



# **REQUEST FOR TENDER**

## **RFTND#22-06**

**PCL Project Number: 6503B**

**Golden Age Apartments**

**135 Worthington Street West, North Bay, ON**

**Emergency Generator Upgrade**

**April 2022**

Piotrowski Consultants Ltd.  
1820 Bond Street  
North Bay, ON P1B 4V6

Golden Age Apartments  
 135 Worthington Street West, North Bay, ON  
 Emergency Generator Upgrade



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## TENDER NOTICE

### REQUEST FOR TENDER ND22-06 | PCL PROJECT NO. 6503B FOR EMERGENCY GENERATOR UPGRADE AT GOLDEN AGE APARTMENTS

This Request for Tender ("RFT") is an invitation by Nipissing District Housing Corporation to prospective Bidders or a consortium of Bidders to submit Bids inclusive of all labour, material, transportation and equipment costs associated with the construction/renovations/installation of required upgrades to the emergency generator system at 135 Worthington Street West, North Bay, ON.

Tender Documents may be obtained at DNSSAB's website: <https://dnssab.ca/category/procurement/>

#### RFT Timetable

ITEM	DATE	TIME
Issue Date	May 6, 2022	6:00 pm
Mandatory Site Visit	May 19, 2022	10:00 am
Closing Date	June 3, 2022	1:00 pm

All Bids received at or after 1:01 PM on 3-June-2022 will not be accepted.

#### Mandatory Site Meeting

Bidders are required to attend a mandatory site meeting that will be scheduled for **Thursday, May 19, 2022 at 10:00 a.m. at 135 Worthington Street West, North Bay, ON**. Bidders will be able to examine site conditions and review the terms, conditions, specifications of the documents and ascertain the amount of work involved. Bidders are encouraged to bring their own materials such as a camera, measuring tape, notepaper and any other materials to the site when going to the site to examine conditions.

#### Bidder Registration

There is no Bidder registration required for this Request for Quotes.

#### Bid Security

There is no bid security required for this RFQ.

#### Performance Security

Performance Bond and Labour & Material Payment Bond to be provided upon award to successful contractor. Bonding to be 100% of the quotation (see specification Section 00800 – 43 Contract Security).

#### Public Opening

There will be no public bid opening.

#### Submission of Bids

Bidders must submit their Bids electronically to [ndhc.purchasing@dnssab.ca](mailto:ndhc.purchasing@dnssab.ca). The submission email should note **"Golden Age Apartments, Emergency Generator Upgrade, RFTND #22-06"** as the subject line and include the Company's Name and Company's address in the body. Bidders are cautioned that the timing of their submission is based on when the Bid is received, not when a Bid is submitted by a Bidder, as transmission can be delayed due to file transfer size, transmission speed or other technical factors. For the reasons above, NDHC recommends that Bidders allow sufficient time to email their submission and resolve any issues that may arise. The closing date and time shall be determined by NDHC's web clock. Bidders should contact the Procurement Representative at least twenty-four (24) hours before the deadline if they encounter any problems. The Procurement Representative will send a confirmation email to the Bidder advising that a Bid was submitted successfully. If Bidders do not receive a confirmation email, they should contact the Procurement Representative immediately. The Bidder must assume full responsibility for receipt of the Bid by the deadline.

End of Document



## INSTRUCTIONS TO BIDDERS

*These Instructions define your obligations and limit your rights. Read carefully.*

### 1. SUBMISSION OF BID

- (1) Every Bid shall be typewritten, legible, and be:
  - (a) signed by the Bidder;
  - (b) submitted as a PDF file as an email attachment;
  - (c) marked and delivered in accordance with subsection (2).

Bids submitted via mail, fax, or in-person or as a hardcopy in any other format shall not be accepted.

- (2) A Bid shall be submitted electronically to [ndhc.purchasing@dnssab.ca](mailto:ndhc.purchasing@dnssab.ca) with the contract number and the title of the ***Tender***, include in the body of the email the Company's Name and Company's address and addressed and delivered to the Procurement Representative. Bids will be received up to and including the closing time and date specified in the ***Tender*** Notice or as subsequently amended by Addendum.
- (3) Subject to subsection (4), time is of the essence with respect to the submission of Bids. It is the sole responsibility of each Bidder to make sure that its Bid is delivered to the correct address no later than the closing date and time for the ***Tender***.
- (4) Despite subsection (3), provided no Bid has previously been opened, NDHC reserves the right (in its absolute discretion) to accept a Bid submitted after the closing time for the receipt of Bids. Only the Procurement Representative may exercise this discretion.
- (5) A Bid that is not submitted electronically to [ndhc.purchasing@dnssab.ca](mailto:ndhc.purchasing@dnssab.ca) as a PDF files noted in subsection 1(b) shall not be considered for the award of the contract, but NDHC shall not be under any obligation to return an opened Bid to the Bidder, nor to notify the Bidder that the Bid was opened.
- (6) Bids shall be deemed to have been submitted only when received, not when a Bid was submitted by a Bidder, as transmission can be delayed due to file transfer size, transmission speed or other technical factors. For the reasons above, NDHC recommends that Bidders allow sufficient time to email their submission and resolve any issues that may arise. The closing date and time shall be determined by NDHC's web clock.



- (7) It is the exclusive responsibility of each Bidder to submit a complete bid in accordance with these Instructions, the Form of Tender, the Tender Notice, the Specifications and the Special Provisions and the Description of Project, Work or Supply.
- (8) All documents prepared and work carried out by a Bidder in preparing its Bid, and all oral presentations to NDHC in connection with a Bid, shall be without cost to NDHC, and neither NDHC's publication of a Request for Tender nor the submission of a Bid shall be construed to oblige NDHC to award a Contract.

## 2. FORM OF TENDER

- (1) Every Bid shall be submitted on NDHC's prescribed Form of Tender, and shall,
  - (a) be completed without interlineation, alteration or erasure of or with respect to:
    - (i) any of the pre-printed text provided by NDHC; or
    - (ii) information included on that Form by the Bidder, unless the effect thereof is clear and unambiguous as is the assent of the Bidder to that interlineation, alteration or erasure (*e.g.*, by initialling);
  - (b) include all material, services, appliances and labour, required to complete the work;
  - (c) where printed or typed, be set out in print no smaller than 10-point Times Roman; and
  - (d) bear the original signature of the Bidder (or, in the case of a Bid submitted by a corporation, an authorized signing officer of the corporation), inscribed in the space provided.
- (2) All blank spaces provided on the Form of Tender shall be filled in, including alternate, separate, additional or Factor Prices and for start and completion dates.
- (3) All words and phrases forming part of the Bid must be written out in full, and abbreviations must not be used. Where an abbreviation is used contrary to this requirement, any ambiguity or other uncertainty shall be construed against the Bidder.
- (4) So far as practical, all material included with a Bid must be enclosed in a separate PDF file within the same email containing the Bid. The Bidder bears the risk of loss where this requirement is not followed.
- (5) Except where otherwise directed, all printed material should be reduced to American standard letter size (8 inch by 11 inch) or legal size (8 inch by 14 inch) paper size.

## 3. CONFIDENTIALITY

- (1) NDHC shall make every effort to safeguard the confidentiality of each submission.

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- (2) NDHC policy is to disclose only such information as is required by law. Please note that all submissions are subject to the provisions of the *Municipal Freedom of Information and Protection of Privacy Act*. Information regarding the application of this Act is available upon request to the Procurement Representative.
- (3) In addition, certain contractual information must be disclosed to NDHC Board, and accordingly may become part of the public record.
- (4) Bidders may mark any part of their submission as confidential except the Total Contract Price and their name. A watermark or stamp imprint is suitable for this purpose. NDHC will use its best efforts not to disclose any information so marked, but shall not be liable to a Bidder where information is disclosed by virtue of an order of the Privacy Commissioner or otherwise as required by law.

#### 4. PRICES

- (1) Total Contract Prices shall be evaluated on the basis of their respective net present value, provided that NDHC may make appropriate allowances for extended warranty coverage, lower maintenance cost, higher trade-in value, longer life expectancy and other factors relevant to determining the full life-time cost of the Bid. Preference may be given to a Bid that offsets cost with related savings, so as to provide for no or minimal net tax increases and maximum benefits to NDHC. For the purposes of determining net present value, the discount rate and any escalation factor shall be uniformly applied to all Bids, but otherwise shall be in the discretion of NDHC.
- (2) NDHC shall not be required to cause prices to be read out publicly on the opening of Bids or at any other time.
- (3) Only the Bidders names and receipt of documents will be acknowledged.
- (4) Once the contract has been awarded, only the Total Contract Price on which the award of the contract is based will be disclosed. Component or Factor Prices will not be disclosed. Official notification will be given to the Successful Bidder and unsuccessful Bidders. In addition, unsuccessful Bidders may request a debrief within 60 days of the date of their official notification letter wherein persons who submitted a bid may obtain the Total Contract Price of the Successful Bidder upon request to the Procurement Representative for the Tender. Where the award of the Contract is based on a scoring method using evaluation criteria, only the total score and Total Contract Price of the Successful Bidder will be disclosed.

#### 5. VARIATION IN BID PRICES

- (1) No variation in Bid Price [s] shall be permitted after the closing date and time except:



- (a) in the instance of variation due solely to an increase or decrease in the rate of applicable taxes beyond the control of the Bidder, occurring after the time and date of submission of its Bid, in which case the variation shall alter the price of the Bid only to the extent of the tax increase or decrease; or
  - (b) where NDHC exercises its discretion to correct a patent computational or other mathematical error evident on the face of the Bid.
- (2) In the event that a tax increase or decrease occurs after the submission of its Bid, the Bidder must prove to the satisfaction of NDHC that the Bidder will not benefit in any way by reason of the increase.
- (3) Where Bidders are instructed to price the Project, Work or Supply on a unit or component basis, NDHC shall consider only the Bid Price per unit or component for the respective materials to be supplied or items of work or services to be performed, but may at its discretion correct obvious mathematical errors on the part of the Bidder in computing:
- (a) total prices derived from estimated quantities and their related Factor Prices;
  - (b) total quantities;
  - (c) summaries of the Factor Prices stated on the face of the bid into a Total Contract Price;
  - (d) stated percentages of amounts stated in the Bid; or
  - (e) any combination of the foregoing.

## 6. PRICE AND PAYMENTS

- (1) Unless expressly agreed in writing by NDHC, the Total Contract Price shall be deemed to have been quoted on an all-in basis, and the Successful Bidder shall accept the Total Contract Price as full payment for furnishing all necessary labour, goods, materials, services, tools, equipment, supplies, light, power, water and other incidentals, and for performing all the work and providing all services contemplated under the Contract.
- (2) Progress payments for the work done by the Successful Bidder shall be made only where expressly agreed in writing by NDHC.
- (3) A request for a progress payment made by the Successful Bidder shall not include Goods stored but not yet delivered to NDHC, nor any Service not yet performed, but may include Goods delivered to NDHC but not yet built-in or installed, provided that NDHC is specifically notified of this fact.
- (4) If any work or item under the Contract is included by the Successful Bidder in its Progress Request as partially or fully completed, but it is not completed in accordance with drawings or specifications, or is not



completed to NDHC's satisfaction, NDHC may withhold from payment such part or the total cost of those items until they are completed or corrected to its full satisfaction, and NDHC shall notify the Successful Bidder in writing of its action and the reason for same.

- (5) NDHC reserves up to 10 Business Days from the date of the receipt of the Successful Bidders invoice for checking, inspecting and confirming the receipt and performance of any Goods or the completion of any Services in accordance with the Contract Documents.
- (6) Where a contingency allowance is provided for in any of the Contract Documents, the Successful Bidder shall not be entitled to payment of the whole or any part of that amount, except to the extent that it can be shown that extra or additional work has been carried out by the Successful Bidder beyond that contemplated within the Contract Documents, and that extra or additional work has been approved by NDHC.

#### 7. CONFLICT OF INTEREST

- (1) No employee of the DNSSAB and/or NDHC shall personally sell goods or services to DNSSAB and/or NDHC, nor have a direct or indirect interest in a company that sells goods or services to DNSSAB and/or NDHC.
- (2) NDHC may reject any Bid submitted, or cancel any contract awarded, in contravention of subsection (1).
- (3) Each Bidder respectively shall be deemed to have warranted that it has not employed or retained any person, other than a bona fide employee, agent or broker working for the Bidder, to solicit or secure the proposed contract, and that it has not paid or agreed to pay any person, other than a bona fide employee, agent or broker working solely for the Bidder, any fee, commission, percentage, gift or other consideration contingent upon or resulting from the award of that proposed contract, or as an inducement to be awarded that contract. Without prejudice to any of its other rights, NDHC reserves the right to annul any contract or other arrangement entered into with a Bidder where there is a breach of this warranty.

#### 8. WITHDRAWAL OF BIDS BY BIDDER

- (1) Withdrawal of a sealed Bid after its submission is permitted only prior to the time and date of the closing of the Tender.
- (2) A Bidder may withdraw a Bid at any time prior to the closing date and time for the Tender by delivering a written request to that effect to [ndhc.purchasing@dnssab.ca](mailto:ndhc.purchasing@dnssab.ca), but no such request received after that closing date and time shall be effective.



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- (3) A Bidder who withdraws a Bid prior to the closing time and date for the submission of Bids may submit a revised written, signed and emailed Bid at any time prior to that closing date and time, but otherwise no amendment may be made to a Bid after it has been submitted, and in particular no amendment may be made to a Bid orally, or by fax, phone, e-mail, or otherwise.
- (4) A withdrawal request shall be effective only where made in writing, on company letterhead, and actually received by the Procurement Representative. Emailed documents are considered to be received only when receipt is confirmed (by e-mail) by the Procurement Representative.

#### 9. EXPERTISE AND EXPERIENCE

- (1) Contractors submitting Bids and all the subcontractors they propose to use on or in connection with the Project, Work or Supply shall be actively engaged and thoroughly experienced in the lines of work required by Contract Documents and shall be able to refer to previous work of a similar nature satisfactorily performed by them.

#### 10. BIDS OPEN FOR ACCEPTANCE & IRREVOCABLE, ETC.

- (1) Bids shall not be opened until after the date and time specified for the closing of the Tender, and so far as practicable, and each PDF document associated with the Bid shall be opened in the order and at the time of their evaluation only.
- (2) Unless otherwise provided in Special Provisions, a bid shall be irrevocable (*i.e.*, open for acceptance by NDHC) for a period of 45 days following the closing date for the Tender.
- (3) Where there is a conflict between any provision included in a Bid and any provision in any of the following Contract Documents:
  - (a) these Instructions;
  - (b) the standard text of the Form of Tender as prescribed by NDHC;
  - (c) the Tender Notice;
  - (d) any Addendum;
  - (e) the Description of Project, Work or Supply;
  - (f) any Special Provisions, including any contract drawings, detail drawings, or shop drawings;

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- (g) the Contract for Work; and
- (h) any Specifications for the Project, Work or Supply not included within any of the foregoing, the provision in those Contract Documents shall prevail, unless NDHC otherwise expressly agrees thereto in writing.
- (4) NDHC may require a successful Bidder to enter into a Contract for Work in such form and on such terms as may be approved by NDHC, but those terms shall be consistent with these Instructions, all Addenda, the Special Provisions (if any), the Tender Notice and the Description of Project, Work or Supply for the Tender, and the Specifications (if any).
- (5) In lieu of requiring a Contract for Work, the issue of a Purchase Order by NDHC gives rise to a Contract between NDHC and the Successful Bidder in accordance with the terms and conditions set out in these Instructions, the Description of Project, Work or Supply, the Specifications, any applicable Addenda and any other related documents.
- (6) The price of all options and alternatives shall be separately stated. Where options or alternatives are requested in the Tender Notice; an Addendum; or in the Special Provisions, NDHC shall not be obliged to purchase those options or alternatives when accepting a Bid, but may at its discretion elect to purchase all, some or none of the options or alternatives offered, but the Successful Bidder shall be obliged to adhere to the Total Contract Price quoted in its Bid.

#### 11. BIDDERS RESPONSIBILITY

- (1) The Bidder shall be responsible for examining all drawings and details, and also the Specifications and all other Contract Documents, including all cost implications relating thereto in the Total Contract Price.
- (2) Unless otherwise stated in the Description of Project, Work or Supply; the special Provisions; or an Addendum, the Successful Bidder shall be required at its own cost to:
- (a) apply for and obtain and pay for fees or charges for all Permits, and licenses;
  - (b) pay inspection fees or charges for inspections other than those stipulated to be paid out of any inspection fee allowance provided for in the Contract Documents;
  - (c) pay all applicable taxes and all other charges other than Goods and Services Tax, Provincial Sales Tax, Harmonized Tax or other applicable sales or value added taxes, imposed under the laws of Ontario and the laws of Canada applicable therein; and



- (d) provide all materials and services necessary to complete the Project so that it is finished, serviced and ready for use and operation.
- (3) Unless otherwise expressly agreed by NDHC in writing, where technical information or details form part of the Description of Project, Work or Supply; the Specifications; ***Tender*** Notice; or Special Provisions (including any quantity estimates, soil ***condition*** reports, ground water or drainage reports or geophysical data, archaeological, samples, or other documents of a similar kind or nature as may be provided together with the Contract Documents or incorporated by reference therein):
- (a) NDHC shall exercise reasonable care in the preparation of those estimates, but shall not be taken to warrant their accuracy and shall not be liable for any inaccuracy therein unless that inaccuracy is the result of the deliberate misrepresentation of NDHC or a member of its staff;
- (b) estimates, reports, data, or details shall be deemed to have been provided only as a guide for potential Bidders;
- (c) Bidders are required to examine carefully that information and the responsibility for verification of the information so provided shall rest with each Bidder.
- (4) Where the Project, Work or Supply is to be carried out on NDHC occupied or owned property, Bidders shall be responsible for visiting the job site, and no allowance shall be made by NDHC for failure by the Bidder to examine carefully all ***conditions*** relating to the site or work.
- (5) Where clarification of any document, fact or opinion is required, it shall be obtained by the Bidder before submitting a Bid.
- (6) The Successful Bidder shall enter into a Contract for Work (where required by NDHC) within 10 Business Days of being notified of the acceptance of its Bid.
- (7) It shall be the Contractors responsibility to coordinate, control and check work of its own forces and of all its subcontractors and to ascertain that all work is done in accordance with all Contract Documents, governing regulations and the general standards of good commercial practice and professionalism as understood in Ontario, assuring only first class workmanship, and using only proper materials and methods are suited to the function or performance intended.
- (8) The Successful Bidder shall be responsible for faithful and proper performance of all aspects of the Contract.
- (9) Neither NDHC nor any Consultant shall be construed to have any contractual relationship with any of the Contractors employees, subcontractors, or material suppliers or their employees or supplier.

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- (10) All persons submitting Bids and all their subcontractors, shall be held to have thoroughly examined all drawings, specifications and all other Contract Documents and to have visited and inspected the site on which the Project or Work is to be carried out, or the Supply is to be made, and to have thoroughly familiarized themselves with all pertinent conditions before delivery of their respective Bids, and no allowance shall be subsequently given by NDHC for or by reason of any error or omission on the part of any Bidder or subcontractor with respect thereto. NDHC shall not be liable for any costs associated with any site inspection.
- (11) A Bidder shall be deemed to have included in the Total Contract Price quoted in its Bid, the entire cost of:
- (a) all items that the Successful Bidder is responsible for under these Instructions or any of the other Contract Documents, except where otherwise provided;
  - (b) where the Project, Work or Supply so requires, providing water, utility and sewer connections;
  - (c) preparing and submitting such drawings as may be required by NDHC; and
  - (d) such warranty and maintenance requirements as may be specified by NDHC, and in default of any such specification with respect to the Contract, a two year warranty and maintenance requirement.
- (12) Without limiting the generality of any other provision of these Instructions, unless otherwise provided in the Description of Project, Work or Supply or the Special Provisions, the Contractor shall be required to provide and pay for:
- (a) all material, labour and service costs, charges for use of tools and equipment whether owned or rented, and where any work is to be carried out or services are to be rendered on property owned or occupied by NDHC, all protective and safety provisions, site signs and site conveniences, together with all cranes, scaffolding and shoring, freight costs, and material-handling and storing, and all services and incidentals whether shown or specified or required by good practice;
  - (b) all bonds or other accepted forms of bid, performance, and labour and material payment security, insurance, permits and inspections; all applicable taxes, workers compensation and all other applicable labour-compensation charges necessary to carry out the Project, make the Supply and complete all Work in accordance with the Contract Documents; and
  - (c) all services and materials required to carry out the Project, do all of the Work and make the Supply, in accordance with all Contract Documents and all instructions given by NDHC thereunder, in accordance with governing regulations and codes and in compliance with good industrial and commercial practice for first class workmanship, which in all instances, unless otherwise stipulated, shall be deemed to require work that has a finished appearance, is ready for use or use and operation, and includes the



installation of all linkages, interfaces, protocols, computer cards, computer memory, software, peripherals, housing, sheathing, insulation, and mechanical, electrical and other systems and connections required for proper functionality.

- (13) No subcontracting by the Successful Bidder shall relieve the Successful Bidder of any responsibility for the full performance of all obligations of the Successful Bidder under the Contract, but despite the approval of any subcontractor by NDHC, the Successful Bidder shall be fully responsible for every subcontractors activities, works and acts and shall either, in person or through an accredited agent, receive all notices, communications, orders, instructions or legal services as if the Successful Bidder were performing the subcontracted portion of the Project, Work or Supply with its own resources.

## 12. BID SECURITY

- (1) There is no bid security required for this Tender.

## 13. PERFORMANCE AND OTHER SECURITY

- (1) Where required in the Tender Notice, Special Provisions or an Addendum, every Bidder entering into a contract with NDHC shall furnish such security as NDHC may prescribe for:
- (a) the performance of the contract (a performance bond or other performance security); and
  - (b) the payment of all necessary services and materials required to complete the Contract in a satisfactory manner (a labour and material payment bond or other payment security);
- in such amount as NDHC may require, and the Bidder shall submit with its Bid such evidence as NDHC may reasonably require of the Bidders ability to furnish such security.
- (2) Where a performance security or payment security is required under subsection (1), each Bidder shall submit with its Bid an original commitment letter issued by a bank or other issuer satisfactory to NDHC stating that it will provide the required security if the Bidder is awarded the contract, and NDHC reserves the right to reject any Bid that does not comply with this requirement.
- (3) A failure to provide any security described in subsection (1) shall constitute a breach of the requirements of the Bid and shall entitle NDHC to claim under any bid security described in section 12.
- (4) Unless the Description of Project, Work or Supply or the Special Provisions otherwise direct, the Successful Bidder shall furnish a performance security to NDHC, prior to the execution of the Contract for Work or within 15 Business Days of being notified that its Bid has been accepted (whichever is earlier), securing at



least 100 per cent of the Total Contract Price set out in the Bid, or such other percentage or amount as may be provided in the Special Provisions.

#### 14. PERFORMANCE REVIEW

- (1) Where Procurement Representative so directs, NDHC and the Successful Bidder shall carry out a periodic performance review in accordance with this section concerning the provision of services by the Successful Bidder.
- (2) Performance under the Contract shall be assessed by reference to the following criteria:
  - (a) general responsiveness of the work relationship;
  - (b) conformity of the provision of services with the Description of Project, Work or Supply;
  - (c) general dependability of the Goods or Services supplied;
  - (d) general conformity with the reasonable expectations of NDHC under the terms of the Contract in their entirety;
  - (e) turnaround time on the placement of orders (to the extent applicable); and
  - (f) accuracy of carrying out instructions.
- (3) The respective representatives of NDHC and Successful Bidder shall meet at mutually agreeable times within 10 Business Days of the end of each consecutive six month period of the provision of services under this Agreement.
- (4) Where a performance review is conducted under subsection (3), each of the agreed aspects of the Successful Bidders performance shall be ranked by NDHC at one of the following standards:
  - (a) Excellent (performance well above general standard of NDHC suppliers).
  - (b) Good (performance above general standard of NDHC suppliers).
  - (c) Satisfactory (performance in accordance of general standard of NDHC suppliers).
  - (d) Poor (performance below the general standard of NDHC suppliers).
  - (e) Unacceptable (performance well below the general standard of NDHC suppliers).
- (5) At any performance review under this section, the Successful Bidder shall be entitled to identify any aspect of the NDHC's operations that is undermining the Successful Bidders ability to deliver at least a satisfactory level of performance with respect to some criteria of assessment, and where NDHC concludes that this is



in fact the case, the ranking given to the Successful Bidder with respect to that criteria of assessment shall be adjusted accordingly.

- (6) Where at a performance review, one or more criteria of assessment are ranked as satisfactory, poor or unacceptable:
- (a) the parties shall agree at the time of the conduct of the review or within 10 Business Days thereafter, on the measures to be taken by the Successful Bidder during the ensuing contract review period to improve its performance to at least a good standard; and
  - (b) within 10 Business Days of agreeing on those measures, the Successful Bidder shall confirm in writing that the measures in question have been implemented.
- (7) Where the Successful Bidder fails or refuses to implement measures as provided in subsection (6), it shall be deemed to be in default under the Contract, and NDHC may take such remedies as provided for in the Contract Documents or are otherwise available at law or in equity.
- (8) In addition to the regular performance review provided for under subsections (2) through (7), where in the opinion of NDHC the performance of the Successful Bidder is not satisfactory, then in addition to such other rights and remedies to which NDHC may be entitled to by law or under the terms of any of the Contract Documents, NDHC may:
- (a) issue an oral warning to the Supplier, identifying the non-compliance with the Specifications or other grounds of unsatisfactory performance, and requiring the Successful Bidder to correct the same;
  - (b) issue a written notice, setting a time period for the Successful Bidder to correct the unsatisfactory performance, and warning that the Contract shall be liable to be terminated without further warning if the unsatisfactory performance is not corrected within the time allowed;
- and until NDHC is satisfied that the unsatisfactory performance has been corrected, NDHC may hold back from any payment an amount sufficient to rectify the unsatisfactory performance until its requirements have been met.
- (9) Where the unsatisfactory performance of a supplier is not corrected within the time allowed under subsection (8) NDHC may:
- (a) apply any holdback retained under that subsection towards the correction of the unsatisfactory performance and may thereupon cancel the Contract with the Successful Bidder without further warning; and
  - (b) take that failure into account with respect to the award of any future Contract.



(10) Nothing in subsections (8) or (9) shall restrict the right of NDHC to terminate the Contract at any time under any other provision of the Contract Documents or under any rule of law, but any such right may be exercised by NDHC in its absolute discretion.

#### 15. PERMITS, LICENSES AND APPROVALS

- (1) Unless otherwise expressly agreed by NDHC in writing, the Successful Bidder shall be responsible for obtaining and maintaining (at its own cost) all necessary permits, licenses and approvals relating to the Project, Work or Supply.
- (2) The Successful Bidder shall ensure that all persons supplying services or materials to the Project, Work or Supply hold all valid and current licenses required by law with respect to the services or materials to be supplied by them respectively.

#### 16. TAXES

- (1) As various parts of a Project, Work or Supply may or may not be exempt from Federal or Provincial sales tax, Bidders are required to refer to the Special Provisions for details respecting payment exemptions, rebates and taxes.
- (2) All prices shall be quoted exclusive of Goods and Services Tax, Provincial Sales Tax, Harmonized Tax or other applicable sales or value added taxes, imposed under the laws of Ontario and the laws of Canada applicable therein, and NDHC may adjust any price quoted contrary to this requirement.
- (3) Bidders shall expressly disclose any other applicable sales, customs or excise tax or duty, including a levy or duty imposed as a Special Import Measure to which any work or supply of services or materials may be subject that is outside the scope of subsection (2).

#### 17. NOMINATION OF SUBCONTRACTORS

- (1) Where required in the Form of Tender, Description of Project, Work or Supply; or the Special Provisions, the Bidder shall indicate the names and addresses of all nominated subcontractors that it proposes to use:
  - (a) on the Project, Work or Supply; or
  - (b) in connection with the provision of any supply of goods or an intended fixture.
- (2) NDHC reserves the right to reject any subcontractor so nominated.
- (3) No change shall be made to the list of nominated subcontractors after the closing of the Tender without the prior written approval from NDHC.



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#### 18. SEPARATION OF SPECIFICATIONS

- (1) The separation of the Project, Work or Supply described in the Specifications into customary or other trade divisions, sections and subsections shall not qualify the obligations of the Successful Bidder under any Contract awarded under the Tender, but shall be deemed to have been done solely for ease of reference.

#### 19. INTERPRETATION, CLARIFICATION, AND ADDENDA

- (1) NDHC reserves the right at any time prior to the award of the Contract:
  - (a) to withdraw or cancel the Tender;
  - (b) to extend the time for the submission of Bids;
  - (c) to modify these Instructions, the Tender Notice; the Form of Tender, the Specifications; the Special Provisions; or the Description of the Project, Work or Supply; or
  - (d) to change the Project or Contract Documents;by the publication of an Addendum or other notice, and NDHC shall not be liable for any expense, cost, loss or damage incurred or suffered by any Bidder (or any other person) as a result of its so doing.
- (2) Any Addendum or other notice within the scope of subsection (1) is the responsibility of the Bidder to obtain, as all Addenda will be posted on NDHC's website ([www.dnssab.ca](http://www.dnssab.ca)) and will not be emailed. Bidders should check the NDHC website prior to submitting their Bid up until the Closing Date and Time in the event additional Addendums are issued.
- (3) Where an Addendum or notice within the scope of subsection (1) is published, every Bid shall be deemed conclusively to have included an appropriate allowance for the change made by the Addendum or notice in the price or prices set out in the Bid.
- (4) All addenda advised under subsection (1) shall become part of the Contract Documents and shall be allowed for in determining the Total Contract Price.
- (5) Any request for clarification of these Instructions, the Tender Notice; the Form of Tender, the Description of the Project, Work or Supply; or any of the Contract Documents shall be submitted in writing in accordance with subsection (6). Any questions directed to NDHC prior to Bid submission shall allow sufficient time for a written clarification to be issued by and received from NDHC should it consider it necessary to issue such clarification. Ordinarily, any question submitted within 72 hours of the closing of the Tender will not be answered.



- (6) All communication from a Bidder to NDHC shall be set down in writing and directed to the Procurement Representative noted in the Tender Notice (including requests for information, instructions or clarification). Written answers or clarifications shall be shared with all Bidders and issued in the form of an addendum. NDHC shall not be bound by any oral:
- (a) instruction;
  - (b) amendment or clarification of these Instructions or any of the Contract Documents;
  - (c) information; or
  - (d) advice or suggestion;
- from any member of the NDHC's staff or Consultant to NDHC concerning this Tender or the proposed Contract to which it relates, or the Project, Work or Supply.
- (7) The submission of such questions or other queries and the failure of NDHC to answer before the closing date and time for the submission of Bids shall not necessarily cause the time for the submission of Bids to be extended.
- (8) If questions or requests from a Bidder relate to a request for the approval of substitutes and the substitutes are not approved through the subsequent publication of an Addendum, it shall mean that the substitutes asked for have not been approved.
- (9) Where a Bid has been received by NDHC prior to the publication of an Addendum or notice within the contemplation of subsection (1), NDHC shall allow the Bidder concerned to submit a revised Bid prior to the closing date and time or to send a written acknowledgement (which may be emailed) that the original Bid still stands.

#### 20. ALTERNATE BIDS AND OPTIONAL FEATURES ETC.

- (1) Unless the Description of Project, Work or Supply; the Special Provisions; or an Addendum otherwise provide, a Bidder may submit alternate Bids.
- (2) Where alternate Bids are submitted, each alternate Bid must be submitted in a separate email.
- (3) Where alternate Bids are submitted, contrary to subsection (2), NDHC may reject all of them, or (at the NDHC's election) may accept one and reject the other(s).
- (4) Where optional features or other options are requested in the Tender Notice; Description of Project, Work or Supply; the Special Provisions; or an Addendum, the availability and price of those features or other options shall be included in the appropriate place in the Tender Form for each Bid to which they relate.

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## 21. OBSERVANCE OF LAWS, STATUTES AND REGULATIONS

In performing any Service or carrying out any Work and otherwise in performing the Contract, the Successful Bidder shall comply with all applicable statutes, law, by-laws, regulations, ordinances, notices, notices and orders of the Federal, Provincial or municipal government from time to time in effect during the currency of the Contract, and where the attention of the Successful Bidder is called to any violation thereof by NDHC or Consultant, the Successful Bidder shall immediately desist from and remedy that violation.

## 22. INSURANCE REQUIREMENTS

- (1) Throughout the ***term*** of the Contract (including any renewal thereof), the Successful Bidder shall obtain and maintain at its own expense, including the cost of any applicable deductible, the following policies of insurance (*Note to Bidders: Be sure to refer to the Special Provisions to determine whether any further or substitute insurance requirements apply*):
  - (a) **Commercial General Liability Insurance** (in all cases), written on IBC Form 2100 or its equivalent, including but not limited to bodily and personal injury liability, property damage, products liability, completed operations liability, owners & contractors protective liability, blanket contractual liability, premises liability, and contingent employers liability coverage, having an inclusive limit of not less than \$5,000,000 per occurrence.
  - (b) **Standard Form Automobile Liability Insurance** (where the Description of the Project, Work or Supply provides for or contemplates the use of a motor vehicle, including where any Good is to be delivered by the Successful Bidder to NDHC, or where work or services are to be provided on property owned or occupied by NDHC) that complies with all requirements of the current legislation of the Province of Ontario, having an inclusive limit of not less than:
    - (i) \$1,000,000 per occurrence (subject to paragraphs (ii) and (iii));
    - (ii) \$2,000,000 per occurrence (where the Contract will involve the use of one or more automobiles or any combination of automobiles and towed vehicles having in any case a combined aggregate weight of five tonnes or more before loading); and
    - (iii) \$5,000,000 per occurrence (where the Contract relates to the transportation of an explosive substance, snow removal or road construction, or where the Contract will involve the use of one or more automobiles or any combination of automobiles and towed vehicles having in any case a combined aggregate weight of 10 tonnes or more before loading);



- (iv) \$10,000,000 per occurrence (where the Contract involves the transport of fare paying passengers by bus);
- (v) \$5,000,000 per occurrence (where the Contract involves the use of taxis);
- for Third Party Liability, or such greater amount as NDHC may from time to time request in respect of the use or operation of vehicles owned, operated or leased by the Successful Bidder for the provision of services;
- (c) **Non-Owned Automobile Liability Insurance** (in all cases) in standard form having an inclusive limit of not less than \$1,000,000 per occurrence or such greater amount as NDHC may from time to time request, in respect of vehicles not owned by the Successful Bidder, that are used or operated on its behalf for the provision of services under the Contract.
- (d) **Aircraft Liability Insurance and Water-craft Liability Insurance** (where the Description of the Project, Supply or Work provides for or contemplates the use of an aircraft or water-craft) as may be applicable, with respect to any owned or non-owned aircraft or water craft as may be used directly or indirectly in connection with the Project, Work or Supply, having an inclusive limit of not less than \$5,000,000 per occurrence for Third Party Liability, or such greater amount as NDHC may from time to time request including, if applicable, Passenger Liability.
- (e) **Property Installation Floater All Risks Insurance** (where the Description of Project, Work or Supply provides for or contemplates the supply and installation of fixtures, equipment, machinery, apparatus, etc., or other work such as minor renovations amounting to an improvement within the meaning of the *Construction Lien Act* only) meeting the following requirements:
- (i) Coverage shall be for the full amount of the Total Contract Price plus the full value of any optional features or other options that NDHC elects to order (but NDHC may require insurance up to the amount of the replacement cost of any building in structure in, on, or upon which any Work is to be done under the Contract, where in the reasonable opinion of NDHC there is a sufficient risk of damage to the same).
- (ii) Coverage shall apply to:
- (I) all risks of direct loss or damage, but subject to any exclusions and limitations in the Special ***Conditions*** and the actual policy form;
- (II) all products, labour, equipment and supplies of every nature, the property of NDHC or Successful Bidder or for which NDHC or Successful Bidder may have assumed responsibility (whether on site or in transit), that is to be used in or pertaining to site preparation, and the



- erection, fabrication, construction, reconstruction, remodeling or repair of any building, structure, other fixture or thing;
- (III) the installation, testing and any subsequent use of machinery and equipment, including boilers, pressure vessels or vessels under vacuum; and
- (IV) damage to the Work caused by an accident to or the explosion of any boiler or other pressure vessel or equipment forming part of the Work.
- (f) **Professional Errors & Omissions Liability Insurance** (where the Description of the Project, Supply or Work provides for or contemplates the provision of professional or consulting services where there is potential that a negligent act may cause damage/loss involving physical things, which in turn may cause damage/loss or injury to property or persons, *e.g.*, architectural or engineering services, legal services, accounting services, appraisal services, brokerage services, *etc.*) having no aggregate limit and an inclusive limit of not less than \$5,000,000 per claim or such greater amount as NDHC may from time to time request.
- (g) **Medical Malpractice Liability Insurance** (where the Tender relates to the provision of services of a medical nature), in the name of the professional service provider, providing coverage to the extent of \$2,000,000 per claim or such greater amount as NDHC may from time to time request, or alternatively, where applicable, proof of the Successful Bidders current membership in a medical professionals association that offers corresponding coverage to its members, along with proof of coverage under that program.
- (h) **Pollution Liability Insurance or Environmental Impairment Liability Insurance**, (where the Project, Work or Supply involves the transportation, storage or application of a hazardous product or substance — including the supply or delivery of any petroleum product, paint, or toxic or noxious chemical — the maintenance or repair of any tank or mechanical device used in the storage or distribution of that product; the removal, transportation or delivery of septic discharge; liquid waste; leachate; the supply, delivery, storage or application of pesticide, herbicide or fungicide; or the carrying on of some industrial process), as may be applicable, covering that Project, Work or Supply, having no aggregate limit and providing coverage in an amount of not less than \$2,000,000 per claim or per occurrence, or such greater amount as NDHC may from time to time require, which coverage shall be maintained in force for 12 months following the termination of the Contract.
- (i) **Standard Garage Automobile Liability Insurance** (where the Project, Work or Supply involves the service, repair, towing, or storage of NDHC owned or leased vehicles or other vehicles required to be in its care, custody or control arising from the Contract), providing:



- (i) coverage of an amount of not less than \$5,000,000 Third Party Liability limit per occurrence;
  - (ii) legal liability for collision and comprehensive perils insurance providing coverage to the extent of at least equal to the value of the chassis and completed vehicle or work, as the case may be; and
  - (iii) garage premises liability insurance providing coverage to at least \$2,000,000 per occurrence.
- (j) **Hook Liability Coverage** (where performance of the Contract requires the use of a hoist or crane to lift equipment or materials into place), including Transit coverage if applicable, in an amount equal to the maximum replacement cost value of the property to be lifted at any one time, in the performance of the Contract, but in no event less than \$10,000 (there shall be no restrictions in coverage for overload or sinking in soft soil).
- (k) **Abuse and Sexual Misconduct Liability Coverage**, (where the Contract relates to the provision of care and charge to minors or other persons under a disability) in an amount of not less than \$2,000,000 per occurrence.
- (l) **Comprehensive Crime Insurance**, (where performance of any aspect of the Contract entails the access by the Contractor, its employees, agents or subcontractors to funds or property of NDHC under circumstances in which they will not be subject to direct supervision by NDHC employees, *e.g.*, in the case of custodial, cleaning, courier contracts, security, and similar service arrangements, or where the Contractor or its employees, agents or subcontractors are required to attend inside the premises of a NDHC tenant) broad form coverage to adequately protect NDHC against loss of monies, securities or other properties, including property of NDHC while such property is in the Successful Bidders care, custody, and control; for dishonesty, disappearance and destruction; and to protect against incidents arising out of but not limited to theft, robbery or burglary, having a limit of not less than \$50,000 for Employee Dishonesty (Commercial Blanket Form A), Loss inside the Premises, and Loss outside the Premises.
- (m) **Warehousemans Legal Liability Coverage** (where the Project, Work or Supply involves the storing, keeping or warehousing in its care, custody and control any NDHC-owned property or Goods) in an amount of not less than the total replacement value cost of the property or goods.
- (n) **Data Processing Insurance**, (where the Project, Work or Supply involves the collection or storage of a significant amount of electronic and computerized data) in respect to data processing systems and equipment property coverage, data processing media coverage, extra expense coverage, and business interruption expense coverage in the amount of \$1,000,000 per occurrence.



- (2) The Successful Bidder shall maintain Property Insurance, as may be applicable, with respect to loss or damage (including fire, theft, burglary, *etc.*) of its own property and property in its care, custody and control, including its equipment, tools, stock, used in connection with the Contract.
- (3) All policies of insurance within the scope of subsection (1) shall:
  - (a) include coverage as unnamed insured, for any architect, engineer or other consultant employed or retained by NDHC, all Subcontractors and the employees of the Successful Bidder and those persons, provided that NDHC reserves the right to require the Successful Bidder to add further parties as additional unnamed insured persons (except in the case of automobile liability insurance, non-owned automobile liability insurance, professional errors & omissions liability insurance, and medical malpractice liability insurance);
  - (b) be recorded as being a primary policy and shall be in a form and issued by an insurance company satisfactory to NDHC, an insurance company that is licensed to carry on business in Ontario;
  - (c) be maintained continuously during the course of carrying out the Project, Work or Supply; or for such period of time as may be required after completion of the Project, Work or Supply, as deemed necessary by NDHC;
  - (d) provide for a deductible amount of no greater than \$10,000;
  - (e) include NDHC named as an additional insured, to the extent of the Successful Bidders obligations to NDHC under the Contract Documents; (except in the case of automobile liability insurance, non-owned automobile liability insurance, professional errors & omissions liability insurance, and medical malpractice liability insurance)
  - (f) contain cross-liability and severability of interest provisions, as may be applicable;
  - (g) preclude subrogation claims against NDHC and any other person insured under the policy; and
  - (h) provide that at least 20 Business Days prior written notice (15 days, in the case of automobile liability insurance, and 10 days in the event of non-payment of premiums) shall be given to NDHC by the Insurer before the Insurer or Successful Bidder take any steps to cancel, terminate, fail to renew, amend or otherwise change or modify the insurance or any part thereof.
- (4) NDHC reserves the right to require the Successful Bidder to purchase such additional insurance coverage as the NDHC may reasonably require. NDHC reserves the right to request such higher limits of insurance or otherwise alter the types of coverage requirements (taking into consideration such matters as the nature

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of the work, contract value, industry standards, and availability of insurance) as NDHC may reasonably require from time to time.

- (5) Any insurance coverage acquired under the Contract shall in no manner discharge, restrict or limit the liabilities assumed by the Successful Bidder under the Contract. The dollar limit of insurance coverage shall not be limited by the dollar amount of the Contract.
- (6) The Successful Bidder shall pay all premiums on the policies as they become due, provided that NDHC may pay premiums as they become due and deduct the amount thereof from moneys due from NDHC to the Successful Bidder should the Successful Bidder fail to do so.

### 23. PROOF OF INSURANCE AND CLAIMS PROTOCOL

- (1) The Successful Bidder shall deposit with NDHC such evidence of its insurance as provided in or required under the provisions of these Instructions, an Addendum or the Special Provisions:
  - (a) at the time of execution of the Contract for Work (if any); or
  - (b) in any event prior to commencing the Project, Work or Supply.

Thereafter during the term of the Contract, no later than 20 Business Days prior to the renewal date of each applicable policy, the Successful Bidder shall deposit with NDHC an original Certificate of Insurance originally signed by an authorized insurance representative, confirming thereon relevant coverage information, including but not limited to, name and description of NDHC contract; name of Insurer; name of Broker; name of Insured; name of Additional Insured(s) as may be applicable; commencement and expiry dates of coverage; dollar limits of coverage; deductible levels as may be applicable; cancellation or termination provisions; or (at NDHC's election) a certified copy of the insurance policy or policies required under section 22.

- (2) The Successful Bidder shall not do or omit to do anything that would impair or invalidate the insurance policies.
- (3) Delivery to and examination or approval by NDHC of any certificates of insurance or policies of insurance or other evidence of insurance shall not relieve the Successful Bidder of any of its indemnification or insurance obligations under the Contract. NDHC shall be under no duty either to ascertain the existence of or to examine such certificates of insurance or policies of insurance or to advise the Successful Bidder in the event such insurance coverage is not in compliance with the requirements set out in the Contract.
- (4) Claims reported to the Successful Bidder by a third party or by NDHC shall be promptly investigated by the Successful Bidder. The Successful Bidder shall make contact with the Claimant within 48 hours of receipt





of notice of a claim. The Successful Bidder shall initiate an investigation of the claim immediately upon notice, and advise the Claimant by letter of its position regarding resolution of the claim within 20 Business Days of the notice. The Successful Bidder shall include in its letter of resolution the reasons for its position. Failing acceptance of the proposed resolution by the Claimant, the Successful Bidder agrees to report the claim to its Insurer for further review and response to the Claimant. Failure to follow this procedure shall permit NDHC to investigate and resolve any claims and offset the resultant costs against any monies due, from time to time, under the Contract.

#### 24. WSIB

- (1) Prior to the execution of the Contract for Work or before commencing the Project, Work or Supply where there is no Contract for Work, the Successful Bidder:
  - (a) shall submit to NDHC an original Clearance Certificate from the Ontario Workplace Safety and Insurance Board and shall provide additional certificates with respect to such coverage as often as NDHC deems necessary during the term of the Contract to ensure continued good standing with the Workplace Safety and Insurance Board; or
  - (b) furnish proof in a form satisfactory to NDHC from the Workplace Safety and Insurance Board that the Successful Bidder does not require Workplace Safety and Insurance Board insurance, but in such a case if the Successful Bidder changes its status during the term of the Contract so that such coverage is required, the Successful Bidder shall immediately provide NDHC with the certificate required under clause (a).
- (2) Where a substantial portion of the work to be done under the Contract is to be carried out by a subcontractor, NDHC may require the Successful Bidder to furnish the same evidence as provided under subsection (1).

#### 25. INDEMNIFICATION

- (1) The Successful Bidder shall indemnify and shall defend and save NDHC, its elected officials, officers, and employees harmless from and against any claims, proceedings, fines, penalties, expenses and costs (including legal costs on a solicitor and client basis) that are incurred by, or made or instituted against, any of them or to which any of them may be liable by reason of:
  - (a) the Successful Bidder carrying out or failing to carry out any obligation to which it is subject, or exercising any right to which it is entitled, under the Contract except to the extent that the same are



caused by the negligence or deliberate wrongdoing of NDHC or other person entitled to indemnification under this section; or

- (b) any patent, trademark, copyright infringement or other breach of any intellectual property right of any person, for which the Successful Bidder or any subcontractor to the Successful Bidder is responsible.
- (2) The right of indemnification granted to NDHC or other person entitled to indemnification under subsection (1) shall extend to any amount paid by that person in the settlement of any claim against it, and in entering into any such settlement, that person may exercise its reasonable discretion as to the amount to be paid, but that person shall serve prior notice of any intended settlement on the Successful Bidder, at least five Business Days prior to agreeing to any such settlement.
- (3) NDHC may enforce the rights of indemnity conferred on the elected officials, officers, and employees of NDHC under subsection (1) on their behalf and to the same extent as if they were parties to the Contract.
- (4) The rights to indemnity provided for in this section shall be deemed to be in addition to any rights with respect to insurance in favour of NDHC, its elected officials, officers and employees provided under the Contract Documents.
- (5) The rights to indemnity provided for in this section shall survive the expiration or any termination of the Contract.

## 26. PATENTS AND COPYRIGHTS

- (1) The Successful Bidder shall defend, indemnify and save harmless NDHC from all and every claim for damages, royalties, or fees for the infringement of any patented invention or copyright occasioned by them in connection with work done or material furnished by them under the Contract.
- (2) No black market or grey market Goods shall be supplied to NDHC, and every person supplying Goods or Goods and Services to NDHC shall be deemed to have warranted that they are genuine and lawfully supplied.

## 27. SUCCESSFUL BIDDERS RESPONSIBILITY FOR LOSSES AND DAMAGES

- (1) The Successful Bidder shall itself, and shall cause its agents and all workers and persons employed by them, or under its control, or employed by, or under the control of subcontractors, to use due care that no person(s) or property is injured or damaged in the course of performing its obligations under the Contract, and the Successful Bidder shall be solely responsible for all damages by whomsoever claimed in respect of any such injury.



- (2) The Successful Bidder shall at its own expense make such temporary arrangements as may be necessary to ensure the avoidance of any such damages or injury and to prevent the interruption of or danger to the traffic on any railway or any public or private road.
- (3) All loss or damage occasioned to the work or arising out of the nature of the work to be done, or from the normal action of the elements or from any reasonably foreseeable circumstances in the prosecution of the same, or from any normal obstruction or normal difficulties which may be encountered in the prosecution of the work having regard to the nature thereof, shall be sustained and borne by the Successful Bidder at its own expense, and all material required to replace any defective or rejected work, or to restore any failure shall be at the expense of the Successful Bidder.

#### 28. WARRANTIES OF THE SUCCESSFUL BIDDER

- (1) The Successful Bidder shall be deemed to have expressly warranted upon the selection of its Bid as follows:
  - (a) The Bidder
    - (i) if a corporation is a duly incorporated, organized and subsisting corporation;
    - (ii) if other than a corporation, is duly registered as a business under all applicable legislation;  
and as such has all requisite powers, capacities, licenses and permissions under its governing legislation and the other laws applicable to it, and under the articles of incorporation or other instrument by-laws under which it is organized to:
    - (iii) carry on all businesses in which the Bidder is engaged;
    - (iv) enter into, exercise its rights and perform and comply with its obligations under the Contract Documents;  
and that all actions, conditions and things have been done, taken or fulfilled with respect thereto, that are required by law, contract or otherwise.
  - (b) The Bidder and its subcontractors and the respective workforce of each are fully qualified to carry out the Work and perform the Contract and hold all requisite licenses, franchises and other authorization required by law with respect thereto.
  - (c) The Bidder is not a party to any agreement under the terms of which the Bidder is prohibited or restricted from entering into any of the obligations assumed, liabilities imposed, or restrictions accepted by the Bidder under the Contract Documents.



- (d) To the best of the Bidders information and belief and after making diligent inquiries:
- (i) the information concerning the business, affairs and financial and other condition of the Bidder that are contained in all documents, memoranda, records, statements made sent or given by the Bidder to NDHC during the course of the negotiation of the Contract, and in its current regulatory filings, are true and accurate in all material respects; and
  - (ii) the Bidder is not aware of any material facts or circumstances having a bearing upon its ability to perform its obligations under any of the Contract Documents which have not been disclosed to NDHC in writing.

## 29. COVENANTS OF EACH BIDDER

In addition to its other obligations under the Contract Documents, the Successful Bidder shall be deemed to have expressly covenanted upon the selection of its Bid as follows:

- (a) The Bidder shall carry out all work and perform all of its obligations under the Contract Documents in a good and professional manner, according to the best standards of practice of the industry, profession or trade in which the Bidder carries on business (including any applicable standards of professional conduct).
- (b) The Bidder shall employ properly qualified and experienced workers to carry out all work required in connection with the Contract, and shall cause its subcontractors and their suppliers to do the same.
- (c) The Bidder shall use only new, first class materials, and shall cause its subcontractors and their suppliers to do the same.
- (d) The Bidder shall have an adequate workforce with proper equipment in good working condition, and shall have ready access to all materials, equipment and accessories required to perform its obligations under the Contract Documents, and shall cause its subcontractors and their suppliers to do the same.
- (e) Where the Bidder is not a resident of Ontario:
  - (i) unless it has previously done so, it shall immediately after receiving the NDHC's order to commence work, obtain from the Ontario Retail Sales Tax Branch, a certificate showing that the Bidder has registered with that Branch, and shall submit that certificate to the owner; and
  - (ii) it shall not commence work or order any materials or equipment for the Contract until it has registered as provided in sub-paragraph (i).

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- (f) The Bidder shall ensure that all subcontractors who are employed by it in connection with the performance of the Contract, and who are not resident in Ontario, are registered with the Ontario Retail Sales Tax Branch, before permitting them to commence any work under the Contract.

