02	< 0.02	< 0.02
Dichloropropene 1,3- cis+trans	µg/g	0.02	NV	NV	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	0.05	15	< 0.05	< 0.05	< 0.05
Dibromoethane,1,2- (Ethylene Dibromide)	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Hexane	µg/g	0.02	0.05	34	< 0.02	< 0.02	< 0.02
Methyl Ethyl Ketone	µg/g	0.5	0.5	44	< 0.5	< 0.5	< 0.5
Methyl Isobutyl Ketone	µg/g	0.5	0.5	4.3	< 0.5	< 0.5	< 0.5
Methyl-t-butyl Ether	µg/g	0.05	0.05	1.4	< 0.05	< 0.05	< 0.05
Dichloromethane (Methylene Chloride)	µg/g	0.05	0.05	0.96	< 0.05	< 0.05	< 0.05
Styrene	µg/g	0.05	0.05	2.2	< 0.05	< 0.05	< 0.05
Tetrachloroethane,1,1,1,2-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Tetrachloroethane,1,1,2,2-	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	µg/g	0.05	0.05	2.3	< 0.05	< 0.05	< 0.05
Toluene	µg/g	0.2	0.2	6	< 0.2	< 0.2	< 0.2
Trichloroethane,1,1,1-	µg/g	0.02	0.05	3.4	< 0.02	< 0.02	< 0.02
Trichloroethane,1,1,2-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Trichloroethylene	µg/g	0.05	0.05	0.52	< 0.05	< 0.05	< 0.05
Trichlorofluoromethane	µg/g	0.02	0.25	5.8	< 0.02	< 0.02	< 0.02
Vinyl Chloride	µg/g	0.02	0.02	0.022	< 0.02	< 0.02	< 0.02
Xylene, m,p-	µg/g	0.03	NV	NV	< 0.03	< 0.03	< 0.03
Xylene, o-	µg/g	0.03	NV	NV	< 0.03	< 0.03	< 0.03
Xylene, m,p,o-	µg/g	0.03	0.05	25	< 0.03	< 0.03	< 0.03
PHC F1 (C6-C10)	µg/g	10	25	65	< 10	< 10	< 10
PHC F1 - BTEX	µg/g	10	25	65	< 10	< 10	< 10
PHC F2 (>C10-C16)	µg/g	5	10	150	6	< 5	< 5
PHC F3 (>C16-C34)	µg/g	10	240	1300	**603**	204	< 10
PHC F4 (>C34-C50)	µg/g	10	120	5600	**1480**	595	< 10
PHC F4 (Gravimetric)	µg/g	50	120	5600	**4990**	2350	-
% moisture	%	-	NV	NV	4.9	9.6	9

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value

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Table 1 - Summary of Soil Quality: VOCs & PHCs

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH106	BH110	BH114
Sample ID					BH106-22_0.05-0.6	BH110-22_0.8-1.2	BH114-22_0.07-0.61
Sample Date (dd-mmm-yy)					17-Mar-22	17-Mar-22	17-Mar-22
Sample Depth (mbgs)					0.05 - 0.60	0.80 - 1.20	0.07 - 0.61
Acetone	µg/g	0.5	0.5	28	< 0.5	< 0.5	< 0.5
Benzene	µg/g	0.02	0.02	0.17	< 0.02	< 0.02	< 0.02
Bromodichloromethane	µg/g	0.02	0.05	13	< 0.02	< 0.02	< 0.02
Bromoform	µg/g	0.02	0.05	0.26	< 0.02	< 0.02	< 0.02
Bromomethane	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05
Carbon Tetrachloride	µg/g	0.05	0.05	0.12	< 0.05	< 0.05	< 0.05
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	0.05	2.7	< 0.02	< 0.02	< 0.02
Chloroform	µg/g	0.02	0.05	0.18	< 0.02	< 0.02	< 0.02
Dibromochloromethane	µg/g	0.02	0.05	9.4	< 0.02	< 0.02	< 0.02
Dichlorobenzene,1,2-	µg/g	0.05	0.05	4.3	< 0.05	< 0.05	< 0.05
Dichlorobenzene,1,3-	µg/g	0.05	0.05	6	< 0.05	< 0.05	< 0.05
Dichlorobenzene,1,4-	µg/g	0.05	0.05	0.097	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	µg/g	0.05	0.05	25	< 0.05	< 0.05	< 0.05
Dichloroethane,1,1-	µg/g	0.02	0.05	11	< 0.02	< 0.02	< 0.02
Dichloroethane,1,2-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Dichloroethylene,1,1-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Dichloroethene, cis-1,2-	µg/g	0.02	0.05	30	< 0.02	< 0.02	< 0.02
Dichloroethene, trans-1,2-	µg/g	0.02	0.05	0.75	< 0.02	< 0.02	< 0.02
Dichloropropane,1,2-	µg/g	0.02	0.05	0.085	< 0.02	< 0.02	< 0.02
Dichloropropene, cis-1,3-	µg/g	0.02	NV	NV	< 0.02	< 0.02	< 0.02
Dichloropropene, trans-1,3-	µg/g	0.02	NV	NV	< 0.02	< 0.02	< 0.02
Dichloropropene 1,3- cis+trans	µg/g	0.02	NV	NV	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	0.05	15	< 0.05	< 0.05	< 0.05
Dibromoethane,1,2- (Ethylene Dibromide)	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Hexane	µg/g	0.02	0.05	34	< 0.02	< 0.02	< 0.02
Methyl Ethyl Ketone	µg/g	0.5	0.5	44	< 0.5	< 0.5	< 0.5
Methyl Isobutyl Ketone	µg/g	0.5	0.5	4.3	< 0.5	< 0.5	< 0.5
Methyl-t-butyl Ether	µg/g	0.05	0.05	1.4	< 0.05	< 0.05	< 0.05
Dichloromethane (Methylene Chloride)	µg/g	0.05	0.05	0.96	< 0.05	< 0.05	< 0.05
Styrene	µg/g	0.05	0.05	2.2	< 0.05	< 0.05	< 0.05
Tetrachloroethane,1,1,1,2-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Tetrachloroethane,1,1,2,2-	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	µg/g	0.05	0.05	2.3	< 0.05	< 0.05	< 0.05
Toluene	µg/g	0.2	0.2	6	< 0.2	< 0.2	< 0.2
Trichloroethane,1,1,1-	µg/g	0.02	0.05	3.4	< 0.02	< 0.02	< 0.02
Trichloroethane,1,1,2-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Trichloroethylene	µg/g	0.05	0.05	0.52	< 0.05	< 0.05	< 0.05
Trichlorofluoromethane	µg/g	0.02	0.25	5.8	< 0.02	< 0.02	< 0.02
Vinyl Chloride	µg/g	0.02	0.02	0.022	< 0.02	< 0.02	< 0.02
Xylene, m,p-	µg/g	0.03	NV	NV	< 0.03	< 0.03	< 0.03
Xylene, o-	µg/g	0.03	NV	NV	< 0.03	< 0.03	< 0.03
Xylene, m,p,o-	µg/g	0.03	0.05	25	< 0.03	< 0.03	< 0.03
PHC F1 (C6-C10)	µg/g	10	25	65	< 10	< 10	< 10
PHC F1 - BTEX	µg/g	10	25	65	< 10	< 10	< 10
PHC F2 (>C10-C16)	µg/g	5	10	150	< 5	< 5	< 5
PHC F3 (>C16-C34)	µg/g	10	240	1300	< 10	47	43
PHC F4 (>C34-C50)	µg/g	10	120	5600	< 10	112	86
PHC F4 (Gravimetric)	µg/g	50	120	5600	-	350	**330**
% moisture	%	-	NV	NV	16.1	16.1	6.1

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value

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Table 1 - Summary of Soil Quality: VOCs & PHCs

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH114	BH116	BH125
Sample ID					BH114-22_5.33-5.70	BH116-22_1.5-2.0	BH125-22_0.8-1.2
Sample Date (dd-mmm-yy)					17-Mar-22	18-Mar-22	15-Mar-22
Sample Depth (mbgs)					5.33 - 5.70	1.50 - 2.00	0.80 - 1.20
Acetone	µg/g	0.5	0.5	28	< 0.5	< 0.5	< 0.5
Benzene	µg/g	0.02	0.02	0.17	< 0.02	< 0.02	< 0.02
Bromodichloromethane	µg/g	0.02	0.05	13	< 0.02	< 0.02	< 0.02
Bromoform	µg/g	0.02	0.05	0.26	< 0.02	< 0.02	< 0.02
Bromomethane	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05
Carbon Tetrachloride	µg/g	0.05	0.05	0.12	< 0.05	< 0.05	< 0.05
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	0.05	2.7	< 0.02	< 0.02	< 0.02
Chloroform	µg/g	0.02	0.05	0.18	< 0.02	< 0.02	< 0.02
Dibromochloromethane	µg/g	0.02	0.05	9.4	< 0.02	< 0.02	< 0.02
Dichlorobenzene,1,2-	µg/g	0.05	0.05	4.3	< 0.05	< 0.05	< 0.05
Dichlorobenzene,1,3-	µg/g	0.05	0.05	6	< 0.05	< 0.05	< 0.05
Dichlorobenzene,1,4-	µg/g	0.05	0.05	0.097	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	µg/g	0.05	0.05	25	< 0.05	< 0.05	< 0.05
Dichloroethane,1,1-	µg/g	0.02	0.05	11	< 0.02	< 0.02	< 0.02
Dichloroethane,1,2-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Dichloroethylene,1,1-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Dichloroethene, cis-1,2-	µg/g	0.02	0.05	30	< 0.02	< 0.02	< 0.02
Dichloroethene, trans-1,2-	µg/g	0.02	0.05	0.75	< 0.02	< 0.02	< 0.02
Dichloropropane,1,2-	µg/g	0.02	0.05	0.085	< 0.02	< 0.02	< 0.02
Dichloropropene, cis-1,3-	µg/g	0.02	NV	NV	< 0.02	< 0.02	< 0.02
Dichloropropene, trans-1,3-	µg/g	0.02	NV	NV	< 0.02	< 0.02	< 0.02
Dichloropropene 1,3- cis+trans	µg/g	0.02	NV	NV	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	0.05	15	< 0.05	< 0.05	< 0.05
Dibromoethane,1,2- (Ethylene Dibromide)	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Hexane	µg/g	0.02	0.05	34	< 0.02	< 0.02	< 0.02
Methyl Ethyl Ketone	µg/g	0.5	0.5	44	< 0.5	< 0.5	< 0.5
Methyl Isobutyl Ketone	µg/g	0.5	0.5	4.3	< 0.5	< 0.5	< 0.5
Methyl-t-butyl Ether	µg/g	0.05	0.05	1.4	< 0.05	< 0.05	< 0.05
Dichloromethane (Methylene Chloride)	µg/g	0.05	0.05	0.96	< 0.05	< 0.05	< 0.05
Styrene	µg/g	0.05	0.05	2.2	< 0.05	< 0.05	< 0.05
Tetrachloroethane,1,1,1,2-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Tetrachloroethane,1,1,2,2-	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	µg/g	0.05	0.05	2.3	< 0.05	< 0.05	< 0.05
Toluene	µg/g	0.2	0.2	6	< 0.2	< 0.2	< 0.2
Trichloroethane,1,1,1-	µg/g	0.02	0.05	3.4	< 0.02	< 0.02	< 0.02
Trichloroethane,1,1,2-	µg/g	0.02	0.05	0.05	< 0.02	< 0.02	< 0.02
Trichloroethylene	µg/g	0.05	0.05	0.52	< 0.05	< 0.05	< 0.05
Trichlorofluoromethane	µg/g	0.02	0.25	5.8	< 0.02	< 0.02	< 0.02
Vinyl Chloride	µg/g	0.02	0.02	0.022	< 0.02	< 0.02	< 0.02
Xylene, m,p-	µg/g	0.03	NV	NV	< 0.03	< 0.03	< 0.03
Xylene, o-	µg/g	0.03	NV	NV	< 0.03	< 0.03	< 0.03
Xylene, m,p,o-	µg/g	0.03	0.05	25	< 0.03	< 0.03	< 0.03
PHC F1 (C6-C10)	µg/g	10	25	65	< 10	< 10	< 10
PHC F1 - BTEX	µg/g	10	25	65	< 10	< 10	< 10
PHC F2 (>C10-C16)	µg/g	5	10	150	**51**	< 5	< 5
PHC F3 (>C16-C34)	µg/g	10	240	1300	85	< 10	13
PHC F4 (>C34-C50)	µg/g	10	120	5600	13	< 10	< 10
PHC F4 (Gravimetric)	µg/g	50	120	5600	-	-	-
% moisture	%	-	NV	NV	9.3	3.3	11.5

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value

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Table 2 - Summary of Soil Quality: PAHs

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH101	BH103	BH105	BH106
Sample ID					BH101-22_0.06-0.24	BH103-22_0.06-0.24	BH105-22_0.8-1.2	BH106-22_0.05-0.6
Sample Date (dd-mmm-yy)					18-Mar-22	18-Mar-22	17-Mar-22	17-Mar-22
Sample Depth (mbgs)					0.06 - 0.24	0.06 - 0.24	0.80 - 1.20	0.05 - 0.60
Acenaphthene	µg/g	0.05	0.072	58	< 0.06	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/g	0.05	0.093	0.17	**< 0.3**	< 0.07	< 0.05	< 0.05
Anthracene	µg/g	0.05	0.16	0.74	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/g	0.05	0.36	0.63	< 0.3	< 0.09	< 0.05	< 0.05
Benzo(a)pyrene	µg/g	0.05	0.3	0.3	< 0.2	0.07	< 0.05	< 0.05
Benzo(b)fluoranthene	µg/g	0.05	0.47	0.78	0.095	0.11	< 0.05	< 0.05
Benzo(b+k)fluoranthene	µg/g	0.05	NV	NV	0.095	0.15	< 0.05	< 0.05
Benzo(g,h,i)perylene	µg/g	0.05	0.68	7.8	0.095	0.09	< 0.05	< 0.05
Benzo(k)fluoranthene	µg/g	0.05	0.48	0.78	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	µg/g	0.05	2.8	7.8	< 0.05	0.07	< 0.05	< 0.05
Dibenzo(a,h)anthracene	µg/g	0.05	0.1	0.1	< 0.07	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/g	0.05	0.56	0.69	< 0.07	0.11	< 0.05	< 0.05
Fluorene	µg/g	0.05	0.12	69	< 0.3	< 0.08	< 0.05	< 0.05
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	0.23	0.48	< 0.05	0.07	< 0.05	< 0.05
Methylnaphthalene,1-	µg/g	0.05	0.59	3.4	< 0.06	< 0.05	< 0.05	< 0.05
Methylnaphthalene,2-	µg/g	0.05	0.59	3.4	< 0.07	< 0.05	< 0.05	< 0.05
Methylnaphthalene 2-(1-)	µg/g	0.05	0.59	3.4	< 0.09	< 0.05	< 0.05	< 0.05
Naphthalene	µg/g	0.05	0.09	0.75	< 0.2	< 0.07	< 0.05	< 0.05
Phenanthrene	µg/g	0.05	0.69	7.8	< 0.07	< 0.05	< 0.05	< 0.05
Pyrene	µg/g	0.05	1	78	0.095	0.09	< 0.05	< 0.05

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value
"-" not analyzed

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Table 2 - Summary of Soil Quality: PAHs

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH110	BH114	BH114	BH116
Sample ID					BH110-22_0.8-1.2	BH114-22_0.07-0.61	BH114-22_5.33-5.70	BH116-22_1.5-2.0
Sample Date (dd-mmm-yy)					17-Mar-22	17-Mar-22	17-Mar-22	18-Mar-22
Sample Depth (mbgs)					0.80 - 1.20	0.07 - 0.61	5.33 - 5.70	1.50 - 2.00
Acenaphthene	µg/g	0.05	0.072	58	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/g	0.05	0.093	0.17	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	µg/g	0.05	0.16	0.74	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/g	0.05	0.36	0.63	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	µg/g	0.05	0.3	0.3	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	µg/g	0.05	0.47	0.78	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b+k)fluoranthene	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(g,h,i)perylene	µg/g	0.05	0.68	7.8	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	µg/g	0.05	0.48	0.78	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	µg/g	0.05	2.8	7.8	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	µg/g	0.05	0.1	0.1	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/g	0.05	0.56	0.69	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/g	0.05	0.12	69	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	0.23	0.48	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene,1-	µg/g	0.05	0.59	3.4	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene,2-	µg/g	0.05	0.59	3.4	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene 2-(1-)	µg/g	0.05	0.59	3.4	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/g	0.05	0.09	0.75	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/g	0.05	0.69	7.8	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	µg/g	0.05	1	78	< 0.05	< 0.05	< 0.05	< 0.05

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value
"-" not analyzed

Table 2 - Summary of Soil Quality: PAHs

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH125
Sample ID					**BH125-22_0.8-1.2**
Sample Date (dd-mmm-yy)					15-Mar-22
Sample Depth (mbgs)					0.80 - 1.20
Acenaphthene	µg/g	0.05	0.072	58	< 0.05
Acenaphthylene	µg/g	0.05	0.093	0.17	< 0.05
Anthracene	µg/g	0.05	0.16	0.74	< 0.05
Benzo(a)anthracene	µg/g	0.05	0.36	0.63	< 0.05
Benzo(a)pyrene	µg/g	0.05	0.3	0.3	< 0.05
Benzo(b)fluoranthene	µg/g	0.05	0.47	0.78	< 0.05
Benzo(b+k)fluoranthene	µg/g	0.05	NV	NV	< 0.05
Benzo(g,h,i)perylene	µg/g	0.05	0.68	7.8	< 0.05
Benzo(k)fluoranthene	µg/g	0.05	0.48	0.78	< 0.05
Chrysene	µg/g	0.05	2.8	7.8	< 0.05
Dibenzo(a,h)anthracene	µg/g	0.05	0.1	0.1	< 0.05
Fluoranthene	µg/g	0.05	0.56	0.69	< 0.05
Fluorene	µg/g	0.05	0.12	69	< 0.05
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	0.23	0.48	< 0.05
Methylnaphthalene,1-	µg/g	0.05	0.59	3.4	< 0.05
Methylnaphthalene,2-	µg/g	0.05	0.59	3.4	< 0.05
Methylnaphthalene 2-(1-)	µg/g	0.05	0.59	3.4	< 0.05
Naphthalene	µg/g	0.05	0.09	0.75	< 0.05
Phenanthrene	µg/g	0.05	0.69	7.8	< 0.05
Pyrene	µg/g	0.05	1	78	< 0.05

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value
"-" not analyzed

Table 3 - Summary of Soil Quality: Metals

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH101	BH103	BH105	BH106
Sample ID					BH101-22_0.06-0.24	BH103-22_0.06-0.24	BH105-22_0.8-1.2	BH106-22_0.05-0.6
Sample Date (dd-mmm-yy)					18-Mar-22	18-Mar-22	17-Mar-22	17-Mar-22
Sample Depth (mbgs)					0.06 - 0.24	0.06 - 0.24	0.80 - 1.20	0.05 - 0.60
Antimony	µg/g	0.5	1.3	7.5	< 0.5	< 0.5	< 0.5	< 0.5
Arsenic	µg/g	0.5	18	18	2.4	5.2	2.2	2.2
Barium	µg/g	1	220	390	31	45	20	25
Beryllium	µg/g	0.2	2.5	5	0.2	0.3	0.2	0.2
Boron	µg/g	0.5	36	120	4	4.8	2	1.5
Boron (HWS)	µg/g	0.02	NV	1.5	0.03	0.05	0.04	0.06
Cadmium	µg/g	0.5	1.2	1.2	< 0.5	0.5	< 0.5	< 0.5
Chromium	µg/g	1	70	160	13	13	10	7
Chromium (VI)	µg/g	0.2	0.66	10	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt	µg/g	1	21	22	4	7	4	3
Copper	µg/g	1	92	180	20	63	10	8
Lead	µg/g	5	120	120	29	47	< 5	6
Mercury	µg/g	0.005	0.27	1.8	0.014	0.021	0.014	0.03
Molybdenum	µg/g	1	2	6.9	< 1	< 1	< 1	< 1
Nickel	µg/g	1	82	130	9	15	8	6
Selenium	µg/g	0.5	1.5	2.4	< 0.5	0.6	< 0.5	< 0.5
Silver	µg/g	0.2	0.5	25	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	µg/g	0.1	1	1	< 0.1	< 0.1	< 0.1	< 0.1
Uranium	µg/g	0.1	2.5	23	0.3	0.4	0.4	0.3
Vanadium	µg/g	1	86	86	18	23	19	13
Zinc	µg/g	3	290	340	45	76	17	20
Chloride	µg/g	5	NV	NV	1010	-	448	-

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value

Table 3 - Summary of Soil Quality: Metals

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH110	BH114	BH116	BH125
Sample ID					BH110-22_0.8-1.2	BH114-22_0.07-0.61	BH116-22_1.5-2.0	BH125-22_0.8-1.2
Sample Date (dd-mmm-yy)					17-Mar-22	17-Mar-22	18-Mar-22	15-Mar-22
Sample Depth (mbgs)					0.80 - 1.20	0.07 - 0.61	1.50 - 2.00	0.80 - 1.20
Antimony	µg/g	0.5	1.3	7.5	< 0.5	< 0.5	< 0.5	< 0.5
Arsenic	µg/g	0.5	18	18	3.5	2.3	1.1	1.3
Barium	µg/g	1	220	390	36	24	8	12
Beryllium	µg/g	0.2	2.5	5	0.4	< 0.2	< 0.2	< 0.2
Boron	µg/g	0.5	36	120	3.1	3	2	1.6
Boron (HWS)	µg/g	0.02	NV	1.5	0.04	0.04	0.02	0.04
Cadmium	µg/g	0.5	1.2	1.2	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	µg/g	1	70	160	15	7	3	6
Chromium (VI)	µg/g	0.2	0.66	10	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt	µg/g	1	21	22	8	3	2	3
Copper	µg/g	1	92	180	17	15	6	5
Lead	µg/g	5	120	120	8	11	< 5	< 5
Mercury	µg/g	0.005	0.27	1.8	0.02	0.01	< 0.005	0.008
Molybdenum	µg/g	1	2	6.9	< 1	< 1	< 1	< 1
Nickel	µg/g	1	82	130	14	6	4	4
Selenium	µg/g	0.5	1.5	2.4	< 0.5	< 0.5	< 0.5	< 0.5
Silver	µg/g	0.2	0.5	25	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	µg/g	0.1	1	1	< 0.1	< 0.1	< 0.1	< 0.1
Uranium	µg/g	0.1	2.5	23	0.4	0.4	0.2	0.3
Vanadium	µg/g	1	86	86	22	13	8	13
Zinc	µg/g	3	290	340	32	29	9	9
Chloride	µg/g	5	NV	NV	969	-	-	-

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value

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Table 4 - Summary of Soil Quality: Pesticides

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH116	BH117	BH120	BH121
Sample ID					BH116-22_0.0-0.6	BH117-22_0.0-0.15	BH120-22-0.0-0.2	BH121-22_0.0-0.17
Sample Date (dd-mmm-yy)					18-Mar-2022	17-Mar-2022	16-Mar-2022	17-Mar-2022
Sample Depth (mbgs)					0.00 - 0.60	0.00 - 0.15	0.00 - 0.20	0.00 - 0.17
Aldrin	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane (alpha)	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane (Gamma)	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane Total (alpha+gamma)	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDD, 2,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDD, 4,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDD Total	µg/g	0.05	0.05	3.3	< 0.05	< 0.05	< 0.05	< 0.05
DDE, 2,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDE, 4,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	0.054	< 0.05
DDE Total	µg/g	0.05	0.05	0.33	< 0.05	< 0.05	0.054	< 0.05
DDT, 2,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDT, 4,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDT Total	µg/g	0.05	1.4	1.4	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Lindane (Hexachlorocyclohexane, Gamma)	µg/g	0.01	0.01	0.063	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	µg/g	0.04	NV	NV	< 0.04	< 0.04	< 0.04	< 0.04
Endosulfan II	µg/g	0.04	NV	NV	< 0.04	< 0.04	< 0.04	< 0.04
Endosulfan I/II	µg/g	0.04	0.04	0.04	< 0.04	< 0.04	< 0.04	< 0.04
Endrin	µg/g	0.04	0.04	0.04	< 0.04	< 0.04	< 0.04	< 0.04
Heptachlor	µg/g	0.05	0.05	0.15	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor Epoxide	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/g	0.01	0.01	0.52	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	µg/g	0.01	0.01	0.014	< 0.01	< 0.01	< 0.01	< 0.01
Hexachloroethane	µg/g	0.01	0.01	0.071	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	µg/g	0.05	0.05	0.13	< 0.05	< 0.05	< 0.05	< 0.05

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value

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Table 4 - Summary of Soil Quality: Pesticides

Sample Location	Units	RDL	Table 1	Table 3 RPI	BH122	BH123	BH124	TP126
Sample ID					BH122-22_0.0-0.2	BH123-22_0.0-0.2	BH124-22_0.0-0.2	TP126-22_0.0-0.18
Sample Date (dd-mmm-yy)					15-Mar-2022	15-Mar-2022	15-Mar-2022	18-Mar-2022
Sample Depth (mbgs)					0.00 - 0.20	0.00 - 0.20	0.00 - 0.20	0.00 - 0.18
Aldrin	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane (alpha)	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane (Gamma)	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane Total (alpha+gamma)	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDD, 2,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDD, 4,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDD Total	µg/g	0.05	0.05	3.3	< 0.05	< 0.05	< 0.05	< 0.05
DDE, 2,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDE, 4,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDE Total	µg/g	0.05	0.05	0.33	< 0.05	< 0.05	< 0.05	< 0.05
DDT, 2,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDT, 4,4-	µg/g	0.05	NV	NV	< 0.05	< 0.05	< 0.05	< 0.05
DDT Total	µg/g	0.05	1.4	1.4	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Lindane (Hexachlorocyclohexane, Gamma)	µg/g	0.01	0.01	0.063	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	µg/g	0.04	NV	NV	< 0.04	< 0.04	< 0.04	< 0.04
Endosulfan II	µg/g	0.04	NV	NV	< 0.04	< 0.04	< 0.04	< 0.04
Endosulfan I/II	µg/g	0.04	0.04	0.04	< 0.04	< 0.04	< 0.04	< 0.04
Endrin	µg/g	0.04	0.04	0.04	< 0.04	< 0.04	< 0.04	< 0.04
Heptachlor	µg/g	0.05	0.05	0.15	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor Epoxide	µg/g	0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/g	0.01	0.01	0.52	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	µg/g	0.01	0.01	0.014	< 0.01	< 0.01	< 0.01	< 0.01
Hexachloroethane	µg/g	0.01	0.01	0.071	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	µg/g	0.05	0.05	0.13	< 0.05	< 0.05	< 0.05	< 0.05

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Residential/Parkland/Institutional Property Use - Coarse
Bold and shaded red - value exceeds Table 1
Bold and shaded grey - value exceeds Table 3 RPI
Bold and underline - RDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value

Table5 - Summary of Water Quality: VOCs & PHCs

Sample Location	Note	Units	RDL	Table 3 Standards	BH14
Sample ID					BH14
Sample Date (dd-mmm-yy)					14-Apr-22
Acetone		µg/L	10	130000	<10
Benzene		µg/L	0.17	44	<0.17
Bromodichloromethane		µg/L	0.5	85000	<0.50
Bromoform		µg/L	1	380	<1.0
Bromomethane		µg/L	0.5	5.6	<0.50
Carbon Tetrachloride		µg/L	0.2	0.79	<0.20
Chlorobenzene		µg/L	0.2	630	<0.20
Chloroform		µg/L	0.2	2.4	<0.20
Dibromochloromethane		µg/L	0.5	82000	<0.50
1,2-Dichlorobenzene		µg/L	0.5	4600	<0.50
1,3-Dichlorobenzene		µg/L	0.5	9600	<0.50
1,4-Dichlorobenzene		µg/L	0.5	8	<0.50
1,1-Dichloroethane		µg/L	0.2	320	<0.20
1,2-Dichloroethane		µg/L	0.5	1.6	<0.50
1,1-Dichloroethylene		µg/L	0.2	1.6	<0.20
Cis-1,2-Dichloroethylene		µg/L	0.5	1.6	<0.50
Trans-1,2-Dichloroethylene		µg/L	0.5	1.6	<0.50
1,2-Dichloropropane		µg/L	0.2	16	<0.20
Cis-1,3-Dichloropropylene		µg/L	0.3	NV	<0.30
Trans-1,3-Dichloropropylene		µg/L	0.4	NV	<0.40
Ethylbenzene		µg/L	0.2	2300	<0.20
Ethylene Dibromide		µg/L	0.2	0.25	<0.20
Methyl Ethyl Ketone		µg/L	10	470000	<10
Methylene Chloride		µg/L	2	610	<2.0
Methyl Isobutyl Ketone		µg/L	5	140000	<5.0
Methyl-t-Butyl Ether		µg/L	0.5	190	<0.50
Styrene		µg/L	0.5	1300	<0.50
1,1,1,2-Tetrachloroethane		µg/L	0.5	3.3	<0.50
1,1,2,2-Tetrachloroethane		µg/L	0.5	3.2	<0.50
Toluene		µg/L	0.2	18000	<0.20
Tetrachloroethylene		µg/L	0.2	1.6	<0.20
1,1,1-Trichloroethane		µg/L	0.2	640	<0.20
1,1,2-Trichloroethane		µg/L	0.5	4.7	<0.50
Trichloroethylene		µg/L	0.2	1.6	<0.20
Vinyl Chloride		µg/L	0.2	0.5	<0.20
m-Xylene & p-Xylene	4	µg/L	0.2	NV	<0.20
o-Xylene	4	µg/L	0.2	NV	<0.20
Total Xylenes	4	µg/L	0.2	4200	<0.20
Dichlorodifluoromethane		µg/L	1	4400	<1.0
Hexane(n)		µg/L	1	51	<1.0
Trichlorofluoromethane		µg/L	0.5	2500	<0.50
1,3-Dichloropropene (cis + trans)	5	µg/L	0.5	5.2	<0.50
F1 (C6-C10)	1	µg/L	25	750	<25
F1 (C6-C10) - BTEX	1	µg/L	25	750	<25
F2 (C10-C16)	2	µg/L	100	150	<100
F3 (C16-C34)	3	µg/L	200	500	<200
F4 (C34-C50)		µg/L	200	500	<200

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - All Types of Property Use - Coarse Soil
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value
"-" not analyzed
Bold and shaded - value exceeds standard
Bold and underline - RDL exceeds standard
1 - Standard is applicable to PHC in the F1 range minus BTEX.
2 - Standard is applicable to PHC F2 minus naphthalene. If naphthalene is not analyzed, the standard is applied to F2.
3 - Standard is applicable to PHC F3 minus PAHs (other than naphthalene). If PAHs have not been measured, the standard is applied to F3.
4 - Standard is applicable to total xylenes, and m & p-xylenes and o-xylenes should be summed for comparison.
5 - Standard is applicable to 1,3-Dichloropropene, and the individual isomers (cis + trans) should be added for comparison.

Table 6 - Summary of Water Quality: PAHs

Sample Location	Note	Units	RDL	Table 3 Standards	BH14
Sample ID					BH14
Sample Date (dd-mmm-yy)					14-Apr-22
Acenaphthene		µg/L	0.05	600	<0.050
Acenaphthylene		µg/L	0.05	1.8	<0.050
Anthracene		µg/L	0.05	2.4	<0.050
Benzo(a)anthracene		µg/L	0.05	4.7	<0.050
Benzo(a)pyrene		µg/L	0.009	0.81	<0.0090
Benzo(b/j)fluoranthene	2	µg/L	0.05	0.1	<0.050
Benzo(ghi)perylene		µg/L	0.05	0.2	<0.050
Benzo(k)fluoranthene		µg/L	0.05	0.4	<0.050
Chrysene		µg/L	0.05	1	<0.050
Dibenzo(a,h)anthracene		µg/L	0.05	0.52	<0.050
Fluoranthene		µg/L	0.05	130	<0.050
Fluorene		µg/L	0.05	400	<0.050
Indeno(1,2,3-cd)pyrene		µg/L	0.05	0.2	<0.050
1-Methylnaphthalene	1	µg/L	0.05	1800	<0.050
2-Methylnaphthalene	1	µg/L	0.05	1800	<0.050
Naphthalene		µg/L	0.05	1400	<0.050
Phenanthrene		µg/L	0.03	580	<0.030
Pyrene		µg/L	0.05	68	<0.050
Methylnaphthalene, 2-(1-)		µg/L	0.071	1800	<0.071

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - All Types of Property Use - Coarse Soil
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value
"-" not analyzed
Bold and shaded - value exceeds standard
Bold and underline - RDL exceeds standard
1 - Standard is applicable to 1-methylnaphthallene and 2- methylnaphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.
2 - Standard is for benzo(b)fluoranthene; however, the laboratory can not distinguish between benzo(b)fluoranthene and benzo(k)fluoranthene.

Table 7 - Summary of Water Quality: Metals

Sample Location	Note	Units	RDL	Table 3 Standards	BH14
Sample ID					BH14
Sample Date (dd-mmm-yy)					14-Apr-22
Antimony		µg/L	0.5	20000	<0.50
Arsenic		µg/L	1	1900	<1.0
Barium		µg/L	2	29000	420
Beryllium		µg/L	0.4	67	<0.40
Boron		µg/L	10	45000	170
Cadmium		µg/L	0.09	2.7	<0.090
Chromium		µg/L	5	810	<5.0
Cobalt		µg/L	0.5	66	5
Copper		µg/L	0.9	87	3.3
Lead		µg/L	0.5	25	<0.50
Molybdenum		µg/L	0.5	9200	0.99
Nickel		µg/L	1	490	7.4
Sodium		µg/L	500	2300000	960000
Selenium		µg/L	2	63	<2.0
Silver		µg/L	0.09	1.5	<0.090
Thallium		µg/L	0.05	510	0.059
Vanadium		µg/L	0.5	250	<0.50
Zinc		µg/L	5	1100	<5.0
Uranium		µg/L	0.1	420	2
pH		N/A		NV	6.98
Dissolved Sulphate (SO4)		ug/L	1	NV	130
Dissolved Antimony (Sb)		ug/L	0.5	20000	<0.50
Dissolved Arsenic (As)		ug/L	1	1900	<1.0
Dissolved Barium (Ba)		ug/L	2	29000	420
Dissolved Beryllium (Be)		ug/L	0.4	67	<0.40
Dissolved Boron (B)		ug/L	10	45000	170
Dissolved Cadmium (Cd)		ug/L	0.09	2.7	<0.090
Dissolved Chromium (Cr)		ug/L	5	810	<5.0
Dissolved Cobalt (Co)		ug/L	0.5	66	5
Dissolved Copper (Cu)		ug/L	0.9	87	3.3
Dissolved Lead (Pb)		ug/L	0.5	25	<0.50
Dissolved Molybdenum (Mo)		ug/L	0.5	9200	0.99
Dissolved Nickel (Ni)		ug/L	1	490	7.4
Dissolved Selenium (Se)		ug/L	2	63	<2.0
Dissolved Silver (Ag)		ug/L	0.09	1.5	<0.090
Dissolved Sodium (Na)		ug/L	500	2300000	960000
Dissolved Thallium (Tl)		ug/L	0.05	510	0.059
Dissolved Uranium (U)		ug/L	0.1	420	2
Dissolved Vanadium (V)		ug/L	0.5	250	<0.50
Dissolved Zinc (Zn)		ug/L	5	1100	<5.0

Notes:
Table 3 Standards - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - All Types of Property Use - Coarse Soil
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value
"-" not analyzed
Bold and shaded - value exceeds standard
Bold and underline - RDL exceeds standard

Appendix A
Borehole Logs

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Log of Borehole: BH101

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-18
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832426 m N, 620536 m E	**Elevation:**	109.87 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
109	0		Asphalt						Flushmount	Soil Analysis: VOCs, PHCs, PAHs, Metals
			Fill: Dark brown sand and gravel, moist	1	50		< 1	< 1	Cap	
			Silty Sand: Brown, trace gravel, moist							
	1		Sandy Silt: Brown, trace clay, mosit	2	100		< 1	< 1	Bentonite Plug	
108	2		-no clay, wet	3	100		< 1	< 1		Borehole not included in the Phase II ESA groundwater sampling program
			Brown grey sandy silt, trace clay and gravel, wet	4	100		< 1	< 1	PVC Standpipe	
107	3		Silt: Grey with some clay, trace sand, wet	5	60		< 1	< 1		Water level measured at 2.82 mbgs on 2022-05-15
106	4					SS				
105	5		Clayey Silt: Grey with trace gravel, wet	6	75		< 1	< 1	Sand Pack	
104	6								PVC Screen	
			Shale: Grey soft shale	7	100		< 1	< 1		
103	7									
102	8			8	0		< 1	< 1	Cap	
101	9		Borehole terminated at 8.1 mbgs in shale							

Logged By: JS **Input By:** MC

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Log of Borehole: BH103

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-18
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832379 m N, 620534 m E	**Elevation:**	110.17 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
110	0		Asphalt							Soil Analysis: VOCs, PHCs, PAHs, Metals
			Fill: Brown sand and gravel, moist	1	25		< 1	< 1		
			Silty Sand: Brown with some gravel, moist							
109	1		Sandy Silt: Brown smoist	2	100		< 1	< 1		
			trace clay	3	100		< 1	< 1		
108	2		Clayey Silt: Light brown with trace sand, moist	4	100		< 1	< 1		
107	3		Sandy Silt: Brown with trace clay, wet	5	100	SS	< 1	< 1		
106	4									
105	5		Clayey Silt: Grey with some sand, wet	6	100		< 1	< 1		
104	6		Shale: Grey shale	7	0		-	-		
103	7									
102	8		Borehole terminated at 8.1 mbgs in shale							
	9									

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Log of Borehole: BH105

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-18
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832331 m N, 620584 m E	**Elevation:**	110.14 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
110	0		Asphalt							
			Fill: Brown silty sand, dry	1	80		< 1	< 1		
	1		-less silt	2	80		< 1	< 1		Soil Analysis: VOCs, PHCs, PAHs, Metals
109										
	2		Silt: Brown with trace sand, dry	3	70		< 1	< 1		
108			Sand: Brown with trace silt and gravel, wet	4	80		< 1	< 1		
	3									
107				5	90		< 1	< 1		
			- with some clayey silt							
	4					SS				
106										
			- with some silt	6	90		< 1	< 1		
	5									
105										
	6		Clayey Silt: Grey with trace sand and gravel wet	7	0		< 1	< 1		
104										
	7									
103										
			Shale: Soft to hard shale	8	0		< 1	< 1		
	8									
102			Borehole terminated at 7.6 mbgs in shale							
101	9									

Logged By: JS **Input By:** MC

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Log of Borehole: BH106

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-18
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832331 m N, 620584 m E	**Elevation:**	110.28 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
110	0		Asphalt							
			Fill: Brown silty sand	1	0		< 1	< 1		Soil Analysis: VOCs, PHCs, PAHs, Metals
109	1		Orange brown sand, some silt	2	60		< 1	< 1		
108	2		Sand: Brown with trace silt and gravel, moist	3	70		< 1	< 1		
				4	80		< 1	< 1		
107	3			5	0		-	-		
106	4		Clayey Silt			SS				
105	5		Silt: Grey with trace sand, trace gravel, dry, hard	6	0		-	-		
104	6		Sand: Grey-brown with trace gravel	7	0		-	-		
103	7		Clayey Silt: Grey and hard							
102	8		Shale: Grey hard shale	8	0		-	-		
	9		Borehole terminated at 7.6 mbgs in shale							

Logged By: JS **Input By:** MC

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Log of Borehole: BH109

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-17
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832264 m N, 620623 m E	**Elevation:**	108.6 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
109	0		Asphalt						Flushmount	
			Fill: Light brown sand fill with some silt and some organics	1	0		-	-	Cap	
	1			2	90		-	-	Bentonite Plug	Borehole not included in the Phase II ESA soil and groundwater sampling programs
108	2			3	90		-	-		
			Sand: Brown with some silt and trace gravel and clay, wet	4	90		-	-	PVC Standpipe	
107	3		Sandy Silt: Brown with trace gravel and clay, moist	5	90		-	-		Water level measured at 3.10 mbgs on 2022-05-15
106	4					SS				
			Sand: Brown with some silt, trace gravel and clay	6	90		-	-		
105	5		Clay and Silt: Grey blue hard						Sand Pack	
104	6			7	20		-	-	PVC Screen	
103	7									
102	8			8	30		-	-	Cap	
101	9		Borehole terminated at 7.6 mbgs in clay and silt							

Logged By: JS **Input By:** MC

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Log of Borehole: BH110

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-17
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832258 m N,620585 m E	**Elevation:**	109.06 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
109	0		Asphalt							
			Fill: Orange brown silty sand, trace gravel	1	0		< 1	< 1		
108	1			2	90		< 1	< 1		Soil Analysis: VOCs, PHCs, PAHs, Metals
			Sand: Brown with trace gravel and silt, wet	3	90		< 1	< 1		
107	2		-saturated	4	90		< 1	< 1		
106	3			5	90		< 1	< 1		
			-grey			SS				
105	4									
			-some silt	6	90		< 1	< 1		
104	5		Shale: Light grey and hard, dry							
103	6			7	10		< 1	< 1		
102	7									
101	8			8	10		< 1	< 1		
			Borehole terminated at 7.6 mbgs in shale							
100	9									

Logged By: JS **Input By:** MC

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Log of Borehole: BH114

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-18
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832327 m N,620685 m E	**Elevation:**	110.27 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
110	0		Asphalt						Flush mount	
			Fill: Brown gravely sand, some silt, moist	1	0		< 1	< 1	Cap	Soil Analysis: VOCs, PHCs, PAHs, Metals
109	1			2	35		< 1	< 1	Bentonite Plug	
			Sand: Brown with some gravel, moist	3	5		< 1	< 1		
108	2			4	25		< 1	< 1	PVC Standpipe	
107	3		Sandy Silt: Brown, moist	5	80		< 1	< 1		
106	4			6	65	SS	< 1	< 1		
			Sand: Brown sand, some gravel, trace clay, moist	7	70		15	36	Sand Pack	Water level measured at 5.64 mbgs on 2022-04-14
105	5		-grey							
104	6			8	80		< 1	4	PVC Screen	Soil Analysis: VOCs, PHCs, PAHs, Metals
			Silt: Grey, moist							
103	7									
102	8			9	40		1	3	Cap	
			Borehole terminated at 7.6 mbgs in silt							
	9									

Logged By: JS **Input By:** MC

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Log of Borehole: BH116

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-18
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832330 m N,620545 m E	**Elevation:**	111.12 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
111	0		Topsoil: Dark brown sand with organics, some silt	1	90		< 1	< 1		Soil Analysis: OC Pesticides
110	1		Sand: Orange brown with trace silt and gravel	2	40		< 1	< 1		
109	2			3	50		< 1	< 1		Soil Analysis: VOCs, PHCs, PAHs, Metals
108	3			4	60		< 1	< 1		
107	4			5	80		< 1	< 1		
106	5		-brown grey, wet	6	30	SS	< 1	< 1		
105	6		Clayey Silt: Grey with trace gravel, wet	7	70		< 1	< 1		
104	7									
103	8			8	0		-	-		
102	9		Borehole terminated at 7.6 mbgs in clayey silt							

Logged By: JS **Input By:** MC

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Log of Borehole: BH117

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-17
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832333 m N,620704 m E	**Elevation:**	110.02 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
110	0		Topsoil: Black topsoil							
			Sand: Brown with some silt, moist	1	70		< 1	< 1	Flush mount	Soil Analysis: OC Pesticides
109	1		-trace silt	2	65		< 1	< 1	Cap	
									PVC Standpipe	
108	2			3	70		< 1	< 1	Bentonite Plug	
			Sandy Silt: Brown with trace clay, moist	4	80		< 1	< 1		
107	3			5	70	SS	< 1	< 1	PVC Screen	
									Sand Pack	
106	4		Sand: Brown with some gravel, trace silt, moist	6	75		< 1	< 1		
105	5			7	75		< 1	< 1		
			Sandy Silt: Brown with some clay, moist	8	85		< 1	< 1		
104	6			9	65		< 1	< 1	Cap	
			Borehole terminated at 6.6 mbgs in sand							
103	7									
102	8									
101	9									

Logged By: CM **Input By:** MC

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Log of Borehole: BH119

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-18
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832268 m N, 620761 m E	**Elevation:**	107.7 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
107	0		Silt and Sand: Dark brown silty sand, trace gravel moist, compact	1	80		-	-	Flushmount Cap	
	1		Clay and Silt: Brown with trace sand, very stiff	2	100		-	-	Bentonite Plug	Borehole not included in the Phase II ESA soil and groundwater sampling programs
106			Brown, very stiff	3	100		-	-		
	2								PVC Standpipe	
105			Sand: Brown with gravel, some fines, moist, very dense	4	80		-	-		
	3		Sand and Silt: Light brown, wet, dense	5	100	SS	-	-		Water level measured at 3.05 mbgs on 2022-05-15
104			Grey non-cohesive, moist, dense							
	4									
103				6	75		-	-		
	5								Sand Pack	
102										
	6								PVC Screen	
101			Clay and Silt: Grey with trace sand, some gravel, cohessive, wet, very stiff	7	100		-	-		
	7		Borehole terminated at 6.70 mbgs in clay and silt						Cap	
100	8									
99	9									

Logged By: JS **Input By:** MC

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Log of Borehole: BH120

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-17
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832236 m N,620654 m E	**Elevation:**	108.33 mASL

Elevation (m)	Depth (m)	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
108	0	Asphalt: Dark brown silty topsoil, trace organics, moist	1	67	SS	< 1	< 1		Soil Analysis: OC Pesticides
		Fill: Gravel							
	1	Sandy Silt: Dark brown with trace gravel, moist	2	78		< 1	< 1		
107		no gravel, dry							
		Light brown sandy silt, trace clay and gravel, moist	3	100		< 1	< 1		
	2								
106		Light brown sandy silt, moist	4	60		< 1	< 1		
	3								
105		Sand: Light brown sand and gravel with some silt, wet	5	100		< 1	< 1		
	4								
104									
		Clayey Silt: Grey with some gravel, dry	6	50		< 1	< 1		
	5								
103									
	6								
102			7	50		< 1	< 1		
	7								
101									
		Shale	8	0		-	-		
	8								
100		Borehole terminated at 8.1 mbgs in shale							
	9								

Logged By: CM **Input By:** MC

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Log of Borehole: BH121

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-17
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832236 m N,620653 m E	**Elevation:**	108.846 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
108	0		Topsoil: Black topsoil							Soil Analysis: OC Pesticides
			Sand: Brown with trace gravel and silt	1	65		< 1	< 1		
	1			2	40		< 1	< 1		
107	2			3	80		< 1	< 1		
			-some gravel	4	60		< 1	< 1		
106	3		-wet	5	80	SS	< 1	< 1		
105	4									
104	5		Clayey Silt: Grey with some sand, moist	6	80		< 1	< 1		
103	6									
				7	30		< 1	< 1		
102	7		Borehole terminated at 6.5 mbgs in clayey silt							
101	8									
100	9									

Logged By: JS **Input By:** MC

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Log of Borehole: BH122

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-001
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-17
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832233 m N,620738 m E	**Elevation:**	107.95 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
107	0		Topsoil: Dark brown silty topsoil, trace organics, moist	1	100	SS	< 1	< 1		Soil Analysis: OC Pesticides
			Fill: Gravel							
	1		Silty Sand: Light brown, dry							
			Sandy Silt: Light brown, moist	2	100		< 1	< 1		
106	2			3	90		< 1	< 1		
			Silty Sand: Brown with trace gravel, moist	4	100		< 1	< 1		
105	3		Sand: Brown-gray sand and gravel, wet	5	90		< 1	< 1		
104	4									
			Silt: Grey with some sand and clay, wet	6	75		< 1	< 1		
103	5									
102	6		- no sand and clay	7	100		< 1	< 1		
101	7									
			Shale: Grey with some silt, dry	8	0		-	-		
100	8		Borehole terminated at 7.6 mbgs in shale							
99	9									

Logged By: JS **Input By:** MC

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Log of Borehole: BH123

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-15
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832220 m N,620700 m E	**Elevation:**	108.22 mASL

Elevation (m)	Depth (m)	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
108	0	Topsoil: Dark brown silty topsoil, trace organics, moist	1	60	SS	< 1	< 1		Soil Analysis: OC Pesticides
		Fill: Gravel, moist							
107	1	Silty Sand: Light brown with trace gravel, moist	2	100		< 1	< 1		
106	2		3	50		< 1	< 1		
			4	100		< 1	< 1		
105	3	Silt and Sand: Grey, wet	5	5		< 1	< 1		
104	4								
103	5	Silt: Grey with trace sand, wet	6	50		< 1	< 1		
102	6		7	20		< 1	< 1		
101	7	Shale							
100	8		8	0		-	-		
	9	Borehole terminated at 7.3 mbgs in shale							

Logged By: JS **Input By:** MC

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Log of Borehole: BH124

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-15
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832204 m N,620653 m E	**Elevation:**	108.56 mASL

Elevation (m)	Depth (m)	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
108	0	Topsoil: Dark brown silty topsoil, trace organics, moist	1	60	SS	< 1	< 1		Soil Analysis: OC Pesticides
		Fill: Gravel, moist							
	1	Silty Sand: Light brown, moist							
		Sandy Silt: Light brown with trace gravel, dry	2	100		< 1	< 1		
107	2	Silty Sand: Light brown with trace clay and gravel, dry	3	75		< 1	< 1		
106		-no clay, moist	4	100		< 1	< 1		
	3	-some gravel, wet	5	100		< 1	< 1		
105	4								
104		GRAVEL: -light brown-grey, saturated	6	20		< 1	< 1		
103	5								
	6	Shale: -Grey with some silt, compact and soft	7	100		< 1	< 1		
102									
101	7								
	8		8	0		-	-		
100		Borehole terminated at 7.6 mbgs in shale							
	9								

Logged By: JS **Input By:** MC

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Log of Borehole: BH125

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Terra Firma	**Method:**	Hollow Steam Auger	**Date Completed:**	2022-03-15
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832184 m N,620599 m E	**Elevation:**	109.01 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
109	0		Topsoil: Dark brown silty topsoil, trace organics, moist	1	50		< 1	< 1		
			Sandy Silt: Light brown with trace organics, wet							
108	1			2	75		< 1	< 1		Soil Analysis: VOCs, PHCs, PAHs, Metals
			-wet							
107	2			3	70		< 1	< 1		
			Silt: Grey with trace gravel, wet	4	100		< 1	< 1		
106	3		-some clay, moist	5	80		< 1	< 1		
105	4					SS				
			Clayey Silt: Grey with some gravel, moist	6	60		< 1	< 1		
104	5									
103	6		Shale: Grey with some silt, compact and soft, dry	7	100		< 1	< 1		
102	7									
101	8			8	0		-	-		
			Borehole terminated at 7.01 mbgs in shale							
100	9									

Logged By: JS **Input By:** MC

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Log of Borehole: TP126

Client:	Hossack & Associates Architects	**Project Name:**	Phase II Environmental Site Assessment	**Project No.:**	14560-002
Contractor:	Wee Digger	**Method:**	Testpit	**Date Completed:**	2022-03-18
Location:	721 Royal York Road, Etobicoke, ON	**UTM:**	17T, 4832359 m N,620699 m E	**Elevation:**	109.01 mASL

SUBSURFACE PROFILE				SAMPLING INFO						
Elevation (m)	Depth (m)	Lithology	Description	Number	% Recovery	Type	CSV (ppm)	OV (ppm)	Well Installation	Remarks
109	0		Topsoil: Black, some organics, moist, no odours, no staining	1	100	GS	-	-		Soil Analysis: OC Pesticides
	1		Fill: Dark brown silty sand, moist, no odour, no staining	2, 3			-	-		
108	2		Sand: Light brown, trace silt, moist, no odour, no staining	4, 5			-	-		
107	3		Testpit terminated at 2.6 mbgs in sand							
106	4									
105	5									
104	6									
103	7									
102	8									
101	9									

Logged By: CM **Input By:** MC

Appendix B

Laboratory Certificates of Analysis

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---

REPORT No. B22-07759 (i)

Report To:

Cambium Environmental
135 Bayfield Street, Unit 102
Barrie ON L4M 3B3
Attention: Matt Cunningham

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: 14560-001
WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Chromium (VI)	8	Holly Lane	ST	24-Mar-22	D-CRVI-02 (o)	EPA7196A
Mercury	8	Holly Lane	PBK	28-Mar-22	D-HG-01 (o)	EPA 7471A
Boron - HWS	8	Holly Lane	AHM	28-Mar-22	D-HWE s	MOE3470
Metals - ICP-OES	8	Holly Lane	AHM	28-Mar-22	D-ICP-02 (o)	EPA 6010
Metals - ICP-MS	8	Holly Lane	TPR	28-Mar-22	D-ICPMS-01 (o)	EPA 6020

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg
F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)
F2 C10-C16 hydrocarbons in µg/g, (F2-napth if requested)
F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)
F4 C34-C50 hydrocarbons in µg/g
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
Any deviations from the method are noted and reported for any particular sample.
nC6 and nC10 response factor is within 30% of response factor for toluene:
nC10,nC16 and nC34 response factors within 10% of each other:
C50 response factors within 70% of nC10+nC16+nC34 average:
Linearity is within 15%:
All results expressed on a dry weight basis.
Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.
If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC
QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.



Christine Burke
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH101-22_0.06-0.24	BH103-22_0.06-0.24	BH105-22_0.8-1.2	BH106-22_0.05-0.6	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-8	B22-07759-9	B22-07759-10	B22-07759-11		
	Date Collected		18-Mar-22	18-Mar-22	17-Mar-22	17-Mar-22		
Parameter	**Units**	**R.L.**						
Antimony	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.3	
Arsenic	µg/g	0.5	2.4	5.2	2.2	2.2	18	
Barium	µg/g	1	31	45	20	25	220	
Beryllium	µg/g	0.2	0.2	0.3	0.2	0.2	2.5	
Boron	µg/g	0.5	4.0	4.8	2.0	1.5	36	
Boron (HWS)	µg/g	0.02	0.03	0.05	0.04	0.06	1.5	
Cadmium	µg/g	0.5	< 0.5	0.5	< 0.5	< 0.5	1.2	
Chromium	µg/g	1	13	13	10	7	70	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1	4	7	4	3	22	
Copper	µg/g	1	20	63	10	8	92	
Lead	µg/g	5	29	47	< 5	6	120	
Mercury	µg/g	0.005	0.014	0.021	0.014	0.030	0.27	
Molybdenum	µg/g	1	< 1	< 1	< 1	< 1	2	
Nickel	µg/g	1	9	15	8	6	82	
Selenium	µg/g	0.5	< 0.5	0.6	< 0.5	< 0.5	1.5	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1	< 0.1	< 0.1	< 0.1	< 0.1	1	
Uranium	µg/g	0.1	0.3	0.4	0.4	0.3	2.5	
Vanadium	µg/g	1	18	23	19	13	86	
Zinc	µg/g	3	45	76	17	20	290	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

R.L. = Reporting Limit
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DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH110-22_0.8-1.2	BH116-22_1.5-2.0	BH114-22_0.07-0.61	BH125-22_0.8-1.2	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-12	B22-07759-14	B22-07759-15	B22-07759-17		
	Date Collected		17-Mar-22	18-Mar-22	17-Mar-22	15-Mar-22		
Parameter	**Units**	**R.L.**						
Antimony	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.3	
Arsenic	µg/g	0.5	3.5	1.1	2.3	1.3	18	
Barium	µg/g	1	36	8	24	12	220	
Beryllium	µg/g	0.2	0.4	< 0.2	< 0.2	< 0.2	2.5	
Boron	µg/g	0.5	3.1	2.0	3.0	1.6	36	
Boron (HWS)	µg/g	0.02	0.04	0.02	0.04	0.04	1.5	
Cadmium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.2	
Chromium	µg/g	1	15	3	7	6	70	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1	8	2	3	3	22	
Copper	µg/g	1	17	6	15	5	92	
Lead	µg/g	5	8	< 5	11	< 5	120	
Mercury	µg/g	0.005	0.020	< 0.005	0.010	0.008	0.27	
Molybdenum	µg/g	1	< 1	< 1	< 1	< 1	2	
Nickel	µg/g	1	14	4	6	4	82	
Selenium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.5	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1	< 0.1	< 0.1	< 0.1	< 0.1	1	
Uranium	µg/g	0.1	0.4	0.2	0.4	0.3	2.5	
Vanadium	µg/g	1	22	8	13	13	86	
Zinc	µg/g	3	32	9	29	9	290	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.



Christine Burke
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

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DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: 14560-001
WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
% Moisture	9	Richmond Hill	FAL	23-Mar-22	A-% moisture RH	
PHC(F2-F4)	9	Kingston	KPR	23-Mar-22	C-PHC-S-001 (k)	CWS Tier 1
PHC(F2-F4)	4	Kingston	SmT	25-Mar-22	C-PHC-S-001 (k)	CWS Tier 1
VOC's	9	Richmond Hill	FAL	23-Mar-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	9	Richmond Hill	FAL	23-Mar-22	C-VPHS-01 (rh)	CWS Tier 1

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg
F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)
F2 C10-C16 hydrocarbons in µg/g, (F2-napth if requested)
F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)
F4 C34-C50 hydrocarbons in µg/g
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
Any deviations from the method are noted and reported for any particular sample.
nC6 and nC10 response factor is within 30% of response factor for toluene:
nC10,nC16 and nC34 response factors within 10% of each other:
C50 response factors within 70% of nC10+nC16+nC34 average:
Linearity is within 15%:
All results expressed on a dry weight basis.
Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.
If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC
QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.



Christine Burke
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: --- **REPORT No. B22-07759 (ii)**

Report To:

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135 Bayfield Street, Unit 102
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Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH101-22_0.06-0.24	BH103-22_0.06-0.24	BH105-22_0.8-1.2	BH106-22_0.05-0.6	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-8	B22-07759-9	B22-07759-10	B22-07759-11		
	Date Collected		18-Mar-22	18-Mar-22	17-Mar-22	17-Mar-22		
Parameter	**Units**	**R.L.**						
Acetone	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Benzene	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Bromodichloromethane	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Bromoform	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Bromomethane	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Carbon Tetrachloride	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Chloroform	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dibromochloromethane	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichlorobenzene,1,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichlorobenzene,1,3-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichlorobenzene,1,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichlorodifluoromethane	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichloroethane,1,1-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloroethane,1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloroethylene,1,1-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloroethene, cis-1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloroethene, trans-1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloropropane,1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloropropene, cis-1,3-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02		

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Christine Burke
Lab Manager

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---

REPORT No. B22-07759 (ii)

Report To:

Cambium Environmental
135 Bayfield Street, Unit 102
Barrie ON L4M 3B3
Attention: Matt Cunningham

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH101-22_0.06-0.24	BH103-22_0.06-0.24	BH105-22_0.8-1.2	BH106-22_0.05-0.6	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-8	B22-07759-9	B22-07759-10	B22-07759-11		
	Date Collected		18-Mar-22	18-Mar-22	17-Mar-22	17-Mar-22		
Parameter	**Units**	**R.L.**						
Dichloropropene 1,3-cis+trans	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Ethylbenzene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dibromoethane,1,2-(Ethylene Dibromide)	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Hexane	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Methyl Ethyl Ketone	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Methyl Isobutyl Ketone	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Methyl-t-butyl Ether	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichloromethane (Methylene Chloride)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Styrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Tetrachloroethane,1,1,1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Tetrachloroethane,1,1,2,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Tetrachloroethylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Toluene	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.2	
Trichloroethane,1,1,1-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Trichloroethane,1,1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Trichloroethylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Trichlorofluoromethane	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.25	
Vinyl Chloride	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Xylene, m,p-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

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112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH101-22_0.06-0.24	BH103-22_0.06-0.24	BH105-22_0.8-1.2	BH106-22_0.05-0.6	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-8	B22-07759-9	B22-07759-10	B22-07759-11		
	Date Collected		18-Mar-22	18-Mar-22	17-Mar-22	17-Mar-22		
Parameter	**Units**	**R.L.**						
Xylene, o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.05	
PHC F1 (C6-C10)	µg/g	10	< 10	< 10	< 10	< 10	25	
PHC F1 - BTEX	µg/g	10	< 10	< 10	< 10	< 10	25	
PHC F2 (>C10-C16)	µg/g	5	6	< 5	< 5	< 5	10	
PHC F3 (>C16-C34)	µg/g	10	603	204	< 10	< 10	240	
PHC F4 (>C34-C50)	µg/g	10	1480 [1]	595 [1]	< 10	< 10	120	
PHC F4 (Gravimetric)	µg/g	50	4990 [2]	2350 [2]			120	
% moisture	%		4.9	9.6	9.0	16.1		

1 . F4 Gravimetric analysis required as chromats did not return to baseline.
2 . Sample silica cleaned

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

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DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH110-22_0.8-1.2	BH116-22_1.5-2.0	BH114-22_0.76-1.22	BH125-22_0.8-1.2	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-12	B22-07759-14	B22-07759-16	B22-07759-17		
	Date Collected		17-Mar-22	18-Mar-22	17-Mar-22	15-Mar-22		
Parameter	**Units**	**R.L.**						
Acetone	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Benzene	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Bromodichloromethane	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Bromoform	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Bromomethane	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Carbon Tetrachloride	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Chloroform	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dibromochloromethane	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichlorobenzene,1,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichlorobenzene,1,3-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichlorobenzene,1,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichlorodifluoromethane	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichloroethane,1,1-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloroethane,1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloroethylene,1,1-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloroethene, cis-1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloroethene, trans-1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloropropane,1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Dichloropropene, cis-1,3-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02		

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Christine Burke
Lab Manager

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C.O.C.: ---

REPORT No. B22-07759 (ii)

Report To:

Cambium Environmental
135 Bayfield Street, Unit 102
Barrie ON L4M 3B3
Attention: Matt Cunningham

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH110-22_0.8-1.2	BH116-22_1.5-2.0	BH114-22_0.76-1.22	BH125-22_0.8-1.2	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-12	B22-07759-14	B22-07759-16	B22-07759-17		
	Date Collected		17-Mar-22	18-Mar-22	17-Mar-22	15-Mar-22		
Parameter	**Units**	**R.L.**						
Dichloropropene 1,3-cis+trans	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Ethylbenzene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dibromoethane,1,2-(Ethylene Dibromide)	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Hexane	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Methyl Ethyl Ketone	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Methyl Isobutyl Ketone	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Methyl-t-butyl Ether	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Dichloromethane (Methylene Chloride)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Styrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Tetrachloroethane,1,1,1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Tetrachloroethane,1,1,2,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Tetrachloroethylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Toluene	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.2	
Trichloroethane,1,1,1-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Trichloroethane,1,1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.05	
Trichloroethylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Trichlorofluoromethane	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.25	
Vinyl Chloride	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Xylene, m,p-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

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CERTIFICATE OF ANALYSIS

Final Report

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REPORT No. B22-07759 (ii)

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135 Bayfield Street, Unit 102
Barrie ON L4M 3B3
Attention: Matt Cunningham

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH110-22_0.8-1.2	BH116-22_1.5-2.0	BH114-22_0.76-1.22	BH125-22_0.8-1.2	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-12	B22-07759-14	B22-07759-16	B22-07759-17		
	Date Collected		17-Mar-22	18-Mar-22	17-Mar-22	15-Mar-22		
Parameter	**Units**	**R.L.**						
Xylene, o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.05	
PHC F1 (C6-C10)	µg/g	10	< 10	< 10	< 10	< 10	25	
PHC F1 - BTEX	µg/g	10	< 10	< 10	< 10	< 10	25	
PHC F2 (>C10-C16)	µg/g	5	< 5	< 5	< 5	< 5	10	
PHC F3 (>C16-C34)	µg/g	10	47	< 10	43	13	240	
PHC F4 (>C34-C50)	µg/g	10	112 [1]	< 10	86 [1]	< 10	120	
PHC F4 (Gravimetric)	µg/g	50	**350** [2]		**330** [2]		120	
% moisture	%		16.1	3.3	6.1	11.5		

1 . F4 Gravimetric analysis required as chromats did not return to baseline.
2 . Sample silica cleaned

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

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Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH114-22_5.33-5.70				O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-18					
	Date Collected		17-Mar-22					
Parameter	**Units**	**R.L.**						
Acetone	µg/g	0.5	< 0.5				0.5	
Benzene	µg/g	0.02	< 0.02				0.02	
Bromodichloromethane	µg/g	0.02	< 0.02				0.05	
Bromoform	µg/g	0.02	< 0.02				0.05	
Bromomethane	µg/g	0.05	< 0.05				0.05	
Carbon Tetrachloride	µg/g	0.05	< 0.05				0.05	
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	< 0.02				0.05	
Chloroform	µg/g	0.02	< 0.02				0.05	
Dibromochloromethane	µg/g	0.02	< 0.02				0.05	
Dichlorobenzene,1,2-	µg/g	0.05	< 0.05				0.05	
Dichlorobenzene,1,3-	µg/g	0.05	< 0.05				0.05	
Dichlorobenzene,1,4-	µg/g	0.05	< 0.05				0.05	
Dichlorodifluoromethane	µg/g	0.05	< 0.05				0.05	
Dichloroethane,1,1-	µg/g	0.02	< 0.02				0.05	
Dichloroethane,1,2-	µg/g	0.02	< 0.02				0.05	
Dichloroethylene,1,1-	µg/g	0.02	< 0.02				0.05	
Dichloroethene, cis-1,2-	µg/g	0.02	< 0.02				0.05	
Dichloroethene, trans-1,2-	µg/g	0.02	< 0.02				0.05	
Dichloropropane,1,2-	µg/g	0.02	< 0.02				0.05	
Dichloropropene, cis-1,3-	µg/g	0.02	< 0.02					
Dichloropropene, trans-1,3-	µg/g	0.02	< 0.02					

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

R.L. = Reporting Limit
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112 Commerce Park Drive
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Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D. / Sample I.D. / Date Collected		BH114-22_5.33-5.70 B22-07759-18 17-Mar-22				O. Reg. 153 Tbl. 9 - RPIICC	
Parameter	**Units**	**R.L.**						
Dichloropropene 1,3-cis+trans	µg/g	0.02	< 0.02				0.05	
Ethylbenzene	µg/g	0.05	< 0.05				0.05	
Dibromoethane,1,2-(Ethylene Dibromide)	µg/g	0.02	< 0.02				0.05	
Hexane	µg/g	0.02	< 0.02				0.05	
Methyl Ethyl Ketone	µg/g	0.5	< 0.5				0.5	
Methyl Isobutyl Ketone	µg/g	0.5	< 0.5				0.5	
Methyl-t-butyl Ether	µg/g	0.05	< 0.05				0.05	
Dichloromethane (Methylene Chloride)	µg/g	0.05	< 0.05				0.05	
Styrene	µg/g	0.05	< 0.05				0.05	
Tetrachloroethane,1,1,1,2-	µg/g	0.02	< 0.02				0.05	
Tetrachloroethane,1,1,2,2-	µg/g	0.05	< 0.05				0.05	
Tetrachloroethylene	µg/g	0.05	< 0.05				0.05	
Toluene	µg/g	0.2	< 0.2				0.2	
Trichloroethane,1,1,1-	µg/g	0.02	< 0.02				0.05	
Trichloroethane,1,1,2-	µg/g	0.02	< 0.02				0.05	
Trichloroethylene	µg/g	0.05	< 0.05				0.05	
Trichlorofluoromethane	µg/g	0.02	< 0.02				0.25	
Vinyl Chloride	µg/g	0.02	< 0.02				0.02	
Xylene, m,p-	µg/g	0.03	< 0.03					

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.



Christine Burke
Lab Manager

R.L. = Reporting Limit
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: --- **REPORT No. B22-07759 (ii)**

Report To:

Cambium Environmental
135 Bayfield Street, Unit 102
Barrie ON L4M 3B3
Attention: Matt Cunningham

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH114-22_5.33-5.70				O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-18					
	Date Collected		17-Mar-22					
Parameter	**Units**	**R.L.**						
Xylene, o-	µg/g	0.03	< 0.03					
Xylene, m,p,o-	µg/g	0.03	< 0.03				0.05	
PHC F1 (C6-C10)	µg/g	10	< 10				25	
PHC F1 - BTEX	µg/g	10	< 10				25	
PHC F2 (>C10-C16)	µg/g	5	**51**				10	
PHC F3 (>C16-C34)	µg/g	10	85				240	
PHC F4 (>C34-C50)	µg/g	10	13				120	
PHC F4 (Gravimetric)	µg/g	50					120	
% moisture	%		9.3					

1 . F4 Gravimetric analysis required as chromats did not return to baseline.
2 . Sample silica cleaned

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

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Lab Manager

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SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

Summary of Exceedances

Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.		
BH101-22_0.06-0.24	Found Value	Limit
PHC F4 (Gravimetric) (µg/g)	4990	120
PHC F4 (>C34-C50) (µg/g)	1480	120
PHC F3 (>C16-C34) (µg/g)	603	240
BH103-22_0.06-0.24	Found Value	Limit
PHC F4 (Gravimetric) (µg/g)	2350	120
PHC F4 (>C34-C50) (µg/g)	595	120
BH110-22_0.8-1.2	Found Value	Limit
PHC F4 (Gravimetric) (µg/g)	350	120
BH114- 22_0.76-1.22	Found Value	Limit
PHC F4 (Gravimetric) (µg/g)	330	120
BH114-22_5.33-5.70	Found Value	Limit
PHC F2 (>C10-C16) (µg/g)	51	10

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

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SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: 14560-001
WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
SVOC	9	Kingston	sge	25-Mar-22	C-NAB-S-001 (k)	EPA 8270

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg
F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)
F2 C10-C16 hydrocarbons in µg/g, (F2-napth if requested)
F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)
F4 C34-C50 hydrocarbons in µg/g
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
Any deviations from the method are noted and reported for any particular sample.
nC6 and nC10 response factor is within 30% of response factor for toluene:
nC10,nC16 and nC34 response factors within 10% of each other:
C50 response factors within 70% of nC10+nC16+nC34 average:
Linearity is within 15%:
All results expressed on a dry weight basis.
Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.
If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC
QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.



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Lab Manager

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SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH101-22_0.06-0.24	BH103-22_0.06-0.24	BH105-22_0.8-1.2	BH106-22_0.05-0.6	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-8	B22-07759-9	B22-07759-10	B22-07759-11		
	Date Collected		18-Mar-22	18-Mar-22	17-Mar-22	17-Mar-22		
Parameter	**Units**	**R.L.**						
Acenaphthene	µg/g	0.05	< 0.06	< 0.05	< 0.05	< 0.05	0.072	
Acenaphthylene	µg/g	0.05	**< 0.3**	< 0.07	< 0.05	< 0.05	0.093	
Anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.22	
Benzo(a)anthracene	µg/g	0.05	< 0.3	< 0.09	< 0.05	< 0.05	0.36	
Benzo(a)pyrene	µg/g	0.05	< 0.2	0.07	< 0.05	< 0.05	0.3	
Benzo(b)fluoranthene	µg/g	0.05	0.095	0.11	< 0.05	< 0.05	0.47	
Benzo(b+k)fluoranthene	µg/g	0.05	0.095	0.15	< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05	0.095	0.09	< 0.05	< 0.05	0.68	
Benzo(k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.48	
Chrysene	µg/g	0.05	< 0.05	0.07	< 0.05	< 0.05	2.8	
Dibenzo(a,h)anthracene	µg/g	0.05	< 0.07	< 0.05	< 0.05	< 0.05	0.1	
Fluoranthene	µg/g	0.05	< 0.07	0.11	< 0.05	< 0.05	0.69	
Fluorene	µg/g	0.05	**< 0.3**	< 0.08	< 0.05	< 0.05	0.19	
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	< 0.05	0.07	< 0.05	< 0.05	0.23	
Methylnaphthalene,1-	µg/g	0.05	< 0.06	< 0.05	< 0.05	< 0.05	0.59	
Methylnaphthalene,2-	µg/g	0.05	< 0.07	< 0.05	< 0.05	< 0.05	0.59	
Methylnaphthalene 2-(1-)	µg/g	0.05	< 0.09	< 0.05	< 0.05	< 0.05	0.59	
Naphthalene	µg/g	0.05	**< 0.2**	< 0.07	< 0.05	< 0.05	0.09	
Phenanthrene	µg/g	0.05	< 0.07	< 0.05	< 0.05	< 0.05	0.69	
Pyrene	µg/g	0.05	0.095	0.09	< 0.05	< 0.05	1	

1 . Elevated RL due to sample matrix interference

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

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Final Report

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135 Bayfield Street, Unit 102
Barrie ON L4M 3B3
Attention: Matt Cunningham

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH110-22_0.8-1.2	BH116-22_1.5-2.0	BH114-22_0.07-0.61	BH125-22_0.8-1.2	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-12	B22-07759-14	B22-07759-15	B22-07759-17		
	Date Collected		17-Mar-22	18-Mar-22	17-Mar-22	15-Mar-22		
Parameter	**Units**	**R.L.**						
Acenaphthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.072	
Acenaphthylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.093	
Anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.22	
Benzo(a)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.36	
Benzo(a)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.3	
Benzo(b)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.47	
Benzo(b+k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.68	
Benzo(k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.48	
Chrysene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.8	
Dibenzo(a,h)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.69	
Fluorene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.19	
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.23	
Methylnaphthalene,1-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.59	
Methylnaphthalene,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.59	
Methylnaphthalene 2-(1-)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.59	
Naphthalene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.09	
Phenanthrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.69	
Pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	1	

1 . Elevated RL due to sample matrix interference

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

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Christine Burke
Lab Manager

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Final Report

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Attention: Matt Cunningham

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112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH114-22_5.33-5.70				O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-18					
	Date Collected		17-Mar-22					
Parameter	**Units**	**R.L.**						
Acenaphthene	µg/g	0.05	< 0.05				0.072	
Acenaphthylene	µg/g	0.05	< 0.05				0.093	
Anthracene	µg/g	0.05	< 0.05				0.22	
Benzo(a)anthracene	µg/g	0.05	< 0.05				0.36	
Benzo(a)pyrene	µg/g	0.05	< 0.05				0.3	
Benzo(b)fluoranthene	µg/g	0.05	< 0.05				0.47	
Benzo(b+k)fluoranthene	µg/g	0.05	< 0.05					
Benzo(g,h,i)perylene	µg/g	0.05	< 0.05				0.68	
Benzo(k)fluoranthene	µg/g	0.05	< 0.05				0.48	
Chrysene	µg/g	0.05	< 0.05				2.8	
Dibenzo(a,h)anthracene	µg/g	0.05	< 0.05				0.1	
Fluoranthene	µg/g	0.05	< 0.05				0.69	
Fluorene	µg/g	0.05	< 0.05				0.19	
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	< 0.05				0.23	
Methylnaphthalene,1-	µg/g	0.05	< 0.05				0.59	
Methylnaphthalene,2-	µg/g	0.05	< 0.05				0.59	
Methylnaphthalene 2-(1-)	µg/g	0.05	< 0.05				0.59	
Naphthalene	µg/g	0.05	< 0.05				0.09	
Phenanthrene	µg/g	0.05	< 0.05				0.69	
Pyrene	µg/g	0.05	< 0.05				1	

1 . Elevated RL due to sample matrix interference

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

Summary of Exceedances

Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

BH101-22_0.06-0.24	Found Value	Limit
Naphthalene (µg/g)	< 0.2	0.09
Fluorene (µg/g)	< 0.3	0.19
Acenaphthylene (µg/g)	< 0.3	0.093

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

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Lab Manager

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SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
OC Pesticides	8	Kingston	CS	28-Mar-22	C-PESTCL-01 K	EPA 8080

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg
F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)
F2 C10-C16 hydrocarbons in µg/g, (F2-napth if requested)
F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)
F4 C34-C50 hydrocarbons in µg/g
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
Any deviations from the method are noted and reported for any particular sample.
nC6 and nC10 response factor is within 30% of response factor for toluene:
nC10,nC16 and nC34 response factors within 10% of each other:
C50 response factors within 70% of nC10+nC16+nC34 average:
Linearity is within 15%:
All results expressed on a dry weight basis.
Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.
If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC
QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.



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SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH120-22-0.0-0.2	BH122-22_0.0-0.2	BH123-22_0.0-0.2	BH124-22_0.0-0.2	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-1	B22-07759-2	B22-07759-3	B22-07759-4		
	Date Collected		16-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22		
Parameter	**Units**	**R.L.**						
Aldrin	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Chlordane (alpha)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Chlordane (Gamma)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Chlordane Total (alpha+gamma)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
DDD, 2,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDD, 4,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDD Total	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
DDE, 2,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDE, 4,4-	µg/g	0.05	0.054	< 0.05	< 0.05	< 0.05		
DDE Total	µg/g	0.05	**0.054**	< 0.05	< 0.05	< 0.05	0.05	
DDT, 2,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDT, 4,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDT Total	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.4	
Dieldrin	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Lindane (Hexachlorocyclohexane, Gamma)	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	
Endosulfan I	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04		
Endosulfan II	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04		
Endosulfan I/II	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04		
Endrin	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.04	
Heptachlor	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Heptachlor Epoxide	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: --- **REPORT No. B22-07759 (iv)**

Report To:

Cambium Environmental
135 Bayfield Street, Unit 102
Barrie ON L4M 3B3
Attention: Matt Cunningham

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D. / Sample I.D. / Date Collected		BH120-22-0.0-0.2 B22-07759-1 16-Mar-22	BH122-22_0.0-0.2 B22-07759-2 15-Mar-22	BH123-22_0.0-0.2 B22-07759-3 15-Mar-22	BH124-22_0.0-0.2 B22-07759-4 15-Mar-22	O. Reg. 153 Tbl. 9 - RPIICC	
Parameter	**Units**	**R.L.**						
Hexachlorobenzene	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	
Hexachlorobutadiene	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	
Hexachloroethane	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	
Methoxychlor	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

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Christine Burke
Lab Manager

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DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH117-22_0.0-0.15	BH121-22_0.0-0.17	TP126-22_0.0-0.18	BH116-22_0.0-0.6	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-5	B22-07759-6	B22-07759-7	B22-07759-13		
	Date Collected		17-Mar-22	17-Mar-22	18-Mar-22	18-Mar-22		
Parameter	**Units**	**R.L.**						
Aldrin	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Chlordane (alpha)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Chlordane (Gamma)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Chlordane Total (alpha+gamma)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
DDD, 2,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDD, 4,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDD Total	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
DDE, 2,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDE, 4,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDE Total	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
DDT, 2,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDT, 4,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDT Total	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.4	
Dieldrin	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Lindane (Hexachlorocyclohexane, Gamma)	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	
Endosulfan I	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04		
Endosulfan II	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04		
Endosulfan I/II	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04		
Endrin	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.04	
Heptachlor	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	
Heptachlor Epoxide	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

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Final Report

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REPORT No. B22-07759 (iv)

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135 Bayfield Street, Unit 102
Barrie ON L4M 3B3
Attention: Matt Cunningham

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

	Client I.D.		BH117-22_0.0-0.15	BH121-22_0.0-0.17	TP126-22_0.0-0.18	BH116-22_0.0-0.6	O. Reg. 153 Tbl. 9 - RPIICC	
	Sample I.D.		B22-07759-5	B22-07759-6	B22-07759-7	B22-07759-13		
	Date Collected		17-Mar-22	17-Mar-22	18-Mar-22	18-Mar-22		
Parameter	**Units**	**R.L.**						
Hexachlorobenzene	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	
Hexachlorobutadiene	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	
Hexachloroethane	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	
Methoxychlor	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

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Tel: 705-252-5743
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DATE RECEIVED: 21-Mar-22
DATE REPORTED: 29-Mar-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-001
WATERWORKS NO.

Summary of Exceedances

Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

BH120-22-0.0-0.2	Found Value	Limit
DDE Total (µg/g)	0.054	0.05

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 9 - RPIICC - Table 9 - Res./Park/Ind./Inst./Commercial/Cmty.

Christine Burke
Lab Manager

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---

REPORT No. B22-10274

Report To:

Cambium Environmental
135 Bayfield Street, Unit 102
Barrie ON L4M 3B3
Attention: Matt Cunningham

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 13-Apr-22
DATE REPORTED: 22-Apr-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 14560-002
WATERWORKS NO.

			Client I.D.		BH101-22_0.06-0.24	BH105-22_0.8-1.2	BH110-22_0.8-1.2	
			Sample I.D.		B22-10274-1	B22-10274-2	B22-10274-3	
			Date Collected		18-Mar-22	18-Mar-22	18-Mar-22	
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Chloride	µg/g	5	SM4110C	19-Apr-22/O	1010	448	969	

Christine Burke
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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Your Project #: 14560-002
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Your C.O.C. #: 873632-01-01

Attention: Matt Cunningham

Cambium Environmental Inc
135 Bayfield Street
Unit 102
Barrie, ON
Canada L4M 3B3

Report Date: 2022/04/25
Report #: R7099235
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2A3671
Received: 2022/04/20, 08:43

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	1	N/A	2022/04/23	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	1	N/A	2022/04/22		EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Water (1)	1	2022/04/22	2022/04/22	CAM SOP-00316	CCME PHC-CWS m
Dissolved Metals by ICPMS	1	N/A	2022/04/21	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	1	2022/04/22	2022/04/23	CAM SOP-00318	EPA 8270D m
pH	1	2022/04/20	2022/04/21	CAM SOP-00413	SM 4500H+ B m
Sulphate by Automated Colourimetry	1	N/A	2022/04/21	CAM SOP-00464	EPA 375.4 m
Volatile Organic Compounds and F1 PHCs	1	N/A	2022/04/21	CAM SOP-00230	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas 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 Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas 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.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas 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 Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas 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 Bureau Veritas, results relate to the supplied samples tested.
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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) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s

Your Project #: 14560-002
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Your C.O.C. #: 873632-01-01

Attention: Matt Cunningham

Cambium Environmental Inc
135 Bayfield Street
Unit 102
Barrie, ON
Canada L4M 3B3

Report Date: 2022/04/25
Report #: R7099235
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2A3671

Received: 2022/04/20, 08:43

Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Gemarie Balatico, Project Manager
Email: Gemarie.Balatico@bureauveritas.com
Phone# (905)817-5787

==========

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For Service Group specific validation please refer to the Validation Signature Page.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C2A3671
Report Date: 2022/04/25

Cambium Environmental Inc
Client Project #: 14560-002
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Sampler Initials: LW

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		SKB765		
Sampling Date		2022/04/14 16:03		
COC Number		873632-01-01		
	UNITS	BH14	RDL	QC Batch
Inorganics				
pH	pH	6.98		7949972
Dissolved Sulphate (SO4)	mg/L	130	1.0	7949296

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID			SKB765		
Sampling Date			2022/04/14 16:03		
COC Number			873632-01-01		
	UNITS	Criteria	BH14	RDL	QC Batch
Metals					
Dissolved Antimony (Sb)	ug/L	**20000**	<0.50	0.50	7951122
Dissolved Arsenic (As)	ug/L	**1900**	<1.0	1.0	7951122
Dissolved Barium (Ba)	ug/L	**29000**	420	2.0	7951122
Dissolved Beryllium (Be)	ug/L	**67**	<0.40	0.40	7951122
Dissolved Boron (B)	ug/L	**45000**	170	10	7951122
Dissolved Cadmium (Cd)	ug/L	**2.7**	<0.090	0.090	7951122
Dissolved Chromium (Cr)	ug/L	**810**	<5.0	5.0	7951122
Dissolved Cobalt (Co)	ug/L	**66**	5.0	0.50	7951122
Dissolved Copper (Cu)	ug/L	**87**	3.3	0.90	7951122
Dissolved Lead (Pb)	ug/L	**25**	<0.50	0.50	7951122
Dissolved Molybdenum (Mo)	ug/L	**9200**	0.99	0.50	7951122
Dissolved Nickel (Ni)	ug/L	**490**	7.4	1.0	7951122
Dissolved Selenium (Se)	ug/L	**63**	<2.0	2.0	7951122
Dissolved Silver (Ag)	ug/L	**1.5**	<0.090	0.090	7951122
Dissolved Sodium (Na)	ug/L	**2300000**	960000	500	7951122
Dissolved Thallium (Tl)	ug/L	**510**	0.059	0.050	7951122
Dissolved Uranium (U)	ug/L	**420**	2.0	0.10	7951122
Dissolved Vanadium (V)	ug/L	**250**	<0.50	0.50	7951122
Dissolved Zinc (Zn)	ug/L	**1100**	<5.0	5.0	7951122

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition
Non- Potable Ground Water - All Types of Property Uses - Coarse Textured Soil

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PAHS (WATER)

Bureau Veritas ID			SKB765		
Sampling Date			2022/04/14 16:03		
COC Number			873632-01-01		
	UNITS	Criteria	BH14	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/L	**1800**	<0.071	0.071	7948722
Polyaromatic Hydrocarbons					
Benzo(e)pyrene	ug/L	-	<0.050	0.050	7954660
Acenaphthene	ug/L	**600**	<0.050	0.050	7954660
Acenaphthylene	ug/L	**1.8**	<0.050	0.050	7954660
Anthracene	ug/L	**2.4**	<0.050	0.050	7954660
Benzo(a)anthracene	ug/L	**4.7**	<0.050	0.050	7954660
Benzo(a)pyrene	ug/L	**0.81**	<0.0090	0.0090	7954660
Benzo(b/j)fluoranthene	ug/L	**0.75**	<0.050	0.050	7954660
Benzo(g,h,i)perylene	ug/L	**0.2**	<0.050	0.050	7954660
Benzo(k)fluoranthene	ug/L	**0.4**	<0.050	0.050	7954660
Chrysene	ug/L	**1**	<0.050	0.050	7954660
Dibenzo(a,h)anthracene	ug/L	**0.52**	<0.050	0.050	7954660
Fluoranthene	ug/L	**130**	<0.050	0.050	7954660
Fluorene	ug/L	**400**	<0.050	0.050	7954660
Indeno(1,2,3-cd)pyrene	ug/L	**0.2**	<0.050	0.050	7954660
1-Methylnaphthalene	ug/L	**1800**	<0.050	0.050	7954660
2-Methylnaphthalene	ug/L	**1800**	<0.050	0.050	7954660
Naphthalene	ug/L	**1400**	<0.050	0.050	7954660
Phenanthrene	ug/L	**580**	<0.030	0.030	7954660
Pyrene	ug/L	**68**	<0.050	0.050	7954660
Perylene	ug/L	-	<0.050	0.050	7954660
Surrogate Recovery (%)					
D10-Anthracene	%	-	79		7954660
D14-Terphenyl (FS)	%	-	79		7954660
D8-Acenaphthylene	%	-	78		7954660

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
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Non- Potable Ground Water - All Types of Property Uses - Coarse Textured Soil

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O.REG 153 VOCS BY HS & F1-F4 (WATER)

Bureau Veritas ID			SKB765		
Sampling Date			2022/04/14 16:03		
COC Number			873632-01-01		
	UNITS	Criteria	BH14	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	**5.2**	<0.50	0.50	7948570
Volatile Organics					
Acetone (2-Propanone)	ug/L	**130000**	<10	10	7950540
Benzene	ug/L	**44**	<0.17	0.17	7950540
Bromodichloromethane	ug/L	**85000**	<0.50	0.50	7950540
Bromoform	ug/L	**380**	<1.0	1.0	7950540
Bromomethane	ug/L	**5.6**	<0.50	0.50	7950540
Carbon Tetrachloride	ug/L	**0.79**	<0.20	0.20	7950540
Chlorobenzene	ug/L	**630**	<0.20	0.20	7950540
Chloroform	ug/L	**2.4**	<0.20	0.20	7950540
Dibromochloromethane	ug/L	**82000**	<0.50	0.50	7950540
1,2-Dichlorobenzene	ug/L	**4600**	<0.50	0.50	7950540
1,3-Dichlorobenzene	ug/L	**9600**	<0.50	0.50	7950540
1,4-Dichlorobenzene	ug/L	**8**	<0.50	0.50	7950540
Dichlorodifluoromethane (FREON 12)	ug/L	**4400**	<1.0	1.0	7950540
1,1-Dichloroethane	ug/L	**320**	<0.20	0.20	7950540
1,2-Dichloroethane	ug/L	**1.6**	<0.50	0.50	7950540
1,1-Dichloroethylene	ug/L	**1.6**	<0.20	0.20	7950540
cis-1,2-Dichloroethylene	ug/L	**1.6**	<0.50	0.50	7950540
trans-1,2-Dichloroethylene	ug/L	**1.6**	<0.50	0.50	7950540
1,2-Dichloropropane	ug/L	**16**	<0.20	0.20	7950540
cis-1,3-Dichloropropene	ug/L	**5.2**	<0.30	0.30	7950540
trans-1,3-Dichloropropene	ug/L	**5.2**	<0.40	0.40	7950540
Ethylbenzene	ug/L	**2300**	<0.20	0.20	7950540
Ethylene Dibromide	ug/L	**0.25**	<0.20	0.20	7950540
Hexane	ug/L	**51**	<1.0	1.0	7950540
Methylene Chloride(Dichloromethane)	ug/L	**610**	<2.0	2.0	7950540
Methyl Ethyl Ketone (2-Butanone)	ug/L	**470000**	<10	10	7950540
Methyl Isobutyl Ketone	ug/L	**140000**	<5.0	5.0	7950540

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition
Non- Potable Ground Water - All Types of Property Uses - Coarse Textured Soil

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

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O.REG 153 VOCS BY HS & F1-F4 (WATER)

Bureau Veritas ID			SKB765		
Sampling Date			2022/04/14 16:03		
COC Number			873632-01-01		
	UNITS	Criteria	BH14	RDL	QC Batch
Methyl t-butyl ether (MTBE)	ug/L	**190**	<0.50	0.50	7950540
Styrene	ug/L	**1300**	<0.50	0.50	7950540
1,1,1,2-Tetrachloroethane	ug/L	**3.3**	<0.50	0.50	7950540
1,1,2,2-Tetrachloroethane	ug/L	**3.2**	<0.50	0.50	7950540
Tetrachloroethylene	ug/L	**1.6**	<0.20	0.20	7950540
Toluene	ug/L	**18000**	<0.20	0.20	7950540
1,1,1-Trichloroethane	ug/L	**640**	<0.20	0.20	7950540
1,1,2-Trichloroethane	ug/L	**4.7**	<0.50	0.50	7950540
Trichloroethylene	ug/L	**1.6**	<0.20	0.20	7950540
Trichlorofluoromethane (FREON 11)	ug/L	**2500**	<0.50	0.50	7950540
Vinyl Chloride	ug/L	**0.5**	<0.20	0.20	7950540
p+m-Xylene	ug/L	-	<0.20	0.20	7950540
o-Xylene	ug/L	-	<0.20	0.20	7950540
Total Xylenes	ug/L	**4200**	<0.20	0.20	7950540
F1 (C6-C10)	ug/L	**750**	<25	25	7950540
F1 (C6-C10) - BTEX	ug/L	**750**	<25	25	7950540
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	**150**	<100	100	7954647
F3 (C16-C34 Hydrocarbons)	ug/L	**500**	<200	200	7954647
F4 (C34-C50 Hydrocarbons)	ug/L	**500**	<200	200	7954647
Reached Baseline at C50	ug/L	-	Yes		7954647
Surrogate Recovery (%)					
o-Terphenyl	%	-	108		7954647
4-Bromofluorobenzene	%	-	99		7950540
D4-1,2-Dichloroethane	%	-	105		7950540
D8-Toluene	%	-	98		7950540

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
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Non- Potable Ground Water - All Types of Property Uses - Coarse Textured Soil

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Bureau Veritas Job #: C2A3671
Report Date: 2022/04/25

Cambium Environmental Inc
Client Project #: 14560-002
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Sampler Initials: LW

TEST SUMMARY

Bureau Veritas ID: SKB765
Sample ID: BH14
Matrix: Water

Collected: 2022/04/14
Shipped:
Received: 2022/04/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7948722	N/A	2022/04/23	Automated Statchk
1,3-Dichloropropene Sum	CALC	7948570	N/A	2022/04/22	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7954647	2022/04/22	2022/04/22	Agnieszka Brzuzy-Snopko
Dissolved Metals by ICPMS	ICP/MS	7951122	N/A	2022/04/21	Arefa Dabhad
PAH Compounds in Water by GC/MS (SIM)	GC/MS	7954660	2022/04/22	2022/04/23	Mitesh Raj
pH	AT	7949972	2022/04/20	2022/04/21	Taslima Aktar
Sulphate by Automated Colourimetry	KONE	7949296	N/A	2022/04/21	Chandra Nandlal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7950540	N/A	2022/04/21	Ancheol Jeong

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GENERAL COMMENTS

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

Package 1	1.0°C

pH Analysis: Sample analyzed past hold time. Analysis performed with client's consent.

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7950540	4-Bromofluorobenzene	2022/04/21	100	70 - 130	99	70 - 130	99	%		
7950540	D4-1,2-Dichloroethane	2022/04/21	107	70 - 130	96	70 - 130	105	%		
7950540	D8-Toluene	2022/04/21	99	70 - 130	102	70 - 130	99	%		
7954647	o-Terphenyl	2022/04/22	110	60 - 130	111	60 - 130	109	%		
7954660	D10-Anthracene	2022/04/22	97	50 - 130	83	50 - 130	99	%		
7954660	D14-Terphenyl (FS)	2022/04/22	55	50 - 130	87	50 - 130	105	%		
7954660	D8-Acenaphthylene	2022/04/22	111	50 - 130	82	50 - 130	97	%		
7949296	Dissolved Sulphate (SO4)	2022/04/21	NC	75 - 125	99	80 - 120	<1.0	mg/L	1.6	20
7949972	pH	2022/04/21			102	98 - 103			0.34	N/A
7950540	1,1,1,2-Tetrachloroethane	2022/04/21	103	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
7950540	1,1,1-Trichloroethane	2022/04/21	104	70 - 130	107	70 - 130	<0.20	ug/L	NC	30
7950540	1,1,2,2-Tetrachloroethane	2022/04/21	101	70 - 130	91	70 - 130	<0.50	ug/L	NC	30
7950540	1,1,2-Trichloroethane	2022/04/21	110	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7950540	1,1-Dichloroethane	2022/04/21	97	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7950540	1,1-Dichloroethylene	2022/04/21	100	70 - 130	104	70 - 130	<0.20	ug/L	NC	30
7950540	1,2-Dichlorobenzene	2022/04/21	102	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
7950540	1,2-Dichloroethane	2022/04/21	103	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
7950540	1,2-Dichloropropane	2022/04/21	100	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7950540	1,3-Dichlorobenzene	2022/04/21	102	70 - 130	107	70 - 130	<0.50	ug/L	NC	30
7950540	1,4-Dichlorobenzene	2022/04/21	118	70 - 130	123	70 - 130	<0.50	ug/L	NC	30
7950540	Acetone (2-Propanone)	2022/04/21	107	60 - 140	88	60 - 140	<10	ug/L	NC	30
7950540	Benzene	2022/04/21	96	70 - 130	95	70 - 130	<0.17	ug/L	0.093	30
7950540	Bromodichloromethane	2022/04/21	105	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
7950540	Bromoform	2022/04/21	101	70 - 130	93	70 - 130	<1.0	ug/L	NC	30
7950540	Bromomethane	2022/04/21	107	60 - 140	109	60 - 140	<0.50	ug/L	NC	30
7950540	Carbon Tetrachloride	2022/04/21	98	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
7950540	Chlorobenzene	2022/04/21	102	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
7950540	Chloroform	2022/04/21	102	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
7950540	cis-1,2-Dichloroethylene	2022/04/21	106	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
7950540	cis-1,3-Dichloropropene	2022/04/21	99	70 - 130	91	70 - 130	<0.30	ug/L	NC	30
7950540	Dibromochloromethane	2022/04/21	106	70 - 130	99	70 - 130	<0.50	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7950540	Dichlorodifluoromethane (FREON 12)	2022/04/21	97	60 - 140	103	60 - 140	<1.0	ug/L	NC	30
7950540	Ethylbenzene	2022/04/21	95	70 - 130	99	70 - 130	<0.20	ug/L	0.33	30
7950540	Ethylene Dibromide	2022/04/21	103	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
7950540	F1 (C6-C10) - BTEX	2022/04/21					<25	ug/L	5.2	30
7950540	F1 (C6-C10)	2022/04/21	82	60 - 140	93	60 - 140	<25	ug/L	4.7	30
7950540	Hexane	2022/04/21	97	70 - 130	102	70 - 130	<1.0	ug/L	NC	30
7950540	Methyl Ethyl Ketone (2-Butanone)	2022/04/21	114	60 - 140	92	60 - 140	<10	ug/L	NC	30
7950540	Methyl Isobutyl Ketone	2022/04/21	106	70 - 130	89	70 - 130	<5.0	ug/L	NC	30
7950540	Methyl t-butyl ether (MTBE)	2022/04/21	97	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
7950540	Methylene Chloride(Dichloromethane)	2022/04/21	108	70 - 130	102	70 - 130	<2.0	ug/L	NC	30
7950540	o-Xylene	2022/04/21	94	70 - 130	97	70 - 130	<0.20	ug/L	1.4	30
7950540	p+m-Xylene	2022/04/21	97	70 - 130	101	70 - 130	<0.20	ug/L	0.67	30
7950540	Styrene	2022/04/21	103	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
7950540	Tetrachloroethylene	2022/04/21	96	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
7950540	Toluene	2022/04/21	93	70 - 130	96	70 - 130	<0.20	ug/L	1.6	30
7950540	Total Xylenes	2022/04/21					<0.20	ug/L	0.45	30
7950540	trans-1,2-Dichloroethylene	2022/04/21	101	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
7950540	trans-1,3-Dichloropropene	2022/04/21	104	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
7950540	Trichloroethylene	2022/04/21	107	70 - 130	109	70 - 130	<0.20	ug/L	7.7	30
7950540	Trichlorofluoromethane (FREON 11)	2022/04/21	110	70 - 130	115	70 - 130	<0.50	ug/L	NC	30
7950540	Vinyl Chloride	2022/04/21	106	70 - 130	109	70 - 130	<0.20	ug/L	NC	30
7951122	Dissolved Antimony (Sb)	2022/04/21	105	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7951122	Dissolved Arsenic (As)	2022/04/21	101	80 - 120	98	80 - 120	<1.0	ug/L	4.7	20
7951122	Dissolved Barium (Ba)	2022/04/21	102	80 - 120	98	80 - 120	<2.0	ug/L	0.65	20
7951122	Dissolved Beryllium (Be)	2022/04/21	97	80 - 120	95	80 - 120	<0.40	ug/L	NC	20
7951122	Dissolved Boron (B)	2022/04/21	96	80 - 120	94	80 - 120	<10	ug/L	0.74	20
7951122	Dissolved Cadmium (Cd)	2022/04/21	101	80 - 120	100	80 - 120	<0.090	ug/L	NC	20
7951122	Dissolved Chromium (Cr)	2022/04/21	96	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
7951122	Dissolved Cobalt (Co)	2022/04/21	100	80 - 120	96	80 - 120	<0.50	ug/L	NC	20
7951122	Dissolved Copper (Cu)	2022/04/21	100	80 - 120	99	80 - 120	<0.90	ug/L	NC	20
7951122	Dissolved Lead (Pb)	2022/04/21	93	80 - 120	96	80 - 120	<0.50	ug/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7951122	Dissolved Molybdenum (Mo)	2022/04/21	103	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
7951122	Dissolved Nickel (Ni)	2022/04/21	97	80 - 120	98	80 - 120	<1.0	ug/L	3.0	20
7951122	Dissolved Selenium (Se)	2022/04/21	98	80 - 120	97	80 - 120	<2.0	ug/L	NC	20
7951122	Dissolved Silver (Ag)	2022/04/21	85	80 - 120	96	80 - 120	<0.090	ug/L	NC	20
7951122	Dissolved Sodium (Na)	2022/04/21	NC	80 - 120	93	80 - 120	<100	ug/L	0.84	20
7951122	Dissolved Thallium (Tl)	2022/04/21	100	80 - 120	98	80 - 120	<0.050	ug/L	NC	20
7951122	Dissolved Uranium (U)	2022/04/21	97	80 - 120	100	80 - 120	<0.10	ug/L	15	20
7951122	Dissolved Vanadium (V)	2022/04/21	100	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
7951122	Dissolved Zinc (Zn)	2022/04/21	98	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7954647	F2 (C10-C16 Hydrocarbons)	2022/04/22	101	60 - 130	114	60 - 130	<100	ug/L	NC	30
7954647	F3 (C16-C34 Hydrocarbons)	2022/04/22	100	60 - 130	114	60 - 130	<200	ug/L	NC	30
7954647	F4 (C34-C50 Hydrocarbons)	2022/04/22	97	60 - 130	111	60 - 130	<200	ug/L	NC	30
7954660	1-Methylnaphthalene	2022/04/23	101	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
7954660	2-Methylnaphthalene	2022/04/23	92	50 - 130	89	50 - 130	<0.050	ug/L	NC	30
7954660	Acenaphthene	2022/04/23	93	50 - 130	94	50 - 130	<0.050	ug/L	NC	30
7954660	Acenaphthylene	2022/04/23	90	50 - 130	89	50 - 130	<0.050	ug/L	NC	30
7954660	Anthracene	2022/04/23	85	50 - 130	89	50 - 130	<0.050	ug/L	NC	30
7954660	Benzo(a)anthracene	2022/04/23	93	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
7954660	Benzo(a)pyrene	2022/04/23	79	50 - 130	82	50 - 130	<0.0090	ug/L	NC	30
7954660	Benzo(b/j)fluoranthene	2022/04/23	88	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
7954660	Benzo(e)pyrene	2022/04/22	93	50 - 130	99	50 - 130	<0.050	ug/L		
7954660	Benzo(g,h,i)perylene	2022/04/23	90	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
7954660	Benzo(k)fluoranthene	2022/04/23	90	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
7954660	Chrysene	2022/04/23	92	50 - 130	97	50 - 130	<0.050	ug/L	NC	30
7954660	Dibenzo(a,h)anthracene	2022/04/23	78	50 - 130	80	50 - 130	<0.050	ug/L	NC	30
7954660	Fluoranthene	2022/04/23	97	50 - 130	107	50 - 130	<0.050	ug/L	NC	30
7954660	Fluorene	2022/04/23	88	50 - 130	88	50 - 130	<0.050	ug/L	NC	30
7954660	Indeno(1,2,3-cd)pyrene	2022/04/23	87	50 - 130	91	50 - 130	<0.050	ug/L	NC	30
7954660	Naphthalene	2022/04/23	85	50 - 130	82	50 - 130	<0.050	ug/L	NC	30
7954660	Perylene	2022/04/22	94	50 - 130	99	50 - 130	<0.050	ug/L		
7954660	Phenanthrene	2022/04/23	87	50 - 130	94	50 - 130	<0.030	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7954660	Pyrene	2022/04/23	94	50 - 130	105	50 - 130	<0.050	ug/L	NC	30

N/A = Not Applicable

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.