### 30. TIME FOR PERFORMANCE AND COMPLETION

- (1) Subject to any Addendum, the occurrence of any Force Majeure or the written agreement by NDHC to the contrary, the Successful Bidder shall:
- (a) commence work or the supply of materials by the start date specified, or within the time provided in the Contract Documents, and
  - (b) finally complete that work or supply within a reasonable time thereafter or by the date specified in the Contract Documents or otherwise stipulated by NDHC.
- (2) Where a Force Majeure occurs, NDHC shall determine in its reasonable discretion the number of days (if any) to be allowed by reason thereof in accordance with section 50, paragraph (I). The Successful Bidder may propose a number of days to be allowed for this purpose. Where NDHC rejects the proposal made by the Successful Bidder, it shall provide a written explanation for so doing,
- (3) NDHC may require the Successful Bidder to prepare and submit to NDHC a work or supply schedule that indicates the timing of the major activities relating to the Project, Work or Supply, and provides sufficient detail of the critical events and their interrelationship to demonstrate the same will be performed in conformity within the time provided in subsection (1).
- (4) Where the Project is not substantially performed within the time allowed under this section, or finally completed within the time allowed by NDHC, the Successful Bidder shall pay to NDHC the sum per day specified in the Special Provisions as liquidated damages for each and every calendar days delay in attaining substantial performance, and it is expressly acknowledged and agreed by the Successful Bidder that:
- (a) this amount is a reasonable estimate of the actual damage that will be incurred by NDHC due to any failure to complete the Project, Work or Supply within the time allowed;
  - (b) NDHC may deduct the amount due under this subsection from any monies that may be due or payable to the Successful Bidder, whether under this Contract or any other Agreement; and
  - (c) the liquidated damages provided for in this section shall be without prejudice to any other remedy to which NDHC is entitled at law or in equity.



### 31. QUALITY OF MATERIAL

- (1) Unless the Description of Project, Work or Supply otherwise provides, all materials supplied by the Successful Bidder shall be new and shall conform to the requirements of the Specifications but on the request of the Successful Bidder, NDHC reserves the right to approve alternatives in writing prior to their supply.
- (2) Where required by NDHC, the Successful Bidder shall furnish a complete written statement of the origin, composition and manufacture of all materials to be supplied by them, and shall furnish samples thereof for testing purposes, if so instructed by NDHC.
- (3) NDHC's approval of changed materials shall not be considered as waiver of objection to the work or materials at any subsequent time due to their failure to conform with the specifications.
- (4) The Successful Bidder shall furnish for NDHC's approval such material tests, mix designs and tests of any goods or intended fixtures that are to be supplied as NDHC may require.

### 32. DEFECTIVE WORK, MATERIALS, ETC.

- (1) The Successful Bidder shall correct or replace any defective work or material supplied by it, at its own expense, upon the direction of NDHC.
- (2) Where the Successful Bidder refuses or neglects to remove any defective work or material supplied by it in accordance with a written notice by NDHC, such work or material may be removed by order of NDHC at the Successful Bidders expense, and in addition to any other remedies available to NDHC to recover the cost and expense of such removal NDHC may deduct the cost and expense of such removal from any moneys due to or to become due to the Successful Bidder on any account.
- (3) Where at any time the quality of the Project or Work carried out or the Goods or Services supplied by the Successful Bidder is not of a satisfactory standard:
  - (a) NDHC may issue a verbal warning to the Successful Bidder, outlining the deficiency in supply or other aspects of performance and requiring the Successful Bidder to correct those deficiencies within such period of time as may be stated; or
  - (b) if the deficiency is not corrected within the time specified, or having been corrected, there is a further instance of deficient performance, NDHC may issue a written notice to the Contractor, identifying the deficiency in performance and setting a final date or time period for its correction, and advising that if



corrective steps are not taken by that date or within that time, NDHC may terminate the contract and take corrective action itself.

- (4) Where a verbal warning is given under clause (3)(a) or a written notice is given under clause (3)(b), NDHC may hold back until the requirements have been met such portion of any amount payable to the Successful Bidder as in the opinion of NDHC is reasonably required to secure correction of the deficiency.
- (5) Where clause (3)(b) applies, NDHC may deduct from any payment owing to the Successful Bidder an amount equal to the cost NDHC has incurred in correcting the deficiency.
- (6) Unless NDHC otherwise agrees in writing, the failure or refusal by the Successful Bidder to deliver a Good or Service within the time specified, or within a reasonable time where no time has been specified, or to promptly supply a replacement for a Goods or Service within a reasonable time after being requested to do so, when that originally supplied is rejected as unsatisfactory, shall be deemed to constitute an authority for NDHC to purchase on the open market to replace the Good or Service in question. In the case of any such purchase, the Successful Bidder shall reimburse NDHC for the extra costs incurred by reason of that purchase. Where in the opinion of NDHC the public interest so requires, NDHC may require the Successful Bidder to furnish Goods or Services below the standard of those provided for in the Contract, subject to an adjustment in price to be determined by NDHC.

### 33. MODIFICATIONS OF METHODS AND EQUIPMENT

- (1) The Successful Bidder shall make such alterations in its method, equipment and working forces, as NDHC in writing directs, if at any time the method or equipment or working force are found by NDHC to be unsafe or inadequate to ensure the protection, safety, or quality of the work or to ensure rate of progress sufficient in the reasonable opinion of NDHC to complete the work within the time limited therefore under the Contract.

### 34. USE OF NDHC PROPERTY AND CHARACTER AND CONDUCT OF EMPLOYEES

- (1) Where any part of the Project, Work or Supply is to be carried out on property owned or occupied by NDHC, the Successful Bidder shall:
  - (a) use that property and require its employees and subcontractors to use that property, only for such purposes as fall fairly within the scope of the Contract Documents;
  - (b) refrain from committing waste on that property and use reasonable care to avoid causing any damage to any person or thing on that property or any neighboring property;



- (c) employ only orderly, experienced and competent persons to do the work; and
- (d) comply, and cause its agents, directors, officers, employees and subcontractors to comply, with the NDHC's zero tolerance of violence policy.

Serious violations of the above requirements shall constitute grounds for the termination of the Contract.

- (2) The Successful Bidder shall neither bring onto nor allow the introduction or use of tobacco, alcohol or illegal narcotics or controlled substances (including marijuana, hashish and all derivatives thereof) upon any NDHC property.

### 35. ASSIGNMENT AND SUBCONTRACTING

- (1) Neither the use of one or more subcontractors to carry out part of the Project, Work or Supply nor the assignment of the whole or any part of the Contract shall relieve the Successful Bidder of its obligations and liability to NDHC.

### 36. LIENS TO BE DISCHARGED

- (1) The Successful Bidder shall pay punctually all amounts owing to its suppliers in respect of all services and materials supplied by them with respect to the Contract, including any applicable interest, taxes, costs and other charges, and shall forthwith cause every lien preserved or perfected by any person with respect to the Contract or the subject matter of the Contract to be vacated or discharged, and as between the Successful Bidder and NDHC all costs relating thereto shall be paid by the Successful Bidder and shall be for its account.

### 37. OWNERSHIP OF DOCUMENTS; USE OF DESIGNS, ETC.

- (1) All maps, drawings, plans, specifications, computer disks and documents:
  - (a) provided by NDHC to a Bidder shall remain the property of NDHC and shall be returned by the Bidder upon demand by NDHC for their return, whether or not the Bidder submits a Bid; or
  - (b) prepared by the Bidder as part of its Bid or otherwise in connection with carrying out the Project or Works or making the Supply contemplated under the Contract shall be the property of NDHC and may be disposed of by NDHC as it considers fit.
- (2) Unless NDHC otherwise agrees in writing, where any plan, drawing or design is provided in connection with a Tender then:





- (a) the submission of a Bid by a Bidder shall be deemed to constitute a license by that Bidder to construct one sample model of the work or project contemplated based upon that plan, drawing or design, where such a sample is required in order to make an informed decision concerning the attractiveness, functionality or other merit of the plan, drawing or design in question; and
- (b) upon the award of the Contract to the Successful Bidder, the Successful Bidder shall be deemed to have licensed NDHC to construct such number of examples of the work or project contemplated based upon that plan, drawing or design that are contemplated under the Contract Documents;
- but the license conferred under clauses (a) and (b) shall not be deemed to constitute an assignment of any patent, copyright, trade mark or other intellectual property of the Bidder.

### 38. DEVIATION FROM CONTRACT DOCUMENTS AND "GOOD PRACTICE"

- (1) The Successful Bidder shall not deviate from the Contract Documents without the consent of NDHC in writing.
- (2) The Successful Bidder shall ensure that all its subcontractors inspect all parts, items or surfaces affecting or involving their work and inform the Successful Bidder immediately, in writing, (copy to NDHC), of all deviations from drawings, specifications or accepted good practice and standards involving or affecting their work, and not to proceed with their work if these deviations will influence or affect the appearance or quality of their work until they are corrected by the Successful Bidder, but nothing herein shall alter or derogate from the responsibility of the Successful Bidder under the Contract.

### 39. SUCCESSFUL BIDDERS DEFAULT AND NDHC'S REMEDIES

- (1) The provisions of this section are in addition to any other rights to which NDHC is entitled by law.
- (2) The following shall constitute acts or events of default by the Successful Bidder:
- (a) where the Successful Bidder fails or neglects to commence or to proceed with the Project, Work or Supply diligently and at a rate of progress that in the opinion of NDHC will ensure entire completion within the time provided for in the Contract Documents;
- (b) where NDHC determines reasonably that the Successful Bidder has abandoned the work or failed to observe and perform any of the provisions of the Contract, the determination of which NDHC shall be the sole judge;
- (c) where the Successful Bidder is adjudged bankrupt or becomes insolvent, or a petition in bankruptcy is filed against the Successful Bidder, or where the Successful Bidder makes an assignment for the



- general benefit of creditors or applies for relief under the *Companies Creditors Arrangement Act*, or where proceedings of any type are instituted in any jurisdiction in respect of the alleged insolvency or bankruptcy of the Successful Bidder;
- (d) where any formal or informal proceeding for the dissolution of, liquidation of, or winding up of, the affairs of the Successful Bidder is instituted by or against the Successful Bidder, or where a resolution is passed or any other act undertaken for the winding up of the Successful Bidder;
  - (e) where the Successful Bidder ceases or threatens to cease to carry on its business, or where the Successful Bidder makes or agrees to make a bulk sale of its assets;
  - (f) where a receiver, manager or trustee is appointed in respect of the business or assets of the Successful Bidder, or any part of thereof, by a court of competent jurisdiction, or under an agreement;
  - (g) where the Successful Bidder defaults in payment of any indebtedness or liability to a Bank or other lending institution, whether secured or not;
  - (h) where the Successful Bidder defaults in the completion of the work within the time limit under the contract or within the NDHC-extended time limit;
  - (i) where the Successful Bidder fails or refuses to remedy any unsatisfactory or defective work or to remove any unsatisfactory or condemned material when so ordered by NDHC in writing; and
  - (j) where the Successful Bidder persists in any course in violation of any of the provisions of the Contract Documents after receiving written notice from NDHC to correct that violation.
- (3) Where an act or event of default by the Successful Bidder occurs, NDHC may terminate the Contract by giving written notice to that effect to the Successful Bidder and enforce any performance bond, letter of credit or other performance security provided by the Successful Bidder.
- (4) Where there is a default by the Successful Bidder under the Contract, NDHC may waive that default by written notice to that effect, whether given before or after the default, and where NDHC so waives the default, the position of the parties and the status of any security provided by the Successful Bidder to NDHC, shall be as if the default had not occurred.
- (5) A waiver of a default shall not extend to, or be taken in any manner whatsoever to affect the rights of NDHC with respect to any subsequent default whether similar or not.
- (6) The remedies provided in these Instructions are in addition to all other legal, equitable or statutory remedies to which NDHC is otherwise entitled, and the taking of any one remedy shall not preclude the taking of any other remedy.



#### 40. RESERVED PRIVILEGES OF NDHC

- (1) NDHC shall have the following reserved privileges, which may be exercised or waived in its absolute discretion:
- (a) NDHC may reject any Bid, the lowest Bid or all Bids, or may cancel the Tender Notice and require the submission of new Bids for any reason within its absolute discretion;
  - (b) in addition to considering Bid prices, when evaluating Bids and awarding the Contract, NDHC may exercise reasonable commercial judgment taking into account with respect to its decision:
    - (i) the full lifetime cost implications to NDHC with respect to each Bid, including life-expectancy; the inclusion or exclusion of alternate or optional equipment or configurations and the price implications thereof; training or retraining costs; length and scope of warranty coverage; and long-term maintenance requirements;
    - (ii) the need to achieve economies of scale in supply;
    - (iii) the need to diversify sources of supply;
    - (iv) compatibility with existing equipment, including battery systems and battery chargers, such compatibility to be determined by tests conducted either by NDHC or by an independent testing agency satisfactory to NDHC;
    - (v) compatibility with existing computer software and hardware, and capability to generate reports suitable to NDHC's existing reporting requirements; such compatibility and capability to be determined by tests conducted either by NDHC or by an independent testing agency satisfactory to NDHC;
    - (vi) any extraordinary or unjustified disparity between the lowest Bid and the other Bids received by NDHC;
    - (vii) the amount of any trade-in allowance that is offered;
    - (viii) the need to secure timely and reliable sources of supply;
    - (ix) the need to discontinue reliance on obsolete technology and methods;
    - (x) the need to provide state-of-the-art service to the tenants of NDHC, or to integrate any aspect of NDHC operations with those of its neighbors;
    - (xi) the need to avoid the use of unproven technology and methodologies;



- (xii) the need to spread and minimize risk to NDHC;
- (xiii) the proximity of any service center of a Bidder to NDHC;
- (xiv) the benefit in employing suppliers who have a proven track record of successful delivery and good reputation within the business community for integrity and competence;
- (xv) the prior record of the Bidder as a supplier to NDHC;
- (xvi) whether, in the opinion of NDHC or its professional advisors, the Bidder possesses the experience, or financial, technical, personnel or other resources that may reasonably be expected to be necessary in order to carry out the obligations that the Bidder proposes to assume under the terms of its Bid; and
- (xvii) such other considerations as would influence the decision of a reasonable and prudent purchaser in the particular circumstances of NDHC at the time when the Contract is awarded;
- (c) in awarding the contract, NDHC may take into account the adherence or non-adherence of a particular Bidder to the social, economic or labour relations policies of NDHC;
- (d) NDHC may waive compliance with any minor requirement governing the submission of Bids, including (but not limited to) any requirement to:
  - (i) attend any meeting;
  - (ii) inspect any site or thing;provided that in so doing NDHC shall not unfairly prejudice any other Bidder;
- (e) NDHC may:
  - (i) divide the final Contract and award on an individual commodity, component or factor basis;
  - (ii) divide the final Contract and award by groups of commodities, components or factors; or
  - (iii) award the Contract to one or more Bidders, where each submits an identical Bid (or to require the submission of a final and best offer, in lieu thereof);as NDHC may in its discretion consider to be in its best interest;
- (f) where in the view of NDHC, an insufficient number of Bids have been received in response to a Request for Tender, NDHC may publish a further such request (on the same or revised terms from the original request);
- (g) NDHC may accept any Bid conditionally;



- (h) where the lowest Bid price exceeds the budget approved by NDHC, or where during the course of the Tender it is determined by NDHC that it would not be reasonable in the circumstances for NDHC to select its supplier solely by reference to price, NDHC reserves the right to identify a shortlist of one or more potential suppliers with whom it will seek to negotiate bilaterally a contract for the Project, Work or Supply in question;
- (i) where the contract is awarded to the lowest qualifying Bidder, NDHC may negotiate amendments to the contract or to the work to be done or services or materials to be supplied under the contract and no other Bidder shall have any right to object that its Bid would have been lower had the negotiated amendments been included in the original Request for Tender or Tender Notice.

#### 41. OBLIGATION OF SUPPLIERS TO DEAL IN GOOD FAITH AND TO TREAT NDHC AS ITS MOST FAVOURED CUSTOMER

- (1) Each Bidder is required to deal with NDHC in utmost good faith both with respect to the submission of its Bid and with respect to the performance of any Contract awarded by NDHC upon the acceptance of that Bid.
- (2) Throughout the term of the Contract, the Successful Bidder shall treat NDHC as its most favoured customer, so that:
- (a) the Total Contract Price offered by the Successful Bidder to NDHC shall be no less favourable than the corresponding price offered by the Successful Bidder to any other Customer; and
- (b) the bundle of Goods and Services offered by the Successful Bidder to NDHC at the Total Contract Price shall be at least as complete as that offered to any other Customer of the Successful Bidder at the same price;

within the 30 Business Day period immediately preceding and following the date of the submission of the Bid; and:

- (c) where during the course of any Contract awarded to the Successful Bidder under this Tender, the price for any Goods or Services to which this Tender relates is lowered below the Factor Price incorporated into the Total Contract Price in respect of that Good or Service, the Successful Bidder shall so notify NDHC and that lower price shall be passed along to NDHC, and the Total Contract Price payable by NDHC shall be adjusted accordingly,

provided that this subsection shall apply only with respect to sales or supply made by the Successful Bidder to customers who are at arm's length to the Successful Bidder within the meaning of the *Income Tax Act*,



and where the sale or supply relates to Goods or Services of comparable quantity and quality as those sold or supplied to NDHC.

- (3) Where through inadvertence, a contract is awarded to a Bidder who has made an unauthorized amendment to NDHC's Form of Tender, then within a reasonable time of NDHC discovering that unauthorized amendment, NDHC may:
- (a) cancel the Contract without compensation to the Bidder by giving written notice to that effect to the Bidder;
  - (b) recover from the Bidder any amount paid to the Bidder in excess of what would have been paid had that amendment not been made, and
  - (c) ban the Bidder from competing for NDHC contracts for a period of up to 10 years, where in the reasonable opinion of NDHC, the change was made by the Bidder as part of a deliberate attempt to deceive.
- (4) Where in the reasonable opinion of NDHC it is determined that:
- (a) on any one or more occasions a Bidder has:
    - (i) unlawfully or to a grossly unreasonable degree intimidated, harassed, or otherwise interfered with an attempt by any other prospective supplier to bid for a NDHC contract or to perform any Contract awarded by NDHC to that supplier;
    - (ii) assaulted or committed battery against any NDHC employee in the performance of his or her duty; or
    - (iii) deliberately retained a known over-payment, or has knowingly failed to notify NDHC of an over-payment or duplicate payment;
  - (b) a Bidder has employed in the performance of a contract with NDHC a systematic policy of:
    - (i) over-billing;
    - (ii) charging for items not supplied;
    - (iii) charging for items of one grade, while supplying items of an inferior grade;
    - (iv) misrepresentation as to the quality or origin of Goods, their functionality or suitability for a purpose, or their performance characteristics; or
    - (v) any other form of sharp practice;



NDHC may ban the Bidder, and any person with whom the Bidder is not at arm's length within the meaning of the *Income Tax Act* (Canada), from competing for NDHC contracts for a period of up to 10 years.

#### 42. RECORD AND REPUTATION

- (1) At the election of NDHC, whether or not a Bid or Bidder otherwise satisfies the requirements of a Tender, NDHC may reject summarily any Bid received from:
- (a) a corporation or other person which has been involved in litigation with NDHC within the five year period immediately preceding the date on which the Request for Tender was published;
  - (b) any person against whom NDHC, has made a claim under a Bid bond, a performance bond or a warranty bond within the five year period immediately preceding the date on which the Request for Tender was published;
  - (c) any corporation that is an affiliate of or successor to any person or corporation described in clauses (a) or (b); and
  - (d) any person with whom, in the opinion of the NDHC, there are reasonable grounds to believe that it would not be in the best interests of NDHC to enter into a contract, including (without limiting the foregoing) the conviction of that person or any person with whom that person is not at arm's length within the meaning of the *Income Tax Act* (Canada) of an offence:
    - (i) under any taxation statute in Canada;
    - (ii) of moral turpitude, whether in Canada or elsewhere;
    - (iii) under the *Environmental Protection Act*, or the corresponding legislation of any other province or any member of the European Union or the United States of America, where the circumstances of that conviction evidence a gross disregard of the part of that person for the environmental well-being of the communities in which it carries on business;
    - (iv) relating to product liability or occupational health or safety, whether of Canada or elsewhere, where the circumstances of that conviction evidence a gross disregard on the part of that person for the health and safety of its workers or customers;
    - (v) under the *Securities Act* or the corresponding legislation of any other province or any member of the European Union or the United States of America or any state thereof.

#### 43. NON-DISCLOSURE AND NO COMMENT

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- (1) No Successful Bidder shall disclose details relating to the Contract, or the Project, Work or Supply to any outside person not engaged in work relating thereto, and shall restrain its employees from giving unauthorized information with respect thereto.
- (2) After the Contract is awarded, the Successful Bidder shall refer all inquiries from all third parties who are not involved in carrying out the Contract, but that relate to the Contract or the Project, Work or Supply to be undertaken within the scope of the Contract to the Procurement Representative.
- (3) Prior to the award of the Contract, no Bidder shall contact any board member of NDHC or member of NDHC's staff with respect to the proposed Contract, except the buyer or other person designated for that purpose in the Tender documents.

#### 44. REVIEW OF BIDS

- (1) At the close of the Tender, all apparently eligible Bids will be examined by an evaluation committee composed of representative of NDHC to confirm that they are compliant and otherwise complete.
- (2) At its sole discretion, NDHC may clarify any aspect of any Bid received in respect of the Bid with any Bidder at any time, and may clarify any aspect of the price Bid by the Bidder; and:
  - (a) the purpose of such clarification may be:
    - (i) to enable NDHC to determine whether the Bid to which it relates complies with the Tender;
    - (ii) to resolve any ambiguity in the language used, or any other vague or uncertain aspect of the Bid;
  - (b) no such clarification shall alter the Bid or constitute negotiation or renegotiation of the price or any aspect thereof, or the nature or quality of the goods or services to be supplied or performed as set out in the Bid at the close of the Tender, and all correspondence with a Bidder for the purposes of such clarification shall be conducted through the Procurement Representative.
- (3) Without limiting subsection (2), NDHC's right to clarify shall include the right to request additional or missing information relating to the Goods or Services that are to be supplied or the manner in which the Project or Work is to be carried out.
- (4) The right of clarification provided under this section is within the sole, complete and unfettered discretion of NDHC and is for its exclusive benefit, and may or may not be exercised by NDHC at any time and in respect to any or all Bids.



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- (5) The right to clarify shall *not* impose upon NDHC a requirement to clarify with the Bidder any part of a Bid, and where in the opinion of NDHC the Bid is ambiguous, incomplete, deficient, or otherwise not acceptable in any aspect, NDHC may reject a Bid either before or after seeking a clarification under this section.
- (6) Neither the review of its submission with any Bidder, nor the seeking of clarification under this section, shall oblige NDHC to enter into a Contract with that Bidder, and shall not constitute an acceptance of that Bid or any other Bid.
- (7) All clarifications under this section shall be in writing, in a form satisfactory for inclusion in the Contract and satisfactory to NDHC.
- (8) Any Bidder may be required to meet with representatives of the evaluation committee, as composed by NDHC, within 20 Business Days of being so requested to explain details of the submission, at a place specified by NDHC, and transportation to and from the meeting for the Bidders representatives, as well as the hourly or per diem costs of the meeting itself for any such representative, shall be at the expense of the Bidder.

#### 45. REJECTION OF BIDS BY NDHC

- (1) At its discretion, NDHC may (but shall not be obliged to) reject any Bid that does not:
  - (a) comply with these Instructions; or
  - (b) contain in full all information required on the Form of Tender, these Instructions, the Description of Project, Work or Supply and the Special Provisions.
- (2) NDHC may reject any Bid submitted by a Bidder or cancel any contract awarded to that Bidder without penalty where any information provided by the Bidder in its Bid or as part of any pre-qualification procedure is determined to be false or otherwise misleading in any material respect.

#### 46. GUIDELINES REGARDING BID IRREGULARITIES

- (1) As a guide to prospective Bidders, but without qualifying any rights and privileges reserved to NDHC, the following are indicative of the manner in which a discretion reserved by NDHC is likely to be exercised with respect to irregular or non-compliant Bids:
  - (a) late Bids will not be accepted and may be returned to the Bidder;
  - (b) Bids that are not completed, or are not typewritten, legible, or emailed will be rejected;



- (c) partial Bids (*i.e.*, a Bid for less than all of the items required to be included in a Bid) will be rejected, unless the Bid documents specifically permit partial Bids;
- (d) qualified or conditional Bids (*i.e.*, Bids which are submitted subject to a caveat added to the Form of Tender or under a covering letter or alterations to the Form of Tender) will be rejected unless the Bid documents specifically permit such a qualification or condition;
- (e) unsigned Bids will be rejected;
- (f) Bids not complying with these Instructions, the Tender Notice, an Addendum or the Special Provisions will be rejected;
- (g) Bids not completed in the proper form, or received on a document other than the original document supplied by NDHC in the Bid package may be rejected by NDHC at its discretion;
- (h) NDHC may at its discretion reject any Bid where the Form of Tender or related document contains any erasure, change, over-writing, white-out, cross-out or strike out, where the same has not been initialled by the Bidder, or where (in the absolute discretion of NDHC) the effect of that amendment is ambiguous or otherwise unclear;
- (i) where a Bidder is required to provide a Bid security and no such security is provided, or the amount of Bid security provided by a Bidder is insufficient, or the security does not name NDHC correctly as the obligee, or is otherwise not in compliance with the terms and conditions of the Tender, the Bid will be rejected;
- (j) where under the terms and conditions of a Tender, a Bidder is required to provide an agreement to bond with respect to the performance of work under the contract, warranty work, or the payment of labour and material suppliers, and the Bidder provides no such agreement, or the bonding company is not licensed to carry on the business of a bonding company in the Province of Ontario, or the amount of the bond commitment is less than the amount reasonably required, NDHC will reject the Bid (this provision shall apply with the necessary modifications to letters of credit);
- (k) where an Addendum is not acknowledged in the Form of Tender, NDHC will reject the Bid where the Addendum has a bearing upon the prices quoted in the Bid, unless it is clear that the Addendum has been factored into the prices quoted; in other cases, NDHC will require the Bidder to confirm in writing that the Addendum has been received and taken into account in preparing the Bid, before NDHC will consider the Bid;

but NDHC shall not be liable to any Bidder or other person where it elects to exercise a discretion or reserved privilege or right in a manner different from that above indicated.

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#### 47. GOVERNING LAW

- (1) This Tender and any Contract arising therefrom shall be subject to and shall be construed in accordance with the laws of Ontario.
- (2) Unless NDHC otherwise agrees in writing, any action or other legal proceeding arising under the Contract or any of the other Contract Documents (including any motion or other interlocutory proceeding) shall be brought in the Superior Court of Ontario sitting in North Bay, Ontario.

#### 48. SEVERANCE WHERE PROVISION ILLEGAL, ETC.

- (1) Where one or more provisions of any of the Contract Documents are found to be invalid, unenforceable or void by any court or tribunal of competent jurisdiction, the remaining terms and provisions of the Contract Documents shall be deemed to be severable from the part so found and shall remain in full force and effect, but this provision shall apply only insofar as the effect of that severance is not to change the fundamental nature of the obligations assumed respectively by each of NDHC and Successful Bidder respectively.

#### 49. NON-MERGER

- (1) Except where otherwise expressly agreed, these Instructions shall not merge upon the execution of the Contract for Work, but the provisions of the Instructions shall be deemed to remain in effect throughout that Contract.
- (2) These Instructions shall define and limit the scope of any contractual or other legal rights in favour of any Bidder or subcontractor flowing from the Request for Tender or the submission or acceptance of any Bid.

#### 50. STANDARD TERMS AND CONDITIONS

##### A. SAMPLES AND DEMONSTRATION

- (1) NDHC may request the provision of sample of any goods or work that are to be supplied.
- (2) Any samples within the scope of subsection (1) shall be delivered to NDHC no later than seven Business Days after formal request is made, unless requested prior to the submission of a Bid, in which case the sample shall be delivered to NDHC together with the Bid.
- (3) NDHC shall not be charged for any sample provided under this provision, nor for the cost of delivering the sample to NDHC.

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- (4) Where not used or damaged during testing, any sample provided to NDHC will, upon the Bidders written request made within 20 Business Days of the award of the Contract, be returned to the Bidder at the Bidders expense.
- (5) NDHC may require a full demonstration at a place of NDHC's choosing of any unit that is to be supplied prior to awarding of the Contract, and all costs associated with that demonstration shall be for the account of the Bidder.

#### B. BRAND NAME

- (1) Any reference to the trade name, brand name or catalogue number of a particular manufacturer shall be understood to have been made solely for the purpose of establishing and describing general performance and quality levels of the item to be supplied, unless specified otherwise.
- (2) No reference to the trade name, brand name or catalogue number of a particular manufacturer shall be construed to restrict Bidders to that manufacturer, but Bids shall be deemed to be invited for generic no-name equals and comparable equipment of any manufacturer.
- (3) Despite subsection (2), if an item other than the one specified is proposed, it is the Bidders responsibility to demonstrate that the proposed item meets the specifications, and the Bidder shall submit brochures and samples upon request and provide full specifications in detail concerning the item(s) proposed. NDHC shall be the sole judge (in its absolute discretion) as to whether an item proposed meets its specifications.

#### C. STANDARD WARRANTY

- (1) The Successful Bidder shall promptly repair or replace, at no cost to NDHC, all defects in materials or workmanship of which the Successful Bidder has been properly notified within a period of one year from date of completion of the Project, Work or Supply.
- (2) This warranty shall not apply where a different warranty is specified in the Special Provisions; Description of Project, Work or Supply; or an Addendum.

#### D. SECURITY CLEARANCE

- (1) Where the Tender involves the performance of work in secure, sensitive or similarly restricted areas, or with respect to computer data or other information that relates to matters of public security, tax records or records relating to investigations carried out with a view to prosecution under any Federal or Provincial Act or Regulation or under any District of Nipissing Social Services Administration By-law, each Bidder and its executive officers, and all employees (including supervisors) directly involved in the performance of that



work must consent to a security clearance check and report thereon performed by the Police Department or other appropriate Federal, Provincial or City security vetting agency.

- (2) Where subsection (1) applies, any award of a contract to a Bidder will be subject to the receipt of a satisfactory security report, the sufficiency of which shall be at the sole discretion of NDHC.
- (3) Where a Consent to Disclosure of Personal Information Form is included with the package of documents provided by NDHC to Bidders, that Form must be completed and returned to NDHC by the time stated in order to:
  - (a) obtain admission to any mandatory or other site visit at any secure, sensitive or similarly restricted site; and
  - (b) permit due consideration to be given to any Bid submitted by the Bidder;
- (4) In the event that a satisfactory security clearance is denied to an applicant employee or subcontractor of the Bidder, NDHC will entertain the submission of applications from alternate applicants, but subject to the same security clearance requirements.
- (5) Any significant change in the security clearance or classification of a Bidder over the life of the Contract may afford grounds for cancellation of the Contract, that decision to be at the sole discretion of NDHC.

#### E. CONTRACT NON EXCLUSIVE

- (1) Unless otherwise expressly provided in the Tender Notice, Description of Project, Work or Supply; the Special Provisions; or an Addendum, no Contract for the supply of goods, services, the supply and installation of fixtures, or any combination thereof shall be deemed or construed to confer upon the Successful Bidder an exclusive right to supply those items, nor an exclusive obligation on the Successful Bidder to provide those items only to NDHC.

#### F. TERM OF THE CONTRACT

- (1) Unless otherwise expressly provided in the Tender Notice; Description of Project, Work or Supply; the Special Provisions; or an Addendum:
  - (a) the Contract shall be deemed to be for a term of one year only or the date to which the Project is complete whichever comes first, and the Successful Bidder shall have no right to the award of a further contract, nor any preference in the award of any subsequent contract; and
  - (b) the term of the Contract will commence with the issue of a purchase order, notice to proceed or the execution of the Contract for Work, as the case may be.

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- (2) Where the Tender Notice; Description of Project, Work or Supply; the Special Provisions; or an Addendum provide that a Contract may be renewed at the end of its term, the following rules apply:
- (a) each renewal shall be deemed to be for a period of one year only;
  - (b) renewal shall be only on the mutual consent of the parties evidenced *in writing*, and where not so evidenced, any continuation of supply after the expiration of the term of the Contract shall be deemed to be subject to the same terms and conditions as supplies under the Contract, subject to the following provisos:
    - (i) NDHC may at any time discontinue placing any further order for supply, or may terminate the relationship between the parties by written notice to that effect, but no such discontinuation or notice shall affect the obligation of
      - (I) NDHC to receive delivery and pay for any items or services previously ordered; and
      - (II) the Successful Bidder to fill any order previously placed and accepted by it;
    - (ii) the Successful Bidder may at any time discontinue receiving any further order for supply, or may terminate the relationship between the parties by written notice to that effect, but no such discontinuation or notice shall affect the obligation of:
      - (I) NDHC to receive delivery and pay for any items or services previously ordered; and
      - (II) the Successful Bidder to fill any order previously placed and accepted by it;
  - (c) either party may withhold its consent to the proposed renewal of the Contract for any reason whatever within its absolute discretion;
  - (d) where a price adjustment is contemplated in the Special Provisions upon the renewal of the Contract, all prices payable under the Contract during the term of the renewal shall be deemed to be adjusted to reflect the average annual increase in the Consumer Price Index as published by Statistics Canada over the 12 month period immediately preceding the date of renewal; and
  - (e) where more than one renewal is contemplated in the Tender Notice; Description of Project, Work or Supply; the Special Provisions; or an Addendum, each such renewal shall be subject independently to clauses (a) to (d).

#### G. ORIENTATION SESSION



- (1) NDHC may require the Successful Bidder (and those employees of the Successful Bidder who will be employed in performing the Contract) to attend a training and orientation session to be conducted by NDHC at such place as NDHC may direct.
- (2) The session may last for up to one full working day.
- (3) No amount shall be payable by NDHC in respect of that session.

#### H. EXCESSIVE CLAIMS

- (1) NDHC may review and disallow an invoice, or reduce the amount of an invoice, submitted for hourly labour costs, or for material supplied, where NDHC concludes on reasonable grounds that the amount of that invoice is excessive, taking into account the time and materials that would ordinarily be required by a competent professional or tradesman to carry out the work or project to which the invoice relates.
- (2) Prior to disallowing or reducing an invoice under subsection (1), NDHC shall notify the Successful Bidder in writing of its intention to review the invoice in question, and shall allow the Successful Bidder to make written or oral representations to NDHC as to whether the amount invoiced is excessive. NDHC shall take those representations and all other relevant facts into account before reaching any conclusion under subsection (1). Any decision made by NDHC under this section is final and conclusive between the parties.
- (3) No invoice shall be disallowed under this section where the billing to which it relates is in strict accord with the terms of the Contract Documents.

#### I. FORCE MAJEURE

- (1) In this section, "Force Majeure" means a delay in the performance of the Services occurring other than as a result of the deliberate act or negligence of either party respectively, and which:
  - (a) could not have been reasonably foreseen; and
  - (b) was caused by an event beyond the reasonable control of each party respectively;and for the sake of greater certainty shall include any one or more of the following:
  - (c) acts of God, the Queen or Her enemies;
  - (d) civil war; insurrections or riots;
  - (e) fires; floods; explosions; earthquakes or serious accidents;
  - (f) unusually severe weather; epidemics or quarantine restrictions;



- (g) governmental priorities or allocation regulations or orders affecting materials, labour, equipment and facilities;
  - (h) fuel shortages or freight embargoes; or
  - (i) strikes or labour troubles causing cessation, slowdown, interruption of work or other similar events relating to a person other than the Successful Bidder (or any subcontractor) or to NDHC.
- (2) In the event of the occurrence of a Force Majeure:
- (a) the time for completing that portion of the supply of Goods or Services, or the completion of the Project or Work to which the Tender relates, which has been delayed by reason of the Force Majeure shall be extended by a period equal to the delay so caused; and
  - (b) the date for the payment of any portion of the price or any costs or fees shall be adjusted accordingly, without adjustment of the price;
- but subject to the foregoing, each party shall be excused from performance so long as the Force Majeure persists, and shall not be considered to be in default under this section, if and to the extent that its failure of, or delay in performance is due to that Force Majeure.
- (3) Where a Force Majeure remains in effect for more than 90 days, either party may terminate the Contract upon 20 Business Days written notice to the other party, provided at the time when that notice is given the Force Majeure is then continuing.
  - (4) While a Force Majeure subsists which prevents the Successful Bidder from performing its obligations with respect to a Project, Work or Supply, NDHC may engage another contractor or supplier to perform those obligations on an interim basis.

## 51. INTERPRETATION

- (1) In these Instructions:
  - (a) "Addendum" means a written addendum issued under these Instructions;
  - (b) "Bid" means a bid made by a Bidder in response to the Tender;
  - (c) "Bid Price" means any Factor Price or other component of the Total Contract Price;
  - (d) "Bidder" means any person submitting a Bid in response to a Tender Notice;
  - (e) "Business Day" means any day other than a Saturday, Sunday, public holiday or other day on which banks in Ontario are authorized or required by law to be closed;





- (f) “Consultant” means any employee of NDHC or any independent professional retained by NDHC to advise it as a specialist consultant with respect to any aspect of the Tender or the Project, Work or Supply, and who is designated by NDHC as the Consultant in respect of the Contract;
- (g) “Contract” means the contract arising upon the acceptance of a Bid by NDHC made in response to this Tender;
- (h) “Contract Documents” means:
- (i) these Instructions;
  - (ii) the Form of Tender;
  - (iii) the Tender Notice;
  - (iv) any Addendum;
  - (v) the Description of Project, Work or Supply;
  - (vi) any Special Provisions, including any contract drawings, detail drawings, or shop drawings;
  - (vii) the Contract for Work;
  - (viii) any Specifications for the Project, Work or Supply not included within any of the foregoing; provided by NDHC or any consultant to NDHC to the Successful Bidder, and also the Bid of the Successful Bidder to whom the contract is awarded, and any other document agreed by the parties to constitute one of the Contract Documents;
- (i) “Contract for Work” has the meaning assigned in section 11;
- (j) “Factor Price” means any Factor Price or other component of the Total Contract Price;
- (k) “Goods” means any item of tangible personal property or computer software, and includes:
- (i) deeds and instruments relating to or evidencing the title or right to such personal property, or a right to recover or receive such property;
  - (ii) tickets or like evidence of right to be in attendance at a particular place at a particular time or times or of a right to transportation;
  - (iii) energy, however generated;
  - (iv) items of tangible personal property that are intended for installation as a fixture or otherwise for incorporation into land, a building or structure, or that are ornamental or industrial trees, grass sod, flowering plants, shrubs, soil, seed or fertilizer;



- (l) “Project, Work or Supply” means all goods, services and other things of commercial value the supply, repair or installation of which are contemplated in the Tender Notice or the Description of Project, Work or Supply and all labour and other items or things incidental thereto;
- (m) “Project” includes the installation of fixtures and any type of work that is not a Service and the supply of any other thing of commercial value that is not a Good;
- (n) “Project Manager” means the person (if any) designated by NDHC to manage the delivery or performance of the Project, Work or Supply to which the Tender relates, or the NDHC’s obligations under the Contract;
- (o) “Procurement Representative” means the Contract and Purchasing Specialist for the District of Nipissing Social Services Administration Board.
- (p) “Services” means a service of any description whether commercial, industrial, trade, or otherwise, and includes all professional, technical and artistic services, and the transporting, acquiring, supplying, storing and otherwise dealing in Goods;
- (q) “Successful Bidder” means the Bidder whose Bid is selected by NDHC for the award of the Contract in respect of a Project or Works;
- (r) “Supply” means the supply of a Good or Service; and
- (i) in relation to a Good, includes the sale, rental, lease or other disposition or provision of the Good or an interest therein or a right thereto, or an offer so to dispose of the Good or interest therein or a right thereto, and
- (ii) in relation to a Service, includes the sale, rental or other disposition or provision of the Service or an offer so to provide a service;
- (s) “Tender” means the request for quotes to which these Instructions relates, and any renewal or substitute for that request for quotes or request for quotation;
- (t) “Total Contract Price” means the fully inclusive, all-in total contract price, constituting the sum of all costs quoted by a Bidder in its Bid with respect to the Project, Work or Supply:
- (i) including the purchase price for all materials, labour costs, service costs, costs for temporary structures and facilities, utility costs, warranty costs, life cycle costs, operating and disposal costs, and all applicable taxes relating to the foregoing; but
- (ii) excluding any options or alternatives requested in the Tender Notice or other Contract Documents that NDHC elects not to purchase;

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- (u) "Work" means the supply of Goods and Services.
- (2) Where in these Instructions a reference is made to the express written agreement of NDHC, it shall be understood that NDHC shall not be deemed or construed to have agreed to any stipulation, specification, exclusion, limitation or other *term or condition* set out in a Bid that deviates from a provision set out in any of the documents set out in clause (h)(i) to (viii) inclusive, unless that deviation is expressly confirmed in the Contract for Work or in an amendment to that contract.
- (3) In these Instructions and in all of the Contract Documents, unless the context otherwise necessitates:
- (a) a word importing the masculine, feminine or neuter gender only includes members of the other genders;
  - (b) a word defined in or importing the singular number has the same meaning when used in the plural number, and *vice versa*;
  - (c) a reference to any Act, bylaw, rule or regulation or to a provision thereof shall be deemed to include a reference to any Act, bylaw, rule or regulation or provision enacted in substitution therefor or amendment thereof;
  - (d) the headings to each section are inserted for convenience of reference only and do not form part of the Contract;
  - (e) all accounting *terms* have the meaning recognized by or ascribed to those *terms* by the Chartered Professional Accountants of Canada;
  - (f) all references to time shall be deemed to be references to current time in City of North Bay;
  - (g) any reference to personnel of NDHC shall be construed to mean the person holding that employment position from time to time, and the designate or deputy of that person, and shall be deemed to include a reference to any person holding a successor position or the designate or deputy of that person; and
  - (h) words and abbreviations which have well-known professional, technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

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End of Document

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**FORM OF TENDER**  
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**Contract Number** \_\_\_\_\_

**Name, Title or Brief Description of Project**

--

**Tender Submitted By:**

Contact Person's Name: \_\_\_\_\_

Incorporated Under the Laws of \_\_\_\_\_

[Specify Province; Canada or otherwise and relevant statute]

Business Address \_\_\_\_\_

Head Office Address \_\_\_\_\_

Email Address \_\_\_\_\_

**To: Nipissing District Housing Corporation**

Name: \_\_\_\_\_

Date \_\_\_\_\_

1. The undersigned Bidder, having examined the locality and site of work as well as all the Contract Documents, hereby **tenders** and offers to:

- (a) furnish all material, labour, service, equipment, scaffolding and all incidentals;
- (b) render all services; and
- (c) pay all applicable taxes (upon remittance to the Bidder) and all other charges as specified and/or as necessary for performance and completion of the above referred to Project,

all in full accordance with Contract Documents provided to the Bidder by NDHC (receipt of which is hereby acknowledged), for the Final Contract Price of:

Bid (including all subcontractors costs*)	
Cash Allowance #1 - Enbridge Gas Service	<b>\$15,000.00</b>
Cash Allowance #2 – To re-feed existing life safety circuits from alternate panel	<b>\$15,000.00</b>
Cash Allowance #3 – To replace existing life safety circuits with 2 Hr. fire rated cable	<b>\$25,000.00</b>
Cash Allowance #4 – Miscellaneous Work	<b>\$15, 000.00</b>

Please provide a detail breakdown of all sub-contractors costs that is included in the above Quotation amount (add as many rows as necessary):

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Section	Name of Subcontractor	Amount
General		
Mechanical		
Electrical		

Any Harmonized Sales Tax and Goods and Services Tax payable is for the account of NDHC and is in addition to the above Final Contract Price.

**The Final Contract Price** includes all stipulated Cash Allowances, in the total amount of

Subtotal

\$[\_\_\_\_\_],

HST

\$[\_\_\_\_\_],

**Grand Total**

\$[\_\_\_\_\_].

This Final Contract Price shall be valid for **forty-five (45)** calendar days from the closing date and time.

NDHC reserves the right to reject any or all Quotations that are not beneficial to the NDHC.

## 2. Commencement and Completion

If awarded the Contract, the Bidder agrees to commence work within not more than five Business Days from the date of the notification to proceed. The Bidder undertakes that:

- it will provide all necessary documents required as set forth prior to the commencement of this Project;
- Completion of the Project will be achieved within the time allowed for completion as prescribed in the Special Provisions; and
- in the event that it fails to perform the Contract as provided, it shall be liable to Liquidated Damages and other remedies as specified in the Contract Documents.

## 3. Contract

It is understood and agreed by the Contractor that a binding contract shall come into being upon acceptance of this **Tender** by NDHC. The subsequent execution of the Contract for Works is a formality and not a condition precedent to the existence of a binding contract. The documents listed in the List of Contract Documents for this Project shall constitute the Contract, subject to such modifications as may be agreed to in writing between the parties.

## 4. Execution

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If this **Tender** is accepted by NDHC and the Contract is awarded to the Bidder, then the Bidder shall provide required proof of insurance, provide and pay for a Performance of Contract bond in the amount equal to 100 per cent percent of the amount of the Final Contract Price, a Labour and Material Payment Bond in the amount of 100 per cent of the Final Contract Price, and its Health and Safety Manual and execute the Contract, in quadruplicate, all within 10 days after NDHC has given the Bidder:

- (i) the Contract for Works for execution; or
- (ii) notice to proceed.

**5. Bid Security**

There is no bid security required for this RFQ.

**6. Additional Work**

The Bidder also agrees that if this **Tender** is accepted, it shall execute whatever additional or extra work that may be required, in accordance with the General Conditions.

**7. Time Open for Acceptance**

This offer is irrevocable and is to continue open to acceptance by NDHC for a period of 45 calendar days after the date and time set for closing (submission) of **Tenders**. NDHC may at any time within the above 45 calendar day period accept this **Tender** whether or not any other **Tender** has previously been accepted, upon notice of acceptance in writing to the Bidder delivered by email to the Bidder to the address set forth in this **Tender** and any notice so emailed shall be deemed to have been received on the date of emailing thereof and any notice so delivered shall be deemed to have been received on the date the notice is so delivered.

**8. List of Subcontractors**

The following is a list of all subcontractors we intend (and shall) use on this project.

(If by Own Forces, state so).

Name	Address	Contact Person	General Description of Services or Materials to be Provided

**9. Contract Schedule — Time for Completion**

The Bidder agrees to begin work on the Project within the number of Working Days specified in the schedule below, following the award of the contract or receipt of notice to proceed, whichever is earlier. The Bidder also agrees to complete the Project within the number of Working Days provided in that schedule, that period beginning on the date specified for the commencement of production.

**Delivery Schedule**

Number of Working Days Before Commencement of Work	Number of Working Days for Completion of Project

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**10. List of References**

The Bidder must have experience in providing the required services. A minimum of three (3) references from companies (NDHC excluded) for whom the Bidder has completed a similar job of scope and magnitude in the past five (5) years is required. NDHC will contact all references each reference and the feedback from the references will affect NDHC's decision for award.

Company Name	Reference Full Name	Reference phone and email	Description of work performed	Dates when work was started and completed	Reference has been informed?

**11. Interpretation**

All capitalized terms used in this **Tender Form** that are defined in the General Conditions, shall have the same meaning as provided in the General Conditions.

**12. Authorizations**

Complete Quotation Form, signed under seal, witnessed, executed, dated and submit as per Section 00100 – Instructions to Bidders. The Bidder confirms that their respective representatives have the authority to legally bind them to the extent permissible by the requirements of law.

\_\_\_\_\_  
Signature of Authorized Officer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Position

*I have authority to bind the Corporation, Company, or Partnership*

**End of Document**



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ASBESTOS SURVEY  
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## PART 1 - GENERAL

### 1.1. ASBESTOS SURVEY

1. The following is the Owner's asbestos survey report.
2. This Survey Report was prepared by its author for the Owner and is hereby offered to the bidder in good faith for general information and guidance. The Consultant assumes no responsibility or liability for the completeness and accuracy of the information contained in this report.
3. The Asbestos Survey is provided for the Contractor's information. The Contractor shall review the report and advise the Consultant in advance of any areas where they expect existing asbestos containing building materials to be disturbed as part of the Work, where abatement is not currently specified to be included in the Work.
4. ***The Asbestos Assessment Report is included to inform the contactor of areas where designated substances are present, so that all costs associated with abatement as required to execute the work shall be included in within the contract price. Costs associated with abatement in areas where the Asbestos Assessment Report identified designated substances will not be grounds for a change order.***
5. Should there be a discrepancy between recommendations contained in the report and the requirements of the Contract Documents, the latter shall govern. Advise the Consultant in writing prior to proceeding with the Work.





**THOMAS CONTRACTING**  
 72 NINOVAN ROAD  
 Callander, Ontario  
 P0H 1H0  
 PHONE : (705) 499 - 8006  
 FAX : (705) 752 - 2536

**ASBESTOS MANAGEMENT EXPERTS**

Reference: TC - 201319

August 8, 2016

Nipissing District Housing Corporation  
 P.O. Box 480  
 200-133 Main Street West  
 North Bay, Ontario  
 P1B 8J1

**ATTENTION: Patricia Therriault / Technical Services Manager**

Dear Sirs:

**2016 ASBESTOS ASSESSMENT**

**135 WORTHINGTON STREET WEST (Golden Age Towers)  
 North Bay, Ontario**

Thomas Contracting was commissioned by the Nipissing District Housing Corporation (NDHC) to complete a non-destructive asbestos assessment of the 11 storey / 106 Unit high rise apartment building (Golden Age Towers) located at 135 Worthington Street West in North Bay, Ontario (see photo # 24 in Appendix A). The objective of this assessment was to provide the Nipissing District Housing Corporation with a report indicating the location(s), type(s) and present condition(s) of all friable and non-friable asbestos containing materials present within the suites / units as well as common / mechanical areas within the building. This assessment satisfies the survey requirements of Ontario Regulation 278/05.

The assessment methodology, findings and recommendations are outlined below.

**1.0 ASSESSMENT SCOPE**

It is our understanding that each of the 106 suites / units and common areas located within the eleven (11) storey brick and metal clad building at 135 Worthington Street West were constructed at the same time and share the same floor plan and similar building materials. It is also our understanding that most of the suites / units under this project are presently occupied.

Based on the above and in accordance with our accepted quotation, the scope of the asbestos assessment consisted of a visual inspection / bulk sampling of a representative number of suites / units (6) as well as all common / mechanical areas under the 135 Worthington Street West project to limited the disruption of the present tenants and provide the greatest value for the proposed asbestos assessment project. However, please note that for each suite / unit that are inspected / assess, our findings will be extrapolated to the other non-inspected suites / units within the building and may not represent actual findings. We recommend that a future asbestos assessment be conducted on a as need bases should renovation / demolition or repair activities be required on any of the non-inspected suites / units under this project.

**1.1 Suites / Areas Inspected**

All common / mechanical areas within the building as well as the six (6) NDHC selected / representative suites (Suites 202, 311, 505, 602, 807 and 1107) were inspected under this 135 Worthington Street West asbestos assessment project.

**2.0 STUDY METHODOLOGY**

Asbestos is a general name for several varieties of highly fibrous silicate minerals. Commercially significant types include chrysotile, amosite and crocidolite. The fibres are valued for their heat and chemical resistant properties. The combination of fibrous structures, low heat conductivity, high electrical resistance, chemical inertness, strength, flexibility and its effectiveness as a reinforcing or binding agent when combined with cement or plastic, made it popular for wide industrial use.

One measure of the potential hazard of ACM's is its friability. Friability of asbestos-containing material is a measure of the ease with which the material can be ground or pulverised. A friable material is one that can be crumbled by hand pressure. Knowledge of the friability of ACM's may theoretically measure the ease with which fibres can be released into the air. Non-friable products with bound asbestos pose no danger of releasing airborne fibres unless cut, broken-up or otherwise physically abraded.

Mr. Grant Johnson, E.P.A. Accredited Asbestos Surveyor, performed the assessment on April 14<sup>th</sup>, 2016. The fieldwork consisted of obtaining 119 bulk samples of suspected ACM's for analysis by an independent laboratory (108 of which required testing under Ont. Reg. 278/05). Preliminary identification of these samples was made using polarized light microscopy, with confirmation of presence and type of asbestos made by dispersion staining optical microscopy. This analytical procedure follows the Ontario Ministry of Labour Code for the Determination of Asbestos from Bulk Samples, dated August 23<sup>rd</sup>, 1985.

Results of these analyses are given in Appendix 'A' with a summary of bulk sample results given in Section 5.0 below. Detailed Room-by-Room descriptions of ACM's and their conditions/priorities are given in Appendix 'B'.

### **3.0 DEFINITION OF ASBESTOS-CONTAINING MATERIALS**

Ont. Reg. 278/05 states that "asbestos-containing material" means material that contains 0.5 per cent or more asbestos by dry weight.

### **4.0 ASSESSMENT OF ASBESTOS-CONTAINING MATERIALS**

The present condition of the observed asbestos-containing materials was assessed, and general guidance is offered related to selecting the appropriate response action(s). Priorities for these action(s) have been assigned to individual materials, or defined areas, based on various factors including condition, type of material and accessibility of the asbestos-containing materials.

The following definitions for the condition and accessibility of the asbestos-containing materials were used as a guide for this assessment. The room by room findings as shown in Appendix 'B' presents these conditions and accessibility encountered.