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.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Bureau Veritas Job #: C2A3671
Report Date: 2022/04/25

Cambium Environmental Inc
Client Project #: 14560-002
Site Location: 721 ROYAL YORK ROAD, ETOBICOKE
Sampler Initials: LW

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

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20-Apr-22 08:43
Gemarie Balatico
C2A3671
KTN ENV-615
C#873632-01-01

Bottle Order #: 873632
Project Manager: Gemarie Balatico

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#17950 Cambium Environmental Inc	Company Name:	#24915 Cambium Environmental Inc	Quotation #:	Bottle order 873632
Attention:	ACCOUNTS PAYABLE	Attention:	Matt Cunningham	P.O. #:	
Address:	194 Sophia Street PO Box 325	Address:	135 Bayfield Street Unit 102	Project:	14560-002
	Peterborough ON K9H 1E5		Barrie ON L4M 3B3	Project Name:	
Tel:	(705) 742-7900 Fax: (705) 742-7907	Tel:	(705) 719-0700 Ext: 403 Fax:	Site #:	721 Royal York Road, Etobicoke
Email:	accounting@cambium-inc.com; Evan.Black@cambium-	Email:	Matt.Cunningham@cambium-inc.com	Sampled By:	Logan Wintemute

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☒ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☒ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558 ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Include Criteria on Certificate of Analysis (Y/N)? Y

Special Instructions

Field Filtered (please circle): Metals / Hg / Cr VI

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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 #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	O.Reg 153 VOCs by HS & F1-F4	O.Reg 153 PAHs	pH	Sulphate by Automated Colourimetry	O.Reg 153 Dissolved ICPMS Metals (Water)	# of Bottles	Comments
1		BH14	22/04/14	16:03	GW	X	X	X	X	X	6	
2												
3												
4												
5												
6												
7												
8												
9												
10												

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Logan Wintemute	22/04/19	9:30	ZVI TRIVA	22/04/20	08:43	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Rec'd	Custody Seal	Yes	No
	0/0/3	Present	✓	
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S 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.BVNA.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.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

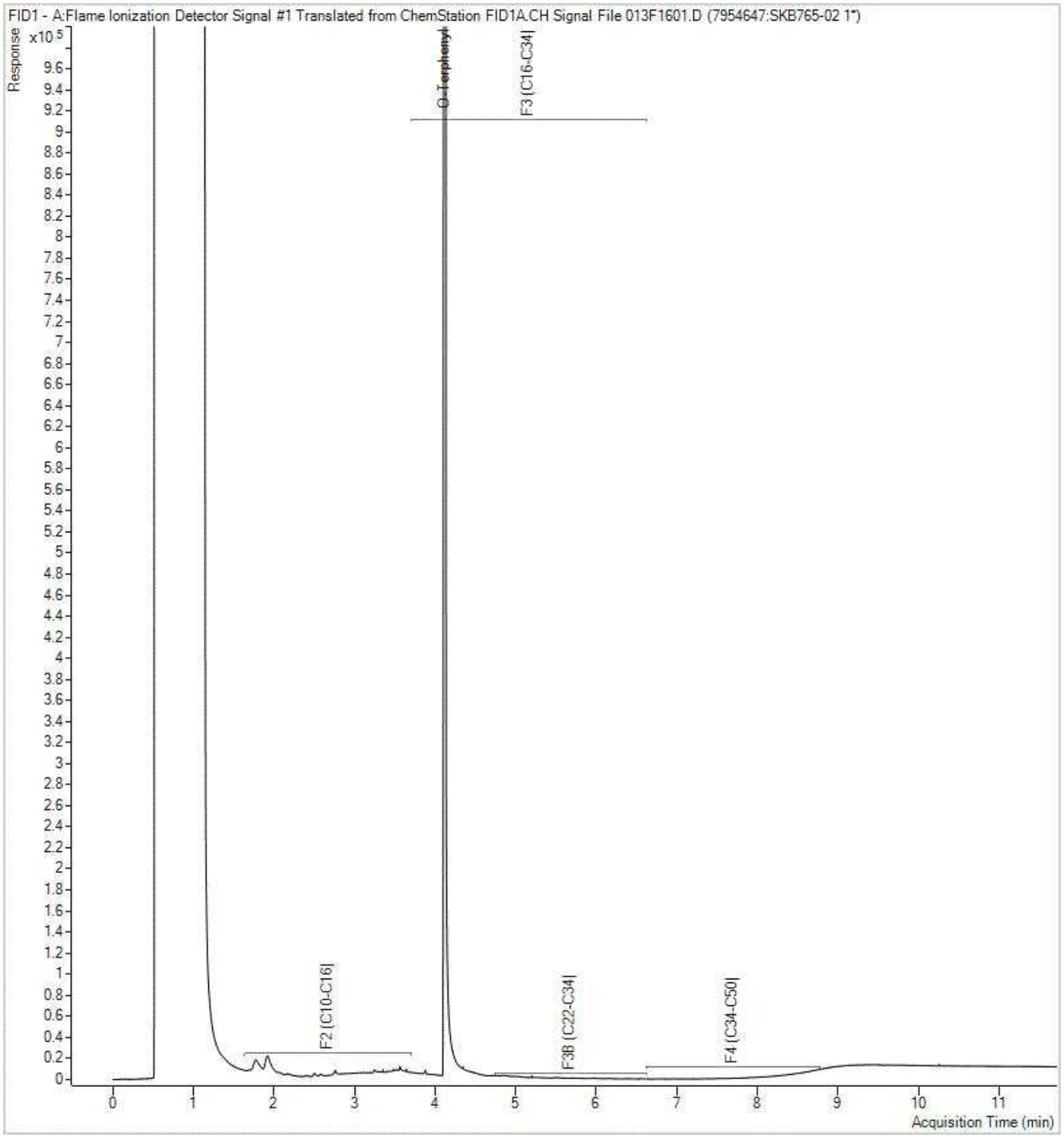
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C2A3671
Report Date: 2022/04/25
Bureau Veritas Sample: SKB765

Cambium Environmental Inc
Client Project #: 14560-002
Project name: 721 ROYAL YORK ROAD, ETOBICOKE
Client ID: BH14

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Appendix C
Curriculum Vitae

NATALIE WRIGHT, P.Eng., PMP *Project Manager*

Ms. Wright holds a Bachelor of Engineering degree from Western University and a Post-Graduate Certificate in Environmental Engineering Applications from Conestoga College. Ms. Wright is a licensed Professional Engineer (P.Eng.) with Professional Engineers Ontario (PEO) and is a Qualified Person (QP_{ESA}) for Environmental Site Assessments under the Environmental Protection Act. Ms. Wright is certified as a Project Management Professional (PMP) with the Project Management Institute. Ms. Wright's professional experience includes over 7 years in the environmental consulting industry, where she has developed extensive experience completing Environmental Site Assessments, remediation projects, monitoring of Brownfield sites, and excess soils management.

SUMMARY OF PROFESSIONAL EXPERIENCE

2015 - Present	Project Manager. Cambium Inc. Barrie, Ontario, Canada *Ms. Wright's responsibilities include the supervision and management of projects related to brownfield redevelopment, environmental site assessments, soil and groundwater remediation, and excess soil management. Ms. Wright has extensive experience with proposal and report preparation, data interpretation, and review of final reports.*
2013 - 2015	Environmental Scientist. MTE Consultants Inc. Kitchener, Ontario, Canada *Completed environmental site assessments for various industrial, commercial, and residential properties and for future filing for Records of Site Condition. Responsibilities included conducting site inspections, designing work plans, driller supervision, sampling, surveying, and completion of final reports.*
2011	Water Resources Intern. Water Resources Commission Bolgatanga, Upper East Region, Ghana *Conducted field visits and met with community members and government representatives to assess the progress of projects in rainwater harvesting, environmental restoration, and climate change adaptation.*
2008-2011	Project Manager. Teva Canada Limited Toronto, Ontario, Canada *Led the successful launch of products in 10 European countries ensuring all country-specific regulatory, quality and design requirements were met. Designed detailed phase-in plans to complete a successful company name change preventing product supply and service interruptions.*

EDUCATION

2013	Environmental Engineering Applications, Post-Graduate Certificate. Conestoga College Cambridge, Ontario, Canada
2010	Project Management Professional Certification. Project Management Institute Toronto, Ontario, Canada
2004	Bachelor of Engineering Science, Chemical Engineering. Western University London, Ontario, Canada

SELECTED EXPERIENCE

RISK MANAGEMENT MONITORING AND ENVIRONMENTAL PROTECTION – ORILLIA, ONTARIO

Annual assessment of on- and off-site groundwater, surface water and sediment sampling, soil vapour sampling, in addition to an ecological assessment of plants, the aquatic community, and wildlife. Environmental services are conducted as per the Certificate of Property Use (CPU) and the Risk Management Measures developed for the site.

Once approved for development, the City moved forward to prepare the site as home for their future Recreation Centre. Cambium continues to work on the project as an environmental consultant for the use and management of this brownfield site. Activities coordinated or completed by Ms. Wright include dewatering treatment system sampling, construction air monitoring, soil and water sampling, risk management measures oversight, soil management, etc.

FORMER BULK FUEL PLAN AND RETAIL SERVICE STATION, PHASE ONE AND PHASE TWO ESA AND RSC – PETERBOROUGH, ONTARIO

Phase One and Phase Two ESA conducted at a former bulk fuel plant and retail service station site to summarize existing conditions, including the delineation of soil and groundwater impacts (PHCs, PAHs and metals), for the purpose of filing an RSC.

RECORD OF SITE CONDITION (RSC)

Successful filing and acceptance by the MECP of RSCs for numerous sites of varying complexity throughout the GTA, including the required framework for completion of Risk Assessments. Ms. Wright designed Phase One and Two Environmental Site Assessment (ESA) work plans, conducted fieldwork and/or coordinated field staff for the collection of soil and groundwater samples, completed Phase One and Two ESA reports in accordance with O.Reg. 153/04, and corresponded with the MECP on the filing and review process.

LIMITED PHASE II ESA AND REMEDIATION OF HEATING TANK SPILL – TINY, ONTARIO

A limited Phase II ESA conducted determined the presence of environmental impacts resulting from an oil spill at a residential property. Scope consisted of a soil investigation conducted by use of a hand auger, and advancing up to 7 boreholes in the vicinity of the suspected spills. Contaminants of concern included petroleum hydrocarbons (PHC) fractions 1 through 4 (F1-F4), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Cambium completed confirmatory soil and groundwater sampling following the excavation of impacted soils located beneath the basement floor, in addition to a temporary monitoring well. The remediation was successful with no significant environmental liability in soil or groundwater.

MATTHEW CUNNINGHAM, C.E.T., T.Ag. *Project Coordinator*

Mr. Cunningham graduated from McMaster University in 2011 with an Honours Degree in Physical Geography and Environmental Studies, and from Niagara College with a Post Graduate Diploma in Environmental Management and Assessment in 2012, and is currently employed as an Environmental Technologist with Cambium. Mr. Cunningham's professional experience includes 6 years in the environmental consulting industry, during which he has developed extensive experience completing Phase I and Phase II Environmental Site Assessments, Pre-Disturbance Soil and Vegetation Assessments, Contaminated Site Remediation projects, Environmental Monitoring for construction sites and large scale oil and gas facilities, Peatland Assessments, and he has personally overseen over 15,000 soil inspection sites.

SUMMARY OF PROFESSIONAL EXPERIENCE

2015 – Present Project Coordinator, Cambium Inc.
Barrie, Ontario, Canada

Mr. Cunningham's responsibilities include project support, coordination, and field work related to environmental site assessments, soil and groundwater remediation, Feed-In Tariff Land Evaluation Assessments, and environmental monitoring at construction and contaminated sites. Mr. Cunningham has extensive experience with report preparation including project costing, data compilation, interpretation, and completion of final reports.

2012 – 2015 Project Manager, Navus Environmental.
Edmonton, Alberta, Canada

Mr. Cunningham's responsibilities included project coordination and field work related to Pre-Disturbance Assessments, Environmental Oilfield Site Monitoring, Site Remediation, Phase I and Phase II Environmental Site Assessments, Peatland Assessments, Vegetation Assessments, and Long-Term Plot Network Assessments in accordance with applicable provincial and federal standards. Mr. Cunningham was involved with providing project proposals and costing for all aspects of a project, the scheduling of staff and field work, arranging for required sub-contractors, hiring and training new staff, and analyzing and interpreting the field data in order to write the related reports.

PROFESSIONAL ASSOCIATIONS

- Certified Engineering Technologist (CET); Ontario Association of Certified Engineering Technicians and Technologists
- Technical Agrologist (T.Ag); Ontario Institute of Agrologists

EDUCATION & TRAINING

2018 Class II Backpack Electrofishing Certification

2015 Standard First Aid Recertification
Ground Disturbance Level II Training
ATV Safety Training Recertification
Wildlife Awareness Training Recertification
Workplace Hazardous Materials Information System Training

2014 Wilderness First Aid Training Level III

2012 Post Graduate Diploma in Environmental Management and Assessment,
Niagara College, Saint Catharines, Ontario, Canada

2011 Honours Bachelor of Arts in Geography and Environmental Studies,
McMaster University, Hamilton, Ontario, Canada

SELECTED PROJECT EXPERIENCE

ENVIRONMENTAL SITE ASSESSMENTS – ALBERTA & ONTARIO: 2012 - 2021

Mr. Cunningham has completed multiple Phase I and Phase II Environmental Site Assessments on Brownfield sites, existing commercial and industrial properties, vacant lands, and residential properties to evaluate environmental liability for clients. Phase I assessments typically require a desktop review of historical materials, a site walkover, personnel interviews and report preparation. Phase II assessments typically require a detailed subsurface investigation that includes the excavation of test pits or boreholes, advancement of overburden and bedrock groundwater wells, obtaining overburden soil samples and groundwater samples, and report preparation. These subsurface investigations determine the extent of contamination, if any, and to delineate both horizontally and vertically, the area of impact.

IMPACTED SOIL REMEDIATION

Orillia, Ontario: 2017 to 2018 – Project included the remediation of 16,177 tonnes of contaminated soil impacted by petroleum hydrocarbons at an abandoned industrial yard in Orillia, Ontario. The work involved the delineation and excavating of impacted material, the removal of below-ground piping, the disposal of impacted material at a suitable landfill facility, and backfilling and contouring the excavation.

Camrose, Alberta: 2013 – Project included the remediation of 21,678 tonnes of contaminated soil impacted by produced water and petroleum hydrocarbons at a sour-gas plant near Camrose, Alberta. The

work involved the delineation and excavating of impacted material, the removal of five underground storage tanks and associated above-ground and below-ground piping, the disposal of impacted material at a suitable landfill facility, and backfilling and contouring the excavation.

Bonnyville, Alberta: 2012 – Project included the remediation of 40,509 tonnes of contaminated soil caused by a brackish water leak at a sand holding facility near Bonnyville, Alberta. The work involved the delineation and excavating of impacted material, the disposal of impacted material at a suitable landfill facility, and backfilling and contouring the excavation.

ENVIRONMENTAL MONITORING – ORILLIA RECREATION CENTRE – ONTARIO

Environmental Specialist for the construction of Orillia, Ontario's Recreation Centre facility. Within this project, Mr. Cunningham's role included risk management and mitigation, PHC remediation, DNAPL air monitoring system installation and inspections, ongoing sampling for groundwater, sediment, soil vapour, air quality and surface water monitoring, and daily, monthly and annual reporting duties.

LAND EVALUATION AND SOIL STUDY – ONTARIO

Mr. Cunningham completed the work necessary to classify a 60 hectare site for a FIT Land Evaluation Study. Within this project Mr. Cunningham's role included: planning field logistics, data and sample collection, soil database development, soil and vegetation mapping, and reporting. Using the analysis of the FIT Land Evaluation soil survey data and laboratory analysis data, a determination of soil subclasses and a final CLI class was achieved; each of the subclasses were reviewed to determine the breadth of severity of potentially limiting factors for soil productivity and crop production.

PRE-DISTURBANCE ASSESSMENTS – ALBERTA: 2012 - 2015

Completion of detailed large-scale pre-disturbance vegetation and soil assessment projects in remote-access northern Alberta for sites up to 400 hectares in size. Within these projects Mr. Cunningham's role included the hiring and training of new staff, planning field logistics, client coordination, daily cost tracking, and billing, acting as a field lead, daily data QA/QC, data entry QA/QC, soil database development, soil and vegetation mapping, and reporting.

ENVIRONMENTAL MONITORING – STEAM ASSISTED GRAVITY DRAINAGE (SAGD) OILFIELD FACILITY – LAC LA BICHE AND COLD LAKE, ALBERTA: 2012 - 2015

Environmental Coordinator and Environmental Site Specialist for two SAGD facilities based in the Lac La Biche and Cold Lake areas of Alberta. Within these projects Mr. Cunningham's role included training new staff, client coordination, daily cost tracking and billing, soil salvage monitoring, wildlife monitoring and

reporting, GIS technician, spill response, drilling for subsurface investigations, groundwater well sampling and characterization, soil sampling and characterization, and daily reporting duties.

DESIGNATED SUBSTANCES AND HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT

Building Demolition
Bishop Allen Academy
721 Royal York Road
Etobicoke, Ontario
M8Y 2T3

Prepared for:
Christine Clark
Lic.Tech.OAA, C.Tech.

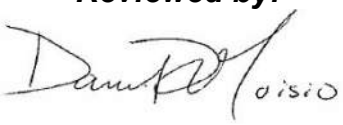
Hossack & Associates Architects
2150 Dunwin Drive, Unit 4
Mississauga, Ontario
L5L 5M8

Prepared by:
Safetech Environmental Limited



Anthony J. Fiume, BA
Project Coordinator

Reviewed by:



Daniel D'Aloisio, BSc, AMRT
Operations Manager

Safetech Project Number: 1-3220451

Date of Site Work: July 11 to 13, 2022
Date of Issue: July 27, 2022

3045 Southcreek Road
Unit #14, Mississauga, ON
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Professional Engineers Ontario

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EXECUTIVE SUMMARY

Safetech Environmental Limited (Safetech) was commissioned by Hossack & Associates Architects to conduct a designated substances and hazardous materials assessment in Bishop Allen Academy of 721 Royal York Road, Etobicoke, Ontario.

The objective of the assessment was to determine the presence, location, condition and quantities of designated substances and other hazardous materials that have the potential to be disturbed as part of planned construction activities (i.e. Building Demolition) so that appropriate control measures can be implemented to protect workers during the work.

A summary of the assessment results and general recommendations based on our findings are provided in the following table. This table should be considered a summary only. Please refer to the Results (Section 2.0), Conclusions and Recommendations (Section 3.0), Summary of ACM Occurrences (Appendix A) and Site Drawings (Appendix B) of our report for additional details.

Table 1: Summary of Hazardous Materials and Designated Substances

Designated Substance	Findings	Recommendations
Asbestos	The following asbestos-containing materials were identified in the subject area that may be impacted during the project: - beige drywall joint compound (original finishes) - black window putty - grey window putty - black and yellow floor mastic adhesive - interior grey expansion joint caulking - black compound (chiller pipes, roof vents, roof anchors etc.) - parging cement on fittings	Disturbance of asbestos-containing materials must be conducted in accordance with Ontario Regulation 278/05 *Designated Substance – Asbestos on Construction Projects and in Building and Repair Operations.* Refer to Table 3 (Results of Assessment for Asbestos-Containing Materials), Section 3.1.1 (Conclusions and Recommendations), Appendix A (Summary of ACM Occurrences) and Appendix B (Site Drawings). Asbestos-containing waste must be disposed of in accordance with R.R.O. 1990, Regulation 347, *General - Waste Management*.
	The following building materials are suspected to be asbestos-containing: - transite cement drainage pipes - chalkboards - mastic pucks behind chalkboards - cloth flexible duct connectors	
Lead	Beige paint associated with plaster and green exterior paint was confirmed to be lead-containing (>0.1% lead content).	Disturbance of lead-containing materials must be conducted in accordance with the Ontario Ministry of Labour, Training and Skills

Lead (cont'd)	The following materials are assumed to be lead-containing: - paints and surface coatings (not sampled) - batteries associated with emergency lighting - solder in copper pipe fittings - solder in electrical components - stained glass and associated window frame - structural steel primer	Development (MLTSD) *Lead on Construction Projects* guideline (2011) and/or the Environmental Abatement Council of Canada (EACC) *Lead Guideline* (October 2014). For additional details, refer to Section 2.1.2 (Results) and Section 3.1.2 (Conclusions and Recommendations). Lead-containing wastes should be recycled if practicable or handled and disposed of according to R.R.O. 1990, Regulation 347, *General- Waste Management.*
Mercury	Sources of mercury were observed in the subject area and include the following: - vapour in fluorescent lamps - vapour in HID lamps - thermometers associated with the boiler - thermometers associated with mechanical equipment	If required, handle lamps with care and keep intact. All waste lamps are recommended to be sent to a lamp recycling facility.
Silica	Building materials identified that are suspected to contain crystalline silica and may be disturbed as part of the planned construction project include: - plaster - drywall /drywall joint compound - concrete - mortar - sprayed fireproofing	Any work involving the disturbance of silica-containing materials should follow the procedures outlined in the Ontario Ministry of Labour, Training and Skills Development *"Silica on Construction Projects"* guideline. For additional information, refer to Section 2.1.4 (Results) and Section 3.1.4 (Conclusions and Recommendations).
Other Designated Substances	No other designated substances are expected to be present in any significant quantities or in a form that would represent an exposure concern.	No protective measures or procedures specific to acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride are considered necessary.
Other Hazardous Materials	**Findings**	**Recommendations**
Urea Formaldehyde Foam Insulation	No UFFI was identified or is suspected in the subject area.	No action required.
Mould Contamination	No suspect mould contamination was observed on building finishes in the subject area.	No action required.
Pest Infestation	No pest infestations were observed in the areas assessed.	No action required.
Polychlorinated Biphenyls	Fluorescent light ballasts and HID light ballasts are assumed to contain PCB's.	PCB-containing ballasts should be removed, separated from other waste and disposed of as PCB waste at an authorized destruction facility.

Ozone Depleting and Global Warming Substances	Air-conditioning units, chiller units, heat pumps, refrigeration and/or freezer units are assumed to contain Ozone Depleting and/or Global Warming Substances.	Purge air-conditioning unit(s) of remaining refrigerant prior to removal and disposal. This should be conducted by a certified person who holds a valid Ozone Depletion Prevention Certificate. Servicing and testing of refrigeration equipment should be conducted in accordance with Environment Canada's "*Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems"*.

This assessment satisfies the Owner's requirements under Section 30 of the Ontario Occupational Health and Safety Act (OHSA), Revised Statutes of Ontario 1990, as amended.

Should you have any questions regarding the information contained in the report, please contact our office.

Safetech Environmental Limited



Anthony J. Fiume, BA
Project Coordinator

July 27, 2022

Hossack & Associates Architects
2150 Dunwin Drive, Unit 4
Mississauga, Ontario
L5L 5M8

Attention: Christine Clark
Lic.Tech.OAA, C.Tech.

RE: Designated Substances and Hazardous Materials Assessment
Building Demolition
Bishop Allen Academy
721 Royal York Road, Etobicoke, Ontario

1.0 INTRODUCTION

1.1 Background and Objectives

Safetech Environmental Limited (Safetech) was commissioned by Hossack & Associates Architects to conduct a designated substances and hazardous materials assessment in Bishop Allen Academy at 721 Royal York Road, Etobicoke, Ontario (subject building). The objective of the assessment was to determine the presence, location, condition and quantities of designated substances and other hazardous materials in the subject building that have the potential to be disturbed as part of planned construction activities (i.e. Building Demolition) so that appropriate control measures can be implemented to protect workers during the work.

This assessment satisfies the Owner's requirements under Section 30 of the Ontario Occupational Health and Safety Act (OHSA), Revised Statutes of Ontario 1990, as amended. Section 30(1) requires a building owner to determine if there are any designated substances present at a project site prior to construction or demolition activities. Sections 30(2), (3) and (4) require the Owner and constructors for a project to provide the findings in this report as part of the tendering information for any tendered project or to prospective contractors (and subcontractors) of a project before entering into a binding contract.

This report documents findings of our on-site inspection that was conducted on July 11 to 13, 2022 and provides conclusions and recommendations based on our findings and knowledge of the planned construction project.

1.2 Scope of Work

In accordance with our fee proposal document, our scope of work included the following activities:

- A review of existing documents, including renovation documents and drawings, floor plans and existing environmental assessment reports, etc., where available;
- A visual assessment of accessible area(s) in the subject building to identify the presence, location, condition and quantities of designated substances and other hazardous materials;
- Collection, analysis and interpretation of representative bulk samples of suspect asbestos-containing building materials for the determination of asbestos content and material classification;
- Collection, analysis and interpretation of representative paint chip samples for the determination of lead content; and
- Preparation of a report to document findings and provide recommendations regarding control measures and/or special handling procedures for designated substances or specific hazardous materials that may be disturbed as part of planned construction activities.

Documents reviewed to aid in the assessment included the following:

- "Asbestos-Containing Building Material Assessment – Bishop Allen Academy" dated June 4, 2008 as prepared by Jacques Whitford

This assessment only identified designated substances and hazardous materials that were deemed to be part of the building or somehow otherwise incorporated into the building structure and its finishes. **The following items were not included in our scope of work:**

- Assessing occupant items such as stored products, furnishings, items and materials used or produced as part of a manufacturing process;
- Investigating underground materials or equipment (vessels, drums, underground storage tanks, duct-banks, pipes, or cables);
- Assessing enclosed wall or ceiling cavities; and
- Assessing risers, pipe chases or elevator shafts.

1.3 Description of Area(s) Assessed

The area(s) investigated included all accessible locations of the subject building. The extent of the area investigated is indicated on the floor plan(s) provided in Appendix B.

2.0 RESULTS

Results of our visual assessment and bulk sample analytical findings are summarized in the sections below.

2.1 Designated Substances

2.1.1 Asbestos

Results of bulk sample analysis for the determination of asbestos content are summarized in the following table. Materials have been classified as “ACM”, “Non-ACM”, “Suspected ACM” or “Presumed Non-ACM” based on analytical results. Materials classified as Suspected ACM or Presumed Non-ACM may require further analysis (depending on site-specific conditions) to verify whether the material should be classified as ACM or Non-ACM. Please refer to the Limitations section of this report (Section 4.0) for additional details. The Laboratory Certificate of Analysis is included in Appendix C.

Table 2*:* Bulk Sample Analytical Results for Determination of Asbestos Content

Sample No.	Material Description	Sample Location	Asbestos Content	Material Classification
1a	**Beige Drywall Joint Compound**	**145A Adjacent Kitchen WR**	**1% Chrysotile**	**ACM**
1b	**Beige Drywall Joint Compound**	**145A Adjacent Kitchen WR**	**Positive Stop**	**ACM**
1c	**Beige Drywall Joint Compound**	**145A Adjacent Kitchen WR**	**Positive Stop**	**ACM**
2a	White Drywall Joint Compound	Room 112	None Detected	Non-ACM
2b	White Drywall Joint Compound	Room 108	None Detected	Non-ACM
2c	White Drywall Joint Compound	Room 131B	None Detected	Non-ACM
2d	White Drywall Joint Compound	Room 136B	None Detected	Non-ACM
2e	White Drywall Joint Compound	Room 153A	None Detected	Non-ACM
2f	White Drywall Joint Compound	Room 151	None Detected	Non-ACM
2g	White Drywall Joint Compound	Room 148D	None Detected	Non-ACM
3a	Plaster	Room 147	None Detected	Non-ACM
3b	Plaster	Room 153A	None Detected	Non-ACM
3c	Plaster	Room 153	None Detected	Non-ACM
3d	Plaster	Room 153A	<0.5% Chrysotile	Non-ACM
3e	Plaster	Room 133D	None Detected	Non-ACM
3f	Plaster	Room 123B	None Detected	Non-ACM
3g	Plaster	Room 147	None Detected	Non-ACM

Sample No.	Material Description	Sample Location	Asbestos Content	Material Classification
4a	Exterior Drywall Joint Compound	Exterior Soffit for Corridor 103	None Detected	Non-ACM
4b	Exterior Drywall Joint Compound	Exterior Soffit for Corridor 103	None Detected	Non-ACM
4c	Exterior Drywall Joint Compound	Exterior Soffit for Corridor 103	None Detected	Non-ACM
5a	Sprayed Fireproofing	Room 153A	None Detected	Non-ACM
5b	Sprayed Fireproofing	Room 221/221A	None Detected	Non-ACM
5c	Sprayed Fireproofing	Room 236A	None Detected	Non-ACM
5d	Sprayed Fireproofing	Room 236A	None Detected	Non-ACM
5e	Sprayed Fireproofing	Room 131B	None Detected	Non-ACM
5f	Sprayed Fireproofing	Room 131B	None Detected	Non-ACM
5g	Sprayed Fireproofing	Room 145A	None Detected	Non-ACM
6a	**Black Window Putty (Window and Frame)**	**Original Windows**	**None Detected**	**ACM**
6b	**Black Window Putty (Window and Frame)**	**Original Windows**	**None Detected**	**ACM**
6c	**Black Window Putty (Window and Frame)**	**Original Windows**	**2% Chrysotile**	**ACM**
7a	**Black Window Putty (Window and Frame)**	**Original Door Window Units**	**2% Chrysotile**	**ACM**
7b	**Black Window Putty (Window and Frame)**	**Original Door Window Units**	**Positive Stop**	**ACM**
7c	**Black Window Putty (Window and Frame)**	**Original Door Window Units**	**Positive Stop**	**ACM**
8a	**Grey Window Putty (Window and Frame)**	**Original Door Window Units**	**3% Chrysotile**	**ACM**
8b	**Grey Window Putty (Window and Frame)**	**Original Door Window Units**	**Positive Stop**	**ACM**
8c	**Grey Window Putty (Window and Frame)**	**Original Door Window Units**	**Positive Stop**	**ACM**
9a	Green/Black Window Frame Caulking	Original Windows	None Detected	Non-ACM
9b	Green/Black Window Frame Caulking	Original Windows	None Detected	Non-ACM
9c	Green/Black Window Frame Caulking	Original Windows	None Detected	Non-ACM
10a	12”x12” Beige with Beige Speck Vinyl Floor Tile	Room 147	None Detected	Non-ACM
10b	12”x12” Beige with Beige Speck Vinyl Floor Tile	Room 147	None Detected	Non-ACM
10c	12”x12” Beige with Beige Speck Vinyl Floor Tile	Room 147	None Detected	Non-ACM
11a	12”x12” Grey with White Speck Vinyl Floor Tile and Mastic	Room 151	None Detected	Non-ACM

Sample No.	Material Description	Sample Location	Asbestos Content	Material Classification
11b	12”x12” Grey with White Speck Vinyl Floor Tile and Mastic	Room 151	None Detected	Non-ACM
11c	12”x12” Grey with White Speck Vinyl Floor Tile and Mastic	Room 151	None Detected	Non-ACM
12a	Grey Vinyl Sheet Flooring	Room 112	<0.5% Chrysotile	Non-ACM
12b	Grey Vinyl Sheet Flooring	Room 112	<0.5% Chrysotile	Non-ACM
12c	Grey Vinyl Sheet Flooring	Room 112	<0.5% Chrysotile	Non-ACM
13a	12”x12” Grey with Black Speck Vinyl Floor Tile	Room 133D	None Detected	Non-ACM
13a	**Black and Yellow Mastic**	**Room 133D**	**1% Chrysotile**	**ACM**
13b	12”x12” Grey with Black Speck Vinyl Floor Tile	Room 133D	None Detected	Non-ACM
13b	**Black and Yellow Mastic**	**Room 133D**	**Positive Stop**	**ACM**
13c	12”x12” Grey with Black Speck Vinyl Floor Tile	Room 133D	None Detected	Non-ACM
13c	**Black and Yellow Mastic**	**Room 133D**	**Positive Stop**	**ACM**
14a	Mastic Associated with Vinyl Floor Tile	Cafeteria 153A	None Detected	Non-ACM
14b	Mastic Associated with Vinyl Floor Tile	Cafeteria 153A	None Detected	Non-ACM
14c	Mastic Associated with Vinyl Floor Tile	Cafeteria 153A	None Detected	Non-ACM
15a	Textured Sprayed Freproofing on Steel Column	Room 228	None Detected	Non-ACM
15b	Textured Sprayed Freproofing on Steel Column	Room 228	None Detected	Non-ACM
15c	Textured Sprayed Freproofing on Steel Column	Room 228	None Detected	Non-ACM
16a	Carpet Mastic	Room 136D	None Detected	Non-ACM
16b	Carpet Mastic	Room 136D	None Detected	Non-ACM
16c	Carpet Mastic	Room 136D	None Detected	Non-ACM
17a	Wall Tile Mastic	Room 220	None Detected	Non-ACM
17b	Wall Tile Mastic	Room 220	None Detected	Non-ACM
17c	Wall Tile Mastic	Room 220	None Detected	Non-ACM
18a	1’x1’ Window Grout	Library 124	None Detected	Non-ACM

Sample No.	Material Description	Sample Location	Asbestos Content	Material Classification
18b	1'x1' Window Grout	Library 124	None Detected	Non-ACM
18c	1'x1' Window Grout	Library 124	None Detected	Non-ACM
19a	Grey Window Frame Caulking	Exterior	None Detected	Non-ACM
19b	Grey Window Frame Caulking	Exterior	None Detected	Non-ACM
19c	Grey Window Frame Caulking	Exterior	None Detected	Non-ACM
20a	Concrete Block Mortar	Sprinkler Room 133C	None Detected	Non-ACM
20b	Concrete Block Mortar	Room 133C	None Detected	Non-ACM
20c	Concrete Block Mortar	Room 118B	None Detected	Non-ACM
21a	Brick Mortar	Exterior	None Detected	Non-ACM
21b	Brick Mortar	Exterior	None Detected	Non-ACM
21c	Brick Mortar	Exterior	None Detected	Non-ACM
22a	Interior Brick Mortar	Library 124	None Detected	Non-ACM
22b	Interior Brick Mortar	Cafeteria 153A	None Detected	Non-ACM
22c	Interior Brick Mortar	First Floor Corridor	None Detected	Non-ACM
23a	Floor Leveling Compound	Cafeteria 153A	None Detected	Non-ACM
23b	Floor Leveling Compound	Cafeteria 153A	None Detected	Non-ACM
23c	Floor Leveling Compound	Cafeteria 153A	None Detected	Non-ACM
24a	**Hard Interior Expansion Joint Caulking**	**Room 131**	**2% Chrysotile**	**ACM**
24b	**Hard Interior Expansion Joint Caulking**	**Room 129**	**Positive Stop**	**ACM**
24c	**Hard Interior Expansion Joint Caulking**	**Room 147**	**Positive Stop**	**ACM**
25a	2'x4' Small/Medium Hole with Fissure Lay-In Ceiling Tile	Room 129	None Detected	Non-ACM
25b	2'x4' Small/Medium Hole with Fissure Lay-In Ceiling Tile	Room 129	None Detected	Non-ACM
25c	2'x4' Small/Medium Hole with Fissure Lay-In Ceiling Tile	Room 129	None Detected	Non-ACM
26a	Grey Caulking Between AHU Plenum Seams	Room 236A	<0.5% Chrysotile	Non-ACM
26b	Grey Caulking Between AHU Plenum Seams	Room 236A	<0.5% Chrysotile	Non-ACM
26c	Grey Caulking Between AHU Plenum Seams	Room 236A	<0.5% Chrysotile	Non-ACM
27a	Ceramic floor Tile Grout	Corridor Adjacent Library	None Detected	Non-ACM

Sample No.	Material Description	Sample Location	Asbestos Content	Material Classification
27b	Ceramic floor Tile Grout	Corridor Adjacent Library	None Detected	Non-ACM
27c	Ceramic floor Tile Grout	Corridor Adjacent Library	None Detected	Non-ACM
28a	Brown Mastic on AHU Seams	Room 226	None Detected	Non-ACM
28b	Brown Mastic on AHU Seams	Room 226	None Detected	Non-ACM
28c	Brown Mastic on AHU Seams	Room 226	None Detected	Non-ACM
29a	Cementitious Coating on Lower 3 ft of Concrete Block Wall	Electrical Room 133B	None Detected	Non-ACM
29b	Cementitious Coating on Lower 3 ft of Concrete Block Wall	Electrical Room 133B	None Detected	Non-ACM
29c	Cementitious Coating on Lower 3 ft of Concrete Block Wall	Electrical Room 133B	None Detected	Non-ACM
30a	Pink Firestop Caulking	Room 136A	None Detected	Non-ACM
30b	Pink Firestop Caulking	Room 136A	None Detected	Non-ACM
30c	Pink Firestop Caulking	Room 136A	None Detected	Non-ACM
31a	**Black Tar on Chiller Pipes/Roof Vents/Roof Anchors**	**Roof**	**None Detected**	**ACM**
31b	**Black Tar on Chiller Pipes/Roof Vents/Roof Anchors**	**Roof**	**None Detected**	**ACM**
31c	**Black Tar on Chiller Pipes/Roof Vents/Roof Anchors**	**Roof**	**1% Chrysotile**	**ACM**
32a	Built-Up Roof Membrane	Chiller Roof Section	None Detected	Non-ACM
32b	Built-Up Roof Membrane	Chiller Roof Section	None Detected	Non-ACM
32c	Built-Up Roof Membrane	Chiller Roof Section	None Detected	Non-ACM
33a	Roof Shingle	Cafeteria Roof	None Detected	Non-ACM
33b	Roof Shingle	Cafeteria Roof	None Detected	Non-ACM
33c	Roof Shingle	Cafeteria Roof	None Detected	Non-ACM
34a	Green Caulking Between Metal Panels	Exterior / Roof	None Detected	Non-ACM
34b	Green Caulking Between Metal Panels	Exterior / Roof	None Detected	Non-ACM
34c	Green Caulking Between Metal Panels	Exterior / Roof	None Detected	Non-ACM
35a	Red/Grey Expansion Joint Caulking	Exterior	<0.5% Chrysotile	Non-ACM
35b	Red/Grey Expansion Joint Caulking	Exterior	<0.5% Chrysotile	Non-ACM

Sample No.	Material Description	Sample Location	Asbestos Content	Material Classification
35c	Red/Grey Expansion Joint Caulking	Exterior	<0.5% Chrysotile	Non-ACM
36a	Grey Expansion Joint Caulking	Exterior	None Detected	Non-ACM
36b	Grey Expansion Joint Caulking	Exterior	None Detected	Non-ACM
36c	Grey Expansion Joint Caulking	Exterior	None Detected	Non-ACM
37a	Grey Caulking on Seams	EF07/EF08 – East Roof	None Detected	Non-ACM
37b	Grey Caulking on Seams	EF07/EF08 – East Roof	None Detected	Non-ACM
37c	Grey Caulking on Seams	EF07/EF08 – East Roof	None Detected	Non-ACM
38a	Black Window Putty	Exterior Brown Windows 2nd Floor	None Detected	Non-ACM
38b	Black Window Putty	Exterior Brown Windows 2nd Floor	None Detected	Non-ACM
38c	Black Window Putty	Exterior Brown Windows 2nd Floor	None Detected	Non-ACM
39a	Black Roof Flashing Caulking	Roof	None Detected	Non-ACM
39b	Black Roof Flashing Caulking	Roof	None Detected	Non-ACM
39c	Black Roof Flashing Caulking	Roof	None Detected	Non-ACM

As per O.Reg. 278/05, ACM contains ≥0.5% asbestos by dry weight.

Materials assessed for asbestos content are summarized in the following table based on the type/use of the material.

Table 3: Results of Assessment for Asbestos-Containing Materials

Sprayed and Loose Fill Insulating Materials	Location/Description	
Sprayed Fireproofing	Sprayed fireproofing was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 5 in Table 2.	

Textured Sprayed Fireproofing on Structural Column	Textured sprayed fireproofing was observed on columns in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 15 in Table 2.	
Sprayed Insulation	None identified in subject building.	
Loose Fill / Vermiculite Insulation	None identified in subject building. Interior portions of concrete block walls could not be assessed. However, it is not expected that these walls are insulated with loose fill or vermiculite insulation	
Thermal System Insulation	**Location/Description**	
Mechanical Pipe Insulation – Straights	Observable sections of mechanical pipe straights were noted to be insulated with non-asbestos fiberglass insulation.	
Parging Cement on Fittings	**Parging cement on fittings has previously been identified in the subject building. Results of analysis confirmed that this building material contains 40-57% chrysotile asbestos.** Refer to "Asbestos-Containing Building Material Assessment – Bishop Allen Academy" dated June 4, 2008 as prepared by Jacques Whitford for additional details. the location, condition, friability, and estimated quantity in Appendix A.	
HVAC Duct Insulation	Observable sections of HVAC ducts were noted to be insulated with non-asbestos fiberglass insulation.	
Breeching / Exhaust Insulation	None identified in subject building.	
Tank Insulation	None identified in subject building.	
Boiler Insulation	None identified in subject building.	
Other Mechanical Equipment Insulation	None identified in subject building.	

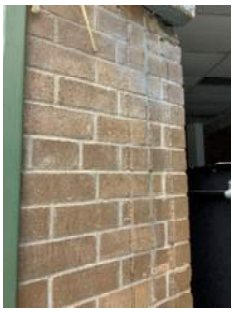
Architectural Finishes & Finishing Materials	Location/Description	
Sprayed Texture / Stucco Finishes	None identified in subject building.	
Plaster Finishes	Plaster was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 3 in Table 2. Sample 3d found <0.5% chrysotile asbestos which is below the definition of an asbestos-containing as per O. Reg. 278/05 and is therefore not considered to be asbestos-containing.	
Beige Drywall Joint Compound	**Beige drywall joint compound associated with original drywall finishes was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material contains 1% chrysotile asbestos**. Refer to sample set 1 in Table 2 and the location, condition, friability, and estimated quantity in Appendix A.	
Exterior Drywall Joint Compound	Drywall joint compound was observed at the exterior of the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 4 in Table 2.	
White Drywall Joint Compound	White drywall joint compound was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 2 in Table 2.	
Ceiling Tiles	**Location/Description**	

2'x4' Small/Medium Hole with Fissure Lay-in Acoustic Ceiling Tiles	2'x4' small/medium hole with fissure lay-in ceiling tiles were observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 25 in Table 2.	
Lay-In Ceiling Tiles	Various other lay-in ceiling tile patterns observed in the subject building have been previously tested and found not to be asbestos-containing. Refer to "Asbestos-Containing Building Material Assessment – Bishop Allen Academy" dated June 4, 2008 as prepared by Jacques Whitford for additional details.	
Glued-on Acoustic Ceiling Tiles	None identified in subject building.	
Cement Ceiling Panels	None identified in subject building.	
Flooring	**Location/Description**	
12"x12" Beige with Speck Vinyl Floor Tiles	12"x12" beige with speck vinyl floor tiles were observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 10 in Table 2.	
12"x12" Grey with White Speck Vinyl Floor Tiles	12"x12" grey with white speck vinyl floor tiles were observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 11 in Table 2. Colourless mastic associated with these floor tiles is not asbestos-containing.	

12”x12” Grey with Black Speck Vinyl Floor Tiles	12”x12” grey with black speck vinyl floor tiles were observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 13 in Table 2. **Black and yellow mastic associated with these vinyl floor tiles contains 1% chrysotile asbestos and is therefore considered to be asbestos-containing.**	
Vinyl Floor Tiles	Various other vinyl floor tile patterns observed in the subject building have been previously tested and found not to be asbestos-containing. Refer to “Asbestos-Containing Building Material Assessment – Bishop Allen Academy” dated June 4, 2008 as prepared by Jacques Whitford for additional details.	
Vinyl Sheet Flooring	Various other vinyl sheet flooring patterns observed in the subject building have been previously tested and found not to be asbestos-containing. Refer to “Asbestos-Containing Building Material Assessment – Bishop Allen Academy” dated June 4, 2008 as prepared by Jacques Whitford for additional details.	
Grey Vinyl Sheet Flooring	Grey vinyl sheet flooring was observed in the subject building. Bulk samples were collected during the assessment and results of analysis found this material to contain <0.5% chrysotile asbestos. The quantity of asbestos detected in these samples are below the definition of an asbestos-containing material as per O. Reg. 278/05 and therefore this material is not considered to be asbestos-containing. Refer to sample set 12 in Table 2.	
Black Mastic Adhesive	Black mastic associated with vinyl floor tiles was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 14 in Table 2.	

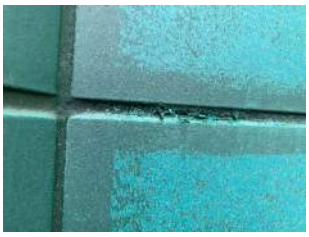
Carpet Mastic	Mastic associated with carpet flooring was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 16 in Table 2.	
Floor Leveling Compound	Floor leveling compound was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 23 in Table 2.	
Ceramic Floor Tile Grout	Ceramic floor tile grout was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 27 in Table 2.	
Asbestos Cement Products	**Location/Description**	
Transite Cement Drainage Pipe	**Transite cement drainage pipe was observed in the subject building and is assumed to asbestos-containing.** This material could not be sampled as doing so would compromise the integrity of the material. Refer to the location, condition, friability, and estimated quantity in Appendix A.	
Roofing, Siding, Wallboard	None identified in subject building.	
Other Cement Products	None identified in subject building.	
Misc. Materials	**Location/Description**	

Black Window Putty (Between Window and Frame)	**Black window putty associated with original windows was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material contains 2% chrysotile asbestos.** Refer to sample set 6 in Table 2 and the location, condition, friability, and estimated quantity in Appendix A.	
Black Window Putty (Between Window and Frame)	**Black window putty associated with original door-windows was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material contains 2% chrysotile asbestos.** Refer to sample set 7 in Table 2 and the location, condition, friability, and estimated quantity in Appendix A.	
Grey Window Putty (Between Window and Frame)	**Grey window putty associated with original door-window units was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material contains 2% chrysotile asbestos.** Refer to sample set 8 in Table 2 and the location, condition, friability, and estimated quantity in Appendix A.	
Green/Black Window Frame Caulking	Green/black window frame caulking associated with original windows was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 9 in Table 2.	
Wall Tile Mastic	Mastic associated with wall tiles was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 17 in Table 2.	

1'x1' Window Grout	Window grout associated with 1'x1' windows was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 18 in Table 2.	
Grey Window Frame Caulking	Grey window frame caulking was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 19 in Table 2.	
Concrete Block Mortar	Mortar associated with concrete block walls was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 20 in Table 2.	
Brick Mortar	Mortar associate brick walls was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample sets 21 and 22 in Table 2.	
Grey Hard Interior Expansion Joint Caulking	**Grey hard interior expansion joint caulking was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material contains 2% chrysotile asbestos.** Refer to sample set 24 in Table 2 and the location, condition, friability, and estimated quantity in Appendix A.	

Caulking Between AHU Plenum Seams	Caulking was observed between AHU plenum seams in the subject building. Bulk samples were collected during the assessment and results of analysis found this material to contain <0.5% chrysotile asbestos. The quantity of asbestos detected in these samples are below the definition of an asbestos-containing material as per O. Reg. 278/05 and therefore this material is not considered to be asbestos-containing. Refer to sample set 26 in Table 2.	
Brown Mastic on AHU Seams	Brown mastic was observed on AHU seams in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 28 in Table 2.	
Cementitious Coating on Concrete Block	Cementitious coating was observed on concrete block walls in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 29 in Table 2.	
Pink Firestop Caulking	Pink firestop caulking was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 30 in Table 2.	
Black Tar	**Black tar was observed on roof anchors in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material contains 1% chrysotile asbestos.** Refer to sample set 31 in Table 2 and the location, condition, friability, and estimated quantity in Appendix A.	

Built-Up Roof Membrane	Roof membrane associated with the built-up roof was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 32 in Table 2.	
Roof Shingle	Roof shingle associated with the pitched roof was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 33 in Table 2.	
Red/Grey Expansion Joint Caulking	Red/grey expansion joint caulking was observed at the exterior of the subject building. Bulk samples were collected during the assessment and results of analysis found this material to contain <0.5% chrysotile asbestos. The quantity of asbestos detected in these samples are below the definition of an asbestos-containing material as per O. Reg. 278/05 and therefore this material is not considered to be asbestos-containing. Refer to sample set 35 in Table 2.	
Grey Expansion Joint Caulking	Grey expansion joint caulking was observed at the exterior subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 36 in Table 2.	
Grey Caulking on Seams	Grey caulking was observed on EF07 and EF08 Roof Unit Seams in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 37 in Table 2.	

Green Caulking Between Metal Panels	Green caulking was observed between metal panels in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 34 in Table 2.	
Black Window Putty	Black window putty associated with exterior brown windows was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 38 in Table 2.	
Black Roof Flashing Caulking	Black roof flashing caulking was observed in the subject building. Bulk samples were collected during the assessment and results of analysis confirmed that this building material is not asbestos-containing. Refer to sample set 39 in Table 2.	
Suspect ACM	- transite cement drainage pipes - chalkboards - mastic pucks behind chalkboards - cloth flexible duct connectors	

2.1.2 Lead

Laboratory analytical results for paints tested to determine lead content are summarized in the following table. The Laboratory Certificate of Analysis is included in Appendix D. Refer to Section 3.1.2 of this report for recommended lead abatement procedures (if any) that correspond to the type of proposed construction, renovation, or demolition work.

Table 4: Results of Paint Condition and Lead Content Assessment

Sample No.	Location	Surface	Paint Colour	Condition	Lead Conc. (% by wt.)	Material Classification
L1	Room 153	Plaster	Beige	Good	0.198	Lead-Containing
L2	Room 133B	Concrete Floor	Grey	Good	0.0384	Low-Level Lead-Containing Paint
L3	Room 153A	Concrete Beam	Black	Good	<0.0005	Not Lead-Containing
L4	Room 214	Drywall	Beige	Good	<0.0005	Not Lead-Containing
L5	Corridor Adjacent to Room 216	Drywall	White	Good	<0.0005	Not Lead-Containing
L6	Exterior	Metal	Green	Poor	1.31	Lead-Containing
L7	Corridor Adjacent to Room 227	Plaster	Beige	Good	0.0934	Low-Level Lead-Containing Paint

Lead-Containing Paint: ≥ 0.1% Lead Content
Low-Level Lead-Containing Paint: 0.009 to 0.1% Lead Content
Not Lead-Containing: <0.009% Lead Content

Suspect lead-containing materials observed in the subject building included the following:

- paints and surface coatings (not sampled)
- batteries associated with emergency lighting
- solder in copper pipe fittings
- solder in electrical components
- stained glass and associated window frame
- structural steel primer

2.1.3 Mercury

Mercury is present in the subject building in the form of:

- vapour in fluorescent lamps
- vapour in HID lamps
- thermometers associated with the boiler
- thermometers associated with mechanical equipment

2.1.4 Silica

A number of building materials were identified in the subject building that are ***suspected to contain crystalline silica***. This includes the following materials:

- plaster
- drywall /drywall joint compound
- concrete
- mortar
- sprayed fireproofing

2.1.5 Other Designated Substances

Acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride were not included in the assessment as these substances are not expected to be a significant component of building materials or present in a form that would represent an exposure concern. Additionally, no specific information regarding their use was provided to us.

2.2 Other Hazardous Materials

2.2.1 Chemical Hazards

No visible evidence of UFFI installation (i.e. injection openings) or overspray of foam insulation at wall/ceiling joints was identified in the subject building.

2.2.2 Biological Hazards

2.2.2.1 Mould Contamination

There was no visible evidence of obvious mould growth on building finishes in the subject building at the time of the assessment. In addition, there was no visible evidence of any significant water staining or discolouration to building finishes in the subject building that would suggest the potential for hidden mould growth behind these finishes.

2.2.2.2 Pest Infestation

There was no visible evidence of a pest infestation in the subject building.

2.2.3 Environmental Hazards

2.2.3.1 Polychlorinated Biphenyls (PCBs)

Approximately one-thousand (1000) fluorescent light fixtures were identified in the subject building. These were noted to be a mixture of four-foot, two-lamp and four-lamp fixtures. Most of the lamps were noted to be T12; however, some of the four-lamp fixtures were noted to be retrofitted with newer T8 lamps.

A total of approximately fifty (50) HID lights were also present throughout the subject building. These lights could not be accessed for further evaluation to determine the type(s) of ballasts present and therefore the ballasts within these lights are assumed to contain PCBs.

2.2.3.2 Ozone Depleting and Global Warming Substances

Air-conditioning units, chiller units, heat pumps, refrigeration and/or freezer units are assumed to contain Ozone Depleting and/or Global Warming Substances.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 Designated Substances

3.1.1 Asbestos

Results of the assessment indicated that the following asbestos-containing materials are present in the subject building that may be disturbed as part of the construction project.

- beige drywall joint compound (original finishes)
- black window putty
- grey window putty
- black and yellow floor mastic adhesive
- interior grey expansion joint caulking
- black compound (chiller pipes, roof vents, roof anchors etc.)
- parging cement on fittings

The following building materials are ***suspected to be asbestos-containing*** but were not sampled as sampling would compromise the integrity of the material, lack of accessibility or potential hazards to the surveyor:

- transite cement drainage pipes
- chalkboards
- mastic pucks behind chalkboards
- cloth flexible duct connectors

Refer to Appendix A (Summary of ACM Occurrences) and Appendix B (Site Drawings) for types, locations, estimated quantities, and condition of asbestos-containing materials identified in the subject area.

In accordance with O. Reg. 278/05, prior to the demolition of the subject building, any identified asbestos-containing materials must be removed. However, this does not apply so as to prevent work necessary to gain access to the asbestos-containing material that is to be removed, if the workers doing the work are protected from the hazard. Our recommendations for the removal of the aforementioned asbestos-containing materials can be found below.