#### **4.1 Condition**

Conditions of the ACM's have been assessed as good, fair or poor condition as defined below.

a) **Good condition** would indicate the following:

Insulation on fittings, tanks, valves, boilers vessels, pipes and other mechanical equipment which is completely enclosed; or sprayed fireproofing showing no signs of delaminating or fallout.

b) **Fair condition** would indicate the following:

Pipe insulation showing some signs of physical damage, there may also be shrinkage cracks along the pipewrap; or sprayed fireproofing showing minor signs of delaminating or fallout.

c) **Poor condition** would indicate the following:

General damage to mechanical insulation including water damage, exposing asbestos directly; or sprayed fireproofing showing signs of delaminating or fallout in most areas with the fallen out material being found on horizontal surfaces, such as ceiling and crawl spaces.

#### **4.2 Accessibility**

Accessibility of the ACM's has been assessed as high, moderate or low accessibility as defined below.

a) **High accessibility** would indicate the following:

Asbestos-containing material is within easy reach of maintenance staff and the unit's occupants. No physical protective barrier is in place. Highly accessible materials would include ceiling tiles, floor tiles and exposed pipewrap and fitting insulation.

**b) Moderate accessibility would indicate the following:**

Asbestos-containing material has a physical protective barrier in place and is still within reach of maintenance staff and the unit's occupants. Moderately accessible materials would include encapsulated ceiling texture coat, canvas or PVC covered fitting and pipewrap insulation and painted cementitious materials.

**c) Low accessibility would indicate the following:**

Asbestos-containing material has a physical protective barrier in place and is generally not within reach of the unit's occupants, although maintenance staff may have access on a limited basis to this material. Low accessible materials would include fitting and pipewrap insulation found above plaster ceilings or in crawl spaces.

**4.3 Priority**

At the time of this assessment each asbestos-containing material encountered within each unit was assigned a remedial action priority number, based on the relative possibility for fibre release into the air due to a combination of condition, type of material and accessibility. These priorities (as defined below) have been established for general guidance to insure and maintain a safe working environment. Actual prioritization of each asbestos-containing material and/or area detected is listed in Appendix 'B'.

- a) Priority 1 (one):** Asbestos-containing material highly damaged or highly accessible and recommended to be removed.
- b) Priority 2 (two):** Asbestos-containing materials that could remain in place and monitored until system upgrading or renovations are to occur. Included in Priority 2 are locations or material that may require minor patching or repair work.
- c) Priority 3 (three):** Asbestos-containing materials which are in good condition and could remain in place and monitored until eventual building demolition or renovations are to occur. Included in Priority 3 are non-friable material(s).

**5.0 FINDINGS**

A total of 119 representative bulk samples of suspected asbestos-containing building materials were obtained in our 135 Worthington Street West assessment (108 of which required testing under Ont. Reg. 278/05). A summary of sample locations, type of building material and asbestos contents is presented in Table 1 (below) with photos of the primary samples and the raw laboratory results given in Appendix 'A'.

Suites / Units / Common Areas containing material(s) representative of the bulk samples obtained are shown in the Room-by-Room descriptions of ACM's in Appendix 'C'.

Table 1  
Summary of Bulk Sample Results

Sample No.	Photo #	Location	Material	Asbestos Content
GA - 202 - 1	1	Suite 202	Ceiling Texture Coat	None Detected
GA - 202 - 1a	-	Suite 202	Ceiling Texture Coat	None Detected
GA - 202 - 1b	-	Suite 202	Ceiling Texture Coat	None Detected
GA - 202 - 2	2	Suite 202	12" x 12" Vinyl Floor Tile	None Detected
GA - 202 - 2a	-	Suite 202	12" x 12" Vinyl Floor Tile	None Detected
GA - 202 - 2b	-	Suite 202	12" x 12" Vinyl Floor Tile	None Detected

Sample No.	Photo #	Location	Material	Asbestos Content
GA - 202 - 3	5	Suite 202	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 202 - 3a	-	Suite 202	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 202 - 3b	-	Suite 202	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 311 - 1	1	Suite 311	Ceiling Texture Coat	None Detected
GA - 311 - 1a	-	Suite 311	Ceiling Texture Coat	None Detected
GA - 311 - 1b	-	Suite 311	Ceiling Texture Coat	None Detected
GA - 311 - 2	2	Suite 311	12" x 12" Vinyl Floor Tile	None Detected
GA - 311 - 2a	-	Suite 311	12" x 12" Vinyl Floor Tile	None Detected
GA - 311 - 2b	-	Suite 311	12" x 12" Vinyl Floor Tile	None Detected
GA - 311 - 3	3	Suite 311 (bathroom)	Roll Vinyl Flooring	None Detected
GA - 311 - 3a	-	Suite 311 (bathroom)	Roll Vinyl Flooring	None Detected
GA - 311 - 3b	-	Suite 311 (bathroom)	Roll Vinyl Flooring	None Detected
GA - 311 - 4	4	Suite 311 (balcony)	Cement Wall Panel (Transite Board)	30 % Chrysotile
GA - 311 - 5	-	Suite 311	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 311 - 5a	-	Suite 311	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 311 - 5b	5	Suite 311	Drywall Mud / Joint Compound (wall)	0.8 % Chrysotile
GA - 505 - 1	5	Suite 505	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 505 - 1a	-	Suite 505	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 505 - 1b	-	Suite 505	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 505 - 2	2	Suite 505	12" x 12" Vinyl Floor Tile	None Detected
GA - 505 - 2a	-	Suite 505	12" x 12" Vinyl Floor Tile	None Detected
GA - 505 - 2b	-	Suite 505	12" x 12" Vinyl Floor Tile	None Detected
GA - 505 - 3	1	Suite 505	Ceiling Texture Coat	None Detected
GA - 505 - 3a	-	Suite 505	Ceiling Texture Coat	None Detected
GA - 505 - 3b	-	Suite 505	Ceiling Texture Coat	None Detected

Sample No.	Photo #	Location	Material	Asbestos Content
GA - 505 - 4	4	Suite 505 (balcony)	Cement Wall Panel (Transite Board)	30 % Chrysotile
GA - 602 - 1	5	Suite 602	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 602 - 1a	-	Suite 602	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 602 - 1b	-	Suite 602	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 602 - 2	2	Suite 602	12" x 12" Vinyl Floor Tile	None Detected
GA - 602 - 2a	-	Suite 602	12" x 12" Vinyl Floor Tile	None Detected
GA - 602 - 2b	-	Suite 602	12" x 12" Vinyl Floor Tile	None Detected
GA - 602 - 3	1	Suite 602	Ceiling Texture Coat	None Detected
GA - 602 - 3a	-	Suite 602	Ceiling Texture Coat	None Detected
GA - 602 - 3b	-	Suite 602	Ceiling Texture Coat	None Detected
GA - 602 - 4	4	Suite 602 (balcony)	Cement Wall Panel (Transite Board)	30 % Chrysotile
GA - 807 - 1	-	Suite 807	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 807 - 1a	5	Suite 807	Drywall Mud / Joint Compound (wall)	0.5 % Chrysotile
GA - 807 - 2	2	Suite 807	12" x 12" Vinyl Floor Tile	None Detected
GA - 807 - 2a	-	Suite 807	12" x 12" Vinyl Floor Tile	None Detected
GA - 807 - 2b	-	Suite 807	12" x 12" Vinyl Floor Tile	None Detected
GA - 807 - 3	1	Suite 807	Ceiling Texture Coat	None Detected
GA - 807 - 3a	-	Suite 807	Ceiling Texture Coat	None Detected
GA - 807 - 3b	-	Suite 807	Ceiling Texture Coat	None Detected
GA - 807 - 4	4	Suite 807 (balcony)	Cement Wall Panel (Transite Board)	30 % Chrysotile
GA - 1107 - 1	5	Suite 1107	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 1107 - 1a	-	Suite 1107	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 1107 - 1b	-	Suite 1107	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - 1107 - 2	2	Suite 1107	12" x 12" Vinyl Floor Tile	None Detected
GA - 1107 - 2a	-	Suite 1107	12" x 12" Vinyl Floor Tile	None Detected
GA - 1107 - 2b	-	Suite 1107	12" x 12" Vinyl Floor Tile	None Detected

Sample No.	Photo #	Location	Material	Asbestos Content
GA - 1107 - 3	1	Suite 1107	Ceiling Texture Coat	None Detected
GA - 1107 - 3a	-	Suite 1107	Ceiling Texture Coat	None Detected
GA - 1107 - 3b	-	Suite 1107	Ceiling Texture Coat	None Detected
GA - 1107 - 4	4	Suite 1107 (balcony)	Cement Wall Panel (Transite Board)	30 % Chrysotile
GA - Hall - 10 - 1	6	Hallway # 10	Ceiling Texture Coat	None Detected
GA - Hall - 10 - 1a	-	Hallway # 10	Ceiling Texture Coat	None Detected
GA - Hall - 10 - 1b	-	Hallway # 10	Ceiling Texture Coat	None Detected
GA - Hall - 11 - 1	7	Hallway # 11	Drywall Mud / Joint Compound (wall)	None Detected
GA - Hall - 11 - 1a	-	Hallway # 11	Drywall Mud / Joint Compound (wall)	None Detected
GA - Hall - 11 - 1b	-	Hallway # 11	Drywall Mud / Joint Compound (wall)	None Detected
GA - Hall - 11 - 2	8	Hallway # 11	2' x 4' Drop Ceiling Tile (old)	None Detected
GA - Hall - 11 - 2a	-	Hallway # 11	2' x 4' Drop Ceiling Tile (old)	None Detected
GA - Hall - 11 - 2b	-	Hallway # 11	2' x 4' Drop Ceiling Tile (old)	None Detected
GA - Hall - 11 - 3	9	Hallway # 11	2' x 4' Drop Ceiling Tile (new)	None Detected
GA - Hall - 11 - 3a	-	Hallway # 11	2' x 4' Drop Ceiling Tile (new)	None Detected
GA - Hall - 11 - 3b	-	Hallway # 11	2' x 4' Drop Ceiling Tile (new)	None Detected
GA - LR - 2 - 1	10	Laundry Room (second floor)	Ceiling Texture Coat	None Detected
GA - LR - 2 - 1a	-	Laundry Room (second floor)	Ceiling Texture Coat	None Detected
GA - LR - 2 - 1b	-	Laundry Room (second floor)	Ceiling Texture Coat	None Detected
GA - Office - 2a - 1	-	Maintenance Office 2A (second floor)	12" x 12" Vinyl Floor Tile	None Detected
GA - Office - 2a - 1a	-	Maintenance Office 2A (second floor)	12" x 12" Vinyl Floor Tile	None Detected
GA - Office - 2a - 1b	-	Maintenance Office 2A (second floor)	12" x 12" Vinyl Floor Tile	None Detected
GA - M - 1	11	Office B (main floor)	Ceiling Texture Coat	None Detected
GA - M - 1a	-	Office B (main floor)	Ceiling Texture Coat	None Detected
GA - M - 1b	-	Office B (main floor)	Ceiling Texture Coat	None Detected
GA - M - 2	12	Meeting Room (main floor)	Wall Texture Coat	3 % Chrysotile
GA - M - 3	13	Craft Room B (main floor)	2' x 4' Drop Ceiling Tile	None Detected

Sample No.	Photo #	Location	Material	Asbestos Content
GA - M - 3a	-	Craft Room B (main floor)	2' x 4' Drop Ceiling Tile	None Detected
GA - M - 3b	-	Craft Room B (main floor)	2' x 4' Drop Ceiling Tile	None Detected
GA - M - 4	14	Craft Room B (main floor)	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - M - 4a	-	Craft Room B (main floor)	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - M - 4b	-	Craft Room B (main floor)	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - M - 5	15	Craft Room B (main floor)	12" x 12" Vinyl Floor Tile	0.7 % Chrysotile
GA - M - 6	16	Janitor's Room (main floor)	Roll Vinyl Flooring	None Detected
GA - M - 6a	-	Janitor's Room (main floor)	Roll Vinyl Flooring	None Detected
GA - M - 6b	-	Janitor's Room (main floor)	Roll Vinyl Flooring	None Detected
GA - M - 7	17	Storage # 1 (main floor)	Heat Shield in light fixture	25 % Chrysotile
GA - M - 8	18	Auditorium (main floor)	2' x 4' Drop Ceiling Tile	None Detected
GA - M - 8a	-	Auditorium (main floor)	2' x 4' Drop Ceiling Tile	None Detected
GA - M - 8b	-	Auditorium (main floor)	2' x 4' Drop Ceiling Tile	None Detected
GA - M - 9	19	Kitchen # 1 (main floor)	12" x 12" Vinyl Floor Tile	None Detected
GA - M - 9a	-	Kitchen # 1 (main floor)	12" x 12" Vinyl Floor Tile	None Detected
GA - M - 9b	-	Kitchen # 1 (main floor)	12" x 12" Vinyl Floor Tile	None Detected
GA - M - 10	20	Mechanical Room (main floor)	Elbow / Fitting Insulation on pipes	7 % Chrysotile
GA - M - 11	21	Garbage Room (main floor)	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - M - 11a	-	Garbage Room (main floor)	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - M - 11b	-	Garbage Room (main floor)	Drywall Mud / Joint Compound (wall)	< 0.5% Chrysotile (non ACM under Regs)
GA - M - 12	22	Fire Pump Room (main floor)	Elbow / Fitting Insulation on pipes	20 % Chrysotile
GA - M - 13	23	Exterior Soffits (main floor)	Plaster Coat on door and window overhangs	None Detected
GA - M - 13a	-	Exterior Soffits (main floor)	Plaster Coat on door and window overhangs	None Detected
GA - M - 13b	-	Exterior Soffits (main floor)	Plaster Coat on door and window overhangs	None Detected

## 6.0 RECOMMENDATIONS

Based on our study findings, the following recommendations and comments regarding ACM's encountered in the 135 Worthington Street West (Golden Age Towers) assessment are given, some of which may need to be addressed to meet current asbestos regulations and ensure an acceptable asbestos environment for the occupants of the building.

### 6.1 Cement Wall Panel (Transite Board) (non-friable)

The asbestos-containing cement wall panels (Transite) observed within the balconies of the suites / units inspected under this assessment (see photo # 4 in Appendix A) was found to be in good condition.

This asbestos-containing cement wall panels (Transite) is considered to be non-friable (i.e. there is a low potential for these materials to be ground or pulverised by hand pressure). Products with bound asbestos, such as these, pose no danger of releasing airborne fibres unless cut, sawn, ground or sanded mechanically.

All viewed asbestos-containing cement wall panels (Transite) could remain in-place in their present state with a yearly condition inspection being conducted. However, should future activities occur to any balcony surface which would disturb the asbestos-containing cement wall panels (Transite) or their condition deteriorates; Thomas Contracting recommends that the affected material be removed prior to these activities. This work must be carried out in accordance with R.R.O 2005, Reg. 278, Regulation respecting Asbestos on Construction Projects and in Building and Repair Operations.

### 6.2 Drywall Mud / Joint Compound (friable)

Asbestos-containing drywall mud / joint compound was observed / noted throughout the building. The majority of the asbestos-containing drywall mud / joint compound was noted to be in good condition at the time of the inspection.

All viewed asbestos-containing drywall mud / joint compound could remain in-place in its present state with yearly condition inspections being conducted. However, should future activities occur to any wall surface within the units which would disturb any of the asbestos-containing drywall mud / joint compound noted in this report or its condition deteriorates, Thomas Contracting recommends that this material be removed or repaired promptly. This work must be carried out in accordance with R.R.O 2005, Reg. 278, Regulation respecting Asbestos on Construction Projects and in Building and Repair Operations.

### 6.3 Wall Texture Coat (friable)

Asbestos-containing wall texture coat material, observed / noted on the walls within the main floor of the building (see photo # 12 in Appendix A) was found to be in generally good condition.

This viewed asbestos-containing wall texture coat material could remain in-place in its present state with a yearly condition inspection being conducted. However, should future activities occur to any wall surface within the main floor Meeting Room which would disturb any of the asbestos-containing wall texture coat material noted in this report or its condition deteriorates, Thomas Contracting recommends that this material be removed or repaired promptly. This work must be carried out in accordance with R.R.O 2005, Reg. 278, Regulation respecting Asbestos on Construction Projects and in Building and Repair Operations.

### 6.4 12" x 12" Vinyl Floor Tile (non-friable)

The asbestos-containing 12" x 12" vinyl floor tile observed mainly within the common areas of the building (see photo # 15 in Appendix A) was found to be in good condition.

These vinyl floor tiles are considered to be non-friable (i.e. there is a low potential for these materials to be ground or pulverised by hand pressure). Products with bound asbestos, such as these, pose no danger of releasing airborne fibres unless cut, sawn, ground or sanded mechanically.

All viewed asbestos-containing 12" x 12" vinyl floor tiles could remain in-place in their present state with a yearly condition inspection being conducted. However, should future activities occur to any floor surface which would disturb the asbestos-containing 12" x 12" vinyl floor tiles or their condition deteriorates; Thomas Contracting recommends that the affected material be removed prior to these activities. This work must be carried out in accordance with R.R.O 2005, Reg. 278, Regulation respecting Asbestos on Construction Projects and in Building and Repair Operations.



### 6.5 Heat Shield in light fixture (friable)

Asbestos-containing heat shield paper (silver), observed / noted mainly within the common areas of the building (see photo # 17 in Appendix A) was found to be in generally good condition.

This viewed asbestos-containing heat shield paper could remain in-place in its present state with a yearly condition inspection being conducted. However, should future activities occur to any ceiling light fixture within the building which would disturb any of the asbestos-containing heat shield paper noted in this report or its condition deteriorates, Thomas Contracting recommends that this material be removed or repaired promptly. This work must be carried out in accordance with R.R.O 2005, Reg. 278, Regulation respecting Asbestos on Construction Projects and in Building and Repair Operations.

### 6.6 Elbow / Fitting Insulation (friable)

The asbestos-containing elbow / fitting insulation observed on the piping within the mechanical rooms (see photo # 20 & 22 in Appendix A) was noted to be in fair condition (damaged canvass wrap). It is also suspected that other asbestos-containing elbows / fittings are present on the water lines located behind non-accessible fixed surfaces (ie. above drywall ceilings or inside wall cavities / bulkheads).

All asbestos-containing viewed elbow / fitting insulation could remain in-place in its present state pending minor repair work noted within Appendix 'C' this report. However, should future activities occur to / near any piping which would disturb the asbestos-containing elbow / fitting insulation noted in this report or their condition deteriorates; Thomas Contracting recommends that this material be removed promptly. This work must be carried out as outlined in R.R.O 2005, Reg. 278, Regulation respecting Asbestos on Construction Projects and in Building and Repair Operations.

### 6.7 General Notes

Workers / tenants engaged in any renovation work or maintenance activities prior to the removal of any of the asbestos-containing materials noted in this report, must avoid contact that could damage the material(s) and produce airborne fibres, necessitating clean-up procedures.

## 7.0 SUMMARY

An asbestos assessment of 6 representative Suites / Units plus common areas and the extrapolation of these findings to the other 100 non-inspected Suites / Units also located at 135 Worthington Street West (Golden Age Towers), North Bay, Ontario, indicates that the following asbestos-containing materials (ACM's) were identified within the building.

- a) **Cement Wall Panel (Transite Board) (non-friable)** – Located within the balconies areas of the suites / units throughout the building, Priority 2 remedial action is recommended with a yearly condition inspection being conducted.
- b) **Drywall Mud / Joint Compound (friable)** – Located throughout the building, Priority 2 remedial action is recommended with a yearly condition inspection being conducted.
- c) **Wall Texture Coat (friable)** – Located throughout the main floor of the building, Priority 2 remedial action is recommended with a yearly condition inspection being conducted.
- d) **12" x 12" Vinyl Floor Tile (non-friable)** – Located throughout the main floor of the building, Priority 2 remedial action is recommended with a yearly condition inspection being conducted.
- e) **Elbow / Fitting / Water Meter Insulation (friable)** – Located on the fiberglass insulated piping within the main floor Mechanical Room and Fire Pump Room. Pending minor repairs, priority 2 remedial action is recommended with a yearly condition inspection being conducted. It is also suspected that other asbestos-containing elbows / fittings are present on the piping located behind non-accessible fixed surfaces (ie. above drywall ceilings or inside wall cavities / bulkheads).

## 8.0 LIMITATIONS AND WARRANTY

*This report is for the exclusive use of the client, their agents, and is neither an endorsement nor condemnation of the subject property. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such parties. Thomas Contracting accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. In particular, any contractors engaged in demolition or renovation activities within this structure should satisfy themselves of the type and a quantity of ACM's found on-site, and adapt the appropriate work practices needed to comply with the applicable Provincial Codes and Regulations.*

*The findings and conclusions documented in this report have been prepared for specific application to this project and have been developed in a manner consistent with that level of care and skill normally exercised by qualified professionals currently practicing in this area of environmental assessment. No other warranty, expressed or implied, is made.*

*The findings contained in this report are based upon conditions as they were observed at the time of investigation. No assurance is made regarding changes in conditions subsequent to the time of the investigation.*

*Some findings contained in this report may be based upon information provided by occupants or employees. No guarantee is made regarding the accuracy of this information. All attempts have been made to independently verify the accuracy of such information unless specifically noted in our report.*

*If new information is developed in future work, Thomas Contracting should be contacted to re-evaluate the conclusions of this report and to provide amendments as required.*

## 9.0 CLOSURE

*We trust this report meets your current requirements. Should you have any questions in this regard or require further clarification, please do not hesitate to contact this office.*

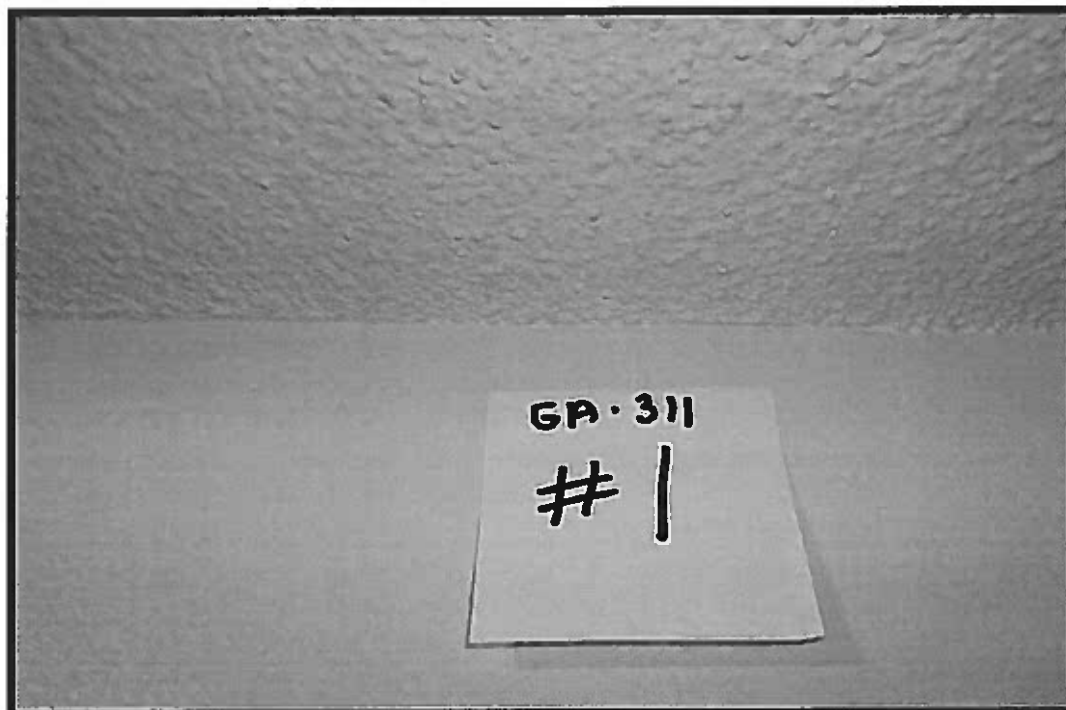
*Yours truly,  
Thomas Contracting*



*Grant Johnson  
Manager Asbestos Services*

**APPENDIX A**

**PHOTOS  
and  
LAB RESULTS**



**PHOTO # 1**

*Sample GA – 311 - 1 : Non-asbestos ceiling texture coat within Suite 311.  
Typical of ceiling texture coat found within all other Suites within the building.*



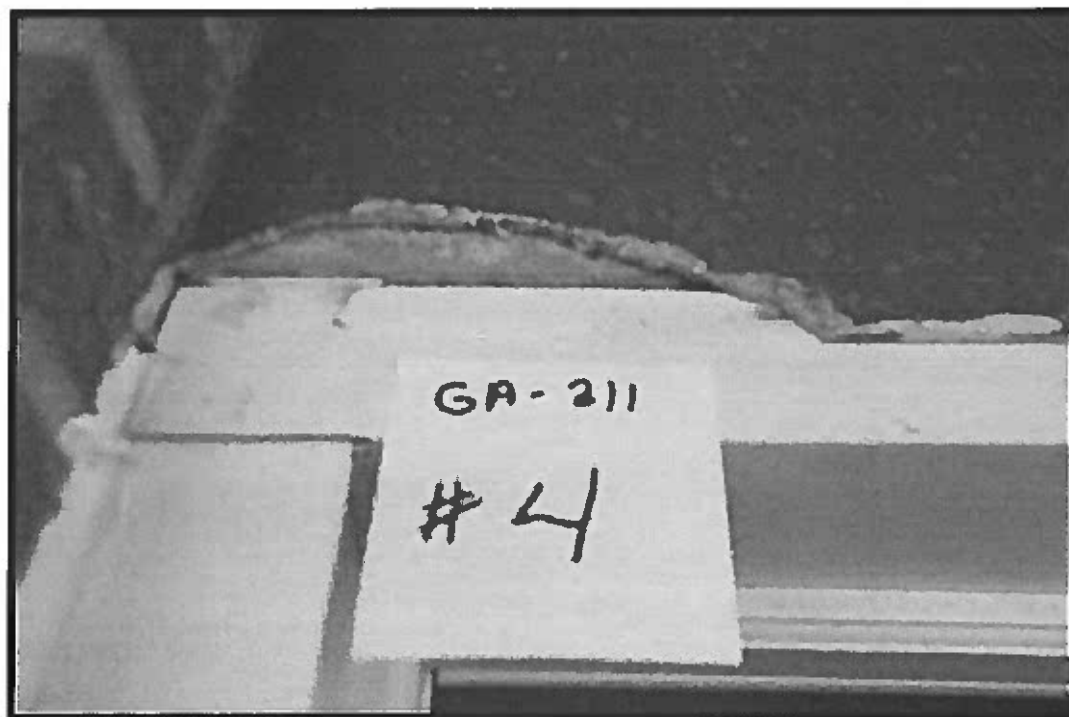
**PHOTO # 2**

*Sample GA – 311 - 2 : Non-asbestos 12" x 12" vinyl floor tile in Suite 311.  
Typical of 12" x 12" vinyl floor tile found within other Suites within the building.*



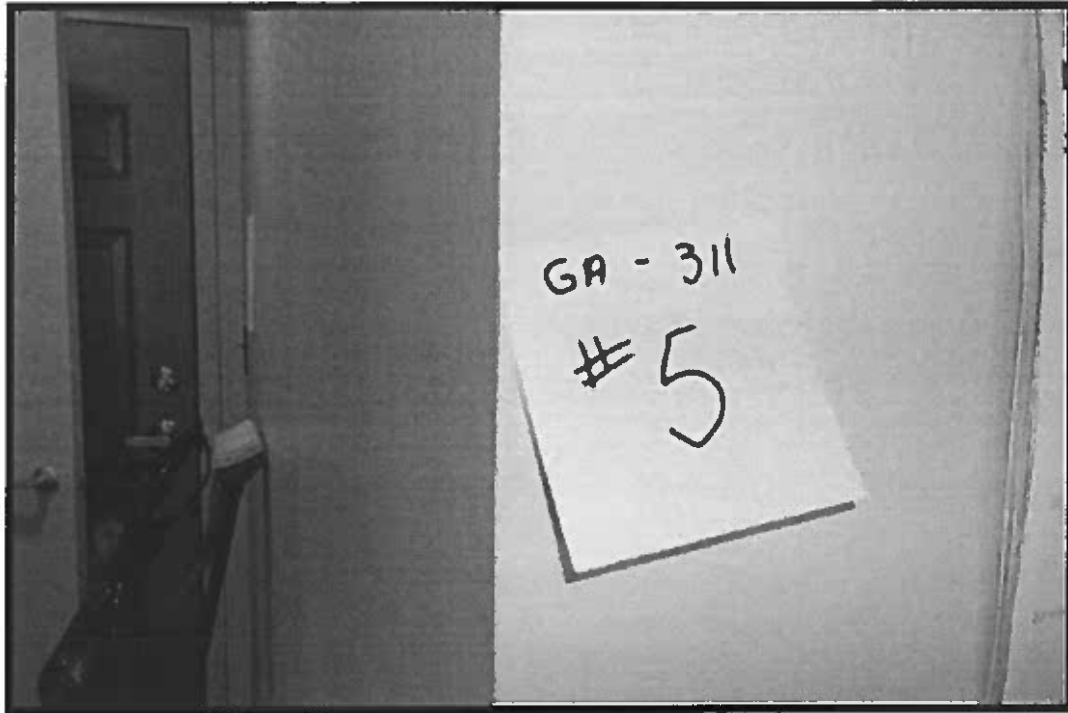
**PHOTO # 3**

*Sample GA - 311 - 3 : Non-asbestos roll vinyl flooring in bathroom of Suite 311.  
Typical of roll vinyl flooring found within bathroom area of other Suites within the building.*



**PHOTO # 4**

*Sample GA - 311 - 4 : Asbestos-containing cement wall panel (Transite board) in balcony of Suite 311.  
Typical of transite board found within balcony area of other Suites within the building. (30 % chrysotile)*



**PHOTO # 5**

*Sample GA - 311 - 5 : Asbestos-containing drywall mud / joint compound on walls in Suite 311.  
Typical of drywall mud / joint compound found within other Suites within the building. (0.8 % chrysotile)*



**PHOTO # 6**

*Sample GA - Hall - 10 - 1 : Non-asbestos ceiling texture coat in Hallway # 10.  
Typical of ceiling texture coat found within other hallways within the building.*



**PHOTO # 7**

*Sample GA - Hall - 11 - 1 : Non-asbestos drywall mud / joint compound on walls in Hallway # 11.  
Typical of drywall mud / joint compound found within other hallways within the building.*



**PHOTO # 8**

*Sample GA - Hall - 11 - 2 : Non-asbestos 2' x 4' drop ceiling tile in Hallway # 11.  
Typical of 2' x 4' drop ceiling tile found within other hallways within the building.*



**PHOTO # 9**

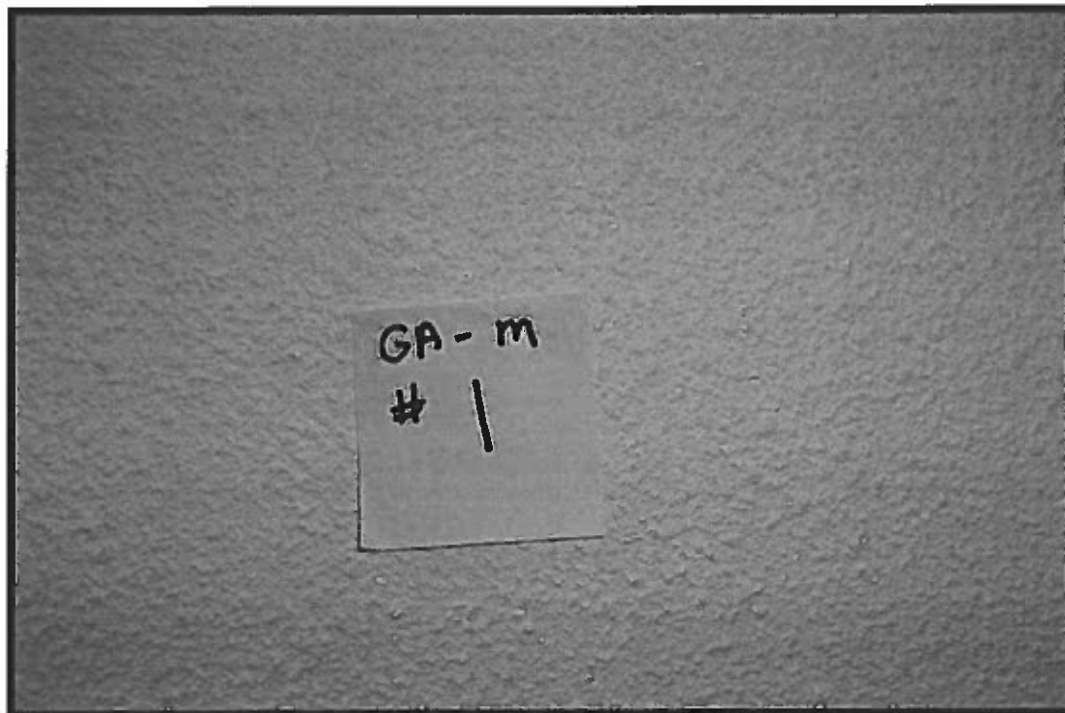
*Sample GA - Hall - 11 - 3 : Non-asbestos 2' x 4' drop ceiling tile in Hallway # 11.  
Typical of 2' x 4' drop ceiling tile found within other hallways within the building.*



**PHOTO # 10**

*Sample GA - LR - 2 - 1 : Non-asbestos ceiling texture coat in second floor Laundry Room.  
Typical of ceiling texture coat found within other common areas within the building.*





**PHOTO # 11**

*Sample GA - M - 1 : Non-asbestos ceiling texture coat in Office B (main floor).  
Typical of ceiling texture coat found within other common areas within the building.*



**PHOTO # 12**

*Sample GA - M - 2 : Asbestos-containing wall texture coat in main floor Meeting Room. (3 % chrysotile)*



**PHOTO # 13**

*Sample GA - M - 3 : Non-asbestos 2' x 4' drop ceiling tile in main floor Craft Room B.  
Typical of 2' x 4' drop ceiling tile found within other common areas within the building.*



**PHOTO # 14**

*Sample GA - M - 4 : Non-asbestos drywall mud / joint compound on walls in main floor Craft Room B.  
Typical of drywall mud / joint compound found within other common areas within the building.*



**PHOTO # 15**

*Sample GA - M - 5 : Asbestos-containing 12" x 12" vinyl floor tile in main floor Craft Room B.  
Typical of 12" x 12" vinyl floor tile found within other common areas within the building.*



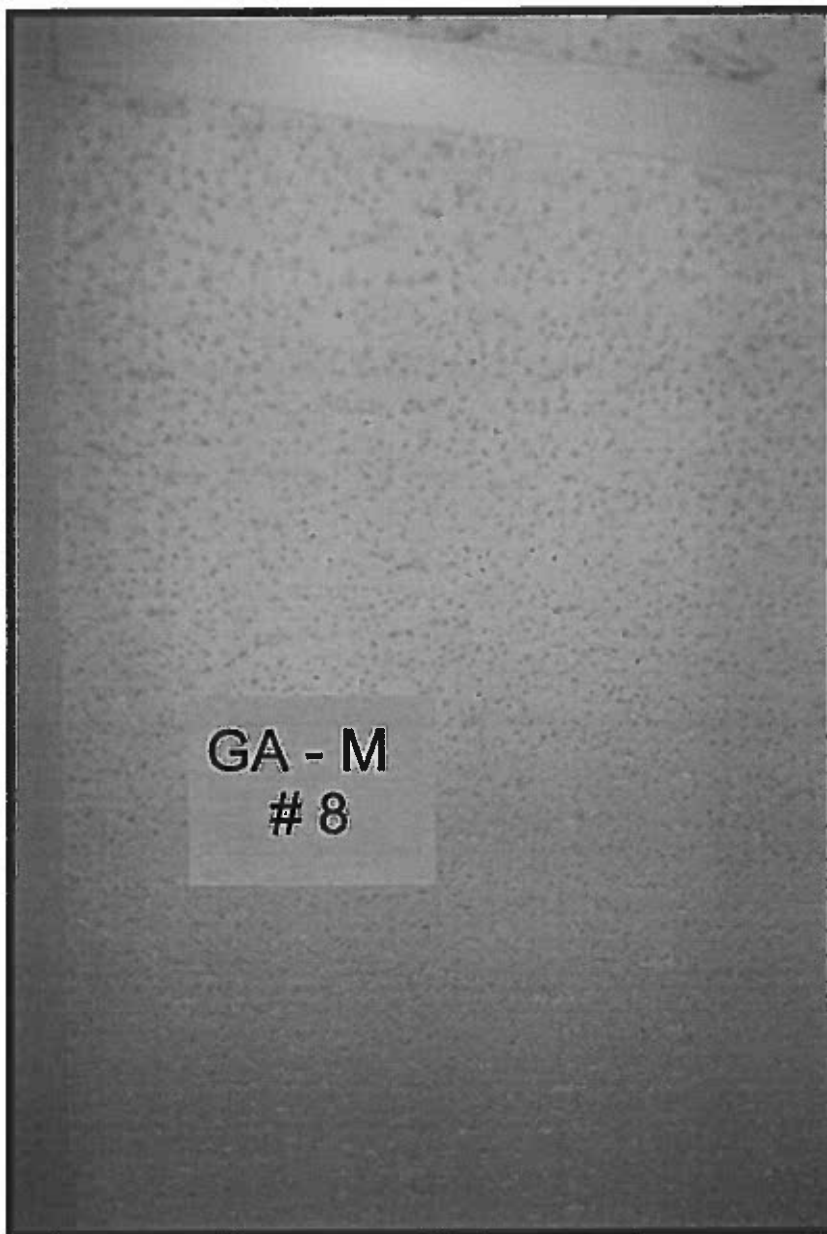
**PHOTO # 16**

*Sample GA - M - 6 : Non-asbestos roll vinyl flooring in main floor Janitor's Room.  
Typical of roll vinyl flooring found within other common areas within the building.*



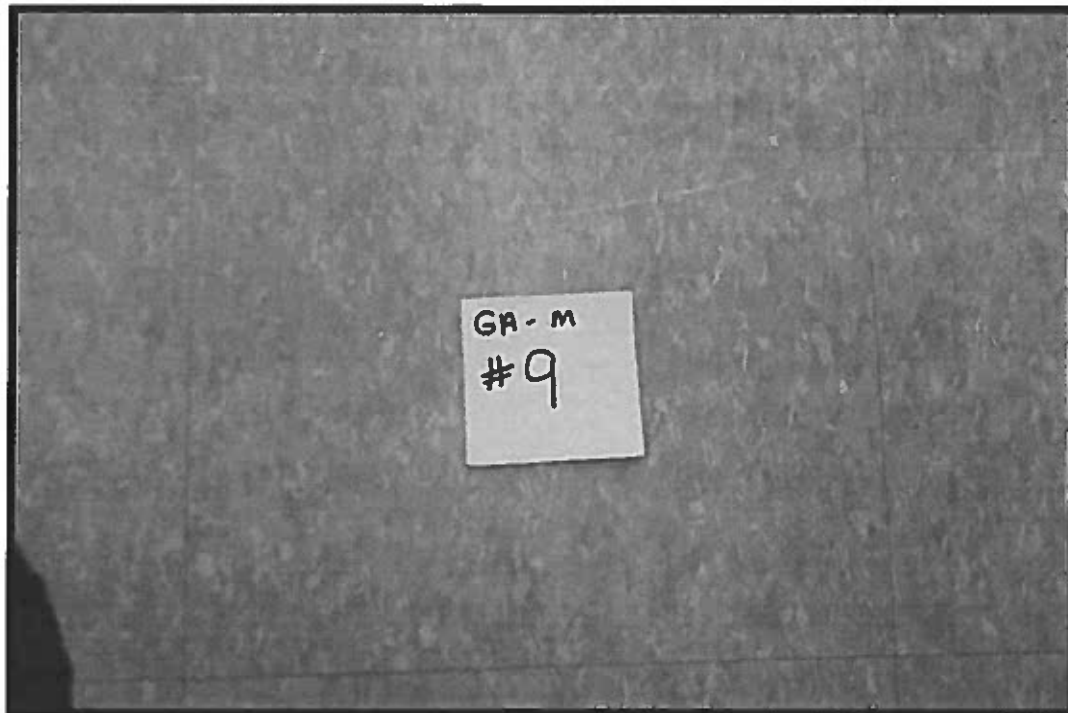
**PHOTO # 17**

*Sample GA - M - 7 : Asbestos-containing heat shield paper in ceiling mounted light fixture  
within main floor Storage # 1. (25 % chrysotile)*



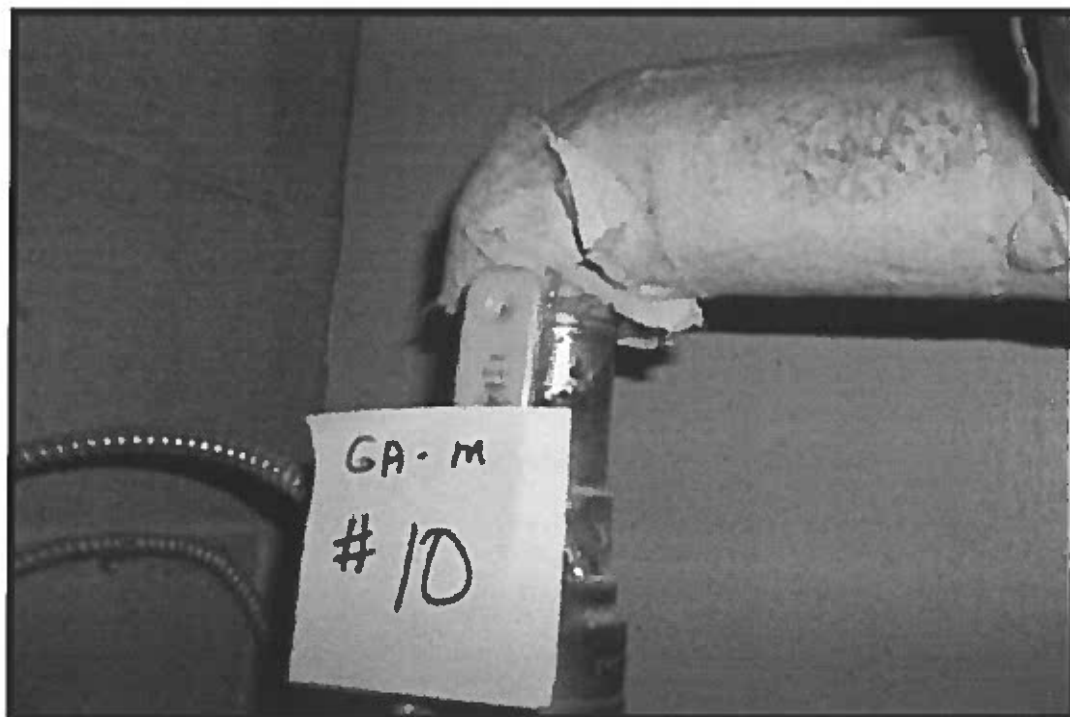
**PHOTO # 18**

*Sample GA - M - 8 : Non-asbestos 2' x 4' drop ceiling tile in main floor Auditorium.  
Typical of 2' x 4' drop ceiling tile found within other common areas within the building.*



**PHOTO # 19**

*Sample GA - M - 9 : Non-asbestos 12" x 12" vinyl floor tile in main floor Kitchen area.  
Typical of 12" x 12" vinyl floor tile found within other common areas within the building.*



**PHOTO # 20**

*Sample GA - M - 10 : Asbestos-containing elbow insulation  
on pipes in main floor Garbage Room. (7 % chrysotile)*



**PHOTO # 21**

*Sample GA - M - 11 : Non-asbestos drywall mud / joint compound in main floor Garbage Room. Typical of drywall mud / joint compound found within other common areas within the building.*



**PHOTO # 22**

*Sample GA - M - 12 : Asbestos-containing elbow insulation on pipes in main floor Fire Pump Room. (20 % chrysotile)*



**PHOTO # 23**

*Sample GA - M - 13 : Non-asbestos plaster soffit material on underside of exterior door and window overhangs to the building.*



**PHOTO # 24**

*Street view of 135 Worthington Street West (Golden Age Towers), North Bay, Ontario.*





**SOLUTIONS**  
FOR A WORKING WORLD

**CERTIFICATE OF ANALYSIS**

<b>Company:</b>	Thomas Contracting	<b>Report Date:</b>	20-Jul-16
<b>Contact:</b>	Mr. Grant Johnson	<b>Analysis Date:</b>	20-Jul-16
<b>Client Address:</b>	72 Ninovan Road, CALLANDER, ON	<b>Received Date:</b>	12-Jul-16
<b>Client Reference:</b>	135 Worthington Street - Unit 202	<b>LEX Project Number:</b>	08161002
<b>Sampling Date:</b>	13-Apr-16	<b>Number of Analyses:</b>	9

**Analysis Requested** Bulk Asbestos by PLM Page 1 of 3

Analysis was performed in accordance with the method EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials adopted in Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act Ontario Regulation 278/05. LEX Scientific Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP 101949) by the National Institute of Standards and Technology for analysis of bulk materials for asbestos.

German Leal, B.Sc.  
Laboratory Manager

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 202 - 1	Asbestos Detected?	No
<b>LEX Sample:</b> 01	Chrysotile:	None Detected
<b>Layers Analyzed:</b> Sample Homogenized	Amosite:	None Detected
<b>Colour:</b> Beige	Crocidolite:	None Detected
<b>Description:</b> Textured Ceiling Coat	Other Amphiboles:	None Detected
	Cellulose:	None Detected
	MIMVF:	None Detected
	Other Fibres:	1
	Non Fibrous:	99
	Comments:	N/A

Other Amphiboles: actinolite, anthophyllite, tremolite, unidentified  
MIMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
PLM - method detection limit is 0.1%

**Analyst**

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e-mail: admin@lexscientific.com Website: www.lexscientific.com

Company: Thomas Contracting LEX Project # 08161002 Page 2 of 3

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 202 - 2	Asbestos Detected?	No
<b>LEX Sample:</b> 02	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - 202 - 3	Asbestos Detected?	Yes
<b>LEX Sample:</b> 03	<b>Chrysotile:</b> < 0.5	<b>Cellulose:</b> 2
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 98
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - 202 - 1a	Asbestos Detected?	No
<b>LEX Sample:</b> 04	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> 1
<b>Description:</b> Textured Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 98
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - 202 - 1b	Asbestos Detected?	No
<b>LEX Sample:</b> 05	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> 1
<b>Description:</b> Textured Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - 202 - 2a	Asbestos Detected?	No
<b>LEX Sample:</b> 06	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	

Other Amphiboles: a=actinolite, a=anthophyllite, t=trémolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 P.M. - method detection limit is 0.1%



Analyst

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Company: Thomas Contracting LEX Project # 08161002 Page 3 of 3

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 202 - 2b	<b>Asbestos Detected?</b> No	
<b>LEX Sample:</b> 07	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - 202 - 3a	<b>Asbestos Detected?</b> Yes	
<b>LEX Sample:</b> 08	<b>Chrysotile:</b> < 0.5	<b>Cellulose:</b> 3
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 97
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - 202 - 3b	<b>Asbestos Detected?</b> Yes	
<b>LEX Sample:</b> 09	<b>Chrysotile:</b> < 0.5	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	

Other Amphiboles: a=actinolite, a=anthophyllite, t=trémolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 P.M. - method detection limit is 0.1%



Analyst

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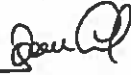
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**CERTIFICATE OF ANALYSIS**

<b>Company:</b> Thomas Contracting	<b>Report Date:</b> 20-Jul-16
<b>Contact:</b> Mr. Grant Johnson	<b>Analysis Date:</b> 19-Jul-16
<b>Client Address:</b> 72 Ninovan Road, CALLANDER, ON	<b>Received Date:</b> 12-Jul-16
<b>Client Reference:</b> 135 Worthington Street - Unit 311	<b>LEX Project Number:</b> 08161001
<b>Sampling Date:</b> 13-Apr-16	<b>Number of Analyses:</b> 13

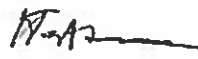
**Analysis Requested** Bulk Asbestos by PLM Page 1 of 4

Analysis was performed in accordance with the method EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials adopted in Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act Ontario Regulation 278/05. LEX Scientific Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP 101949) by the National Institute of Standards and Technology for analysis of bulk materials for asbestos.

  
 German Leal, B.Sc.  
 Laboratory Manager

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 311 - 1	Asbestos Detected?	No
<b>LEX Sample:</b> 01	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crucidolite:</b> None Detected	<b>Other Fibres:</b> 1
<b>Description:</b> Textured Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 98
	<b>Comments:</b> N/A	

Other Amphiboles: a=actinolite, an=anthophyllite, t-tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%

  
 Analyst

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Company: Thomas Contracting LEX Project # 08161001 Page 2 of 4

Fibrous Asbestos Content %	Other Materials Content %
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<p><b>Client Sample:</b> GA-311-2  <b>LEX Sample:</b> 02  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> Beige/Brown  <b>Description:</b> 12" x 12" Vinyl Floor Tile</p>	<p><b>Asbestos Detected?</b> No</p> <p><b>Chrysotile:</b> None Detected  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected</p> <p><b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.</p>	<p><b>Cellulose:</b> None Detected  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 100</p>
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<p><b>Client Sample:</b> GA-311-3  <b>LEX Sample:</b> 03  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> Beige  <b>Description:</b> Roll Vinyl Flooring (bathroom)</p>	<p><b>Asbestos Detected?</b> No</p> <p><b>Chrysotile:</b> None Detected  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected</p> <p><b>Comments:</b> N/A</p>	<p><b>Cellulose:</b> 15  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 85</p>
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<p><b>Client Sample:</b> GA-311-4  <b>LEX Sample:</b> 04  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> Brown/Beige/Grey  <b>Description:</b> Transite Panel (balcony)</p>	<p><b>Asbestos Detected?</b> Yes</p> <p><b>Chrysotile:</b> 30  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected</p> <p><b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.</p>	<p><b>Cellulose:</b> 1  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 69</p>
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<p><b>Client Sample:</b> GA-311-5  <b>LEX Sample:</b> 05  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> Beige  <b>Description:</b> Drywall Mud / Joint Compound</p>	<p><b>Asbestos Detected?</b> Yes</p> <p><b>Chrysotile:</b> &lt; 0.5  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected</p> <p><b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.</p>	<p><b>Cellulose:</b> 1  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 99</p>
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<p><b>Client Sample:</b> GA-311-1a  <b>LEX Sample:</b> 06  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> White  <b>Description:</b> Textured Ceiling Coat</p>	<p><b>Asbestos Detected?</b> No</p> <p><b>Chrysotile:</b> None Detected  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected</p> <p><b>Comments:</b> N/A</p>	<p><b>Cellulose:</b> None Detected  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 100</p>
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Other Amphiboles: a=actinolite, a=anthophyllite, t-tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glass wool  
 PLM - method detection limit is 0.1%



Analyst

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Company: Thomas Contracting LEX Project # 08161001 Page 3 of 4

Fibrous Asbestos Content %	Other Materials Content %
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<p><b>Client Sample:</b> GA - 311 - 1b  <b>LEX Sample:</b> 07  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> White  <b>Description:</b> Textured Ceiling Coat</p>	<p><b>Asbestos Detected?</b> No</p> <p><b>Chrysotile:</b> None Detected  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected  <b>Comments:</b> N/A</p>	<p><b>Cellulose:</b> 2  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 98</p>
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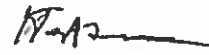
<p><b>Client Sample:</b> GA - 311 - 2a  <b>LEX Sample:</b> 08  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> Beige/Brown  <b>Description:</b> 12" x 12" Vinyl Floor Tile</p>	<p><b>Asbestos Detected?</b> No</p> <p><b>Chrysotile:</b> None Detected  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected  <b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.</p>	<p><b>Cellulose:</b> None Detected  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 100</p>
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<p><b>Client Sample:</b> GA - 311 - 2b  <b>LEX Sample:</b> 09  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> Beige/Brown  <b>Description:</b> 12" x 12" Vinyl Floor Tile</p>	<p><b>Asbestos Detected?</b> No</p> <p><b>Chrysotile:</b> None Detected  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected  <b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.</p>	<p><b>Cellulose:</b> None Detected  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 100</p>
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<p><b>Client Sample:</b> GA - 311 - 3a  <b>LEX Sample:</b> 10  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> Beige  <b>Description:</b> Roll Vinyl Flooring (bathroom)</p>	<p><b>Asbestos Detected?</b> No</p> <p><b>Chrysotile:</b> None Detected  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected  <b>Comments:</b> N/A</p>	<p><b>Cellulose:</b> 15  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 85</p>
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<p><b>Client Sample:</b> GA - 311 - 3b  <b>LEX Sample:</b> 11  <b>Layers Analyzed:</b> Sample Homogenized  <b>Colour:</b> Beige  <b>Description:</b> Roll Vinyl Flooring (bathroom)</p>	<p><b>Asbestos Detected?</b> No</p> <p><b>Chrysotile:</b> None Detected  <b>Amosite:</b> None Detected  <b>Crocidolite:</b> None Detected  <b>Other Amphiboles:</b> None Detected  <b>Comments:</b> N/A</p>	<p><b>Cellulose:</b> 15  <b>MMVF:</b> None Detected  <b>Other Fibres:</b> None Detected  <b>Non Fibrous:</b> 85</p>
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Other Amphiboles: a=actinolite, u=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibers: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%



Analyst

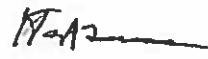
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Company: Thomas Contracting LEX Project # 08161001 Page 4 of 4

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA-311-5a	<b>Asbestos Detected?</b> Yes	
<b>LEX Sample:</b> 14	<b>Chrysotile:</b> < 0.5	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	
<b>Client Sample:</b> GA-311-5b	<b>Asbestos Detected?</b> Yes	
<b>LEX Sample:</b> 15	<b>Chrysotile:</b> 0.8	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 98.2
	<b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.	