Black and Yellow Mastic Adhesive: The black and yellow mastic adhesive associated with 12”x12” grey with black speck vinyl floor tile is considered to be a non-friable ACM. As per O. Reg. 278/05, removal of non-friable ACM can be conducted following Type 1 operations; as long as the material can be removed without being broken, cut, drilled or otherwise similarly disturbed. If the material cannot be removed without it breaking or being similarly disturbed then the work should be conducted using non-powered hand tools and the material should be wetted to control the spread of dust. If the material cannot be wetted or if power tools attached to dust-collecting devices equipped with HEPA (high efficiency particulate aerosol) filters are used during removal or disturbance, then work should be performed following Type 2 operations. If non-friable materials are removed or disturbed using power tools that are not attached to dust-collecting devices that are equipped with HEPA filters then work should be conducted following Type 3 operations.

Interior Grey Expansion Joint Caulking: The interior grey expansion joint caulking is considered to be a non-friable ACM. As per O. Reg. 278/05, removal of non-friable ACM can be conducted following Type 1 operations; as long as the material can be removed without being broken, cut, drilled or otherwise similarly disturbed. If the material cannot be removed without it breaking or being similarly disturbed then the work should be conducted using non-powered hand tools and the material should be wetted to control the spread of dust. If the material cannot be wetted or if power tools attached to dust-collecting devices equipped with HEPA (high efficiency particulate aerosol) filters are used during removal or disturbance, then work should be performed following Type 2 operations. If non-friable materials are removed or disturbed using power tools that are not attached to dust-collecting devices that are equipped with HEPA filters then work should be conducted following Type 3 operations.

Black Tar: The black tar associated with roof vents, roof anchors and chiller pipes is considered to be a non-friable ACM. As per O. Reg. 278/05, removal of non-friable ACM can be conducted following Type 1 operations; as long as the material can be removed without being broken, cut, drilled or otherwise similarly disturbed. If the material cannot be removed without it breaking or being similarly disturbed then the work should be conducted using non-powered hand tools and the material should be wetted to control the spread of dust. If the material cannot be wetted or if power tools attached to dust-collecting devices equipped with HEPA (high efficiency particulate aerosol) filters are used during removal or disturbance, then work should be performed following Type 2 operations. If non-friable materials are removed or disturbed using power tools that are not attached to dust-collecting devices that are equipped with HEPA filters then work should be conducted following Type 3 operations.

Parging Cement on Fittings: The parging cement on fittings is considered to be a friable ACM. As per O. Reg. 278/05, removal or disturbance of 1 square metre or less of friable ACM is classified as a Type 2 operation. If more than 1 square metre of friable ACM is to be removed or disturbed then work should be conducted following Type 3 operations; unless the material is removed using a glove bag, in which case Type 2 operations are applicable.

Beige Drywall Joint Compound (Original Finishes): In accordance with O. Reg. 278/05, removal of less than 1 square metre of drywall where asbestos-containing drywall joint compound has been used can be conducted following Type 1 operations. If 1 square metre or more of drywall is removed where asbestos-containing drywall joint compound has been used then work should be conducted following Type 2 operations.

General Recommendations: The removal or disturbance of ACM must follow the measures and procedures indicated in O. Reg. 278/05. This work should be conducted by workers who have received proper training by a "competent person" in the hazards of asbestos exposure, personal hygiene and work practices, and the use and care of respirators and protective clothing. Any worker/supervisor who works in a Type 3 operation must successfully complete the Asbestos Abatement Worker or Supervisor Training Program approved by the Ministry of Training, Colleges and Universities. It is recommended that all work involving the removal or disturbance of ACM be subject to inspection and testing to document conformance with O. Reg. 278/05 requirements. The degree of inspection and testing is dependent on site-specific conditions such as the type, duration, size and location of the work. In most circumstances Type 3 operations require a visual inspection and clearance air testing to be conducted by a competent worker on completion of the work. The inspection should be conducted to ensure that the enclosure and the work area inside the enclosure are free from visible dust, debris or residue that may contain asbestos. Clearance air testing for Type 3 operations requires a minimum number of air samples to be taken (depending on the size of the work area) following specific sampling and analytical procedures and all samples taken must meet the clearance criteria set out in O. Reg. 278/05.

3.1.2 Lead

Results of paint chip analysis for the determination of lead content indicated that black paint associated with concrete beams and beige and white paint associated with drywall contains a concentration of lead below the limit of detection (<0.0090%) and is not considered to be lead-containing. No lead related precautions are considered necessary for the removal or disturbance of this material.

Results of paint chip analysis for the determination of lead content indicated that grey paint associated with concrete floors and beige paint associated with plaster on the second floor is considered a 'low-level lead paint' (≤0.1% based on requirements of the Environmental Abatement Council of Canada (EACC) Lead Guideline (2014)). If the 'low-level lead paint' is disturbed in a non-aggressive manner (no use of power tools/abrasive blasting, grinding, welding, heating, etc.), then respirators are not considered necessary. However, Class 1 measures and procedures should still be implemented during the non-aggressive disturbance of 'low-level lead paints', including, but not limited to, no smoking, eating, drinking and chewing gum in the work area; dust suppression methods must be implemented; and facilities must be made available so that workers can wash their hands and face.

Result of paint chip analysis for the determination of lead content indicated that beige paint associated with plaster on the ground floor and green exterior paint was confirmed to be lead-containing (>0.1% lead content based on required of Environmental Abatement Council of Canada (EACC) “Lead Guideline” (October 2014)).

Paints and surface coatings not sampled are assumed to be lead-containing (>0.1% lead content) in the subject area. Any disturbance of the lead-containing paints or surface coatings should be conducted in accordance with the procedures outlined in the Environmental Abatement Council of Canada (EACC) “Lead Guideline” (October 2014) and/or the Ontario Ministry of Labour, Training and Skills Development (MLTSD) “Lead on Construction Projects” guideline (April 2011). The extent of procedures required depends on the type of work to be conducted.

Emergency lighting is present on perimeter walls in the subject building and are suspected to contain lead-acid batteries. If emergency lighting is removed/replaced as part of the scheduled work activities, the batteries are recommended to be sent to a recycling facility for proper treatment.

Additional suspect lead-containing products to be disturbed during construction includes solder on pipe fittings and electrical components, structural steel primer, batteries associated with emergency lighting and stained glass and associated window frame. Future testing of these materials and specific handling/disposal requirements may be necessary if/when these materials are to be disturbed.

At this time the method of disturbance, if any, of lead-containing materials is unknown. It is recommended that any contractor whose work requires lead-containing materials to be disturbed consult the EACC or Ontario MLTSD guidelines prior to the start of work to determine the Class/Type of operation(s) and the corresponding control measures (engineering controls, work/hygiene practices, protective clothing and equipment and worker training) necessary to conduct the work in a manner that will prevent worker overexposure to lead. The following table outlines the classification of lead disturbance based on the EACC guideline.

Operation	Description
Class 1	1. Removal of lead-containing or lead-based paints and surface coatings with a chemical gel/stripper or paste; 2. Application of lead-containing or lead-based paints and surface coatings with a brush, roller or sponge. 3. Installation or removal of lead sheeting or flashing. 4. Installation or removal of lead-containing packing, babbitt, caulking, gasket or similar material. 5. Removal of materials coated with lead-containing or lead-based paints and surface coatings, using non-powered hand tools, where the material remains chiefly intact and is not crumbled, pulverized or powdered. 6. Operating construction or demolition equipment (e.g. excavator, bulldozer) during building renovation or demolition where lead-based paints or surface coatings are present on building materials and are being disturbed. 7. Soldering with lead solder. 8. Removing lead-containing or lead-based paints or surface coatings with a heat gun. 9. Removing lead-containing and lead-based paints and surface coatings using a high-pressure water jet (e.g. pressure washer).
Class 2a	1. Removal of lead-containing or lead-based paints and surface coatings or lead-containing materials using a power tool that has an effective dust collection system equipped with a HEPA filter*. 2. Welding, torching or high temperature cutting of lead-containing materials indoors when using an effective fume collector or smoke eater that filters and exhausts lead fume and expels it directly outdoors (away from occupants, entrances, walkways, rest areas, etc.). Fume collector or smoke eater must have effective source control and capture velocity, minimum of 0.5 metres per second (100 feet per minute) at the work surface. 3. Welding, torching or high temperature cutting of lead-containing and lead-based paints and surface coatings or lead-containing materials outdoors. 4. Removal of lead-containing mortar using handheld non-powered tools. 5. Removal of lead-containing and lead-based paints and surface coatings or lead-containing materials by scraping or sanding (including wet sanding) using non-powered hand tools. 6. Demolition of plaster or building components that crumble, pulverize or powder and are covered with lead-containing or lead-based paints or surface coatings. 7. Clean up and removal of a significant amount of lead-containing dust and debris (that can be made easily airborne) using wet methods or HEPA vacuums.
Class 2b	1. Spray application of lead-containing paints and surface coatings

Operation	Description
Class 3a	1. Removal of lead-containing or lead-based paints and surface coatings or lead-containing materials using a power tool without an effective dust collection system equipped with a HEPA filter. 2. Welding, torching or high temperature cutting of lead-containing materials indoors or in a confined space (e.g. within a ditch or pit). 3. Removal of lead-containing mortar using a powered cutting device. 4. Burning of a material containing lead. 5. Removal, cleaning or repair of a ventilation system or ductwork used for controlling lead exposure. 6. Spray application of lead-based paints and surface coatings. 7. In the absence of an exposure assessment: a. demolition or cleanup of a facility where lead-containing products were manufactured and significant dust and debris, which can be made easily airborne, is present. b. cleanup of dust and debris down range of a firing station in an indoor firing range.an operation that may expose a worker to lead dust, fume or mist that is not a Class 1, Class 2, or Class 3B operation.
Class 3b	1. Abrasive blasting of lead-containing and lead-based paints and surface coatings or lead-containing materials (including wet, slurry and dry abrasive blasting and dry-ice blasting).

* Effective implies that the dust collection system should be capable of controlling airborne lead concentration levels to below 0.05 mg/m^3. Employers should follow manufacturer's recommendations and maintenance specifications for optimal function.

If practicable, all bulk lead waste materials should be separated from other wastes and sent to a recycling facility. If not practicable, lead-containing waste should be handled and disposed of according to R.R.O. 1990, Regulation 347, *General - Waste Management* (Reg. 347) made under the Environmental Protection Act. Under this regulation (and depending on the quantity of waste generated) the waste may be subject to analysis following the Toxicity Characteristic Leaching Procedure (TCLP) to determine if it is a “leachate toxic waste” based on the leachate quality criteria provided in Schedule 4 of the regulation. Such wastes must meet specific treatment requirements (Schedule 5) or undergo alternative treatment for hazardous debris (Schedule 8) prior to land disposal.

3.1.3 Mercury

Fluorescent and HID lamps that require removal should be handled with care and kept intact to avoid potential exposure to mercury vapour present within the lamps. Under Reg. 347, waste mercury produced in amounts less than 5 kilograms (kg) in any month or otherwise accumulated in an amount less than 5 kg are exempt from hazardous waste registration, treatment and disposal requirements and can be disposed of in landfill as regular waste. Larger quantities of waste mercury must be treated and disposed of in accordance with the requirements of Reg. 347. To prevent the release of mercury into the environment, Safetech recommends that all waste lamps be sent to a lamp recycling facility and not disposed of in landfill.

Liquid mercury is suspected to be present in thermometers, barometers and other measuring devices (pressure gauges/sensors, vacuum gauges, manometers, etc.),

thermostats and a variety of other electrical switches (temperature sensitive, tilt switches, float switches, etc.) associated with mechanical equipment. These items are expected to be removed as part of the construction project. Care should be taken not to disturb these items during the work as breakage could cause a spill of liquid mercury. If any of these items are to be removed it should be done so carefully to avoid spillage and stored/packaged in a manner that will prevent breakage or spillage. Any mercury-containing equipment that is to be removed is recommended to be recycled rather than disposed of in landfill.

Although no mercury was visibly identified in other equipment, dismantling of equipment was not conducted to verify the presence/absence of mercury. It is cautioned that thermometers, barometers and other measuring devices (pressure gauges/sensors, vacuum gauges, manometers, etc.), thermostats and a variety of other electrical switches (temperature sensitive, tilt switches, float switches, etc.) may contain mercury that may not be visible without dismantling the equipment. Such devices should be assumed to contain mercury until proven otherwise and similar precautions to those outlined above should be taken if any of these items are to be disturbed or taken out of service in the future.

3.1.4 Silica

Suspect silica-containing materials were identified to be present in the subject building. In their current state, building materials containing silica do not represent a risk to building occupants or construction workers. Risks associated with exposure to silica arise during demolition activities that cause silica dust to be created (particularly grinding, drilling or cutting operations and during major demolition), resulting in a crystalline silica inhalation hazard.

If any materials suspected to contain silica are to be removed or otherwise disturbed as a result of renovation/demolition activities it is recommended that procedures be put in place to control the generation of dust (such as routine water misting) and thus reduce the potential for worker exposure. Workers that have the potential to be exposed to airborne silica should also wear appropriate protective clothing and respiratory protection.

Any work involving the disturbance of silica-containing materials should follow the procedures outlined in the Ontario MLTSD “Silica on Construction Projects” guideline (April 2011). The appropriate engineering controls, work practices, hygiene practices, personal protective measures and training necessary to conduct the work in a safe manner are provided in this guideline. The general measures and procedures (or Type of operation) necessary depends on the type of work to be conducted. The following table outlines the classification of silica disturbance based on the Ontario MLTSD guideline.

Operation	Description
Type 1	1. The drilling of holes in concrete or rock that is not part of a tunneling operation or road construction. 2. Milling of asphalt from concrete highway pavement 3. Charging mixers and hoppers with silica sand (sand consisting of at least 95% silica) or silica flour (finely ground sand consisting of at least 95% silica) 4. Any other operation at a project that requires the handling of silica-containing material in a way that may results in a worker being exposed to airborne silica. 5. Entry into a dry mortar removal or abrasive blasting area while airborne dust is visible for less than 15 minutes for inspection and/or sampling. 6. Working within 25 metres of an area where compressed air is being used to remove silica-containing dust outdoors.
Type 2	1. Removal of silica containing refractory materials with a jackhammer 2. The drilling of holes in concrete or rock that is part of a tunneling or road construction. 3. The use of a power tool to cut, grind, or polish concrete, masonry, terrazzo or refractory materials. 4. The use of a power tool to remove silica containing materials. 5. Tunneling (operation of the tunnel boring machine, tunnel drilling, and tunnel mesh installation). 6. Tuckpoint and surface grinding 7. Dry mortar removal with an electric or pneumatic cutting device 8. Dry method dust cleanup from abrasive blasting operations 9. The use of compress air outdoors for removing silica dust 10. Entry into area where abrasive blasting is being carried out for more than 15 minutes
Type 3	1. Abrasive blasting with an abrasive that contains >1% silica 2. Abrasive blasting or a material that contains >1% silica

3.1.5 Other Designated Substances

No other designated substances are expected to be a component of building materials in the subject building in a form that would represent an exposure concern. Therefore, no protective measures or procedures specific to acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride are considered necessary.

3.2 Other Hazardous Materials

3.2.1 Chemical Hazards

As no UFFI was identified or is suspected to be present in the subject building, no further action is required. However, given that no destructive testing was conducted, there is a remote possibility that UFFI could be hidden within locations such as exterior wall cavities. If suspect foam insulation is identified during renovation/demolition activities work should be stopped and the area should be re-assessed to evaluate conditions and determine appropriate control measures and worker protection, if necessary.

3.2.2 Biological Hazards

3.2.2.1 Mould Contamination

No mould contamination was identified in the subject building and no further action is required at this time. Although no obvious mould contamination or evidence to suggest possible hidden mould contamination was identified in the subject building, there is still a potential for hidden mould growth to exist behind or underneath building finishes. Should suspect mould growth be discovered during the course of renovation or demolition work, Safetech recommends that all work stop so that the area can be assessed to evaluate proper control measures and remediation protocols in order to avoid worker exposure to mould and possible contamination of adjacent areas.

3.2.2.2 Pest Infestation

No visual evidence of any significant pest infestation was observed in the subject building. Therefore, no additional precautionary measures are deemed necessary for protection against biological contaminants potentially associated with pest infestation.

3.2.3 Environmental Hazards

3.2.3.1 Polychlorinated Biphenyls (PCBs)

The federal government has set strict regulations for the handling, storage and disposal of PCBs. The PCB Regulations (SOR/2008-273) came into effect on September 5th, 2008 and consolidates and replaces the Chlorobiphenyls Regulations (SOR/91-152) and the Storage of PCB Material Regulations (SOR/92-507). The purpose of the PCB Regulations is to improve the protection of Canada's environment and the health of Canadians by minimizing the risks posed by the use, storage and release of PCBs by accelerating the elimination of these substances.

As of December 31, 2009 all current PCB storage sites are to have been eliminated and there should no longer be any electrical capacitors, electrical transformers, electromagnets, heat transfer equipment or any other equipment in service that contains PCBs at a concentration greater than 500 mg/kg (500 ppm). As of this time, all of this equipment should have been removed from service and sent for destruction. Furthermore, the PCB Regulations restricts the use of equipment containing PCBs (other than light ballasts or pole-top electrical transformers) at concentrations exceeding 50 mg/kg (50 ppm) in sensitive areas (such as drinking water treatment plants, schools, hospitals and senior citizen care facilities) by the same date. All other locations have until December 31, 2025 to decommission equipment containing 50 ppm to 500 ppm PCBs. The assessment confirmed that some of the existing fluorescent light ballasts contain PCB's.

Existing fluorescent light ballasts and HID lamp ballasts are assumed to contain PCBs. When light fixtures are to be decommissioned, all ballasts should be verified at this time by determining the date of manufacture and other pertinent information by referring to the Environment Canada document entitled "Identification of Lamp Ballasts Containing

PCBs" (Report EPS 2/CC/2 (revised) August 1991) to aid in identification. Any ballasts that meet the criteria outlined in this document must be treated as PCB containing.

Newer T8 lamps present in some of the fluorescent light fixtures indicate that a partial lighting retrofit has taken place. These newer T8 lamps use ballasts that do not contain PCBs. Therefore, light fixtures containing T8 lamps are not expected to contain PCB ballasts. However, it should be cautioned that since only the lamps were retrofitted (and not the entire light fixture) there is a potential for previous ballasts used with T12 lamps (which may contain PCBs) to be left in place. Therefore, should renovation/demolition work result in removal and disposal of existing fluorescent light fixtures containing T8 lamps it is still recommended that each fixture is individually assessed for the presence of PCB-containing ballasts and if discovered should be handled and disposed of accordingly as described above.

When PCB-containing equipment is taken out of service, jurisdiction falls under provincial regulations. As per R.R.O 1990, Regulation 347, *General - Waste Management*, the land disposal of PCB waste is prohibited. PCB wastes in Ontario are regulated under R.R.O 1990, Regulation 362, *Waste Management – PCBs* (Reg. 362), made under the Environmental Protection Act. Under this regulation, PCB waste is defined as any waste material containing PCBs at a concentration of more than fifty (50) parts per million by weight (i.e. >50mg/kg), with the exception of an electrical capacitor that has never contained over 1 kg of PCB's. Any PCB-containing equipment taken out of service should be properly handled and disposed of at an authorized destruction facility in accordance with the requirements of Federal Regulation SOR/2008-273 and Reg. 362.

3.2.3.2 Ozone Depleting and Global Warming Substances

Ontario Regulation 463/10, *Ozone Depleting Substances and Other Halocarbons* (O.Reg. 463/10, made under the Environmental Protection Act) controls the use, discharge, sale, transfer, transport, storage and disposal of ozone depleting substances and halocarbons in Ontario. This regulation enhances the control and management of ODS and other halocarbons to prevent or minimize emissions, which serves a dual environmental benefit of lowering emissions of substances that deplete the ozone layer and contribute to global warming.

Air-conditioning units, chiller units, heat pumps, refrigeration and/or freezer units are assumed to contain Ozone Depleting and/or Global Warming Substances

O.Reg. 463/10 restricts the discharge of a class 1 and class 2 ozone depleting substance or a halocarbon into the natural environment or within a building. Servicing and testing of refrigeration equipment should be conducted in accordance with Environment Canada's "Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems". This work must be conducted by a certified person who holds a valid Ozone Depletion Prevention (ODP) Certificate. Refrigeration equipment and containers that are to be dismantled and disposed of need to be properly purged of remaining refrigerant by a certified person and a notice must be

affixed to the equipment or container that indicates it no longer contains a refrigerant (in addition to other information required by the regulation).

Under O.Reg. 463/10 Halon 1301 is considered a “class 1” ozone depleting substance. Fire extinguishing equipment that contains a halon may be discharged to fight fires and can be refilled once up to December 31, 2015 provided that the system is replaced by an alternative within a year of refill. Refilling of these systems with halon is prohibited as of January 1, 2016. Any inspection, maintenance, handling or decommissioning of this system should be conducted in accordance with Environment Canada’s “Environmental Code of Practice on Halons” and ULC/ORD-C1058.18-2004, "The Servicing of Halon and Clean Agent Extinguishing Systems". Inspection and servicing of fire extinguishing equipment that contains a halon and recovery or reconditioning a halon from fire extinguishing equipment can only be conducted by a person employed in a business certified for the inspection of fire extinguishing equipment by Underwriters’ Laboratories of Canada. Fire extinguishing equipment and containers containing halon cannot be dismantled, recycled or otherwise disposed of until it is confirmed by a qualified person that it no longer contains halon and a notice of such is affixed. The only exception to this requirement is portable fire extinguishing equipment containing less than three kilograms of halon.

Any refrigerant that is removed from an air-conditioning unit, heat pump, refrigeration or freezer unit (that is not mobile) is defined as a Stationary Refrigerant Waste under Reg. 347 and must be collected, handled, transported and recycled or disposed of in accordance with the requirements set forth in Sections 30 to 35 of this regulation.

4.0 LIMITATIONS

The information and recommendations detailed in this report were carried out by trained professional and technical staff in accordance with generally accepted environmental and industrial hygiene work practices and procedures. Recommendations provided in this report have been generated in accordance with accepted industry guidelines and practices. These guidelines and practices are considered acceptable as of the date of this report.

In preparation of this report, Safetech relied on information supplied by others, including without limitation, information pertaining to the history and operation of the site, test results and reports of other consultants and testing services provided by independent laboratories. Except as expressly set out in this report, Safetech has not made any independent verification of information provided by independent entities.

The collection of samples at the location noted was consistent with the scope of work agreed-upon with the person or entity to whom this report is addressed and the information obtained concerning prior site investigations. As conditions between samples may vary, the potential remains for the presence of unknown additional contaminants for which there were no known indicators.

The analytical method used for determination of asbestos content meets the requirements of O. Reg. 278/05. However, small asbestos fibres may be missed by PLM due to resolution limitations of the optical microscope. Interfering binder/matrix and/or low asbestos content may also hinder positive identification by PLM. These conditions are common for vermiculite attic insulation (VAI) and non-friable organically bound (NOB) materials such as vinyl floor tiles, roofing materials, mastics and caulking and can lead to "false negative" results. If PLM analytical results for these types of materials indicate no asbestos detected they have been reported as "Presumed Non-ACM". Due to limitations of the analytical method we cannot confirm that low quantities of asbestos are not present in these samples using solely PLM analysis. Additional analytical procedures should be considered for such materials to rule out false negative results.

Conclusions are based on site conditions at the time of inspection and can only be extrapolated to an undefined limited area around inspected locations. The extent of the limited area depends on building construction and conditions. Building materials that are not detailed within this survey due to inaccessibility during the time of survey and/or are uncovered during renovation/demolition activities should be properly assessed by a qualified person prior to their disturbance. Safetech cannot warrant against undiscovered environmental liabilities. If any information becomes available that differs from the findings in this report, we request that we be notified immediately to reassess the conclusions provided herein.

No other person or entity is entitled to use or rely upon this report without the express written consent of Safetech and the person or entity to who it is addressed. Any use that a third party makes of this report, or any reliance based on conclusions and recommendations made, are the responsibility of such third parties. Safetech accepts no responsibility for damages suffered by third parties as a result of actions based on this report.

Appendix A: Summary of ACM Occurrences

Floor	Room No.	Room Description	System	Material	Description	Classification	Friable/ Non-Friable	Condition	Est. Quantity	Unit	Access	Action
1	129	Classroom	Pipe	Pipe Fitting Insulation	Parging cement on pipe fittings	ACM	Friable	Good	10	EA	C	3
1	130	Classroom	Pipe	Pipe Fitting Insulation	Parging cement on pipe fittings	ACM	Friable	Good	15	EA	C	3
1	131	Classroom	Pipe	Pipe Fitting Insulation	Parging cement on pipe fittings	ACM	Friable	Good	15	EA	C	3
1	148	Classroom	Pipe	Pipe Fitting Insulation	Parging cement on pipe fittings	ACM	Friable	Good	5	EA	D	3
1	153	Classroom	Pipe	Pipe Fitting Insulation	Parging cement on pipe fittings	ACM	Friable	Good	20	EA	C	3
1	159	Classroom	Pipe	Pipe Fitting Insulation	Parging cement on pipe fittings	ACM	Friable	Good	20	EA	C	3
2	237 (205)	Classroom	Pipe	Pipe Fitting Insulation	Parging cement on pipe fittings	ACM	Friable	Good	2	EA	D	3
1, 2	N/A	Throughout	Pipe	Pipe Fitting Insulation	Parging cement on pipe fittings concealed within wall cavities, ceiling cavitites, pipe chases and bulkheads	ACM	Friable	Not Applicable	200	EA	C	3
2	237 (205)	Office	Pipe	Transite	Transite cement drainage pipe running horzintally in ceiling space and veritcally down pipe shaft	Suspected ACM	Non-Friable	Good	40	LF	D	3
1	153A	Cafeteria	Pipe	Transite	Transite cement drainage pipe running veritcally down into floor	Suspected ACM	Non-Friable	Good	40	LF	D	3
1	133D/134	Office/Kitchen	Floor	Mastic	Black and yellow mastic associated with non-asbestos 12"x12" grey with black speck vinyl floor tile	ACM	Non-Friable	Not Applicable	700	SF	E	3
N/A	N/A	Below Grade	Pipe	Transite	Transite cement pipe possibly present below grade	ACM	Friable	Good	500	LF	E	3
Throughout	N/A	Throughout	Window	Putty	Black putty between window and frame associated with original windows	ACM	Non-Friable	Good	50 (per window)	LF	A	3
Throughout	N/A	Throughout	Window	Putty	Black putty between window and frame associated with glass on original doors	ACM	Non-Friable	Good	20 (per window)	LF	A	3
Throughout	N/A	Throughout	Window	Putty	Grey putty between window and frame associated with glass on original doors	ACM	Non-Friable	Good	20 (per window)	LF	A	3
Throughout	N/A	Throughout	Wall	Drywall Joint Compound	Beige drywall joint compound associated with original drywall walls and pipe chases	ACM	Non-Friable	Good	8,000	SF	A	3
Throughout	N/A	Throughout	Ceiling	Drywall Joint Compound	Beige drywall joint compound associated with original drywall ceilings and bulkheads	ACM	Non-Friable	Good	5,000	SF	A	3
Throughout	N/A	Throughout	Wall	Caulking	Interior grey expansion joint caulking between concrete block wall joints	ACM	Non-Friable	Good	1,000	LF	A	3
Throughout	N/A	Throughout	Wall	Chalkboard	Chalkboards in classrooms	Suspected ACM	Non-Friable	Not Applicable	Not Determined	N/A	A	3
Throughout	N/A	Throughout	Wall	Mastic	Mastic pucks behind chalkboards in classrooms	Suspected ACM	Non-Friable	Not Applicable	Not Determined	N/A	A	3
Throughout	N/A	Throughout	Ducts	Flexible Duct Connector	Cloth-flexible duct connectors associated with HVAC system	Suspected ACM	Non-Friable	Not Applicable	Not Determined	N/A	A	3
Roof	N/A	Roof	Roof	Black Compound	Black compound assocaited with chiller pipes, roof vents, roof anchors etc.	ACM	Non-Friable	Good	200	SF	B	3

Appendix B: Site Drawings

LEGEND

CEMENT PIPE (ACM)

MASTIC (ACM)

PARGING CEMENT ON FITTINGS (ACM)

ASBESTOS-CONTAINING PARGING CEMENT ON FITTINGS MAY BE CONCEALED WITHIN WALL CAVITIES, CEILING CAVITIES, PIPE CHASES AND/OR BULKHEADS

BLACK AND GREY WINDOW PUTTY ASSOCIATED ORIGINAL DOORS AND WINDOWS THROUGHOUT IS ASBESTOS-CONTAINING.

BEIGE JOINT COMPOUND ASSOCIATED ORIGINAL DRYWALL WALLS, CEILINGS, PIPE CHASES AND BULKHEADS THROUGHOUT IS ASBESTOS-CONTAINING.

INTERIOR GREY EXPANSION JOINT CAULKING THROUGHOUT IS ASBESTOS-CONTAINING.

BLACK COMPOUND ASSOCIATED WITH CHILLER PIPES, ROOF ANCHORS, ROOF VENTS ETC. THROUGHOUT IS ASBESTOS-CONTAINING.



1) THIS FLOOR PLAN MUST BE READ IN CONJUNCTION WITH THE DESIGNATED SUBSTANCE AND HAZARDOUS MATERIALS ASSESSMENT REPORT.
2) NOT ALL ASBESTOS-CONTAINING MATERIALS ARE INDICATED IN THE FLOOR PLAN. REFER TO THE DESIGNATED SUBSTANCE AND HAZARDOUS MATERIALS REPORT FOR FURTHER DETAILS.
3) REMOVAL OR DISTURBANCE OF ASBESTOS-CONTAINING BUILDING MATERIALS MUST BE CONDUCTED IN ACCORDANCE WITH ONTARIO REGULATION 278/05 "DESIGNATED SUBSTANCE - ASBESTOS ON CONSTRUCTION PROJECTS AND IN BUILDINGS AND REPAIR OPERATIONS".

FIRST FLOOR

BUILDING DEMOLITION

721 ROYAL YORK ROAD
TORONTO, ONTARIO

DRAWING NO.
DS-1

DATE: AUGUST 2, 2022

SAFETECH PROJECT NO.
3220451

safeTECH ENVIRONMENTAL LTD.
3045 SOUTHCREEK RD, UNIT 14
MISSISSAUGA, ONTARIO
L4X 2X7

LEGEND

CEMENT PIPE (ACM)

PARGING CEMENT ON FITTINGS (ACM)

ASBESTOS-CONTAINING PARGING CEMENT ON FITTINGS MAY BE CONCEALED WITHIN WALL CAVITIES, CEILING CAVITIES, PIPE CHASES AND/OR BULKHEADS

BLACK AND GREY WINDOW PUTTY ASSOCIATED ORIGINAL DOORS AND WINDOWS THROUGHOUT IS ASBESTOS-CONTAINING.

BEIGE JOINT COMPOUND ASSOCIATED ORIGINAL DRYWALL WALLS, CEILINGS, PIPE CHASES AND BULKHEADS THROUGHOUT IS ASBESTOS-CONTAINING.

INTERIOR GREY EXPANSION JOINT CAULKING THROUGHOUT IS ASBESTOS-CONTAINING.

BLACK COMPOUND ASSOCIATED WITH CHILLER PIPES, ROOF ANCHORS, ROOF VENTS ETC. THROUGHOUT IS ASBESTOS-CONTAINING.



1) THIS FLOOR PLAN MUST BE READ IN CONJUNCTION WITH THE DESIGNATED SUBSTANCE AND HAZARDOUS MATERIALS ASSESSMENT REPORT.
2) NOT ALL ASBESTOS-CONTAINING MATERIALS ARE INDICATED IN THE FLOOR PLAN. REFER TO THE DESIGNATED SUBSTANCE AND HAZARDOUS MATERIALS REPORT FOR FURTHER DETAILS.
3) REMOVAL OR DISTURBANCE OF ASBESTOS-CONTAINING BUILDING MATERIALS MUST BE CONDUCTED IN ACCORDANCE WITH ONTARIO REGULATION 278/05 "DESIGNATED SUBSTANCE - ASBESTOS ON CONSTRUCTION PROJECTS AND IN BUILDINGS AND REPAIR OPERATIONS".

SECOND FLOOR

BUILDING DEMOLITION

721 ROYAL YORK ROAD
TORONTO, ONTARIO

DRAWING NO.
DS-2

DATE: AUGUST 2, 2022

SAFETECH PROJECT NO.
3220451

safeTECH ENVIRONMENTAL LTD.
3045 SOUTHCREEK RD, UNIT 14
MISSISSAUGA, ONTARIO
L4X 2X7

Appendix C: Laboratory Certificate of Analysis – Asbestos

emcscientific INCORPORATED

Laboratory Analysis Report

To:

Anthony Fiume
Safetech Environmental Ltd.
3045 Southcreek Road, Unit 14
Mississauga, Ontario
L4X 2X7

EMC LAB REPORT NUMBER: A81746
Job/Project Name: Bishop Allen Academy School Demolition
Analysis Method: Polarized Light Microscopy – EPA 600
Date Received: Jul 14/22 **Date Analyzed:** Jul 25,26/22
Analyst: Dina Yousif
Reviewed By: Jayoda Perera, *Analyst*

No. of Phases Analyzed: 177
Job No: 1-3220451
Number of Samples: 129
Date Reported: Jul 26/22

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
1a	A81746-1	Beige DJC – 145A Adjacent Kitchen WR	2 Phases; a) White, joint compound b) Beige, joint compound	 **ND** **Chrysotile**	 **1**		 100 99
1b	A81746-2	White DJC – Room 112	NA	**NA**			
1c	A81746-3	White DJC – Room 108	NA	**NA**			
2a	A81746-4	White DJC – Room 131B	White and off white, joint compound	**ND**			100
2b	A81746-5	White DJC – Room 136B	White, joint compound	**ND**			100
2c	A81746-6	White DJC – Room 153A	White, joint compound	**ND**			100
2d	A81746-7	White DJC – Room 151	White and off white, joint compound	**ND**			100
2e	A81746-8	White DJC – Room 148D	White and off white, joint compound	**ND**			100
2f	A81746-9	Plaster – Room 147	White, joint compound	**ND**			100
2g	A81746-10	Plaster – Room 153A	White, joint compound	**ND**			
3a	A81746-11	Plaster – Room 153	3 Phases; a) Off white, joint compound b) White, plaster c) Grey, plaster	 **ND** **ND** **ND**			 100 100 100

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
3b	A81746-12	Plaster – Room 153A	2 Phases; a) White, plaster b) Grey, plaster	 **ND** **ND**			 100 100
3c	A81746-13	Plaster – 133D	2 Phases; a) White, plaster b) Grey, plaster	 **ND** **ND**			 100 100
3d	A81746-14	Plaster – Room 123B	2 Phases; a) White, plaster b) Grey, plaster	 **Chrysotile** **ND**	 **<0.5**		 100 100
3e	A81746-15	Plaster – Room 147	White, plaster				
3f	A81746-16	White DJC – Room 112	White, plaster				
3g	A81746-17	White DJC – Room 108	3 Phases; a) White and off white, joint compound b) White, plaster c) Grey, plaster	 **ND** **ND** **ND**			 100 100 100
4a	A81746-18	Exterior DJC – Exterior Soffit for Corridor 103	White, joint compound	**ND**			100
4b	A81746-19	Exterior DJC – Exterior Soffit for Corridor 103	White, joint compound	**ND**			100
4c	A81746-20	Exterior DJC – Exterior Soffit for Corridor 103	White, joint compound	**ND**			100
5a	A81746-21	Sprayed Fireproofing – Cafeteria 153A	Grey, fibrous material	**ND**		85	15

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
5b	A81746-22	Sprayed Fireproofing – Room 221/221A	Grey, fibrous material	**ND**		85	15
5c	A81746-23	Sprayed Fireproofing – Room 236A	Grey, cementitious material with fibres	**ND**		25	75
5d	A81746-24	Sprayed Fireproofing – Room 236A	Grey, fibrous material	**ND**		85	15
5e	A81746-25	Sprayed Fireproofing – Room 131B	Grey, cementitious material with fibres	**ND**		25	75
5f	A81746-26	Sprayed Fireproofing – Room 131B	Grey, cementitious material with fibres	**ND**		25	75
5g	A81746-27	Sprayed Fireproofing – 145A	Grey, cementitious material with fibres	**ND**		25	75
6a	A81746-28	Black Window Putty (Window and Frame) – Original Windows	Black, caulking	**ND**			100
6b	A81746-29	Black Window Putty (Window and Frame) – Original Windows	Black, caulking	**ND**			100
6c	A81746-30	Black Window Putty (Window and Frame) – Original Windows	Black, caulking	**Chrysotile**	**2**		98
7a	A81746-31	Black Window Putty (Window and Frame) – Original Door Window Units	Black, caulking	**Chrysotile**	**2**		98
7b	A81746-32	Black Window Putty (Window and Frame) – Original Door Window Units	NA	**NA**			
7c	A81746-33	Black Window Putty (Window and Frame) – Original Door Window Units	NA	**NA**			
8a	A81746-34	Grey Window Putty (Window and	Grey, caulking	**Chrysotile**	**3**		97

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
		Frame) – Original Door Window Units					
8b	A81746-35	Grey Window Putty (Window and Frame) – Original Door Window Units	NA	**NA**			
8c	A81746-36	Grey Window Putty (Window and Frame) – Original Door Window Units	NA	**NA**			
9a	A81746-37	Green/Black Window Frame Caulking – Original Windows	2 Phases; a) Green, caulking b) Black, caulking	 **ND** **ND**			 100 100
9b	A81746-38	Green/Black Window Frame Caulking – Original Windows	2 Phases; a) Green, caulking b) Black, caulking	 **ND** **ND**			 100 100
9c	A81746-39	Green/Black Window Frame Caulking – Original Windows	2 Phases; a) Green, caulking b) Black, caulking	 **ND** **ND**			 100 100
10a	A81746-40	12"x12" Beige with Beige Speck VFT – Room 147	Beige, vinyl floor tile	**ND**			100
10b	A81746-41	12"x12" Beige with Beige Speck VFT – Room 147	Beige, vinyl floor tile	**ND**			100
10c	A81746-42	12"x12" Beige with Beige Speck VFT – Room 147	Beige, vinyl floor tile	**ND**			100
11a	A81746-43	12"x12" Grey with White Speck VFT – Room 151	2 Phases; a) Grey and white, vinyl floor tile b) Colourless, mastic	 **ND** **ND**			 100 100

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
11b	A81746-44	12"x12" Grey with White Speck VFT – Room 151	2 Phases; a) Grey and white, vinyl floor tile a) Colourless, mastic	 **ND** **ND**			 100 100
11c	A81746-45	12"x12" Grey with White Speck VFT – Room 151	2 Phases; a) Grey and white, vinyl floor tile a) Colourless, mastic	 **ND** **ND**			 100 100
12a	A81746-46	Grey VSF – Room 112	4 Phases; a) Grey and pink, vinyl flooring b) Beige and grey, vinyl backing c) Off white, mastic d) Grey, cementitious material	 **ND** **Chrysotile** **ND** **ND**	 **<0.5** 	 60 	 100 40 100 100
12b	A81746-47	Grey VSF – Room 112	4 Phases; a) Grey and pink, vinyl flooring b) Beige and grey, vinyl backing c) Off white, mastic d) Grey, cementitious material	 **ND** **Chrysotile** **ND** **ND**	 **<0.5** 	 60 	 100 40 100 100
12c	A81746-48	Grey VSF – Room 112	4 Phases; a) Grey and pink, vinyl flooring b) Beige and grey, vinyl backing c) Off white, mastic d) Grey, cementitious material	 **ND** **Chrysotile** **ND** **ND**	 **<0.5** 	 60 	 100 40 100 100
13a	A81746-49[6]	12"x12" Grey with Black Speck VFT – Room 133D	3 Phases; a) Grey, vinyl floor tile b) Black and yellow, mastic c) Grey, cementitious material	 **ND** **Chrysotile** **ND**	 **1** 	 	 100 99 100
13b	A81746-	12"x12" Grey with Black Speck VFT	3 Phases:				

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
	50[6]	– Room 133D	a) Grey, vinyl floor tile b) NA c) Grey, cementitious material	**ND** **NA** **ND**			100 100
13c	A81746-51	12"x12" Grey with Black Speck VFT – Room 133D	2 Phases; a) Grey, vinyl floor tile b) NA	 **ND** **NA**			 100
14a	A81746-52	Mastic Associated with VFT – Cafeteria 153A	Black, mastic	**ND**			100
14b	A81746-53	Mastic Associated with VFT – Cafeteria 153A	Black, nastic	**ND**			100
14c	A81746-54	Mastic Associated with VFT – Cafeteria 153A	Black and brown, mastic	**ND**			100
15a	A81746-55	Textured SFP on Steel Column – Room 228	Grey, textured cementitious material with fibres	**ND**		25	75
15b	A81746-56	Textured SFP on Steel Column – Room 228	Grey, textured cementitious material with fibres	**ND**		25	75
15c	A81746-57	Textured SFP on Steel Column – Room 228	Grey, textured cementitious material with fibres	**ND**		25	75
16a	A81746-58	Carpet Mastic – Room 136D	Brown, mastic	**ND**			100
16b	A81746-59	Carpet Mastic – Room 136D	Brown, mastic	**ND**			100
16c	A81746-60	Carpet Mastic – Room 136D	Brown, mastic	**ND**			100
17a	A81746-61	Wall Tile Mastic – Room 220	Off white, mastic	**ND**			100
17b	A81746-62	Wall Tile Mastic – Room 220	Off white, mastic	**ND**			100

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Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
17c	A81746-63	Wall Tile Mastic – Room 220	Off white, mastic	**ND**			100
18a	A81746-64	1x1 Window Grout – Library 124	Grey, cementitious material	**ND**			100
18b	A81746-65	1x1 Window Grout – Library 124	Grey, cementitious material	**ND**			100
18c	A81746-66	1x1 Window Grout – Library 124	Grey, cementitious material	**ND**			100
19a	A81746-67	Grey Window Frame Caulking – Exterior	Grey, caulking	**ND**			100
19b	A81746-68	Grey Window Frame Caulking – Exterior	Grey, caulking	**ND**			100
19c	A81746-69	Grey Window Frame Caulking – Exterior	Grey, caulking	**ND**			100
20a	A81746-70	Concrete Block Mortar – Sprinkler Room 133C	Grey, textured cementitious material	**ND**			100
20b	A81746-71	Concrete Block Mortar – Sprinkler Room 133C	Grey, textured cementitious material	**ND**			100
20c	A81746-72	Concrete Block Mortar – Sprinkler Room 133C	Grey, textured cementitious material	**ND**			100
21a	A81746-73	Brick Mortar – Exterior	2 Phases; a) Grey, cementitious material b) Brown, cementitious material	 **ND** **ND**			 100 100
21b	A81746-74	Brick Mortar – Exterior	2 Phases; a) Grey, cementitious material b) Brown, cementitious material	 **ND** **ND**			 100 100
21c	A81746-75	Brick Mortar – Exterior	2 Phases; a) Grey, cementitious material	 **ND**			 100

EMC LAB REPORT NUMBER: A81746
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Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
			b) Brown, cementitious material	**ND**			100
22a	A81746-76	Interior Brick Mortar – Library 124	Grey, cementitious material	**ND**			100
22b	A81746-77	" " " – Cafeteria 153A	Grey, cementitious material	**ND**			100
22c	A81746-78	" " " – First floor Corridor	Grey, cementitious material	**ND**			100
23a	A81746-79	Floor Leveling Compound – Cafeteria 153A	4 Phases: a) Black, mastic b) Dark grey, cementitious material c) Light grey, cementitious material d) Grey, cementitious material	 **ND** **ND** **ND** **ND**			 100 100 100 100
23b	A81746-80	Floor Leveling Compound – Cafeteria 153A	4 Phases: a) Black, mastic b) Dark grey, cementitious material c) Light grey, cementitious material d) Grey, cementitious material	 **ND** **ND** **ND** **ND**			 100 100 100 100
23c	A81746-81	Floor Leveling Compound – Cafeteria 153A	4 Phases: a) Black, mastic b) Dark grey, cementitious material c) Light grey, cementitious material	 **ND** **ND** **ND**			 100 100 100

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
			d) Grey, cementitious material	**ND**			100
24a	A81746-82	Hard Interior Expansion Joint Caulking – Room 131	2 Phases; a) Grey, caulking b) Grey, cementitious material	**Chrysotile** **ND**	**2**		98 100
24b	A81746-83	Hard Interior Expansion Joint Caulking – Room 129	NA				
24c	A81746-84	Hard Interior Expansion Joint Caulking – Room 147	NA				
25a	A81746-85	2'x4' S/M hole w Fissure – Room 129	Off white, ceiling tile	**ND**		75	25
25b	A81746-86	2'x4' S/M hole w Fissure – Room 129	Off white, ceiling tile	**ND**		75	25
25c	A81746-87	2'x4' S/M hole w Fissure – Room 129	Off white, ceiling tile	**ND**		75	25
26a	A81746-88	Caulking Between AHU Plenum Seams – Room 236A	Grey, caulking	**Chrysotile**	**<0.5**		100
26b	A81746-89	Caulking Between AHU Plenum Seams – Room 236A	Grey, caulking	**Chrysotile**	**<0.5**		100
26c	A81746-90	Caulking Between AHU Plenum Seams – Room 236A	Grey, caulking	**Chrysotile**	**<0.5**		100
27a	A81746-91	Ceramic floor Tile Grout – Corridor Adjacent Library	Off white, cementitious material	**ND**			100
27b	A81746-92	Ceramic floor Tile Grout – Corridor Adjacent Library	Off white, cementitious material	**ND**			100
27c	A81746-93	Ceramic floor Tile Grout – Corridor Adjacent Library	2 Phases; a) Off white, cementitious material	**ND**			100

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
			b) Grey, cementitious material	**ND**			100
28a	A81746-94	Brown Mastic on AHU Seams – Locker Exhaust Duct – Room 226	Brown, mastic	**ND**		3	97
28b	A81746-95	Brown Mastic on AHU Seams – Locker Exhaust Duct – Room 226	Brown, mastic	**ND**		3	97
28c	A81746-96	Brown Mastic on AHU Seams – Locker Exhaust Duct – Room 226	Brown, mastic	**ND**		3	97
29a	A81746-97	Cementitious Coating on Lower 3 ft of CBW – Electrical Room 133B	Grey, textured cementitious material	**ND**			100
29b	A81746-98	Cementitious Coating on Lower 3 ft of CBW – Electrical Room 133B	Grey, textured cementitious material	**ND**			100
29c	A81746-99	Cementitious Coating on Lower 3 ft of CBW – Electrical Room 133B	Grey, textured cementitious material	**ND**			100
30a	A81746-100	Pink Firestop Caulking – Room 136A	Pink, caulking	**ND**			100
30b	A81746-101	Pink Firestop Caulking – Room 136A	2 Phases: a) Pink, caulking b) Black, tar	 **ND** **ND**			 100 100
30c	A81746-102	Pink Firestop Caulking – Room 136A	Pink, caulking	**ND**			100
31a	A81746-103	Black Tar on Chiller Pipes/Roof Vents/Roof Anchors - Roof	2 Phases: a) Black and grey, caulking b) Black and brown, caulking	 **ND** **ND**		 5 3	 95 97
31b	A81746-104	Black Tar on Chiller Pipes/Roof Vents/Roof Anchors - Roof	2 Phases: a) Black and grey, caulking b) Black and brown, caulking	 **ND** **ND**		 5 3	 95 97

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
31c	A81746-105	Black Tar on Chiller Pipes/Roof Vents/Roof Anchors - Roof	Black, caulking	**Chrysotile**	**1**	5	94
32a	A81746-106	Built-Up Roof Membrane – Chiller Roof Section	4 Phases: a) Black, tar b) Black, tar with fibres c) Black, tar d) Black, tar with fibres	 **ND** **ND** **ND** **ND**	 	 10 15	 100 90 100 85
32b	A81746-107	Built-Up Roof Membrane – Chiller Roof Section	4 Phases: a) Black, tar b) Black, tar with fibres c) Black, tar d) Black, tar with fibres	 **ND** **ND** **ND** **ND**	 	 10 15	 100 90 100 85
32c	A81746-108	Built-Up Roof Membrane – Chiller Roof Section	4 Phases: a) Black, tar b) Black, tar with fibres c) Black, tar d) Black, tar with fibres	 **ND** **ND** **ND** **ND**	 	 10 15	 100 90 100 85
33a	A81746-109	Roof Shingle – Cafeteria Roof	2 Phases: a) Black, tar b) Black, tar with fibres	 **ND** **ND**	 	 10	 100 90
33b	A81746-110	Roof Shingle – Cafeteria Roof	2 Phases: a) Black, tar b) Black, tar with fibres	 **ND** **ND**	 	 10	 100 90
33c	A81746-111	Roof Shingle – Cafeteria Roof	2 Phases: a) Black, tar b) Black, tar with fibres	 **ND** **ND**	 	 10	 100 90

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
34a	A81746-112	Green Caulking Between Metal Panels – Exterior Roof	Green, caulking	**ND**			100
34b	A81746-113	Green Caulking Between Metal Panels – Exterior Roof	Green, caulking	**ND**			100
34c	A81746-114	Green Caulking Between Metal Panels – Exterior Roof	Green, caulking	**ND**			100
35a	A81746-115	Red/Grey Expansion Joint Caulking – Exterior	Grey and brown, caulking	**Chrysotile**	**<0.5**		100
35b	A81746-116	Red/Grey Expansion Joint Caulking – Exterior	Grey and brown, caulking	**Chrysotile**	**<0.5**		100
35c	A81746-117	Red/Grey Expansion Joint Caulking – Exterior	Grey and brown, caulking	**Chrysotile**	**<0.5**		100
36a	A81746-118	Grey Expansion Joint Caulking – Exterior	Grey, caulking	**ND**			100
36b	A81746-119	Grey Expansion Joint Caulking – Exterior	Grey, caulking	**ND**			100
36c	A81746-120	Grey Expansion Joint Caulking – Exterior	Grey, caulking	**ND**			100
37a	A81746-121	Grey Caulking on Seams – EF07/EF08 – East Roof	Grey, caulking	**ND**			100
37b	A81746-122	Grey Caulking on Seams – EF07/EF08 – East Roof	Grey, caulking	**ND**			100
37c	A81746-123	Grey Caulking on Seams – EF07/EF08 – East Roof	Grey, caulking	**ND**			100
38a	A81746-124	Black Window Putty – Exterior Brown Windows 2nd Floor	Black, caulking	**ND**			100

EMC LAB REPORT NUMBER: A81746
Client's Job/Project Name/No.: 1-3220451
Analyst: Dina Yousif

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
38b	A81746-125	Black Window Putty – Exterior Brown Windows 2nd Floor	Black, caulking	**ND**			100
38c	A81746-126	Black Window Putty – Exterior Brown Windows 2nd Floor	Black, caulking	**ND**			100
39a	A81746-127	Black Roof Flashing Caulking - Roof	2 Phases: a) Black, caulking b) Green, caulking	 **ND** **ND**			 100 100
39b	A81746-128	Black Roof Flashing Caulking - Roof	Black, caulking	**ND**			100
39c	A81746-129	Black Roof Flashing Caulking - Roof	Black, caulking	**ND**			100

Note:

1. Bulk samples are analyzed using Polarized Light Microscopy (PLM) and dispersion staining techniques. The analytical procedures are in accordance with EPA 600/R-93/116 method.
2. The results are only related to the samples analyzed. **ND** = None Detected (no asbestos fibres were observed), **NA** = Not Analyzed (analysis stopped due to a previous positive result).
3. This report may not be reproduced, except in full without the written approval of EMC Scientific Inc. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.
4. The Ontario Regulatory Threshold for asbestos is 0.5%. The limit of quantification (LOQ) is 0.5%.
5. Vinyl floor tiles may contain very fine asbestos fibres which the PLM method cannot detect. TEM analysis may be necessary to confirm the absence of asbestos.
6. Phase c) is small in size.

Appendix D: Laboratory Certificate of Analysis – Lead

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---

REPORT No. B22-22401

Report To:

EMC Scientific Inc.
5800 Ambler Dr. #100,
Mississauga ON L4W 4J4 Canada
Attention: Alister Haddad

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
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DATE RECEIVED: 15-Jul-22
DATE REPORTED: 28-Jul-22
SAMPLE MATRIX: Paint Chips

JOB/PROJECT NO.: Bishop Allen Academy School Demo
P.O. NUMBER: 1-3220451
WATERWORKS NO.