Other Amphiboles: a=actinolite, a=anthophyllite, t-tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool,  
 Glass wool  
 PLM - method detection limit is 0.1%



Analyst

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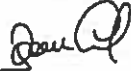
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**CERTIFICATE OF ANALYSIS**

<b>Company:</b> Thomas Contracting	<b>Report Date:</b> 20-Jul-16
<b>Contact:</b> Mr. Grant Johnson	<b>Analysis Date:</b> 20-Jul-16
<b>Client Address:</b> 72 Ninovan Road, CALLANDER, ON	<b>Received Date:</b> 12-Jul-16
<b>Client Reference:</b> 135 Worthington Street - Unit 505	<b>LEX Project Number:</b> 08161003
<b>Sampling Date:</b> 13-Apr-16	<b>Number of Analyses:</b> 10

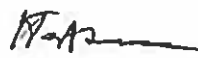
**Analysis Requested** Bulk Asbestos by PLM Page 1 of 3

Analysis was performed in accordance with the method EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials adopted in Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act Ontario Regulation 278/05. LEX Scientific Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP 101949) by the National Institute of Standards and Technology for analysis of bulk materials for asbestos.

  
 German Leal, B.Sc.  
 Laboratory Manager

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA-505-1	<b>Asbestos Detected?</b> Yes	
<b>LEX Sample:</b> 01	<b>Chrysotile:</b> < 0.5	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	

Other Amphiboles: a=actinolite, an=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool,  
 Glass wool  
 PLM - method detection limit is 0.1%

  
 Analyst

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 e-mail: admin@lexscientific.com Website: www.lexscientific.com



Company: Thomas Contracting LEX Project # 08161003 Page 2 of 3

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 505 - 2 <b>LEX Sample:</b> 02 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Beige <b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Asbestos Detected?</b> No  <b>Chrysotile:</b> None Detected <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	<b>Cellulose:</b> None Detected <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 100
<b>Client Sample:</b> GA - 505 - 3 <b>LEX Sample:</b> 03 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> White <b>Description:</b> Textured Ceiling Coat	<b>Asbestos Detected?</b> No  <b>Chrysotile:</b> None Detected <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> N/A	<b>Cellulose:</b> 1 <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 99
<b>Client Sample:</b> GA - 505 - 4 <b>LEX Sample:</b> 04 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Brown/Grey/Beige <b>Description:</b> Transit Panel (balcony)	<b>Asbestos Detected?</b> Yes  <b>Chrysotile:</b> 30 <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.	<b>Cellulose:</b> None Detected <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 70
<b>Client Sample:</b> GA - 505 - 1a <b>LEX Sample:</b> 05 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Beige <b>Description:</b> Drywall Mud / Joint Compound	<b>Asbestos Detected?</b> Yes  <b>Chrysotile:</b> < 0.5 <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	<b>Cellulose:</b> 3 <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 97
<b>Client Sample:</b> GA - 505 - 1b <b>LEX Sample:</b> 06 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Beige <b>Description:</b> Drywall Mud / Joint Compound	<b>Asbestos Detected?</b> Yes  <b>Chrysotile:</b> < 0.5 <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	<b>Cellulose:</b> 3 <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 97

Other Amphiboles: a=actinolite, u=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%

*[Signature]*

Analyst

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Company: Thomas Contracting LEX Project # 08161003 Page 3 of 3

Fibrous Asbestos Content %	Other Materials Content %
----------------------------	---------------------------

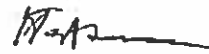
<b>Client Sample:</b> GA - 505 - 2a	<b>Asbestos Detected?</b> No	
<b>LEX Sample:</b> 07	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	

<b>Client Sample:</b> GA - 505 - 2b	<b>Asbestos Detected?</b> No	
<b>LEX Sample:</b> 08	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	

<b>Client Sample:</b> GA - 505 - 3a	<b>Asbestos Detected?</b> No	
<b>LEX Sample:</b> 09	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Textured Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	

<b>Client Sample:</b> GA - 505 - 3b	<b>Asbestos Detected?</b> No	
<b>LEX Sample:</b> 10	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Textured Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	

Other Amphiboles: a=actinolite, o=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%



Analyst

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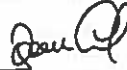
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**CERTIFICATE OF ANALYSIS**

<b>Company:</b> Thomas Contracting	<b>Report Date:</b> 20-Jul-16
<b>Contact:</b> Mr. Grant Johnson	<b>Analysis Date:</b> 20-Jul-16
<b>Client Address:</b> 72 Ninovan Road, CALLANDER, ON	<b>Received Date:</b> 12-Jul-16
<b>Client Reference:</b> 135 Worthington Street - Unit 602	<b>LEX Project Number:</b> 08161004
<b>Sampling Date:</b> 13-Apr-16	<b>Number of Analyses:</b> 10


**Analysis Requested** Bulk Asbestos by PLM Page 1 of 3

Analysis was performed in accordance with the method EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials adopted in Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act Ontario Regulation 278/05. LEX Scientific Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP 101949) by the National Institute of Standards and Technology for analysis of bulk materials for asbestos.

  
 German Leal, B.Sc.  
 Laboratory Manager

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 602 - 1	<b>Asbestos Detected?</b> Yes	
<b>LEX Sample:</b> 01	<b>Chrysotile:</b> <0.5	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	

Other Amphiboles: ac=actinolite, an=anthophyllite, t-tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%

  
 Analyst

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 1.800.824.7082  
 e-mail: admin@lexscientific.com Website: www.lexscientific.com

Company: Thomas Contracting LEX Project # 08161004 Page 2 of 3

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 602 - 2 <b>LEX Sample:</b> 02 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Beige <b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Asbestos Detected?</b> No <b>Chrysotile:</b> None Detected <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	<b>Cellulose:</b> None Detected <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 100
<b>Client Sample:</b> GA - 602 - 3 <b>LEX Sample:</b> 03 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> White <b>Description:</b> Textured Ceiling Coat	<b>Asbestos Detected?</b> No <b>Chrysotile:</b> None Detected <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> N/A	<b>Cellulose:</b> 1 <b>MMVF:</b> None Detected <b>Other Fibres:</b> 1 <b>Non Fibrous:</b> 98
<b>Client Sample:</b> GA - 602 - 4 <b>LEX Sample:</b> 04 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Brown/Grey/Beige <b>Description:</b> Transit Panel (balcony)	<b>Asbestos Detected?</b> Yes <b>Chrysotile:</b> 30 <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.	<b>Cellulose:</b> 3 <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 67
<b>Client Sample:</b> GA - 602 - 1a <b>LEX Sample:</b> 05 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Beige <b>Description:</b> Drywall Mud / Joint Compound	<b>Asbestos Detected?</b> Yes <b>Chrysotile:</b> < 0.5 <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	<b>Cellulose:</b> 2 <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 98
<b>Client Sample:</b> GA - 602 - 1b <b>LEX Sample:</b> 06 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Beige <b>Description:</b> Drywall Mud / Joint Compound	<b>Asbestos Detected?</b> Yes <b>Chrysotile:</b> < 0.5 <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	<b>Cellulose:</b> 1 <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 99

Other Amphiboles: a=actinolite, a=anthophyllite, t-tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%



Analyst

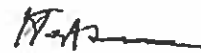
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Company: Thomas Contracting LEX Project # 08161004 Page 3 of 3

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 602 - 2a <b>LEX Sample:</b> 07 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Beige <b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Asbestos Detected?</b> No <b>Chrysotile:</b> None Detected <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	<b>Cellulose:</b> None Detected <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 100
<b>Client Sample:</b> GA - 602 - 2b <b>LEX Sample:</b> 08 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> Beige <b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Asbestos Detected?</b> No <b>Chrysotile:</b> None Detected <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	<b>Cellulose:</b> None Detected <b>MMVF:</b> None Detected <b>Other Fibres:</b> None Detected <b>Non Fibrous:</b> 100
<b>Client Sample:</b> GA - 602 - 3a <b>LEX Sample:</b> 09 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> White <b>Description:</b> Textured Ceiling Coat	<b>Asbestos Detected?</b> No <b>Chrysotile:</b> None Detected <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> N/A	<b>Cellulose:</b> 1 <b>MMVF:</b> None Detected <b>Other Fibres:</b> 1 <b>Non Fibrous:</b> 98
<b>Client Sample:</b> GA - 602 - 3b <b>LEX Sample:</b> 10 <b>Layers Analyzed:</b> Sample Homogenized <b>Colour:</b> White <b>Description:</b> Textured Ceiling Coat	<b>Asbestos Detected?</b> No <b>Chrysotile:</b> None Detected <b>Amosite:</b> None Detected <b>Crocidolite:</b> None Detected <b>Other Amphiboles:</b> None Detected <b>Comments:</b> N/A	<b>Cellulose:</b> 2 <b>MMVF:</b> None Detected <b>Other Fibres:</b> 1 <b>Non Fibrous:</b> 97

Other Amphiboles: a=actinolite, a=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%



Analyst

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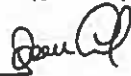
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**CERTIFICATE OF ANALYSIS**

<b>Company:</b> Thomas Contracting	<b>Report Date:</b> 21-Jul-16
<b>Contact:</b> Mr. Grant Johnson	<b>Analysis Date:</b> 21-Jul-16
<b>Client Address:</b> 72 Ninovan Road, CALLANDER, ON	<b>Received Date:</b> 12-Jul-16
<b>Client Reference:</b> 135 Worthington Street - Unit 807	<b>LEX Project Number:</b> 08161005
<b>Sampling Date:</b> 13-Apr-16	<b>Number of Analyses:</b> 9


**Analysis Requested** Bulk Asbestos by PLM Page 1 of 3

Analysis was performed in accordance with the method EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials adopted in Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act Ontario Regulation 278/05. LEX Scientific Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP 101949) by the National Institute of Standards and Technology for analysis of bulk materials for asbestos.

  
 German Leal, B.Sc.  
 Laboratory Manager

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 807 - 1	<b>Asbestos Detected?</b> Yes	
<b>LEX Sample:</b> 01	<b>Chrysotile:</b> < 0.5	<b>Cellulose:</b> 2
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Cruciolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 98
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	

Other Amphiboles: a=actinolite, a=anthophyllite, t-tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glass wool  
 PSM - method detection limit is 0.1%

  
 Analyst

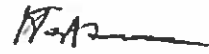
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 e-mail: admin@lexscientific.com Website: www.lexscientific.com

Company: Thomas Contracting LEX Project # 08161005 Page 2 of 3

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 807 - 2	Asbestos Detected?	No
<b>LEX Sample:</b> 02	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	
<b>Client Sample:</b> GA - 807 - 3	Asbestos Detected?	No
<b>LEX Sample:</b> 03	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 2
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> 1
<b>Description:</b> Textured Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 97
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - 807 - 4	Asbestos Detected?	Yes
<b>LEX Sample:</b> 04	<b>Chrysotile:</b> 30	<b>Cellulose:</b> 2
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Brown/Grey/Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Transit Panel (balcony)	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 68
	<b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - 807 - 1a	Asbestos Detected?	Yes
<b>LEX Sample:</b> 05	<b>Chrysotile:</b> 0.5	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 98.5
	<b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - 807 - 2a	Asbestos Detected?	No
<b>LEX Sample:</b> 07	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	

Other Amphiboles: a=actinolite, w=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glass wool  
 PLM - method detection limit is 0.1%



Analyst

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Company: Thomas Contracting LEX Project # 08161005 Page 3 of 3

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 807 - 2b	<b>Asbestos Detected?</b> No	
<b>LEX Sample:</b> 08	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	
<b>Client Sample:</b> GA - 807 - 3a	<b>Asbestos Detected?</b> No	
<b>LEX Sample:</b> 09	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 2
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> 1
<b>Description:</b> Textured Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 97
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - 807 - 3b	<b>Asbestos Detected?</b> No	
<b>LEX Sample:</b> 10	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> 1
<b>Description:</b> Textured Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 98
	<b>Comments:</b> N/A	

Other Amphiboles: a=actinolite, an=anthophyllite, t=trémolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%



Analyst

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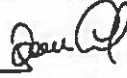
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**CERTIFICATE OF ANALYSIS**

<b>Company:</b> Thomas Contracting	<b>Report Date:</b> 21-Jul-16
<b>Contact:</b> Mr. Grant Johnson	<b>Analysis Date:</b> 21-Jul-16
<b>Client Address:</b> 72 Nunovan Road, CALLANDER, ON	<b>Received Date:</b> 12-Jul-16
<b>Client Reference:</b> 135 Worthington Street - Unit 1107	<b>LEX Project Number:</b> 08161006
<b>Sampling Date:</b> 13-Apr-16	<b>Number of Analyses:</b> 10

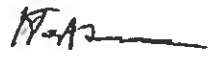
**Analysis Requested** Bulk Asbestos by PLM Page 1 of 3

Analysis was performed in accordance with the method EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials adopted in Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act Ontario Regulation 278/05. LEX Scientific Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP 101949) by the National Institute of Standards and Technology for analysis of bulk materials for asbestos.

  
 German Leal, B.Sc.  
 Laboratory Manager

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA-1107-1	<b>Asbestos Detected?</b> Yes	
<b>LEX Sample:</b> 01	<b>Chrysotile:</b> <0.5	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	

Other Amphiboles: a=actinolite, w=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%

  
 Analyst

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2 Quebec Street, Suite 204 Guelph, Ontario N1H 2T3  
 1.800.824.7082  
 e-mail: admin@lexscientific.com Website: www.lexscientific.com

Company: Thomas Contracting LEX Project # 08161006 Page 2 of 3

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - 1107 - 2	Asbestos Detected?	No
<b>LEX Sample:</b> 02	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.	
<b>Client Sample:</b> GA - 1107 - 3	Asbestos Detected?	No
<b>LEX Sample:</b> 03	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Textured Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - 1107 - 4	Asbestos Detected?	Yes
<b>LEX Sample:</b> 04	<b>Chrysotile:</b> 30	<b>Cellulose:</b> 2
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Brown/Grey/Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Transit Panel (balcony)	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 68
	<b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - 1107 - 1a	Asbestos Detected?	Yes
<b>LEX Sample:</b> 05	<b>Chrysotile:</b> <0.5	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - 1107 - 1b	Asbestos Detected?	Yes
<b>LEX Sample:</b> 06	<b>Chrysotile:</b> <0.5	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Beige	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	

Other Amphiboles: a=actinolite, a=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glass wool  
 PLM - method detection limit is 0.1%

*[Signature]*

Analyst

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Company: Thomas Contracting LEX Project # 08161006 Page 3 of 3

Fibrous Asbestos Content %	Other Materials Content %
----------------------------	---------------------------

**Client Sample:** GA - 1107 - 2a      **Asbestos Detected?**      No

**LEX Sample:** 07      **Chrysotile:** None Detected      **Cellulose:** None Detected

**Layers Analyzed:** Sample Homogenized      **Amosite:** None Detected      **MMVF:** None Detected

**Colour:** Beige      **Crocidolite:** None Detected      **Other Fibres:** None Detected

**Description:** 12" x 12" Vinyl Floor Tile      **Other Amphiboles:** None Detected      **Non Fibrous:** 100

**Comments:** Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.

**Client Sample:** GA - 1107 - 2b      **Asbestos Detected?**      No

**LEX Sample:** 08      **Chrysotile:** None Detected      **Cellulose:** None Detected

**Layers Analyzed:** Sample Homogenized      **Amosite:** None Detected      **MMVF:** None Detected

**Colour:** Beige      **Crocidolite:** None Detected      **Other Fibres:** None Detected

**Description:** 12" x 12" Vinyl Floor Tile      **Other Amphiboles:** None Detected      **Non Fibrous:** 100

**Comments:** Small asbestos fibres are suspected and unable to be resolved by PLM. TEM analysis is recommended.

**Client Sample:** GA - 1107 - 3a      **Asbestos Detected?**      No

**LEX Sample:** 09      **Chrysotile:** None Detected      **Cellulose:** 1

**Layers Analyzed:** Sample Homogenized      **Amosite:** None Detected      **MMVF:** None Detected

**Colour:** White      **Crocidolite:** None Detected      **Other Fibres:** 1

**Description:** Textured Ceiling Coat      **Other Amphiboles:** None Detected      **Non Fibrous:** 98

**Comments:** N/A

**Client Sample:** GA - 1107 - 3b      **Asbestos Detected?**      No

**LEX Sample:** 10      **Chrysotile:** None Detected      **Cellulose:** 1

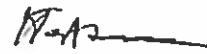
**Layers Analyzed:** Sample Homogenized      **Amosite:** None Detected      **MMVF:** None Detected

**Colour:** White      **Crocidolite:** None Detected      **Other Fibres:** None Detected

**Description:** Textured Ceiling Coat      **Other Amphiboles:** None Detected      **Non Fibrous:** 99

**Comments:** N/A

Other Amphiboles: a=actinolite, a=anthophyllite, t tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%



Analyst

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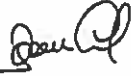
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**CERTIFICATE OF ANALYSIS**

<b>Company:</b> Thomas Contracting	<b>Report Date:</b> 05-Aug-16
<b>Contact:</b> Mr. Grant Johnson	<b>Analysis Date:</b> 04-Aug-16
<b>Client Address:</b> 72 Ninovan Road, CALLANDER, ON	<b>Received Date:</b> 27-Jul-16
<b>Client Reference:</b> 135 Worthington Street - Common Areas	<b>LEX Project Number:</b> 08161083
<b>Sampling Date:</b> 13-Apr-16	<b>Number of Analyses:</b> 47

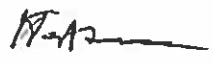
**Analysis Requested** Bulk Asbestos by PLM Page 1 of 10

Analysis was performed in accordance with the method EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials adopted in Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act Ontario Regulation 278/05. LEX Scientific Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP 101949) by the National Institute of Standards and Technology for analysis of bulk materials for asbestos.

  
 German Leal, B.Sc.  
 Laboratory Manager

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - Hall - 10 - 1	Asbestos Detected?	No
<b>LEX Sample:</b> 1	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Texture Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> N/A	

Other Amphiboles: a=actinolite, an=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%



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 1.800.824.7082  
 e-mail: admin@lexscientific.com Website: www.lexscientific.com

Company: Thomas Contracting LEX Project # 08161083 Page 2 of 10

	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - M - 4	Asbestos Detected? Yes	
<b>LEX Sample:</b> 10	Chrysotile: < 0.5	Cellulose: 2
<b>Layers Analyzed:</b> Sample Homogenized	Amosite: None Detected	MMVF: None Detected
<b>Colour:</b> Cream	Crocidolite: None Detected	Other Fibres: None Detected
<b>Description:</b> Drywall Mud / Joint Compound	Other Amphiboles: None Detected	Non Fibrous: 98
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - M - 5	Asbestos Detected? Yes	
<b>LEX Sample:</b> 11	Chrysotile: 0.7	Cellulose: None Detected
<b>Layers Analyzed:</b> Sample Homogenized	Amosite: None Detected	MMVF: None Detected
<b>Colour:</b> Beige	Crocidolite: None Detected	Other Fibres: None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	Other Amphiboles: None Detected	Non Fibrous: 99.3
	<b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - M - 6	Asbestos Detected? No	
<b>LEX Sample:</b> 12	Chrysotile: None Detected	Cellulose: 30
<b>Layers Analyzed:</b> Sample Homogenized	Amosite: None Detected	MMVF: None Detected
<b>Colour:</b> White/Grey	Crocidolite: None Detected	Other Fibres: None Detected
<b>Description:</b> Roll Vinyl Flooring	Other Amphiboles: None Detected	Non Fibrous: 70
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - M - 7	Asbestos Detected? Yes	
<b>LEX Sample:</b> 13	Chrysotile: 25	Cellulose: 5
<b>Layers Analyzed:</b> Sample Homogenized	Amosite: None Detected	MMVF: None Detected
<b>Colour:</b> Grey	Crocidolite: None Detected	Other Fibres: None Detected
<b>Description:</b> Heat Shield in Light Fixture	Other Amphiboles: None Detected	Non Fibrous: 70
	<b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - M - 8	Asbestos Detected? No	
<b>LEX Sample:</b> 14	Chrysotile: None Detected	Cellulose: 45
<b>Layers Analyzed:</b> Sample Homogenized	Amosite: None Detected	MMVF: 40
<b>Colour:</b> Grey	Crocidolite: None Detected	Other Fibres: None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile	Other Amphiboles: None Detected	Non Fibrous: 15
	<b>Comments:</b> N/A	

Other Amphiboles: a=actinolite, an=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool,  
 Glasswool  
 PLM - method detection limit is 0.1%



Analyst

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Company: Thomas Contracting LEX Project # 08161083 Page 3 of 10

Fibrous Asbestos Content %	Other Materials Content %
----------------------------	---------------------------

**Client Sample:** GA - M - 9      **Asbestos Detected?** No  
**LEX Sample:** 15      **Chrysotile:** None Detected      **Cellulose:** None Detected  
**Layers Analyzed:** Sample Homogenized      **Amosite:** None Detected      **MMVF:** None Detected  
**Colour:** Green      **Crocidolite:** None Detected      **Other Fibres:** None Detected  
**Description:** 12" x 12" Vinyl Floor Tile      **Other Amphiboles:** None Detected      **Non Fibrous:** 100  
**Comments:** N/A

**Client Sample:** GA - M - 10      **Asbestos Detected?** Yes  
**LEX Sample:** 16      **Chrysotile:** 7      **Cellulose:** 3  
**Layers Analyzed:** Sample Homogenized      **Amosite:** None Detected      **MMVF:** None Detected  
**Colour:** Grey      **Crocidolite:** None Detected      **Other Fibres:** None Detected  
**Description:** Elbow / Fitting Insulation      **Other Amphiboles:** None Detected      **Non Fibrous:** 90  
**Comments:** This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.

**Client Sample:** GA - M - 11      **Asbestos Detected?** Yes  
**LEX Sample:** 17      **Chrysotile:** < 0.5      **Cellulose:** 1  
**Layers Analyzed:** Sample Homogenized      **Amosite:** None Detected      **MMVF:** None Detected  
**Colour:** Cream      **Crocidolite:** None Detected      **Other Fibres:** None Detected  
**Description:** Drywall Mud / Joint Compound      **Other Amphiboles:** None Detected      **Non Fibrous:** 99  
**Comments:** Not asbestos containing material under Ontario Regulation 278/05.

**Client Sample:** GA - M - 12      **Asbestos Detected?** Yes  
**LEX Sample:** 18      **Chrysotile:** 20      **Cellulose:** None Detected  
**Layers Analyzed:** Sample Homogenized      **Amosite:** None Detected      **MMVF:** None Detected  
**Colour:** Grey      **Crocidolite:** None Detected      **Other Fibres:** None Detected  
**Description:** Elbow / Fitting Insulation      **Other Amphiboles:** None Detected      **Non Fibrous:** 80  
**Comments:** This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.

**Client Sample:** GA - M - 13      **Asbestos Detected?** No  
**LEX Sample:** 19      **Chrysotile:** None Detected      **Cellulose:** None Detected  
**Layers Analyzed:** Sample Homogenized      **Amosite:** None Detected      **MMVF:** None Detected  
**Colour:** White      **Crocidolite:** None Detected      **Other Fibres:** None Detected  
**Description:** Plaster Cont on Exterior Overhands      **Other Amphiboles:** None Detected      **Non Fibrous:** 100  
**Comments:** N/A

Other Amphiboles: a=actinolite, a=anthophyllite, t=tremolite, u=unidentified  
MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool,  
Glasswool  
PLM - method detection limit is 0.1%

*(Handwritten Signature)*

Analyst

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Company: Thomas Contracting LEX Project # 08161083 Page 4 of 10

		Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - Hall - 11 - 1	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 2	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> 3
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 97
	<b>Comments:</b>	N/A	
<b>Client Sample:</b> GA - Hall - 10 - 1a	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 20	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Texture Ceiling Coat	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b>	N/A	
<b>Client Sample:</b> GA - Hall - 10 - 1b	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 21	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Texture Ceiling Coat	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b>	N/A	
<b>Client Sample:</b> GA - Hall - 11 - 1a	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 22	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> 8
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 92
	<b>Comments:</b>	N/A	
<b>Client Sample:</b> GA - Hall - 11 - 1b	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 23	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b>	N/A	

Other Amphiboles: ac=actinolite, a=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 M.M. - method detection limit is 0.1%



Analyst

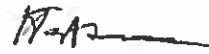
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Company: Thomas Contracting LEX Project # 08161083 Page 5 of 10

		Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - Hall - 11 - 2a	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 24	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> 45
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> 40
<b>Colour:</b> Grey	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile (old)	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 15
	<b>Comments:</b>	N/A	
<b>Client Sample:</b> GA - Hall - 11 - 2b	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 25	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> 45
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> 40
<b>Colour:</b> Grey	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile (old)	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 15
	<b>Comments:</b>	N/A	
<b>Client Sample:</b> GA - Hall - 11 - 3a	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 26	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> 40
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> 45
<b>Colour:</b> Grey	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile (new)	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 15
	<b>Comments:</b>	N/A	
<b>Client Sample:</b> GA - Hall - 11 - 3b	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 27	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> 35
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> 50
<b>Colour:</b> Grey	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile (new)	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 15
	<b>Comments:</b>	N/A	
<b>Client Sample:</b> GA - LR - 2 - 1a	<b>Asbestos Detected?</b>	No	
<b>LEX Sample:</b> 28	<b>Chrysotile:</b>	None Detected	<b>Cellulose:</b> 5
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b>	None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b>	None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Texture Ceiling Coat	<b>Other Amphiboles:</b>	None Detected	<b>Non Fibrous:</b> 95
	<b>Comments:</b>	N/A	

Other Amphiboles: ac=actinolite, a=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool,  
 Glasswool  
 PLM - method detection limit is 0.1%



Analyst

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	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA-LR-2-1b	Asbestos Detected?	No
<b>LEX Sample:</b> 29	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 7
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Texture Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 93
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA-Hall-11-2	Asbestos Detected?	No
<b>LEX Sample:</b> 3	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 45
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> 40
<b>Colour:</b> Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile (old)	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 15
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA-Office-2a-1a	Asbestos Detected?	No
<b>LEX Sample:</b> 30	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White/Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA-Office-2a-1b	Asbestos Detected?	No
<b>LEX Sample:</b> 31	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White/Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA-M-1a	Asbestos Detected?	No
<b>LEX Sample:</b> 32	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 2
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Texture Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 98
	<b>Comments:</b> N/A	

Other Amphiboles: a=actinolite, an=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%



Analyst

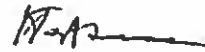
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	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - M - 1b	Asbestos Detected? No	
LEX Sample: 33	Chrysotile: None Detected	Cellulose: 2
Layers Analyzed: Sample Homogenized	Amosite: None Detected	MMVF: None Detected
Colour: White	Cruciolite: None Detected	Other Fibres: None Detected
Description: Texture Ceiling Coat	Other Amphiboles: None Detected	Non Fibrous: 98
	Comments: N/A	
<b>Client Sample:</b> GA - M - 3a	Asbestos Detected? No	
LEX Sample: 36	Chrysotile: None Detected	Cellulose: 35
Layers Analyzed: Sample Homogenized	Amosite: None Detected	MMVF: 45
Colour: Brown	Cruciolite: None Detected	Other Fibres: None Detected
Description: 2' x 4' Drop Ceiling Tile	Other Amphiboles: None Detected	Non Fibrous: 20
	Comments: N/A	
<b>Client Sample:</b> GA - M - 3b	Asbestos Detected? No	
LEX Sample: 37	Chrysotile: None Detected	Cellulose: 35
Layers Analyzed: Sample Homogenized	Amosite: None Detected	MMVF: 45
Colour: Brown	Cruciolite: None Detected	Other Fibres: None Detected
Description: 2' x 4' Drop Ceiling Tile	Other Amphiboles: None Detected	Non Fibrous: 20
	Comments: N/A	
<b>Client Sample:</b> GA - M - 4a	Asbestos Detected? Yes	
LEX Sample: 38	Chrysotile: < 0.5	Cellulose: 5
Layers Analyzed: Sample Homogenized	Amosite: None Detected	MMVF: None Detected
Colour: Cream	Cruciolite: None Detected	Other Fibres: None Detected
Description: Drywall Mud / Joint Compound	Other Amphiboles: None Detected	Non Fibrous: 95
	Comments: Not asbestos containing material under Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - M - 4b	Asbestos Detected? Yes	
LEX Sample: 39	Chrysotile: < 0.5	Cellulose: 3
Layers Analyzed: Sample Homogenized	Amosite: None Detected	MMVF: None Detected
Colour: Cream	Cruciolite: None Detected	Other Fibres: None Detected
Description: Drywall Mud / Joint Compound	Other Amphiboles: None Detected	Non Fibrous: 97
	Comments: Not asbestos containing material under Ontario Regulation 278/05.	

Other Amphiboles: a=actinolite, an=anthophyllite, t-tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool,  
 Glass wool  
 PLM - method detection limit is 0.1%



Analyst

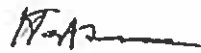
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	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - Hall - 11 - 3	Asbestos Detected?	No
<b>LEX Sample:</b> 4	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 35
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> 50
<b>Colour:</b> Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile (new)	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 15
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - M - 6a	Asbestos Detected?	No
<b>LEX Sample:</b> 42	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 30
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White/Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Roll Vinyl Flooring	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 70
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - M - 6b	Asbestos Detected?	No
<b>LEX Sample:</b> 43	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 30
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White/Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Roll Vinyl Flooring	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 70
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - M - 8a	Asbestos Detected?	No
<b>LEX Sample:</b> 44	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 40
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> 45
<b>Colour:</b> Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 15
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - M - 8b	Asbestos Detected?	No
<b>LEX Sample:</b> 45	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 45
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> 40
<b>Colour:</b> Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 15
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - M - 9a	Asbestos Detected?	No
<b>LEX Sample:</b> 46	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Cream	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	

Other Amphiboles: a=actinolite, an=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool,  
 Glasswool  
 PLM - method detection limit is 0.1%



Analyst

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	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - M - 9h	Asbestos Detected? No	
<b>LEX Sample:</b> 47	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Cream	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - LR - 2 - 1	Asbestos Detected? No	
<b>LEX Sample:</b> 5	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 5
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Texture Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 95
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - M - 11a	Asbestos Detected? Yes	
<b>LEX Sample:</b> 50	<b>Chrysotile:</b> < 0.5	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Cream	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - M - 11b	Asbestos Detected? Yes	
<b>LEX Sample:</b> 51	<b>Chrysotile:</b> < 0.5	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> Cream	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Drywall Mud / Joint Compound	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> Not asbestos containing material under Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - M - 13a	Asbestos Detected? No	
<b>LEX Sample:</b> 54	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Plaster Coat on Exterior Overhands	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	

Other Amphiboles: ac=actinolite, an=anthophyllite, tr=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool,  
 Glasswool  
 PLM - method detection limit is 0.1%



Analyst

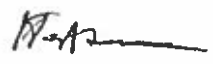
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	Fibrous Asbestos Content %	Other Materials Content %
<b>Client Sample:</b> GA - M - 13b	Asbestos Detected?	No
<b>LEX Sample:</b> 55	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Plaster Coat on Exterior Overhands	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - Office - 2a-1	Asbestos Detected?	No
<b>LEX Sample:</b> 6	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> None Detected
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White/Grey	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 12" x 12" Vinyl Floor Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 100
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - M - 1	Asbestos Detected?	No
<b>LEX Sample:</b> 7	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 1
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Texture Ceiling Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 99
	<b>Comments:</b> N/A	
<b>Client Sample:</b> GA - M - 2	Asbestos Detected?	Yes
<b>LEX Sample:</b> 8	<b>Chrysotile:</b> 3	<b>Cellulose:</b> 2
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> None Detected
<b>Colour:</b> White	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> Texture Wall Coat	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 95
	<b>Comments:</b> This sample meets the definition of "asbestos containing material" according to Ontario Regulation 278/05.	
<b>Client Sample:</b> GA - M - 3	Asbestos Detected?	No
<b>LEX Sample:</b> 9	<b>Chrysotile:</b> None Detected	<b>Cellulose:</b> 35
<b>Layers Analyzed:</b> Sample Homogenized	<b>Amosite:</b> None Detected	<b>MMVF:</b> 45
<b>Colour:</b> Brown	<b>Crocidolite:</b> None Detected	<b>Other Fibres:</b> None Detected
<b>Description:</b> 2' x 4' Drop Ceiling Tile	<b>Other Amphiboles:</b> None Detected	<b>Non Fibrous:</b> 20
	<b>Comments:</b> N/A	

Other Amphiboles: a=actinolite, a=anthophyllite, t=tremolite, u=unidentified  
 MMVF: Man Made Vitreous Fibres: Fibreglass, Min. Wool, Rockwool, Glasswool  
 PLM - method detection limit is 0.1%



Analyst

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## **APPENDIX B**

### **Room by Room Assessment of inspected Suites / Units and Common Areas**

135 Worthington Street WestROOM BY ROOM ASSESSMENT

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>MAIN FLOOR – Common / Mechanical Areas</b>										
Auditorium	Flooring	12" x 12" Vinyl Floor Tile	-	GA - M - 5	0.7 % Chrysotile	3500 ft <sup>2</sup>	G	High	Non-Friable	Priority 2
	Walls	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	2' x 4' Drop Ceiling Tile	GA - M - 8	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes and duct work (non-asbestos) located above drop ceiling tiles.								
Craft Room B	Flooring	12" x 12" Vinyl Floor Tile	GA - M - 5	-	0.7 % Chrysotile	440 ft <sup>2</sup>	G	High	Non-Friable	Priority 2
	Walls	Drywall Mud / Joint Compound	GA - M - 4	-	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	2' x 4' Drop Ceiling Tile	GA - M - 3	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) and bare duct work located above drop ceiling tiles.								
Kitchen # 1	Flooring	12" x 12" Vinyl Floor Tile	-	GA - M - 5	0.7 % Chrysotile	120 ft <sup>2</sup>	G	High	Non-Friable	Priority 2
		12" x 12" Vinyl Floor Tile	GA - M - 9	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	2' x 4' Drop Ceiling Tile (drywall board)	-	-	-	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above drywall drop ceiling tiles.								

## Notes:

- Condition "G" indicates good, "F" indicates fair and "P" indicates poor condition.
- N/A indicates "not applicable". Sample "PT" indicates sample previously taken from past surveys.
- This table is to be read in conjunction with Thomas Contracting Report TC - 201319, and requires interpretation assistance before use by others.

**135 Worthington Street West****ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>MAIN FLOOR – Common / Mechanical Areas</b>										
Janitor Room	Flooring	Roll Vinyl Flooring	GA - M - 6	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Poured Concrete & Concrete Block	-	-	-	-	-	-	-	-
	Ceiling	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above drop ceiling tiles.								
Kitchen # 2	Flooring	Carpet	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
Storage # 1	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block / Concrete	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
		Heat Shield (in light fixture)	GA - M - 7	-	25 % Chrysotile	1 ft <sup>2</sup>	G	Moderate	Friable	Priority 2

**Notes:**

- a) Condition "G" indicates good, "F" indicates fair and "P" indicates poor condition.  
b) N/A indicates "not applicable". Sample "PT" indicates sample previously taken from past surveys.  
c) This table is to be read in conjunction with Thomas Contracting Report TC - 201319, and requires interpretation assistance before use by others.



135 Worthington Street West**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>MAIN FLOOR – Common / Mechanical Areas</b>										
Meeting Room	Flooring	Carpet	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
		Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Texture Coat	GA - M - 2	-	3 % Chrysotile	250 ft <sup>2</sup>	G	High	Friable	Priority 2
	Ceiling	Texture Coat	-	GA - M - 1	None Detected	N/A	N/A	N/A	N/A	N/A
Office B	Flooring	Carpet	-	-	-	-	-	-	-	-
	Walls	Wood Paneling	-	-	-	-	-	-	-	-
		Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	GA - M - 1	-	None Detected	N/A	N/A	N/A	N/A	N/A
Lounge A & B	Flooring	Carpet	-	-	-	-	-	-	-	-
	Walls	Texture Coat	-	GA - M - 2	3 % Chrysotile	825 ft <sup>2</sup>	G	High	Friable	Priority 2
	Ceiling	Texture Coat	-	GA - M - 1	None Detected	N/A	N/A	N/A	N/A	N/A

**Notes:**

- a) Condition "G" indicates good, "F" indicates fair and "P" indicates poor condition.  
b) N/A indicates "not applicable". Sample "PT" indicates sample previously taken from past surveys.  
c) This table is to be read in conjunction with Thomas Contracting Report TC - 201319, and requires interpretation assistance before use by others.

**135 Worthington Street West****ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>MAIN FLOOR – Common / Mechanical Areas</b>										
Men's Washroom	Flooring	12" x 12" Vinyl Floor Tile	-	GA – Office 2A - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	2' x 4' Drop Ceiling Tile	-	GA - M - 3	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above drop ceiling tiles.								
Women's Washroom	Flooring	12" x 12" Vinyl Floor Tile	-	GA – Office 2A - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	2' x 4' Drop Ceiling Tile	-	GA - M - 3	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above drop ceiling tiles.								
Cloak Room	Flooring	12" x 12" Vinyl Floor Tile	-	GA - M - 5	0.7 % Chrysotile	215 ft <sup>2</sup>	G	High	Non-Friable	Priority 2
	Walls	Concrete & Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Duct work and pipes located above drop ceiling tiles are bare.								

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**135 Worthington Street West****ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>MAIN FLOOR – Common / Mechanical Areas</b>										
Hairdresser Room	Flooring	12" x 12" Vinyl Floor Tile	-	GA – Office 2A - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Texture Coat	-	GA - M - 2	3 % Chrysotile	125 ft <sup>2</sup>	G	High	Friable	Priority 2
	Ceiling	2' x 4' Drop Ceiling Tile	-	GA - M - 3	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above drop ceiling tiles.								
Fire Pump Room	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Concrete & Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Elbow / Fitting Insulation	GA - M - 12	-	20 % Chrysotile	12	F	High	Friable	Priority 2 Repair
Fibreglass insulated straight sections of pipes (non-asbestos).										
Hallway # 1	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Texture Coat	-	GA - M - 2	3 % Chrysotile	1050 ft <sup>2</sup>	G	High	Friable	Priority 2
	Ceiling	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above drywall ceiling.								

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**135 Worthington Street West****ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>MAIN FLOOR – Common / Mechanical Areas</b>										
Lobby	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Texture Coat	-	GA - M - 2	3 % Chrysotile	750 ft <sup>2</sup>	G	High	Frangible	Priority 2
		Block	-	-	-	-	-	-	-	-
	Ceiling	Drywall Mud / Joint Compound	-	GA - M - 4	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above drywall ceiling.									
Vestibule	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Brick	-	-	-	-	-	-	-	-
	Ceiling	12" x 12" Ceiling Tile (wood based)	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above ceiling tiles.								
Moving Room	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - M - 11	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within room.									

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**135 Worthington Street West**

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>MAIN FLOOR – Common / Mechanical Areas</b>										
Elevator Foyer	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Ceramic	-	-	-	-	-	-	-	-
	Ceiling	12" x 12" Ceiling Tile (wood based)	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above ceiling tiles.								
Elevator Shaft	Floor / walls are concrete. Ceiling is metal. No fireproofing insulation within shaft.									
Craft & Storage Room	Flooring	12" x 12" Vinyl Floor Tile	-	GA - M - 5	0.7 % Chrysotile	215 ft <sup>2</sup>	G	High	Non-Friable	Priority 2
	Walls	Drywall Mud / Joint Compound	-	GA - M - 11	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Texture Coat	-	GA - M - 2	3 % Chrysotile	250 ft <sup>2</sup>	G	High	Friable	Priority 2
	Ceiling	Drywall Mud / Joint Compound	-	GA - M - 11	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
Generator Room	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Concrete & Block	-	-	-	-	-	-	-	-
		Drywall Mud / Joint Compound	-	GA - M - 11	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Concrete covered with fiberglass insulation (non-asbestos)								

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135 Worthington Street WestROOM BY ROOM ASSESSMENT

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>MAIN FLOOR – Common / Mechanical Areas</b>										
Bell Room	Flooring	12" x 12" Vinyl Floor Tile	-	GA - M - 5	0.7 % Chrysotile	150 ft <sup>2</sup>	G	High	Non-Friable	Priority 2
	Walls	Concrete & Block	-	-	-	-	-	-	-	-
		Drywall Mud / Joint Compound	-	GA - M - 11	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within this room.									
G.A.C. Main Office	Flooring	Carpet	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - M - 11	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	2' x 4' Drop Ceiling Tile	-	GA - M - 3	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located above DCT within this room.								
Garbage Room	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Concrete & Block	-	-	-	-	-	-	-	-
		Drywall Mud / Joint Compound	GA - M - 11	-	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Mech. Insulation	Fibreglass insulated pipes (non-asbestos) and bare duct work located within this room.									

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**135 Worthington Street West**

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority	
<b>MAIN FLOOR – Common / Mechanical Areas</b>											
Electrical Room	Flooring	Concrete	-	-	-	-	-	-	-	-	
	Walls	Concrete & Block	-	-	-	-	-	-	-	-	
		Drywall Mud / Joint Compound	-	GA - M - 11	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A	
	Ceiling	Concrete	-	-	-	-	-	-	-	-	
Mechanical Room	Flooring	Concrete	-	-	-	-	-	-	-	-	
	Walls	Drywall Mud / Joint Compound	-	GA - M - 11	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A	
		Concrete & Block	-	-	-	-	-	-	-	-	
	Ceiling	Concrete	-	-	-	-	-	-	-	-	
	Mech. Insulation	Duct Work	New fiberglass insulation (non-asbestos)								
		Pipes (straight sections)	New fiberglass insulation with PVC cover (non-asbestos)								
Elbow / Fitting Insulation		GA - M - 10	-	7% Chrysotile	19	F	Moderate	Friable	Priority 2 Repair		
New boilers and hot water tanks are fibreglass insulated within this room.											
Transformer Vault	No access at time of asbestos assessment										

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**135 Worthington Street West**

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>MAIN FLOOR – Common / Mechanical Areas</b>										
Stairwell # 1	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Concrete & Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
		Heat Shield (in light fixture – top floor)	-	GA - M - 7	25 % Chrysotile	1 ft <sup>2</sup>	G	Moderate	Friable	Priority 2
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within this stairwell.								
Stairwell # 2	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Concrete & Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
		Heat Shield (in light fixture – top floor)	-	GA - M - 7	25 % Chrysotile	1 ft <sup>2</sup>	G	Moderate	Friable	Priority 2
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within this stairwell.								

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**135 Worthington Street West****ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>SECOND FLOOR – Common / Mechanical Areas</b>										
Hallway # 2	Flooring	Carpel / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - Hall - 10 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Garbage Room	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Storage Room # 2	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) and bare duct work located within this room.								
Maintenance Office # 2A	Flooring	12" x 12" Vinyl Floor Tile	GA-Office-2A-1	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - Hall - 10 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within this room.								

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**135 Worthington Street West**

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>SECOND FLOOR – Common / Mechanical Areas</b>										
Janitor's Room	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Laundry Room	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	GA - LR - 2 - 1	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Storage # 2A	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - LR - 2 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
Kitchen # 3	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - LR - 2 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
Kitchen # 4	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A

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2016 Asbestos Assessment Report  
135 Worthington Street West (Golden Age Towers), North Bay, Ontario

TC - 201319

**135 Worthington Street West****ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>SECOND FLOOR – Common / Mechanical Areas</b>										
Ladies & Men's Washrooms	Flooring	Roll Vinyl Flooring	-	GA - 311 - 3	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs.)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs.)	N/A	N/A	N/A	N/A	N/A
Common Room	Flooring	Carpet	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs.)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - LR - 2 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
Laundry Room	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs.)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	GA - LR - 2 - 1	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Washroom in Common Room	Flooring	Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs.)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs.)	N/A	N/A	N/A	N/A	N/A
Closet in Common Room near kitchen # 4	Flooring	Carpet	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs.)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Concrete	-	-	-	-	-	-	-	-

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135 Worthington Street WestROOM BY ROOM ASSESSMENT

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>SECOND FLOOR – Inspected Suite(s)</b>										
Suite # 202	Flooring	12" x 12" Vinyl Floor Tile	GA - 202 - 2		None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	GA - 202 - 3	-	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat (living room, bedroom & hallway)	GA - 202 - 1	-	None Detected	N/A	N/A	N/A	N/A	N/A
		Drywall Mud / Joint Compound (kitchen, bathroom and behind texture coat)	-	GA - 202 - 3	-	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A

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**135 Worthington Street West**

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>THIRD FLOOR – Common / Mechanical Areas</b>										
Hallway # 3	Flooring	Carpet / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - Hall - 10 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Garbage Room # 3	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Storage Room # 3A	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) and bare duct work located within this room.								

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135 Worthington Street West**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>THIRD FLOOR – Inspected Suite(s)</b>										
Suite # 311	Flooring	12" x 12" Vinyl Floor Tile	GA - 311 - 2	-	None Detected	N/A	N/A	N/A	N/A	N/A
		Roll Vinyl Flooring (bathroom)	GA - 311 - 3	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	GA - 311 - 5	GA - 311 - 5b	0.8 % Chrysotile	360 ft <sup>2</sup>	G	High	Friable	Priority 2
	Ceiling	Texture Coat (living room, bedroom & hallway)	GA - 311 - 1	-	None Detected	N/A	N/A	N/A	N/A	N/A
		Drywall Mud / Joint Compound (kitchen, bathroom and behind texture coat)	-	GA - 311 - 5b	0.8 % Chrysotile	185 ft <sup>2</sup>	G	High	Friable	Priority 2
		Concrete (mechanical room)	-	-	-	-	-	-	-	-
	Balcony	Cement Wall Panel	GA - 311 - 4	-	30 % Chrysotile	100 ft <sup>2</sup>	G	Moderate	Non-Friable	Priority 2

**Notes:**

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- N/A indicates "not applicable". Sample "PT" indicates sample previously taken from past surveys.
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135 Worthington Street WestROOM BY ROOM ASSESSMENT

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>FOURTH FLOOR – Common / Mechanical Areas</b>										
Hallway # 4	Flooring	Carpet / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - Hall - 10 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Garbage Room # 4	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Storage Room # 4A	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within this room.								

## Notes:

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- N/A indicates "not applicable". Sample "PT" indicates sample previously taken from past surveys.
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**135 Worthington Street West**

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>FIFTH FLOOR – Common / Mechanical Areas</b>										
Hallway # 5	Flooring	Carpel / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - Hall - 10 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Garbage Room # 5	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Storage Room # 5A	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within this room.								

Notes:

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135 Worthington Street WestROOM BY ROOM ASSESSMENT

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>FIFTH FLOOR – Inspected Suite(s)</b>										
Suite # 505	Flooring	12" x 12" Vinyl Floor Tile	GA - 505 - 2	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	GA - 505 - 1	-	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat (living room, bedroom & hallway)	GA - 505 - 3	-	None Detected	N/A	N/A	N/A	N/A	N/A
		Drywall Mud / Joint Compound (kitchen, bathroom and behind texture coat)	-	GA - 505 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Concrete (mechanical room)	-	-	-	-	-	-	-	-
	Balcony	Cement Wall Panel	-	GA - 311 - 4	30 % Chrysotile	100 ft <sup>2</sup>	G	Moderate	Non-Friable	Priority 2

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135 Worthington Street WestROOM BY ROOM ASSESSMENT

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>SIXTH FLOOR – Common / Mechanical Areas</b>										
Hallway # 6	Flooring	Carpet / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat (elevator lobby)	-	GA - Hall - 10 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
		2' x 4' Drop Ceiling Tile (old)	-	GA - Hall - 11 - 2	None Detected	N/A	N/A	N/A	N/A	N/A
		2' x 4' Drop Ceiling Tile (new)	-	GA - Hall - 11 - 3	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Garbage Room # 6	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) and bare duct work located within this room.								
Storage Room # 6A	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within this room.								

**Notes:**

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135 Worthington Street WestROOM BY ROOM ASSESSMENT

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>SIXTH FLOOR – Inspected Suite(s)</b>										
Suite # 602	Flooring	12" x 12" Vinyl Floor Tile	GA - 602 - 2	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	GA - 602 - 1	-	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat (living room, bedroom & hallway)	GA - 602 - 3	-	None Detected	N/A	N/A	N/A	N/A	N/A
		Drywall Mud / Joint Compound (kitchen, bathroom and behind texture coat)	-	GA - 602 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Concrete (mechanical room)	-	-	-	-	-	-	-	-
	Balcony	Cement Wall Panel	GA - 602 - 4	-	30 % Chrysotile	100 ft <sup>2</sup>	G	Moderate	Non-Friable	Priority 2

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**135 Worthington Street West**

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>SEVENTH FLOOR – Common / Mechanical Areas</b>										
Hallway # 7	Flooring	Carpet / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - Hall - 10 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Garbage Room # 7	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Storage Room # 7A	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) and bare duct work located within this room.								

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**135 Worthington Street West****ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>EIGHT FLOOR – Common / Mechanical Areas</b>										
Hallway # 8	Flooring	Carpet / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - Hall - 10 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Garbage Room # 8	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Storage Room # 8A	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) and bare duct work located within this room.								

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135 Worthington Street West

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>EIGHT FLOOR – Inspected Suite(s)</b>										
Suite # 807	Flooring	12" x 12" Vinyl Floor Tile	GA - 807 - 2	-	None Detected	N/A	N/A	N/A	N/A	N/A
		Roll Vinyl Flooring (bathroom)	-	GA - 311 - 3	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	GA - 807 - 1	GA - 807 - 1a	0.5% Chrysotile	360 ft <sup>2</sup>	G	High	Friable	Priority 2
	Ceiling	Texture Coat (living room, bedroom & hallway)	GA - 807 - 3	-	None Detected	N/A	N/A	N/A	N/A	N/A
		Drywall Mud / Joint Compound (kitchen, bathroom and behind texture coat)	-	GA - 807 - 1a	0.5% Chrysotile	185 ft <sup>2</sup>	G	High	Friable	Priority 2
		Concrete (mechanical room)	-	-	-	-	-	-	-	-
Balcony	Cement Wall Panel	GA - 807 - 4	-	30 % Chrysotile	100 ft <sup>2</sup>	G	Moderate	Non-Friable	Priority 2	

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**135 Worthington Street West**

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>NINTH FLOOR – Common / Mechanical Areas</b>										
Hallway # 9	Flooring	Carpel / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	-	GA - Hall - 10 - 1	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.								
Garbage Room # 9	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Storage Room # 9A	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) and bare duct work located within this room.								

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135 Worthington Street WestROOM BY ROOM ASSESSMENT

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>TENTH FLOOR – Common / Mechanical Areas</b>										
Hallway # 10	Flooring	Carpet / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	-	GA - Hall - 11 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	GA - Hall - 10 - 1	-	None Detected	N/A	N/A	N/A	N/A	N/A
	Mech. Insulation	Fiberglass insulated pipes (non-asbestos) located within ceiling space.								
Garbage Room # 10	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
Storage Room # 10A	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fiberglass insulated pipes (non-asbestos) and bare duct work located within this room.								