	Parameter		Lead				
	Units		% by wt				
	R.L.		0.0005				
	Reference Method		EPA 6010				
	Date Analyzed/Site		21-Jul-22/O				
Client I.D.	**Sample I.D.**	**Date Collected**					
L1 Beige-Plaster-153	B22-22401-1	13-Jul-22	0.198				
L2 Grey-Concrete Flor-133b	B22-22401-2	13-Jul-22	0.0384				
L3 Black-Concrete Beam-153a	B22-22401-3	13-Jul-22	< 0.0005				
L4 Beige-DW-214	B22-22401-4	13-Jul-22	< 0.0005				
L5 White-DW-Corr Adj. 216	B22-22401-5	13-Jul-22	< 0.0005				
L6 Green Metal-Ext	B22-22401-6	13-Jul-22	1.31				
L7 Beige-Plast Blkh-Cor Adj 227	B22-22401-7	13-Jul-22	0.0934				

Tahir Yapici Ph.D
Lab Supervisor

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from

Appendix E: Methodology

A. METHODOLOGY

The presence of hazardous materials was assessed by visual inspection. For the purpose of this assessment and this document, hazardous materials include designated substances as well as other chemical, biological and environmental hazards as defined below:

- Designated Substances (as prescribed by Ontario Regulation 490/09):
    - Acrylonitrile, Arsenic, Asbestos, Benzene, Coke Oven Emissions, Ethylene Oxide, Isocyanates, Lead, Mercury, Silica and Vinyl Chloride.
- Other Hazardous Materials:
    - **Chemical Hazards** – Urea Formaldehyde Foam Insulation (UFFI)
    - **Biological Hazards** – Mould Contamination and Pest Infestation
    - **Environmental Hazards** – Polychlorinated Biphenyls (PCBs) and Ozone Depleting & Global Warming Substances

Concealed locations such as above solid plaster or drywall ceilings, within plaster or drywall wall cavities, enclosed mechanical/pipe shafts and bulkheads, etc. were not investigated, unless otherwise stated in Section 1.3. Similarly, motors, blowers, electrical panels, etc., were not de-energized or disassembled to examine concealed conditions. Building materials that are not detailed within this assessment due to inaccessibility at the time of our site visit and/or uncovered during renovation/demolition activities should be assessed by a qualified person prior to their disturbance.

Bulk sampling followed by laboratory analysis was also conducted to confirm the presence/absence of select hazardous materials. Bulk sampling was limited to asbestos in building materials and lead in paint on building finishes (if flaking paint was present). All other hazardous materials were identified by visual inspection only. Where possible, observations regarding the location, quantity and condition of the hazardous materials identified were made in order to determine the potential for exposure and provide appropriate recommendations for remedial action, if necessary. Specific methodology for each individual hazardous material assessed is further detailed below.

A.1 Designated Substances

A.1.1 Asbestos

A visual inspection for the presence of both friable and non-friable asbestos-containing material (ACM) was performed in the subject area.

If an existing asbestos survey was available for review, Safetech relied on the information present. Building materials that were visually similar to materials previously tested and that were confirmed to be either ACM or non-ACM were considered to have consistent content and were not re-sampled. Additional sampling was only conducted where the investigator believed a need existed.
Bulk samples of building materials suspected to contain asbestos were retrieved by Safetech only for materials that were deemed to have a potential to be disturbed as part

of the construction project. Some suspect materials may not have been sampled during our investigation. Bulk samples were retrieved in accordance with Section 3 and Table 1 of Ontario Regulation 278/05, "Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations". The number of samples collected for each material was based on the type and quantity of the material present in the subject area. Each individual sample was placed in a labeled zip-lock bag for transportation to an independent laboratory (EMSL). EMSL is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis.

Analysis for asbestos content was performed by the independent laboratory in accordance with the U.S. Environmental Protection Agency (EPA) Test Method *EPA/600/R-93-116: Method for the Determination of Asbestos in Bulk Building Materials (June 1993)*. This method identifies the asbestos fibre content of building materials using polarized light microscopy (PLM) analytical techniques, with confirmation of presence and type of asbestos made by dispersion staining optical microscopy. This analytical method meets the requirements set forth in Section 3 of O. Reg. 278/05.

In accordance with O. Reg. 278/05, an asbestos-containing material is defined as material that contains 0.5 per cent or more asbestos by dry weight. The laboratory was instructed to conduct "stop-positive" analysis for all materials. If a sample was found to be asbestos-containing no further analysis was conducted for samples taken from the same homogeneous material.

Locations where ACM have been identified are detailed in this report. Recommendations pertaining to ACM were made based on the friability, accessibility and condition of the material in conjunction with the potential for the planned renovation work to disturb the ACM.

A.1.2 Assessment of Asbestos-Containing Building Materials

Accessibility, Condition and Action (Priority) ratings for individual items, or defined areas were developed by Safetech to determine remedial action plans specific to the facility's needs.

A.1.2.1 Accessibility

Accessibility has been assessed as: (A) Accessible to all non-maintenance occupants of the building; (B) Accessible to maintenance staff without a ladder; (C) Accessible to maintenance staff with a ladder and exposed to view without moving a building component; (D) Accessible to maintenance staff with a ladder and concealed from view due to a building component; (E) Not accessible without demolition or removal of fixed building components or building systems

A.1.2.2 Condition

The condition of asbestos-containing materials identified in the subject area was assessed as Good (G), Fair (F) or Poor (P). The assessment criteria used to determine condition is dependent on material characteristics, such as friability. The following table summarizes the criteria used by Safetech to evaluate the condition of ACM.

Sprayed Fireproofing, Sprayed Insulation and Sprayed Texture Finishes	
Good	• Surface shows no significant signs of damage, deterioration, or delamination (i.e. <1%). • Unencapsulated or unpainted fireproofing or texture finishes, where no delamination or damage is observed. • Encapsulated fireproofing or texture finishes where encapsulation applied after damage or fallout.
Fair	• Not utilized as part of condition assessment for these materials.
Poor	• Greater than 1% damage, delamination, or deterioration to surface.
In areas where damage exists in isolated locations, both Good and Poor may be applicable.	
Mechanical Insulation (boilers, breeching, ductwork, piping, tanks, equipment, etc.)	
Good	• Insulation completely covered in jacketing and exhibits no evidence of damage or deterioration. • Jacketing may have minor damage (i.e. scuffs or stains), but is not penetrated.
Fair	• Minor penetrating damage to jacketed insulation (cuts, tears, nicks, deterioration or delamination). • Undamaged insulation that had never been jacketed. • Insulation is exposed but not showing surface disintegration. • Extent of missing insulation ranges from minor to none. • Damage that can be repaired.
Poor	• Original insulation jacket is missing, damaged, deteriorated, or delaminated. • Insulation is exposed and significant areas have been dislodged. • Damage that cannot be easily repaired.
Non-Friable and Potentially Friable Materials (includes materials such as plaster finishes, drywall compound, ceiling tiles, asbestos cement products, vinyl asbestos tile and asbestos paper backed vinyl sheet flooring, etc., which have the potential to become friable when handled)	
Good	• No significant damage. • Material may be cracked or broken but is stable and not likely to become friable upon casual contact. • No friable debris present
Fair	• Not utilized as part of condition assessment for these materials.
Poor	• Material is severely damaged. • Debris is present or binder has disintegrated to the point where the material has become friable.
Asbestos-Containing Debris (noted separately from the presumed source material)	
Poor	• Debris is always considered to be in Poor condition.

A.1.2.3 Action

Recommended ACTION for compliance and for management of identified asbestos-containing materials has been provided for each condition and component outlined in the above table. Recommendations have been classified under the following 8 ACTIONS:

1. Action dealing with the immediate clean-up of fallen ACM likely to be disturbed.

2. Action dealing with the need to use Type 2 asbestos procedures to enter an area (other than a ceiling space).
3. Action dealing with performing asbestos removal for compliance with regulations.
4. Action dealing with Type 2 asbestos procedures for ceiling entry where friable ACM debris is present on the top side of a ceiling system.
5. Action dealing with the removal of asbestos that goes beyond compliance requirements but simplifies the asbestos management.
6. Action dealing with the repair of asbestos.
7. Action dealing with ACM surveillance requirements of the regulation.
8. Action for dealing with material that may contain asbestos but was not conclusively identified in the survey.

A.1.2.4 Quantity

The approximate quantity and the units of measure related to the quantity (i.e.: linear feet (LF), square feet (SF) or each (EACH) as appropriate to the item) have only been provided for materials requiring remedial or corrective action (i.e. materials in Fair or Poor condition). In such circumstances any quantities provided should be considered rough estimates only and should not be solely relied upon for bidding purposes. It is the responsibility of the selected Contractor to obtain actual quantities.

A.2 Lead

If paint samples were collected, they would be collected by scraping the paint down to the base material substrate to ensure collection of all layers of paint. Care would be taken to avoid collection of the underlying substrate to reduce analytical substrate matrix interference.

If collected, paint samples would be submitted to an independent laboratory for the determination of lead content. The laboratory would participate in and accredited by the EPA (U.S. Environmental Protection Agency) for analysis of lead in paint chips through the American Industrial Hygiene Association (AIHA) Environmental Lead Laboratory Accreditation Program (ELLAP). Analysis would be conducted by the laboratory following the EPA “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (SW-846), Method 7000B “Flame Atomic Absorption Spectrophotometry”. Result of analysis would be reported by the laboratory as the percentage of lead by weight of the total sample (% by wt.).

The presence of lead in other materials, such as lead sheeting, pigmented mortar, lead piping, lead solder, etc. would be noted where observed but not sampled to verify lead content. Lead can be present in these materials to varying degrees, depending on their age of application and should be considered lead-containing until proven otherwise.

A.3 Mercury

The type, quantity and location of mercury-containing equipment and devices in the subject area were determined by visual inspection based on appearance, age and knowledge of historical uses. Sampling for mercury-containing building materials and dismantling of suspect mercury-containing equipment was not performed. Where possible, attempts were made to verify the presence/absence of mercury by gathering additional information such as equipment model number, serial number, etc.

A.4 Silica

The presence of crystalline silica in building materials was determined through visual inspection of building materials only, based on knowledge of the historic use of silica-containing materials in certain building materials. Sampling to verify the presence/absence of silica in building materials was not performed.

A.5 Other Designated Substances

Other designated substances (i.e. acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride) are typically not expected to be encountered in building materials as significant constituents or in a form that would represent an exposure concern. These substances were not included in the assessment unless specific information regarding their use (e.g. in a manufacturing process) was provided to us. No sampling for these designated substances was performed.

A.6 Other Hazardous Materials

A.6.1 Chemical Hazards

A.6.1.1 Urea Formaldehyde Foam Insulation (UFFI)

A visual inspection to evaluate the possible presence of Urea Formaldehyde Foam Insulation (UFFI) was conducted in the subject area. Our visual inspection was limited to identifying evidence of possible UFFI installation (i.e. repaired nozzle holes in walls) and overspray at wall/ceiling joints, etc. No destructive testing or material sampling was conducted as part of the assessment.

A.7 Biological Hazards

A.7.1.1 Mould Contamination

A visual inspection to determine the possibility of mould growth was conducted in the subject area. The assessment was limited to identifying evidence of mould growth and water damage (staining, material deterioration, efflorescence, etc.) on the surface of building materials, which may be an indicator of hidden mould growth. No moisture content readings of building materials were taken to determine their current condition. Additionally, destructive testing to confirm the presence/absence of hidden mould growth and material sampling to verify the presence/absence of mould on suspect surfaces was beyond the scope of this assessment.

A.7.1.2 Pest Infestation

The presence and extent of pest infestation in the subject area was based on visually inspecting for evidence of significant pest activity, including signs of nesting, droppings/fecal accumulation, dead insects/carcass accumulation, etc. Evidence of minor pest presence was not considered to be indicative of pest infestation.

A.8 Environmental Hazards

A.8.1 Polychlorinated Biphenyls (PCBs)

The presence of PCB-containing electrical equipment in the subject area was identified through visual inspection and knowledge of the timeline of historical use.

For stand-alone transformers and capacitors, information from the manufacturer nameplate (such as the date of manufacture, dielectric fluid trade name or "Type Number", etc.) was gathered, where possible, to further evaluate if the equipment may contain PCBs. This information was then compared to the information provided in the Environment Canada document entitled "Handbook on PCB's in Electrical Equipment" (Third Edition, April 1988) to aid in identification. Transformers and capacitors confirmed to be manufactured after 1979 were assumed to not contain PCBs. If appropriate information could not be obtained it was assumed that the transformer or capacitor contained PCBs.

For fluorescent light ballasts, a representative number of fixtures were inspected, if possible, for assessment areas that were constructed prior to 1980 and where there was no history or evidence of a complete lighting retrofit. The light fixtures were examined by removing any lenses and ballast covers to expose the ballast and identify information such as ballast make, model number, serial number, and date code. This information was then compared to the information provided in the Environment Canada document entitled "Identification of Lamp Ballasts Containing PCBs" (Report EPS 2/CC/2 (revised) August 1991) to aid in identification. Ballasts that could not be confirmed Non-PCB-containing were assumed to contain PCBs. The light fixtures were not de-energized and ballasts were not removed to obtain manufacturer information that may be on the back of the ballast. If visual confirmation of ballast type could not be made it was assumed that light fixtures in areas constructed prior to 1980 that have not undergone a complete lighting retrofit have PCB-containing ballasts until proven otherwise.

No sampling of materials or fluids within equipment was conducted to verify the presence/absence of PCBs. Inspection and testing of other materials for PCB content, including (but not limited to) caulking, asphalt, oil-based paint, plastics, switches, electric cables and hydraulic fluids was beyond the scope of the assessment.

A.8.2 Ozone Depleting and Global Warming Substances

The presence of fixed equipment likely to contain ozone-depleting substances (ODS) and/or global-warming substances (GWS) was identified through visual inspection and

knowledge of the timeline of historical use. This included equipment such as chillers, air-conditioners, walk-in refrigeration and freezer units and fixed dry-chemical fire extinguishers, where chemicals such as hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs) or halons may be present. Where possible, information regarding the type and quantity of refrigerant present was obtained from the manufacturer nameplate. Our visual assessment was limited to fixed equipment in the subject area and did not include portable equipment such as stand-alone refrigerators, freezers, water coolers, air-conditioners and fire extinguishers, etc.

Natural Heritage Impact Assessment (Revision 4)

Bishop Allen Academy Redevelopment, Toronto

Toronto Catholic District School Board
80 Sheppard Avenue East
North York ON M2N 6E8

Natural Heritage Impact Assessment (Revision 4)

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Toronto Catholic District School Board
80 Sheppard Avenue East
North York ON M2N 6E8

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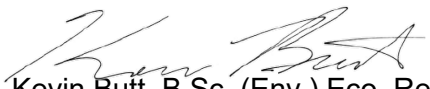
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0	Yes	Yes	Christine Stasevich, Hossack & Associates Architects Inc.

Record of Revisions

Revision	Date	Description
0	August 30, 2023	Submission to City and TRCA
1	April 11, 2024	Revised to address RNFP comments
2	April 15, 2025	Revised to address North-South comments
3	October 30, 2025	Revised to address North-South comments
4	October 9, 2026	Reduced scope to lands north of Berry Road ROW

R.J. Burnside & Associates Limited

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Executive Summary

This investigation reviews natural feature impacts resulting from the proposed redevelopment of the existing Bishop Allen Academy. The existing building will be demolished, and a new three-story school will be built. The parking areas are proposed to be changed as well.

R.J. Burnside & Associates Limited (Burnside) has prepared this Natural Heritage Impact Assessment (NHIA) as well as an Arborist Report and Ravine Stewardship Plan (RSP), under a separate cover, to accompany the development team's submission.

Background information from ecological databases was reviewed and the potential for Significant Wildlife Habitat was assessed. The results of the findings are provided in the Appendices.

Natural heritage conditions were reviewed by a Burnside Ecologist, in conjunction with background ecological data from online sources. The focus of the study was the wooded ravine to the north and east of the Site, associated with the Mimico Creek valley. It is a Fresh – Moist Manitoba Maple Lowland Deciduous Forest (FODM7-7), a feature subject to significant disturbances due to its urban setting. Manitoba maple *(Acer negundo)* and Norway maple *(Acer platanoides)* dominate the canopy and subcanopy and are young, due to the majority of the canopy trees having a diameter at breast height (DBH) less than 24 cm.

The proposed development will result in very little tree removal at the edge of the ravine. The removal of 63 trees will be required due to conflicts with the proposed development, with additional trees anticipated to be injured due to encroachment into their Minimum Tree Protection Zones (MTPZs). Most of the landscape trees associated with the existing parking area and manicured turf yard require removal due to the improvements to those features.

Impacts are anticipated to be limited due to the development establishing the treed edge of the ravine early in the development process as a priority for protection. The tolerance of the natural heritage features and functions of the valley to urban impacts is anticipated to be high due to its location within an established residential area within the city.

Mitigation has been recommended to be implemented prior to, during, and post-construction. Tree protection fencing and erosion and sediment control measures that are regularly monitored, combined with the removal of household waste and plantings (trees, shrubs, and seeding) to enhance species diversity and reduce informal trail use are anticipated to provide a net enhancement to the ravine system. The details are provided within the Ravine Stewardship Plan.

Monitoring will also apply to the planted material (protected by the two-year planting warranty) and existing trees and their limbs to be reviewed by a Certified Arborist to determine if any high risk trees or limbs require management.

All applicable policies have been reviewed and it is Burnside's opinion that the proposed development is in conformity with the implementation of the proposed mitigation and monitoring.

This revised report has been scoped to include only the Bishop Allen Academy north lot, excluding the Berry Road Right-of-Way and south lot. Species information about that are protected by provincial policy has also been revised since the Endangered Species Act has been replaced by the Species Conservation Act since the last submission.

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1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by the Toronto Catholic District School Board (Client) to conduct a Natural Heritage Impact Assessment (NHIA) in support of the redevelopment of the existing Catholic Secondary School (Bishop Allen Academy) at 721 Royal York Road in Etobicoke ON. The NHIA is intended to characterize the existing conditions and anticipated impacts and recommend mitigation and monitoring measures to avoid / reduce / compensate impacts to natural heritage features and functions. The study area is currently occupied by the existing school building, and associated parking lot. Landscape trees ranging in species occupy the school grounds and property boundaries including the east boundary which is immediately adjacent to the Mimico Creek system. Burnside has also completed the Arborist Report and Tree Preservation Plan (TPP) to determine trees recommended for preservation, removal, protection measures, and compensation. The Ravine Stewardship Plan, also completed by Burnside details mitigation, enhancement measures to be incorporated into the construction design as well as post-construction.

The Mimico Creek system is regulated by the Toronto Conservation Authority (TRCA) and is also subject to the City of Toronto Ravine and Natural Feature Protection (RNFP) By-law, both protection features extend onto the subject property. The eastern boundary of the subject property is designated Natural Heritage System (NHS) by the City of Toronto Official Plan (OP). An NHIA is required by the City of Toronto and TRCA to accompany the development application. The scope of work for this Report was determined based on previous experience and are in accordance with TRCA's *Environmental Impact Statement Guidelines (October 2014).*

2.0 Policy and Legislative Framework

2.1 Migratory Birds Convention Act, 1994

The *Migratory Birds Convention Act, 1994* (MBCA) and the *Migratory Bird Regulations* (MBR) are federal legislative requirements that are binding on members of the public and all levels of government, including federal and provincial. The legislation protects certain species[1], controls the harvest of others, and prohibits commercial sale of all species.

One key responsibility under the MBCA is described in Section 6 of the associated MBR:

> *Subject to subsection 5(9), no person shall*
>
> - *disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird, or*
>
> - *have in his possession a live migratory bird, or a carcass, skin, nest or egg of a migratory bird except under authority of a permit, therefore.*

The "incidental take" of migratory birds and the disturbance, destruction, or taking of the nest of a migratory bird is prohibited. "Incidental take" is the killing or harming of migratory birds due to actions, such as economic development, which are not primarily focused on taking migratory birds. No permit can be issued for the incidental take of migratory birds or their nest or eggs as a result of economic activities. These prohibitions apply throughout the year. Environment Canada and the Canadian Wildlife Service have compiled nesting calendars that show the variation in nesting intensity, by habitat type and nesting zone, within broad geographical areas distributed across Canada. While this does not mean nesting birds will not nest outside of these periods, the calendars can be used to greatly reduce the risk of encountering a nest. Environment Canada advises avoidance as the best approach.

2.2 Federal Fisheries Act (1985)

The federal Fisheries Act, 1985 is administered by Fisheries and Oceans Canada (DFO) and provides protection for fish habitat across Canada. Section 35 of the Act prohibits: *"the carrying out of a work, undertaking or activity that results in serious harm to fish that are part of or support a commercial recreational or Aboriginal fishery"*.

---

[1] *Bird species not regulated under the Act include Rock Dove, American Crow, Brown-headed Cowbird, Common Grackle, House Sparrow, Red-winged Blackbird, and European Starling. In addition, Raptors are not regulated under the MBCA. However, they are protected under provincial legislation which restricts and regulates the taking or possession of eggs and nests. Furthermore, if the species identified is protected under Ontario's Endangered Species Act, 2007 or the federal Species at Risk Act, additional restrictions may apply.*

"Serious harm to fish" is defined in the Act as "*the death of fish or the permanent alteration to, or destruction of, fish habitat*," with fish habitat defined as "*spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes*".

2.3 Provincial Policy Statement (2024)

The PPS (MMAH, 2024) provides general policies on land use patterns, resources, and public health and safety that guide development across Ontario. As stated in Section 4.1.1 of the PPS, "*Natural features and areas shall be protected for the long term*". This statement is interpreted as the main goal of development should be to prevent additional degradation, reduction or removal of onsite and adjacent natural heritage features and functions.

Additionally, Section 4.1.2 states that:

> *The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.*

This statement supports the previous section where natural feature preservation should be partnered with management, restoration and enhancement of the feature(s) and the connections of the feature(s) within a greater natural heritage system.

Specifically related to this location is the requirement to identify natural heritage systems (NHS) in southern Ontario (Ecoregions 6E and 7E), Policy 4.1.3. This report will address Section 2.1 (Natural Heritage).

Specifically, Section 4.1.4 identifies that development and site alteration shall not be permitted within:

a) *Significant wetlands in Ecoregions 5E, 6E, and 7E; and*

b) *Significant coastal wetlands.*

Also, Section 4.1.5 identifies that development and site alteration shall not be permitted within:

a) *Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E, and 7E;*

b) *Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);*

c) *Significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and St. Mary's River);*

d) *Significant wildlife habitat;*

e) *Significant areas of natural and scientific interest; and*

f) *Coastal wetlands in Ecoregions 5E, 6E, and 7E that are not subject to policy 2.1.4(b) unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.*

Sections 4.1.6 and 4.1.7 identify two additional natural features where development and site alteration are not permitted except in accordance with provincial and federal requirements:

a) *Fish habitat except in accordance with provincial and federal requirements; and*

b) *Habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*

According to Section 4.1.8, development and site alteration are not permitted on adjacent lands to the natural heritage features and areas identified in policies 4.1.4, 4.1.5, and 4.1.6, unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

2.4 Species Conservation Act, 2025

On June 5, 2025, the Province of Ontario enacted the Protect Ontario by Unleashing our Economy Act, 2025 (Bill 5). This legislation amended the previously in-force Endangered Species Act, 2007 (ESA), pending the proclamation of the Species Conservation Act (SCA). The amended ESA reflected changes to the MECP's approach to species protection and conservation, including the introduction of a new habitat definition and the removal of "harass" from the list of prohibited activities. As of March 30, 2026, the SCA has been proclaimed and has fully replaced the amended ESA.

The SCA provides protection for SAR and their habitat. The SCA is administered by the MECP and provides policies for the protection of Extirpated, Endangered and Threatened species. These three categories of species form O. Reg. 60/26: Protected Species in Ontario (PSO) List, which are classified by the Committee on the Status of Species at Risk in Ontario (COSSARO). COSSARO is also responsible for maintaining criteria for assessing and classifying SAR. Unlike the former ESA, species classified as Special Concern by COSSARO are not listed on the PSO list. Further, in attempt to reduce duplication of efforts, migratory birds protected by the *Migratory Birds Convention Act,* 1994, (MBCA) and aquatic species protected under the federal *Species at Risk Act*,

2002, (SARA) are not listed on the PSO list and do not receive protections under the SCA.

Activities impacting species and their habitats listed on the PSO list are subject to regulatory requirements under the SCA and must either be carried out in accordance with a prescribed registration or authorized through a permit. Proponents may be eligible to proceed by registering their activity under Ontario Regulation 75/26 (Registrable Activities), provided they meet prescribed conditions, including the implementation of standardized avoidance, mitigation, and, where required, restoration measures. Activities that are designated as permit-requiring are set out in Ontario Regulation 74/26 (Permit Activities), and proponents must obtain authorization from the MECP where registration is not applicable or where impacts are more significant.

2.5 Toronto and Region Conservation Authority

2.5.1 Conservation Authorities Act and (O. Reg.) 41/02

The TRCA administers Ontario Regulation 41/02: *Prohibited Activities, Exemptions and Permits* within their jurisdiction.

Ontario Regulation 41/24 applies to lands within the following areas as outlined in the Act and that are further described within section 2 of the Regulation:

1. Hazardous lands,
2. Wetlands,
3. River or stream valleys,
4. Areas adjacent or close to the shoreline of the Great Lakes – St. Lawrence River System or to an inland lake and that may be affected by flooding, erosion or dynamic beach hazards, and
5. Other areas, including areas within 30 metres of a wetland.

The proposed development will require a permit application under Ontario Regulation 41/24. TRCA will assess the application to determine if the proposed works will be affected by the above, in accordance with their programs and policies.

The NHIA provides recommendations to ensure that regulated natural heritage features and functions are not negatively impacted and, where applicable, recommends restoration guidelines to compensate for impacts.

2.5.1.1 Living City Policies

One of TRCA's functions, in partnership with municipal, provincial, and federal governments, is to promote and help implement sustainable community development by advising stakeholders and regulating activities in the planning and development process. The Living City Policies for Planning and Development in the Watersheds of TRCA (LCP) contains the policies for the administration of TRCA's legislated and delegated roles and responsibilities in the planning and development approvals process.

The LCP is issued under the authority of Section 20 of the *Conservation Authorities Act, 1990* and was endorsed by TRCA's Board on November 28, 2014. The LCP document applies to all new applications, matters, or proceedings submitted to TRCA on or after November 28, 2014, and to all active applications, matters, or proceedings before TRCA as of November 28, 2014.

The LCP serves the following functions:

- Update the previous Valley and Stream Corridor Management Program with new and updated requirements in federal, provincial, and municipal legislation, policies, and agreements affecting TRCA
- Indicate to all stakeholders TRCA's principles and policies for planning and development
- Reflect the latest science known to TRCA
- Complement TRCA's mandated regulatory and plan review roles in the planning and development process
- Implement policies for TRCA's updated Section 28 Regulation (O. Reg. 166/06: Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses)
- Clarify and implement TRCA responsibilities for Lake Ontario shoreline / waterfront management
- Add policy emphasis to the restoration, remediation, and enhancement of existing water and natural heritage systems in response to provincial planning directions geared to urban redevelopment and intensification

2.6 City of Toronto Official Plan (June 2026 Consolidation)

The Official Plan (OP) is intended to ensure that the City of Toronto realizes its full potential in areas such as land use, transit, and the natural environment. The OP was consulted to determine land use designations and the location of the study area relative to the Natural Heritage System (NHS), Environmentally Sensitive Areas (ESAs), site and area specific policies, and special policy areas. According to Official Plan Maps 9 and 13, the property is located within the NHS and Neighbourhood Land Use Designation, respectively. There are no ESAs, site and area specific policies, or special policy areas within or adjacent to the property.

The Natural Heritage System integrates the following functions and features:

- significant landforms and physical features, including drumlins and the Lake Iroquois shorecliff
- watercourses and hydrological features and functions
- the riparian zone which encompasses the aquatic habitat adjacent to the watercourse that is essential to a healthy stream
- valley slopes and floodplains
- terrestrial natural habitat types, including forest, wetland, successional, meadow, and beaches and bluffs
- significant aquatic features and functions
- vegetation communities and species of concern
- significant biological features that are directly addressed by Provincial policy, such as Areas of Natural and Scientific Interest

Section 3.4.11 and 3.4.13 of the Official Plan states the following:

> *11. Development is generally not permitted in the natural heritage system illustrated on Map 9. Where the underlying land use designation provides for development in or near the natural heritage system, development will*
>
> > *a) recognize natural heritage values and potential impacts on the natural ecosystem as much as is reasonable in the context of other objectives for the area; and*
> >
> > *b) minimize adverse impacts and when possible, restore and enhance the natural heritage system.*
>
> *13. All proposed development in or near the natural heritage system will be evaluated to assess the development's impacts on the natural heritage system and identify measures to mitigate negative impact on and/or improve the natural heritage system, taking into account the consequences for:*
>
> > *a) terrestrial natural habitat features and functions including wetlands and wildlife habitat;*
> >
> > *b) known watercourses and hydrologic functions and features;*
> >
> > *c) significant physical features and land forms;*
> >
> > *d) riparian zones;*
> >
> > *e) buffer areas and functions;*
> >
> > *f) vegetation communities and species of concern; and*

g) aquatic features and functions including the shoreline of Lake Ontario.

When development is proposed within or adjacent to lands shown as NHS on Map 9A, impacts of the proposed development on the NHS are to be evaluated. As part of the evaluation, the natural heritage features identified on the north and east portions of the property are to be more precisely defined.

2.7 Ravine and Natural Feature Protection By-Law (Toronto Municipal Code Chapter 658)

Protected ravines and natural features include all areas previously protected by a RNFP By-law and all areas regulated for flooding purposes by the TRCA, smaller ravines where there is a grade change equal to or greater than 2 m, Environmentally Sensitive Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs), woodlands, and public golf courses that are adjacent to ravine systems. This By-law was first passed by City Council in October 2002 and is to be used as a tool to protect the form and function of ravine and natural heritage systems by encouraging environmentally responsible management.

The Study Area contains an area protected by the RNFP By-law. Trees of all diameters on private property within Ravine Protection Areas of the City of Toronto are protected by the By-law. Compensation for the removal of any trees, through provision of replacement plantings, woodland management, stewardship or rehabilitation, or a cash-in-lieu payment are required by this By-law. All plans incorporate the RNFP limit and the Ravine Protection By-law note.

3.0 Background Information Review

3.1 Natural Heritage Information Center Database

The Natural Heritage Information Centre was originally accessed on May 3, 2023, and rechecked on October 6, 2026, where the latest data and rankings have been included in the findings and appendices. The property is located in Square 17PJ2032, which contains records of Butternut (*Juglans cinerea*), Eastern Whip-poor-will (*Antrostomus vociferus*), Eastern Wood-pewee (*Contopus virens*), and Midland Painted Turtle (*Chrysemys picta marginata*). Bank Swallow (*Riparia riparia*) were identified in NHIC square 17PJ2132, located east of the property.

3.2 Ontario Breeding Bird Atlas

A review of the Ontario Breeding Bird Atlas (OBBA) identified records of 117 bird species in the vicinity of the Site. The relative rarity of each species is identified in Table 3.1.

Table 3.1: Provincial S-Ranks of Bird Species Recorded in the Vicinity[2] of the Site

Rarity Ranking (S-Rank)*	Number of Species
S1	1
S2, S3	1
S3	4
S3, S4	4
S4	28
S4, S5	12
S5	50
SNA	6
SU	11

*S1 – Critically Imperiled
S2 – Imperiled
S3 – Vulnerable
S4 – Apparently Secure
S5 – Secure
S#S# – Range Rank – A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank.
SNA – Not applicable, not suitable for conservation activities.
SU – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

Although S-Rank indicates that all species are relatively common and secure, some of the species identified are listed on the *Ontario Endangered Species Act*. These species are described further in Section 4.6. The majority of the school's landscape is heavily urbanized with limited landscaped areas associated with the school entrance and parking lot. The ravine to the north and east of the site is part of the interconnected Mimico Creek system but is still subject to adjacent urban uses and impacts. Consequently, species that are likely to be present within the subject property will be highly tolerant urban species, with those species less tolerant restricted to the NHS east of the subject property.

OBBA records are provided in Appendix A.

3.3 Ontario Reptile and Amphibian Atlas

Records exist for 29 reptile or amphibian species within the project area vicinity. The relative rarity of each species is identified in Table 3.2.

Table 3.2: Provincial S-Ranks of Reptile and Amphibian Species Recorded in the Vicinity[3] of the Site

Rarity Ranking (S-Rank)*	Number of Species
S3	4
S4	12
S5	12
SNA	1

*S1 – Critically Imperiled
S2 – Imperiled
S3 – Vulnerable
S4 – Apparently Secure
S5 – Secure
SNA – Not applicable, not suitable for conservation activities

Although S-Rank indicates that all species are relatively common and secure, some of the species identified are listed on the *Species Conservation Act*. These species are described further in Section 4.6.

There is no potential for amphibian breeding within this section of Mimico Creek. No emergent or submergent vegetation is present within the channel to act as substrate for egg laying. The longstanding urban setting with roads and development reduces the area's ability to provide safe, interconnected, and diverse habitat for sensitive amphibians and reptiles.

ORAA records are provided in Appendix A.

3.4 State of the Watershed Report: Mimico Creek Watershed (2010) and Mimico Creek Watershed Report Card (2018)

In total, 88% of the land use within the Mimico Creek watershed is classified as urban, while 12% is classified as natural cover (TRCA, 2018). Approximately half of the watershed population is within 300 m of natural cover greater than 1 ha in size, with natural cover very unevenly distributed throughout the watershed. The existing natural heritage system is degraded with impaired ecological function, largely resulting from a history of agricultural land use and conversion into urban development, causing patchy, disconnected habitat and hydrological changes within the watershed.

As per the 2018 Watershed Report Card for Mimico Creek, surface water quality is classified as poor. High chloride concentrations were found, typically resulting from road salt which can be harmful to aquatic life. The surface water quality classification improved from the 2013 Report which was classified as very poor. Forest conditions were classified as very poor, with only 2% of the watershed containing forest cover, <1% interior forest cover and 19% streamside cover (TRCA 2018). Mimico Creek is a permanent watercourse that flows from north to south. There is naturalized woody cover throughout the ravine.

4.0 Existing Conditions

Field investigations conducted to review the study area including the ravine were completed on June 6, 2023. A site investigation was also completed on January 18, 2023, for the arborist investigation. The purpose of field investigations was to characterize the natural heritage features and functions of the impact area and immediately adjacent lands and determine the impacts of the proposed development. Details of the investigations are provided in Table 4.1.

Table 4.1: Natural Environment Field Investigations

Field Study	Methodology	Staff Involved	Date(s)	Time of Day	Weather Conditions		
					Precipitation / Cloud Cover	Temperature (°C)	Wind (Beaufort Wind Scale)[1]
Ecological Land Classification Search for potential wildlife habitats Incidental fauna observations	Ecological Land Classification for Southern Ontario (Lee et al.,1998) of study area. Survey throughout study areas to search for features that could provide habitat for wildlife or SAR habitat with focus on presence of chimneys and forest areas with cavities or other features suitable for bat roosting. Visual observations and vocalizations of animals (including birds), tracks or scat.	Sylvia Radovic	June 6, 2023	10:00 – 16:00	No precipitation Clear	20°C on arrival 22°C on departure	2/3 – Light to Gentle Breeze

[1] Beaufort Wind Scale: 0 = calm, smoke rises vertically (< 1km/hr); 1 = light air movement, smoke drifts (1-5); 2 = Light breeze wind felt on face, leaves rustle (6-11); 3 = gentle breeze, leaves and small twigs in constant motion (12-19); 4 = moderate breeze, small branches moving, raises dust & loose paper (20-28); 5 = fresh breeze, small trees begin to sway (29-38); 6 = strong breeze, large branches in motion (39-49)

4.1 Site Description

The study area of this project is the Bishop Allen Academy (north lot, characterized as having the main school building, parking, and landscaped area. The treed ravine to the north and east of the Site extends towards Mimico Creek.

The area south of the study area is comprised of a 20 m wide municipally-owned right-of-way (ROW) extends east to west between the school building and the running track. The ROW becomes the Berry Road Park Trail east of the school yard that allows pedestrian traffic to travel through the ravine and connect with the pedestrian bridge. The south lot of the school property is not included in the study area of the current study area.

The surrounding land is occupied by residential and institutional (schools) land uses, in addition to the Mimico Ravine.

4.2 Soils and Topography

The south portion of the Mimico Creek valley system is characterized flowing through "*a well-formed valley across the Iroquois Sand Plain where the gradient begins to steepen*" (TRCA, 2018). The soils of the sand plain are variable, ranging from clays to large deposits of sand and gravel and therefore, highly permeable.

Photo 1: Mimico Creek Under the Pedestrian Bridge (2021)



4.3 Natural Heritage Features

Mimico Creek and its associated valleylands at the north and east portions of the study area are classified as a Natural Heritage System (NHS) by the Toronto OP. Additionally, this portion of the Site also falls within RFNP designated lands. The Site contains moderate slopes toward the north to steep slopes extending east towards the watercourse.

4.4 Vegetation Communities

There are two vegetation community types identified within and immediately adjacent to the study area and characterization is based on Lee et. al, 1998 and the Vegetation Type List of the Southern Ontario Ecological Land Classification (Lee, May 2008). The two communities identified are considered to be relatively common in Ontario. The locations of these communities are shown on Figure 2.

Assignment of ELC codes on vegetation communities that are heavily influenced by disturbance and management can be difficult and may result in subjectivity associated with the classification. A description of each community is provided below. The extent of each ELC community is indicated on Figure 2.

Education (CVS_1)

The majority of the lands are classified using this community type. It consists of the manicured turf areas, buildings, parking, and amenity areas. There is limited ecological function to this feature.

Fresh – Moist Manitoba Maple Lowland Deciduous Forest (FODM7-7)

This forest is associated with the ravine north and east of the schoolyard. The grade slopes downward from where the tree line meets the schoolyard area. The slope is steep and complex, with informal footpaths found throughout. Debris and household waste were found on the slope and deadfall logs are found occasionally throughout the feature. Representative photos are provided below.

Photo 2: Groundcover Conditions on Slope Adjacent to School (June 2023)



Photo 3: Groundcover Conditions on Slope Adjacent to School (June 2023)



There is significant disturbance throughout the extent of the community within the study area. The dominant tree species within the canopy and subcanopy are Manitoba maple (*Acer negundo*) and Norway maple (*Acer platanoides*). There are lesser associates of Crack willow (*Salix fragilis*), Silver maple (*Acer saccharinum*) and Black walnut (*Juglans nigra*) in the canopy, and Black walnut in the subcanopy. Garlic mustard (*Alliaria petiolata*) is the dominant groundcover with lesser associates of Goldenrod (*Solidago sp.*) and Virginia creeper (*Parthenocissus quinquefolia*). Overall, the community is considered young, due to the majority of the canopy trees having a diameter at breast height (DBH) less than 24 cm.

Photo 4: Site conditions Illustrating Steep Slope Adjacent to the Pedestrian Bridge (June 2023)



Photo 5: Area Where Groundcover is Dominated by Garlic Mustard (June 2023)



Photo 6: Informal Trail at Top of Slope with Extension into Ravine (June 2023)



4.5 Wildlife

4.5.1 Field Methodologies

No targeted surveys for reptiles (i.e., amphibians, snakes, turtles) or breeding birds were conducted as part of this study; however, visual observations of animals, tracks, or scat were completed while conducting wandering transects during field surveys.

4.5.2 Incidental Wildlife

The following species were observed incidentally during the June 6, 2023, field visit: White Spotted Sable Moth *(Anania funebris),* Red-eyed Vireo *(Vireo olivaceus),* Red-bellied Woodpecker (*Melanerpes carolinus)*, House Sparrow (P*asser domesticus*), Common Grackle (*Quiscalus quiscula*), American Goldfinch (*Spinus tristis*), American Robin (*Turdus migratorius),* Mallard (*Anas platyrhynchos*), Northern Cardinal (*Cardinalis cardinalis*), Coyote (*Canis latrans;* evidence*),* and Raccoon (*Procyon lotor;* evidence).

4.6 Protected Species in Ontario

Based on a review of background databases (i.e., OBBA, NHIC, ORAA) and an assessment of the vegetation units present, the following species may be present in the general vicinity:

- Butternut
- PSO bat roosting habitat

No Butternuts were observed during ecological review on June 6, 2023, or any of the subsequent arborist investigations within the limits of disturbance or the adjacent on-site valley.

A search for snag trees capable of supporting bat maternity roosts was carried out during the June 6 site investigation. Snag trees will not be subject to removal to accommodate construction, although some of the trees have been identified as injury due to construction encroachments into their Minimum Tree Protection Zones. Potential impacts to roosting bats can be mitigated through the timing of tree removals, including those trees that are not suitable for supporting bat maternity roosts, to take place outside of the bat active window (May 1 to September 30).

SAR bird species that were listed in previous EIS submissions have been removed since they are no longer protected as PSO under the SCA.

A list outlining all potential PSO with their updated ranks that may occur within the vicinity of the study area, including a detailed description of their habitat requirements can be found in the updated Appendix B.

4.7 Significant Wildlife Habitat

A review of Ecoregion 6E SWH Screening Criteria revealed the potential for limited Candidate SWH within the subject lands. The developed portion of the site is highly urbanized and in use as a secondary school, which has resulted in a disturbed natural feature associated with the NHS along the northern and east limits of the subject lands. The ravine, both the onsite and offsite components have the potential to support some SWH based on the characteristics but detailed investigations were not carried out to confirm.

Bat Maternity Colonies may be found within the ravine, as identified in the candidate habitat trees mapped by Burnside. Removal of these trees is not required to accommodate the development.

Habitat for Special Concern and Rare Wildlife Species may be present for species including Barn Swallow, Wood Thrush, Chimney Swift and Eastern Wood-pewee. Barn Swallow and Chimney Swift will not be impacted, if present, due to the lack of suitable habitat within the development area. Removal of select edge trees required to accommodate construction but reduction of the ravine woodland size will not reduce when considering the replacement with new edge plantings, and no impacts are anticipated to Wood Thrush and Eastern Wood-pewee that are found in woodland edges.

Additional SWH may be present within the ravine (both onsite and offsite), beyond the development limit and study area. Reptile hibernacula, Bald Eagle & Osprey Nesting, Foraging & Perching Habitat, and Seeps and Springs may also be present, but their function will not be impacted.

A detailed assessment of SWH can be found in Appendix C.

5.0 Identification of Provincially Significant Features

5.1 Significant Valleylands

The Natural Heritage Reference Manual (NHRM) (MNR, 2010) provides the recommended Significant Valleyland Evaluation Criteria and Standards for areas with well-defined valley morphology:

- Landform-related functions and attributes
  - Surfacewater functions
  - Groundwater functions
  - Landform prominence
  - Distinctive geomorphic landforms
- Ecological Features
  - Degree of naturalness
  - Community and species diversity
  - Unique communities and species
  - Habitat value
  - Linkage function
- Restored Ecological Functions
  - Restoration potential and value

Meeting any one of these criteria may result in the valley being deemed significant. The determination in the table below is based on the site review of lands identified within the limits of study. The valleylands associated with Mimico Creek extend beyond the area that was investigated and unknown satisfaction of criteria are identified.

Table 5.1: Determination of Significant Valleyland

Criteria	Satisfy Criteria?	Notes
Landform-related functions and attributes		
Surfacewater functions	Yes	Mimico creek drains area greater than 50 ha
Groundwater functions	Unknown	No groundwater infiltration or release seen within study area
Landform prominence	Yes	Well-defined valleyland exceeds average width of 25 m
Distinctive geomorphic landforms	Yes	Bottomlands present within study area

Criteria	Satisfy Criteria?	Notes
Ecological features		
Degree of naturalness	Yes and no	Cover is natural (not manicured) and riparian vegetation exceeds 30 m on either side of Mimico Creek but dominated by non-native species. Riparian vegetation width and cover vary along length of valley.
Community and species diversity	No	Vegetation limited to most common, urban-tolerant species
Unique communities and species	No	Vegetation limited to most common, urban-tolerant species
Habitat Value	Unknown	Detailed wildlife studies not completed
Linkage function	Yes	Valleyland continuous vegetation exceeds 100 m width
Restored ecological functions		
Restoration potential and value	Yes	Restoration measures would enhance ecological function

Therefore, the valleylands can be considered significant based on the known criteria scoring.

Limits of the onsite component Significant Valleylands are illustrated on Figure 3 that coincide with the Top of Bank and north and east property limits.

5.2 Significant Woodlands

The NHRM also provides Significant Woodland Evaluation Criteria and Standards. The document identifies that woodland size criterion should be considered with other functions and characteristics in the identification of significant woodlands.

Table 5.2: Determination of Significant Woodland

Criteria	Satisfy Criteria?	Notes
Woodland Size Criteria		
Actual woodland size anticipated to be less than 5% of the City of Toronto making woodlands 2 ha and greater significant	Yes	Approximately 18.5 ha of contiguous woodland extends from Glenroy Ave to Karen Kain School of the Arts schoolyard and includes subject lands
Ecological Functions Criteria		
Woodland Interior: Any habitat where woodlands cover less than about 15% of the land cover of the City of Toronto	No	No areas exceed 100 metres from disturbance (residences, roads, etc.)
Proximity to other woodlands of other habitats: Overlaps or specified distance from other valuable or significant natural heritage features / areas	Yes	Connected to Mimico Creek
Linkages: Provides connection between other significant features	Unknown	Significant and long-term urban development and roads that may interfere with linkage function for sensitive wildlife
Water protection: Located within sensitive or threatened watershed, or adjacent to a sensitive groundwater discharge, sensitive recharge, sensitive headwater area, watercourse or fish habitat and meet minimum area	Yes	Connected to Mimico Creek
Woodland diversity: Natural composition of highly diverse native species vegetation	Unlikely	Anticipated little native diversity with significant non-native species representation

Criteria	Satisfy Criteria?	Notes
Uncommon Characteristics Criteria		
Uncommon species composition, cover type, age (including woodlands with trees over 100 years old) or structure	Unlikely	Anticipated that ravine is comprised of common species, typical composition, lacks trees > 100 years old and has typical structure
Economic and Social Functional Values Criteria		
High economic and social values	Yes	Part of City's Natural Heritage System

Limits of the onsite component Significant Woodlands are illustrated on Figure 3 that coincide with the staked dripline and north and east property limits.

6.0 Assessment of Function

6.1 Linkages

Mimico Creek flows through the west side of Toronto, extending from Brampton to Lake Ontario. The valley allows for interconnection for urban tolerant species as it runs through and adjacent to parks and residential rear yards through this long-settled part of Toronto. The ravine is narrow throughout most of its length, where the riparian area is limited to a single line of trees on both sides of the watercourse.

The naturalized ravine is significantly wider immediately adjacent to the schoolyard. It has steep slopes adjacent to the developed areas that create a larger floodplain area compared to adjacent lands.

6.2 Ecological Functions

It is expected that the tableland portions of the study area provide limited nesting and foraging habitat for migratory bird species. The wooded ravine may support forest generalist bird species, such as the documented, Red-eyed Vireo that are less sensitive to adjacent urban activities.

Terrestrial urban tolerant, common wildlife species including Grey Squirrels and common feeder birds were observed during the Site investigation. It is anticipated that urban tolerant mammals such as Raccoon and Virginia opossum (*Didelphis virginiana*) use the Site for refuge, foraging and habitat.

The ravine vegetation community within the study area is dominated by poor quality (Manitoba maple) and invasive (Norway maple) species with significant groundcover dominance by invasive Garlic mustard. Additionally, the area is subject to frequent disturbances including informal trail use and household garbage due to its proximity to major roads, businesses, and residences that reduce the ravine's ability to support sensitive wildlife.

Heavily treed areas adjacent to Mimico Creek, such as the adjacent ravine, may provide improvements to aquatic habitat through filtering of run-off, shading the watercourse and adding riparian vegetation for nutrient cycling and habitat.

The Watershed Report Card (TRCA 2018) identifies Mimico Creek surface water quality as poor mainly due to salt use from adjacent roads.

7.0 Proposed Development

The proposed development consists of the removal and redevelopment of the existing school and associated parking lot. The redesigned school building and amenities will extend beyond the existing development footprint, shifting west and providing a greater buffer from the edge of slope associated with the NHS.

The proposed plan also includes landscape plantings along the edge of the ravine and a landscape amenity as well as a chainlink fence to prevent access to the ravine from the schoolyard. The Top of Slope and Dripline (associated with the valley forest) established on June 13, 2022, by the TRCA, as well as the 6 metre setback from the established Dripline are illustrated on the figure set.

8.0 Evaluation of Potential Impacts and Mitigation Measures

The proposed development has the potential to impact the natural heritage features summarized in Section 4.0 and 5.0 of this report.

Potential impacts to these features can be categorized as:

- Direct (within the footprint of the development)
- Indirect (adjacent to the development but affected by spin-off effects)

The most significant direct impacts may be interpreted as construction activities, including earth works and excavation, adjacent to fish habitat and disturbance to lands designated as a ravine and natural feature. Effects on natural features that may occur that are further discussed:

- Loss or disturbance to migratory birds or their nests as a result of land clearing
- Loss of wildlife habitat
- Removal of trees to accommodate construction
- Construction impacts, including erosion / sedimentation beyond the construction envelope
- Effects on wildlife from noise

Table 8.1: Summary of Potential Negative Impacts and Recommended Mitigation Measures

Activity	Potential Impact	Duration (D), Geographic Extent (GE) and Magnitude (M) of the Impact	Proposed Mitigation	Compliance Activities
Land Clearing within the Development Envelope	Loss of or disturbance to migratory birds or their nests	D: Short-term, occurring only once GE: Limited to small areas of regeneration located beyond the toe of the slope M: Low, bird habitat in the development envelope is minimal and restricted to small areas of regeneration along top of bank; disturbance would not affect birds at the population level. However, disturbance of bird nests is in contravention of the MBCA.	Land clearing should be completed outside of the breeding bird season (Nesting Zone C2 core breeding window, or when 41-100% are predicted to be nesting for all habitat types, is approximately April 1 to August 31). If this is not possible, a bird specialist should survey the Site prior to clearing to confirm that no active nests of migratory birds are present. Any active nests should be fenced and left undisturbed until young have fledged, as determined by a qualified Biologist. All tree pruning and removals should be carried out by a qualified tree service under the direction of a Certified Arborist. Trees and shrubs will be planted within the limits of disturbance to offset the trees removed to accommodate construction. Seeding will also occur to restore groundcover within the limits of disturbance. New plantings will offset the loss of trees, promote the expansion of treed lands adjacent to the ravine, enhance the wooded edge and diversify of native species present.	Retained woody vegetation will require protection from construction impacts using Tree Protection Fence. Plantings and seeding to be subject to warranty to ensure establishment. Clean Equipment Protocol required to be used to encourage native plant establishment.
	Loss of wildlife habitat	D: Short-term, occurring only once GE: Limited to the development envelope M: Low for urban tolerant wildlife	The Site currently provides little habitat value to wildlife. Urban tolerant species, if present on the Site, can find refuge within the wooded areas upstream or downstream of the subject area. All vegetation removals should occur outside of the breeding bird window (i.e., removals should occur between October 1 to March 31) to avoid impacts to nesting migratory birds and roosting bats. Additional plantings and seeding will be completed to offset the loss of existing vegetation within the clearing limits. Many of the existing tree and groundcover species are non-native or invasive species. Proposed plantings will consist of native tree and shrub species that will offer both habitat and a food source for birds and other wildlife species.	Any wildlife found within the Site should be left undisturbed and should be permitted to leave on their own accord.

Activity	Potential Impact	Duration (D), Geographic Extent (GE) and Magnitude (M) of the Impact	Proposed Mitigation	Compliance Activities
Clearing and Construction Activities	Potential erosion / sedimentation and encroachment beyond the development envelope due to grading and works within areas of exposed soil	D: Short-term during construction phase only GE: Impacts could extend beyond the development envelope M: High as slope are moderately sloped to steep. Sediment is likely to travel downslope	Sediment fencing (ESC plan to be prepared by others) installed in conjunction with Tree Protection Fence will be placed along the limit of disturbance to prevent siltation. The fencing will act to determine the construction exclusion zone within the ravine. Fencing should be continuous across the entire length of the natural feature to avoid gaps where sediment could escape. Fencing should be maintained and regularly monitored for the duration of construction and until such time as lands are re-vegetated and stabilized and then it should be removed. All stockpiles, equipment and work areas should be maintained outside of the fenced area.	Erosion and sediment control measures will be inspected weekly or following any rainfall event greater than 10 mm. Daily inspection is recommended when work is immediately adjacent. All damaged erosion and sediment control measures should be replaced within 48 hours on inspection. The contractor shall monitor the weather forecast several days in advance to ensure that construction activities are carried out during favourable weather. If an unforeseen storm arises the contractor should ensure that all unfixed items that would have the potential to cause a spill or an obstruction are removed from the floodplain.
Noise	Impacts of construction noise on wildlife and residents	D: Short term, during construction phase only GE: Impacts confined to areas within direct vicinity of site M: Low, noise anticipated to occur during daylight hours. Wildlife is likely accustomed to loud noise due to the Site's proximity to a major road	Environmental noise will be reduced through the standard operating practices and conformity with noise by-law requirements. The Environmental Inspector will ensure that all operational plans and construction timing associated with noise reduction are being followed. Wildlife in the area is anticipated to be habituated to the noise of the existing residential land use and the proposed work is not anticipated to add significantly to it.	Noise levels should be regularly monitored by an environmental monitor.

Activity	Potential Impact	Duration (D), Geographic Extent (GE) and Magnitude (M) of the Impact	Proposed Mitigation	Compliance Activities
Trampling of vegetation	Damage to existing vegetation	D: Long term, once occupancy occurs GE: Impacts limited to ravine edge but results in access to whole ravine M: Low, access into the ravine is not sanctioned by the school or board	Installation of a chainlink fence at the edge of the ravine where it interfaces with the schoolyard. Substantial edge planting of trees, shrubs and seeding will occur as a result of the landscape plan. These plantings are anticipated to prevent / reduce access to informal trails.	A two-year planting warranty will be applied to identify deficiencies that would allow for access into ravine.

9.0 Arborist Report

The Arborist Report prepared by Burnside under a separate cover individually assessed 210 trees. There are 144 trees that are recommended for preservation, 56 of these trees will be injured during the construction process and 63 trees are recommended for removal.

The eleven RNFP trees that are required for removal are Tree #s 170, 179, 209 to 216 and 239 are of the following species: Manitoba Maple (4), Norway Maple (5) and Litte Leaf Linden (2). It is proposed that 51 trees within RNFP designated lands will be subject injury, where construction overlaps with Minimum Tree Protection Zones.

10.0 Ravine Stewardship Plan

The following RSP information has been summarized from the RSP submission (prepared under a separate cover). The applicable policies and existing conditions from this NHIA are reflected in the RSP.

Goals and objectives of the RSP are provided that lead to details on seeding and significant amounts of shrub and tree planting (as detailed in the landscape submission by FRP) and other actions to occur within the two management areas associated with the ravine: Enhanced Restoration Area and Ravine Maintenance Area. Short-team and long-term tasks associated with the pre-, during and post-construction stages are detailed with the anticipated timing, frequency and duration and anticipated cost. In addition to the 2-year warranty period applied to the planting contract (seed, shrubs and trees), a schedule of post construction monitoring for new trail creation, plant maintenance and weed control has been provided.

11.0 Compliance with Applicable Policies

Table 11.1 demonstrates how the proposed development complies with applicable provincial, municipal, and TRCA policies respecting natural heritage and natural hazard features.

Table 11.1: Compliance of Proposed Development with Policies

Feature	Applicable Policies	Policy Intent	How Addressed
Migratory Birds	Migratory Birds Convention Act, 1994	Migratory birds and their nests should not be killed or disturbed.	Land will be cleared outside of the breeding season, April 1 to August 31, in order to avoid disturbance to nests. If this is not possible, a pre-construction nest survey will be completed no greater than four days prior to the proposed site preparation and clearing activities by a qualified Biologist. If nesting species are identified, an appropriate species -specific buffer will be applied until the nest is no longer active.
Protection of designated Natural Heritage Features	Section 4.1.4 and 4.1.5 of the Provincial Policy Statement (2024)	Development is not permitted within, or adjacent to, natural features habitat unless it can be demonstrated that no negative impact will result to the feature or its ecological functions.	Tree removals are anticipated within edge of Significant Woodland but substantial planting will offset impacts and result in a net positive impact through enhancing and expanding the Significant Woodland. No impacts to the Significant Valleylands will occur.
Protection of Habitat of Endangered Species and Threatened Species	Section 4.1.6 and 4.1.7 of the Provincial Policy Statement (2024)	Development and site alteration not to be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.	No endangered or threatened species were observed; however, there is potential for the treed area to support SAR bat species. A total of five potential SAR roost trees were observed during field investigations. These trees are set back from the development limits and protected within the NHS. Tree removal will also be restricted to 67 trees within the school property (11 within ravine designated lands). As per the Bat Standard Survey note issued by the MECP in 2021: "*If a proposed activity will avoid impairing or eliminating the function of habitat for supporting bat life processes (e.g. remove, stub, etc. a small number of potential maternity or day roost trees in treed habitats) but the timing of tree removal*

Feature	Applicable Policies	Policy Intent	How Addressed
			will avoid the bat active season (April 1 to September 30 in Southern Ontario), then there is no need to conduct species at risk bat surveys of treed habitats". Provided trees are removed outside of the bat active window, no additional mitigation measures are required.
Species at Risk	Endangered Species Act, 2007	No impacts on the SAR or its habitat.	No SAR were found during the Site investigation and SAR habitat is not anticipated to be impacted on the Site. All candidate trees that may provide bat habitat will be retained.
Natural Heritage Features and Areas	Section 3.4 of the City of Toronto OP, including Policies 3.4.11 and 3.4.13	Development to remain outside of NHS. Designated land use in or adjacent to NHS to recognize natural heritage values and potential impacts and minimize adverse impacts and restore or enhance when possible. Development adjacent to NHS to be assessed for impacts and identify mitigation / improvements.	The limited impacts have been evaluated in this NHIA. Development only occurring within existing impacted areas of the NHS where it is habituated to adjacent school use. The implementation of the Ravine Stewardship Plan and landscape plan will result in an overall improvement in ravine conditions through the mitigation of existing impacts, expansion of treed lands adjacent to the ravine, enhancing of the wooded edge and diversification of native species.
Conservation Authority Regulated Lands	Ontario Regulation 41/24	TRCA / Province of Ontario regulates the eastern portion of the study area.	A permit will be acquired by the proponent.
Ravine protected lands	Ravine and Natural Feature Protection By-law	RNFP lands are located along the eastern portion of the study area. Compensation for impacts to ravine protected lands is required.	The implementation of the Ravine Stewardship Plan and landscape plan will result in an overall improvement in ravine conditions

12.0 Conclusions

Vegetation will be cleared in designated ravine lands to facilitate the redevelopment of Bishop Allen Academy Secondary School. The ecological sensitivity within the area of disturbance and surrounding areas is considered low due to the highly urbanized nature of the area, and disturbed vegetation communities. Implementation of the mitigation recommendations of this NHIA as well as the Ravine Stewardship elements and landscape plan, as well as the chainlink fence will result in an overall improved condition in the adjacent ravine.

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Figures

Study Area Figure 1
Existing Conditions Figure 2
Significant Features Figure 3
Proposed Development Figure 4



Ravine and Natural Feature Protection Limit

TRCA Regulated Area

Study Area



Sources:

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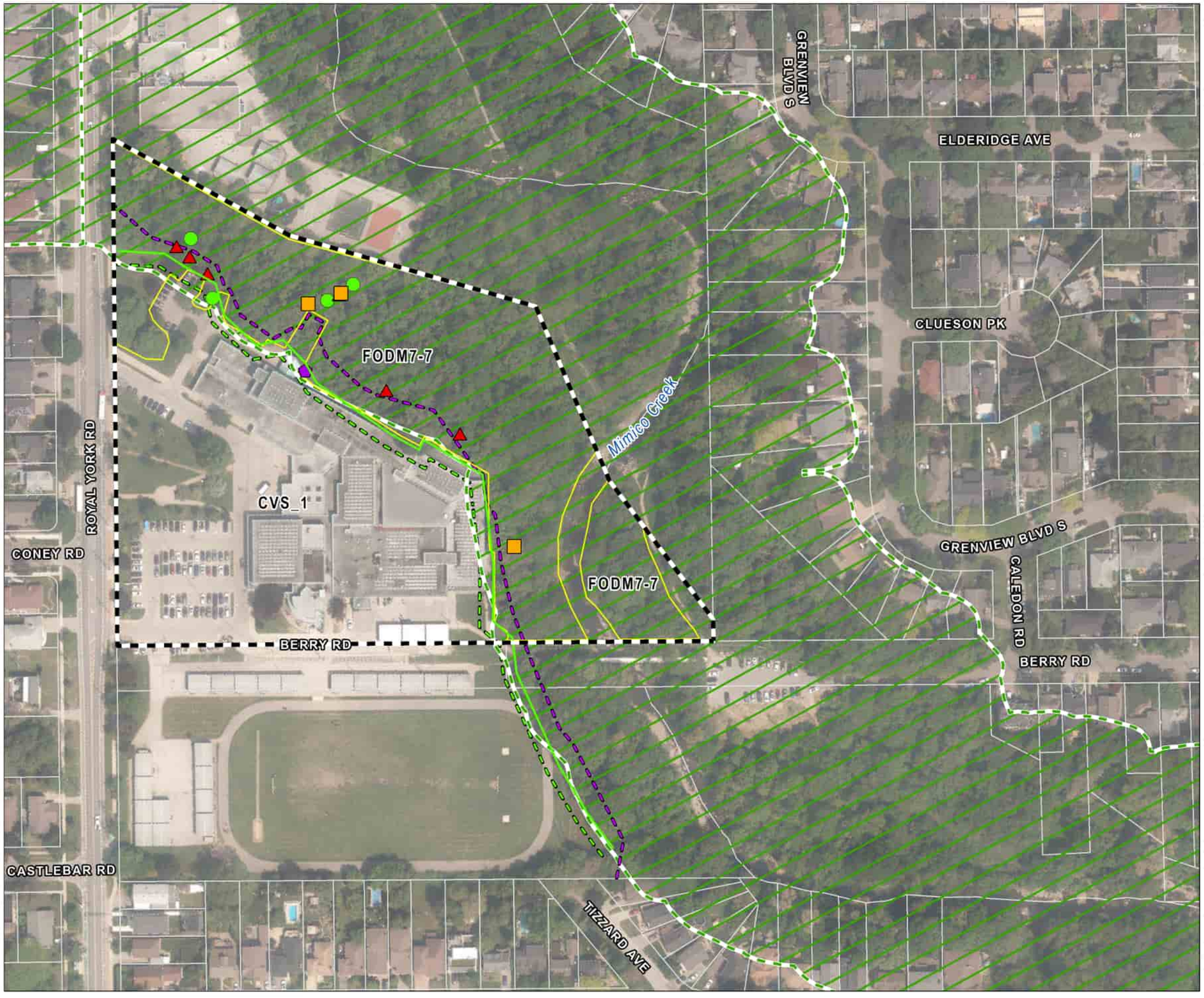
TORONTO CATHOLIC DISTRICT SCHOOL BOARD

Figure Title

BISHOP ALLEN ACADEMY REDEVELOPMENT
NATURAL HERITAGE IMPACT ASSESSMENT
STUDY AREA

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- Potential Bat Maternity Habitat Tree
- Debris
- Disturbance
- Debris & Disturbance
- Top of Slope (Staked by TRCA - June 13th, 2022)
- Dripline (Staked by TRCA - June 13th, 2022)
- Dripline 6m Setback
- Ecological Land Classification
- Ravine and Natural Feature Protection Limit
- Study Area

ELC Descriptions

CVS_1: Education

FODM7-7: Fresh- Moist Manitoba Maple Lowland Deciduous Forest Type

Sources:

1. Ministry of Natural Resources and Forestry,© King's Printer for Ontario.
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Figure Title

BISHOP ALLEN ACADEMY REDEVELOPMENT

NATURAL HERITAGE IMPACT ASSESSMENT
EXISTING CONDITIONS

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- Top of Slope (Staked by TRCA - June 13th, 2022)
- Dripline (Staked by TRCA - June 13th, 2022)
- Dripline 6m Setback
- Significant Valleyland
- Significant Woodland
- Study Area

Sources:

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Figure Title

BISHOP ALLEN ACADEMY REDEVELOPMENT

NATURAL HERITAGE IMPACT ASSESSMENT
SIGNIFICANT FEATURES

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Proposed Design and Grading

RNFP Buffer Restoration, Compensation Plantings and Stewardship Restoration Area. Refer to Lanscape Drawings

Study Area

Sources:

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Figure Title

BISHOP ALLEN ACADEMY REDEVELOPMENT
NATURAL HERITAGE IMPACT ASSESSMENT
PROPOSED DEVELOPMENT

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Appendix A

Natural Heritage Information Centre, Ontario Reptile and Amphibian, and Breeding Bird Atlas Data

NHIC Data

Updated October 6, 2026

OGF ID	Element Type	Common Name	Scientific Name	SRank	PSO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
1023736	SPECIES	Butternut	*Juglans cinerea*	S2	END	END	17PJ2032	
1023736	SPECIES	Eastern Whip-poor-will	*Antrostomus vociferus*	S4B	NAR	SC	17PJ2032	
1023736	SPECIES	Eastern Wood-pewee	*Contopus sordidulus*	SNA	SC	SC	17PJ2032	
1023736	SPECIES	Midland Painted Turtle	*Chrysemys picta marginata*	S4	NAR	SC	17PJ2032	

Species #	Common Name	Srank	# of Records	Earliest Yr_____	Latest Yr
1	Blanding's Turtle	S3	15	1982	2019
2	Eastern Musk Turtle	S3	4	1858	1988
3	Midland Painted Turtle	S4	113	1913	2019
4	Northern Map Turtle	S3	30	1858	2018
5	Red-eared Slider	SNA	53	1988	2019
6	Snapping Turtle	S4	99	1858	2019
10	Dekay's Brownsnake	S5	69	1913	2019
12	Eastern Gartersnake	S5	71	1913	2019
13	Eastern Hog-nosed Snake	S3	11	1858	1916
14	Eastern Ribbonsnake	S4	4	1858	1931
18	Milksnake	S4	37	1858	2016
19	Northern Watersnake	S5	9	1913	2015
21	Red-bellied Snake	S5	9	1913	1988
23	Northern Ring-necked Snake	S4	5	1913	2011
24	Smooth Greensnake	S4	19	1913	2016
25	American Bullfrog	S4	4	1913	2012
27	Gray Treefrog	S5	4	1913	1983
28	Green Frog	S5	45	1913	2019
30	Northern Leopard Frog	S5	37	1913	2018
31	Pickerel Frog	S4	3	1913	1922
32	Spring Peeper	S5	7	1913	2007
33	Western Chorus Frog	S4	7	1982	2016
34	Wood Frog	S5	8	1913	2016
35	American Toad	S5	122	1913	2019
40	Red-spotted Newt	S5	4	1912	1983
41	Eastern Red-backed Salamander	S5	78	1909	2019
44	Mudpuppy	S4	12	1913	2014
48	Spotted Salamander	S4	7	1913	1995

Region	Square	Species	S Rank	Breeding Evidence				Point Counts				
				Max BE	Categ	#Sq	Atlasser Name	#PC	%PC	Abun	#Sq	
12	17PJ23	Canada Goose	S5	AE	CONF	1	Glenn Coady					
12	17PJ23	Wood Duck	S5B, S3N	FY	CONF	1	2 atlassers					
12	17PJ23	American Black Duck	S4	H	POSS	1	Glenn Coady					
12	17PJ23	Mallard	S5	AE	CONF	1	Glenn Coady	1	1.67	0.0167	1	
12	17PJ23	Hooded Merganser	S5	H	POSS	1	Jean Iron					
12	17PJ23	Ring-necked Pheasant	SNA	H	POSS	1	Glenn Coady					
12	17PJ23	Green Heron	S4B	H	POSS	1	Glenn Coady					
12	17PJ23	Turkey Vulture	S5B, S3N	T	PROB	1	Jean Iron					
12	17PJ23	Sharp-shinned Hawk	S5	H	POSS	1	Glenn Coady					
12	17PJ23	Cooper's Hawk	S4	CF	CONF	1	Jean Iron	1	1.67	0.0167	1	
12	17PJ23	Red-tailed Hawk	S5	AE	CONF	1	Glenn Coady	2	3.33	0.0333	1	
12	17PJ23	American Kestrel	S4	CF	CONF	1		1	1.67	0.0167	1	
12	17PJ23	Merlin	S5	H	POSS	1		1	1.67	0.0167	1	
12	17PJ23	Peregrine Falcon	S4	NY	CONF	1	Glenn Coady					
12	17PJ23	Virginia Rail	S4S5B	S	POSS	1	Roy Smith					
12	17PJ23	Sora	S5B	S	POSS	1	Glenn Coady					
12	17PJ23	Killdeer	S4B	FY	CONF	1	David M. Shilman	4	6.67	0.1	1	
12	17PJ23	Rock Pigeon	SNA	NY	CONF	1	Glenn Coady	24	40	1.1	1	
12	17PJ23	Spotted Sandpiper	S5B	FY	CONF	1	2 atlassers					
12	17PJ23	American Woodcock	S4B	S	POSS	1	Glenn Coady					
12	17PJ23	Mourning Dove	S5	NE	CONF	1	Glenn Coady	20	33.33	0.4833	1	
12	17PJ23	Yellow-billed Cuckoo	S4B	T	PROB	1	2 atlassers					
12	17PJ23	Black/Yellow-billed Cuckoo	S4S5B	FY	CONF	1	Jean Iron					
12	17PJ23	Black-billed Cuckoo	S4S5B	T	PROB	1	Jean Iron					
12	17PJ23	Eastern Screech-Owl	S4	FY	CONF	1	2 atlassers					
12	17PJ23	Great Horned Owl	S4	FY	CONF	1	Glenn Coady	1	1.67	0.0167	1	
12	17PJ23	Common Nighthawk	S4B	H	POSS	1	Glenn Coady					
12	17PJ23	Chimney Swift	S3B	AE	CONF	1		11	18.33	0.45	1	
12	17PJ23	Ruby-throated Hummingbird	S5B	T	PROB	1	Jean Iron					
12	17PJ23	Belted Kingfisher	S5B, S4N	CF	CONF	1	Winnie Poon					
12	17PJ23	Downy Woodpecker	S5	FY	CONF	1	Jean Iron	6	10	0.1667	1	
12	17PJ23	Hairy Woodpecker	S5	CF	CONF	1	Jean Iron	2	3.33	0.0333	1	
12	17PJ23	Northern Flicker	S5	CF	CONF	1	Jean Iron	9	15	0.2	1	
12	17PJ23	Pileated Woodpecker	S5	FY	CONF	1	Glenn Coady					
12	17PJ23	Eastern Wood-Pewee	S4B	NY	CONF	1		1	1.67	0.0167	1	
12	17PJ23	Willow Flycatcher	S4B	FY	CONF	1	Glenn Coady					
12	17PJ23	Least Flycatcher	S5B	S	POSS	1	2 atlassers					
12	17PJ23	Eastern Phoebe	S5B	FY	CONF	1	Glenn Coady	1	1.67	0.0167	1	
12	17PJ23	Great Crested Flycatcher	S5B	FY	CONF	1	2 atlassers	3	5	0.05	1	
12	17PJ23	Eastern Kingbird	S4B	NY	CONF	1	Roy Smith	2	3.33	0.05	1	
12	17PJ23	Warbling Vireo	S5B	FY	CONF	1	Jean Iron	2	3.33	0.0667	1	
12	17PJ23	Red-eyed Vireo	S5B	FY	CONF	1	2 atlassers	11	18.33	0.2333	1	
12	17PJ23	Blue Jay	S5	CF	CONF	1	Jean Iron	13	21.67	0.3833	1	
12	17PJ23	American Crow	S5	NY	CONF	1		16	26.67	0.6167	1	
12	17PJ23	Horned Lark	S4	H	POSS	1	Glenn Coady					

Region	Square	Species	S Rank	Breeding Evidence				Point Counts			
				Max BE	Categ	#Sq	Atlasser Name	#PC	%PC	Abun	#Sq
12	17PJ23	Purple Martin	S3B	H	POSS	1	Glenn Coady				
12	17PJ23	Tree Swallow	S4S5B	CF	CONF	1	Jean Iron	1	1.67	0.05	1
12	17PJ23	Northern Rough-winged Swallow	S4B	H	POSS	1	2 atlassers				
12	17PJ23	Bank Swallow	S4B	AE	CONF	1	Bruce Falls				
12	17PJ23	Cliff Swallow	S4S5B	AE	CONF	1	Glenn Coady				
12	17PJ23	Barn Swallow	S4B	NY	CONF	1	Jean Iron	2	3.33	0.0333	1
12	17PJ23	Black-capped Chickadee	S5	FY	CONF	1	3 atlassers	10	16.67	0.2167	1
12	17PJ23	Red-breasted Nuthatch	S5	CF	CONF	1	Jean Iron	1	1.67	0.0167	1
12	17PJ23	White-breasted Nuthatch	S5	AE	CONF	1	Jean Iron	2	3.33	0.0333	1
12	17PJ23	Carolina Wren	SNA	T	PROB	1	Jean Iron				
12	17PJ23	House Wren	S5B	FY	CONF	1	Jean Iron	3	5	0.05	1
12	17PJ23	Blue-gray Gnatcatcher	S4B	FS	CONF	1	Jean Iron	1	1.67	0.0167	1
12	17PJ23	Veery	S5B	FY	CONF	1	Glenn Coady				
12	17PJ23	Wood Thrush	S4B	NE	CONF	1	Jean Iron	3	5	0.05	1
12	17PJ23	American Robin	S5	NY	CONF	1	Glenn Coady	32	53.33	1.0833	1
12	17PJ23	Gray Catbird	S5B, S3N	CF	CONF	1	Glenn Coady	4	6.67	0.0833	1
12	17PJ23	Northern Mockingbird	S4	NY	CONF	1	2 atlassers	2	3.33	0.0333	1
12	17PJ23	Brown Thrasher	S4B	CF	CONF	1	Glenn Coady				
12	17PJ23	European Starling	SNA	NY	CONF	1		48	80	4.6833	1
12	17PJ23	Cedar Waxwing	S5	CF	CONF	1	Jean Iron	3	5	0.1167	1
12	17PJ23	Yellow Warbler	S5B	FS	CONF	1	Jean Iron	4	6.67	0.1	1
12	17PJ23	Chestnut-sided Warbler	S5B	T	PROB	1	Jean Iron				
12	17PJ23	Pine Warbler	S5B, S3N	CF	CONF	1	Jean Iron				
12	17PJ23	American Redstart	S5B	DD	CONF	1	Jean Iron				
12	17PJ23	Ovenbird	S5B	T	PROB	1	Jean Iron	1	1.67	0.0167	1
12	17PJ23	Mourning Warbler	S5B	S	POSS	1	Jean Iron				
12	17PJ23	Common Yellowthroat	S5B, S3N	FY	CONF	1	Jean Iron				
12	17PJ23	Chipping Sparrow	S5B, S3N	AE	CONF	1	Glenn Coady	4	6.67	0.1333	1
12	17PJ23	Savannah Sparrow	S5B, S3N	AE	CONF	1	Jean Iron				
12	17PJ23	Song Sparrow	S5	NY	CONF	1		11	18.33	0.2	1
12	17PJ23	Swamp Sparrow	S5B, S4N	S	POSS	1	Glenn Coady				
12	17PJ23	Scarlet Tanager	S5B	T	PROB	1	Jean Iron	1	1.67	0.0167	1
12	17PJ23	Northern Cardinal	S5	NE	CONF	1	Jean Iron	26	43.33	0.65	1
12	17PJ23	Rose-breasted Grosbeak	S5B	FY	CONF	1	Jean Iron	3	5	0.0833	1
12	17PJ23	Indigo Bunting	S5B	FY	CONF	1	Jean Iron	4	6.67	0.0667	1
12	17PJ23	Bobolink	S4	NB	CONF	1	Glenn Coady				
12	17PJ23	Red-winged Blackbird	S5	AE	CONF	1	Glenn Coady	19	31.67	0.7667	1
12	17PJ23	Eastern Meadowlark	S4B	CF	CONF	1	2 atlassers				
12	17PJ23	Common Grackle	S5	NY	CONF	1	Glenn Coady	29	48.33	1.0167	1
12	17PJ23	Brown-headed Cowbird	S5	FY	CONF	1	Jean Iron	2	3.33	0.05	1
12	17PJ23	Orchard Oriole	S4B	S	POSS	1	Glenn Coady				
12	17PJ23	Baltimore Oriole	S4B	NY	CONF	1		7	11.67	0.1167	1
12	17PJ23	House Finch	SNA	CF	CONF	1	Glenn Coady	15	25	0.55	1
12	17PJ23	American Goldfinch	S5	NY	CONF	1		12	20	0.4333	1
12	17PJ23	House Sparrow	SNA	NY	CONF	1		42	70	3.7167	1

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Appendix B

SAR Screening Table

Project Name: Bishop Allen Academy Redevelopment, NHIA
Project Number: 300056215.0000

COMMON NAME	Screening Source	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial PSO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description	Habitat Present in Study Area?	Species Observed?
Birds										
Acadian Flycatcher	OBBA	*Empidonax virescens*	S2S3B		END	END	1	Generally requires large areas of mature, undisturbed forest; avoids the forest edge; often found in well wooded swamps and ravines.7 Prefers maple and beech trees for nesting. Nesting in Ontario is restricted to southwestern Ontario, mostly in large forested ravines near the shore of Lake Erie. 10	No potential within subject lands. Wooded areas are limited in extent to the forest edge and are highly disturbed by recreational activites and proximity to the school.	No.
Bank Swallow	OBBA	*Riparia riparia*	S4B		THR	THR	1	Prefers open habitats including, farmland, lake/river shorelines, grasslands, and wetlands. Nests in exposed earthen banks along shorelines and in artificial sites such as gravel pits.7 Prefers to nest on vertical faces in silt and sand deposits.10	No potential within the subject lands. Suitable nesting habitat not present within property limits.	No.
Barn Swallow	OBBA	*Hirundo rustica*	S4B		SC	SC	1	Prefers farmland, lake/river shorelines, wooded clearings, urban populated areas, rocky cliffs, and wetlands. Nests inside or on exterior of buildings; under bridges and in road culverts; on rock faces, and in caves, etc.8 Prefers rough-cut wood, allowing mud to adhere easier for nesting.10	Low potential for species nesting. Suitable buldings and overhanging structures associated with the school building and amenities exist. The exterior wall and overhanging sturctures on the east side of the school may provide suitable nesting structure adjacent to forested cover and an open field to the south, utilized as a running track which may support species forgaging.	No.
Bobolink	OBBA	*Dolichonyx oryzivorus*	S4B		THR	THR	1	Generally prefers open grasslands and hay fields for nesting, typically featuring relatively tall vegetation. Sometimes uses large fields of winter wheat and rye in southwestern Ontario. Sensitive to vegetation structure and composition. Positively associated with high grass-to-forb ratios; moderate litter depth; tolerate wetter portions of fields compared to Eastern Meadowlark (EAME) and more likely to nest closer to field centres rather than field margins. Lower tolerance to presence of patches of bare ground. Appear to prefer larger fields than EAME.9	No potential. Suitable nesting habitat not present within subject lands.	No.
Chimney Swift	OBBA	*Chaetura pelagica*	S4B,S4N		THR	THR	1	Historically nested in large hollow trees, other tree cavities and cracks in cliffs. Currently, most are found in developed areas in large, uncapped chimneys. Proximity to lakes is also a preferred habitat feature as they will forage for flying insects close to water.7	No potential. Portion of school to be demolished does not contain appropriate chimney to support.	No.

COMMON NAME	Screening Source	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial PSO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description	Habitat Present in Study Area?	Species Observed?
Common Nighthawk	OBBA	*Chordeiles minor*	S4B		SC	THR	1	Nests in open habitats, in forests and in urban areas. It prefers rock outcrops, alvars, sand barrens, bogs, fens, and in forests, openings created by clearcuts and burns. In southern Ontario, grasslands, agricultural fields, gravel pits, prairies, and alvars and at airports. In cities, it nests mostly on flat, graveled roofs but occasionally on railways and footpaths.7	No potential. Suitable nesting habitat not present within subject lands, including unsuitable roof.	No.
Eastern Wood-Pewee	NHIC, OBBA	*Contopus virens*	S4B		SC	SC	1	Prefers open space near the nest in the form of forest edges, clearings, roadways, and water. Does not require large areas of woods but occurs less frequently in woodlots surrounded by development than in those without.7 Prefers the mid-canopy layer of forest clearings with little understory vegetation and edges of deciduous and mixed forest communities. 10	Low potential. A deciduous forest edge occupies the eastern and north boundary of the subject lands. The edge is highly disturbed and surrounded by development, which is a very poor quality habitat feature for the species. TRCA Regional data (2016) provides evidence of species presence during the breeding bird season east of the subject lands.	No.
Red-headed Woodpecker	OBBA	*Melanerpes erythrocephalus*	S4B		END	THR	1	Breeds in open woodland and woodland edges, especially oak savannah and riparian forest. These habitats can occur in parks, golf courses, cemeteries and private woodlands. Existence of large, dead, weathered trees or live trees with large dead branches are an important characteristic of habitat.7	No potential. A forest community is present but is limited to the edge which is highly disturbed and surrounded by development. No large dead trees or thick understory are present.	No.
Eastern Whip-poor-will	NHIC	*Antrostomus vociferus*	S4B		SC	SC	1	Found in areas with a mix of open and forested areas, such as savannahs, open woodlands or opening in more mature, deciduous, coniferous and mixed forests. It forages in open areas and roosts in forested areas. [7]	Low potential. Wooded areas are present but are limited in extent and are highly disturbed and surrounded by development	No.
Wood Thrush	OBBA	*Hylocichla mustelina*	S4B		THR	THR	1	Inhabits and breeds in woodlands ranging from small (3 ha) and isolated to large and contiguous. The presence of tall trees and a thick understorey are usually prerequisites for site occupancy.7 Prefers to nest in sugar maple or beech stands, with a well developed understory. 10	Low potential. Wooded areas are present but are limited in extent and are highly disturbed and surrounded by development	No.

Project Name: Bishop Allen Academy Redevelopment, NHIA
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COMMON NAME	Screening Source	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial PSO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description	Habitat Present in Study Area?	Species Observed?
Mammals										
Eastern Small-footed Myotis	MECP	*Myotis leibii*	S2S3	END	END	No status	No schedule	Overwintering habitat: Caves and abandoned mines. According to the Recovery Strategy for the Eastern Small-footed Myotis in Ontario, summer / roosting habitats used by the species in Ontario are poorly understood, but elsewhere in its range it primarily roosts in open, sunny rocky habitats, and, occasionally, in buildings. Summer roosts for this species are believed to be located in close proximity to their hibernacula (i.e., less than 100 m). The species' preference for rocky habitats in summer may limit an individual's home range to those rocky areas which also contain hibernacula (i.e., karst areas and Canadian Shield areas containing abandoned mines with adits).16	No Potential. Anthropogenic structures (buildings) in the residential areas may provide suitable roosting habitat, but will not be impacted by the proposed development activities. However, suitable hibernacula sites are not located within close proximity to the subject lands.	No.
Eastern Red Bat	MECP	*Lasiurus borealis*	S3	END	END	No status	No schedule	Overwintering habitat: migrate south to areas outside of Canada. Maternal Roosts: trees or shrubs, typically among foliage near the edges of the canopy, where sites have overhead leaf cover and open space below. Prefers tall, large-diameter trees that provide shelter and suitable conditions for raising pups. 11	Low Potential. A limited number of trees with sufficient DBH exist on the subject lands and all snag trees capable of supporting bats are adequately setback from proposed construction. Anthropogenic structures (buildings) in the residential areas may provide suitable roosting habitat, but will not be impacted by the proposed development activities.	A limited number of potential maternity roosting habitat can likely be found in the treed areas. Trees recommended for removal at the ravine edge are not snags capable of supporting bats.
Hoary Bat	MECP	*Lasiurus cinereus*	S3	END	END	No status	No schedule	Overwintering habitat: migrate south to areas outside of Canada. Maternal Roosts: trees or shrubs, typically among foliage near the edges of the canopy, where sites have overhead leaf cover and open space below. Prefers tall, large-diameter trees that provide shelter and suitable conditions for raising pups. 11	Low Potential. A limited number of trees with sufficient DBH exist on the subject lands and all snag trees capable of supporting bats are adequately setback from proposed construction. Anthropogenic structures (buildings) in the residential areas may provide suitable roosting habitat, but will not be impacted by the proposed development activities.	A limited number of potential maternity roosting habitat can likely be found in the treed areas. Trees recommended for removal at the ravine edge are not snags capable of supporting bats.
Silver Haired Bat	MECP	*Lasionycteris noctivagans*	S3	END	END	No status	No schedule	Overwintering habitat: migrate south to areas outside of Canada. Maternal Roosts: trees or shrubs, typically among foliage near the edges of the canopy, where sites have overhead leaf cover and open space below. Prefers tall, large-diameter trees that provide shelter and suitable conditions for raising pups. 9	Low Potential. A limited number of trees with sufficient DBH exist on the subject lands and all snag trees capable of supporting bats are adequately setback from proposed construction. Anthropogenic structures (buildings) in the residential areas may provide suitable roosting habitat, but will not be impacted by the proposed development activities.	A limited number of potential maternity roosting habitat can likely be found in the treed areas. Trees recommended for removal at the ravine edge are not snags capable of supporting bats.

Project Name: Bishop Allen Academy Redevelopment, NHIA
Project Number: 300056215.0000

COMMON NAME	Screening Source	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial PSO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description	Habitat Present in Study Area?	Species Observed?
Little brown Myotis	MECP	*Myotis lucifugus*	S4	END	END	END	1	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: Often associated with buildings (attics, barns etc.). Occasionally found in trees (25-44 cm dbh).15	Low Potential. A limited number of trees with sufficient DBH exist on the subject lands and all snag trees capable of supporting bats are adequately setback from proposed construction. Anthropogenic structures (buildings) in the residential areas may provide suitable roosting habitat, but will not be impacted by the proposed development activities.	A limited number of potential maternity roosting habitat can likely be found in the treed areas. Trees recommended for removal at the ravine edge are not snags capable of supporting bats.
Tri-colored Bat	MECP	*Perimyotis subflavus*	S3?	END	END	END	1	Overwintering habitat: Deepest parts of caves and mines where temperature is the least variable. Maternal Roosts: Less is known about roosts of Tri-colored Bats. Most roost sites found within forested habitats. May roost in clumps of dead foliage and lichens. In more anthropogenically modified landscapes, maternity roosts may be barns or similar human-made structures.15	Low Potential. A limited number of trees with sufficient DBH exist on the subject lands and all snag trees capable of supporting bats are adequately setback from proposed construction. Anthropogenic structures (buildings) in the residential areas may provide suitable roosting habitat, but will not be impacted by the proposed development activities.	A limited number of potential maternity roosting habitat can likely be found in the treed areas. Trees recommended for removal at the ravine edge are not snags capable of supporting bats.
Northern Myotis	MECP	*Myotis septentrionalis*	S3	END	END	END	1	Overwintering habitat: Caves and mines that remain above 0 Maternal Roosts: Often associated with cavities of large diameter trees (25-44 cm dbh). Occasionally found in structures (attics, barns etc.)15	Low Potential. A limited number of trees with sufficient DBH exist on the subject lands and all snag trees capable of supporting bats are adequately setback from proposed construction. Anthropogenic structures (buildings) in the residential areas may provide suitable roosting habitat, but will not be impacted by the proposed development activities.	A limited number of potential maternity roosting habitat can likely be found in the treed areas. Trees recommended for removal at the ravine edge are not snags capable of supporting bats.

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COMMON NAME	Screening Source	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial PSO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description	Habitat Present in Study Area?	Species Observed?
Plants										
Butternut	NHIC	*Juglans nigra*	S2	END	END	END	1	Generally grows individually or in small groups along deciduous forest edges. Prefers moist, rich, well-drained sites, typically near streams or gravel areas. 10 Commonly associated with Basswood, Black Cherry, Black Walnut, Eastern Hemlock, and Yellow Birch. 6	Low potential. The deciduous forest edge may provide preffered habitat with sandy, well drained soils at the crest of the slope adjacent to the Mimico Creek. Although the subject lands are mostly comprised of dry, sterile soils, highly disturbed and compacted.	No Butternut were identifed within the Study Area. Additionally, the tree inventory conducted by Burnside on Janurary 18, 2023 confimed no Butternut are present within the limits of development on the subject property, or subsequent site visits by the arborist
Reptiles										
Blanding's Turtle	NHIC, ORAA	*Emydoidea blandingii*	S3	THR	END	THR	1	Generally occur in freshwater lakes, permanent or temporary pools, slow-flowing streams, marshes and swamps. They prefer shallow water that is rich in nutrients, organic soil and dense vegetation. Adults are generally found in open or partially vegetated sites, and juveniles prefer areas that contain thick aquatic vegetation including sphagnum, water lilies and algae. They dig their nest in a variety of loose substrates, including sand, organic soil, gravel and cobblestone. Overwintering occurs in permanent pools that average about one metre in depth, or in slow-flowing streams.20	No potential. No suitable nesting habitat or open water within the subject lands.	No.
Eastern Hog-nosed Snake	ORAA	*Heterodon platirhinos*	S3	THR	THR	THR	1	Generally prefers beaches, and very sandy, dry forest communities for egg laying and hibernation. 10 Prefers driftwood in beach habitats and open grass or rocky areas in forest communities in search of prey. This species is a prey specialist on toads (Bufo spp.) 8	No potential. No suitable nesting habitat within the subject lands or surrounding areas. ORAA indicates a historical presence within 10 sqaure kilometers, with latest records of the species during 1916.	No.
Eastern Musk Turtle	ORAA	*Sternotherus odoratus*	S3		SC	SC	1	Inhabit a wide variety of permanent waters, including ponds, lakes, marshes, sloughs, and rivers. Most common in clear lakes or ponds with marl, sand, or gravel bottoms and a moderate growth of aquatic plants. Prefer slow current. Highly aquatic and rarely wander far from water. Typically nests within 45 m of water.19 Prefers nesting close to water in direct sunlight, digging shallow excavations among decaying vegetation and rotting wood. 10	No potential. No suitable nesting habitat or open water within the subject lands.	No.
Northern Map Turtle	NHIC, ORAA	*Graptemys geographica*	S3		SC	SC	1	Highly aquatic. Inhabit slow moving water in larger lakes, rivers, reservoirs, oxbow sloughs, and open marshes, including some of the bays and inlets of the Great Lakes themselves with soft mud to sand, gravel, or marl bottom substrates. Less common in smaller lakes and streams; juveniles may reside in small ponds. Require high-quality water that supports the female's mollusc prey.19 In Ontario, it is typically found on the shores of Georgian Bay, Lake St. Clair, Lake Erie, Lake Ontario and larger river systems including the Thames, Grand and Ottawa river. 10	No potential. No suitable nesting habitat or open water within the subject lands.	No.

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COMMON NAME	Screening Source	SCIENTIFIC NAME	Provincial S-RANK[1]	Provincial PSO Status[2]	COSEWIC[3]	Federal SARA Status[3]	Federal SARA Schedule[4]	Habitat Description	Habitat Present in Study Area?	Species Observed?
Snapping Turtle	NHIC,ORAA	*Chelydra serpentina*	S3		SC	SC	1	Generally inhabit shallow waters where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravely or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits.10	No potential. No suitable nesting habitat or open water within the subject lands. The subject lands are located at the top of the slope crest adjacent to the Mimico Creek system. This includes a large, very steep slope towards the watercourse on adacent lands, less preferred by females travelling in search of nesting sites.	No.

[1]S-Ranks (provincial)

Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario

(Please refer to: http://explorer.natureserve.org/nsranks.htm)

SX — Presumed Extirpated - Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
SH — Possibly Extirpated (Historical) - Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20–40 years. A species or community could become SH without such a 20-40 year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for. The SH rank is reserv
S1 — Critically Imperiled - Critically imperiled in the province or state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the province.
S2 — Imperiled - Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the province.
S3 — Vulnerable - Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4 — Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 — Secure - Common, widespread, and abundant in the province.
SNR — Unranked - Province conservation status not yet assessed.
SU — Unrankable - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA — Not Applicable - A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#S# — Range Rank - A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
S#? – Inexact or Uncertain - Denotes inexact or uncertain numeric rank.

[2]PSO Protected Species in Ontario List
(provincial status from O. Reg. 60/26 PROTECTED SPECIES IN ONTARIO LIST | ontario.ca)
The provincial review process is implemented by the MNR's Committee on the Status of Species at Risk in Ontario (COSSARO).

Extinct - A species that no longer exists anywhere.
Extirpated (EXT) - Lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.
Endangered (END) - Lives in the wild in Ontario but is facing imminent extinction or extirpation.
Threatened (THR) - Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.
Special concern (SC) - Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.
Not at Risk (NAR) - A species that has been evaluated and found to be not at risk.
Data Deficient (DD) - A species for which there is insufficient information for a provincial status recommendation.

[3]SARA (Federal *Species at Risk Act*) Status and Schedule (includes COSEWIC Status)
The Act establishes Schedule 1, as the official list of wildlife species at risk. It classifies those species as being either Extirpated, Endangered, Threatened, or a Special Concern. Once listed, the measures to protect and recover a listed wildlife species are implemented.
Extinct - A wildlife species that no longer exists.
Extirpated (EXT) - A wildlife species that no longer exists in the wild in Canada but exists elsewhere.
Endangered (END) - A wildlife species facing imminent extirpation or extinction.
Threatened (THR) - A wildlife species that is likely to become an endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
Special Concern (SC) - A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.

[4]SARA Schedule
Schedule 1: is the official list of species that are classified as extirpated, endangered, threatened, and of special concern.
Schedule 2: species listed in Schedule 2 are species that had been designated as endangered or threatened, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.
Schedule 3: species listed in Schedule 3 are species that had been designated as special concern, and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

The Act establishes Schedule 1 as the official list of wildlife species at risk. However, please note that while Schedule 1 lists species that are extirpated, endangered, threatened and of special concern, the prohibitions do not apply to species of special concern.

Species that were designated at risk by COSEWIC prior to October 1999 (Schedule 2 & 3) must be reassessed using revised criteria before they can be considered for addition to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the List of Wildlife Species at Risk.

[5]Habitat Present on Site

Determination of suitability of the site to be support each species based on 'Key Habitats Used By Species'.

Yes - Specific habitat present and species and / or evidence observed;

Likely – The whole study area or portions of it contain conditions that could support the species;

Unlikely – Few similarities between study area conditions and preferred habitat exist;

No - Specific habitat not present and species and / or evidence not observed

[6]Species Observed

Reported sighting of species during fall field investigations by RJB biologists

Additional Sources:

Sources:

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[8] Species at Risk Public Registry http://www.sararegistry.gc.ca

[9] McCracken, J.D. et al. 2013. Recovery Strategy for the Bobolink (Dolichonyx oryzivorus) and Eastern Meadowlark (Sturnella magna) in Ontario .Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario, viii + 88 pp.

[10] MNR SARO List Species Descriptions (http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_CSSR_SARO_LST_EN.html)

[11] COSEWIC Species Assessment Report

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[14]Ontario Nature Reptile and Amphibian Atlas (https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/species/)

[15]Environment Canada. 2015. Recovery Strategy for Little Brown Myotis (Myotis lucifugus), Northern Myotis (Myotis septentrionalis) and Tri-colored Bat (Perimyotis subflavus) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. Ix + 110 pp.

[16]Humphrey, C. 2017. Recovery Strategy for the Eastern Small-footed Myotis (Myotis leibii) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 76 pp.

[17]Department of Fisheries and Oceans (DFO) Aquatic Species at Risk found online at: http://www.dfo-mpo.gc.ca/species-especes/sara-lep/identify-eng.html.

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[19]Harding, J.H., 1997. Amphibians and Reptiles of the Great Lakes Region. The University of Michigan Press. Ann Arbor, Michigan

[20]MNRF. 2018. City of Niagara Falls Species at Risk Table. Guelph District.

[21]Michigan Flora found online at https://michiganflora.net/search.aspx

[22]Natural Heritage Information Centre (https://www.ontario.ca/page/get-natural-heritage-information)

[23]McKnight, K.B. et al. 2013. Common Mosses of the Northeast and Appalachians. Princeton University Press. Princeton, New Jersey.

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Appendix C

Significant Wildlife Habitat Screening

Significant Wildlife Habitat Screening – Ecoregion 6E Criteria (2015)

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Table 1.1: Seasonal Concentration Areas of Animals					
Waterfowl Stopover & Staging Areas (Terrestrial) **Rationale:** Habitat important to migrating waterfowl.	CUM1 CUT1 - Plus evidence of annual spring flooding from melt water or run-off within these ecosites.	Fields with sheet water during Spring (mid-March to May). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects. • Any mixed species aggregations of 100 or more individuals required. • The flooded field ecosite habitat plus a 100-300 m radius area, dependent on local site conditions and adjacent land use is the SWH. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). • **SWHMiST Index #7** provides development effects and mitigation measures.	No potential on the the subject lands. The ecosites are not present and the habitat criteria for Significant Wildlife Habitat is not present. No waterfowl were recorded during any surveys completed on the subject lands in 2023 Candidate habitat unlikely to exist on adjacent lands northeast of the subject lands associated with the Mimico Creek system, dominated by woodland and forest cover.
Waterfowl Stopover & Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and SWM ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water).	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck	**Studies carried out & verified presence of:** • Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. • The combined area of the Ecological Land Classification (ELC) ecosites and a 100 m radius area is the SWH. • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are SWH. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • **SWHMiST Index #7** provides development effects and mitigation measures.	No potential on the the subject lands. The ecosites are not present and the habitat criteria for Significant Wildlife Habitat is not present. No waterfowl were recorded during any surveys completed on the subject lands in 2023 Candidate habitat unlikely to exist on adjacent lands northeast of the subject lands associated with the Mimico Creek system, dominated by woodland and forest cover.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
			Red-breasted Merganser Brant Canvasback Ruddy Duck		
Shorebird Migratory Stopover Area **Rationale**: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as a SWH.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	**Studies confirming:** • Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period). • Whimbrel stop briefly (<24 hrs.) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100 m radius area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #8** provides development effects and mitigation measures.	No potential on the the subject lands. The ecosites are not present and the habitat criteria for Significant Wildlife Habitat is not present. No shorebirds listed were recorded during any surveys completed on the subject lands in 2023. Lake Ontario is approximately 2 km southeast of the subject lands, with a heavily urbanized shoreline associated with the Humber Bay Park and Marina.
Raptor Wintering Area **Rationale**: Sites used by multiple species, a high number of individuals and used annually are most significant.	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC.	• The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Raptor wintering sites (hawk/owl) need to be **>** 20 ha, with a combination of forest and upland. • Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. • Field area of the habitat is to be wind swept with limited snow depth or accumulation. • Eagle sites have open water, large trees and snags available for roosting.	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **Special Concern:** Short-eared Owl Bald Eagle	**Studies confirm the use of these habitats by:** • One or more Short-eared Owls or; One or more Bald Eagle or; At least 10 individuals and two of the listed hawk/owl species. • To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects."	No potential on the developable limits of the subject lands. The presence of a deciduous forest ecosite exists associated with the Mimico Creek System; however, this ecosite is disturbed, patchy and significantly smaller in area with no preferred upland characteristics to be considered candidate habitat

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
	Upland: CUM; CUT; CUS; CUW. Bald Eagle: Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).			• **SWHMiST Index #10 and #11** provides development effects and mitigation measures.	
Bat Hibernacula **Rationale:** Bat hibernacula are rare habitats in all Ontario landscapes.	**Bat Hibernacula may be found in these ecosites:** CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH. • The locations of bat hibernacula are relatively poorly known.	Big Brown Bat Tri-coloured Bat	• All sites with confirmed hibernating bats are SWH. • The habitat area includes a 200 m radius around the entrance of the hibernaculum for most development types and 1000 m for wind farms. • Studies are to be conducted during the peak swarming period (August to September). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #1** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Bat Maternity Colonies **Rationale:** Known locations of forested bat	Maternity colonies considered SWH are found in forested ecosites.	• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario.	Big Brown Bat Silver-haired Bat	• Maternity Colonies with confirmed use by: – >10 Big Brown Bats – >5 Adult Female Silver- haired Bats	Candidate habitat present within the wooded ecosite (FODM7-7) on the subject lands and forested tracts on adjacent lands. This ecosite is part of a larger contiguous wooded area that meets the minimum to be