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**135 Worthington Street West****ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>ELEVENTH FLOOR – Common / Mechanical Areas</b>										
Hallway # 11	Flooring	Carpet / Ceramic	-	-	-	-	-	-	-	-
	Walls	Drywall Mud / Joint Compound	GA - Hall - 11 - 1	-	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat	GA - Hall - 10 - 1	-	None Detected	N/A	N/A	N/A	N/A	N/A
		2' x 4' Drop Ceiling Tile (old)	GA - Hall - 11 - 2	-	None Detected	N/A	N/A	N/A	N/A	N/A
		2' x 4' Drop Ceiling Tile (new)	GA - Hall - 11 - 3	-	None Detected	N/A	N/A	N/A	N/A	N/A
Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within ceiling space.									
Garbage Room # 11	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) located within room and in garbage shaft.								
Stairwell to Mechanical Penthouse	Flooring	Concrete	-	-	-	-	-	-	-	-
	Walls	Block	-	-	-	-	-	-	-	-
	Ceiling	Concrete	-	-	-	-	-	-	-	-
	Mech. Insulation	Fibreglass insulated pipes (non-asbestos) and bare duct work located within this room.								

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**135 Worthington Street West**

**ROOM BY ROOM ASSESSMENT**

Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>ELEVENTH FLOOR – Inspected Suite(s)</b>										
Suite # 1107	Flooring	12" x 12" Vinyl Floor Tile	GA - 1107 - 2	-	None Detected	N/A	N/A	N/A	N/A	N/A
		Roll Vinyl Flooring (bathroom)	-	GA - 311 - 3	None Detected	N/A	N/A	N/A	N/A	N/A
	Walls	Drywall Mud / Joint Compound	GA - 1107 - 1	-	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
	Ceiling	Texture Coat (living room, bedroom & hallway)	GA - 1107 - 3	-	None Detected	N/A	N/A	N/A	N/A	N/A
		Drywall Mud / Joint Compound (kitchen, bathroom and behind texture coat)	-	GA - 1107 - 1	< 0.5% Chrysotile (non ACM under Regs)	N/A	N/A	N/A	N/A	N/A
		Concrete (mechanical room)	-	-	-	-	-	-	-	-
	Balcony	Cement Wall Panel	GA - 1107 - 4	-	30 % Chrysotile	100 ft <sup>2</sup>	G	Moderate	Non-Friable	Priority 2

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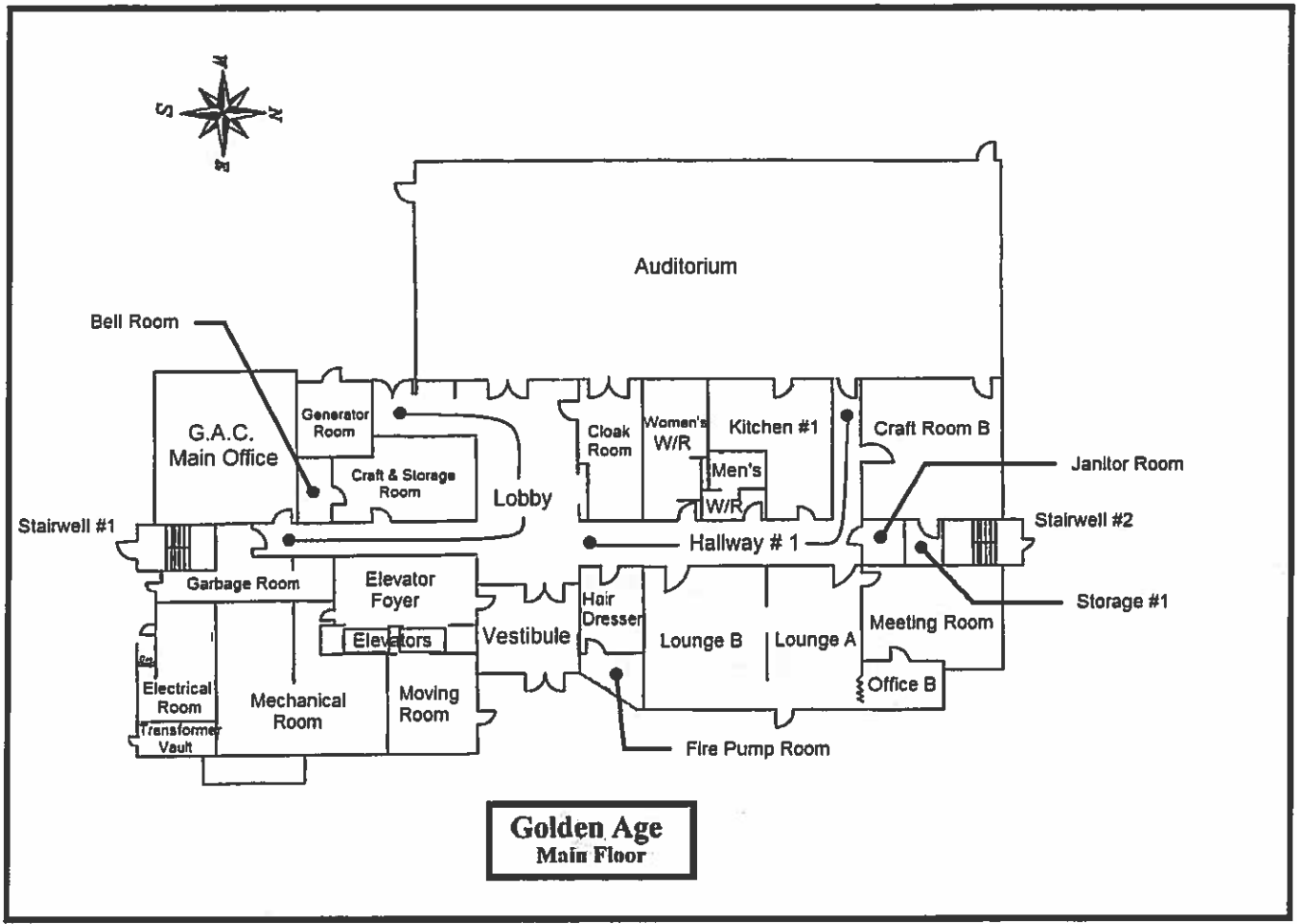
**135 Worthington Street West**

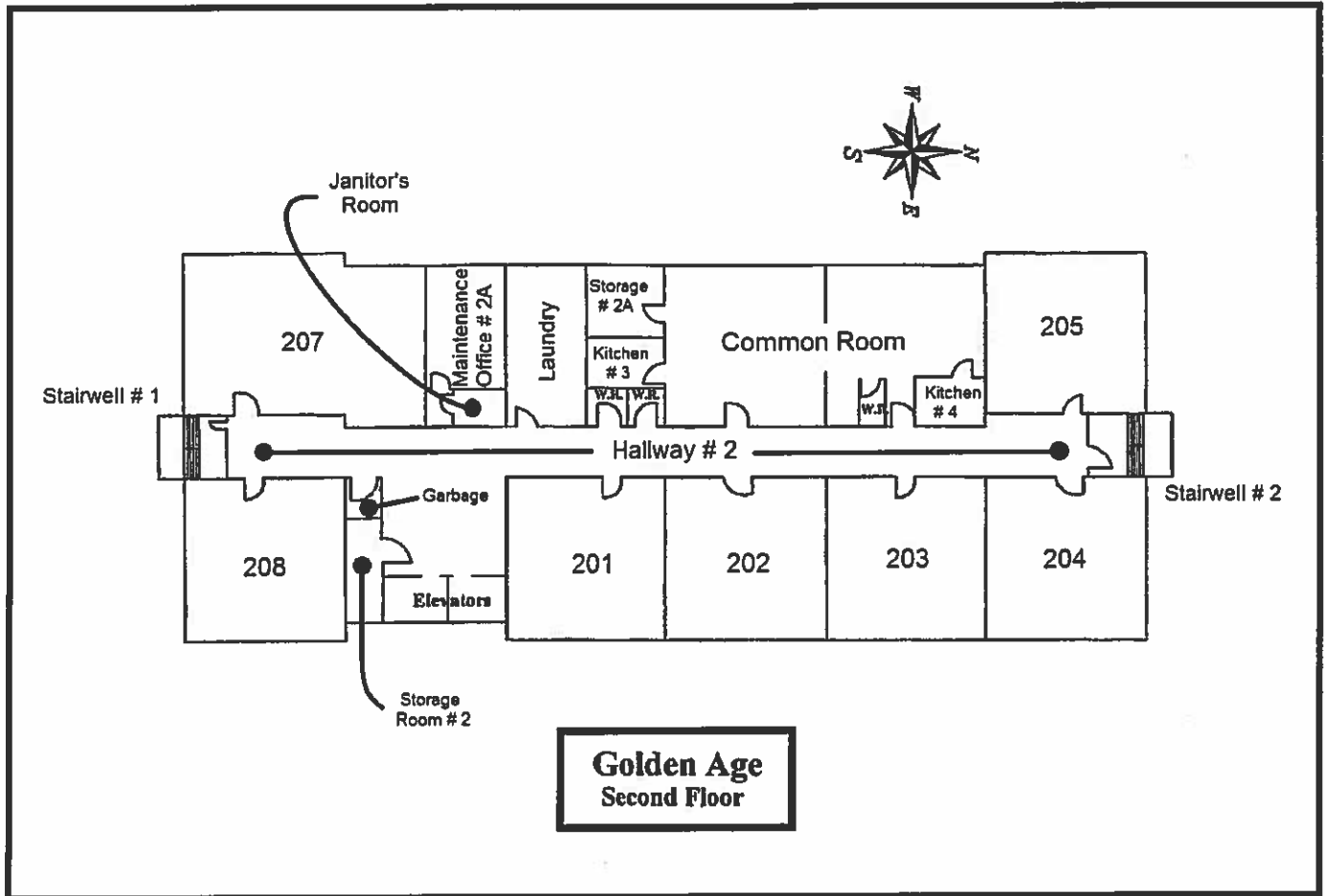
**ROOM BY ROOM ASSESSMENT**

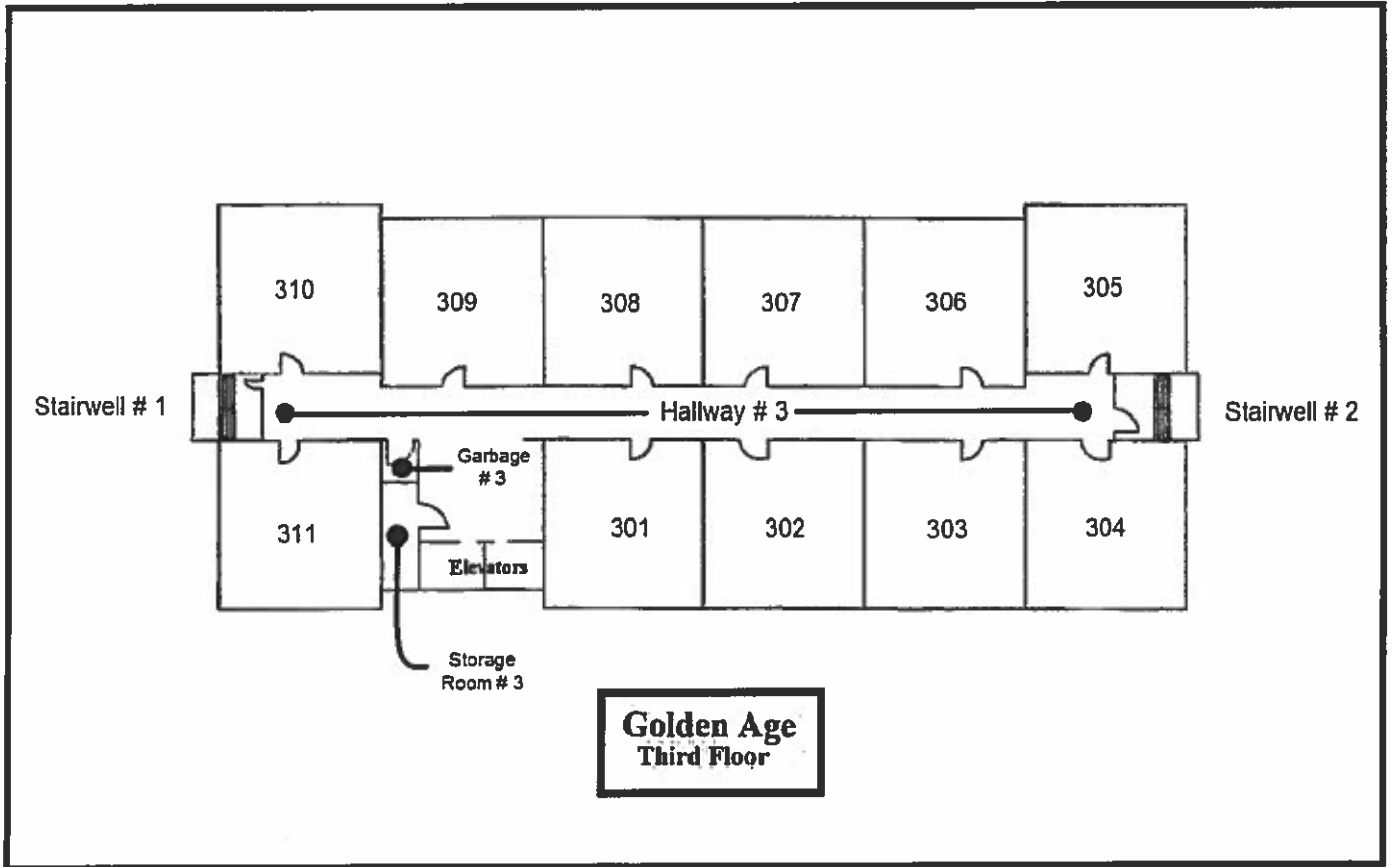
Location / Area	Component	Material	Sample #	Representative Sample #	Asbestos Content	Est. Qty.	Condition (G,F,P)	Accessibility	Friability	Priority
<b>EXTERIOR OF BUILDING</b>										
Roof	Vinyl welded membrane not "suspected" to contain asbestos.									
Walls	Brick / Metal / Glass / Vinyl	-	-	-	-	-	-	-	-	-
Overhangs / Soffits (above doors & windows)	Plaster	GA - M - 13	-	None Detected	N/A	N/A	N/A	N/A	N/A	N/A

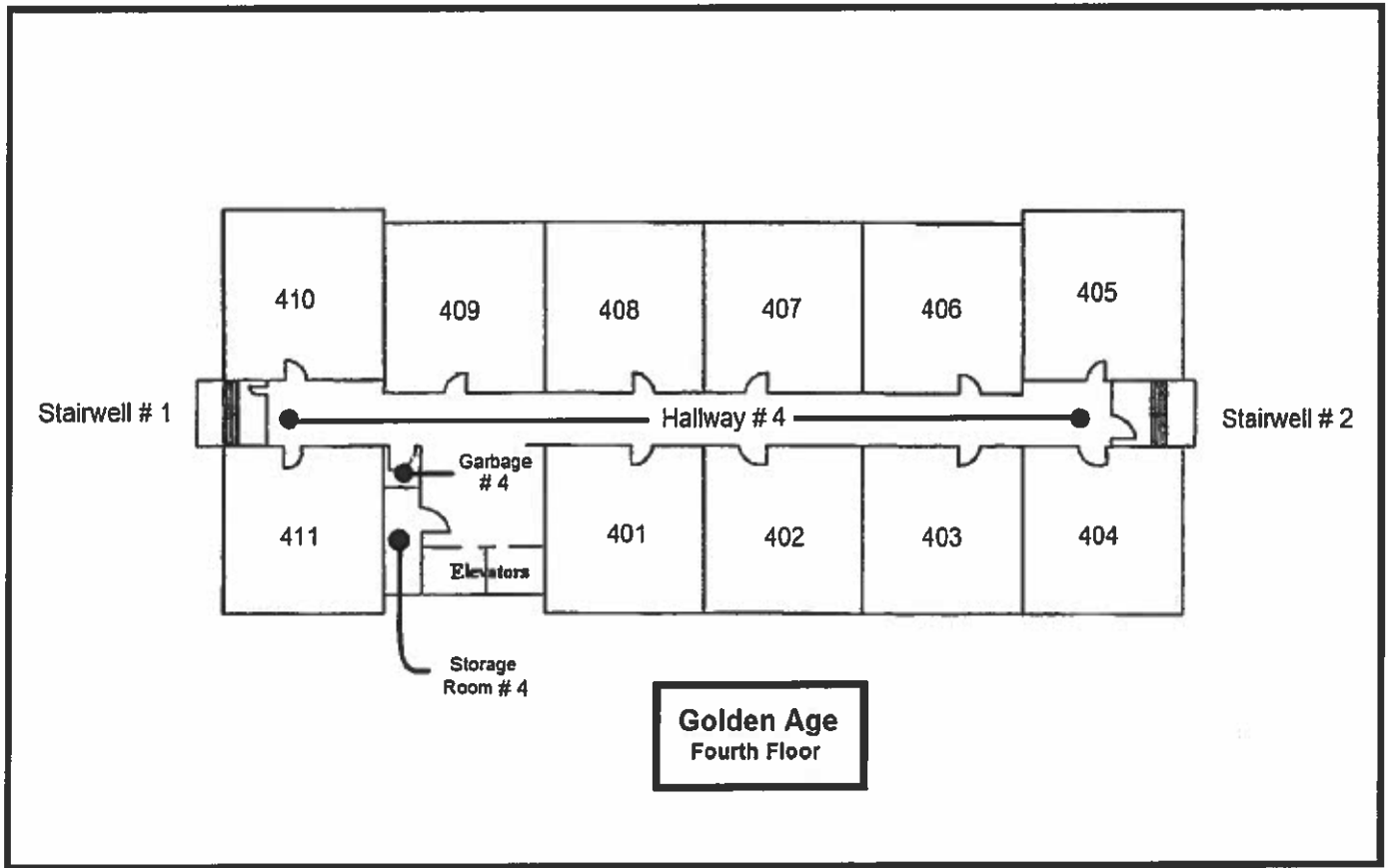
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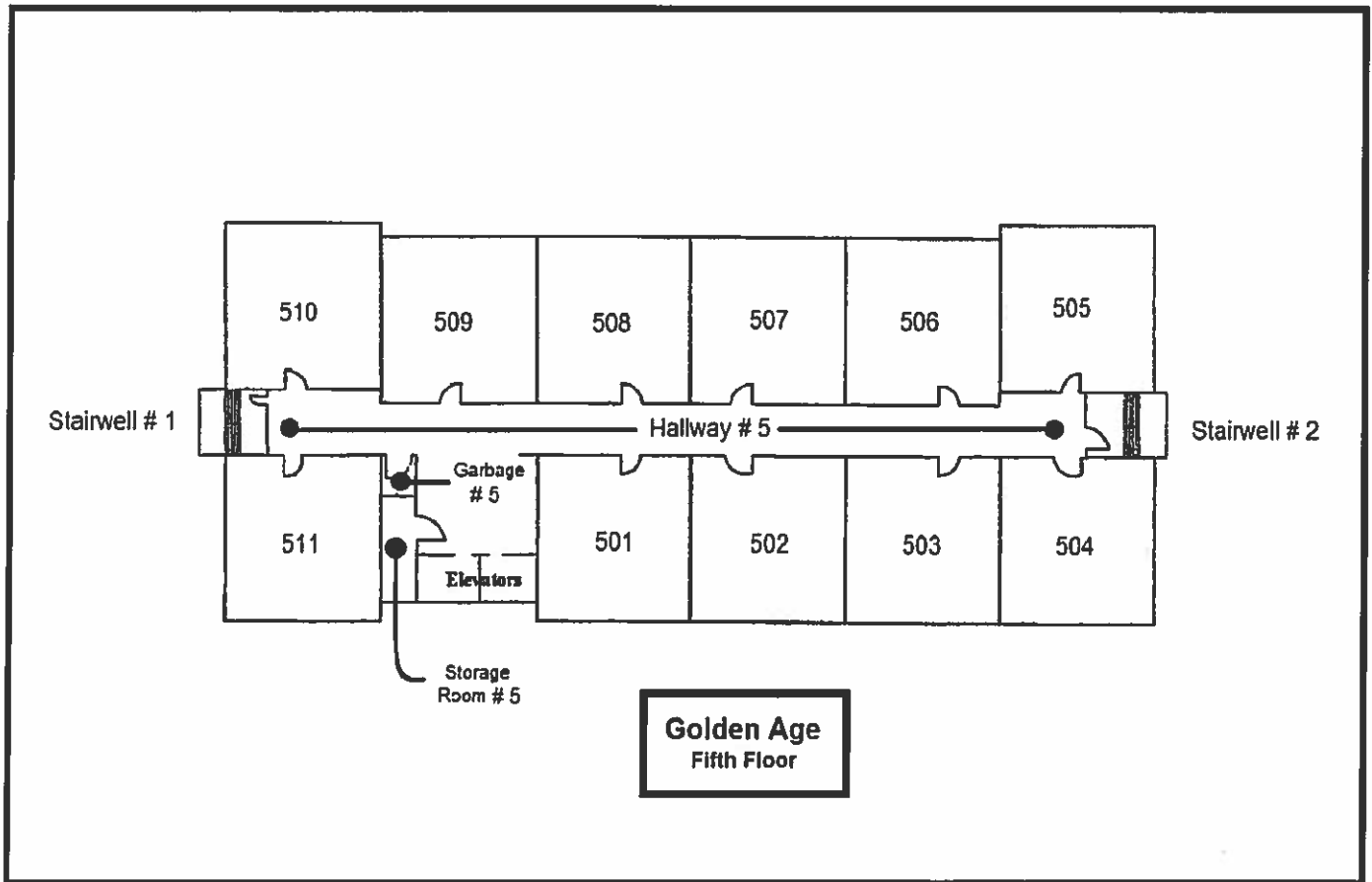
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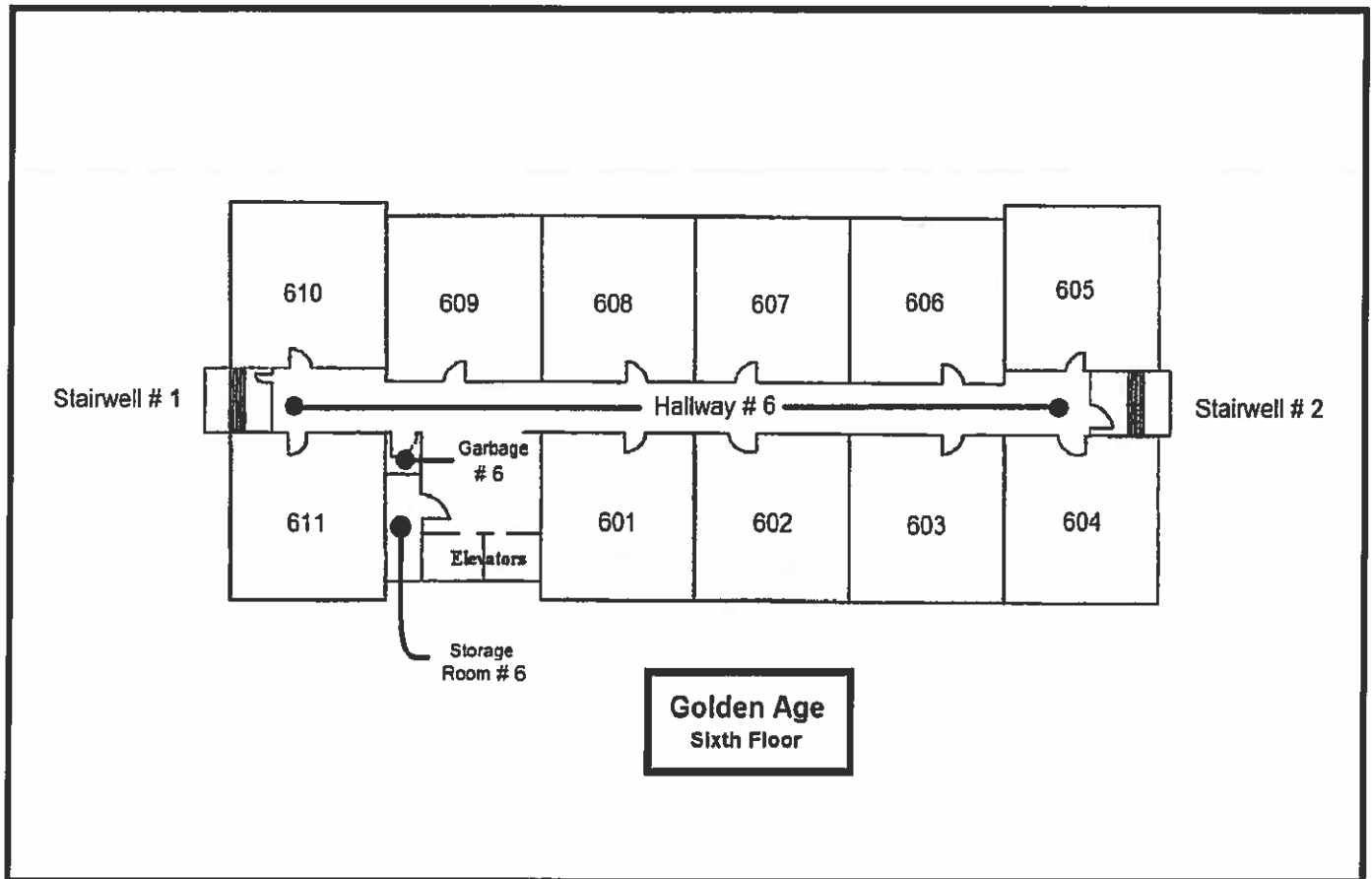


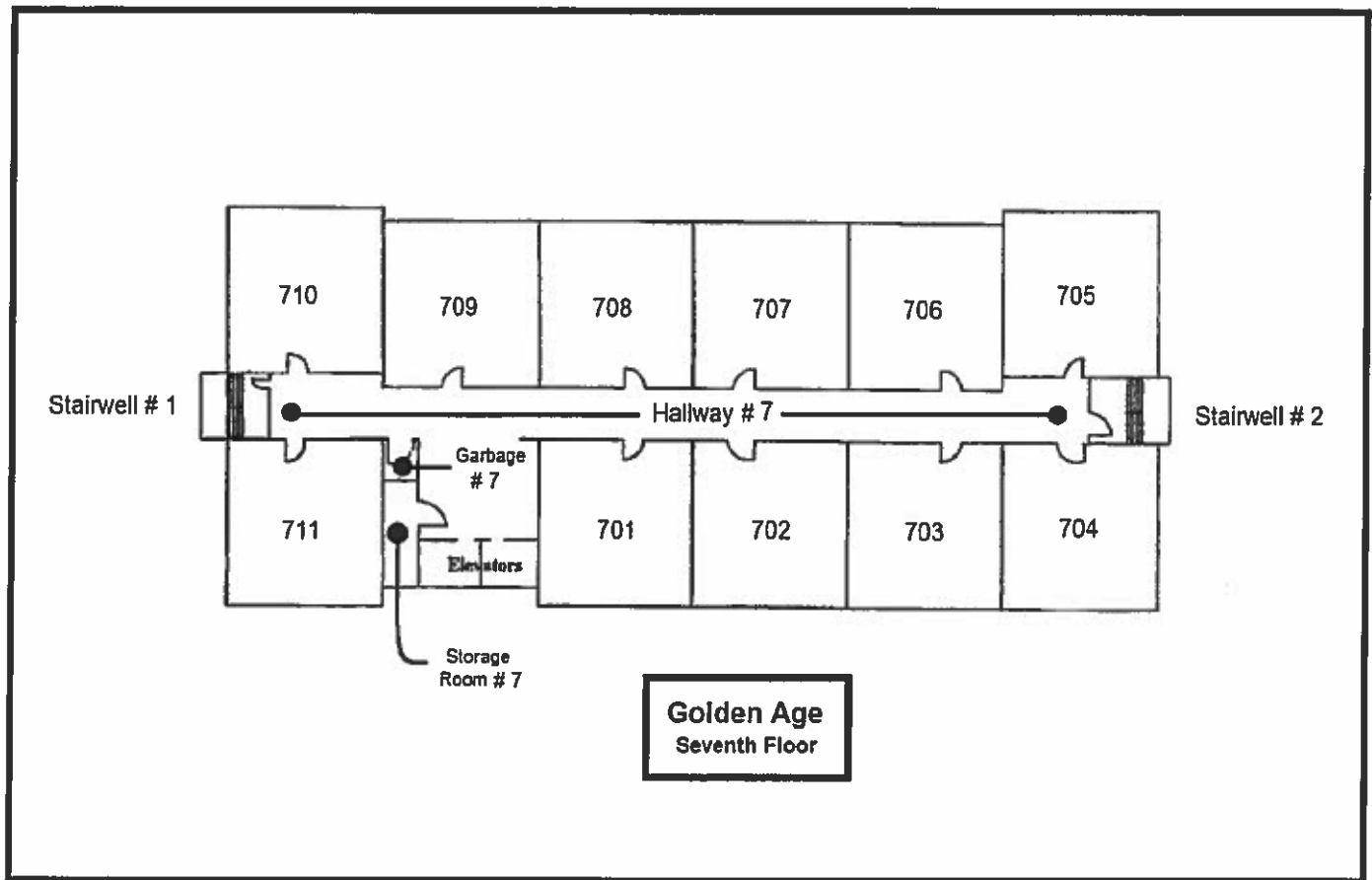


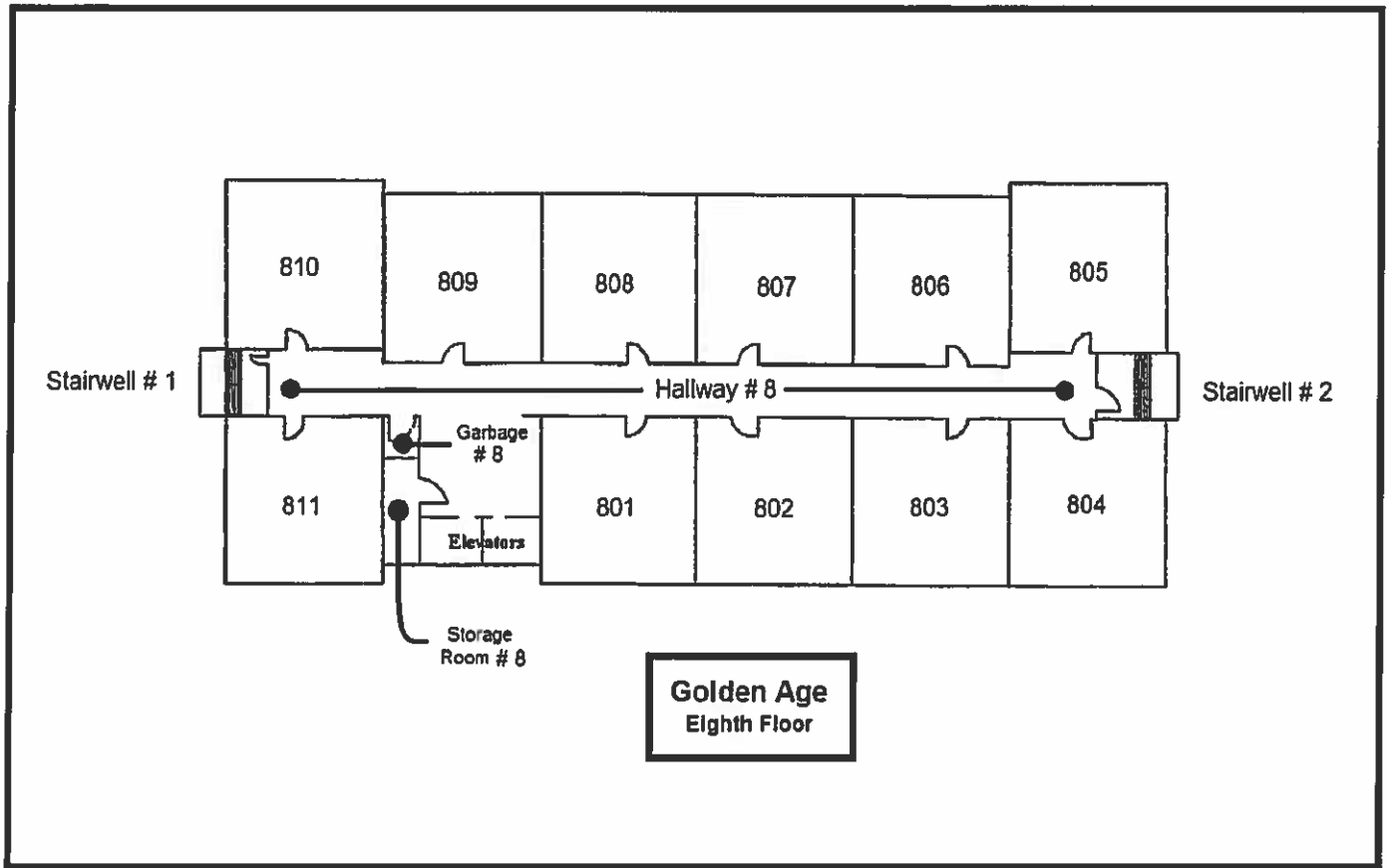


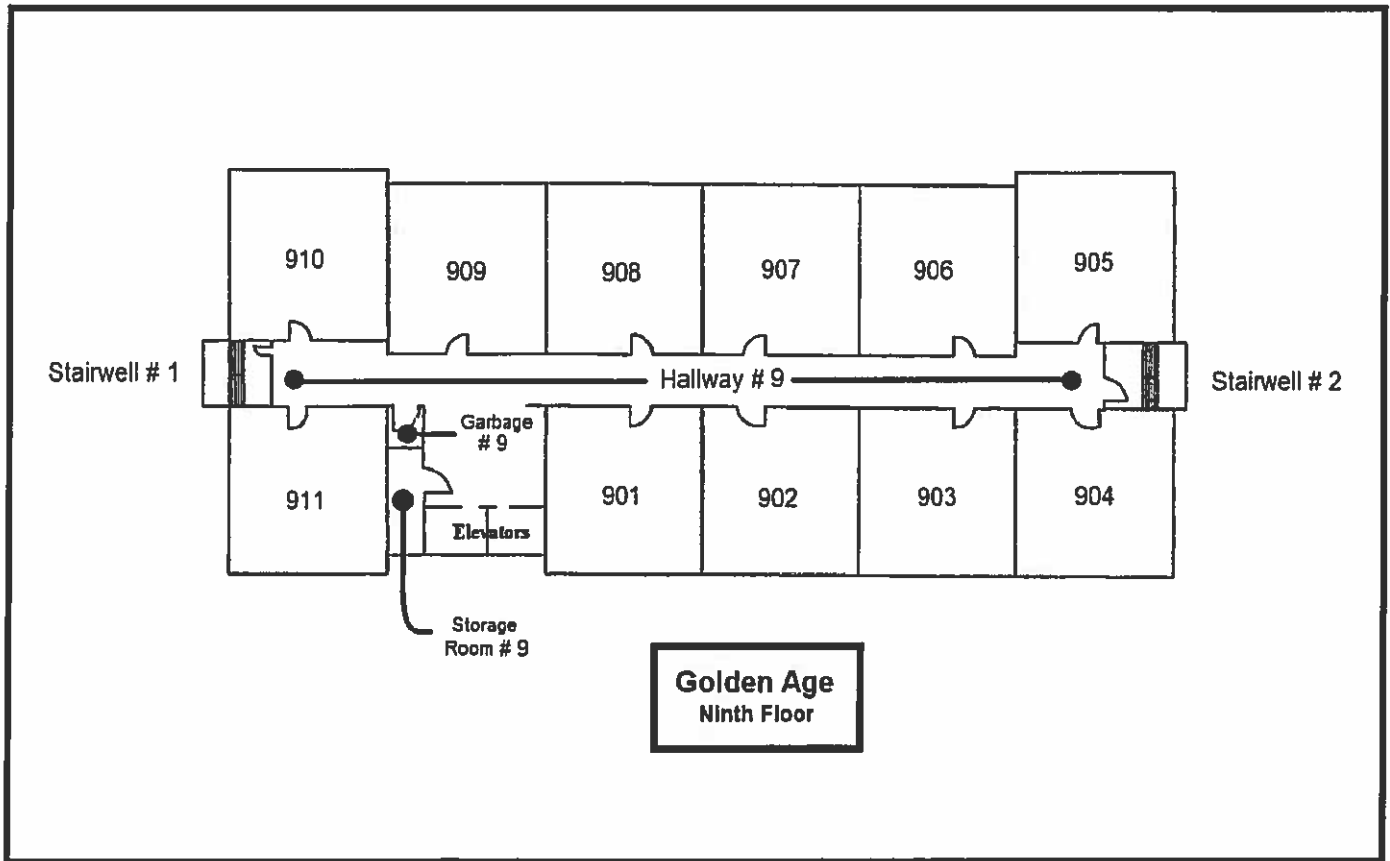


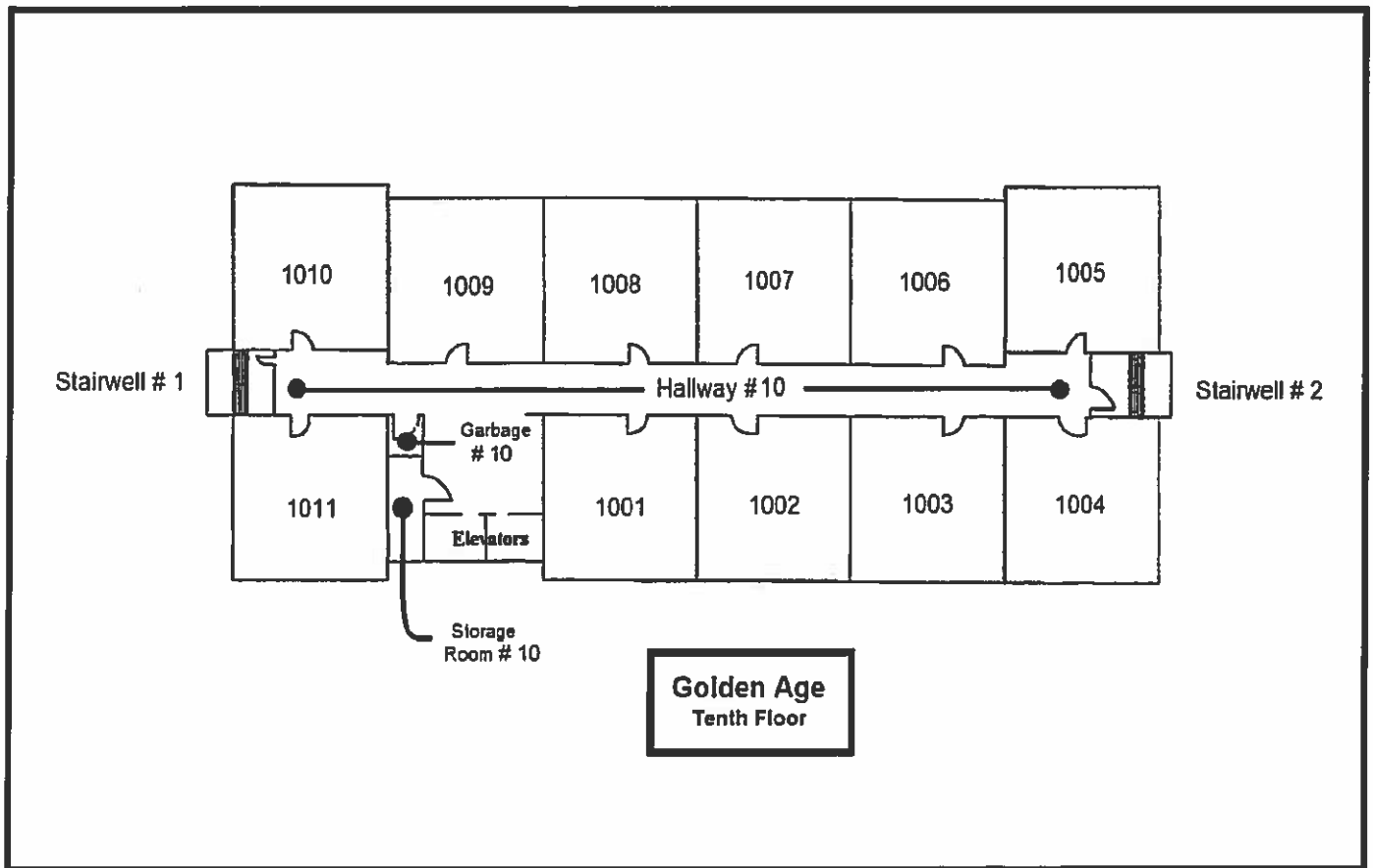


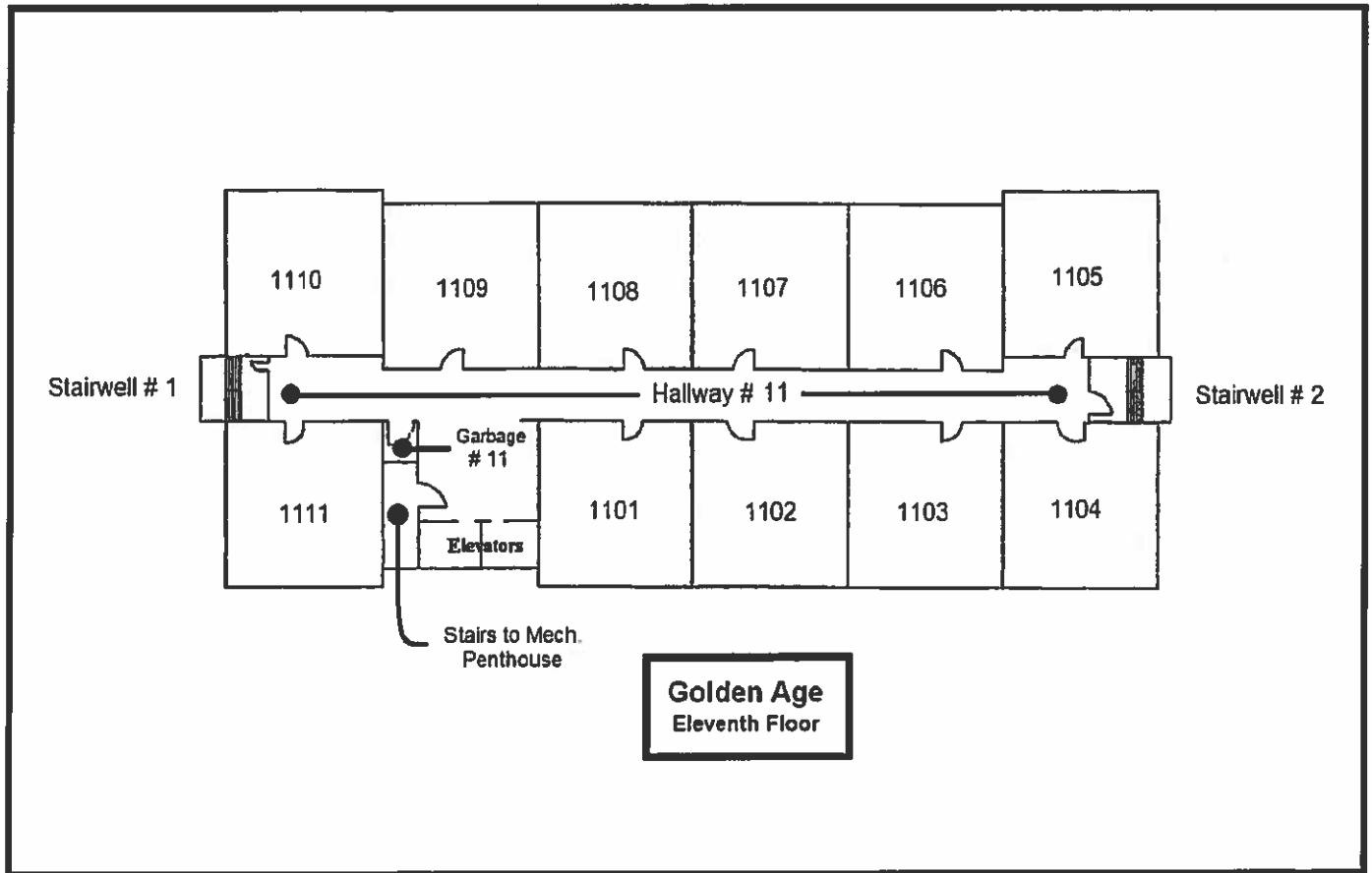












**135 WORTHINGTON STREET WEST  
(GOLDEN AGE TOWERS)  
NORTH BAY, ONTARIO**

**Extrapolated list of asbestos-containing building materials in each NON-INSPECTED Suite / Unit**

Based on the findings from the asbestos assessment of the six representative suites / units (202, 311, 505, 602, 807 and 1107) at 135 Worthington Street West and extrapolating these findings to the other 100 non-inspected suites / units also located at 135 Worthington Street West, North Bay, Ontario, the following asbestos-containing materials (ACM's) are highly suspected to be present within these non-inspected suites / units and must be deemed / treated as asbestos-containing until proven otherwise.

1. **Cement Wall Panels (non-friable)** – “Suspected” within balconies of all non-inspected suites / units.
2. **Drywall Mud / Joint Compound (friable)** – “Suspected” within all non-inspected suites / units.



## 1. GENERAL

- 1.1 The General Conditions of the Canadian Construction Document Committee – CCDC 2-2008 – Stipulated Price Contract, Articles GC-1 through GC-12 inclusive shall form part of this Contract.
- 1.2 The following Supplementary Conditions modify, change, delete from and/or add to the Articles of Agreement, the Definitions, and the General Conditions of the Stipulated Price Contract CCDC 2 – 2008.
- 1.3 When any Article, Definition, General Condition, Paragraph, or Sub-paragraph in the Agreement and/or General Conditions is supplemented by one of the following paragraphs, the provision of such Article, Paragraph or Sub-Paragraph shall remain in effect and the supplemental provisions shall be considered as added thereto.
- 1.4 Where any Article, Definition, General Condition, Paragraph or Sub-Paragraph in the Agreement and/or General Conditions is amended, voided or superseded by any of the following paragraphs, the provision of such Article, Definition, General Condition, Paragraph or Sub-Paragraph not so amended, voided, or superseded shall remain in effect.
- 1.5 The term “provide” as used in the Contract Documents, shall mean the furnishing of all labour, materials, equipment, transportation and all other services required, including all costs in connection therewith, to complete the Work.
- 1.6 Where the word “submit”, “satisfactory”, “approved”, “designated”, “directed”, “inspected”, “instructed”, “permitted”, “required”, “ordered” or other similar term is used throughout the Contract Documents, it shall be followed by the words, “by the Consultant” unless the contract provides otherwise.
- 1.7 Where the words “by other” are used in the Specifications or on the drawings, they will not mean by someone other than the Contractor. The only means by which something shown or specified will be indicated as not being in the Contract is by the use of initials “NIC” or the words “Not In Contract” or “By Owner”.
- 1.8 Throughout the Contract Documents, wherein the term “Day” is used, amend to read: “Working Day”, as defined in Definitions.
- 1.9 The following Articles, Definitions, General Conditions, Paragraphs, Sub-paragraphs or clauses thereof have been modified in these Supplementary Conditions.

## 2. MODIFICATIONS TO AGREEMENT BETWEEN OWNER AND CONTRACTOR

### 2.1 ARTICLE A-5 – PAYMENT

- 2.1.1 Insert the following values in the blanks of Paragraphs 5.1 “ten” and “10”.
- 2.1.2 Insert the following in the blanks of Paragraph 5.3.1 “The Bank of Canada”.
- 2.1.3 Add the following new Paragraph.
  - “5.4 The Consultant may withhold or nullify, in whole or in part, any application for payment to such extent as may be necessary to protect the Owner from loss because of the following:
    - .1 defective work not remedied,
    - .2 claims filed or reasonable evidence indicating probable filing of claims,
    - .3 failure of Contractor to make payment properly to Subcontractors or suppliers for material and/or labour,
    - .4 damage to the work of another Contractor,





- .5 unauthorized deviations by Contractor from Contract Documents,
- .6 unsatisfactory progress of project work by Contractor,
- .7 record drawings not current and up-to-date with changes.

When the above noted grounds are resolved, payments will be made for amounts withheld. No interest will be paid on amounts withheld.

## 2.2 ARTICLE A-6 – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING

### 2.2.1 Amend Paragraph 6.1 to read:

- "6.1 Notices in Writing between the parties, or between them and the Consultant, shall be considered to have been received by the addressee on the date of receipt if delivered by hand or by commercial courier or if sent during normal business hours by fax and addressed as set out below. Such Notices in Writing will be deemed to be received by the addressee on next business day if sent by fax after normal business hours or if sent by overnight commercial courier. Such Notices in Writing will be deemed by be received by the addressee on the fifth Working Day following the date of mailing if sent by pre-paid registered post, where addressed as set out below. An address for a party may be changed y Notice in Writing to the other party setting out the new address in accordance with this article."

## 3. DEFINITIONS

### 3.1 Amend Definition 4 by adding the following to the end of that Definition:

"For purposes of the *Contract*, the terms "Consultant", "Architect" and "Engineer" shall be considered synonymous."

### 3.2 Amend Definition 12 by adding the following to the end of that Definition:

"For purposes of the *Contract*, the terms "Owner", "Nipissing District Housing Corporation" shall be considered synonymous.

### 3.3 Amend Definition 16, Provide, as follows:

"'Provide' means to supply and install. *Provide* has this meaning whether or not the first letter is capitalized."

### 3.4 Add a new Definition 27, Act, as follows:

" 'Act' means the Construction Lien Act (Ontario)."

### 3.5 Add a new Definition 28, Construction Schedule, as follows:

"'Construction Schedule' means the schedule for the performance of the *Work* provided by the *Contractor* pursuant to GC3.5, including any amendments to the *Construction Schedule* made pursuant to the *Contract Documents*."

### 3.6 Add a new Definition 29, Environmental Programs, as follows:

"'Environmental Programs' means the environmental plans, programs, procedures and requirements of the *Owner* found in the manual prepared and maintained by the *Owner* and referred to in the Instructions to Bidders. The *Environmental Programs* include *Owner's* Asbestos Control Program, its mould program and a program for controlling and handling designated substances."



3.7 Add a new Definition 30, Exposed, as follows:

"*Exposed*" means visible by the *Owner* at the completion of the *Work*, unless otherwise indicated in the *Contract Documents*. *Exposed* items include all items on roof areas, mechanical and service rooms, inside of cupboards, cabinets and similar items."

3.8 Add a new Definition 31, Force Majeure, as follows:

"*Force Majeure*" means any cause, beyond the *Contractor's* control, other than bankruptcy or insolvency, which prevents the performance by the *Contractor* of any of its obligations under the *Contract* and the event of *Force Majeure* was not caused by the *Contractor's* default or active commission or omission and could not be avoided or mitigated by the exercise of reasonable effort or foresight by the *Contractor*. *Force Majeure* includes *Labour Disputes*, fire, unusual delay by common carriers or unavoidable casualties, civil disturbance, acts, orders, legislation, regulations or directives of any government or other public authority, acts of a public enemy, war, riot, sabotage, blockage embargo, shortage of materials and supplies, lightning, earthquake, abnormally adverse weather conditions or acts of God."

3.9 Add a new Definition 32, Install, as follows:

"*Install*" means install and connect. *Install* has this meaning whether or not the first letter is capitalized."

3.10 Add a new Definition 33, Labour Dispute, as follows:

"*Labour Dispute*" means any lawful or unlawful labour problems, work stoppage, labour disruption, strike (including lockouts decreed or recommended for its members by a recognized contractor's association of which the *Contractor* is a member or to which the *Contractor* is otherwise bound), job action, slow down, picketing, refusal to work or continue to work, refusal to supply materials, cessation or work or other labour controversy which does, or might, affect the *Work*."

3.11 Add a new Definition 34, OHSA, as follows:

"*OHSA*" means the Occupational Health and Safety Act (Ontario)"

3.12 Add a new Definition 35, Request for Information, as follows:

"*Request for Information*" or '*RFI*' means written documentation sent by the *Contractor* to the *Owner* or to the *Owner's* representative or to the *Consultant* requesting written clarification(s) and/or interpretation(s) of the *Drawings* and/or *Specifications*, *Contract* requirements and/or other pertinent information required to complete the *Work* of the *Contract* without applying for a change or changes to the *Work*."

3.13 Add a new Definition 36, Submittals, as follows:

"*Submittals*" means documents or items required by the *Contract Documents* to be provided by the *Contractor* such as:

- *Shop Drawings*, samples, models, mock-ups to indicate details or characteristics, before the portion of the *Work* that they represent can be incorporated into the *Work*; and,
- Record drawings and manuals to provide instructions to the operation and maintenance of the *Work*"



- 3.14 Add a new Definition 37, reviewed, instructed, required, directed, permitted, inspected, ordered, as follows:

"Wherever the words 'reviewed', 'instructed', 'required', 'directed', 'permitted', 'inspected', 'ordered' or similar words are used they shall mean, unless the context provides otherwise, 'reviewed by the *Consultant*', 'instructed by the *Consultant*', 'required by the *Consultant*', 'directed by the *Consultant*', 'permitted by the *Consultant*' and 'ordered by the *Consultant*'."

- 3.15 Add a new Definition 38, satisfactory, as follows:

"Wherever the word 'satisfactory' or similar words or phrases are used in the Contract Documents, it means, unless the context provides otherwise, 'satisfactory to the Owner and the *Consultant*'."