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
maternity colonies are extremely rare in all Ontario landscapes.	**All ELC ecosites in ELC Community Series:** FOD FOM SWD SWM	• Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25 cm dbh) wildlife trees. • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.		• The area of the habitat includes the entire woodland, or a forest stand ELC ecosite or an ecoelement containing the maternity colonies. • Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #12 provides development effects and mitigation measures.	considered SWH. The ecologist identified the presence of candiate maternity roost trees (during the lead-on period). The woodlands are part of the protected NHS and removal of these trees is currently not proposed. As such, acoustic monitoring was not carried out to confirm presence of SWH; however, presence is assumed. No potential within the development limits of the subject lands.
Turtle Wintering Areas **Rationale:** Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Snapping and Midland Painted Turtles. **ELC Community Classes:** SW, MA, OA and SA **ELC Community Series:** FEO and BOO For Northern Map Turtle: Open water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	• For most turtles, wintering areas are in the same general area as their core habitat. Water must be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.	Midland Painted Turtle **Special Concern:** Northern Map Turtle Snapping Turtle	• Presence of 5 over-wintering Midland Painted Turtles is significant. • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. • Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (September–October) or spring (March–May). • Congregation of turtles is more common where wintering areas are limited and therefore significant. • **SWHMiST Index #28** provides development effects and mitigation measures for turtle wintering habitat.	No potential on the subject lands . The habitat criteria for Significant Wildlife Habitat is not present. No turtles were observed during any surveys in 2023. No wetland communities exist on adjacent lands
Reptile Hibernaculum	For all snakes, habitat may be found in any	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of	**Snakes**: Eastern Gartersnake Northern Watersnake	**Studies confirming:**	No potential on the developable limits of the subject lands.The habitat criteria for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Rationale: Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and ecosites: FOC1 and FOC3.	features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock groundcover. • Five-lined Skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures.	Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake **Special Concern:** Milksnake Eastern Ribbonsnake **Lizard: Special Concern:** (Southern Shield population): Five-lined Skink	• Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (e.g., foundation or rocky slope) on sunny warm days in Spring (April/May) and Fall (September/October). • **Note**: If there are Special Concern Species present, then site is SWH. • **Note:** Sites for hibernation possess specific habitat parameters (e.g., temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e., strong hibernation site fidelity). Other critical life processes (e.g., mating) often take place near hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH. • **SWHMiST Index #13** provides development effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for Skink is significant. • SWHMiST Index #37 provides development effects and mitigation measures for five-lined Skink wintering habitat.	Land within the development limits is highly urbanized (existing school) and does not provide candidate habitat. No snake species was observed during surveys in 2023. Candidate habitat may exist within the NHS on the subject lands where deciduous forest communities exist with large steep slopes associated with Mimico Creek. These slopes may provide rock piles with access below the frost line. Note, the development limit is set back from the NHS and top of slope where candidate habitat may be present.
Colonially - Nesting Bird Breeding Habitat (Bank & Cliff) **Rationale:** Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. **Habitat found in the following ecosites:** CUM1 CUT1 CUS1 BLO1 BLS1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	**Studies confirming:** • Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50 m radius habitat area from the peripheral nests. • Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #4** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
declining in Ontario.	BLT1 CLO1 CLS1 CLT1				
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) **Rationale:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	**Studies confirming:** • Presence of 2 or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300 m radius or extent of the Forest ecosite containing the colony or any island <15.0 ha with a colony is the SWH. • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells. • **SWHMiST Index #5** provides development effects and mitigation measures.	No potential on the subject lands . The habitat criteria for Significant Wildlife Habitat is not present. No Egret or Heron species were observed during any surveys in 2023. No wetland habitats exist on adjacent lands based on a desktop assessment and background review.
Colonially - Nesting Bird Breeding Habitat (Ground) **Rationale;** Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird). MAM1 – 6 MAS1 – 3 CUM CUT	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	**Studies confirming:** • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer's Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. • The edge of the colony and a minimum 150 m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0 ha with a colony is the SWH. • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #6** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. Open water associated with a permanent waterbody (Lake Ontario) is approximately 2 km south of the subject lands. Breeding records for Brewer's Blackbird are mainly restricted to the north shore of Lake Huron and Georgian Bay, as well as Sudbury/Manitoulin Island and NW Ontario; no breeding records currently exist for Southern and Eastern Ontario.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
	CUS				
Migratory Butterfly Stopover Areas **Rationale:** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Combination of ELC Community Series; need to have present one Community Series from each land class. <u>Field</u>: CUM CUT CUS <u>Forest</u>: FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	• A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present and will be located within 5 km of Lake Erie or Ontario. • The habitat is typically a combination of field and forest and provides the butterflies with a location to rest prior to their long migration south. • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes.	Painted Lady Red Admiral <u>Special Concern</u> Monarch	**Studies confirm:** • The presence of Monarch Use Days (MUD) during fall migration (August/October). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. • **SWHMiST Index #16** provides development effects and mitigation measures.	No potential on the subject lands. The habitat criteria for Significant Wildlife Habitat is not present. No Monarch, Painted Lady or Red Admiral species were observed during any surveys in 2023. The subject lands are within 5 km of Lake Ontario, but do not provide a sufficient sized mosaic of field and forest communities. The subject land is highly disturbed and utilized as an existing school, unsuitable for staging areas for migratory butterfly species.
Landbird Migratory Stopover Areas **Rationale:** Sites with a high diversity of species as well as high numbers are most significant.	**All ecosites associated with these ELC Community Series:** FOC FOM FOD SWC SWM SWD	• Woodlots >10 ha in size and within 5 km of Lake Ontario. • If woodlands are rare in an area of shoreline, woodland fragments 2-5 ha can be considered for this habitat. • If multiple woodlands are located along the shoreline those Woodlands <2 km from Lake Ontario are more significant. • Sites have a variety of habitats; forest, grassland and wetland complexes. • The largest sites are more significant. • Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5 km of Lake Ontario are Candidate SWH.	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptors species: *Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997.* Schedule 7: Specially Protected Birds (Raptors)	**Studies confirm:** • Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (April/May) and fall (August/October) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • **SWHMiST Index #9** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. The subject lands are within 5 km of Lake Ontario, however the deciduous forest communities associated with the NHS on the subject lands are significantly smaller than candidate habitat and are disturbed. Adjacent lands do not provide a preferred complex of habitats and are segregated by development.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Deer Yarding Areas **Rationale:** Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in "yards" to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.	**Note:** MNRF to determine this habitat. **ELC Community Series** providing a thermal cover component for a deer yard would include: FOM FOC SWM SWC **Or these ELC ecosites:** CUP2 CUP3 FOD3 CUT	• Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. • The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. • MNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual". • Woodlots with high densities of deer due to artificial feeding are not significant.	White-tailed Deer	**No Studies Required:** • Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40 cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. • Deer Yards are mapped by MNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by MNRF will be available at local MNRF offices or via Land Information Ontario (LIO). • Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area, then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #2 provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. No deer yarding areas were identified by the MNRF.
Deer Winter Congregation Areas **Rationale:** Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in	**All Forested ecosites with these ELC Community Series:** FOC FOM FOD SWC SWM SWD	• Woodlots will typically be >100 ha in size. Woodlots <100 ha may be considered as significant based on MNRF studies or assessment. • Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. • If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. • Large woodlots > 100 ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. • Woodlots with high densities of deer due to artificial feeding are not significant.	White-tailed Deer	**Studies confirm:** • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by white- tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF. • Studies should be completed during winter (January/February) when >20 cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. The subject lands do not provide sufficient sized deciduous forest communities to support deer congregation areas.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.	Conifer plantations much smaller than 50 ha may also be used.			area, then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • **SWHMiST Index #2** provides development effects and mitigation measures.	
Table 1.2.1: Rare Vegetation Communities					
Cliffs and Talus Slopes **Rationale:** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	**Any ELC ecosite within Community Series:** TAO CLO TAS CLS TAT CLT	• A Cliff is vertical to near vertical bedrock >3 m in height. • A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.		• Most cliff and talus slopes occur along the Niagara Escarpment. • Confirm any ELC Vegetation Type for Cliffs or Talus Slopes. • **SWHMiST Index #21** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. The Niagara Escarpment is not present within the subject lands or on adjacent lands.
Sand Barren **Rationale;** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry.	**ELC ecosites:** SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	• Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.		• A sand barren area >0.5 ha in size. • Confirm any ELC Vegetation Type for Sand Barrens. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • **SWHMiST Index #20** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Alvar **Rationale:** Alvars are extremely rare	ALO1 ALS1 ALT1 FOC1 FOC2	• An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss		**Field studies that identify:** • An Alvar site > 0.5 ha in size. • Four of the five Alvar Indicator Species at a Candidate Alvar site is Significant.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
habitats in Ecoregion 6E.	CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Indicator Species:** *Carex crawei* *Panicum philadelphicum* *Eleocharis compressa* *Scutellaria parvula* *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 6E.	associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover. • Alvar is particularly rare in Ecoregion 6E where the only known sites are found in the western islands of Lake Erie.		• Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. • **SWHMiST Index #17** provides development effects and mitigation measures.	
Old Growth Forest **Rationale:** Due to historic logging practices and land clearance for agriculture, old growth forest is rare in the Ecoregion 6E.	**Forest Community Series:** FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.		**Field Studies will determine:** • If dominant trees species are >140 years old, then the area containing these trees is SWH. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics. • **SWHMiST Index #23** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. The NHS within the subject lands and on adjacent lands associated with Mimico Creek is highly disturbed, surrounded by development and composed of an uneven aged forest stand, with limited snags and heavily influenced by recreational activities with the presence of invasive species.
Savannah **Rationale:**	TPS1 TPS2 TPW1	A Savannah is a tallgrass prairie habitat that has tree cover between 25–60%.		**Field studies confirm:**	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Savannahs are extremely rare habitats in Ontario.	TPW2 CUS2			• No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. • One or more of the Savannah indicator species listed in Appendix N should be present. **Note**: Savannah plant spp. list from Ecoregion 6E should be used. • Area of the ELC ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • **SWHMiST Index #18** provides development effects and mitigation measures.	
Tallgrass Prairie **Rationale:** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	• No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway Right of Ways (ROW) are not considered to be SWH. • A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.		**Field studies confirm:** • One or more of the Prairie indicator species listed in Appendix N should be present. **Note:** Prairie plant spp. list from Ecoregion 6E should be used. • Area of the ELC ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.). • **SWHMiST Index #19** provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Other Rare Vegetation Communities **Rationale:** Plant communities that often contain rare species which depend on the habitat for survival.	• Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. • Any ELC ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.		• ELC ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M. • The MNRF/Natural Heritage Information Centre (NHIC) will have up to date listing for rare vegetation communities. **Field studies should confirm:** • If an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. • Area of the ELC Vegetation Type polygon is the SWH. • **SWHMiST Index #37** provides development effects and mitigation measures.	No potential on the subject lands. No rare vegetation communities were identified during ELC field surveys or other field investigations completed in 2023. Candidate habitat on adjacent lands but none have been identified during desktop assessment and background review.
Table 1.2.2: Specialized Habitats for Wildlife considered Significant Wildlife Habitat					

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Waterfowl Nesting Area **Rationale:** Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	**All upland habitats located adjacent to these wetland ELC ecosites are Candidate SWH:** MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 Note: includes adjacency to Provincially Significant Wetlands (PSW).	• A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	**Studies confirmed:** • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. • **SWHMiST Index #25** provides development effects and mitigation measures.	No potential on the subject lands. The ecosite codes are not present and the habitat criteria for Significant Wildlife Habitat is not present. No waterfowl were recorded during any surveys completed on the subject lands in 2023. No wetland habitats exist on adjacent lands based on a desktop assessment and background review.
Bald Eagle & Osprey Nesting, Foraging & Perching Habitat **Rationale:** Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and	**ELC Forest Community Series:** FOD FOM FOC SWD SWM and SWC (directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	• Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top of a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. • Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms).	Osprey **Special Concern** Bald Eagle	**Studies confirm the use of these nests by**: • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800 m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for >3 years or suspected of not being used for >5 years before being considered not significant.	No potential on the subject lands. The habitat criteria for Significant Wildlife Habitat is not present. Neither Bald Eagle or Osprey were recorded during any field surveys in 2023. Candiate habitat may exist on adjacent lands within the NHS where mature trees exist that could be used for nesting habitat within 2 km of Lake Ontario. The closest shoreline is heavily urbanized and provides a very poor habitat for species foraging.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
scarcity of habitat.				• Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid-March to mid-August. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #26** provides development effects and mitigation measures.	
Woodland Raptor Nesting Habitat **Rationale:** Nests sites for these species are rarely identified; these are area sensitive habitats and are often used annually by these species.	May be found in all forested ELC ecosites. **May also be found in:** SWC SWM SWD and CUP3	• All natural or conifer plantation woodland/forest stands >30 ha with >10ha of interior habitat. Interior habitat determined with a 200 m buffer. • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.	Northern Goshawk Cooper’s Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	**Studies confirm:** • Presence of 1 or more active nests from species list is considered significant. • Red-shouldered Hawk and Northern Goshawk – A 400 m radius around the nest or 28 ha area of habitat is the SWH (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). • Barred Owl – A 200 m radius around the nest is the SWH. • Broad-winged Hawk and Coopers Hawk– A 100 m radius around the nest is the SWH. • Sharp-Shinned Hawk – A 50 m radius around the nest is the SWH. • Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • **SWHMiST Index #27** provides development effects and mitigation measures.	No potential on the subject lands. The ecosite codes are not present and the habitat criteria for Significant Wildlife Habitat is not present. No raptors from the list were recorded during any surveys completed on the subject lands in 2023. Candidate habitat may exist within the NHS on adjacent lands associated with forested ecosites of the Mimico Creek system. It is unlikely that preffered interior forest habitat of suffienct size and buffering exists within the NHS, based on a desktop assessment and background review.
Turtle Nesting Areas **Rationale:** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	**Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC ecosites:** MAS1 MAS2 MAS3 SAS1 SAM1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.	Midland Painted Turtle <u>Special Concern Species:</u> Northern Map Turtle Snapping Turtle	**Studies confirm:** • Presence of 5 or more nesting Midland Painted Turtles. • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100 m area of habitat.	No potential on the subject lands . The habitat criteria for Significant Wildlife Habitat is not present. No turtles were observed during any surveys in 2023.. No wetland habitats exist on adjacent lands based on a desktop assessment and background review.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
	SAF1 BOO1 FEO1			• Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • **SWHMiST Index #28** provides development effects and mitigation measures for turtle nesting habitat.	
Seeps and Springs **Rationale:** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Seeps/Springs are areas where ground water comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested ecosite within the headwater areas of a stream could have seeps/springs.	• Any forested area (with <25% meadow/field/ pasture) within the headwaters of a stream or river system. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	**Field Studies confirm:** • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. • **SWHMiST Index #30** provides development effects and mitigation measures.	No potential on the developable limits of the subject lands. Seeps or springs were not identified during field surveys completed in 2023. No listed species were observed during filed surveys completed in 2023. Candidate habitat may be present in forested ecosites associated with the NHS and Mimico Creek system on adjacent lands, however these lands are highly disturbed by development, including paved pathways and bridges.
Amphibian Breeding Habitat (Woodland) **Rationale:** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	All ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to	• Presence of a wetland, pond or woodland pool (including vernal pools) >500 m^2 (about 25 m diameter) within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	**Studies confirm:** • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • The habitat is the wetland area plus a 230 m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • **SWHMiST Index #14** provides development effects and mitigation measures.	No potential on the subject lands. Based on the results of the background records review and field assessments in 2023, no candidate habitat exists on the subject lands. No wetland habitats exist on adjacent lands based on a desktop assessment and background review.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
	migrating amphibians.				
Amphibian Breeding Habitat (Wetlands) **Rationale:** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	**ELC Community Classes:** SW MA FE BO OA and SA. Typically, these wetland ecosites will be isolated (>120 m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g., Bull Frog) may be adjacent to woodlands.	• Wetlands >500 m^2 (about 25 m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	**Studies confirm:** • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3 or; Wetland with confirmed breeding Bullfrogs are significant. • The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • **SWHMiST Index #15** provides development effects and mitigation measures.	No potential on the subject lands. Based on the results of the background records review and field assessments in 2023, no candidate habitat exists on the subject lands. No wetland habitats exist on adjacent lands based on a desktop assessment and background review.
Woodland Area-Sensitive Bird Breeding Habitat **Rationale:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior	**All ecosites associated with these ELC Community Series:** FOC FOM FOD SWC SWM SWD	• Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs. old) forest stands or woodlots >30 ha. • Interior forest habitat is at least 200 m from forest edge habitat.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren **Special Concern:** Cerulean Warbler Canada Warbler	**Studies confirm:** • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • **Note**: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #34** provides development effects and mitigation measures.	No potential on the subject lands. The ecosites and the habitat criteria for Significant Wildlife Habitat are not present. No listed bird species were observed on the subject lands during field asssessments in 2023. Forest ecosites of the NHS associated with Mimico Creek on adjacent lands are significantly smaller than preferred habitat size, with very limited interior habitat, based on a desktop assessment and background review.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
forest song birds.					
Table 1.3: Habitat for Species of Conservation Concern considered Significant Wildlife Habitat					
Marsh Breeding Bird Habitat **Rationale:** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 **For Green Heron:** All SW, MA and CUM1 sites	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	**Studies confirm:** • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes breeding by any combination of 5 or more of the listed species. • **Note**: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. • Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #35** provides development effects and mitigation measures.	No potential on the subject lands or on adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. None of the species listed were recorded during surveys completed in 2023. No wetland habitats exist on adjacent lands based on a desktop assessment and background review.
Open Country Bird Breeding Habitat **Rationale:** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	CUM1 CUM2	• Large grassland areas (includes natural and cultural fields and meadows) >30 ha. • Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e., no row cropping or intensive hay or livestock pasturing in the last 5 years). • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl	**Field Studies confirm:** • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST Index #32** provides development effects and mitigation measures.	No potential on the subject lands or on adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. None of the species listed were recorded during surveys completed in 2023. No grassland ecosites exist on adjacent lands based on a desktop assessment and background review.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Shrub/Early Successional Bird Breeding Habitat **Rationale:** This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species.	• Large field areas succeeding to shrub and thicket habitats >10 ha in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e., no row-cropping, haying or live-stock pasturing in the last 5 years). • Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands.	**Indicator Spp:** Brown Thrasher Clay-coloured Sparrow **Common Spp.** Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Chat Golden-winged Warbler	**Field Studies confirm:** • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as SWH. • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • **SWHMiST cxlix Index #33** provides development effects and mitigation measures.	No potential on the subject lands or on adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. None of the species listed were recorded during surveys completed in 2023. No preferred large fields, shrub land or thicket ecosites of sufficient size exist on adjacent lands based on a desktop assessment and background review.
Terrestrial Crayfish **Rationale:** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	• Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for Terrestrial Crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can’t be too moist. Can often be found far from water. • Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed.	Chimney or Digger Crayfish (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish (*Cambarus diogenes*)	**Studies Confirm:** • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. **Note** the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult. • **SWHMiST Index #36** provides development effects and mitigation measures.	No potential on the subject lands and adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
Special Concern and	All plant and animal Element	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal	**Studies Confirm:**	NHIC records for the subject lands identify records for the following species in the area:

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
Rare Wildlife Species **Rationale:** These species are quite rare or have experienced significant population declines in Ontario.	Occurrences (EO) within a 1 or 10 km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	species; linking candidate habitat on the site needs to be completed to ELC ecosites.	species. Lists of these species are tracked by the NHIC.	• Assessment/inventory of the site for the identified Special Concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g., specific nesting habitat or foraging habitat. • **SWHMiST Index #37** provides development effects and mitigation measures.	• Barn Swallow (SC) • Wood Thrush (SC) • Chimney Swift (THR) • Eastern Wood-pewee (SC)
Table 1.4.1: Animal Movement Corridors					
Amphibian Movement Corridors **Rationale:** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1.	• Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat–Wetland) of this Schedule.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. • Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. • Corridors should have at least 15 m of vegetation on both sides of waterway or be up to 200 m wide of woodland habitat and with gaps <20 m. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • **SWHMiST Index #40** provides development effects and mitigation measures.	No potential on the developable limits of the subject lands. Candidate habitat not present within the NHS of the Mimico Creek system on adjacent lands. No breeding habitat for listed species was identified, Mimico Creek is highly urbanized and disrupted by recreational development, unsuitable as a Amphibian Corridor.
Deer Movement Corridors **Rationale:** Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule. • A deer wintering habitat identified by the MNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).	White-tailed Deer	• Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. • Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. • Corridors should be at least 200 m wide with gaps <20 m and if following riparian area with at least 15 m of vegetation on both sides of waterway. • Shorter corridors are more significant than longer corridors, SWHMiST Index #39 provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present. Deer wintering habitat was not identified by the MNRF.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	**Habitat Criteria**	**Wildlife Species**	**Defining Criteria**	**Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?**
dispersing individuals by minimizing their vulnerability while travelling.					
Table 1.5.1: Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 6E					
6E-14 **Mast Producing Areas** **Rationale:** The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bear.	**All Forested habitat represented by ELC Community Series**: FOM FOD	• Woodland ecosites >30 ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). • Black bears require forested habitat that provides cover, winter hibernation sites, and mast- producing tree species. Forested habitats need to be large enough to provide cover and protection for black bears.	Black Bear	**All woodlands >30 ha with a 50% composition of these ELC Vegetation Types are considered significant:** FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 SWHMiST Index #3 provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.
6E- 17 **Lek** **Rationale:** Sharp-tailed grouse only occur on Manitoulin Island in Ecoregion 6E, Leks are an important habitat to maintain their /population.	CUM CUS CUT	• The Lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. • Leks are typically a grassy field/meadow >15 ha with adjacent shrublands and >30 ha with adjacent deciduous woodland. Conifer trees within 500 m are not tolerated. • Grasslands (field/meadow) are to be >15 ha when adjacent to shrubland and >30 ha when adjacent to deciduous woodland. • Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying).	Sharp-tailed Grouse	• Studies confirming Lek habitat are to be completed from late March to June. • Any site confirmed with sharp-tailed grouse courtship activities is considered significant. • The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the Lek habitat. • SWHMiST cxlix Index #32 provides development effects and mitigation measures.	No potential on the subject lands or adjacent lands. The habitat criteria for Significant Wildlife Habitat is not present.

Habitat	CANDIDATE - Significant Wildlife Habitat		CONFIRMED - Significant Wildlife Habitat		
	Ecological Land Classification Ecosite Codes	Habitat Criteria	Wildlife Species	Defining Criteria	Presence of Candidate or Confirmed Habitat on the Subject Lands and/or Adjacent Lands?
		• Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting.			

R.J. Burnside & Associates Limited

BURNSIDE

Arborist Report
Bishop Allen Academy Redevelopment
721 Royal York Road Etobicoke ON

Toronto Catholic District School Board
80 Sheppard Avenue East
North York ON M2N 6E8

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Record of Revisions

Revision	Date	Description
-	February 21, 2023	Draft Submission to Hossack & Associates Architect Inc.
1	June 19, 2023	First Submission to Hossack & Associates Architect Inc.
2	August 17, 2023	Revisions based on City comments
3	February 29, 2024	Revisions based on meeting with RNFP
4	January 30, 2025	Revisions based on updated Site Plan and comments from RNFP and TPPR
5	April 8, 2025	Revisions based on new City policies, protection fence coordination and comments from RNFP and TPPR.
6	October 30, 2025	Revisions based on RNFP comments
7	January 15, 2026	Revisions based on TPPR comments
8	May 22, 2026	Revisions based on RNFP comments
9	October 9, 2026	Revised for North Lot SPA Resubmission

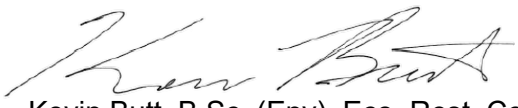
R.J. Burnside & Associates Limited

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Disclaimer

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1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by the Toronto Catholic District School Board (TCDSB) to prepare an Arborist Report and Tree Protection Plan (TPP) for the proposed redevelopment of the existing Catholic Secondary School (Bishop Allen Academy) under the TCDSB at 721 Royal York Road in Etobicoke ON.

Review of trees within and immediately adjacent to the proposed construction zone is required to be completed by a certified arborist. The existing locations, as well as their qualitative and quantitative measurements, were determined and assessed in context with the proposed construction.

The intent of the report is to identify impacts to trees that may result from the proposed construction, associated grading, servicing, and other elements of the development.

A Natural Heritage Impact Assessment (NHIA) and Ravine Stewardship Plan (RSP) has also been completed by Burnside under a separate cover.

This revised report has been scoped to include only the Bishop Allen Academy north lot, excluding the Berry Road Right-of-Way and south lot.

2.0 Study Area

The study area is located at 721 Royal York Road in Etobicoke (city of Toronto). The study area includes the property's north lot, occupied by a school building and associated parking lot. The study area is approximately 2.7 ha in area and is bordered by Royal York Road to the west, Berry Road Right-of-Way to the south, and Mimico Creek Natural Heritage System (NHS) to the north and east. The Mimico Creek System is regulated by the Toronto and Region Conservation Authority (TRCA) (under Ontario Regulation 150/06) and the City of Toronto's (City's) Ravine and Natural Feature Protection (RNFP) By-law, where both protection features extend onto the study area. As of 2026, the unopened road allowance (Berry Road) abutting the south limit of the study area has changed ownership within the city (not under TCDSB ownership).

Trees on-site are found within landscaped areas associated with the school building, parking lot, and boulevard adjacent to Royal York Road. The remaining trees within the study area are associated with the Mimico Creek NHS along the east and north boundaries.

3.0 Methodology

The tree inventory and assessment were completed by Mackenzie Dawson, ISA Certified Arborist (ON-2643A) on January 18, 2023, according to the City's document, Arborist Report for Development Applications (June 2010). Subsequent site visits were conducted on October 14 and December 23, 2025 to address the incorporation of a proposed fence

and reassess trees for size and condition. Tree data and locations were collected using ESRI Field Maps with a Trimble GNSS Receiver during the site investigation.

The methodology used to assess the trees is provided in Appendix B. All lands adjacent to Mimico Creek are designated under and protected by the City's RNFP By-law (Toronto Municipal Code Chapter 658).

The following data were collected for each tree on private property (on-site or immediately adjacent), and on public land (i.e., road ROW) that could be impacted by the development. The following data were collected for each tree:

- Species (Scientific and Common Name).
- Diameter at Breast Height (DBH) (cm).
- Minimum Tree Protection Zone (MTPZ) (m)
- Relative Root Zone Impact.
- Post-construction Structural Stability.
- Prognoses for Survival.
- Tree Category (City of Toronto).
- Condition (Good, Fair, Poor, or Dead).
- Additional Comments (to supplement condition or location notes).

Trees included in the investigation fall under the City's Tree Categories:

1. Trees with diameters of 30 cm or more, situated on private property on the subject site.

2. Trees with diameters of 30 cm or more, situated on private property, within 6 m of the subject site.

3. Trees of all diameters situated on City-owned parkland within 6 m of the subject site.

4. On lands designated under City of Toronto Municipal Code, Chapter 658, RNFP, trees of all diameters situated within 12 m of any construction activity.

5. Trees of all diameters are situated within the City road allowance adjacent to the subject site.

An MTPZ, or diameter of protection, has been calculated for each individual as per the City of Toronto's Tree Protection Policy and Specifications for Construction Near Trees (July 2016). MTPZ`s were calculated based on the assigned TPZ for trees in areas protected by the RNFP By-law added to the DBH.

Preservation recommendations (i.e., preserve or remove) are provided in separate columns in the data based on the existing condition and proposed development impacts.

A final preservation recommendation is determined based on the recommendations regarding existing condition and the proposed development. A tree is recommended for

preservation if it has been assigned a Fair or Good condition rating and can be incorporated into the development. A tree is recommended for removal if it has been assigned a Poor condition rating and / or will be significantly impacted by or is a conflict with the proposed development.

Tree assessment data including MTPZ size and Tree Category is provided in Appendix A and locations of individual trees within the study area are provided in the Figures. Limitations of this tree assessment are provided in Appendix C. An Excel document of the tree assessment data has been included in the submission at the request of RNFP.

4.0 Proposed Development

The proposed development includes the removal and redesign of the existing school building and associated parking lot. The redesigned school building and amenities will extend beyond the existing building footprint, with a proposed walkway extending into the dripline along the north and east limits of the Mimico Creek System. A 1.8 m chain-link fence has been proposed along the north and east limits of the development to deter access to the ravine and Mimico Creek System.

5.0 Findings

A total of 210 individual trees were included in the assessment. All trees included in the investigation are located on-site.. Trees included in the investigation fall under the City's Tree Categories as follows:

- Category 1; 60 trees.
- Category 4; 150 trees.

Planted deciduous and coniferous trees are found among landscape areas associated with the school grounds (on-site) (in order of abundance) including Little Leaf Linden (*Tilia cordata*), Norway Maple (*Acer platanoides*), Manitoba Maple (*Acer negundo*), Siberian Elm (*Ulmus pumila*), English Oak (*Quercus robur*), , , Autumn Olive (*Elaeagnus umbellata*), White Fir (*Abies concolor*), Dawn Redwood (*Metasequoia glypostroboides*), Freeman Maple (*Acer* x *freemanii*), Kentucky Coffee-tree (*Gymnocladus dioicus*), Accolade Elm (*Ulmus 'Morton'*), Silver Maple (*Acer saccharinum*), Northern Catalpa (*Catalpa speciosa*), Red Maple (*Acer rubrum*), and Striped Maple (*Acer pensylvanicum*)

Tree species associated with the Mimico Creek NHS (in order of abundance) included Manitoba Maple, Norway Maple, Crack Willow (*Salix fragilis*), Black Walnut (*Juglans nigra*), Red Oak (*Querqus rubra*), Red Maple, Red Oak (*Quercus rubra*) and Silver Maple.

Three trees included in the initial tree inventory and assessment located on-site were confirmed to be removed during the subsequent site visit (December 23, 2025) to revaluate tree sizes and conditions. These removed trees include Tree Nos. T1, T5, and T6, designated as Category 1 trees, which are noted as 'Previously Removed' in the tree assessment data and TPP.

Site photos are provided below that illustrate existing trees in context with the existing conditions of the study area.

Photo 1: Tree No. T35, Adjacent to School Entrance



Photo 2: Tree No. T8, Northwest of School



Photo 3: Tree Nos. T51 to T56, South of School



Photo 4: Newly Planted Trees, West of School



Photo 5: Tree No. T145, Adjacent to Bridge Southeast of School



Photo 6: Adjacent to North Boundary of Study Area, North of School



Photo 7: Ground Cover North of School, Within Mimico Creek NHS



Photo 8: Tree No. T257, Leaning Over School Building



Photo 9: Proposed fence Alignment North of the School Building



Photo 10: Tree No. T154, leaning toward school building at the southeast corner



5.1 Trees Recommended for Preservation

A total of 144 individual trees included in the assessment are recommended for preservation (including 56 trees to be injured, details below). These trees are adequately setback from the construction activity or can be reasonably protected and have a Good or Fair condition rating.

5.1.1 RNFP Tree Injuries

- Tree Nos. T18, T19, T22, T145, T154, T158, T162, T180, T191, T197 to T202, T205 to T208, T217 to T222, T224 to T234, T242, T243, T245, T247 to T250, T252, T254, T255, T259, T262, T288, T298 and T299 will be injured as a result from construction activity. These trees are protected under the RNFP, represented as Category 4 Trees (51 RNFP tree injuries in total). The majority of anticipated injuries to RNFP trees is a result of the proposed removal of existing hardscape elements and infrastructure within their RNFP generated MTPZs. These trees have been habituated with existing elements (i.e., concrete parking lot) and its removal is anticipated to have minor long-term impacts on the health and structure of RNFP tree root systems. The removal of hardscape elements has been proposed to be replaced with restoration seeding and sod, enhancing the environment, and promoting the extension and growth of existing tree roots in these areas.
- Tree Nos. T154, T197, T242, T243, T245, T247 to T250, and T288 require pruning to accommodate the construction of a 1.8 m chain-link fence, identified as ‘PR’ on the TPP.
- The percentage of tree root zone encroachment, proposed work within root zones, and remedial work for each RNFP tree injury is detailed in Appendix E.

- Tree No. T218 has been assigned a Fair-Poor Prognosis for Survival driven by a significant decline in vigour. The tree is set back within the ravine area, subject to a low occupancy rate and compaction from proposed demolition activities, which can be retained to preserve ecological function.
- The majority of RNFP tree injuries are to Manitoba Maple, resilient and tolerant to varying degrees of root disturbance and pruning.

5.1.2 TPPR Tree Injuries

- Tree Nos. T20, T21, T23, T27, and T35will be injured as a result from construction activity and are represented as Category 1 Trees on the subject site.

A permit application to injure or remove trees that fall within the City's Tree Categories (Categories 1 and 2) will be required to be submitted to the City of Toronto Urban Forestry, Tree Protection and Plan Review (TPPR). A permit application to injure or remove trees that fall within the City's Tree Category 4 will be required to be submitted to the City RNFP.

Qualitative assessments including the relative root zone impact, post-construction stability and prognosis for survival are provided for individual trees proposed to be injured in separate columns of Appendix A.

Tree Nos. T175, T176, T183, T189, T190, T204, T223, T274, and T283 were assigned Poor condition ratings. These trees are protected under the RNFP, do not pose a risk to construction activity, and can be retained. These trees were assigned an asterisk to distinguish them from the preserved trees in the data of Appendix A, as well as on the TPP.

Tree protection fencing (TPF) is recommended to be installed to reduce impact to trees from construction. The location of the fencing and the construction detail as per City of Toronto's Urban Forestry Detail: TP1 – Tree Protection Details are illustrated in Figure TPP2.

Tree protection barriers are recommended to be installed to reduce impact on trees from construction. All tree protection barriers on-site are to be constructed with solid wood frame clad with plywood or approved equivalent (hoarding). Refer to the TPP for tree protection barrier locations and the City of Toronto's Urban Forestry Detail: TP1 – Tree Protection Detail, provided in the Tree Protection Plan Details (TPP6).

The placement of TPF has been coordinated with the delineation of Erosion and Sediment Control (ESC) fencing illustrated on the Landscape Plan prepared by Candevcon under a separate cover. This coordinated approach will facilitate the protective purpose of both fencing types, where ESC will be affixed to TPF where applicable.

5.2 Trees Recommended for Removal

A total of 63 trees are recommended for removal, detailed below:

- The majority of these trees (52) fall within the City's Category 1.
- 11 trees (T170, T179, T209 to T216, and T239) recommended for removal are designated under Category 4 trees within RNFP lands.

These trees conflict with the proposed development elements or significant impacts to root zones will occur (i.e., root severance and compaction) as a result of the implementation of the plan. These trees are subject to 100% MTPZ encroachment, including all existing root zones to be removed to accommodate site demolition, redevelopment, and cannot be incorporated into the design of the new school. The associated TPPs identify the locations of trees to be removed. Trees that require removal are a mix of native and non-native species, as per the Ontario Plant List (Newmaster, 1997).

- Native species total removals (13): Manitoba Maple (4), Red Maple (3), Striped Maple (2), Kentucky Coffee-tree (2), Sugar Maple (1), and Tulip Tree (1).
- Non-native species total removals (50): Norway Maple (23), Little Leaf Linden (12), English Oak (5), Crack Willow (1), Autumn Olive (3), White Fir (3), Freeman Maple (1), Northern Catalpa (1), Accolade Elm (1).

Table 2 provides a breakdown of trees by DBH Range:

Table 1: DBH Breakdown of Trees Recommended for Removal

Tree DBH Range	Total Number of Trees Within DBH Range
<10	9
10 to 20	20
21 to 30	15
31 to 40	7
41 to 50	8
51 to 60	1
61 to 70	2
>71	1
Total	**63**

5.3 Summary of Tree Permitting Requirements

Appendix D summarizes the injuries and removals to trees based on the proposed site plan. These injuries and removals will require permits from the City RNFP and TPPR and compensation.

Of the 63 trees recommended for removal; 34 trees are protected (Category 4 trees or 30 cm in DBH or greater as Category 1 trees), and 29 trees are not protected under the

City's tree by-law (smaller than 30 cm in DBH and not Category 4 trees); therefore, they have been excluded from tree permitting.

All 56 trees recommended for injury are protected (Category 4 trees or 30cm in DBH or greater as Category 1 trees).

Table 2: Summary of Tree Permitting

Action	Category	Total
Injury	1	5
	4	51
TPPR Injuries		5
RNFP Injuries		51
	Subtotal	**56**
Remove	1	23
	4	11
TPPR Removals		24
RNFP Removals		11
	Subtotal	**35**
	Grand Total (injury and Remove)	**91**

6.0 Tree Replacement

Tree replacement plantings are required for trees within the city of Toronto as part of the City's tree removal permit applications.

All Category 4 tree injuries have been considered at a replacement ratio of 1:1, regardless of tree DBH size. Tree compensation is not required for tree injuries under TPPR. Compensation for the removal of Category 4 trees is based on the RNFP Tree-based Compensation Pilot (2022). All Category 4 trees (regardless of size) are protected and require tree replacement. Compensation for the removal of Category 1 trees is based on the City's Private Tree By-law (Article II of Chapter 813), trees 30 cm in DBH or more are protected and require tree replacement. Trees that are in Poor condition are met at a replacement ratio of 1:1.

Of the 63 individual trees recommended for removal, 29 trees are not protected under the City's Tree By-law (smaller than 30 cm in DBH); therefore, they have not been considered in tree replacement calculations. Table 4 provides a breakdown of replacement trees required as a result of the proposed construction, including impact to existing trees (injury or removal), tree category and DBH size class.

Table 3: Tree Replacement of City Category Trees Based on Injury and Removal

Action	Tree Category	DBH Size Class (Replacement Ratio)	Total Count	Replacement Trees Required	
Injury	1	All DBH size (1:1)	5	5	
	4		51	51	
		Injury Total	**56**	**56**	
Remove	1 (Poor)	>=30 (1:1)	1	1	
	1 (Healthy)	>=30 (3:1)	22	66	
	4	<=19 (1:1)	7	7	
		20-29 (2:1)	2	4	
		30-39 (3:1)	2	6	
		Remove Total	**34**	**84**	
		Grand Total (Injury and Remove)	**90**	**140**	

A total of 140 replacement trees are required based on the injury of 56 (protected) trees and removal of 11 RNFP trees, and 23 (protected) TPPR trees as a result of the proposed construction.

7.0 Additional Natural Heritage Investigations

A NHIA and a RSP were prepared by Burnside under a separate cover. The NHIA investigated and analyzed the potential impacts on natural features as a result of the development and recommend mitigation measures to minimize impacts from construction. The RSP illustrated guidelines for ecological restoration and provided a maintenance and monitoring plan.

8.0 Recommendations and Requirements

- To reduce the risk of contravening the *Migratory Bird Convention Act*, timing constraints shall be applied to avoid any limited vegetation clearing (including grubbing) and / or structure works (construction) during the breeding bird period broadly from April 1 to August 31 for most species (regardless of the calendar year).
- Active nests (nests with eggs or young birds) of protected migratory birds, including Species at Risk (SAR) protected under the *Species Conservation Act* (SCA) cannot be destroyed at any time of the year. The destruction of inactive nests for some species may also be prohibited (e.g., Barn Swallow (*Hirundo rustica*), Osprey (*Pandion haliaetus*), Great Blue Heron (*Ardea herodias*)).
- Potential impacts to roosting bats can be mitigated provided tree removals take place outside of the bat active window (April 1 to September 30).

- If the construction activities are such that continuing construction in the area would result in harm to wildlife, construction activities in that location shall temporarily stop and a qualified ecologist shall be contacted for direction.
- Trees should be felled so that they fall into the development footprint to avoid damage to retained trees, including both trunks and roots.
- All tree pruning shall be conducted by a certified arborist using best management practices (i.e., ANSI A300 Tree Care Standards, Clause 5).
- All retained trees should be reviewed following construction to determine if additional mitigative measures such as pruning are required to reduce risk to students and pedestrians.

9.0 Summary

Tree preservation and removal has been identified in this Arborist Report and the Tree Protection Plan (TPP). Measures to ensure protection of the trees prior to and during the construction period are detailed to minimize impacts to preserved trees.

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[THE DIFFERENCE IS OUR PEOPLE]

Figures

TPP1

TPP2

TPP3

OUTLINE OF EXISTING SCHOOL TO BE DEMOLISHED

PROPOSED BISHOP ALLEN ACADEMY CATHOLIC SECONDARY SCHOOL 3 STOREY SCHOOL FFE 110.85

BERRY ROAD ROW AND SOUTH PARCEL EXCLUDED FROM SCOPE OF WORK

N

0 5.0 10.0 20.0 30.0 40.0
Metres

BURNSIDE

Figure Title
BISHOP ALLEN ACADEMY REDEVELOPMENT
TREE PROTECTION PLAN - KEY MAP

Client
TORONTO CATHOLIC DISTRICT SCHOOL BOARD

Drawn	Checked	Date	Figure No.
HN	MD	26/10/08	TPP
Scale		Project No.	
1:500		300056215	

AREA OF ROAD WIDENING TO BE CONVEYED TO THE CITY

RNFP LIMIT

TREE PROTECTION FENCE

PERMANENT 1.8m GALV. CHAIN LINK FENCE

TOP OF SLOPE (STAKED OUT JUNE 13TH, 2022)

DRIP LINE AS STAKED ON JUNE 13TH, 2022

STAKED OUT BY JUNE 13TH, 2022

TOP OF SLOPE (UNOFFICIAL)

BOTTOM OF SLOPE

TOP OF SLOPE

WATERS EDGE

CHAIN LINK FENCE

PB FENCE 1.44N

SUBJECT TO EASEMENT AS IN INST. No. EB119131

EXISTING HARDSCAPE TO BE REMOVED DURING CONSTRUCTION WORKS

3m SIDE YARD SETBACK

RNFR BUFFER RESTORATION, COMPENSATION PLANTINGS AND STEWARDSHIP RESTORATION AREA. REFER TO LANDSCAPE DRAWINGS.

PERMANENT 1.8m GALV. CHAIN LINK FENCE

CONCRETE WALK

EXISTING CLF AT EXISTING SCHOOL OUTLINE TO BE REMOVED

COULD NOT OPEN MH DURING FIELD INVESTIGATION

OUTLINE OF EXISTING SCHOOL TO BE DEMOLISHED

T6 (PREVIOUSLY REMOVED)

T5 (PREVIOUSLY REMOVED)

DESIGNATED AREA 9.5m X 4m

TECH COMPOUND

SHIPPING/ RECEIVING

DUST COLLECTR

WASTE STORAGE

STAFF W/R

B/F Q W/R

MAIN ELECTRICAL RM

LAN RM

EXT STOR.

SPRINKLER RM

LONG-TERM BIKE PARKING. REFER TO DETAIL 2/SP1.2

TREE PROTECTION FENCE

TREE CANOPY POINT

DRIP LINE AS STAKED ON JUNE 13TH, 2022

EX. AERIAL FIBRE CABLE (ROGERS)

SPEED CAMERA

REMEMBRANCE PLAQUE

GRASS

EX. HYDRANT

EX. CONCRETE WALK

CONCRETE WALKWAY PER CITY STANDARDS

ROOF OVERHANG

SOD

SAN MH 1A PICK-UP / DROP-OFF ONLY

Ra-1 STOP

ENTRANCE

ONLY OFF DROP

PICK-UP / DROP-OFF ONLY

PROP PYLON SIGN

EX. HP

EX BUS STOP

EX BENCH

EX. CURB CUT

CURB CUT

CURB

SAN MH 2A

Ra-1 STOP

PICK-UP / DROP-OFF ONLY

SOD

LS

CB

MH

SAN

HW

PW

CSP

CSC

26.21 (P2&MEAS)

N 77°40'10" W (P1&MEAS) 7.28

105.39

105.05

106.12

8.37

2.30N

0.66N

9.14 (30 FEET EASEMENT)

3.36S

LEGEND

- T145I — EXISTING TREE, RECOMMENDED FOR PRESERVATION, INJURY ANTICIPATED. (CIRCLE REPRESENTS MINIMUM TREE PROTECTION ZONE OF TREE)
- T145P — EXISTING TREE, RECOMMENDED FOR PRESERVATION (CIRCLE REPRESENTS MINIMUM TREE PROTECTION ZONE OF TREE)
- T145I(PR) — EXISTING TREE, RECOMMENDED FOR PRESERVATION,INJURY ANTICIPATED AND PRUNING MAY BE REQUIRED (CIRCLE REPRESENTS MINIMUM TREE PROTECTION ZONE OF TREE)
- T30R* — EXISTING TREE, RECOMMENDED FOR REMOVAL DUE TO POOR CONDITION OF TREE (CIRCLE REPRESENTS MINIMUM TREE PROTECTION ZONE OF TREE)
- T30R — EXISTING TREE, RECOMMENDED FOR REMOVAL (CIRCLE REPRESENTS MINIMUM TREE PROTECTION ZONE OF TREE)
- T5 (PREVIOUSLY REMOVED) — TREE - REMOVED BY GROUNDS MAINTENANCE SINCE INITIAL TREE INVENTORY
- TREE PROTECTION FENCE
- LONG TERM STABLE TOP OF SLOPE & 6m SETBACK
- DRIP LINE AS STAKED OUT BY TRCA SEPT. 13, 2022
- TOP OF SLOPE AS STAKED OUT BY TRCA SEPT. 13, 2022
- OUTLINE OF EXISTING SCHOOL TO BE DEMOLISHED
- RAVINE & NATURAL FEATURES PROTECTION (RNFP) LIMIT
- BOTTOM OF SLOPE (TOE OF SLOPE)
- EXISTING HARDSCAPE TO BE REMOVED DURING CONSTRUCTION WORKS
- MEDIUM DUTY ASPHALT
- HEAVY DUTY ASPHALT
- PEDESTRIAN CONCRETE WALKWAY OR PAD. REF. LANDSCAPE DWGS FOR COMPOSITION
- VEHICULAR CONCRETE WALKWAY OR PAD, REF. LANDSCAPE DWGS FOR COMPOSITION
- LIMESTONE SCREENING WALKWAY OR PAD. REF TO LANDSCAPE
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- TWSI - TACTILE WARNING SURFACE INDICATOR. REF SPECS.
- RNFR. BUFFER RESTORATION, COMPOSITION PLANTINGS AND STEWARDSHIP RESTORATION AREA. REFER TO LANDSCAPE DRAWINGS.
- EXISTING EASEMENTS
- PROPOSED EASEMENT
- EXTENT OF BERRY ROAD ALLOWANCE
- 1.8m CHAINLINK FENCE (NEW VS. EXISTING AS INDICATED)
- WEEPING TILE (NOT SHOWN. SEE GEN NOTES)
- 1.2m HT. BLACK METAL DECORATIVE FENCE. REFER TO LANDSCAPE DWGS.
- TEMPORARY PAIGE AND WIRE FENCE (NATURALIZATION FENCING). REFER TO LANDSCAPE DWGS.
- ★ SILT FENCING NOT SHOWN FOR CLARITY. REFER TO CIVIL DWGS.

0 3.0 6.0 12.0 Metres

BURNSIDE

Figure Title: BISHOP ALLEN ACADEMY REDEVELOPMENT
TREE PROTECTION PLAN

Client: TORONTO CATHOLIC DISTRICT SCHOOL BOARD

Drawn	Checked	Date
HN	MD	26/10/08

Scale: 1:150 | Project No.: 300056215 | Figure No.: TPP1

PROPOSED CONC PAD MTD TRANSFORMER. REF. ELEC. DWGS. REFER TO AD 215A FOR REQUIRED PAD-MOUNT BOLLARD LAYOUT

PROPOSED TWSI AT EXISTING CURB RAMP

WATER CHAMBER. REF. CIVIL DWGS.

COMMUNICATION BOX

REFER TO LANSC. DWGS FOR CONCRETE COLOUR PATTERN

Rb-93 ACCESSIBLE PARKING PERMIT (TYP FOR 4)

7.5m FRONT YARD SETBACK

Ra-5L PEDESTRIAN CROSSWALK

Ra-5L PEDESTRIAN CROSSWALK

Ra-5R PEDESTRIAN CROSSWALK WITH Wa-22 BUMP SIGN

RAISED CROSSWALK AT PARKING LOT PER City Standard No T-310.030-12 – Raised Crosswalk. TYP.

94 PARKING SPACES TOTAL

1000 TYP.

EV CHARGER ROUGH-IN U/G CONDUIT. REF. ELEC. DWGS. (6 TOTAL)

SIDEWALKS ALONG ROYAL YORK ROAD WILL BE DESIGNED ACCORDING TO CITY OF Toronto Design Standard No. T-310.010-2.

ROAD WIDENING CONVEYANCE

AREA OF ROAD WIDENING TO BE CONVEYED TO THE CITY

New / EXTENDED CURB CUT PER ~~City's Standard~~ Drawing No. T-600.11-1 Concrete Curb. TYP.

EX. AERIAL COAXIAL CABLE (ROGERS)

NEW REINFORCED CONCRETE SIDEWALK AND ENTRANCE DRIVEWAY PER City's Standard Drawing No. T-350.01 Urban Entrances. SIDEWALKS ALONG ROYAL YORK ROAD WILL BE DESIGNED ACCORDING TO City of Toronto Design Standard No. T-310.010-2.

GUARD TERMINATES WHERE WALL IS LESS THAN 600mm ABOVE GRADE

LONG-TERM BIKE PARKING. REFER TO DETAIL 3/SP1.2

REINFORCED CONC. SIDEWALK TO SUPPORT VEHICLE LOADS. WASTE VEHICLE STAGING AND LOADING PAD TO BE LEVEL (MAX. 2%) AND CONSTRUCTED OF MIN. 200mm REINF. CONCRETE. REF. LANDSCAPE AND GRADING DWGS.

LOADING AND WASTE STAGING AREAS

ROLLOVER CURB

T1 (PREVIOUSLY REMOVED)

COURTYARD SCULPTURE (NIC)

LANDSCAPING

SOD

RETAINING WALL/ SEAT WALL AROUND EXISTING REDWOOD TREE

REINFORCED CONCRETE SIDEWALK TO SUPPORT FIRE ACCESS VEHICLE LOADS

FLAGPOLE

RELOCATED FLAGPOLE

FIRE DEPT. CONNECTION

MAIN ENTRANCE

ROOF OVERHANG

9 SHORT-TERM BIKE RACKS. REF. LANDSC. DWGS. (18 BIKES)

PICK-UP / DROP-OFF ONLY

ONLY OFF DROP

CONTINUOUS TWSI AT ROLLOVER CURB

PROPOSED BISHOP ALLEN ACAD
CATHOLIC SECONDARY SCHOO
3 STOREY SCHOOL
FFE 110.85

CONCRETE SEATWALL

MAINTENANCE VEHICLE ROUTE

ASPHALT

5 SHORT-TERM BIKE RACKS. REF. LANDSC. DWGS. (10 BIKES)

FENCED GAS METER & CONC PAD

REF. 5/SP1.1 FOR HAND / GUARDRAIL DETAILS

REF. LANDSCAPE FOR CONCRETE STAIR DETAILS

CONCRETE RETAINING WALL REF. CIVIL DRAWINGS

SIDEWALKS ALONG ROYAL YORK ROAD WILL BE DESIGNED ACCORDING TO City of Toronto Design Standard No. T-310.010-2.

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- SILT FENCING NOT SHOWN FOR CLARITY. REFER TO CIVIL DWGS.

0 3.0 6.0 9.0 12.0 Metres

BURNSIDE

Figure Title: BISHOP ALLEN ACADEMY REDEVELOPMENT — TREE PROTECTION PLAN

Client: TORONTO CATHOLIC DISTRICT SCHOOL BOARD

Drawn: HN | Checked: MD | Date: 26/10/08 | Scale: 1:150 | Project No.: 300056215 | Figure No.: TPP2

TREE PROTECTION FENCE

TREE PROTECTION FENCE

RNFP LIMIT

RNFR BUFFER RESTORATION, COMPENSATION PLANTINGS AND STEWARDSHIP RESTORATION AREA. REFER TO LANDSCAPE DRAWINGS.

PERMANENT 1.8m GALV. CHAIN LINK FENCE

PROPOSED RIP-RAP HEADWALL. REF. CIVIL DWGS.

UNDERGROUND STORAGE REF. CIVIL DWGS.

RETAINING WALL REF. LANDSCAPE DWGS.