- 3.16 Add a new Definition 39, As-Constructed Documents, as follows:

"As-constructed documents refer to reproductions of the original drawings and specifications which have been marked up to accurately show all changes from the original documents and which are to be provided in clearly marked and legible hard copies. As-constructed documents may also be known as As-Built Drawings."

- 3.17 Add a new Definition 40, Constructor, as follows:

"The Constructor is as defined in the Occupational Health and Safety Act, R.S.O. 1990 (latest amendment), referring to the person undertaking the project for the Owner, and for the purposes of this project, shall be the Contractor."

- 3.18 Add a new Definition 41, Proper Invoice, as follows:

"For purposes of the Contract, the terms "Proper Invoice", "Progress Application", and "Contractor Application for Payment" shall be considered synonymous."

#### 4. AMENDMENTS TO THE GENERAL CONDITIONS OF THE STIPULATED PRICE CONTRACT GC 1.1 CONTRACT DOCUMENTS

- 4.1 Amend paragraph 1.1.1 by adding the following between the first and second sentences:

"In many cases, the language of the *Contract Documents* is written in the imperative for the sake of brevity. Clauses containing instructions or directions are intended for the *Contractor* and such sentences are deemed to include the words, ... "the *Contractor* shall"."

- 4.2 Amend paragraph 1.1.6 by adding the following to the end of that paragraph:

"The *Specifications* are divided into divisions and sections for convenience but shall be read as a whole and neither such division nor anything else contained in the *Contract Documents* will be construed to place responsibility on the *Consultant* to settle disputes among the *Subcontractors* and *Suppliers* in respect to such divisions. The Drawings are, in part, diagrammatic and are intended to convey the scope of the *Work* and indicate general and appropriate locations, arrangement and sizes of fixtures, equipment and outlets. The *Contractor* shall obtain more accurate information about the locations, arrangement and sizes from study and coordination of the Drawings, including *Shop Drawings* and shall become familiar with conditions and spaces affecting these matters before proceeding with the *Work*. Where site conditions require reasonable minor changes in indicated locations and arrangements, the *Contractor* shall make such changes at no additional cost to the Owner. Similarly, where known conditions or existing conditions interfere with new installation and require relocation, the *Contractor* shall include such relocation in the *Work*. The *Contractor* shall arrange and install fixtures and



equipment in such a way as to conserve as much headroom and space as possible. The schedules are that portion of the *Contract Documents* wherever located and whenever issued, compiling information of similar content and may consist of drawings, tables and/or lists.”

- 4.3 Amend paragraph 1.1.7 by adding subparagraphs 1.1.7.5, 1.1.7.6, 1.1.7.7, 1.1.7.8, and 1.1.7.9 as follows:

.5 Annotations on the *Drawings* shall govern over the graphic representation of the *Drawings*.  
.6 Finishes in the room finish schedules shall govern over those shown on the *Drawings*.  
.7 Schedules of Division 01 – General Requirements of the *Specifications* shall form part of and be read in conjunction with the technical specification section as listed in the table of contents of the *Specifications*.

- 4.4 Delete paragraph 1.1.8 in its entirety and substitute new paragraph 1.1.8:

“1.1.8 The Contractor will be issued electronic copies of “Issued for Tender, Permit, and Construction”. The documents will be issued in PDF format. The production of hardcopies of the document will be at the expense of the Contractor as necessary to facilitate the construction of the building.”

- 4.5 Add a new paragraph 1.1.11 as follows:

“1.1.11 One set of signed and sealed *Contract Documents* shall be retained by each of the *Owner* and the *Contractor*.”

## 5. GC 2.2 ROLE OF THE CONSULTANT

- 5.1 Delete Paragraph 2.2.4 in its entirety.

- 5.2 Revise Paragraph 2.2.6 to read:

The *Consultant* will not be responsible for and will not have control, charge or supervision of construction means, methods, schedules, techniques, sequences or procedures, or for safety precautions and programs required in connection with the *Work* in accordance with the applicable construction safety legislation, other regulations or general construction practice. The *Consultant* will not be responsible for the *Contractor's* failure to carry out the *Work* in accordance with the *Contract Documents* or adhere to the construction schedule. The *Consultant* will not have control over, charge of or be responsible for the acts or omissions of the *Contractor*, *Subcontractors*, *Suppliers*, or their agents, employees, or any other persons performing portions of the *Work*.

- 5.3 Amend paragraph 2.2.7 in the second and third lines by deleting the words: “...except with respect to GC5.1 —FINANCING INFORMATION REQUIRED OF THE OWNER”.

- 5.4 Reference paragraph 2.2.9, add the words:

“The Contractor shall waive any claims against the Consultant arising out of the making of such interpretations and findings in accordance with Paragraphs 2.2.7, 2.2.8 and 2.2.9 at the end of the Paragraph.”

- 5.5 Add the following to the end of paragraph 2.2.11:

“The Consultant’s obligation to make findings on a large claim or large number of claims is subject to the terms and conditions of the Owner/Consultant Agreement.”

- 5.6 Amend paragraph 2.2.13 by adding the following to the end of that paragraph:



"If, in the opinion of the *Contractor*, the Supplemental Instruction involves an adjustment in the *Contract Price* or in the Contract Time, it shall, within ten (10) *Working* days of receipt of a Supplemental Instruction provide the *Consultant* with a written notice to that effect. In the event that the *Contractor* needs additional information to determine whether a Supplemental Instruction involves an adjustment of the *Contract Price* or in the Contract Time, it may issue a written request to the *Consultant* seeking such additional information. Following receipt of such information, the *Contractor* shall, within ten (10) *Working* days of receipt of such additional information provide the *Consultant* with the written notice described in the first sentence of this paragraph 2.2.13. Failure to provide written notification within the time stipulated in this paragraph 2.2.13 shall be deemed an acceptance of the Supplemental Instruction by the *Contractor* without adjustment in the *Contract Price* or Contract Time."

5.7 Amend paragraph 2.2.14 to read:

"The Consultant will review and take appropriate action upon Shop Drawings, Samples and other Contractor's Submittals, which are provided, in accordance with Contract Documents.

5.8 Add new paragraphs 2.2.19 and 2.2.20 as follows:

"2.2.19 The *Consultant's* services will be performed solely for the benefit of the *Owner* and no *Contractor*, Subcontractor, Supplier or other third party shall have any claim against the *Consultant* as a result of the performance or non-performance of the *Consultant's* services. The *Contractor* shall include this provision in any contracts it makes with its *Subcontractors*, *Suppliers* and others and shall require such *Subcontractors*, *Suppliers* and others to include the same term in their contracts with sub-*Subcontractors*, sub-*Suppliers* and others.

2.2.20 The *Specifications* are divided into divisions and sections for convenience but shall be read as a whole and neither such division nor anything else contained in the *Contract Documents* will be construed to place responsibility on the *Consultant* to settle disputes among *Subcontractors* and *Suppliers* in respect to such divisions."

## 6. GC 2.4 DEFECTIVE WORK

6.1 Add new subparagraphs 2.4.1.1, 2.4.1.2 and 2.4.1.3 as follows:

"2.4.1.1 The Contractor shall rectify, in a manner acceptable to the Owner and the Consultant, all defective work and deficiencies throughout the Work, whether or not they are specifically identified by the Consultant.

2.4.1.2 The *Contractor* shall prioritize the correction of any defective *Work* which, in the sole discretion of the Owner, adversely affects the day to day operation of the Owner.

2.4.1.3 The correction of any defective Work that is to take place after the Owner has taken occupancy must be completed after school hours or on weekends, unless otherwise agreed to between the Owner and Contractor."

## 7. GC 3.1 CONTROL OF THE WORK

7.1 Add a new paragraph 3.1.3 as follows:

3.1.3 Prior to commencing individual procurement, fabrication and construction activities, the *Contractor* shall verify, at the *Place of the Work*, all relevant measurements and levels necessary for proper and complete fabrication, assembly and installation of the *Work* and shall further carefully compare such field measurements and conditions with the requirements of the *Contract Documents*. Where dimensions are not included or exact



locations are not apparent, the *Contractor* shall immediately notify the *Consultant* in writing and obtain written instructions from the *Consultant* before proceeding with any part of the affected *Work*.

## 8. GC 3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS

- 8.1 Delete subparagraphs 3.2.2.1 and 3.2.2.2 in their entirety and substitute “intentionally left blank”.
- 8.2 Delete paragraph 3.2.3.2 and replace it with the following:  
 “3.2.3.2 Co-ordinate and schedule the activities and work of other contractors and *Owner’s* own forces with the *Work* of the *Contractor* and connect as specified or shown in the *Contract Documents*.”
- 8.3 Add a new paragraph 3.2.3.4 as follows:  
 “3.2.3.4 Subject to GC9.4 CONSTRUCTION SAFETY, for the *Owner’s* own forces and for other contractors, assume overall responsibility for compliance with all aspects of the applicable Health and Safety legislation of the *Place of the Work*, including all the responsibilities of the “constructor” under OHSA.”

## 9. GC 3.4 DOCUMENT REVIEW

- 9.1 Delete the second sentence of paragraph 3.4.1 and replace it with the following two sentences:  
 “Such review by the *Contractor* shall meet the standard of care described in paragraph 3.15.1 of this Contract. Except for the obligation to make such review and report the result, the *Contractor* does not assume any responsibility to the *Owner* or to the *Consultant* for the accuracy of the *Contract Documents*.”
- 9.2 Amend paragraph 3.4.1 in the fourth line, at the beginning of the third sentence, by adding the words, “Provided it has exercised the degree of care and skill described in this paragraph 3.4.1, the *Contractor*...”.
- 9.3 Add new paragraphs 3.4.2 and 3.4.3 as follows:  
 “3.4.2 Errors, inconsistencies and/or omissions in the Drawings and/or *Specifications* which do not allow completion of the *Work* of the Contract shall be brought to the *Consultant’s* attention prior to the execution of the Contract by means of an *RFI*.  
 3.4.3 Notwithstanding the foregoing, errors, inconsistencies, discrepancies and/or omissions shall not include lack of reference on the Drawings or in the *Specifications* to labour and/or *Products* that are required or normally recognized within respective trade practices as being necessary for the complete execution of the *Work*. The *Contractor* shall not use subsequent *RFIs*, issued during execution of the *Work*, to establish a change and/or changes in the *Work* pursuant to Part 6 – CHANGES IN THE *WORK*.”

## 10. GC 3.5 CONSTRUCTION SCHEDULE

- 10.1 Further amend paragraph 3.5.1 by adding a new subparagraph 3.5.1.2 as follows:  
 “3.5.1.2 provide the expertise and resources, such resources including manpower and equipment, as are necessary to maintain progress under the construction schedule referred to in paragraph 3.5.1.1 or any successor or revised schedule approved by the *Owner* pursuant to this GC3.5.”



- 10.2 Delete existing paragraph 3.5.1.2 and replace it with a new paragraph which is numbered 3.5.1.3 and reads as follows:

“3.5.1.3 continuously monitor the progress of the *Work* and provide a monthly progress schedule covering all of the baseline activities and including the actual start, actual finish and percentage completion of those activities. Each month, the *Contractor* shall submit, for the Owner’s approval, any changes made to the baseline logic and activity durations.”

- 10.3 Delete existing paragraph 3.5.1.3 and replace it with a new paragraph which is numbered 3.5.1.4 and reads as follows:

“3.5.1.4 if after applying the expertise and resources required under paragraph 3.5.1.2, the *Contractor* forms the opinion that the slippage in schedule reported in paragraph 3.5.1.3 cannot be recovered by the *Contractor*, it shall, in the same notice provided under paragraph 3.5.1.3, indicate to the *Consultant* if the *Contractor* intends to apply for an extension of Contract Time as provided in PART 6 —CHANGES IN THE WORK.”

- 10.4 Add a new paragraph 3.5.2 as follows:

“3.5.2 Without limiting the other obligations of the *Contractor* under GC3.5, the *Contractor* shall not amend the baseline schedule described in paragraph 3.5.1.1 without the prior written consent of the Owner. In addition, at each site construction meeting, the *Contractor* shall provide to the *Owner* and the *Consultant* a two (2) week look-ahead schedule indicating the major activities to be undertaken or constructed in such two (2) week period.”

## 11. GC 3.6 SUPERVISION

- 11.1 Delete paragraph 3.6.2 in its entirety and replace it with the following:

“3.6.2 The supervisor, and any project manager appointed by the *Contractor*, shall represent the *Contractor* at the Place of *Work* and shall have full authority to act on written instructions given by the *Consultant* and/or the *Owner* and the Owner’s representative. Instructions given to the supervisor or the project manager shall be deemed to have been given to the *Contractor* and both the supervisor and any project manager shall have full authority to act on behalf of the *Contractor* and bind the *Contractor* in matters related to this Contract.”

- 11.2 Add a new paragraph 3.6.3 as follows:

“3.6.3 The Owner, acting reasonably, shall have the right to order the *Contractor* to remove from the *Project* any representative or employee of the *Contractor*, *Subcontractors* or *Suppliers* who, in the opinion of the Owner, are a detriment to the *Project*.”

## 12. GC 3.7 SUBCONTRACTORS AND SUPPLIERS

- 12.1 Add a new paragraph 3.7.7 as follows:

“3.7.7 Where provided in the Contract, the *Owner* may assign to the *Contractor*, and the *Contractor* agrees to accept, any contract procured by the *Owner* for *Work* or services required on the *Project* that has been pre-tendered or pre-negotiated by the Owner.”

## 13. GC 3.8 LABOUR AND PRODUCTS

- 13.1 Amend paragraph 3.8.1 by adding the following sentence at the end of that paragraph:  
 “The *Contractor* represents and warrants that the *Products* provided for in accordance with the Contract are not subject to any conditional sales contract and are not subject to any security rights obtained by



any third party which may subject any of the *Products* to seizure and/or removal from the *Place of the Work*.”

- 13.2 Delete paragraph 3.8.2 and replace it with the following:
- “3.8.2 *Products* provided shall be new and shall conform to all current applicable specifications of the Canadian Standards Association, Canadian Standards Board or General Standards Board, ASTM, National Building Code, Ontario Building Code, National Fire Prevention Association, the Technical Standards and Safety Authority (also known as TSSA) and all governmental authorities having jurisdiction at the *Place of the Work*, unless otherwise specified. *Products* which are not specified shall be of a quality consistent with those specified and their use acceptable to the *Consultant*. *Products* brought on to the *Place of the Work* by the *Contractor* shall be deemed to be the property of the *Owner*, but the *Owner* shall be under no liability for loss thereof or damage thereto arising from any cause whatsoever. The said *Product* shall be at the sole risk of the *Contractor*.”
- 13.3 Amend paragraph 3.8.3 by adding the words, “..., agents, Subcontractors and Suppliers. . .” after the “employees” toward the end of line one.
- 13.4 Also with respect to paragraph 3.8.3, add three new sentences to the end of this paragraph which read as follows:
- “Without in any way limiting the generality of the foregoing, the *Contractor* shall prepare and implement the job site rules more particularly described in the tender documents. If no job site rules are described in the tender documents, the *Contractor* shall draft job site rules for the review and approval of the *Owner*. Any such job site rules prepared by the *Contractor* shall be consistent with the *Contractors* duties and obligations under the OHSA and shall also include provisions making smoking and the consumption of alcohol or non-prescription drugs on the *Project* site the subject of discipline proceedings and/or termination of employment.”
- 13.5 Add new paragraphs 3.8.4, 3.8.5 and 3.8.6 as follows:
- “3.8.4 Upon receipt of a written notice from the *Consultant*, the *Contractor* shall dismiss from the *Place of the Work* tradesmen and labourers whose *Work* is unsatisfactory to the *Consultant* or who are considered by the *Consultant* to be unskilled or otherwise objectionable.
- 3.8.5 The *Contractor* shall not employ any persons on the *Work* whose labour affiliation, or lack thereof, is incompatible with other labour employed in connection with the *Work*. Any costs arising from Labour Disputes, as a result of the employ of any such person by the *Contractor*, it's Subcontractor or *Suppliers* shall be the sole expense of the *Contractor*.
- 3.8.6 The *Contractor* shall cooperate with the *Owner* and its representatives and shall take all reasonable and necessary actions to maintain stable and harmonious labour relations with respect to the *Work* at the *Place of the Work*, including cooperation to attempt to avoid *Work* stoppages, trade union jurisdictional disputes and other Labour Disputes.”
- 14. GC 3.9 DOCUMENTS AT THE SITE**
- 14.1 Delete paragraph 3.9.1 in its entirety and replace it with the following:
- 3.9.1 The *Contractor* shall keep one copy of the current *Contract Documents*, *Supplemental Instructions*, *Contemplated Change Orders*, *Change Orders*, *Change Directives*, *Cash Allowance Disbursement Authorizations*, reviewed *Shop Drawings*, *Submittals*, reports and records of meetings at the *Place of the Work*, in good order and available to the *Owner* and *Consultant*.





**15. GC 3.10 SHOP DRAWINGS**

15.1 Add new paragraphs 3.10.13, 3.10.14, 3.10.15, 3.10.16, 3.10.17 and 3.10.18 as follows:

“3.10.13 Reviewed *Shop Drawings* shall not authorize a change in the *Contract Price* and/or the *Contract Time*.

3.10.14 The *Contractor* shall prepare a *Shop Drawings* schedule acceptable to the *Owner* and the *Consultant* prior to the first application for payment. A draft of the proposed *Shop Drawings* schedule shall be submitted by the *Contractor* to the *Consultant* and the *Owner* for approval. The draft *Shop Drawings* schedule shall clearly indicate the phasing of *Shop Drawings* submissions.

3.10.15 Except where the parties have agreed to a different *Shop Drawings* schedule pursuant to paragraph 3.10.3, the *Contractor* shall comply with the requirements for *Shop Drawings* submissions stated in the *Specifications*, Section 01300, *Submittals*.

3.10.16 The *Contractor* shall not use the term “by others” on *Shop Drawings* or other *Submittals*. The related trade, Subcontractor or Supplier shall be stated.

3.10.17 Certain *Specifications* sections require the *Shop Drawings* to bear the seal and signature of a professional engineer. Such professional engineer must be registered in the jurisdiction of the *Place of the Work* and shall have expertise in the area of practice reflected in the *Shop Drawings*.

3.10.18 The *Consultant* will review and return *Shop Drawings* and *Submittals* in accordance with the Schedule agreed upon in 3.10.3, or, in the absence of such a schedule, with reasonable promptness. If, for any reason, the *Consultant* cannot process the *Shop Drawings* and/or *Submittals* within the agreed-upon schedule or with reasonable promptness, the *Consultant* shall notify the *Contractor* and they shall meet to review and arrive at an acceptable revised schedule for processing. The *Contractor* shall update the *Shop Drawings* and *Submittals* schedule to correspondence to changes in the construction schedule. Changes in the *Contract Price* or *Contract Time* may be made only as provided in the *Contract*.

**16. GC 3.13 CLEANUP**

16.1 Add new paragraph 3.13.4 as follows:

3.13.4 In the event that the *Contractor* fails to remove waste and debris as provided in this GC 3.13, then the *Owner* or the *Consultant*, may give the *Contractor* twenty-four (24) hours' written notice to meet its obligations respecting clean up. Should the *Contractor* fail to meet its obligations pursuant to this GC 3.13 within the twenty-four (24) hour period next following delivery of the notice, the *Owner* may remove such waste and debris and deduct from payments otherwise due to the *Contractor*, the *Owner's* costs for such clean up, including a reasonable markup for administration.”

**17. GC 3.14 CONTRACTOR STANDARD OF CARE**

17.1 Add a new General Condition 3.14 as follows:

“3.14 CONTRACTOR STANDARD OF CARE

3.14.1 In performing this *Contract*, the *Contractor* shall exercise the degree of care, skill and diligence that would normally be exercised by an experienced, skilled and prudent contractor supplying similar services for similar projects in a first class and expeditious



manner. The *Contractor* acknowledges and agrees that, throughout this *Contract*, the *Contractor's* obligations, duties and responsibilities shall be judged, evaluated and interpreted in accordance with this standard. The *Contractor* shall exercise the same standard of care in respect of any *Products*, personnel or procedures which it may recommend to the *Owner* or employ on the *Project*."

**18. GC 3.15 CONTRACTOR USE OF PERMANENT EQUIPMENT OR SYSTEMS**

18.1 Add a new General Condition 3.15 as follows:

**"3.15 CONTRACTOR USE OF PERMANENT EQUIPMENT OR SYSTEMS**

3.15.1 With the prior written approval of the Owner, the *Contractor* may make use of elements of the mechanical and electrical systems or equipment comprising a permanent part of the *Work* for the purpose of providing heat or power to the *Project* during the final stages of construction. In such event, and before the issuance of the certificate of Substantial Performance of the *Work*, the *Contractor* shall clean and make good, to the satisfaction of the *Consultant*, such systems and equipment as it had been permitted to use. The *Contractor* shall pay any and all costs associated with such use, cleaning and making good."

**19. GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER**

19.1 Delete GC5.1 in its entirety and replace it with "Intentionally left blank."

**20. GC 5.2 APPLICATIONS FOR PROGRESS PAYMENT**

20.1 Amend paragraph 5.2.3 by adding the following to the end of that paragraph:  
"No amount claimed shall include *Products* delivered to the *Place of the Work* unless the *Products* are free and clear of all security interest, liens, and other claims of third parties."

20.2 Amend paragraph 5.2.4 by adding the following to the end of that paragraph:

"Such statement of values shall subdivide the *Contractor's* allocation for "general conditions" to identify a separate line item labeled "allocation for baseline schedule required by GC3.5." The allocation to such line item shall be calculated as follows:

.1 where the *Contract Price* is \$2,000,000 or less, the greater of \$5,000 and 5% of the total amount allocated by the *Contractor* to "general conditions;

In addition, the statement of values shall identify a separate line item labeled "allocation for warranty obligations described in GC12.3". The allocation to such line item shall be \$\_0.30% of Stipulated Sum Price"

20.3 Amend paragraph 5.2.7 by adding the following new sentence at the end of that paragraph:

"Any *Products* delivered to the *Place of the Work* but not yet incorporated into the *Work* shall remain at the risk of the *Contractor* notwithstanding the title has passed to the *Owner* pursuant to GC13.1 OWNERSHIP OF MATERIALS."

20.4 Add new paragraphs 5.2.8, 5.2.9 and 5.2.10 as follows:

"5.2.8 The *Contractor* shall submit, with each application for progress payment after the first, a Statutory Declaration, on an original form of CCDC Document 9A-2001, stating that all accounts for labour, subcontracts, *Products*, Construction Equipment and other indebtedness which may have been incurred by the *Contractor* and for which the *Owner*



might in any way be held responsible have been paid in full up to the previous invoice, except for amounts properly retained as a holdback or as an identified amount in dispute

- 5.2.9 The *Contractor* shall submit *Workplace Safety & Insurance Board Clearance Certificate*, with each application for progress payment.
- 5.2.10 The *Contractor* shall prepare and maintain current as-built *Drawings* which shall consist of the *Drawings* and *Specifications* revised by the *Contractor* during the *Work*, showing changes to the *Drawings* and *Specifications*, which current as-built *Drawings* shall be maintained by the *Contractor* and made available to the *Consultant* for review with each application for progress payment. The *Consultant* reserves the right to retain a reasonable amount for the value of the as-built *Drawings* not presented for review.
- 5.2.11 Prior to each application for payment, the *Contractor*, *Consultant* and subconsultants shall jointly check the progress of the *Work* at the site.
- 5.2.12 Seven (7) calendar days prior to issuance of each proper invoice, the contractor shall issue a draft invoice for review by the *Consultant*."

## 21. GC 5.3 PROGRESS PAYMENTS

- 21.1 In paragraph 5.3.1, in the first line, revise the words "and application" to read, "a proper invoice". Add the following sentence at the end of the paragraph:  
  
"A proper invoice shall be submitted after acceptance of the draft invoice, as per Paragraph 5.2.12 above."
- 21.2 Delete the present text of subparagraph 5.3.1.3 and substitute the following:  
  
"5.3.1.3 The Owner shall make payment to the Contractor as per the requirements of the Construction Act."
- 21.3 In subparagraph 5.3.1.2, in the second line, revise the words "application for payment" to read, "formal application for payment."
- 21.4 Add new paragraph 5.3.2, 5.3.4 and 5.3.5 as follows:
  - "5.3.2 In the event a construction lien is registered against the *Place of the Work* in circumstances where the *Owner* is not in breach of its payment obligations under this *Contract*, then the *Contractor* shall, within seven (7) days of receiving notice of the construction lien, have the lien removed by way of discharge, settlement, or by posting security to vacate the registration of the lien. In the event that the *Contractor* fails to see to the removal of the construction lien, then without prejudice to any other right or remedy it may have, the *Owner* may see to the removal of the construction lien by payment into court or otherwise, and the costs of so doing shall be to the *Contractor's* account.
  - 5.3.4 All progress payments are not conclusive as to the value or quality of services provided and are subject to further evaluation and readjustment on future and final progress payments. The submission of monthly draw amounts by the *Contractor* and *Subcontractors* must reflect accurate valuations for *Work* completed and installed. The *Contractor* shall review and evaluate all *Subcontractors Work* and be responsible for verifying the monthly draw amounts claimed.
  - 5.3.5 Once Substantial Performance of the *Work* has been achieved, no further applications for payment will be considered until the application for final payment. Final payment will be authorized by the *Consultant* only when all *Work* is entirely complete and all deficiencies are corrected."



## 22. GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK

22.1 Amend paragraph 5.4.3 by adding the following sentence at the end of the paragraph:

“Immediately following the issuance of a certificate of Substantial Performance of the *Work*, the *Contractor* shall publish the Certificate in the manner provided in the *Act* failing which publication, the *Owner* shall be at liberty to publish and back charge the *Contractor* for its reasonable costs for doing so.”

22.2 Add a new paragraph 5.4.4 as follows:

“5.4.4 The *Contractor* acknowledges that the *Submittals* described in this paragraph 5.4.4 are critical to the *Owner*’s use, occupancy and maintenance of the *Project* and agrees to make such *Submittals* to the *Owner*, before or after applying for the payment described in paragraph 5.4.1, as follows:

- .1 submit to the *Consultant*, with its application for payment, all written guarantees, warranties, certificates, testing and balancing reports, distribution system diagrams, *Shop Drawings*, maintenance and operating instructions, spare parts, maintenance manuals and materials and any other materials or documentation required by the *Contractor*, except for record drawings;
- .2 with respect to record or as built drawings, the *Contractor* shall submit full and complete record or as-built drawings to the *Consultant* within forty-five (45) days of the issuance of the certificate of Substantial Performance of the *Work* and the *Owner* shall be at liberty to withhold from amounts otherwise payable to the *Contractor* the sum of \$5,000.00 as security for the obligation of the *Contractor* to deliver such record or as built drawings within the time described in this paragraph 5.4.4.”

## 23. GC 5.5 PAYMENT OF HOLD BACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

23.1 Delete paragraph 5.5.3 in its entirety and substitute “Intentionally left blank”.

## 24. GC 5.6 PROGRESSIVE RELEASE OF HOLDBACK

24.1 Delete GC 5.6 in its entirety.

## 25. GC 5.7 FINAL PAYMENT

25.1 In paragraph 5.7.4, delete the words “no later than 5 calendar days after the issuance of a final certificate for payment”. In the same paragraph add the following words to the end of the paragraph, “...and as per the Construction Act”.

## 26. GC 6.1 CHANGES

26.1 Amend paragraph 6.1.2 by adding the following to the end of that paragraph:

“This requirement is of the essence and it is the express intention of the parties that any claims by the *Contractor* for a change in the *Contract Price* and/or *Contract Time* shall be barred unless there has been strict compliance with PART VI CHANGES IN THE *WORK*. No course of conduct or dealing between the parties, no express or implied acceptance of alterations or additions to the *Work* and no claims that the *Owner* has been unjustly enriched by any alteration or addition to the *Work*, whether in fact there is any such unjust enrichment or not, shall be the basis of a claim for



additional payment under this Contract or a claim for any extension of the Contract Time.”

26.2 Add a new paragraph 6.1.3 as follows:

“The *Contractor* agrees that changes resulting from construction coordination including but not limited to site surface conditions, site coordination, Subcontractor and Supplier coordination are included in the *Contract Price* and shall not entitle the *Contractor* to claim in addition to the *Contract Price* in relation to coordination.”

**27. GC 6.2 CHANGE ORDER**

27.1 Add new paragraph 6.2.3 as follows:

“6.2.3 The value of a change shall be determined in one or more of the following methods as directed by the Owner:

- .1 by estimate and acceptance of a lump sum.
- .2 by unit prices established in the Contract or subsequently agreed upon. Unit Prices shall include overhead, profit, and other reasonable charges of the *Contractor* and shall be the total cost to the Owner. Adjustment to the *Contract Price* shall be based on a net quantity difference from the original quantity.”

27.2 Add new paragraph 6.2.4 as follows:

“6.2.4 For work done and products supplied by unit prices set out in the Contract or subsequently agreed upon, the Contractor shall calculate the new quantity of the work and/or product supplied and then only shall the tender unit price, or the previously agreed upon unit price be applied, the result either an extra or a credit to the contract sum.”

27.3 Add new paragraph 6.2.5 as follows:

- “6.2.5 For work done and products supplied by cost and a fixed or percentage fee, the contractor shall submit a completed itemized breakdown, substantiated with invoices for the products and time sheets for the work, showing the cost of the work and the products plus percentages as herein noted.
- .1 Subcontractor's mark up shall be five (5%) percent overhead and five (5%) percent profit, on which the Contract shall be allowed five (5) percent as administration and supervision fee.
  - .2 Contractor's mark up, where no Subcontractor is involved shall be five (5%) percent overhead and five (5%) percent profit which shall include administration and supervision fee.
  - .3 Cost of work shall be actual rates paid, plus the cost of actual statutory benefits.”

**28. GC 6.3 CHANGE DIRECTIVE**

28.1 Delete paragraph 6.3.7.1 the introductory language and replace it with the following:

- .1 salaries, wages and benefits paid to personnel in the direct employ of the *Contractor*, applying the labour rates set out in the wage schedule in the *Contract Documents* or as otherwise agreed between the *Owner* and *Contractor* for personnel...”



28.2 Delete paragraphs 6.3.7.1(1), (2), (3) and (4) and replace them with the following:

- “(1) carrying out the *Work*, including necessary supervisory services;
- (2) intentionally left blank;
- (3) engaged in the preparation of *Shop Drawings*, fabrication drawings, coordination drawings and project record drawings: or...
- (4) including clerical staff engaged in processing changes in the *Work*.”

28.3 Add new paragraph 6.3.14 as follows:

“6.3.14 Without limitation, the cost of performing the *Work* attributable to the Change Directive does not include:

- .1 head office salaries and benefits and all other overhead or general expenses, except only for the salaries, wages and benefits of personnel described in paragraph 6.3.4.2 and the contributions, assessments or taxes referred to in paragraphs 6.3.4.3;
- .2 capital expenses and interest on capital;
- .3 general clean-up, except where the performance of the *Work* in the Change Directive causes specific additional clean-up requirements;
- .4 wages paid for field supervision of *Subcontractors*;
- .5 wages, salaries, rentals, or other expenses that exceed the rates that are standard in the locality of the *Place of the Work* that are otherwise deemed unreasonable by the *Consultant*;
- .6 any costs or expenses attributable to the negligence, improper *Work*, deficiencies, or breaches of contract by the *Contractor* or *Subcontractor*; and
- .7 any cost of quality assurance, such as inspection and testing services, charges levied by authorities, and any legal fees unless any such costs or fees are pre-approved in writing by the Owner.”

## 29. GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

29.1 Delete paragraph 6.4.1 and replace it with the following:

“6.4.1.1 The *Contractor* confirms that, prior to tendering the *Project*, it carefully investigated the *Place of the Work* and applied to that investigation the degree of care and skill described in paragraph 3.15.1, given the amount of time provided between the issue of tender documents and the actual closing of tenders.

6.4.1.2 If the *Contractor* has not conducted such careful investigation, it is deemed to assume all risk of conditions or circumstances now existing or arising in the course of the *Work* which could make the *Work* more expensive or more difficult to perform than was contemplated at the time the Contract was executed. No claim by the *Contractor* will be entertained in connection with conditions which could reasonably have been ascertained by such investigation or other due diligence undertaken prior to the execution of the Contract.”



- 29.2 Amend paragraph 6.4.2 by adding a new first sentence which reads as follows:
- “6.4.2 Having regard to paragraph 6.4.1, if the *Contractor* believes that the conditions of the *Place of the Work* differ materially from those reasonably anticipated, differ materially from those indicated in the *Contract Documents* or were concealed from discovery notwithstanding the conduct of the investigation described in paragraph 6.4.1, it shall notify the *Owner* and *Consultant* in writing no later than five (5) *Working Days* after the first observation of such conditions.”
- 29.3 Amend the existing second sentence of paragraph 6.4.2, in the second line, following the word “materially” by adding the words “or were concealed from discovery notwithstanding the conduct of the investigation described in paragraph 6.4.1.”
- 29.4 Delete paragraph 6.4.3 and substitute the following:
- “6.4.3 If the *Consultant* makes a finding pursuant to paragraph 6.4.2 that no change in the *Contract Price* or the *Contract Time* is justified, the *Consultant* shall report in writing the reasons for this finding to the *Owner* and the *Contractor*.”

### 30. GC 6.5 DELAYS

- 30.1 Amend paragraphs 6.5.1 by deleting all of the words in the fifth line following the word “for” and substituting the following:
- “.....reasonable direct costs directly flowing from the delay but excluding any consequential, indirect or special damages.”
- 30.2 Delete paragraph 6.5.3 and replace it with the following:
- “6.5.3 If the *Contractor* is delayed in the performance of the *Work* by Force Majeure, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The extension of time shall not be less than the time lost as a result of the event causing the delay, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to payment for costs incurred by such delays unless such delays result from the actions of the *Owner*.”
- 30.3 Add new paragraphs 6.5.6, 6.5.7 and 6.5.8 as follows:
- “6.5.6 If the *Contractor* is delayed in the performance of the *Work* by an act or omission of the *Contractor* or anyone employed or engaged by the *Contractor* directly or indirectly, or by any cause within the *Contractor’s* control, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may decide in consultation with the *Contractor*. The *Owner* shall be reimbursed by the *Contractor* for all reasonable costs incurred by the *Owner* as the result of such delay, including all services required by the *Owner* from the *Consultant* as a result of such delay by the *Contractor* and, in particular, the cost of the *Consultant’s* services during the period between the date of *Substantial Performance of the Work* stated in Article A-1 herein as the same may be extended through the provisions of these General Conditions and any later, actual date of *Substantial Performance of the Work* achieved by the *Contractor*.
- 6.5.7 The *Contractor* shall be responsible for the care, maintenance and protection of the *Work* in the event of any suspension of construction as a result of the delay described in paragraph 6.5.1, 6.5.2 or 6.5.3. In the event of such suspension, the *Contractor* shall be reimbursed by the *Owner* for the reasonable costs incurred by the *Contractor* for such protection, but excluding the costs of the *Contractor’s* head office personnel, for such care, maintenance



and protection. The *Contractor's* entitlement to costs pursuant to this paragraph 6.5.6, if any, shall be in addition to amounts, if any, to which the *Contractor* is entitled pursuant to paragraph 6.5.1, 6.5.2 or 6.5.3.

- 6.5.8 Without limiting the obligations of the *Contractor* described in GC3.2 or GC9.4, the *Owner* may, by notice in writing, direct the *Contractor* to stop the *Work* where the *Owner* determines that there is an imminent risk to the safety of persons or property at the Place of *Work*. In the event that the *Contractor* receives such notice, it shall immediately stop the *Work* and secure the site. The *Contractor* shall not be entitled to an extension of the Contract Time or to an increase in the *Contract Price* unless the resulting delay, if any, would entitle the *Contractor* to an extension of the Contract Time or the reimbursement of the *Contractor's* costs as provided in paragraph 6.5.1, 6.5.2 or 6.5.3."

**31. GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, STOP THE WORK OR TERMINATE THE CONTRACT**

- 31.1 Amend paragraph 7.1.2 by adding the words ".....fails or neglects to maintain the latest schedule provided pursuant to GC3.5...". Immediately following the word "properly" in line one.

**32. GC 7.2 CONTRACTOR'S RIGHT TO STOP THE WORK OR TERMINATE THE CONTRACT**

- 32.1 Amend paragraph 7.2.2, in line 1, by deleting "20 *Working Days*" and replacing it with "45 days".

- 32.2 Delete paragraph 7.2.3.1 and replace it with "Intentionally left blank".

- 32.3 Delete paragraph 7.2.3.3 and replace it with the following:

"7.2.3.3 The *Owner* fails to pay the *Contractor* when due the amounts certified by the *Consultant* or awarded by arbitration or a Court, except where the *Owner* has a *bona fide* claim for setoff, or..."

- 32.4 Amend paragraph 7.2.3.4 by deleting the comma toward the end of the first line. Further amend paragraph

7.2.3.4 by deleting the phrase beginning with the word "except" and ending with the word "Owner".

- 32.5 Renumber paragraph 7.2.5 as 7.2.6. Add a new paragraph 7.2.5 as follows:

"7.2.5 If the default cannot be corrected within the five *Working Days* specified in paragraph 7.2.4, the *Owner* shall be deemed to have cured the default if it:

- .1 commences correction of the default within the specified time;
- .2 provides the *Contractor* with an acceptable schedule for such correction; and
- .3 completes the correction in accordance with such schedule.

- 32.6 Delete renumbered paragraph 7.2.6 in its entirety and replace it with the following:

"7.2.6 If the *Contractor* terminates the Contract under the conditions described in this GC7.2, the *Contractor* shall be entitled to be paid for all *Work* performed to the date of termination. The *Contractor* shall also be entitled to recover the direct costs associated with termination, including the costs of demobilization, losses sustained on *Products* and construction machinery and equipment. The *Contractor* shall not be entitled to any recovery for any special, indirect or consequential losses."

**33. GC 8.2 NEGOTIATION, MEDIATION AND ARBITRATION**





33.1 Delete GC8.2 in its entirety

**34. GC 8.3 RETENTION OF RIGHTS**

34.1 Delete GC 8.3 in its entirety

**35. GC 9.1 PROTECTION OF WORK AND PROPERTY**

35.1 Amend paragraph 9.1.1.1 by adding the following words at the end of that subparagraph: "...which the *Contractor* could not reasonably have discovered applying the standard of care described in paragraph 3.14.1;"

35.2 Add a new paragraph 9.1.5 as follows:

"9.1.5 Without in any way limiting the *Contractor's* obligations under this GC9.1, should the *Contractor* or any Subcontractor or Supplier cause loss or damage to trees or other plantings, whether owned by the *Owner* or third parties, the *Contractor* shall be liable for the replacement cost of the trees or other plantings damaged, including the cost of any arborist or other *Consultant*, and such costs may be deducted by the *Owner* from amounts otherwise owing to the *Contractor*."

**36. GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES**

36.1 Add a new paragraph 9.2.5.5 as follows:

".5 In addition to the steps described in subparagraph 9.2.5.3, take any further steps it deems necessary to mitigate or stabilize any conditions resulting from encountering toxic or hazardous substances or materials."

36.2 Add the following to paragraph 9.2.6 after the word "responsible" in line two:

"...or whether any toxic or hazardous substances or materials already at the *Place of the Work* (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the *Contractor* or anyone for whom the *Contractor* is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damage to the property of the *Owner* or others,

36.3 Amend paragraph 9.2.8 by adding the following after the word "responsible" in line two:

"...or that any toxic or hazardous substances or materials already at the *Place of the Work* (and which were then harmless or stored, contained or otherwise dealt with in accordance with legal and regulatory requirements) were dealt with by the *Contractor* or anyone for whom the *Contractor* is responsible in a manner which does not comply with legal and regulatory requirements, or which threatens human health and safety or the environment, or material damage to the property of the *Owner* or others,..."

36.4 Add a new paragraph 9.2.10 as follows:

"9.2.10 Without limiting its other obligations under this GC9.2, the *Contractor* acknowledges that its obligations under the Contract include compliance with the Environmental Programs, including, but not limited to, the Asbestos Abatement Program. The *Contractor* acknowledges that the *Owner* may suffer loss and damage should the *Contractor* fail to comply with the Environmental Programs and agrees to indemnify and hold harmless the



*Owner* with respect to any loss or damage to which the *Owner* is exposed by the *Contractor's* failure to comply. The *Contractor* expressly agrees that such loss and damage shall be included within the scope of the *Contractor's* indemnity described in paragraph 12.1.1 of the General Conditions. The *Contractor* acknowledges that should it fail to comply with the Environmental Program, such failure will constitute a failure to comply with the Contract to a substantial degree within the meaning of paragraph 7.1.2."

### 37. GC 9.4 CONSTRUCTION SAFETY

37.1 Delete paragraph 9.4.1 in its entirety and replace it with the following:

"9.4.1 The *Contractor* shall be solely responsible for construction safety at the *Place of the Work* and for compliance with the rules, regulations and practices required by the applicable construction health and safety legislation and shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the *Work*."

37.2 Add new paragraphs 9.4.2, 9.4.3 and 9.4.4 as follows:

"9.4.2 Prior to the commencement of the *Work*, the *Contractor* shall submit to the *Owner*:

- .1 a current WSIB clearance certificate;
- .2 copies of the *Contractor's* insurance policies having application to the *Project* or certificates of insurance, at the option of the *Owner*;
- .3 documentation of the *Contractor's* in-house safety-related programs;
- .4 a copy of the Notice of *Project* filed with the Ministry of Labour naming itself as "constructor" under OHSA.

9.4.3 The *Contractor* shall indemnify and save harmless the *Owner*, its agents, officers, directors, employees, *Consultants*, successors and assigns from and against the consequences of any and all safety infractions committed by the *Contractor* under OHSA, including the payment of legal fees and disbursements on a solicitor and client basis. Such indemnity shall apply to the extent to which the *Owner* is not covered by insurance, provided that the indemnity contained in this paragraph shall be limited to costs and damages resulting directly from such infractions and shall not extend to any consequential, indirect or special damages.

9.4.4 The *Owner* undertakes to include in its contracts with other contractors and/or in its instructions to its own forces the requirement that the other contractor or own forces, as the case may be, will comply with directions and instructions from the *Contractor* with respect to occupational health and safety and related matters. The text of such instruction is attached to these Supplementary Conditions as Appendix 1."

### 38. GC 9.5 MOULD

38.1 Delete paragraph 9.5.3.3 in its entirety and replace it with the following:

"9.5.3.3 Extend the *Contract Time* for such reasonable time as the *Consultant* may recommend on consultation with the *Contractor* and the *Owner*. If, in the opinion of the *Consultant*, the *Contractor* has been delayed in performing the *Work* and/or has incurred additional costs under paragraph 9.5.1.2, the *Owner* shall reimburse the *Contractor* for the reasonable costs incurred as a result of the delay and as a result of taking those steps, and..."

### 39. GC 10.1 TAXES AND DUTIES

39.1 Amend paragraph 10.1.2 by adding the following sentence at the end of the existing paragraph:



"For greater certainty, the *Contractor* shall not be entitled to any mark up for overhead or profit on any increase in such taxes and duties and the *Owner* shall not be entitled to any credit relating to mark up for overhead or profit on any decrease in such taxes."

39.2 Add new paragraphs 10.1.3, 10.1.4, 10.1.5 and 10.1.6 as follows:

"10.1.3 Where an exemption or a recovery of sales taxes, customs duties, excise taxes or Value Added Taxes is applicable to the Contract, the *Contractor* shall, at the request of the *Owner* or the *Owner's* representative, assist, join in, or make application for any exemption, recovery or refund of all such taxes and duties and all amounts recovered or exemptions obtained shall be for the sole benefit of the *Owner*. The *Contractor* agrees to endorse over the *Owner* any cheques received from the federal or provincial governments, or any other taxing authority, as may be required to give effect to this paragraph 10.1.3.

10.1.4 The *Contractor* shall maintain accurate records tabulating equipment, material and component costs reflecting the taxes, customs duties, excise taxes and Value Added Taxes paid.

10.1.5 Any refund of taxes, including without limitation, any government sales tax, customs duty, excise tax or Value Added Tax, whether or not paid, which is found to be inapplicable or for which exemption may be obtained, is the sole and exclusive property of the *Owner*. The *Contractor* agrees to cooperate with the *Owner* and to obtain from all *Subcontractors* and *Suppliers* cooperation with the *Owner* in the application for any refund of any taxes, which cooperation shall include, but not be limited to, making or concurring in the making of an application for any such refund or exemption and providing to the *Owner* copies, or where required, originals of records, invoices, purchase orders and other documentation necessary to support such applications or exemptions or refunds. All such refunds shall either be paid to the *Owner*, or shall be a credit to the *Owner* against the *Contract Price*, in the *Owner's* discretion.

10.1.6 Customs duties penalties, or any other penalty, fine or assessment levied against the *Contractor* shall not be treated as a tax or customs duty for purposes of this GC 10.1".

#### 40. GC 10.2 LAWS, NOTICES, PERMITS AND FEES

40.1 Replace GC 10.2.2 with:

"The *Contractor* shall obtain and pay for the building permit. The *Owner* shall provide and pay for all development approvals, permanent easements and rights of servitude and all other necessary approvals and permits except for the permits and fees referred to in paragraph 10.2.3 or for which the Contract Documents specify as the responsibility of the *Contractor*."

40.2 Amend paragraph 10.2.5 by adding the words, "Subject to paragraph 3.15.1" to the beginning of the paragraph.

40.3 Further amend paragraph 10.2.5 by adding the following to the end of the second sentence:

"...and no further *Work* on the affected components of the Contract shall proceed until these changes to the *Contract Documents* have been obtained by the *Contractor* from the *Consultant*."

40.4 Further amend paragraph 10.2.5 by adding the following sentence to the end of the paragraph, as amended:

"The *Contractor* shall notify the Chief Building Official or the registered code agency where applicable, of the readiness, substantial completion, and completion of the stages of construction set



out in the Ontario Building Code. The *Contractor* shall be present at each site inspection by an inspector or registered code agency as applicable under the Ontario Building Code.”

40.5 Amend paragraph 10.2.6 by adding the following sentence at the end of that paragraph:

“In the event the *Owner* suffers loss or damage as a result of the *Contractor’s* failure to comply with paragraph 10.2.5, and notwithstanding any limitations described in paragraph 12.1.1, the *Contractor* agrees to indemnify and to hold harmless the *Owner* and the *Consultant* from and against any claims, demands, losses, costs, damages, actions, suits or proceedings resulting from such failure by the *Contractor*.”

#### 41. GC 10.4 WORKERS’ COMPENSATION

41.1 Amend paragraph 10.4.1 so that, as amended, it reads as follows:

“Prior to commencing the *Work*, and with each application for payment thereafter, the *Contractor* shall provide a Clearance Certificate from WSIB.”

#### 42. GC 11.1 INSURANCE

42.1 Add the following to 11.1.1.1:

“General liability insurance shall be with limits of not less than \$5,000,000 per occurrence, an aggregate limit of not less than \$5,000,000 within any policy year with respect to completed operations, and a deductible not exceeding \$5,000. The insurance coverage shall not be less than the insurance provided by IBC Form 2100 (including an extension for a standard provincial and territorial form of non-owned automobile liability policy) and IBC Form 2320. To achieve the desired limit, umbrella or excess liability insurance may be used. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.

42.2 Add the following to 11.1.1.2:

Automobile liability insurance in respect of vehicles that are required by law to be insured under a contract by a Motor Vehicle Liability Policy, shall have limits of not less than \$5,000,000 inclusive per occurrence for bodily injury, death and damage to property, covering all vehicles owned or leased by the *Contractor*. Where the policy has been issued pursuant to a government-operated automobile insurance system, the *Contractor* shall provide the *Owner* with confirmation of automobile insurance coverage for all automobiles registered in the name of the *Contractor*.

42.3 Add the following to 11.1.1.4:

"Broad form" property insurance shall have limits of not less than the sum of 1.1 times *Contract Price* and the full value, as stated in the *Contract*, of *Products* and design services that are specified to be provided by the *Owner* for incorporation into the *Work*, with a deductible not exceeding \$5,000. The insurance coverage shall not be less than the insurance provided by IBC Forms 4042 and 4047 (excluding flood and earthquake) or their equivalent replacement. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.

42.4 Add the following to 11.1.1.5:

Boiler and machinery insurance shall have limits of not less than the replacement value of the permanent or temporary boilers and pressure vessels, and other insurable objects forming part of the *Work*. The insurance coverage shall not be less than the insurance provided by a comprehensive boiler and machinery policy.

42.5 Add the following to 11.1.1.6:



"Broad form" contractors' equipment insurance coverage covering *Construction Equipment* used by the *Contractor* for the performance of the *Work*, shall be in a form acceptable to the *Owner* and shall not allow subrogation claims by the insurer against the *Owner*. Subject to satisfactory proof of financial capability by the *Contractor* for self-insurance, the *Owner* may agree to waive the equipment insurance requirement.

#### 43. GC 11.2 CONTRACT SECURITY

43.1 Delete paragraphs 11.2.1 and 11.2.2 in their entirety and replace them with the following:

"11.2.1 Subject to paragraph 11.2.4, the *Contractor* shall furnish a performance bond in favour of the *Owner*, covering the faithful performance of the Contract, including the payment obligations arising there under, made upon the contract bond form of the *Owner* and issued by such surety company(ies) as the *Owner* may approve. The bond shall be for one hundred per cent (100%) of the *Contract Price* or such other amount as may be specified in the *Contract Documents*.

11.2.2 The *Contractor* shall furnish a labour and material payment bond in favour of the *Owner* in a form satisfactory to the *Owner* and issued by such surety company(ies) the *Owner* may approve. The bond shall be for one hundred per cent (100%) of the *Contract Price*.

11.2.3 It is the intention of the Contract that the performance bond shall be applicable to all of the *Contractor's* obligations under this Contract and, wherever a performance bond is provided with language which conflicts with this intention, it shall be deemed to be amended to comply. The *Contractor* represents and warrants that it has provided its surety with a copy of the Contract prior to the issuance of such bonds.

11.2.4 Where the *Contract Price*, arising from the *Owner's* award of the Contract, includes Subcontractor default insurance in lieu of a performance bond, the *Contractor* shall deliver to the *Owner* a certified copy of the policy of Subcontractor default insurance. Such policy shall have an aggregate loss limit of not less than 100% of the *Contract Price* and a claim limit of not less than 100% of such *Contract Price*. Such policy of insurance shall be subject to the approval of the *Owner*, acting reasonably, as to the terms and conditions of the Subcontractor default insurance, including those described in this paragraph 11.2.4."

#### 44. GC 12.1 INDEMNIFICATION

44.1 Delete paragraphs 12.1.1 through 12.1.6 in their entirety and replace them with the following:

"12.1.1 The *Contractor* shall indemnify and hold harmless the *Owner* and the *Consultant*, their agents, employees and assigns from and against all claims, demands, damages, losses, expenses, costs, including legal fees, actions, suits or proceedings by whomsoever made, brought or prosecuted in any manner, arising out of, resulting from or attributable to the *Contractor's* or any Subcontractor's performance or non-performance of the Contract, regardless of whether or not caused in part by a party indemnified hereunder. It is expressly understood that the *Contractor* will save harmless the *Owner* from all claims made by any party other than the *Contractor* itself, financial or otherwise, relating to labour and materials furnished by the *Contractor* or by others for the *Work*.

12.1.2 It is the intention of the parties that the *Consultant*, its officers, agents, partners, employees, directors and insurers, as well as any *Subconsultants*, or other *Consultants* retained with respect to the *Project*, and their officers, agents, partners, employees, directors and insurers, is to benefit from the indemnification and hold harmless provisions of paragraph 12.1.1.



- 12.1.3 The *Owner* shall indemnify and hold harmless the *Contractor*, his agents and employees from and against claims, demands, losses, costs, damages, actions, suits or proceedings arising out of the *Contractor's* performance of the Contract which are attributable to a lack of or defect in title or an alleged lack of or defect in title to the *Place of the Work*.
- 12.1.4 Notwithstanding the provisions of GC1.1 -*CONTRACT DOCUMENTS*, paragraph 1.1.7, GC12.1 - INDEMNIFICATION shall govern over the provisions of paragraph 1.3.1 of GC1.3 – RIGHTS AND REMEDIES.”

#### 45. GC 12.2 WAIVER OF CLAIMS

45.1 Delete paragraphs 12.2.1 through 12.2.10 and replace them with the following:

“12.2.1 As of the date of the final certificate for payment, the *Owner* expressly waives and releases the *Contractor* from all claims against the *Contractor* including without limitation those that might arise from negligence or breach of contract by the *Contractor* except for one or more of the following:

- .1 those made in writing prior to the date of the final certificate for payment and still unsettled;
- .2 those arising from the provisions of GC12.1 – INDEMNIFICATION or GC12.3 – WARRANTY;
- .3 those arising from GC9.2 – TOXIC AND HAZARDOUS SUBSTANCES AND MATERIALS and arising from the *Contractor* bringing or introducing any toxic or hazardous substances and materials to the *Place of the Work* after the *Contractor* commences the *Work*;
- .4 those made by Notice in Writing within a period of six years from the date of *Substantial Performance of the Work* as set out in the certificate of substantial performance, or within such shorter period as may be prescribed in any limitation statute of the province or territory of the *Place of the Work* and arising from any liability of the *Contractor* for damages resulting from the *Contractor's* performance of the *Contract* with respect to substantial defects or deficiencies in the *Work* for which the *Contractor* is proven responsible. As used herein, “substantial defects or deficiencies” means those defects or deficiencies in the *Work* where the reasonable cost of repair of such defects or deficiencies exceeds:
  - .1 for a *Contract Price* of \$2,000,000 or less, the sum of \$50,000, before HST;

12.2.2 As of the date of certificate of *Substantial Performance of the Work*, the *Contractor* expressly waives and releases the *Owner* from all claims which it has or reasonably ought to have knowledge of that could be advanced against the *Owner* including without limitation those that might arise from the negligence or breach of contract by the *Owner* except:

- .1 those made in writing prior to the *Contractor's* application for final payment and still unsettled; and
- .2 those arising from the provisions of GC9.2 – TOXIC AND HAZARDOUS SUBSTANCES AND MATERIALS or GC10.3 – PATENT FEES.”

#### 46. GC 12.3 WARRANTY

46.1 Revise paragraph 12.3.1 by replacing the words “one year” with “two years”.

46.2 Amend paragraph 12.3.1 by adding the following sentence at the end of that paragraph:

“Where the *Contractor* has been permitted to make use of permanent equipment or systems, as provided in GC3.16, prior to the issuance of the certificate of Substantial Performance of the *Work*,



such permanent equipment or system shall be subject to the same warranty as described in this GC12.3 and shall be judged, for purposes of assessing compliance with the warranty, as though the equipment or system was new, clean and unused by the *Contractor*, except for normal commissioning and startup activities, prior to the date of Substantial Performance of the *Work*.”

46.3 Delete the present text of 12.3.2 and substitute the following:

“The Contractor expressly warrants and guarantees to the Owner that the Work performed by the Contractor and by all Workers, Suppliers and Subcontractors conforms to the requirements of the Contract Documents and is performed in a safe and careful manner.”

46.4 Revise paragraph 12.3.3 by replacing the words “one year” with “two years”.

46.5 To paragraph 12.3.4 add new sentence:

“The warranty period shall commence for corrected Work.”

46.6 To paragraph 12.3.4 add new sentence:

“Except for extended warranties provided under this contract, the warranty period shall recommence for corrected Work.”

46.7 Delete the present text of paragraph 12.3.5 and substitute the following:

“12.3.5 The Contractor shall correct or pay for all damages to the Work and/or property, goods or equipment of the Owner and/or his tenants and neighbouring properties, resulting from the defects, deficiencies or corrections of the same.”

46.8 Revise paragraph 12.3.6 by replacing the words “one year” with “two years”.

46.9 Add a new paragraph 12.3.7 as follows:

“12.3.7 The Contractor shall commence to correct any deficiency within five (5) Working Days after consultant or Owner, issuance a notice from the Consultant or Owner and complete the Work as expeditiously as possible, except that in the case of urgent repairs, where the deficiency would prevent maintaining security or operating, as designed, of basic systems essential to the ongoing business of the Owner, all necessary corrections and/or installations or temporary replacements shall be carried out immediately as an emergency service. Should the Contractor fail to provide this emergency service within two (2) hours of a notification, the Owner is authorized, irrespective of the conditions of GC 7.1, to carry out all necessary repairs or replacements at the Contractor’s expense.

46.10 Add a new paragraph 12.3.8 as follows:

“12.3.8 The *Contractor* shall assign to the *Owner* all warranties, guarantees or other obligations for *Work*, services or *Products* performed or supplied by any Subcontractor, Supplier or other person in connection with the *Work* and such assignment shall be with the consent of the assigning party where required by law or by the terms of that party’s contract. Such assignment shall be in addition to, and shall in no way limit, the warranty rights of the *Owner* under the *Contract Documents*. Until the expiry of the relevant warranty periods enforceable against the *Contractor*, the *Owner* shall have in its custody all warranties, guarantees and other obligations to third parties respecting the *Work*.”

#### 47. PART 13 – OTHER PROVISIONS

47.1 Add GC 13.1 OWNERSHIP OF MATERIALS as follows:



- “13.1 Unless otherwise specified, all materials existing at the *Place of the Work* at the time of execution of the Contract shall remain the property of the Owner. All *Work, Products* and materials delivered by the *Contractor* which form part of the *Work* shall be considered the property of the *Owner* but the *Contractor* shall remove all surplus or rejected materials as its property when notified in writing to do so by the *Consultant*.”
- 47.2 Add GC13.2 CONTRACTOR DISCHARGE OF LIABILITIES as follows:
- “13.2.1 In addition to the obligations assumed by the *Contractor* pursuant to GC3.7, the *Contractor* agrees to discharge all liabilities incurred by it for labour, materials, services, *Subcontractors* and *Products*, used or reasonably required for use in the performance of the *Work*, on the date upon which each such liability becomes due.
- 13.2.2 The *Contractor* shall cause every Subcontractor and Supplier engaged in the performance of the *Work* to discharge all liabilities incurred by them for labour, materials, services and *Products* used or reasonably required for use in the performance of the *Work*. *Workmen* employed by a Subcontractor or Supplier shall be paid in full at intervals not less frequently than required by the governing law and all liabilities of the *Subcontractors* and *Suppliers* shall be discharged on the date upon which each becomes due. At the request of the Owner, the *Contractor* shall furnish the *Owner* with satisfactory evidence that its liabilities and those of its *Subcontractors* and *Suppliers* have been discharged.”
- 47.3 Add GC 13.3 AS-BUILT OR RECORD DRAWINGS as follows:
- “13.3 Unless otherwise provided in the *Contract Documents*, the *Contractor* shall prepare as-built or record drawings and provide them to the *Consultant* for review.”
- 47.4 Add GC 13.4 DAILY REPORTS/DAILY LOGS as follows:
- “13.4.1 The *Contractor* shall cause its supervisor, or such competent person as he or she may delegate, to prepare a daily log or diary reporting on weather conditions, *work force* of the *Contractor, Subcontractors, Suppliers* and any other forces on site and also record the general nature of *Project* activities. Such log or diary shall also include any extraordinary or emergency events which may occur and also the identities of any persons who visit the site who are not part of the day-to-day *work force*.
- 13.4.2 The *Contractor* shall also maintain records, either at its head office or at the job site, recording manpower and material resourcing on the *Project*, including records which document the activities of the *Contractor* in connection with GC3.5, and comparing that resourcing to the resourcing anticipated when the most recent version of the schedule was prepared pursuant to GC3.5.
- 13.4.3 Upon request by the *Owner* or the *Consultant*, the *Contractor* shall make available for inspection and copying all of the records generated pursuant to this GC13.4 along with any other routine *Project* records ordinarily maintained by the *Contractor*.”
- 47.5 Add GC 13.5 CONSTRUCTION LIENS as follows:
- “13.5 In the event that any construction lien is registered against the *Project* by or through a *Subcontractor* or *Supplier*, and provided the Owner has paid all amounts properly due under the *Contract*, and has otherwise complied with its material obligations under the *Contract*, the *Contractor* shall, at its own expense, post the security necessary to vacate or discharge such lien, as the case may be. In the event that a lien action is commenced and a Statement of Claim is issued and served, the *Contractor* shall take all reasonable steps to





remove the *Owner* from the main action and to indemnify it and hold it harmless in such action, except where the Statement of Claim makes substantial claims against the *Owner* beyond the recovery of holdback under the *Act*."

47.6 Add GC13.6 NEUTRAL APPOINTING AUTHORITY

"13.6.1 For purposes of the Rules for Mediation and Arbitration of Construction Disputes CCDC 40, the term "neutral appointing authority", as used in both the Rules for Mediation of CCDC2 Construction Disputes and the Rules for Arbitration of CCDC2 Construction Disputes shall mean the "Appointing Committee" at ADR Chambers presiding at the time notice of the dispute is given pursuant to the Contract."

47.7 Add GC13.7 FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT:

"13.7.1 Throughout the term of this *Contract*, and for a period of seven years thereafter, the *Owner* and the *Contractor* will protect the confidentiality of all proprietary and confidential information of the other that is disclosed to it and will protect such information with the same standard of care as such party would use to protect the confidentiality of its own proprietary and confidential information which shall be, at a minimum, a reasonable standard, and, in any event, each party shall protect the confidentiality of all such proprietary and confidential information as may be required by law, including, without limitation, as may be required under the *Freedom of Information and Protection of Privacy Act*.

13.7.2 Notwithstanding the obligations of the *Owner* described in paragraph 13.7.1, the *Contractor* acknowledges that the *Owner* is subject to the *Freedom of Information and Protection of Privacy Act*, as amended, and may be required to release, in whole or in part, this *Contract* and any other documents or information in the *Owner's* possession or control that relate to this *Contract*."

END OF SECTION 00800



### 1.1. DOCUMENTS REQUIRED

1. Maintain at job site, one copy each of the following:
  1. Contract drawings.
  2. Specification.
  3. Addenda.
  4. Reviewed shop drawings.
  5. Change orders.
  6. Other modifications to Contract.
  7. Field test reports.
  8. Copy of approved work schedule.
  9. Manufacturer's installation and application instructions.
  10. Standards listed in Part 1 of Specification Sections under Reference Standards.

### 1.2. PRODUCTS SUPPLIED BY CONSULTANT

1. Promptly inspect delivered products, and provide written report to Consultant on condition of all items received.
2. Install, connect and finish products specified.

### 1.3. WORK SCHEDULE

1. In accordance with schedule and in form acceptable to Consultant, provide within five working days after Contract award, schedule showing dates for:
  1. Submission of shop drawings, material lists and samples.
  2. Delivery of all equipment and materials.

### 1.4. APPLICATION FOR PAYMENT

1. Payments on this Contract to be made by the Owner in accordance with Supplementary General GC-5.2 - Application for Progress Payment.
2. The breakdown shall include a separate line item with a value of \$1,000.00 as a deposit for borrowed keys. This line item will not be paid until Total Completion of the project has been



achieved and the Owner's Designee has confirmed that all borrowed keys have been returned. If keys are not returned within 30 days after Total Completion, the Contractor forfeits the deposit to the Owner who will utilize these funds for re-keying of the building.

3. Holdback procedure shall be in accordance with Construction Lien Act R.S.O. 1990 c. C30.
4. Payment will be made by the Owner to the Contractor by electronic fund transfer (EFT/direct deposit) method only.

#### **1.5. CONTRACTOR'S USE OF SITE**

1. Contractor shall use access to building as indicated by the Owners.
2. Storage areas are to be identified by the owner during construction period.
3. Do not unreasonably encumber site with materials or equipment.
4. Move stored products or equipment which interfere with operations of Consultant or other contractors.
5. Obtain and pay for use of additional storage or work areas needed for operations.

#### **1.6. CODES AND STANDARDS**

1. Perform work in accordance with the latest additions of the Ontario Building Code 2012 and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
2. Meet or exceed requirements of contract documents, codes and referenced documents.

#### **1.7. PROJECT MEETINGS**

1. Consultants will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.

#### **1.8. LOCATION OF EQUIPMENT AND FIXTURES**

1. Location of equipment indicated or specified is to be considered as approximate.
2. Locate equipment in accordance with manufacturer's recommendations for safety, access and maintenance.
3. Inform consultant of impending installation and obtain his approval for actual location.
4. Submit field drawings to indicate relative position of various services and equipment when required by Consultant.



### 1.9. CONCEALMENT

1. Conceal conduit, and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

### 1.10. CUTTING, FITTING, AND PATCHING

1. Execute cutting, fitting and patching required to make work fit properly.
2. Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.
3. Obtain Consultant's approval before cutting, boring and sleeving load bearing members.
4. Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.

### 1.11. EXISTING SERVICES

1. Where work involves breaking into or connecting to existing services, carry out work at times directed by Owners with minimum of disturbance to occupants.
2. Before commencing work, establish location and extent of service lines in area of work and notify Consultant of findings.
3. Submit schedule to and obtain approval from Consultant for any shut down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.
4. Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.

### 1.12. ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

1. Execute Work with least possible interference or disturbance to occupants, public and normal use of premises. Arrange with Consultant to facilitate execution of work.

### 1.13. ADDITIONAL DRAWINGS

1. Consultant may furnish additional drawings to assist proper execution of work. These drawings will be listed issued for clarification only. Such drawings shall have same meaning and intent as if they were included with plans referred to in contract documents.

### 1.14. BUILDING PERMIT

1. Apply for building permit at local Building Department. The Contractor shall obtain and pay for the building permit. Include all costs in tender price. Consultant will provide two sets of contract documents at cost.

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#### 1.15. BUILDING SMOKING ENVIRONMENT

1. Comply with smoking restrictions.

END OF SECTION 01005



### 1.1. REQUIREMENTS INCLUDED

1. Shop drawings and product data.
2. Samples.
3. Operating and maintenance manuals.
4. Record drawings.
5. Certificates of transcripts.

### 1.2. ADMINISTRATIVE

1. Submit to Consultant submittals listed for review. Submit with reasonable promptness and in an orderly sequence so as to not cause delay in Work. Failure to submit 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.
2. Work affected by the submittal shall not proceed until review is complete.
3. Review submittals prior to submission to the Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of the Work and the Contract Documents. Submittals not stamped, signed, dated and identified as the specified project will be returned without being examined and shall be considered rejected.
4. Verify field measurements and affected adjacent Work are coordinated.
5. Contractor's responsibility for errors and omissions in submission is not relieved by Consultant review of submittals.
6. Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant review.
7. Keep one reviewed copy of each submission on site.

### 1.3. SHOP DRAWINGS AND PRODUCT DATA

1. Refer to GC 3.10.
2. The term "Shop Drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by the Contractor to illustrate details of a portion of the Work.
3. Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work.



Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of the Section under which the adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

4. Adjustments made on shop drawings by the Consultant are not intended to change the Contract Price. If adjustments affect the value or Work, state such in writing to the Consultant prior to proceeding with the Work.
5. Make changes in shop drawings as the Consultant may require, consistent with Contract Documents. When resubmitting, notify the Consultant in writing of any revisions other than those requested.
6. Submit photocopies of shop drawings for each requirement requested in Specification Sections and as the Consultant may reasonably request.
7. Submit 1 photocopy and one 'PDF' format of product data sheets or brochures for requirements requested in specification Sections and as the Consultant may reasonably request where shop drawings will not be prepared due to standardized manufacture of product.
8. If upon review by the Consultant, no errors or omissions are discovered or if only minor corrections are made, 'PDF' copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through the same procedure indicated above, shall be performed before fabrication and installation of Work may proceed.

#### 1.4. OPERATING MAINTENANCE MANUALS

1. Two weeks prior to Substantial Performance of the Work, submit to the Consultant one (1) copies of operating and maintenance manuals and As-Built Drawings and 'PDF' copy on USB stick.
2. Manual to contain operational information on equipment, cleaning schedules, and similar maintenance information. Instructions in this manual shall be in simple language so as to guide the Owner in the proper operation and maintenance of building components.
3. Bind contents in a three-ring, hard covered, plastic jacketed binder as well as in PDF format on USB stick. Organize contents into applicable categories of work, parallel to specification Sections.
4. In addition to information specified, include the following:
  1. Title sheet, labelled "Operating and Maintenance Instructions", containing project name and date.
  2. List of names, addresses and phone numbers of subcontractors and suppliers who can affect repair or maintenance on equipment.

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3. List of contents.
4. Final shop drawings and product data of equipment.
5. Record drawings of electrical installation.
6. Full description of building systems and operation.

#### **1.5. RECORD DRAWINGS**

1. After award of Contract the Consultant will provide one (1) set of white prints for the purpose of maintaining record drawings (at cost). Accurately, neatly record deviations from Contract Documents caused by site conditions and changes ordered by the Consultants. Make changes in red ink.
2. Record locations of concealed components of mechanical and electrical services.
3. Identify drawings as "Project Record Copy". Maintain in new condition and make available for inspection on site by Consultant.
4. On completion of Work and prior to final inspection, submit two copies of record documents to Consultant.

#### **1.6. CERTIFICATE AND TRANSCRIPTS**

1. After award of Contract, submit WSIB status transcription of insurance.

END OF SECTION 01300





### 1.1. REQUIREMENTS INCLUDED

1. Inspection and testing, administrative and enforcement requirements.
2. Tests.
3. Testing of the emergency generator.

### 1.2. RELATED REQUIREMENTS

1. Section 01300: Submission of shop drawings to confirm product quality.

### 1.3. INSPECTION

1. Refer to GC 2.3.
2. The Owner and the Consultant shall have access to the Work.
3. Give timely notice requesting inspection if work is designated for special tests, inspections or approvals by Consultant instructions, or the law of the Place of the Work.
4. If the 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 the inspections or tests satisfactorily completed and make good such work.
5. The Consultant may offer any part of the work to be examined if such work is suspected to be not in accordance with the Contract Documents, correct such work and pay the cost of examination and correction. If such work is found in accordance with the Contract Documents, the Owner will pay the cost of examination and replacement.

### 1.4. PROCEDURES

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

### 1.5. REJECTED WORK

1. Remove defective work, whether the result of poor workmanship, use of defective products or damage and whether incorporated in the work or not, which has been rejected by the consultant as failing to conform to the Contract documents. Replace or re-execute in accordance with the Contract Documents.
2. Make good other Contractors work damaged by such removals or replacements promptly.
3. If in the opinion of the Consultant it is not expedient to correct defective work or work not

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performed in accordance with the Contract Documents, the Owner may deduct from the Contract Price the difference in value between the Work performed and that called for by the Contract Documents, the amount of which shall be determined by the Consultant.

## 1.6. REPORTS

1. Submit final test report confirming operation and system function.

END OF SECTION 01400

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### 1.1. CONSTRUCTION SAFETY MEASURES

1. Observe and enforce construction on safety measures required by Ontario Building Code 2012, Provincial Government, WSIB, and Municipal Statutes and authorities.
2. In event of conflict between any provisions of above authorities the most stringent provision governs.

### 1.2. FIRE SAFETY REQUIREMENTS

1. Comply with requirements of Ontario Fire Marshal's Office.
2. All Contractor superintendents shall be briefed by the Owner on Facilities fire safety program.

END OF SECTION 01545



### 1.1. REQUIREMENTS INCLUDED

1. Reference standards.
2. Product quality, availability, storage, handling, protection, transportation.
3. Manufacturer's instructions.
4. Workmanship, co-ordination, cutting, fastenings.
5. Existing facilities.

### 1.2. REFERENCE STANDARDS

1. Within the text of the specifications reference may be made to the following standards:
  1. ANSI - American National Standards Institute
  2. ASTM - Americana Society of Testing and Materials
  3. OESC - Ontario Electrical Safety Code
  4. CEMA - Canadian Electrical Manufacturers Association
  5. CGSB - Canadian General Standards Board
  6. CPCA - Canadian painting Contractors Association
  7. CSA - Canadian Standards Association
  8. IEEE - Institute of Electrical and Electronic Engineers
  9. IPCEA - Insulated Power Cable Engineers Association
  10. OBC - Ontario Building Code 2012
  11. ULC - Underwriters Laboratories of Canada.
2. Conform to these standards, in whole or in part, as specifically requested in the specifications.
3. If there is questions as to whether any product or system is in conformance with applicable standards, the Consultants reserves the right to have such products or systems tested to prove or disprove conformance.
4. Conform to latest date of issue of reference standards effect on date of submission of bids except where a specific date or issue is specifically noted.



### 1.3. PRODUCTS AND MATERIALS

#### 1. Quality:

1. Products, materials, equipment and articles (referred to as Products throughout the specifications) incorporated in the Work shall be new, not damaged or defective, and of the best quality (compatible with specifications) for the purpose intended. If required, furnish evidence as to type, source and quality of Products provided.
2. Defective products, whenever identified prior to the completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but it is a precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
3. Should any dispute arise as to the quality of fitness of products, the decision rests strictly with the Consultant based upon the requirements of the Contract Documents.
4. Unless otherwise indicated in the specifications, maintain uniformity of manufacture for any particular or like item throughout the building.
5. Permanent labels, trademarks, and nameplates on Products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

#### 2. Transportation

1. Pay costs of transportation of Products required in the performance of Work.

### 1.4. MANUFACTURER'S INSTRUCTIONS

1. Unless otherwise indicated in the specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
2. Notify the consultant in writing of conflicts between the specifications and manufacturers instructions, so that the Consultant may establish the course of action.
3. Improper installation or erection of Products, due to failure in complying with these requirements, authorizes the Consultant to require removal and re-installation at no increase in Contract Price.

### 1.5. WORKMANSHIP

#### 1. General



1. Workmanship shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Consultant if required work is such as to make it impractical to produce required results.
  2. Do not employ any unfit person or anyone unskilled in their required duties. The Consultant reserves the right to require the dismissal from the site, workers deemed incompetent, careless, insubordinate or otherwise objectionable.
  3. Decisions as to the quality of fitness of workmanship in cases of dispute rest solely with the Consultant whose decision is final.
2. Location of Devices
    1. Consider the location of devices indicated as approximate.
    2. Inform the Consultant of a conflicting installation. Install as directed.
  3. Fastenings
    1. Provide metal fastenings and accessories in same textures, colour and finish as adjacent materials, unless indicated otherwise.
    2. Prevent electrolytic action between dissimilar metals and materials.
    3. Use noncorrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in the affected specification Section.
  4. Protection of Work in Progress.
    1. Adequately protect Work completed or in progress. Work damaged or defaced due to failure in providing such protection is to be removed and replaced, or repaired, as directed by the Consultant Price.
  5. Existing Utilities
    1. When breaking into or connecting to existing services or utilities, execute work at times directed by owner with a minimum of disturbance of work, and/or building occupants.
    2. Protect, relocate and maintain existing active services. When inactive services are encountered, cap off in a manner approved by authority having jurisdiction and stake or otherwise record location of capped service.

END OF SECTION 01600



### 1.1. REQUIREMENTS INCLUDED

1. Final cleaning.
2. Systems demonstration.
3. Document submission.
4. Project commissioning.
5. Inspection and takeover procedures.

### 1.2. RELATED REQUIREMENTS

1. Section 01300: Submission of record drawings.
2. Section 01300: Operating/maintenance manuals.
3. General Conditions of the Contract: Fiscal provisions, legal submittal and other administrative requirements.

### 1.3. FINAL CLEANING

1. Refer to GC 3.13.
2. When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for the performance of the remaining Work.
3. Remove waste products and debris other than that caused by the Owner, other contractors or their employees, and leave the Work clean and suitable for occupancy by Owner.
4. When the Work is Totally Performed, remove surplus products, tools, construction machinery and equipment. Remove waste products and debris other than that caused by the Owner or other Contractors.
5. Remove waste materials and debris from the site at regularly scheduled times or dispose of as directed by the Consultant. Do not burn waste materials on site.
6. Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
7. Remove stains, spots, marks and dirt from mechanical equipment and electrical panels.
8. Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
9. Clean equipment to a sanitary condition.



#### 1.4. SYSTEMS DEMONSTRATION

1. Prior to final inspection, demonstrate operation of each system to Owner and Consultant.
2. Instruct personnel in operation, adjustment, and maintenance of equipment and systems, using provided operation and maintenance data as the basis for instruction.

#### 1.5. DOCUMENTS

1. Collect reviewed submittals (Section 01300) and assemble documents executed by Subcontractors, suppliers, and manufacturers.
2. Submit material prior to final Application for Payment. For equipment put into use with Owner's permission during construction, submit within 10 days after start-up. For items of Work delayed materially beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.
3. Provide warranties fully executed and notarized – min. 1 year.
4. Execute transition of Performance and Labour and Materials Payment Bond to warranty period requirements.
5. Submit final statement of accounting giving total adjusted Contract Sum, previous payments, and monies remaining due.
6. Consultant will issue a final change order reflecting approved adjustments to Contract Sum not previously made.

#### 1.6. PROJECT COMMISSIONING

1. Expedite and complete deficiencies and defects identified by the Consultant.
2. Review maintenance manual contents, operating, maintenance instructions, record "as-built" drawings, spare parts, materials for completeness.
3. Submit required documentation such as statutory declarations, Worker's Compensation Certificates, warranties, certificates of approval or acceptance from regulating bodies.
4. Review inspection and testing reports to verify conformance to the intent of the documents and that changes, repairs or replacements have been completed.
5. Co-ordinate Owner's mocking-in of staff, furnishings, equipment with building accessibility, and contractor's and Subcontractor's cleaning-up and completion activities all to suit Owner's work schedule and not disrupt Owner's productivity.
6. Provide on-going review, inspection and attendance to building call-back, maintenance and repair problems during Warranty periods.



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## 1.7. INSPECTION/TAKEOVER PROCEDURES

1. Prior to application for certificate of Substantial Performance, carefully inspect the Work and ensure it is complete, that major and minor construction deficiencies are complete and/or corrected and the building is clean and in condition for occupancy. Notify the Consultant in writing, of satisfactory completion of the Work and request an inspection.
2. During the Consultant inspection, a list of deficiencies and defects will be tabulated. Correct same.
3. When the Consultant considers deficiencies and defects have been corrected and it appears requirements of the Contract have been performed, make application for certificate of Substantial Performance. Refer to General Conditions Article GC 5.4 for specifics to application.

END OF SECTION 01700

## **PART 1– GENERAL**

### **1.1. GENERAL**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

### **1.2. REFERENCES**

1. ASME B16.5-2013, Pipe Flanges and Flanged Fittings, Steel Nickel Alloy and other Special Alloys.
2. ASME B16.18-2012, Cast Copper Alloy Solder Joint Pressure Fittings.
3. ASME B16.20-2012, Ring-Joint Gaskets and Grooves for Steel Pipe Flanges.
4. ASME B16.21-2011, Non-metallic Flat Gaskets for Pipe Flanges.
5. ASME B16.22-2013, Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings.
6. ASME B18.2.1-2012, Square and Hex Bolts and Screws.
7. ASTM A47M/47M-99(2004), Specification for Ferritic Malleable Iron Castings.
8. ASTM A53/A53M-12, Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated, Welded and Seamless.
9. ASTM B32-08, Specification for Solder Metal.
10. ASTM B75/B75M-11, Specification for Seamless Copper Tube Metric.
11. CSA B149.1-10, Natural Gas Installation Code.
12. CSA W47.1-09, Certification of Companies for Fusion Welding of Steel Structures.
13. LEED Canada for New Construction and Major Renovations 2009.

### **1.3. PRODUCT DATA**

1. Submit product data in accordance with Section 01300 - Submittals.

### **1.4. MAINTENANCE DATA**

1. Provide maintenance data for incorporation into manual specified in Section 01300 - Submittals.

## PART 2 - PRODUCTS

### 2.1. PIPE

1. Steel pipe: to ASTM A120 ASTM A53, Schedule 40, seamless as follows:
  1. NPS 1/2 to 2, screwed.
  2. NPS 2 1/2 and over, plain end.
2. Copper tube: to ASTM B75M.

### 2.2. JOINTING MATERIAL

1. Screwed fittings: pulverized lead paste.
2. Welded fittings: to CSA W47.1.
3. Flange gaskets: to ANSI B16.21 or ANSI B16.20.
4. Soldered: to ASTM B32, tin antimony 95:5.

### 2.3. FITTINGS

1. Steel pipe fittings, screwed, flanged or welded:
  1. Malleable iron: screwed, banded, Class 150.
  2. Steel pipe flanges and flanged fittings: to ANSI B16.5.
  3. Steel butt-welding fittings.
  4. Unions: malleable iron, brass to iron, ground seat, to ASTM A47M.
  5. Bolts and nuts: to ANSI B18.2.1.
  6. Nipples: Schedule 40, to ASTM A53.
2. Copper pipe fittings, screwed, flanged or soldered:
  1. Cast copper fittings: to ANSI B16.18.
  2. Wrought copper fittings: to ANSI B16.22.

### 2.4. VALVES

1. Ball Valves - Up to 50mm (2").
  1. 1034 KPA (150psig) / 600WOG Rating.
  2. Brass and or Bronze body, Full port, TFE seats, Double O-Ring Design, or Teflon packing, Chrome plated solid Bronze ball, 3.16 Rating, CGA/CSA Approved, Lever Handle, Threaded connection.
  3. Acceptable Products:
    1. Kits 58, Toyo 5044A, or approved equal.
2. Lubricated Plug Valve - 65mm (2 1/2") & Over.
  1. Class 125, flanged to ANSI B16.1, Regular pattern, Regular port, Full bore lubricated plug valves.
  2. Acceptable Products:
    1. NH Canada 205m or approved equal.

### **PART 3– EXECUTION**

#### **3.1. PIPING**

1. Install in accordance with applicable Provincial/Territorial Codes.
2. Install in accordance with CAN1-B149.1, CAN1-B149.2.
3. Assemble piping using fittings manufactured to ANSI standards.
4. Connect to equipment in accordance with manufacturer's instruction unless otherwise indicated.
5. Slope piping down in direction of flow to low points.
6. Install drip points:
  1. At all low points in piping system.
  2. At each connection to equipment.
7. Use eccentric reducers at pipe size change installed to provide positive drainage.
8. Provide clearance for access and for maintenance.
9. Ream pipes, clean scale and dirt, inside and out.
10. Install piping to minimize pipe dismantling for equipment removal.

11. Paint all gas piping yellow unless otherwise directed. Where pipe is visible on exterior walls of building, paint to match building (colour by consultant) and provide yellow banding as per CAN/CSA B149.1.

### 3.2. VALVES

1. Install valves with stems upright or horizontal unless otherwise approved by Consultant.
2. Install valves at all branch take-offs to isolate each piece of equipment, and as indicated.

### 3.3. TESTING

1. Test system in accordance with CAN1-B149.1, CAN1-B149.2.

### 3.4. PURGING

1. Purge after pressure test in accordance with CAN1-B149.1, CAN1-B149.2.

END OF SECTION 23 11 23

## **PART 1 - GENERAL**

### **1.1. GENERAL**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.
2. This Section covers items common to Sections of Division 26. This Section supplements requirements of Division 1.
3. Coordinate all requirements with general contractor.

### **1.2. SCOPE OF WORK**

1. The scope of work for this project includes:
  1. Provision of new, 130kW, outdoor, NG, stand by generator.
  2. Provision of new 600A, automatic transfer switch.
  3. Provision of new emergency distribution panel.
  4. New, normal power side fused switch for existing switchboard.
  5. Provision of new gas line for generator.
  6. All earthworks, concrete pad and fencing for new generator.
  7. All associated cabling upgrades, Refer to drawings. Emergency feed from ATS to distribution panel shall be 2hr fire rated cable.
  8. All removals of existing indoor, diesel generator and tank, including all piping and ductwork.

### **1.3. CODES AND STANDARDS**

1. In this document, all references to Code numbers shall mean "Latest Edition".
2. Do complete installation in accordance with Ontario Electrical Safety Code.
3. Do complete installation in accordance with CSA C22.1-12 except where specified otherwise.
4. Comply with all CSA and inspection Authority Bulletins in force at time of Tender.
5. Do underground systems in accordance with CSA C22.3 No.1-10 except where specified otherwise.

6. Abbreviations for electrical terms: to CSA Z85-1983.
7. Where requirements of this specification exceed those of above-mentioned standards, this specification shall govern.

#### 1.4. DEFINITIONS

1. "Provide" means supply and install.
2. "Approved" means approved in writing by Consultant.
3. "Inspection Authority" means Electrical Safety Authority.
4. "Consultant" means designated qualified professional engineer acting as representative of Owner for monitoring of work.
5. "Manual" means Operations and Maintenance manual.
6. "OESC" means latest edition of Ontario Electrical Safety Code

#### 1.5. CARE, OPERATION, START-UP AND INSTRUCTION TO OWNERS

1. Provide certified personnel to instruct Owner of operation electrical equipment. Provide maintenance specialist personnel to instruct on maintenance and adjustment of electrical equipment and any changes or modification equipment must be under terms of guarantee.
2. Provide instruction during regular work hours prior to acceptance and turn over to Owner's staff for regular operation.
3. Provide these services for such period, and for as many visits as necessary to put equipment in operation and ensure that operating personnel are conversant with all aspects of its care and operation.
4. Use operation and maintenance data manual for instruction purposes. On completion of instruction, turn three manuals over to the Owner.
5. Operation and maintenance manual to be approved by and final copies deposited with consultant before final inspection.

#### 1.6. AS-BUILT DRAWINGS

1. Site records:
  1. One set to be kept on site and all changes to be recorded on daily basis. At the completion of the project, all changes shall be transferred to clean set, signed and passed to the Consultant.
  2. Make these drawings available for reference purposes and to inspection at all times.

2. As-built drawings must be delivered before system acceptance.

### 1.7. PERMITS, FEES AND INSPECTION

1. Submit to Inspection Authority necessary number of drawings and specifications for examination and approval prior to commencement of work.
2. Consultant will provide drawings and specifications required by Inspection at no cost.
3. Submit to the Building Department the necessary number of drawings and specifications for examination prior to commencement of work to obtain a building permit. The Contractor shall obtain and pay for the building permit. Include all costs in the tender price.
4. Submit Notice of Project to Ministry of Labour.
5. Pay associated fees and obtain all permits required for the performance of the work.
6. Notify Consultant of changes required by Inspection Authority or Building Department prior to making changes.
7. Furnish Certificates of Acceptance from Inspection Authority on completion of work to consultant.

### 1.8. MATERIALS AND EQUIPMENT

1. Provide materials and equipment in accordance with Division 1.
2. Equipment and material to be CSA certified. Where there is no alternative to supplying equipment which is not CSA certified, obtain special approval from Inspection Authority.
3. Factory assemble control panels and component assemblies.

### 1.9. EQUIPMENT IDENTIFICATION

1. Identify electrical equipment with nameplates and labels as follows:
2. Nameplates:
  1. Lamacoid 3 mm (1/8") thick plastic engraving sheet, white face, black core, mechanically attached with self tapping screws. For emergency power circuits, use a red face and black core.

#### NAMEPLATE SIZES

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Size 1	10 x 50 mm (3/8 x 2")	1 line	3 mm (1/8") high letters
Size 2	12 x 70 mm (1/2 x 3")	1 line	5 mm (1/4") high letters
Size 3	12 x 70 mm (1/2 x 3")	2 lines	3 mm (1/8") high letters
Size 4	20 x 90 mm (3/4 x 4")	1 line	8 mm (3/8") high letters



Size 5 20 x 90 mm (3/4 x 4") 2 lines 5 mm (1/4") high letters  
 Size 6 25 x 100 mm (1" x 4") 1 line 12 mm (1/2") high letters  
 Size 7 25 x 100 mm (1" x 4") 2 lines 6 mm (1/4") high letters

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3. Labels:
    1. Embossed plastic labels with 6 mm (1/4") high letters unless specified otherwise.
  4. Wording on nameplates and labels to be approved by Consultant prior to manufacture.
  5. Allow for average of twenty-five (25) letters per nameplate and label.
  6. Identification to be English.
  7. Nameplates for terminal cabinets and junction boxes to indicate system and/or voltage characteristics.
  8. Disconnects, starters and contactors: indicate equipment being controlled and voltage.
  9. Terminal cabinets and pull boxes: indicate system and voltage.
  10. Transformers: indicate capacity, primary and secondary voltages.
  11. Coordinate names of equipment and systems with Division 23 to ensure that identical names are used.

#### 1.10. WIRING IDENTIFICATION

1. Identify wiring with permanent indelible identifying markings, either numbered or coloured plastic tapes, on both ends of phase conductors of feeders and branch circuit wiring.
2. Maintain phase sequence and colour coding throughout.
3. Colour code: to CSA C22.1.
4. Use colour coded wires in communication cables, matched throughout system.

#### 1.11. CONDUIT AND CABLE IDENTIFICATION

1. Colour code conduits, boxes and metallic sheathed cables.
2. Code with plastic tape or paint at points where conduit or cable enters wall, ceiling, or floor, and at 15 m intervals.
3. Colours: 25 mm (1") wide prime colour and 20 mm (3/4") wide auxiliary colour.

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up to 250 V

PRIME  
yellow

AUXILIARY

up to 600 V	yellow	green
up to 5 kV	yellow	blue
up to 15 kV	yellow	red
Telephone	green	
Other communication systems	green	blue
Fire alarm	red	
Emergency Voice	red	blue
Other security systems	red	yellow

### 1.12. WIRING TERMINATIONS

1. Lugs, terminals, screws used for termination of wiring to be suitable for either copper or aluminum conductors.

### 1.13. MANUFACTURERS AND CSA LABELS

1. Ensure that manufacturer's registration plates are properly affixed to all apparatus showing the size, name of equipment, serial number, and all information usually provided, including voltage, cycle, phase and the name and address of the manufacturer.
2. Do not paint over registration plates or approved labels. Leave openings through insulation for viewing the plates. Contractors or sub-contractors nameplate not acceptable.

### 1.14. WARNING SIGNS

1. As specified and to meet requirements of Inspection Authority and Consultant.

### 1.15. MOUNTING HEIGHTS

1. Mounting height of equipment is from finished floor to centreline of equipment unless specified or indicated otherwise.
2. If mounting height of equipment is not specified or indicated, verify before proceeding with installation.
3. Install electrical equipment at following heights unless indicated otherwise.
  1. Emergency lighting heads: 2300 mm (90")

### 1.16. LOAD BALANCE

1. Measure phase current to panelboards with normal loads (lighting) operating at time of acceptance. Adjust branch circuit connections as required to obtain best balance of current between phases and record changes.

2. Measure phase voltages at loads and adjust transformer taps to within 2% of rated voltage of equipment.
3. Submit, at completion of work, report listing phase and neutral currents on panelboards, dry-core transformers and motor control centres, operating under normal load. State hour and date on which each load was measured, and voltage at time of test.

#### 1.17. FIELD QUALITY CONTROL

1. All electrical work to be carried out by qualified, licensed electricians or apprentices as per the conditions of the Provincial Act respecting manpower vocational training and qualification. Employees registered in a provincial apprentice's program shall be permitted, under the direct supervision of a qualified licensed electrician, to perform specific tasks – the activities permitted shall be determined based on the level of training attained and the demonstration of ability to perform specific duties.
2. Conduct and pay for following tests:
  1. Power distribution system including phasing, voltage, grounding and load balancing.
  2. Circuits originating from branch distribution panels.
  3. All Special Systems: emergency generator
3. Furnish manufacturer's certificate or letter confirming the entire installation as it pertains to each system has been installed to manufacturer's instructions.
4. Insulation resistance testing.
  1. Megger circuits, feeders and equipment up to 350 V with a 500 V instrument.
  2. Check resistance to ground before energizing.
5. Carry out tests in presence of Consultant.
6. Provide instruments, meters, equipment and personnel required to conduct tests during and at conclusion of project.
7. Submit test results for Consultant's review.

#### 1.18. CONCRETE WORK

1. Provide 100mm concrete housekeeping pads for all floor mounted equipment, including: transformers, automatic transfer switches, switchboard, MCCs and panels.

#### 1.19. EXCAVATION AND BACKFILLING

1. This Division shall be responsible for coordination for bedding of lines or equipment and for backfilling and compaction to 98% Standard Proctor Density.

### 1.20. DEMOLITION

1. Disconnect and make safe electrical equipment and services as required on site.
2. Be responsible for demolition and removal of electrical equipment and services designated on drawings for removal and as required by work unless specified otherwise under other divisions.
3. Electrical work being removed by other division shall be carried out under direction of this division. Do all disconnecting prior to authorizing removal.

### 1.21. FIREPROOFING

1. Where cables or conduits pass through floors and fire rated walls, pack space between wiring and sleeve full with firestopping system to CAN 4-S115.

### 1.22. CUTTING, PATCHING AND FINISHING

1. All cutting, patching and finishing for electrical work shall be by this Section. Obtain approval before cutting any structural members. Upon removal of all conduit, wiring, light fixtures, equipment, etc., patch all holes and match existing finishes.

### 1.23. COORDINATION WITH EXISTING UTILITIES

1. Before commencing any Work, the Contractor shall determine the locations of all underground utilities and structures indicated in or inferable from the Contract Documents, or that are inferable from an inspection of the Place of the Work.
2. All existing utilities are to be maintained and protected for the length of construction.
3. Contractor to notify consultant if any conflicts arise and allow for minimum 48 hours for consultant's review.

### 1.24. EXISTING SYSTEMS

1. Before submitting tender price verify on job site location of all accessible existing electrical systems affecting execution of this contract. Difficulties arising during construction will not be considered as grounds for additional payment.
2. Where work involves breaking into or connecting to existing systems, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrian traffic.
3. Submit schedule to and obtain approval from Consultant for any shut down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.
4. Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.

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26 05 00  
COMMON WORK RESULTS – ELECTRICAL

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**1.25. OWNER OCCUPANCY SCHEDULE**

1. The existing building will remain occupied during normal occupancy hours.
2. Provide temporary protection for all finishes, appliances or equipment in the existing building.
3. Protect and maintain existing boiler room and electrical room operations during the work.

END OF SECTION 26 05 00

## **PART 1 - GENERAL**

### **1.1. GENERAL**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

### **1.2. REFERENCES**

1. CSA C22.2 No. 65-13 Wire Connectors.
2. EEMAC 1Y-2, 1961 Bushing Stud Connectors and Aluminum Adapters (1200 Ampere Maximum Rating).

## **PART 2 - PRODUCTS**

### **2.1. MATERIALS**

1. Pressure type wire connectors: with current carrying parts of copper sized to fit copper conductors as required.
2. Fixture type splicing connectors: with current carrying parts of copper sized to fit copper conductors 10 AWG or less.
3. Bushing stud connectors: to EEMAC 1Y-2 to consist of:
  1. Connector body and stud clamp for stranded copper conductors.
  2. Clamp for stranded copper conductors
  3. Stud clamp bolts.
  4. Bolts for copper conductors
  5. Sized for conductors as indicated.
4. Clamps or connectors for armoured cable, flexible conduit, as required.

## **PART 3 - EXECUTION**

### **3.1. INSTALLATION**

1. Remove insulation carefully from ends of conductors and:
  1. Apply coat of zinc joint compound on aluminum conductors prior to installation of connectors.
  2. Install mechanical pressure type connectors and tighten screws with appropriate compression tool recommended by manufacturer. Installation shall meet secureness tests in accordance with CSA C22.2 No.65.
  3. Install fixture type connectors and tighten. Replace insulating cap.
  4. Install bushing stud connectors in accordance with EEMAC 1Y-2.

END OF SECTION 26 05 20

## **PART 1- GENERAL**

### **1.1. RELATED SECTIONS**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.
2. Section 26 05 20 – Wire and Box Connections – 0 – 1000V.

### **1.2. REFERENCES**

1. CSA C22.2 No. 0.3-09, Test Methods for Electrical Wires and Cables.

### **1.3. PRODUCT DATA**

1. Submit product data in accordance with Division 1.

### **1.4. WASTE MANAGEMENT AND DISPOSAL**

1. Separate and recycle waste materials in accordance with Division 1.
2. Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Division 1.
3. Fold up metal banding, flatten and place in designated area for recycling.

## **PART 2- PRODUCTS**

### **2.1. GENERAL**

1. All conductors to be copper, unless otherwise noted.

### **2.2. BUILDING WIRES**

1. Conductors: stranded for 10 AWG and larger. Minimum size: 12 AWG for power and # 16 AWG for controls and fire alarm.
2. Copper conductors: size as indicated, with insulation of chemically cross-linked thermosetting polyethylene material type RW90, or with thermoplastic insulation and nylon jacket, type T-90 nylon.
3. 600V rating for nominal 208V system voltage; 1000V rating for nominal 600V system voltage.



4. All outdoor circuit conductors to be type RWU90, unless otherwise noted.
5. Wire and conduit sizes shown are based on RW75 XLPE and are minimum sizes. Contractor is responsible for wire and conduit sized for other approved wires.
6. Conductors shall be colour coded. Conductors size 10 AWG and smaller shall have colour impregnated into insulation at time of manufacture.
  1. Colour code wiring for 120 / 208 Volt equipment as follows
    1. Phase conductors: Red, Black, Blue
    2. Neutral conductors: White
    3. Bonding to ground: Green

### 2.3. MINERAL-INSULATED CABLES

1. Conductors: solid bare soft-annealed copper, size as indicated.
2. Insulation: compressed powdered magnesium oxide to form compact homogeneous mass throughout entire length of cable.
3. Overall covering: annealed seamless copper sheath, Type M1 rated 600 V, 250°C.
4. Outer jacket: PVC applied over sheath only for direct buried cables, unless otherwise noted.
5. Two hour fire rating.
6. Connectors: factory made type to preserve fire rating when a splice is required to obtain sufficient cable length.
7. Termination kits: By same manufacturer as cable, of same size and type as cable assembly.

### 2.4. CONTROL CABLES

1. Type LVT: 2 soft annealed copper conductors sized as indicated with thermoplastic insulation and outer covering thermoplastic jacket.
2. Plenum rated cable (FT-6) required in ceiling space where not in conduit.

### 2.5. FIRE ALARM WIRES

1. Copper conductors: size as per fire alarm manufacturer's recommendation, with thermoplastic insulation and nylon jacket, type TWH rated at 600 V for size #14 AWG and larger, type TEW for size #16 AWG and smaller.

## **PART 3 - EXECUTION**

### **3.1. INSTALLATION OF BUILDING WIRES**

1. Install wiring in conduit in accordance with Section 26 05 34, unless otherwise noted.
2. Use type RW90 where required by Ontario Electrical Safety Code, for all panelboard feeders and for all conductors sized 250 MCM and larger.
3. Use type RW90 or T-90 for branch circuit wiring unless otherwise indicated.
4. Minimum wire size shall be No. 12 AWG. For 15A, 120V branch circuit home runs which exceed 23 m length shall be minimum No. 10 AWG, and minimum No. 8 AWG for runs which exceed 36 m. For 20A, 120V branch circuit home runs which exceed 17 m in length shall be minimum No. 10 AWG, and minimum No. 8 AWG for runs which exceed 27 m. Where existing wiring is re-used, minimum wire sizes shall apply and wiring shall be replaced when it does not meet the minimum size.
5. Existing wiring may only be re-used if permitted by Engineer.

### **3.2. INSTALLATION OF MINERAL-INSULATED CABLES**

1. Install cables only where shown on drawings.
2. Run cable exposed, securely supported by straps at spacing to suit Code, and in manner and spacing to meet manufacturer's recommendations.
3. Support 2 h fire rated cables at 1 m intervals.
4. Make cable terminations by using factory-made kits, as per manufacturer's recommendations.
5. At cable terminations use thermoplastic sleeving over bare conductors.
6. Where cables are buried in cast concrete or masonry, sleeve for entry and exit of cables.
7. Do not splice cables except factory made splices where necessary to obtain cable length between terminations.

### **3.3. INSTALLATION OF CONTROL CABLES**

1. Install control cables in conduit in accordance with Section 26 05 34.
2. Ground control cable shield.

### **3.4. INSTALLATION OF FIRE ALARM WIRE**

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26 05 21  
WIRES AND CABLES – 0 TO 1000V

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1. Install all wiring in conduit in accordance with Section 26 05 34.

END OF SECTION 26 05 21

## **PART 1- GENERAL**

### **1.1. GENERAL**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

## **PART 2- PRODUCTS**

### **2.1. EQUIPMENT**

1. Clamps for grounding of conductor: size as required to electrically conductive underground water pipe.
2. Copper conductor: minimum 6 m long for each concrete encased electrode, bare, stranded, soft annealed, size as indicated.
3. Rod electrodes: copper clad steel 19 mm dia by 3 m long.
4. Plate electrodes: copper, minimum surface area 0.2 m<sup>2</sup> and 6 mm thick.
5. Grounding conductors: bare stranded copper, soft annealed, size as indicated.
6. Non-corroding accessories necessary for grounding system, type, size, material as indicated, including but not necessarily limited to:
  1. Grounding and bonding bushings.
  2. Protective type clamps.
  3. Bolted type conductor connectors.
  4. Thermit welded type conductor connectors.
  5. Bonding jumpers, straps.
  6. Pressure wire connectors.

## **PART 3- EXECUTION**

### **3.1. INSTALLATION GENERAL**

1. Install complete permanent, continuous grounding system including, electrodes, conductors, connectors, accessories, as indicated, to conform to requirements of consultant, and Inspection Authority. Where EMT is used, run ground wire in conduit.
2. Install connectors in accordance with manufacturer's instructions.
3. Protect exposed grounding conductors from mechanical injury.
4. Make buried connections using Burndy compression connectors.
5. Use mechanical connectors for grounding connections to equipment provided with lugs.
6. Soldered joints not permitted.
7. Make grounding connections in radial configuration only, with connections terminating at single grounding point. Avoid loop connections.
8. Bond single conductor, metallic armoured cables to cabinet at supply end, and provide non-metallic entry plate at load end.

### 3.2. ELECTRODES

1. Install grounding electrodes and make grounding connections.
2. Plate electrodes to be located a minimum 600mm below finished grade level.
3. Where ground rods are used, provide at least two ground rods, located at least 3 meters apart and buried to a minimum depth of 3 meters.
4. Bond separate, multiple electrodes together.
5. Use size #1 AWG copper conductors for connections to electrodes.
6. Make special provision for installing electrodes that will give [acceptable] resistance to ground value where rock or sand terrain prevails. Ground as indicated.

### 3.3. EQUIPMENT GROUNDING

1. Install grounding connections to typical equipment included in, but not necessarily limited to following list. Service equipment, transformers, switchgear, duct systems, frames of motors, motor control centres, starters, control panels, building steel work, generators, elevators and escalators, distribution panels and outdoor lighting.

### 3.4. FIELD QUALITY CONTROL

1. Perform tests in accordance with Section 26 05 00 - COMMON WORK RESULTS -

ELECTRICAL.

2. Perform ground continuity using method appropriate to site conditions and to approval of Consultant and Inspection Authority.
  1. Ground continuity: Ensure, through ground loop resistance measurement, that the grounding for the new equipment is tied in satisfactorily to the existing ground grid. Continuity measurements should be made between new equipment and system grounds of existing 600V services.
  2. Perform tests before energizing electrical system.
3. Coordinate scheduling of tests with testing agency. Provide all test results to consultant.

END OF SECTION 26 05 28

## **PART 1 - GENERAL**

### **1.1. RELATED WORK**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.
2. 26 05 00 – Common Work Results – Electrical.

## **PART 2 - PRODUCTS**

### **2.1. SUPPORT CHANNELS**

1. U shape, size 41 x 41 x 2.5 mm thick, surface mounted or suspended.
2. Smaller sections subject to Consultant's approval.

## **PART 3 - EXECUTION**

### **3.1. INSTALLATION**

1. Secure equipment to tile and plaster surfaces with nylon anchors, with independent grip protrusions.
2. Secure equipment to poured concrete with expandable inserts.
3. Secure equipment to hollow masonry walls or suspended ceilings with toggle bolts.
4. Secure equipment to Siporex ceiling with Aircrete anchors equal to Fischer p/n:GB14.
5. Secure surface mounted equipment with twist clip fasteners to inverted T bar ceilings. Ensure that T bars are adequately supported to carry weight of equipment specified before installation.
6. Support equipment, conduit or cables using clips, spring loaded bolts, cable clamps designed as accessories to basic channel members.
7. Fasten exposed conduit or cables to building construction or support system using straps.
  1. One-hole steel straps to secure surface conduits and cables 50 mm and smaller.
  2. Two-hole steel straps for conduits and cables larger than 50 mm.

3. Beam clamps to secure conduit to exposed steel work.
8. Suspended support systems.
  1. Support individual cable or conduit runs with 6 mm dia threaded rods and spring clips.
  2. Support 2 or more cables or conduits on channels supported by 6 mm dia threaded rod hangers where direct fastening to building construction is impractical.
9. For surface mounting of two or more conduits use channels at 3 m oc spacing.
10. Provide metal brackets, frames, hangers, clamps and related types of support structures where indicated or as required to support conduit and cable runs.
11. Ensure adequate support for raceways and cables dropped vertically to equipment where there is no wall support.
12. Do not use wire lashing or perforated strap to support or secure raceways or cables.
13. Do not use supports or equipment installed for other trades for conduit or cable support except with permission of other trade and approval of Consultant.
14. Install fastenings and supports as required for each type of equipment cables and conduits, and in accordance with manufacturer's installation recommendations.
15. Provide minimum 2400 mm support channel on each suspended fixture in open areas, with rigid stem supports from structure to channel, and fixture secured to channel.
16. All fastenings and supports to be hot dipped galvanized. All cut ends exposing base material to be completely sealed with field applied coating to give equivalent protection prior to installation. Following complete installation, all damage to protective layer to be carefully and completely touched up with same field applied coating.