LONG-TERM STABLE TOP OF SLOPE

TOP OF SLOPE AS STAKED ON JUNE 13TH 2022 OUT BY TRCA

BOTTOM OF SLOPE AS STAKED ON JUNE 13TH 2022 OUT BY TRCA

7.5m BACK YARD SETBACK

3m SIDE YARD SETBACK

150.00E ON PROD. GUARD TERMINATES WHERE WALL IS LESS THAN 600mm ABOVE GRADE

SIB(NI) BENT FLAT RESET PB

SIB(OU)(P7)

PB(WIT) 1.00S ON PROD

PART 4 REGISTERED PLAN 372

BLOCK A

THE METROPOLITAN TORONTO AND REGION CONSERVATION AUTHORITY PLAN 64R-2963 PIN 07506 - 0596 (LT) PART 6

PART 3

THE CORPORATION OF THE TOWNSHIP OF ETOBICOKE SUBJECT TO EASEMENT AS IN INST. No. EB95527 PIN 07506-0550 (LT)

SUBJECT TO EASEMENT AS IN INST. No. EB95179 PART 5

CENTRELINE OF SEWER EASEMENT

(60 FEET EASEMENT)

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BURNSIDE

Figure Title: BISHOP ALLEN ACADEMY REDEVELOPMENT — TREE PROTECTION PLAN

Client: TORONTO CATHOLIC DISTRICT SCHOOL BOARD

Drawn: HN | Checked: MD | Date: 26/10/08 | Scale: 1:150 | Project No.: 300056215 | Figure No.: TPP3

TREE PROTECTION PLAN NOTES:

• IT IS THE APPLICANTS' RESPONSIBILITY TO DISCUSS POTENTIAL IMPACTS TO TREES LOCATED NEAR OR WHOLLY ON ADJACENT PROPERTIES OR ON SHARED BOUNDARY LINES WITH THEIR NEIGHBOURS. SHOULD SUCH TREES BE INJURED TO THE POINT OF INSTABILITY OR DEATH THE APPLICANT MAY BE HELD RESPONSIBLE THROUGH CIVIL ACTION. THE APPLICANT WOULD ALSO BE REQUIRED TO REPLACE SUCH TREES TO THE SATISFACTION OF URBAN FORESTRY
• TREE PROTECTION BARRIERS SHALL BE INSTALLED TO STANDARDS AS DETAILED IN THIS DOCUMENT AND TO THE SATISFACTION OF URBAN FORESTRY
• TREE PROTECTION BARRIERS MUST BE INSTALLED USING PLYWOOD CLAD HOARDING (MINIMUM 19MM OR ¾" THICK) OR AN EQUIVALENT APPROVED BY URBAN FORESTRY
• WHERE REQUIRED, SIGNS AS SPECIFIED IN SECTION 4, TREE PROTECTION SIGNAGE MUST BE ATTACHED TO ALL SIDES OF THE BARRIER
• PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY SUCH AS SITE ALTERATION, DEMOLITION OR CONSTRUCTION, THE TREE PROTECTION MEASURES SPECIFIED ON THIS PLAN MUST BE INSTALLED TO THE SATISFACTION OF URBAN FORESTRY
• ONCE ALL TREE/SITE PROTECTION MEASURES HAVE BEEN INSTALLED, URBAN FORESTRY STAFF MUST BE CONTACTED TO ARRANGE FOR AN INSPECTION OF THE SITE AND APPROVAL OF THE TREE/SITE PROTECTION REQUIREMENTS. PHOTOGRAPHS THAT CLEARLY SHOW THE INSTALLED TREE/SITE PROTECTION SHALL BE PROVIDED FOR URBAN FORESTRY REVIEW
• WHERE CHANGES TO THE LOCATION OF THE APPROVED TPZ OR SEDIMENT CONTROL OR WHERE TEMPORARY ACCESS TO THE TPZ IS PROPOSED, URBAN FORESTRY MUST BE CONTACTED TO OBTAIN APPROVAL PRIOR TO ALTERATION
• TREE PROTECTION BARRIERS MUST REMAIN IN PLACE AND IN GOOD CONDITION DURING DEMOLITION, CONSTRUCTION AND/OR SITE DISTURBANCE, INCLUDING LANDSCAPING, AND MUST NOT BE ALTERED, MOVED OR REMOVED UNTIL AUTHORIZED BY URBAN FORESTRY
• NO CONSTRUCTION ACTIVITIES INCLUDING GRADE CHANGES, SURFACE TREATMENTS OR EXCAVATION OF ANY KIND ARE PERMITTED WITHIN THE AREA IDENTIFIED ON THE TREE PROTECTION PLAN OR SITE PLAN AS A MINIMUM TREE PROTECTION ZONE (TPZ). NO ROOT CUTTING IS PERMITTED. NO STORAGE OF MATERIALS OR FILL IS PERMITTED WITHIN THE TPZ. NO MOVEMENT OR STORAGE OF VEHICLES OR EQUIPMENT IS PERMITTED WITHIN THE TPZ. THE AREA(S) IDENTIFIED AS A TPZ MUST BE PROTECTED AND REMAIN UNDISTURBED AT ALL TIMES
• ALL ADDITIONAL TREE PROTECTION OR PRESERVATION REQUIREMENTS, ABOVE AND BEYOND THE INSTALLATION OF TREE PROTECTION BARRIERS, MUST BE UNDERTAKEN OR IMPLEMENTED AS DETAILED IN THE URBAN FORESTRY APPROVED ARBORIST REPORT AND/OR THE APPROVED TREE PROTECTION PLAN AND TO THE SATISFACTION OF URBAN FORESTRY
• IF THE MINIMUM TREE PROTECTION ZONE (TPZ) MUST BE REDUCED TO FACILITATE CONSTRUCTION ACCESS, THE TREE PROTECTION BARRIERS MUST BE MAINTAINED AT A LESSER DISTANCE AND THE EXPOSED PORTION OF TPZ MUST BE PROTECTED USING A HORIZONTAL ROOT PROTECTION METHOD APPROVED BY URBAN FORESTRY
• ANY ROOTS OR BRANCHES INDICATED ON THIS PLAN WHICH REQUIRE PRUNING, AS APPROVED BY URBAN FORESTRY, MUST BE PRUNED BY AN ARBORIST. ALL PRUNING OF TREE ROOTS AND BRANCHES MUST BE IN ACCORDANCE WITH GOOD ARBORICULTURAL PRACTICE. ROOTS THAT HAVE RECEIVED APPROVAL FROM URBAN FORESTRY TO BE PRUNED MUST FIRST BE EXPOSED USING PNEUMATIC (AIR) EXCAVATION, BY HAND DIGGING OR BY A USING LOW PRESSURE HYDRAULIC (WATER) EXCAVATION. THE WATER PRESSURE FOR HYDRAULIC EXCAVATION MUST BE LOW ENOUGH THAT ROOT BARK IS NOT DAMAGED OR REMOVED. THIS WILL ALLOW A PROPER PRUNING CUT AND MINIMIZE TEARING OF THE ROOTS. THE ARBORIST RETAINED TO CARRY OUT CROWN OR ROOT PRUNING MUST CONTACT URBAN FORESTRY NO LESS THAN THREE WORKING DAYS PRIOR TO CONDUCTING ANY SPECIFIED WORK
• THE APPLICANT/OWNER SHALL PROTECT ALL BY-LAW REGULATED TREES IN THE AREA OF CONSIDERATION THAT HAVE NOT BEEN APPROVED FOR REMOVAL THROUGHOUT DEVELOPMENT WORKS TO THE SATISFACTION OF URBAN FORESTRY
• CONVICTIONS OF OFFENCES RESPECTING THE REGULATIONS IN THE STREET TREE BY-LAW AND PRIVATE TREE BY-LAW ARE SUBJECT TO FINES. A PERSON CONVICTED OF AN OFFENCE UNDER THESE BY-LAWS IS LIABLE TO A MINIMUM FINE OF $500 AND A MAXIMUM FINE OF $100,000 PER TREE, AND /OR A SPECIAL FINE OF $100,000. THE LANDOWNER MAY BE ORDERED BY THE CITY TO STOP THE CONTRAVENING ACTIVITY OR ORDERED TO UNDERTAKE WORK TO CORRECT THE CONTRAVENTION
• PRIOR TO SITE DISTURBANCE THE OWNER MUST CONFIRM THAT NO MIGRATORY BIRDS ARE MAKING USE OF THE SITE FOR NESTING. THE OWNER MUST ENSURE THAT THE WORKS ARE IN CONFORMANCE WITH THE MIGRATORY BIRD CONVENTION ACT AND THAT NO MIGRATORY BIRD NESTS WILL BE IMPACTED BY THE PROPOSED WORK

AS PER CITY OF TORONTO TREE PROTECTION POLICY AND SPECIFICATIONS FOR CONSTRUCTION NEAR TREES, JULY 2016

RAVINE & NATURAL FEATURE PROTECTION BY-LAW:

THE RAVINE & NATURAL FEATURE PROTECTION BY-LAW, CHAPTER 658 OF THE CITY OF TORONTO MUNICIPAL CODE, REGULATES THE INJURY AND DESTRUCTION OF TREES, DUMPING OF REFUSE AND CHANGES TO GRADE WITHIN PROTECTED AREAS.

UNDER THIS BY-LAW PROTECTED TREES MAY NOT BE REMOVED, INJURED OR DESTROYED, AND PROTECTED GRADES MAY NOT BE ALTERED, WITHOUT WRITTEN AUTHORISATION FROM URBAN FORESTRY RAVINE & NATURAL FEATURE PROTECTION, ON BEHALF OF THE GENERAL MANAGER OF PARKS, FORESTRY & RECREATION.

CONVICTIONS OF OFFENCES RESPECTING THE REGULATIONS IN THE RAVINE AND NATURAL FEATURE PROTECTION BY-LAW ARE SUBJECT TO FINES, AND THE LANDOWNER MAY BE ORDERED BY THE COURT TO RESTORE THE AREA TO THE SATISFACTION OF THE CITY. A PERSON CONVICTED OF AN OFFENCE UNDER THIS BYLAW IS LIABLE TO A MINIMUM FINE OF $500 AND A MAXIMUM FINE OF $100,000 FOR EACH TREE DESTROYED, A MAXIMUM FINE OF $100,000 FOR ANY OTHER OFFENCE COMMITTED UNDER THIS CHAPTER, AND /OR A SPECIAL FINE OF $100,000. A PERSON CONVICTED OF A CONTINUING OFFENCE, INCLUDING FAILURE TO COMPLY WITH RAVINE PERMIT CONDITIONS IS LIABLE TO A MAXIMUM FINE OF NOT MORE THAN $10,000 FOR EACH DAY OR A PART OF A DAY THAT THE OFFENCE CONTINUES.

MIGRATORY BIRDS PROTECTION NOTE (TRCA):

IMPACTS TO THE VEGETATION (REMOVALS, INJURIES AND PRUNING) SHOULD OCCUR OUTSIDE OF THE MIGRATORY BIRDS BREEDING SEASON, TYPICALLY OCCURRING FROM APRIL 1ST TO AUGUST 31ST.

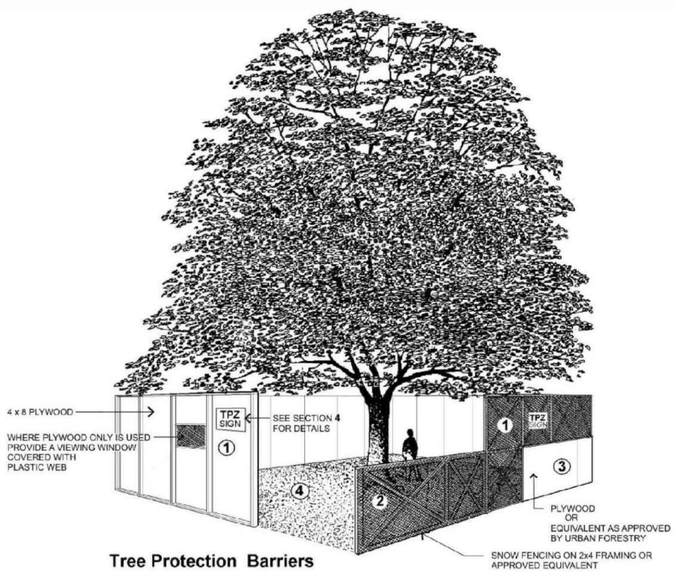
TORONTO
Parks, Forestry & Recreation

Tree Protection Zone (TPZ)

All construction related activities, including grade alteration, excavation, soil compaction, any materials or equipment storage, disposal of liquid and vehicular traffic are NOT permitted within this TPZ.

This tree protection barrier must remain in good condition and must not be removed or altered without authorization of City of Toronto, Urban Forestry.

Concerns or inquiries regarding this TPZ can be directed to:
311 or 311@toronto.ca



Tree Protection Barriers

1. **Tree protection barriers must be constructed with a solid wood frame clad with plywood or approved equivalent. Height of hoarding may be less than 8 ft. to accomodate any branches that may be lower.**
2. **Tree protection barriers for trees situated on the City road allowance where visibility must be maintained can be 1.2m (4ft.) high and consist of orange plastic web snow fencing on a wood frame made of 2 x 4s.**
3. **Where some excavate or fill has to be temporarily located near a tree protection barrier, plywood must be used to ensure no material enters the Tree Protection Zone.**
4. **No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.**

Note:
Sediment control fencing shall be installed in locations indicated in an Urban Forestry approved Tree Protection Plan. The sediment control fencing must be installed to Ontario Provicial Standards (OPSD-219.130) heavy duty silt fence barrier and to the satisfaction of Urban Forestry. See Detail TP- 2

TORONTO
Urban Forestry

Parks, Forestry and Recreation
February 2016 **Detail TP-1**

TREE PROTECTION BARRIER NOTE: ALL TREE PROTECTION BARRIERS ONSITE ARE TO BE CONSTRUCTED WITH SOLID WOOD FRAME CLAD WITH PLYWOOD OR APPROVED EQUIVALENT (HOARDING). TREE PROTECTION BARRIERS SITUATED ALONG THE ROYAL YORK ROAD ALLOWANCE ARE TO BE CONSTRUCTED OF ORANGE PLASTIC WEB SNOW FENCING ON WOOD FRAME TO PERMIT VISIBILITY AND SIGHTLINES. REFER TO THE CITY OF TORONTO'S URBAN FORESTRY DETAIL: TP1 – TREE PROTECTION DETAIL.

Notes
1. This drawing is the exclusive property of R. J. Burnside International Limited. The reproduction of any part without prior written consent of this office is strictly prohibited.
2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.
3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.

NOT FOR CONSTRUCTION

BURNSIDE
R.J. Burnside International Limited
292 Speedvale Ave. W., Unit 20
Guelph, Ontario, N1H 1C4
telephone 1-800-265-9662
web www.rjburnside.com

Client
TORONTO CATHOLIC DISTRICT SCHOOL BOARD
80 SHEPPARD AVE E
NORTH YORK, ON
M2N 6E8

Drawing Title
BISHOP ALLEN ACADEMY REDEVELOPMENT

TREE PROTECTION PLAN - DETAILS

Drawn	Checked	Designed	Checked	Date	Drawing No.
HN	MD	MD	KB	26/10/08	TPP4
Project No.		Contract No.		Revision No.	
300056215		CONTRACT NO.		0	
Scale					
NOT TO SCALE					

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[THE DIFFERENCE IS OUR PEOPLE]

Appendix A

Tree Assessment Data

BURNSIDE

056215 Bishop Allen Academy Redevelopment
Appendix A
Tree Assessment Data

Data collected by: Mackenzie Dawson
Data collected on: January 18, 2023,
October 14, 2025 and December 23, 2025
ISA Certified (ON-2643A), TRAQ

Tree ID	Common Name	Scientific Name	DBH (cm)	MTPZ (m)	Tree Category	Qualitative Assessments						Comments	Recommendation (Condition)	Recommendation (Development)	Recommendation (Final)	Permit Requirement (Y/N)
						Biological Condition	Structural Condition	Condition	Relative Root Zone Impact	Post-construction Structural Stability	Prognosis for Survival					
T1	Little Leaf Linden	*Tilia cordata*	34	5.14	1	Fair	Good-Fair	Fair	-	-	-	Deadwood (moderate), crown dieback (moderate)	Previously Removed	Previously Removed	Previously Removed	
T2	Little Leaf Linden	*Tilia cordata*	33, 40	7.72	1	Good	Good	Good	-	-	-	Previous pruning	Preserve	Remove	Remove	Y
T3	Little Leaf Linden	*Tilia cordata*	20	3.8	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T4	Little Leaf Linden	*Tilia cordata*	12	3.72	1	Good-Fair	Good-Fair	Good-Fair	-	-	-	Epicormic shoots (high)	Preserve	Remove	Remove	N
T5	English Oak	*Quercus robur*	29	3.89	1	Fair	Fair	Fair	-	-	-	Lean (low), trunk splitting (low), deadwood (low)	Previously Removed	Previously Removed	Previously Removed	
T6	Little Leaf Linden	*Tilia cordata*	53	7.73	1	Poor	Poor	Poor	-	-	-	Crown dieback (high)	Previously Removed	Previously Removed	Previously Removed	
T7	Little Leaf Linden	*Tilia cordata*	62	9.02	1	Good	Good	Good-Fair	-	-	-	Minor trunk splitting	Preserve	Remove	Remove	Y
T8	Norway Maple	*Acer platanoides*	67	9.07	1	Good	Good-Fair	Good-Fair	-	-	-	Deadwood (low)	Preserve	Remove	Remove	Y
T9	Striped Maple	*Acer pensylvanicum*	24	3.84	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T10	Red Maple	*Acer rubrum*	10, 12, 11, 5	3.8	1	Good	Good	Good	-	-	-	Shrub form	Preserve	Remove	Remove	N
T11	Red Maple	*Acer rubrum*	11, 11	3.76	1	Good	Good	Good	-	-	-	Shrub form	Preserve	Remove	Remove	N
T12	Red Maple	*Acer rubrum*	12, 10	3.76	1	Good	Good	Good	-	-	-	Shrub form	Preserve	Remove	Remove	N
T13	Striped Maple	*Acer pensylvanicum*	18	3.78	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T14	Norway Maple	*Acer platanoides*	79	10.39	1	Good-Fair	Good	Good-Fair	-	-	-	Deadwood (low)	Preserve	Remove	Remove	Y
T15	Norway Maple	*Acer platanoides*	24	3.84	1	Good-Fair	Good-Fair	Good-Fair	-	-	-	Buttress wound (moderate)	Preserve	Remove	Remove	N
T16	English Oak	*Quercus robur*	19, 21	3.88	1	Good	Good-Fair	Good-Fair	-	-	-	Epicormic shoots (low)	Preserve	Remove	Remove	N
T17	Norway Maple	*Acer platanoides*	30	5.1	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T18	Norway Maple	*Acer platanoides*	13	7.33	4	Good	Good	Good	Low	Good	Good	Memorial tree	Preserve	Injury	Injury	Y
T19	Norway Maple	*Acer platanoides*	12, 43	12.45	4	Good	Good	Good	Low	Good	Good	Previous pruning	Preserve	Injury	Injury	Y
T20	Siberian Elm	*Ulmus pumila*	35	9.95	1	Good-Fair	Good-Fair	Good-Fair	Low	Good-Fair	Good	Deadwood (low)	Preserve	Injury	Injury	Y
T21	Manitoba Maple	*Acer negundo*	24, 23	9.93	1	Good	Good	Good	Low	Good-Fair	Good		Preserve	Injury	Injury	Y
T22	Little Leaf Linden	*Tilia cordata*	65	17.45	4	Fair	Fair-Poor	Fair-Poor	Low	Good-Fair	Fair	Topped, deadwood (moderate), wood decay at buttress	Preserve	Injury	Injury	Y
T23	Northern Catalpa	*Catalpa speciosa*	77	10.37	1	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T24	English Oak	*Quercus robur*	15	3.75	1	Good	Good	Good	-	-	-	Columnar	Preserve	Remove	Remove	N
T25	English Oak	*Quercus robur*	15, 12, 10, 12, 11	3.87	1	Good	Good	Good	-	-	-	Columnar	Preserve	Remove	Remove	N
T26	English Oak	*Quercus robur*	12, 8	3.74	1	Good	Good	Good	-	-	-	Columnar	Preserve	Remove	Remove	N
T27	Silver Maple	*Acer saccharinum*	70	9.1	1	Good-Fair	Fair	Fair	Moderate	Fair	Good-Fair	Epicormic shoots (moderate), flower gall (high), deadwood (low), root compaction from informal walking path, exposed anchor root	Preserve	Injury	Injury	Y
T28	Freeman Maple	*Acer x freemanii*	15	3.75	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T29	Kentucky Coffeetree	*Gymnocladus dioicus*	8	2.48	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T30	Kentucky Coffeetree	*Gymnocladus dioicus*	10	3.7	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T31	Accolade Elm	*Ulmus 'Morton'*	16	3.76	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T32	Sugar Maple	*Acer saccharum*	13	3.73	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T33	Tulip Tree	*Liriodendron tulipifera*	6	2.46	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T34	English Oak	*Quercus robur*	64	9.04	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T35	Dawn Redwood	*Metasequoia glyptostroboides*	69	9.09	1	Good	Good	Good	Low	Good	Good		Preserve	Injury	Injury	Y
T36	Autumn Olive	*Elaeagnus umbellata*	24, 16, 23, 17	6.41	1	Good-Fair	Good	Good-Fair	-	-	-	Epicormic shoots (moderate)	Preserve	Remove	Remove	Y
T37	Autumn Olive	*Elaeagnus umbellata*	16, 12, 12	3.83	1	Good-Fair	Good	Fair	-	-	-	Epicormic shoots (moderate), one scaffold branch broken off, deadwood (moderate)	Preserve	Remove	Remove	N
T38	Autumn Olive	*Elaeagnus umbellata*	11, 11, 10, 9	3.81	1	Good-Fair	Good	Good-Fair	-	-	-	Epicormic shoots (moderate)	Preserve	Remove	Remove	N
T39	Northern Catalpa	*Catalpa speciosa*	7	2.47	1	Fair-Poor	Fair	Fair-Poor	-	-	-	Cerrena unicolour (moderate), decay (moderate)	Preserve	Remove	Remove	N
T40	Little Leaf Linden	*Tilia cordata*	40	5.2	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T41	White Fir	*Abies concolor*	33, 33	6.47	1	Good	Good-Fair	Good-Fair	-	-	-	Included bark (low)	Preserve	Remove	Remove	Y
T42	Little Leaf Linden	*Tilia cordata*	43	6.43	1	Good-Fair	Good	Good-Fair	-	-	-	Epicormic shoots (low)	Preserve	Remove	Remove	Y
T43	Little Leaf Linden	*Tilia cordata*	13	3.73	1	Good	Good	Good-Fair	-	-	-	Epicormic shoots (low)	Preserve	Remove	Remove	N
T44	White Fir	*Abies concolor*	25	3.85	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T45	White Fir	*Abies concolor*	27	3.87	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T46	Little Leaf Linden	*Tilia cordata*	37	5.17	1	Good-Fair	Good	Good-Fair	-	-	-	Epicormic shoots (moderate)	Preserve	Remove	Remove	Y
T47	Norway Maple	*Acer platanoides*	22	3.82	1	Fair	Fair	Fair	-	-	-	Trunk splitting (moderate), deadwood (low)	Preserve	Remove	Remove	N
T48	Little Leaf Linden	*Tilia cordata*	17, 18, 10, 10	3.89	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T49	Little Leaf Linden	*Tilia cordata*	31	5.11	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T50	Norway Maple	*Acer platanoides*	39	5.19	1	Good-Fair	Good	Good-Fair	-	-	-	Epicormic shoots (low)	Preserve	Remove	Remove	Y
T51	Norway Maple	*Acer platanoides*	15	3.75	1	Fair	Good-Fair	Fair	-	-	-	Buttress wound (moderate)	Preserve	Remove	Remove	N
T52	Norway Maple	*Acer platanoides*	24	3.84	1	Good	Fair	Fair	-	-	-	Trunk decay (low)	Preserve	Remove	Remove	N
T53	Norway Maple	*Acer platanoides*	32	5.12	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T54	Norway Maple	*Acer platanoides*	43	6.43	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T55	Norway Maple	*Acer platanoides*	32	5.12	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T56	Norway Maple	*Acer platanoides*	32	5.12	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T57	Norway Maple	*Acer platanoides*	41	6.41	1	Good	Good-Fair	Fair	-	-	-	Deadwood (moderate)	Preserve	Remove	Remove	Y
T145	Red Oak	*Quercus rubra*	148	37	4	Good	Good-Fair	Good-Fair	Low	Good	Good	Deadwood (low)	Preserve	Injury	Injury	Y
T146	Red Oak	*Quercus rubra*	20	7.4	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T147	Norway Maple	*Acer platanoides*	33	9.93	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T148	Norway Maple	*Acer platanoides*	16	7.36	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T149	Norway Maple	*Acer platanoides*	10	7.3	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T150	Norway Maple	*Acer platanoides*	15	7.35	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T151	Norway Maple	*Acer platanoides*	15	7.35	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T152	Norway Maple	*Acer platanoides*	10	7.3	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T153	Manitoba Maple	*Acer negundo*	18	7.38	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T154	Manitoba Maple	*Acer negundo*	33	9.93	4	Good	Fair	Fair	-	Good	Good	Lean (high), crown reduction required	Preserve	Injury	Injury	Y
T155	Norway Maple	*Acer platanoides*	35	9.95	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T156	Norway Maple	*Acer platanoides*	30	9.9	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T157	Norway Maple	*Acer platanoides*	14	7.34	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T158	White Mulberry	*Morus alba*	75, 54, 40	25.25	4	Good-Fair	Fair	Fair	Low	Good	Good-Fair	Lean (moderate), deadwood (low), partial failure of secondary trunk	Preserve	Injury	Injury	Y
T159	Norway Maple	*Acer platanoides*	21	7.41	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T160	Norway Maple	*Acer platanoides*	20	7.4	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T161	Green Ash	*Fraxinus pennsylvanica var. subintegerrima*	10	7.3	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T162	Manitoba Maple	*Acer negundo*	71, 46	22.45	4	Good-Fair	Fair	Fair	Low	Good	Good-Fair	Lean (low), trunk cankers with oozing through parent trunk	Preserve	Injury	Injury	Y
T163	Manitoba Maple	*Acer negundo*	20	7.4	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T164	Manitoba Maple	*Acer negundo*	19, 10	7.41	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T165	Manitoba Maple	*Acer negundo*	13	7.33	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T166	Manitoba Maple	*Acer negundo*	19	7.39	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T167	Manitoba Maple	*Acer negundo*	33	9.93	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T168	Norway Maple	*Acer platanoides*	12	7.32	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T169	Manitoba Maple	*Acer negundo*	12, 11	7.36	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T170	Manitoba Maple	*Acer negundo*	15	7.35	4	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T171	Manitoba Maple	*Acer negundo*	14	7.34	4	Good	Fair-Poor	Fair	-	-	-	Lean (high)	Preserve	Preserve	Preserve	
T172	Manitoba Maple	*Acer negundo*	22	7.42	4	Good	Fair	Fair	-	-	-	Lean (high)	Preserve	Preserve	Preserve	
T173	Manitoba Maple	*Acer negundo*	36	9.96	4	Good	Fair	Fair	-	-	-	Lean (high)	Preserve	Preserve	Preserve	
T174	Black Walnut	*Juglans nigra*	38	9.98	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T175*	Manitoba Maple	*Acer negundo*	15	7.35	4	Dead	Dead	Dead	-	-	-		Remove	Preserve	Preserve	
T176*	Manitoba Maple	*Acer negundo*	13	7.33	4	Dead	Dead	Dead	-	-	-		Remove	Preserve	Preserve	
T177	Manitoba Maple	*Acer negundo*	35	9.95	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T178	Black Walnut	*Juglans nigra*	8	2.48	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T179	Little Leaf Linden	*Tilia cordata*	10, 8, 6	7.34	4	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T180	Little Leaf Linden	*Tilia cordata*	32	9.92	4	Good-Fair	Good-Fair	Good-Fair	Low	Good	Good	Buttress wound (low)	Preserve	Injury	Injury	Y
T181	Black Walnut	*Juglans nigra*	39	9.99	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T182	Manitoba Maple	*Acer negundo*	8, 8, 10	7.35	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T183*	Little Leaf Linden	*Tilia cordata*	11	7.31	4	Good	Good	Good	-	-	-		Remove	Preserve	Preserve	
T184	Manitoba Maple	*Acer negundo*	17	7.37	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T185	Manitoba Maple	*Acer negundo*	22	7.42	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T186	Manitoba Maple	*Acer negundo*	13	7.33	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T187	Black Walnut	*Juglans nigra*	6, 8, 8	7.33	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T188	Manitoba Maple	*Acer negundo*	23, 25, 27	12.43	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T189*	Manitoba Maple	*Acer negundo*	14	7.34	4	Dead	Dead	Dead	-	-	-		Remove	Preserve	Preserve	
T190*	Manitoba Maple	*Acer negundo*	33	9.93	4	Good	Poor	Poor	-	-	-	Lean (high)	Remove	Preserve	Preserve	
T191	Manitoba Maple	*Acer negundo*	34, 27, 29	14.92	4	Good	Good	Good	Low	Good	Good		Preserve	Injury	Injury	Y
T192	Black Walnut	*Juglans nigra*	46	12.46	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T193	Manitoba Maple	*Acer negundo*	30, 26	10	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T194	Manitoba Maple	*Acer negundo*	13	7.33	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T195	Manitoba Maple	*Acer negundo*	15, 15	7.41	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T196	Manitoba Maple	*Acer negundo*	25	7.45	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T197	Manitoba Maple	*Acer negundo*	28	7.48	4	Good	Fair-Poor	Fair	Moderate	Good-Fair	Good-Fair	Lean (high)	Preserve	Injury	Injury	Y
T198	Manitoba Maple	*Acer negundo*	42, 26, 24, 16	14.97	4	Good	Fair-Poor	Fair	Moderate	Good-Fair	Fair	Lean (high)	Preserve	Injury	Injury	Y
T199	Manitoba Maple	*Acer negundo*	24	7.44	4	Good	Fair-Poor	Fair	Moderate	Good-Fair	Fair	Lean (high)	Preserve	Injury	Injury	Y
T200	Manitoba Maple	*Acer negundo*	21	7.41	4	Good	Fair-Poor	Fair	Moderate	Good-Fair	Fair	Lean (high)	Preserve	Injury	Injury	Y
T201	Manitoba Maple	*Acer negundo*	24	7.44	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T202	Manitoba Maple	*Acer negundo*	26, 27	9.97	4	Good	Good	Good	Moderate	Good-Fair	Fair		Preserve	Injury	Injury	Y
T203	Manitoba Maple	*Acer negundo*	23	7.43	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T204*	Manitoba Maple	*Acer negundo*	19	7.39	4	Dead	Dead	Dead	-	-	-		Remove	Preserve	Preserve	
T205	Manitoba Maple	*Acer negundo*	25	7.45	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T206	Manitoba Maple	*Acer negundo*	24	7.44	4	Good	Fair	Fair	Moderate	Good-Fair	Good-Fair	Lean (moderate)	Preserve	Injury	Injury	Y
T207	Norway Maple	*Acer platanoides*	19	7.39	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T208	Norway Maple	*Acer platanoides*	11	7.31	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T209	Manitoba Maple	*Acer negundo*	9	2.49	4	Dead	Dead	Dead	-	-	-		Remove	Remove	Remove	Y
T210	Manitoba Maple	*Acer negundo*	22, 26	9.94	4	Good	Good	Good	-	-	-	Growing in concrete	Preserve	Remove	Remove	Y
T211	Norway Maple	*Acer platanoides*	24, 20	9.91	4	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T212	Norway Maple	*Acer platanoides*	15	7.35	4	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T213	Norway Maple	*Acer platanoides*	14	7.34	4	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T214	Norway Maple	*Acer platanoides*	25	7.45	4	Fair-Poor	Fair-Poor	Fair-Poor	-	-	-	Crown dieback (high)	Preserve	Remove	Remove	Y
T215	Norway Maple	*Acer platanoides*	12, 11	7.36	4	Fair-Poor	Fair-Poor	Fair-Poor	-	-	-	Crown dieback (high)	Preserve	Remove	Remove	Y
T216	Little Leaf Linden	*Tilia cordata*	8	2.48	4	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T217	Manitoba Maple	*Acer negundo*	34, 36	12.5	4	Good	Good-Fair	Good-Fair	Moderate	Good-Fair	Fair	Lean (moderate)	Preserve	Injury	Injury	Y
T218	Manitoba Maple	*Acer negundo*	22	7.42	4	Fair-Poor	Fair-Poor	Fair-Poor	Moderate	Good-Fair	Fair-Poor	Crown dieback (moderate), deadwood (moderate)	Preserve	Injury	Injury	Y
T219	Manitoba Maple	*Acer negundo*	25, 15	7.49	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T220	Manitoba Maple	*Acer negundo*	30	9.9	4	Good	Good	Good-fair	Moderate	Good-Fair	Good-Fair	Lean (low)	Preserve	Injury	Injury	Y
T221	Basswood	*Tilia americana*	17	7.37	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T222	Manitoba Maple	*Acer negundo*	18	7.38	4	Good	Good	Good	Low	Good	Good		Preserve	Injury	Injury	Y
T223*	Manitoba Maple	*Acer negundo*	17	7.37	4	Poor	Poor	Poor	-	-	-	Deadwood (high), lean (high)	Remove	Injury	Preserve	
T224	White Mulberry	*Morus alba*	36	9.96	4	Good	Good	Good	Low	Good	Good		Preserve	Injury	Injury	Y
T225	Manitoba Maple	*Acer negundo*	27	7.47	4	Good	Good	Good	Moderate	Good	Good-Fair		Preserve	Injury	Injury	Y
T226	Manitoba Maple	*Acer negundo*	26	7.46	4	Good	Good	Good	Low	Good	Good		Preserve	Injury	Injury	Y
T227	Manitoba Maple	*Acer negundo*	22	7.42	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T228	Manitoba Maple	*Acer negundo*	20	7.4	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T229	Manitoba Maple	*Acer negundo*	15	7.35	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T230	Manitoba Maple	*Acer negundo*	13	7.33	4	Good	Good	Good	Moderate	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T231	Manitoba Maple	*Acer negundo*	16	7.36	4	Good	Good	Good	Low	Good	Good		Preserve	Injury	Injury	Y
T232	Manitoba Maple	*Acer negundo*	66	17.46	4	Good-Fair	Fair-Poor	Fair	High	Good-Fair	Fair	Lean (moderate), deadwood (low)	Preserve	Injury	Injury	Y

Tree ID	Common Name	Scientific Name	DBH (cm)	MTPZ (m)	Tree Category	Biological Condition	Structural Condition	Condition	Relative Root Zone Impact	Post-construction Structural Stability	Prognosis for Survival	Comments	Recommendation (Condition)	Recommendation (Development)	Recommendation (Final)	Permit Requirement (Y/N)
T233	Manitoba Maple	*Acer negundo*	26, 27	9.97	4	Good	Good-Fair	Good-Fair	Moderate	Good	Good	Lean (moderate)	Preserve	Injury	Injury	Y
T234	Manitoba Maple	*Acer negundo*	34	9.94	4	Good	Fair	Fair	Low	Good	Good-Fair	Lean (moderate)	Preserve	Injury	Injury	Y
T235	Manitoba Maple	*Acer negundo*	16, 10	7.39	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T236	Manitoba Maple	*Acer negundo*	10	7.3	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T237	Manitoba Maple	*Acer negundo*	8	2.48	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T238	Norway Maple	*Acer platanoides*	14	7.34	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T239	Manitoba Maple	*Acer negundo*	23	7.43	4	Good	Good	Fair	-	-	-	Growing horizontal towards school	Preserve	Remove	Remove	Y
T240	Manitoba Maple	*Acer negundo*	20	7.4	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T241	Manitoba Maple	*Acer negundo*	23	7.43	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T242	Manitoba Maple	*Acer negundo*	32	9.92	4	Good	Fair	Fair	Low	Fair	Fair	Lean (moderate)	Preserve	Injury	Injury	Y
T243	Manitoba Maple	*Acer negundo*	27	7.47	4	Good	Fair	Fair	Low	Fair	Fair	Lean (moderate)	Preserve	Injury	Injury	Y
T244	Manitoba Maple	*Acer negundo*	27	7.47	4	Good	Fair	Fair	-	-	-	Lean (moderate)	Preserve	Preserve	Preserve	
T245	Manitoba Maple	*Acer negundo*	17	7.37	4	Good	Fair	Fair	Low	Fair		Lean (moderate)	Preserve	Injury	Injury	Y
T246	Black Walnut	*Juglans nigra*	12	7.32	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T247	Manitoba Maple	*Acer negundo*	30	9.9	4	Good	Fair	Fair	Low	Fair	Fair	Lean (moderate)	Preserve	Injury	Injury	Y
T248	Manitoba Maple	*Acer negundo*	38	9.98	4	Good	Fair	Fair	Low	Fair	Fair	Lean (moderate)	Preserve	Injury	Injury	Y
T249	Manitoba Maple	*Acer negundo*	27	7.47	4	Good	Fair	Fair	Low	Fair	Fair	Lean (moderate)	Preserve	Injury	Injury	Y
T250	Manitoba Maple	*Acer negundo*	24	7.44	4	Good	Fair	Fair	Low	Fair	Fair	Lean (moderate)	Preserve	Injury	Injury	Y
T251	Manitoba Maple	*Acer negundo*	28	7.48	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T252	Siberian Elm	*Ulmus pumila*	33, 64	19.92	4	Fair	Fair	Fair	Moderate	Good-Fair	Fair	Deadwood (moderate), included bark (low)	Preserve	Injury	Injury	Y
T253	Crack Willow	*Salix fragilis*	46	12.46	1	Fair-Poor	Poor	Poor	-	-	-	Lean (moderate), buttress wound (high)	Remove	Remove	Remove	Y
T254	Siberian Elm	*Ulmus pumila*	29	7.49	4	Good-Fair	Good-Fair	Good-Fair	High	Fair	Fair	Deadwood (low)	Preserve	Injury	Injury	Y
T255	Siberian Elm	*Ulmus pumila*	49, 44, 42	19.98	4	Good	Fair	Fair	Moderate	Good-Fair	Good-Fair	Deadwood (low), included bark (low)	Preserve	Injury	Injury	Y
T256	Norway Maple	*Acer platanoides*	48	8.48	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T257	Norway Maple	*Acer platanoides*	52	7.72	1	Good	Fair	Fair	-	-	-	Lean (moderate)	Preserve	Remove	Remove	Y
T258	Norway Maple	*Acer platanoides*	45	12.45	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T259	Siberian Elm	*Ulmus pumila*	38	9.98	4	Good	Good	Good	Low	Good-Fair	Good-Fair		Preserve	Injury	Injury	Y
T260	Manitoba Maple	*Acer negundo*	20	7.4	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T261	Manitoba Maple	*Acer negundo*	10	7.3	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T262	Manitoba Maple	*Acer negundo*	14	7.34	4	Good	Good	Good	Low	Good	Good		Preserve	Injury	Injury	Y
T263	Manitoba Maple	*Acer negundo*	18	7.38	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T264	Manitoba Maple	*Acer negundo*	14	7.34	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T265	Crack Willow	*Salix fragilis*	22	7.42	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T266	Manitoba Maple	*Acer negundo*	8	2.48	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T267	Manitoba Maple	*Acer negundo*	16, 16, 30	9.98	4	Good	Fair-Poor	Fair	-	-	-	Lean (high)	Preserve	Preserve	Preserve	
T268	Manitoba Maple	*Acer negundo*	19	7.39	4	Good	Fair-Poor	Fair	-	-	-	Lean (high)	Preserve	Preserve	Preserve	
T269	Manitoba Maple	*Acer negundo*	13	7.33	4	Good	Fair-Poor	Fair	-	-	-	Lean (high)	Preserve	Preserve	Preserve	
T270	Crack Willow	*Salix fragilis*	8	2.48	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T271	Crack Willow	*Salix fragilis*	8	2.48	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T272	Crack Willow	*Salix fragilis*	10	7.3	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T273	Crack Willow	*Salix fragilis*	9	2.49	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T274*	Manitoba Maple	*Acer negundo*	43	12.43	4	Good-Fair	Poor	Poor	-	-	-	Lean (high), branch failure	Remove	Preserve	Preserve	
T275	Manitoba Maple	*Acer negundo*	13	7.33	4	Good	Good-Fair	Good-Fair	-	-	-	Lean (low)	Preserve	Preserve	Preserve	
T276	Norway Maple	*Acer platanoides*	15	7.35	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T277	Norway Maple	*Acer platanoides*	14	7.34	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T278	Manitoba Maple	*Acer negundo*	8	2.48	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T279	Manitoba Maple	*Acer negundo*	23	7.43	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T280	Manitoba Maple	*Acer negundo*	40	10	4	Good	Fair	Fair	-	-	-	Lean (high)	Preserve	Preserve	Preserve	
T281	Manitoba Maple	*Acer negundo*	30	9.9	4	Good	Fair	Fair	-	-	-	Lean (moderate)	Preserve	Preserve	Preserve	
T282	Manitoba Maple	*Acer negundo*	25	7.45	4	Good	Fair	Fair	-	-	-	Lean (moderate)	Preserve	Preserve	Preserve	
T283*	Manitoba Maple	*Acer negundo*	27	7.47	4	Good	Poor	Poor	-	-	-	Lean (high)	Remove	Preserve	Preserve	
T284	Norway Maple	*Acer platanoides*	8	2.48	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T285	Norway Maple	*Acer platanoides*	9	2.49	4	Good	Good	Good	-	-	-		Preserve	Preserve	Preserve	
T286	Norway Maple	*Acer platanoides*	31	5.11	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	Y
T287	Norway Maple	*Acer platanoides*	26	3.86	1	Good	Good	Good	-	-	-		Preserve	Remove	Remove	N
T288	Manitoba Maple	*Acer negundo*	35, 20	10	4	Good	Good	Good	Low	Good	Good	Growing horizontal, required reduction pruning for proposed fence	Preserve	Injury	Injury	Y
T291	White Mulberry	*Morus alba*	9, 10	7.33	4	Good	Good	Good	-	-	-	-	Preserve	Preserve	Preserve	
T292	Manitoba Maple	*Acer negundo*	27	7.47	4	Good	Good	Good	-	-	-	-	Preserve	Preserve	Preserve	
T293	Manitoba Maple	*Acer negundo*	24	7.44	4	Fair	Good	Fair	-	-	-	Epicormic growth (moderate)	Preserve	Preserve	Preserve	
T294	Manitoba Maple	*Acer negundo*	31	9.91	4	Fair-Poor	Fair	Fair-Poor	-	-	-	Crown dieback (moderate), riverbank grape growth in canopy	Preserve	Preserve	Preserve	
T295	Norway Maple	*Acer platanoides*	19	7.39	4	Good	Good	Good	-	-	-	-	Preserve	Preserve	Preserve	
T296	White Mulberry	*Morus alba*	12	7.32	4	Good	Good	Good	-	-	-	-	Preserve	Preserve	Preserve	
T297	Manitoba Maple	*Acer negundo*	14	7.34	4	Good	Good	Good	-	-	-	-	Preserve	Preserve	Preserve	
T298	Manitoba Maple	*Acer negundo*	8, 10	7.33	4	Good	Good	Good	Moderate	Good-Fair	Fair		Preserve	Injury	Injury	Y
T299	Manitoba Maple	*Acer negundo*	12	7.32	4	Good	Good	Good	Moderate	Good-Fair	Fair		Preserve	Injury	Injury	Y

*Trees recommended for removal based on condition, but given a final recommendation to be preserved

Total Category 1 trees	60
Total Category 2 trees	0
Total Category 4 trees	150
Total Category 5 trees	0
Total Category 1 tree Injury (includes unprotected)	5
Total Category 2 tree Injury	0
Total Category 4 tree Injury	51
Total Category 5 tree Injury	0
Total Category 1 tree Removal (includes unprotected)	52
Total Category 2 tree Removal	0
Total Category 4 tree Removal	11
Total Category 5 tree Removal	0

Total remove (development)	63
Total injury	56
Total remove	63
Total preserve	88
Total Previously Removed	3
Total	**210**

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Appendix B

Tree Study Methodology

Tree Studies: Methodology

The list provided below represents all data that may be collected in the analysis of trees. Methodology descriptions should be reviewed with the column headings provided in the data. The columns represent the scope and extent of the tree assessment carried out.

Tree #: This number may be assigned by the tree assessor or predetermined by the surveyor or client. The number corresponds with the tree tag affixed to the tree, if tree tagging is part of the study's scope.

Species Name: Botanical name of the species.

Common Name: Commonly used English name.

DBH (cm): Diameter at Breast Height measured using DBH tape or tree caliper.

Crown Reserve (m): Average measurement of the diameter or width of the dripline (extent of branches from the trunk). Generally the trunk is trunk is the midpoint of this measurement. It is represented on the drawing(s) as a circle. This measurement may not be used in the subject jurisdiction.

TPZ (m): Tree protection zone required based on the required setback from the trunk, as designated by the agency (e.g. municipality). The TPZ is calculated by doubling the setback and including the trunk diameter to create a diameter of circle of protection around the tree.

HT (m): Estimated height from the base to the top of the tree.

Condition (G, F, P, D): The assigned condition (Good, Fair, Poor, Dead) based on a qualitative assessment of the biological and structural components of the tree roots, trunk, scaffold branches, small branches, and foliage.

Preserve or Remove Reason: Reasons for recommended preservation or removal assigned in the tree study. Reasons for recommended removal may result from:

- Existing condition (critical deficiency such as severe crown dieback)
- Anticipated impacts of the proposed development (i.e., tree location is in conflict with construction element)
- Both existing condition and anticipated impacts

A checkmark is provided in the appropriate column.

Description of Reason: Rationale for the assignment of preservation or removal rationale based on analysis of collected data and proposed development.

Transplant Potential (G,F,P): Assignment of qualitative measure of reestablishment success of a tree when removed from its existing location and moved to another or removed and stored for replanting following construction. An assignment of Good, Fair or Poor is assigned based on a species' ability to reestablish, condition of the tree, new growing conditions, etc.

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Appendix C

Limitation of Tree Studies

Tree Studies: Limitations

This report, drawings and data (i.e., qualitative and quantitative measurements) are intended to inform the recipient and reviewer(s) of the report of the tree(s) condition at the time of the assessment. The assessment may be limited by the following constraints:

1. Access – tree is located offsite, or the onsite location is not reasonably accessed.
2. Weather – accumulated snow around the base or in branch attachments may obscure defects.
3. Season – biotic indications (e.g., foliage chlorosis or fungal fruiting bodies) are only obvious for a portion of the year.
4. Visual obstructions – Elements such as other trees' canopies can prevent the view of the entire tree.

The study is completed from the ground using a DBH tape or tree caliper. Non-invasive tools such as binoculars and a sounding hammer may be used to provide additional information about defects and characteristics. Excavation of the rootzone and other intensive analyses have not been completed unless stated.

It must be understood that trees may not manifest signs or symptoms (e.g., dieback) of some impacts (e.g., root compaction) immediately and so recent changes to the tree or its growing conditions prior to the assessment may not be apparent to the assessor. Also, changes to the tree condition resulting from damage, weather, infestations, defects, soil, decay, light, moisture, exposure, etc. may occur after the assessment.

No tree is without some level of risk, where a tree may fail and strike a target. Mitigation options, if provided, will not eliminate risk but are prescribed treatments to reduce risk based on the measured and assessed factors at the time of assessment, subject to site and assessment constraints.

Identification of the ownership of assessed trees (i.e., on-site or off-site) made in the report is based on the legal survey. The assessor of trees uses the point location of the tree provided on the survey and the limits of property to assign ownership in the report and associated materials.

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Appendix D

Tree Permitting

Data collected by: Mackenzie Dawson
Data collected on: January 18, 2023,
October 14, 2025 and December 23, 2025
ISA Certified (ON-2643A), TRAQ

Trees Subject to Injury Permit		
Category 1		
Tree No	**Species**	**DBH**
T20	Siberian Elm	35
T21	Manitoba Maple	24, 23
T23	Northern Catalpa	77
T27	Silver Maple	70
T35	Dawn Redwood	69
Category 4		
Tree No	**Species**	**DBH**
T18	Norway Maple	13
T19	Norway Maple	12, 43
T22	Little Leaf Linden	65
T145	Red Oak	148
T154	Manitoba Maple	33
T158	Crack Willow	75, 54, 40
T162	Crack Willow	71, 46
T180	Little Leaf Linden	32
T191	Manitoba Maple	34, 27, 29
T197	Manitoba Maple	28
T198	Manitoba Maple	42, 26, 24, 16
T199	Manitoba Maple	24
T200	Manitoba Maple	21
T201	Manitoba Maple	24
T202	Manitoba Maple	26, 27
T205	Manitoba Maple	25
T206	Manitoba Maple	24
T207	Norway Maple	19
T208	Norway Maple	11
T217	Manitoba Maple	34, 36
T218	Manitoba Maple	22

Trees Subject to Injury Permit		
Category 4		
Tree No	**Species**	**DBH**
T219	Manitoba Maple	25, 15
T220	Manitoba Maple	30
T221	Norway Maple	17
T222	Manitoba Maple	18
T224	Crack Willow	36
T225	Manitoba Maple	27
T226	Manitoba Maple	26
T227	Manitoba Maple	22
T228	Manitoba Maple	20
T229	Manitoba Maple	15
T230	Manitoba Maple	13
T231	Manitoba Maple	16
T232	Manitoba Maple	66
T233	Manitoba Maple	26, 27
T234	Manitoba Maple	34
T242	Manitoba Maple	32
T243	Manitoba Maple	27
T245	Manitoba Maple	17
T247	Manitoba Maple	30
T248	Manitoba Maple	38
T249	Manitoba Maple	27
T250	Manitoba Maple	24
T252	Crack Willow	33, 64
T254	Crack Willow	29
T255	Crack Willow	49, 44, 42
T259	Crack Willow	38
T262	Manitoba Maple	14
T288	Manitoba Maple	35, 20
T298	Manitoba Maple	8. 10
T299	Manitoba Maple	12

Trees Subject to Removal Permit		
Category 1		
Tree No	**Species**	**DBH**
T2	Little Leaf Linden	33, 40
T7	Little Leaf Linden	62
T8	Norway Maple	67
T14	Norway Maple	79
T17	Norway Maple	30
T34	English Oak	64

T36	Autumn Olive	24, 16, 23, 17

Trees Subject to Removal Permit		
Category 1		
Tree No	**Species**	**DBH**
T40	Little Leaf Linden	40
T41	White Fir	33, 33
T42	Little Leaf Linden	43
T46	Little Leaf Linden	37
T49	Little Leaf Linden	31
T50	Norway Maple	39
T53	Norway Maple	32
T54	Norway Maple	43
T55	Norway Maple	32
T56	Norway Maple	32
T57	Norway Maple	41
T253	Crack Willow	46
T256	Norway Maple	48
T257	Norway Maple	52
T258	Norway Maple	45
T286	Norway Maple	31
Category 4		
Tree No	**Species**	**DBH**
T170	Manitoba Maple	15
T179	Little Leaf Linden	10, 8, 6
T209	Manitoba Maple	9
T210	Manitoba Maple	22, 26
T211	Norway Maple	24, 20
T212	Norway Maple	15
T213	Norway Maple	14
T214	Norway Maple	25
T215	Norway Maple	12, 11
T216	Little Leaf Linden	8
T239	Manitoba Maple	23

Tree Permitting Summary		
Action	**Category**	**Total**
Injury	1	5
	4	51
	TPPR Injuries	5
	RNFP Injuries	51
Subtotal		**56**
Remove	1	23
	4	11
	TPPR Removals	24
	RNFP Removals	11
	Subtotal	**35**
Grand Total (injury and Remove)		**91**

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Appendix E

RNFP Tree Injury Remediation

Tree ID	% of Root Zone Encroachment	Prognosis for Survival	Health and Vigour	Structural Stability	Work within Rootzone	Additional Notes on Soil Amendments / Remedial Work
T18	2%	Good	Good	Good	Removal of asphalt and hardscape surface	Excavator to work from outside MTPZ. Reinstate topsoil and install sod as part of landscaping plan.
T19	24%	Good	Good	Good	Removal of asphalt and hardscape surface	Excavator to work from outside MTPZ. Reinstate topsoil, install sod and RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T22	33%	Fair	Fair	Fair-Poor	Removal of existing asphalt and hardscape surface	Excavator to work from outside MTPZ. Reinstate topsoil, install sod and RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T145	7%	Good	Good	Good-Fair	Installation of Limestone screening walkwalk and compaction from demolition activities.	Excavator to work from outside MTPZ. Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T154	N/A	Good	Good	Fair	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certfied arborist
T158	14%	Good-Fair	Good-Fair	Fair	Compaction from demolition activities.	Excavator to work from outside MTPZ
T162	20%	Good-Fair	Good-Fair	Fair	Compaction from demolition activities.	Excavator to work from outside MTPZ
T180	9%	Good	Good-Fair	Good-Fair	Removal of existing asphalt and hardscape surface	Excavator to work from outside MTPZ. Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T191	1%	Good	Good	Good	Removal of existing asphalt and hardscape surface	Excavator to work from outside MTPZ. Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T197	N/A	Good-Fair	Good	Fair-Poor	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certified arborist
T198	44%	Fair	Good	Fair-Poor	Compaction from demolition activities.	Excavator to work from outside MTPZ, Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T199	36%	Fair	Good	Fair-Poor	Compaction from demolition activities.	Excavator to work from outside MTPZ
T200	28%	Fair	Good	Fair-Poor	Compaction from demolition activities.	Excavator to work from outside MTPZ
T201	25%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T202	40%	Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T205	24%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T206	28%	Good-Fair	Good	Fair	Compaction from demolition activities.	Excavator to work from outside MTPZ
T207	25%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T208	36%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T217	44%	Fair	Good	Good-Fair	Compaction from demolition activities.	Excavator to work from outside MTPZ
T218	30%	Fair-Poor	Fair-Poor	Fair-Poor	Compaction from demolition activities.	Excavator to work from outside MTPZ
T219	26%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T220	30%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T221	32%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T222	1%	Good	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T224	8%	Good	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T225	13%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T226	4%	Good	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T227	10%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T228	26%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T229	26%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T230	26%	Good-Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T231	4%	Good	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ
T232	44%	Fair	Good-Fair	Fair-Poor	Compaction from demolition activities.	Excavator to work from outside MTPZ
T233	5%	Good	Good	Good-Fair	Compaction from demolition activities.	Excavator to work from outside MTPZ
T234	5%	Good-Fair	Good	Fair	Compaction from demolition activities.	Excavator to work from outside MTPZ
T242	N/A	Fair	Good	Fair	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certified arborist
T243	N/A	Fair	Good	Fair	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certified arborist
T245	N/A	Fair	Good	Fair	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certified arborist
T247	N/A	Fair	Good	Fair	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certified arborist
T248	N/A	Fair	Good	Fair	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certified arborist
T249	N/A	Fair	Good	Fair	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certified arborist
T250	N/A	Fair	Good	Fair	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certified arborist
T252	22%	Fair	Fair	Fair	Compaction from demolition activities, and installation of limestone screening walkway	Excavator to work from outside MTPZ, Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T254	41%	Fair	Good-Fair	Good-Fair	Compaction from demolition activities, and installation of limestone screening walkway	Excavator to work from outside MTPZ, Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T255	22%	Good-Fair	Good	Fair	Compaction from demolition activities, installation of limestone screening walkway and pedestrian concrete walkway	Excavator to work from outside MTPZ, Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T259	44%	Good-Fair	Good	Good	Compaction from demolition activities, and installation of limestone screening walkway	Excavator to work from outside MTPZ, Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T262	12%	Good	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ, Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T288	N/A	Good	Good	Good	Tree pruning to accommodate installation of 1.8 m chain link fence	Tree pruning to be conducted by or under the direction of a certfied arborist
T298	50%	Fair	Good	Good	Removal of concrete and existing hardscape surface	Excavator to work from outside MTPZ, Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.
T299	23%	Fair	Good	Good	Compaction from demolition activities.	Excavator to work from outside MTPZ, Reinstate topsoil and install RNFP buffer restoration seeding, and composition plantings as part of landscaping plan.

R.J. Burnside & Associates Limited