END OF SECTION 26 05 29



## **PART 1- GENERAL**

### **1.1. GENERAL**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

### **1.2. REFERENCES**

1. CSA C22.1-12 Canadian Electrical Code, Part 1.

### **1.3. WASTE MANAGEMENT AND DISPOSAL**

1. Separate and recycle waste materials in accordance with Division 1, and with the Waste Reduction Workplan.
2. Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Division 1.

## **PART 2- PRODUCTS**

### **2.1. OUTLET AND CONDUIT BOXES - GENERAL**

1. Size boxes in accordance with CSA C22.1.
2. 102 mm (4") square or larger outlet boxes as required for special devices.
3. Gang boxes where wiring devices are grouped.
4. Blank cover plates for boxes without wiring devices.
5. Combination boxes with barriers where outlets for more than one system are grouped.

### **2.2. SHEET STEEL OUTLET BOXES**

1. Electro-galvanized steel single and multi gang flush device boxes for flush installation, minimum size 76 x 50 x 38 mm or as indicated. 102 mm (4") square outlet boxes when more than one conduit enters one side with extension and plaster rings as required.
2. Electro-galvanized steel utility boxes for outlets connected to surface-mounted EMT conduit, minimum size 102 x 54 x 48 mm
3. 102 mm (4") square or octagonal outlet boxes for lighting fixture outlets.

4. 102 mm (4") square outlet boxes with extension and plaster rings for flush mounting devices in finished tile walls.

### **2.3. CONDUIT BOXES**

1. Cast FS or FD ferrous boxes with factory-threaded hubs and mounting feet for surface wiring of switches and receptacle.
2. Electro-galvanized utility tape for indoor surface wiring.

### **2.4. FITTINGS - GENERAL**

1. Bushing and connectors with nylon insulated throats.
2. Knock-out fillers to prevent entry of debris.
3. Conduit outlet bodies for conduit up to 35 mm and pull boxes for larger conduits.
4. Double locknuts and insulated bushings on sheet metal boxes.

## **PART 3- EXECUTION**

### **3.1. INSTALLATION**

1. Support boxes independently of connecting conduits.
2. Fill boxes with paper, sponges or foam or similar approved material to prevent entry of debris during construction. Remove upon completion of work.
3. For flush installations mount outlets flush with finished wall using plaster rings to permit wall finish to come within 6 mm of opening.
4. Provide correct size of openings in boxes for conduit, mineral insulated and armoured cable connections. Reducing washers are not allowed.

END OF SECTION 26 05 32

## **PART 1- GENERAL**

### **1.1. GENERAL**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

### **1.2. REFERENCES**

1. Canadian Standards Association (CSA)
  1. CSA C22.2 No. 18-98 (R2003), Outlet Boxes, Conduit Boxes, and Fittings and Associated Hardware.
  2. CSA C22.2 No. 45.2-08, Rigid Metal Conduit.
  3. CSA C22.2 No. 56-04 (R2009), Flexible Metal Conduit and Liquid-Tight Flexible Metal Conduit.
  4. CSA C22.2 No. 83-M1985(R2013), Electrical Metallic Tubing.
  5. CSA C22.2 No. 211.2-06 (R2011), Rigid PVC (Unplasticized) Conduit.
  6. CSA C22.2 No. 227.3-05 (R2010), Flexible Non-metallic Tubing.

### **1.3. WASTE MANAGEMENT AND DISPOSAL**

1. Separate and recycle waste materials in accordance with Division 1.
2. Place materials defined as hazardous or toxic waste in designated containers.
3. Ensure emptied containers are sealed and stored safely for disposal away from children.
4. Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Division 1.

## **PART 2- PRODUCTS**

### **2.1. CONDUITS**

1. Electrical metallic tubing (EMT): with steel couplings, sized as indicated.
2. Rigid PVC conduit, sized as indicated.

3. Rigid metal conduit: galvanized steel threaded conduit, sized as indicated.
4. Epoxy coated conduit: with zinc coating and corrosion resistant epoxy finish inside and outside.
5. Flexible metal conduit and liquid-tight flexible metal conduit, sized as indicated.
6. Flexible PVC conduit, sized as indicated.

## 2.2. CONDUIT FASTENINGS

1. One hole steel straps to secure surface conduits 50 mm (2") and smaller. Two hole steel straps for conduits larger than 50 mm (2").
2. Beam clamps to secure conduits to exposed steel work.
3. Channel type supports for two or more conduits at 3 m (9') o/c.
4. 6 mm dia threaded rods to support suspended channels.

## 2.3. CONDUIT FITTINGS

1. Fittings: manufactured for use with conduit specified. Coating: same as conduit.
2. Fittings to be suitable sized for conduit used.
3. Fittings used for EMT to be steel, not cast.
4. Factory "ells" where 90° bends are required for 25 mm (1") and larger conduits.

## 2.4. EXPANSION FITTINGS FOR RIGID CONDUIT

1. Weatherproof expansion fittings with internal bonding assembly suitable for 100 or 200 mm linear expansion.
2. Watertight expansion fittings with integral bonding jumper suitable for linear expansion and 19 mm deflection in all directions.
3. Weatherproof expansion fittings for linear expansion at entry to panel.

## 2.5. FISH CORD

1. Polypropylene.

## PART 3- EXECUTION

### 3.1. INSTALLATION

1. Install conduits to conserve headroom in exposed locations and cause minimum interference in spaces through which they pass.
2. Conceal conduits except in mechanical and electrical service rooms and in unfinished areas.
3. Use rigid galvanized steel threaded conduit in areas subject to mechanical injury such as shops, loading docks etc.
4. Field threads on rigid conduit must be of sufficient length to draw conduits up tight.
5. Use electrical metallic tubing (EMT) above 2.4 m not subject to mechanical injury.
6. Use rigid PVC conduit for installation underground and in slabs.
7. Use liquid tight flexible metal conduit for final connection to a vibrating piece of equipment.
8. Bend conduit cold. Replace conduit if kinked or flattened more than 1/10th of its original diameter.
9. Mechanically bend steel conduit over 21 mm diameter.
10. All unterminated conduit ends to be reamed and protected by insulating bushings.
11. Install fish cord in empty conduits and all conduits 53 mm and greater.
12. Where conduits become blocked, remove and replace blocked section. Do not use liquids to clean out conduits.
13. Dry conduits out before installing wire.
14. Use water tight fittings at connections to taps or sides of sprinkler proof equipment or seal with approved sealant.

### 3.2. SURFACE CONDUITS

1. Run parallel or perpendicular to building lines.
2. Locate conduits behind infrared or gas fired heaters with 1500 mm clearance.
3. Run conduits in flanged portion of structural steel.
4. Group conduits wherever possible on suspended channels.
5. Do not pass conduits through structural members except as indicated.
6. Do not locate conduits less than 75 mm (3") parallel to steam or hot water lines with

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minimum of 25 mm (1") at crossovers.

7. All exposed conduits in areas other than service spaces are to be painted to match existing finishes.

### 3.3. CONCEALED CONDUITS

1. Run parallel or perpendicular to building lines.

### 3.4. CONDUITS UNDERGROUND

1. Slope conduits to provide drainage and prevent moisture or gases from entering the building.
2. Waterproof joints (PVC excepted) with heavy coat of bituminous paint.

END OF SECTION 26 05 34

## **PART 1- GENERAL**

### **1.1. RELATED SECTIONS**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.
2. Section 26 05 00 – Electrical General Requirements.

## **PART 2- PRODUCTS**

### **2.1. PVC DUCTS**

1. PVC ducts, type DB2

### **2.2. PVC DUCT FITTINGS**

1. Rigid PVC opaque solvent welded type couplings, bell end fittings, plugs, caps, adaptors as required to make complete installation.
2. Expansion joints.
3. Rigid PVC 5 angle couplings.

## **PART 3- EXECUTION**

### **3.1. DUCT INSTALLATION**

1. Install underground duct banks.
2. Build duct bank on undisturbed soil or on well compacted granular fill not less than 150mm (6") thick, compacted to 95% of maximum proctor dry density.
3. Open trench completely between manholes to be connected before ducts are laid and ensure that no obstructions will necessitate change in grade of ducts.
4. Install ducts at elevations and with slope as indicated and minimum slope of 1 to 400.
5. Install base spacers at maximum intervals of 1.5 m (5') levelled to grades indicated for bottom layer of ducts.
6. Lay PVC ducts with configuration as indicated with preformed interlocking, rigid plastic intermediate spacers to maintain spacing between ducts at not less than 75mm (3") horizontally and vertically. Stagger joints in adjacent layers at least 150mm (6") and make joints watertight.

7. Make transpositions, offsets and change in direction using 5° bend sections, do not exceed a total of 20° with duct offset.
8. Use bell ends at duct terminations in manholes or buildings.
9. Use conduit to duct adapters when connecting to conduits.
10. Terminate duct runs with duct coupling set flush with the end of concrete envelope when dead ending duct bank for future extension.
11. Cut, ream and taper end of ducts in field in accordance with manufacturer's recommendations, so that duct ends are fully equal to factory-made ends.
12. Clean ducts before laying. Cap ends of ducts during construction and after installation to prevent entrance of foreign materials.
13. After installation of ducts, pull through each duct a wooden mandrel not less than 300mm (12") long and of a diameter of 6mm (1/4") less than internal diameter of duct, followed by stiff bristle brush to remove sand, earth and other foreign matter. Pull stiff bristle brush through each duct immediately before pulling-in cables.
14. In each duct install pull rope continuous throughout each duct run with 3m (10') spare rope at each end.

### 3.2. CABLE INSTALLATION IN DUCTS

1. Installation of high voltage power cables, conduits, etc. will be by electrical contractor, unless otherwise noted.
2. Primary duct banks and manholes are existing to remain.
3. Install cables as indicated in ducts.
4. Do not pull spliced cables inside ducts.
5. Install multiple cables in duct simultaneously.
6. Use CSA approved lubricants of type compatible with cable jacket to reduce pulling tension.
7. To facilitate matching of colour coded multi-conductor control cables reel off in same direction during installation.
8. Before pulling cable into ducts and until cables properly terminated, seal ends of lead covered cables with wiping solder; seal ends of non-leaded cables with moisture seal tape.
9. After installation of cables, seal duct ends with duct sealing compound to prevent entrance of moisture or gases.
10. Service entrance raceway shall contain no other than the service entrance conductors.

### 3.3. MARKERS



1. Mark ducts every 50' along straight runs and changes in direction.
2. Provide drawings showing locations of markers.

### 3.4. AS-BUILTS

1. Provide As-Built drawings, indicating location of all underground conductor, cable or raceway installations including depth of burial and type of installation.

### 3.5. FIELD QUALITY CONTROL

1. Perform tests in accordance with Section 16010 - Electrical General Requirements.
2. Perform tests using qualified personnel. Provide necessary instruments and equipment.
3. Check phase rotation and identify each phase conductor of each feeder.
4. Check each feeder for continuity, short circuits and grounds. Ensure resistance to ground of circuits is not less than 50 megohms.
5. Pre-Acceptance Tests:
  1. After installing cable but before splicing and terminating, perform insulation resistance test with 1000 V megger on each phase conductor.
  2. Check insulation resistance after each splice and/or termination to ensure that cable system is ready for acceptance testing.
6. Acceptance Tests:
  1. Ensure that terminations and accessory equipment are disconnected.
  2. Ground shields, ground wires, metallic armour and conductors not under test.
  3. Leakage Current Testing:
    1. Raise voltage in steps from zero to maximum values as specified by manufacturer for type of cable being tested.
    2. Hold maximum voltage for time period specified by manufacturer.
    3. Record leakage current at each step.
  4. High Potential (Hipot) Testing shall be completed in the factory.
    1. Conduct Hipot Testing in accordance with IPCEA recommendations.
7. Provide Engineer with list of test results showing location at which each test was made, circuit tested and result of each test.

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8. Remove and replace entire length of cable if cable fails to meet any of the test criteria.

END OF SECTION 26 05 44

## PART 1- GENERAL

### 1.1. GENERAL

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

### 1.2. SHOP DRAWINGS

1. Submit shop drawings in accordance with Division 1.
2. Drawings to include electrical detail of panel, branch breaker type, quantity, ampacity and enclosure dimension.

### 1.3. PLANT ASSEMBLY

1. Install circuit breakers in panelboards before shipment.
2. In addition to CSA requirements manufacturer's nameplate must show fault current that panel including breakers has been built to withstand.

## PART 2- PRODUCTS

### 2.1. PANELBOARDS

1. Panelboards: product of one manufacturer.
2. Bus and breaker rated for the following symmetrical interrupting capacity, unless otherwise indicated. **Series rated panels are not acceptable.**
  1. 120 / 208 V Panelboards – 18 kA I.C.  
  
Refer to singleline diagram for other values.
3. Sequence phase bussing with odd numbered breakers on left and even on right, with each breaker identified by permanent number identification as to circuit number and phase.
4. Panelboards: mains, number of circuits, and number and size of branch circuit breakers as indicated.
5. Each panelboard to be equipped with integral lock and be complete with two keys. All panelboards to be keyed alike.

6. Aluminum bus with neutral of same ampere rating as mains.
7. Mains: suitable for bolt-on breakers.
8. Trim and door finish: baked grey enamel
9. Panelboards on emergency power to be labeled in RED.
10. Surface mounted panelboards not located in electrical or storage rooms shall be supplied with floor to ceiling enclosures to maximum height of 3.6 m to conceal conduit.
11. Panelboards to be equipped with sprinkler shields.
12. Provide 15% space for future breakers in all 120/208V panels and 25% space in all 600V panels, unless otherwise noted.
13. Feed thru lugs as indicated.
14. NEMA 1 enclosure.

## 2.2. BREAKERS

1. Breakers: to Section 26 28 21 - Moulded Case Circuit Breakers.
2. Breakers with thermal and magnetic tripping in panelboards except as indicated otherwise.
3. Main breaker: separately mounted on top or bottom to suit cable entry. When mounted vertically, down position should open breaker.
4. Lock-on devices for fire alarm, emergency, door supervisory, intercom, stairway, exit and night light circuits.

## 2.3. SURGE PROTECTIVE DEVICES (SPD)

1. 120/208V panelboards to have integral SPDs.
2. All surge protective devices to Section 26 41 00 - Surge Protective Devices.

## 2.4. EQUIPMENT IDENTIFICATION

1. Provide equipment identification in accordance with Section 26 05 00 – Common Work Results - Electrical.
2. Nameplate for each panelboard size 4 engraved, as indicated
3. Nameplate for each circuit in distribution panelboards size 2 engraved, as indicated.

4. Complete circuit directory with typewritten legend showing location and load of each circuit.

## 2.5. ACCEPTABLE MATERIALS

1. Schneider
2. Eaton

## PART 3- EXECUTION

### 3.1. INSTALLATION

1. Locate panelboards as indicated and mount securely, plumb, true and square, to adjoining surfaces.
2. Mount panelboards to height specified in Section 26 05 00 – Common Work Results - Electrical or as indicated.
3. Provide 100mm concrete housekeeping pad under equipment.
4. Connect loads to circuits.
5. Connect neutral conductors to common neutral bus with respective neutral identified.

### 3.2. PANELBOARD LAYOUTS

1. Follow panelboard details attached or on drawings, for layout of circuit and breaker sizes wherever possible.
2. Record all changes to panelboard details and submit as part of As-Built drawing set for review at completion of the project. Insert copies in each maintenance manual.

END OF SECTION 26 24 17

PANELBOARD SCHEDULE -- ED2A					SURFACE MOUNT						
WIRE & COND	SERVICE	BRKR	Load kW	CCT. No.		CCT. No.	Load kW	BRKR	SERVICE	WIRE & COND	
Reconnect Existing	EM.Transfer Switch	60A/3P	---	1		2	---	125A/3P	Electrical Panel GA-3	Reconnect existing	
				3		4					6
				5		8					10
Reconnect Existing	Electrical Panel GA	100A/3P	---	7		8	---	30A/2P	Emerg. Power Panel #2C	Reconnect existing	
				9		10					
				11		12					
---	SPARE	100A/3P	---	13		14	---	20A	SPARE	---	
				15		16					
				17		18					
---	SPARE	60A/3P	---	19		20	---	15A/2P	SPARE	---	
				21		22					
				23		24					
---	SPARE	15 A	---	25		26	---	20A/2P	SPARE	---	
---	SPARE	15 A	---	27		28					
---	SPARE	15 A	---	29		30					
---	SPARE	15 A	---	31		32	---	20A	SPARE	---	
---	space	---	---	33		34					
---	space	---	---	35		36					
---	space	---	---	37		38	---	---	space	---	
---	space	---	---	39		40					
---	space	---	---	41		42					

**\*\*C/W Main Breaker AND Feed Thru Lugs As Per Riser 2/ME102**

**NOTE: 120V Wire & Conduit sizes noted in this panel schedule are for branch circuit reference information only. Group wiring and derate wiring depending on wire length as per specification sections 16111 and 16122.**

CONNECTED LOAD: 0.0 kW

MAX. CURRENT: 0.0 Amps

PANEL DESCRIPTION: Panel ED2A

PANEL RATING: 400A, 120/208 V, 3P 4W - 42 CCT

PANELBOARD SCHEDULE -- ED2B					SURFACE MOUNT					
WIRE & COND	SERVICE	BRKR	Load kW	CCT. No.		CCT. No.	Load kW	BRKR	SERVICE	WIRE & COND
---	SPARE	100A/3P	---	1		2	---	15A/2P	SPARE	---
---	SPARE	100A/3P	---	3		4	---	15A/2P	SPARE	---
---	SPARE	100A/3P	---	5		6	---	20A/2P	SPARE	---
---	SPARE	60A/3P	---	7		8	---	20A	SPARE	---
---	SPARE	60A/3P	---	9		10	---	20A	SPARE	---
---	SPARE	60A/3P	---	11		12	---	20A	SPARE	---
---	SPARE	15 A	---	13		14	---	20A	SPARE	---
---	SPARE	15 A	---	15		16	---	20A	SPARE	---
---	SPARE	15 A	---	17		18	---	---	space	---
---	SPARE	15 A	---	19		20	---	---	space	---
---	space	---	---	21		22	---	---	space	---
---	space	---	---	23		24	---	---	space	---
---	space	---	---	25		26	---	---	space	---
---	space	---	---	27		28	---	---	space	---
---	space	---	---	29		30	---	---	space	---

**\*\*C/W Main Breaker As Per Riser 2/ME102**

**NOTE: 120V Wire & Conduit sizes noted in this panel schedule are for branch circuit reference information only. Group wiring and derate wiring depending on wire length as per specification sections 16111 and 16122.**

CONNECTED LOAD: 0.0 kW

MAX. CURRENT: 0.0 Amps

PANEL DESCRIPTION: Panel ED2B

PANEL RATING: 225A, 120/208 V, 3P 4W - 30 CCT

## **PART 1 - GENERAL**

### **1.1. GENERAL**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

### **1.2. DESCRIPTION OF SYSTEM**

1. Provide a 130 kW, 208V, 3 phase, 4 wire natural gas, standby generator that meets the requirements of C282. Generator shall supply electrical power in the event of failure of the normal supply, consisting of a liquid cooled engine, an AC alternator and system controls with all necessary accessories for a complete operating system, including but not limited to:
2. Generating system consists of:
  1. gas engine,
  2. alternator,
  3. alternator control panel,
  4. battery charger, heater and battery,
  5. gas supply system,
  6. exhaust system,
  7. structural steel mounting base,
  8. sound attenuated weather-proof outdoor enclosure, with acoustically treated intake and air relief, with motorized damper,
  9. base support,
  10. enclosure mounted stack,
  11. block heater,
  12. 60A, 120 / 208V, 1 phase, 3 wire outdoor enclosure load centre and enclosure lighting,
  13. outdoor enclosure cooling, heating and ventilation system, with all necessary controls,
  14. radiator and cooling system,
3. System designed to operate as emergency standby.



4. Emergency generator package to be pre-wired with all loads, such as battery charger, block heater, lighting, motorized dampers and electric force flow heater connected to load centre.

### 1.3. SHOP DRAWINGS

1. Submit shop drawings in accordance with Division 1.
2. Include:
  1. engine: make and model, with performance curves,
  2. alternator: make and model,
  3. voltage regulator: make, model and type,
  4. control panel and main breaker,
  5. generator decrement curves against generator main breaker curve,
  6. battery: make, type and capacity,
  7. battery charger: make, type and model,
  8. battery heater: make, type and model,
  9. alternator control panel: make and type of meters and controls
  10. governor type and model,
  11. vibration pads
  12. cooling air requirements in m<sup>3</sup>/s and maximum fan pressure – min. 125 PA required,
  13. ISO rating of engine,
  14. flow diagrams for:
    1. gas fuel
    2. lubricating oil
    3. cooling air
  15. dimensioned drawing showing complete generating set mounted on steel base, including vibration isolators, sound attenuated weather-proof outdoor enclosure, exhaust system and total weight,
  16. continuous full load output of set at 0.8 PF lagging,
  17. description of set operation including:

1. automatic starting and transfer to load and back to normal power, including time in seconds from start of cranking until unit reaches rated voltage and frequency,
  2. manual starting,
  3. automatic shut down and alarm on:
    1. Overcranking
    2. Overspeed
    3. High engine temp
    4. Low lube oil pressure
    5. Short circuit
    6. Alternator overvoltage
    7. Lube oil high temperature
    8. Thermistor over temperature on alternator
  4. Manual remote emergency stop.
18. Enclosure Details
19. Sound attenuation data.
20. Emissions Data Sheet – with NOx, THC and CO.

#### 1.4. QUALITY CONTROL SUBMITTALS

1. Prepare complete electronic set of documents for distribution and include:
  1. Reviewed drawings as above with as-built deviations, if any, marked thereon.
  2. Wiring diagram of control panel, engine and interconnections.
  3. Specific instructions for installation of equipment instructions for placing equipment into operation.
  4. Description of operation with reference to the schematic wiring diagram.
  5. Engine manual including operating and parts information.
  6. Generator and voltage regulator manual(s) including wiring and assembly drawings.
  7. Battery charger manual, including wiring diagram and parts list.
  8. Transfer switch manual and parts list (if switch is supplied).
  9. Test report per factory inspection and test procedures.
2. Submit coordination study, showing the following:
  1. The current characteristic curves of generator overcurrent protective devices and of

two consecutive protective devices, with largest ampacity downstream from the generator.

2. Damage curve of the generator.
3. Generator decrement curves against generator main breaker curve.
4. Recommended setting of overcurrent protective devices.

#### 1.5. OPERATION AND MAINTENANCE DATA

1. Provide operation and maintenance data for natural gas generator for incorporation into maintenance manual.
2. Include in Operation and Maintenance Manual Instructions for particular unit supplied and not general description of units manufactured by supplier, and:
  1. operation and maintenance instructions for engine, alternator, control panel, battery charger, battery, gas supply system, enclosure ventilation system, exhaust system and accessories, to permit effective operation, maintenance and repair.
  2. technical data:
    1. illustrated parts lists with parts catalogue numbers,
    2. schematic diagram of electrical controls,
    3. flow diagrams for:
      1. Fuel system
      2. Lubricating oil
      3. Cooling system
    4. certified copy of factory test results,
    5. maintenance and overhaul instructions and schedules,
    6. precise details for adjustment and setting of time delay relays or sensing controls which are required on site adjustment.

#### 1.6. MAINTENANCE MATERIALS

1. Provide maintenance materials in accordance with Division 1.

#### 1.7. SOURCE QUALITY CONTROL

1. Factory test generator set including engine, alternator, control panels, and accessories.
2. The emergency generator may be factory tested at unity power factor if the alternator unit

has been factory tested at rated power factor and load at the alternator manufacturer's facility.

3. A copy of the alternator manufacturer's factory test report shall be included with the alternator unit.
4. Submit certified copy of test results to Consultant for approval before shipment to site.

#### **1.8. MANAGEMENT AND DISPOSAL**

1. Separate and recycle waste materials in accordance with Division 01.
2. Remove from site and dispose of all packaging materials at appropriate recycling facilities.
3. Collect and separate for disposal: paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
4. Divert unused wiring materials from landfill to metal recycling facility as approved by Engineer.
5. Place materials defined as hazardous or toxic in designated containers.
6. Divert unused lubricating oil materials from landfill to oil recycling facility approved by Engineer.
7. Divert unused antifreeze from landfill to antifreeze recycling facility approved by Engineer.
8. Fold up metal banding, flatten and place in designated area for recycling.

#### **1.9. WARRANTY**

1. Full warranty period for all components shall be 60 months or 1500 operating hours, whichever occurs first.

### **PART 2- PRODUCTS**

#### **2.1. NATURAL GAS – GENERATOR SET**

1. Alternator and exciter, gas set, instruments, meters and switches shall be CSA approved.
2. Gas – generator performance and accessories shall conform to CSA Standard C282. Both sets to be identical.

#### **2.2. GAS ENGINE**

1. Gas engine: to ISO 3046/1 – 1981.
  1. engine: standard product of current manufacture, from company regularly engaged in production of such equipment.
2. Four cycle engine, synchronous speed 1800 r/min.
3. Capacity:
  1. rated continuous power in kW at 1800 r/min, after adjustment for power losses in auxiliary equipment necessary for engine operation; to be calculated as follows:  
rated continuous output = generator kW / generator Eff @ FL
    1. under following site conditions:
      1. Altitude: 100 feet
      2. Ambient temperature: 104 degrees F
      3. Relative humidity: 60%
    2. engine overload capability 110% of continuous output for 1 h within 12 h period of continuous operation.
    3. engine shall be sized to ensure that generator can deliver +/- 1% (2%) of its rated voltage and frequency within 10 (15) seconds of loss of normal power.
4. Cooling System:
  1. liquid cooled: heavy duty industrial radiator mounted on generating set base with engine driven pusher type fan to direct air through radiator from engine side. Thermostatically controlled, with ethylene glycol anti-freeze non-sludging above minus 50°F,
  2. to maintain manufacturer's recommended engine temperature range at 10% continuous overload in ambient temperature of 104°F,
  3. radiator complete with a flange for duct connection,
  4. engine cooling system shall include built-in centrifugal type water circulating pump and thermostat to maintain proper jacket water temperature under each load condition.
  5. provide radiator flexible duct connection,
  6. the external static pressure of the diesel radiator fan shall not be less than 0.25 KPA at 38.24 cubic meters/second maximum,
  7. readily accessible drain valves for draining coolant from engine and radiator.
  8. Circuits supplying cooling system control equipment shall be connected ahead of generator disconnecting means and overcurrent devices.
5. Fuel:

1. Natural Gas – 10" WC pressure
6. Block heater:
  1. plug connected, thermostatically controlled liquid coolant heater connected to line side of automatic transfer switch, able to maintain coolant around combustion chambers;
    1. at a sufficiently high temperature to allow engine to start in room ambient 0°C as per requirements of clause 2.2.4.
  2. All engine and generator heaters shall be automatically disconnected when the engine is running. Each heater shall have an independent means of being disconnected or switched off for maintenance.
7. Governor:
  1. Electronic type.
  2. Manual speed adjustment, micrometer screw type, also shutdown lever and overspeed stop.
  3.  $\pm 0.5$  speed regulation, steady state: No-load to full-load and full-load to no-load.
  4.  $\pm 8\%$  speed regulation, transient peak: no load to full load and full load to no load.
  5.  $\pm 0.5$  stability at any constant load and free from further hunting or oscillation.
  6. Recovery time, from instant load change to steady state condition, better than three seconds.
8. Lubrication system:
  1. pressure lubricated by engine driven pump,
  2. lube oil filter: replaceable, full flow type, removable without disconnecting piping,
  3. lube oil cooler,
  4. engine sump drain valve,
  5. oil level dip-stick,
  6. lube oil pressure and temperature gauges.
  7. Operational requirements are such that unit may lay idle for periods up to one month and then be required to start and assume full rated load within specified (15 seconds) time period. To protect service life of engine components, provide an electrical motor driven, integrally mounted, gear type oil priming pump with interval timer and breaker type combination starter. Starter mounted in control panel. Motor shall be of splash proof enclosure. Lubricating oil pressure switch to stop priming

pump when engine is running. Where pump is not being provided, submit a letter certifying that oil pump is not required for this project and will not detract from service life of engine components.

9. Starting system:
  1. positive shift, gear engaging starter 12 Vdc,
  2. cranking limiter to provide 3 cranking periods of 10 s duration, each separated by 10 s rest,
  3. Starting battery, heavy duty, lead acid 120V rated at minimum 925 CCA, sealed type, hard rubber cased. Ensure battery is of sufficient capacity to crank engine at 0 deg C (32 deg F) for 60 seconds continuously without voltage dropping below 80% rated voltage and without using more than 25% of ampere hour capacity. Provide all intercell and connecting battery cables as required.
  4. Battery warmers: Thermostatically controlled, UL listed, factory-wired.
  5. Battery rack with support legs, coated with acid resistant paint.
  6. Heavy duty multi-strand cables of sufficient length and capacity to allow the battery to be located on either side of engine. Protect cables within properly-sized conduit.
  7. Battery charger, 120V AC input, 10A and 12V output. Static and chassis type with automatic boost and float charging with transistorized voltage control and recycle timer, boost and float rate separately adjustable, input and output breakers, manual-automatic switch, current limit protection, voltmeter and ammeter.
  8. Battery charger shall be capable of recharging a completely discharged battery to 80% of capacity within 4 hrs. and to full capacity in not more than 12 hrs.
  9. Battery charger to be mounted inside of generator control panel unless indicated otherwise on Drawings.
  10. Other features to include:
    1. AC input breaker,
    2. AC surge protection,
    3. soft start control,
    4. DC output fuse protection,
    5. current limit protection,
    6. digital voltmeter and ammeter (1% accuracy),
    7. pilot light indication for:
      1. AC power

2. Float control
3. Equalize control
4. Soft start control
8. automatic equalize after discharge complete with equalize timer, adjustable 1-30 hours,
9. manual initiate, or terminate of equalize timer,
10. Guards to protect personnel from hot and moving parts. Locate guards so that normal daily maintenance inspections can be undertaken without their removal.
11. Engine oil drip tray, 16 AWG minimum, galvanized steel with 50mm (2") lip suitable for location on floor between vibration isolators. Extend tray as far as possible to protect floor and be readily removable without disturbing any components. Tray may be in two parts.

### 2.3. ALTERNATOR

1. Alternator: to NEMA MG1-1978 and to CSA C22.2 No. 100-1978.
2. Rating: As Indicated on Drawings.
3. Output at 40°C ambient:
  1. 100% full load continuously,
4. Revolving field, brushless, single bearing.
5. Two bearings, pre-lubed and sealed, anti-friction type 50,000 hr. Minimum B.10 life.
6. Drip proof.
7. Self-ventilated.
8. Amortisseur windings.
9. Synchronous type.
10. Horizontal synchronous type in protected enclosure with ground lug and readily accessible terminal box.
11. Dynamically balanced rotor permanently aligned to engine by flexible disc coupling.
12. Exciter: permanent magnet pilot exciter.
13. Class H insulation on windings.
14. Voltage regulator: digital thyristor controlled rectifiers with phase controlled sensing circuit:
  1. stability: 0.25% maximum voltage variation at any constant load from no load to full load,



2. regulation: 1.5% maximum voltage deviation between no-load steady state and full-load steady state,
3. transient: stable supply voltage to be maintained for one-step application of maximum site design load. Reduction in frequency shall not exceed 10% and recovery time shall not exceed 3 sec.
15. Alternator: capable of sustaining 300% rated current for period not less than 10 s permitting selective tripping of down line protective devices when short circuit occurs.
16. Temperature rise not to exceed EEMAC MGI-22.40 for insulation class used and in 40 deg C (105 deg F) ambient. Provide hi temperature sensor and shutdown.
17. The transient dip in generator output voltage, as shown on an oscilloscope or undamped voltmeter, shall not exceed 25% at full voltage starting off an induction motor with starting KVA equal to the generator.

#### 2.4. CONTROL PANEL

1. Totally enclosed, mounted on generator with vibration dampers.
2. Panel door with formed edges and lockable handle with 2 keys.
3. Flexible conductors between door and fixed panel.
4. Vibration isolated engine instrument panel with:
  1. lube oil pressure gauge,
  2. lube oil temperature gauge,
  3. coolant temperature gauge,
  4. elapsed time meter: non-tamper type.
  5. Digital voltmeter, ammeter, and phase selector switches
  6. Frequency meter that is not a reed type
5. The generator control system shall be a fully integrated and multi-purpose microprocessor based control system for standby emergency engine generators.
  1. This configuration shall contain a complete automatic engine start-stop control complete with engine start button, off-auto-manual selector switch, emergency stop button and provision for remote emergency stop button.
  2. The control panel shall display all pertinent unit parameters including:
    1. Generator Status - Current unit status in real time

2. Engine operating conditions - Realtime readouts of the engine and alternator values:
  1. Oil pressure and optional oil temperature
  2. Coolant temperature and level
  3. Engine speed
  4. DC battery voltage
  5. Run time hours
  6. Generator voltages, amps, frequency
  7. Power factor
3. Generator Commands
4. Current engine start/stop status
5. Alarm Status - Current alarm(s) condition
  1. Low or high AC voltage
  2. Low or high battery voltage
  3. Low or high frequency
  4. Pre-low or low oil pressure
  5. Pre-high or high oil temperature (optional)
  6. High, low and critical low fuel levels (where applicable)
  7. Overcrank
  8. Over and under speed
  9. Unit not in "Automatic Mode"
6. Alarm Log
  1. Memory of last twenty alarm events (date and time stamped)
7. Operating parameters
6. Operating lights, panel mounted
  1. "Normal power" pilot light
  2. "Emergency power" pilot light
  3. Green pilot lights for breaker on and red pilot lights for breaker off
  4. Lamp test button
7. Alternator output breaker:

1. One mainline, moulded case circuit breaker with LSI electronic trip unit, carrying the UL/CSA mark shall be factory installed on each generator. The breaker shall be rated between 100 to 125% of the rated ampacity of the genset.
2. Lockable in the closed position.
3. Breaker position to be monitored with local and remote annunciation.
8. Automatic shutdown and alarms with NO / NC contacts wired to terminal block for remote annunciation on:
  1. engine overcrank,
  2. engine overspeed,
  3. engine high temperature,
  4. engine low lube oil pressure,
9. Battery powered, alphanumeric, text-based display to indicate individual faults as per Table 1 of C282-15.

## 2.5. REMOTE ANNUNCITOR

1. Provides remote monitoring and LED annunciation of up to 18 generator parameters including low fuel level.
2. Form A output relays with selectable functions.
3. Power supplied from generator battery.
4. RS485 communication.
5. Compliant with NFPA 110.
6. Alarm Horn: 90dB @ 10cm

## 2.6. STRUCTURAL STEEL MOUNTING BASE

1. Complete generating set mounted on heavy-duty fabricated structural steel base of sufficient strength and rigidity to protect assembly from stress or strain and to maintain alignment during transportation, installation and under operating conditions on suitable level surface.
2. Sound insulation pads for installation between steel frame and concrete base.
3. Align engine and generator horizontally and vertically to within +/- .05mm, using steel shims where required. Provide machine bolts to secure units to base. Dowel feet of both units on two bearing generator assemblies.

4. Drive coupling, torsionally rigid flexible steel disc type, for connecting a single bearing generator to an engine via a S.A.E. housing.

## 2.7. WEATHER PROTECTIVE ENCLOSURE

1. Enclosure to be constructed to CSA C282-05 Standards.
2. The engine-generator set shall be factory enclosed in a heavy gauge steel enclosure constructed with 14 gauge corner posts, uprights and headers. Enclosure to be single wall construction insulated with sound absorbing insulation to 70 DBA @ 7 metres. The roof shall be made of aluminum, aid in the runoff of water and include a drip edge. The enclosure shall be coated with electrostatically applied powder paint, baked and finished to manufacturer's specification. The enclosure is to have large, hinged doors to allow access to the engine, alternator and control panel. The doors must lift off without the use of tools. Each door will have lockable hardware with identical keys. Padlocks do not meet this specification.
3. Enclosure shall be equipped with sound attenuated intake and exhaust air system, complete with motorized insulated dampers.
4. Enclosure shall be equipped with 1.5 kW – 120V SP blower operated heater complete with thermostat.
5. Provide heat detector 88°C ROR, connected to building fire alarm system.
6. Provide generator running status indicator and generator trouble status indicator connections to fire alarm panel.
7. Provide emergency battery pack, with two 20 watt heads and battery capacity for minimum 2 hours run time.

## 2.8. INSULATION

1. Generator Exhaust Pipe, Silencer: Provide 50 mm (2") thick high temperature (650 deg C) insulation complete with vapour barrier or 25 mm (1") thick insulation blanket equal to TEMP-MAT SS. Silencer to be critical grade with max  $\Delta P = 8" WC$ .
2. Supply and install 25 mm (1") thick prefabricated high temperature insulation blanket (650 deg C) on manifold and turbocharger (equivalent to Temp-Mat).

## 2.9. EXHAUST SYSTEM

1. Air intake filter, dry replaceable element type located close to inlet manifold.
2. Open mesh safety guard(s) around engine exhaust manifold(s), where required for operator protection.
3. Open mesh safety guard supported from exhaust pipe flange to shield connector for operator's protection.

4. Heavy duty, critical type, horizontally mounted exhaust silencer with condensate ANSI Flanges and drain cock complete with 19 mm (3/4") Schedule 40 drain pipe down to 150 mm (6") above floor.
5. Size silencer so that back pressure on engine at 100% load will not exceed engine maker's recommendation, assuming 13.7 m (45 ft.) of equivalent length of exhaust pipe.
6. Silencer to be located within enclosure.
7. The manufacturer shall supply its recommended stainless steel, flexible connector to couple the engine exhaust manifold to the exhaust system.
8. Expansion joints: stainless steel, corrugated, of suitable length, to absorb both vertical and horizontal expansion.
9. Exhaust stack: all welded with supports and expansion compensators as detailed on drawings.

## 2.10. FUEL SYSTEM

1. Natural Gas.
2. Connection to generator to be with flexible gas line.
3. Off-site natural gas.

Where the emergency generator is supplied by an off-site utility natural gas supply, the following conditions shall be met:

1. the piping serving the emergency generator or combination of emergency generators shall
  1. be independent of any other natural gas supply to the building;
  2. be protected in accordance with Clause 7.3.9.2 of CSA B149
  3. have a manual valve identified by a permanent sign located at the point of entry of the piping system to the building and accessible only to authorized personnel; and
  4. have a position-indicating contact that will initiate a trouble alarm condition at the generator control panel when the valve is closed as indicated in CSA B149, Table 1. Testing shall be done in accordance with CSA B149, Table 5;
2. that any and all valves installed in the emergency gas supply line between the standardized pressure regulator station and the generator set fuel line connection shall "have a position-indicating contact" that will initiate a trouble alarm condition at the generator control panel; and
3. the natural gas supply to the generator shall be arranged in such a manner that the

natural gas supply serving other appliances can be shut off without interrupting the supply to the emergency generator.

Note: See Clause B.13 for commentary on this Clause.

## 2.11. COOLING AIR SYSTEM

1. Engine ventilating system:
  1. air discharge and intake with weatherproof louvers,
  2. modulating thermostat,
  3. replaceable air intake filters.

## 2.12. EQUIPMENT IDENTIFICATION

1. Provide equipment identification in accordance with Section 16010 – General Electrical Requirements.
2. Control panel:
  1. size 4 nameplates for controls such as alternator breakers and program selector switch,
  2. size 3 nameplates for meters, alarms, indicating lights and minor controls.
3. Safety and warning label(s) on panel door, red labels with approximately 13 mm white letters, e.g. "DANGER 208 VOLTS - THIS AUTOMATIC SET CAN START ANY TIME-ISOLATE ALL SUPPLIES BEFORE ENTERING"

## 2.13. FABRICATION

1. Shop assemble generating unit including:
  1. 18" H base
  2. engine and radiator
  3. alternator
  4. control panel
  5. battery and charger
  6. outdoor enclosure

## 2.14. ACCESSORIES, TOOLS AND SPARES

1. Maintenance and operation instruction sheet, mounted on steel backplate with glass front or clear varnish protection, suitable for mounting on side of control panel.

## 2.15. PANEL ACCESSORIES

1. Terminal blocks, tubular screw type with barriers and labels, Buchanan, Weid-muller, Phoenix, or approved equal by others.
2. Control fuses: in barrier type mounts ground connections lug.
3. Schematic wiring diagram: varnish protected and suitably secured inside door.

## 2.16. MANUFACTURER

1. This system shall be supplied by an emergency generator manufacturer who has been regularly engaged in the production of engine-alternator sets, automatic transfer switches, and associated controls for a minimum of ten years, thereby identifying one source of supply and responsibility.
2. The manufacturer shall have printed literature and brochures describing the standard series specified, not a one of a kind fabrication.

## 2.17. ACCEPTABLE MANUFACTURERS

1. Acceptable Manufacturers:
  1. Generac
  2. Kohler
  3. Cummins
  4. Blue Star
  5. Sommers
2. Generator supplier shall have an in-place support facility within 200 kilometres of the site with technical staff, spare parts inventory and all necessary test and diagnostic equipment.

## PART 3 - EXECUTION

### 3.1. PREPARATION

1. Protection
  1. Protect equipment against corrosion, dampness, heavy rain, etc. Also provide adequate protection against damage or loss of components from time equipment leaves manufacturer's factory until received at destination.
  2. Include heavy duty plastic sheet or bags to cover components vulnerable to construction dust. Tag this protective covering to direct that it be left in place (where practical) until construction and clean-up is complete.
  3. Provide in each manual, a complete inventory of all spare parts, tools and accessories, a copy to accompany the shipment and a copy forwarded to CFB Representative.
  4. Ship equipment to Project Site. Arrange shipment to facilitate off-loading by Contractor's crane or skids at Project Site.
2. Preparation - Wiring
  1. Provide heat and oil resistant wire from safety switches and control devices. Run wire neatly in a harness, secure to engine and terminate at engine terminal box.
  2. Provide engine terminal box, CSA enclosure type 5, with numbered terminal strip to correspond with schematic diagram. Provide similar separate junction box for 120V circuits, i.e. exchanger solenoid valve, block heater etc.
  3. Power wiring shall not be less than #12 AWG type RW90 or equal. Control wire shall not be less than #14 AWG type RW90 or other acceptable manufacturer (except within assemblies).
  4. Provide wire markers using printed wire sleeves corresponding with schematic diagram wire numbering. Mfr: W.H. Brady sleeve markers or other acceptable manufacturer (except sub-assemblies).
  5. Adequately support wiring, run neatly, and protect from mechanical damage by grommets and shields. Wiring form between frame and hinged door to be vertical torsion- type over hinge side.

### 3.2. INSTALLATION

1. Install equipment complete in accordance with engine-generator equipment manufacturer's recommended methods of installation and operation, and in compliance with standards of Regulatory Authorities having jurisdiction.
2. Locate generating unit and install as indicated.
3. Install gas supply system as indicated.
4. Complete wiring and interconnections as indicated.



5. Start generating set and test to ensure correct performance of components.
6. Provide remote indication of safety conditions.

### 3.3. GROUNDING / BONDING

1. Provide grounding of generator to two (2) local 3m long copper ground bars where generator is in a permanent location. Bonding of ground bars to be extended to automatic transfer switch and electrical service in building using minimum #1AWG copper wire.
2. Bond generator frame and enclosure to building / perimeter ground system, to satisfaction of local Electrical Safety Authority inspector and the Ontario Electrical Safety Code.

### 3.4. COMMISSIONING

1. General: Upon completion of installation of emergency power supply system, installation shall be tested to ensure conformity to requirements of this Specification.
2. With engine in a "cold start" condition and emergency load at its normal operating level, a power failure shall be simulated by opening all switches or breakers that supply normal power to building or facility. Test load shall be that load which is normally served by emergency power system.
3. Operational test shall be continued for 1 h, after which normal power shall be restored to building or facility and satisfactory transfer of load and shutdown of emergency generating set shall be demonstrated.
4. Following shall be observed and recorded:
  1. Time delay on start;
  2. Cranking time until the engine starts and runs;
  3. Time required to come up to operating speed;
  4. Time required for each life safety equipment transfer switch to be transferred to the emergency position;
  5. Time required to achieve a steady-state condition with all switches transferred to emergency position;
  6. The time delay for the connection of any loads arranged to be connected to the emergency supply later than the life safety equipment.
  7. Voltage, frequency, and amperes at start-up and at any observed change in load and at maximum site design load;
  8. Engine oil pressure, water temperature where applicable, and battery charge rate one minute after start, at 5 min. intervals for first 15 min. and at 15 min. intervals

thereafter;

9. Time delay on retransfer for each transfer switch; and
10. Time delay on engine cool-down and shutdown.
5. Load Test: Generator set shall be subjected to a 4 h 100% load test.
6. Building load may serve as part or all of test load if it is continuous, supplemented by a load bank if required. Full load shall equal nameplate kW rating of emergency generator set less applicable derating factors for site conditions. A unity power factor is acceptable for onsite testing, provided that rated load tests at rated power factor have been performed by manufacturer of the emergency generator set prior to shipment.
7. Full load test may be initiated by any method that will start engine and, immediately upon reaching its rated speed, generate full load in one step.
8. Record all data every 15 min.
9. Cycle Crank Test
  1. Cranking cycle as specified in 2.2.9.2 shall be observed and recorded.
  2. Crank cycle shall be repeated a second time to demonstrate that batteries have sufficient capacity for a total cranking time of 60 seconds.
10. Time required to recharge batteries shall the requirement of 2.2.9.7.
11. Safety Shutdown and Alarms: Emergency supply shall be tested as recommended by manufacturer to ensure that all safety shutdowns and alarms respond as specified.
12. Ventilation: During tests, demonstrate that ventilating system can keep the room temperature from exceeding 38°C.
13. Receive parts, books, manuals, drawings and any spare parts or tools supplied with standby generator plant and handover such items to Engineer at completion and acceptance of installation.

### 3.5. TRAINING

1. Provide training for maintenance staff on operation and maintenance of emergency generator system.
2. Allow for two 4 hour on-site classroom type training sessions.

END OF SECTION 26 32 14

## **PART 1 - GENERAL**

### **1.1. GENERAL**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

### **1.2. SECTION INCLUDES**

1. Materials and installation for automatic load transfer equipment which can monitor voltage on all phases of normal power supply, initiate cranking of standby generator unit, transfer loads and shut down standby unit.

### **1.3. REFERENCES**

1. Conform to the requirements of CSA C22.2 No. 178.
2. UL1008 - Standard for Safety - Transfer Switch Equipment

### **1.4. DESIGN CRITERIA**

1. Automatic load transfer equipment to:
  1. Monitor voltage on phases of normal power supply
  2. Initiate cranking of standby generator units on normal power failure or abnormal voltage on any one phase below preset adjustable limits for adjustable period of time.
  3. Transfer load from normal supply to standby unit when standby unit reaches rated speed and voltage
  4. Transfer load from standby unit to normal power supply when normal power restored, confirm by sensing of voltage on phases above adjustable pre-set limit for adjustable time period.
  5. Shut down standby unit after running unloaded to cool down using adjustable time delay relay.
  6. Permit manual bypass isolation of the transfer switch to either the normal or emergency power source without interrupting the load.

### **1.5. SHOP DRAWINGS**

1. Submit shop drawings in accordance with Division 1.

1. Make, model and type.
2. Load classification:
  1. Computer loads
  2. Motor loads
  3. Ballast lamp loads
3. Single line diagram showing controls and relays.
4. Description of equipment operation including:
  1. Automatic starting and transfer to standby unit and back to normal power.
  2. Test control
  3. Manual control
  4. Automatic shutdown

#### 1.6. OPERATION AND MAINTENANCE DATA

1. Provide operation and maintenance data for automatic load transfer equipment for incorporation into manuals.
2. Detailed instructions to permit effective operation, maintenance and repair.
3. Technical data:
  1. Schematic diagram of components, controls and relays
  2. Illustrated parts lists with parts catalogue numbers
  3. Certified copy of factory test results.

#### 1.7. SOURCE QUALITY CONTROL

1. Complete equipment, including transfer mechanism, controls, relays and accessories factory assembled and tested in presence of consultant.

### PART 2 – PRODUCTS

#### 2.1. MATERIALS

1. UL 1008 / CSA certification
2. Meters: to CAN3-C17-M84
3. Instrument transformers: to CAN3-C13-M83.

## 2.2. BREAKER BASED TRANSFER EQUIPMENT

1. Rating: as indicated on drawings.
2. WCR: 50,000A at 600V
3. Open Transition
4. Unswitched Neutral
5. In-Phase Transfer Operation
6. Dual Bypass Isolation
7. Bottom Entry for emergency feeds; Top Entry for Normal Power and Load feeds.
8. The automatic transfer switch shall consist of a power transfer module and a control module, interconnected to provide complete automatic operation. Mechanically held and electrically operated by a single solenoid mechanism energized from the source to which the load is to be transferred.
9. Rated for continuous duty and be inherently double throw.
10. Mechanically interlocked to ensure only one of two possible positions – normal or emergency.
11. Control module shall be supplied with a protective cover and be mounted separately from the transfer switch. The interconnecting wiring harness shall include a disconnect plug to disconnect all wires, including both sources of control power. Sensing and control logic shall be solid state and mounted on plug in printed circuit boards. Printed circuit boards shall be keyed to prevent incorrect installation. Interfacing relays shall be industrial control grade plug in type with dust covers.
12. The electrical rating of the bypass isolation switch shall equal or exceed that of the associated automatic transfer switch.
13. The automatic transfer and bypass isolation switch shall be the product of one manufacturer and be completely factory interconnected and tested so that only the service and load connections to the bypass isolation switch are required for field installation.
14. All interconnections between the transfer switch, bypass switch and isolation switch shall be silver plated copper bus bar. A visual position indicator shall be provided to indicate bypass isolation switch position, and availability of normal and emergency sources. A prominent and detailed instruction plate shall be furnished.

15. The control panel shall meet or exceed the voltage surge withstand capability in accordance with IEEE Standard 472-1974 IANSI C37.90a-1974).
16. All components shall be designed for continuous duty and repetitive load.
17. The entire assembly shall be installed in indoor NEMA Type 1 enclosure.

### 2.3. OPERATION

1. The automatic transfer switch control panel shall utilize solid state sensing on normal and emergency for automatic, positive operation. The following shall be provided:
  1. All phases of the normal supply shall be monitored line-to-line. Close differential voltage sensing shall be provided on all phases.
  2. The generator set shall be started when the normal supply at the transfer switch on one or more phases has been interrupted or is at a voltage that is less than 90% of the nominal system voltage for 2 sec.
2. A time delay on retransfer to normal source. The time delay shall be automatically bypassed if the emergency source fails and normal source is available. The time delay shall be field adjustable from 0.5 to 30 minutes and factory set at 5 minutes.
3. An unloaded running time delay for emergency generator cool-down. The time delay shall be field adjustable from 0 to 5 minutes and factory set at 5 minutes.
4. A time delay on transfer to emergency. Initially set at 0 but field adjustable up to 2 minutes for controlled timing on load transfer to emergency, where indicated.
5. Independent single phase, voltage and frequency sensing of the emergency source. The pickup voltage shall be adjustable from 85% to 100% of nominal. Pickup frequency shall be adjustable from 90% to 100% of nominal. Transfer to emergency upon normal source failure when emergency source voltage is 90% or more of nominal and frequency is 95% or more of nominal.
6. A contact that closes when normal source fails for initiating engine starting, rated 10 A, 32 VDC. Contacts to be gold plated for low voltage service.

### 2.4. ACCESSORIES

1. A green signal light to indicate when the automatic transfer switch is connected to the normal source. A red signal light to indicate when the automatic transfer switch is connected to the emergency source.
2. One auxiliary contact that is closed when automatic transfer switch is connected to normal and one auxiliary contact that is closed when automatic transfer switch is connected to emergency. Rated 10 A, 600 volts, 60 Hz AC.
3. A test switch to simulate normal source failure.

4. Auxiliary relay to provide 1 NO and 1 NC contacts for remote alarms and connections to elevator controller and related systems.
5. Visual indication at control panel and remote audible annunciation if automatic transfer switch is not in automatic mode.
6. Visual indication at control panel and remote audible annunciation if automatic transfer switch is in bypass mode.
7. Transfer switch shall have means for safe, manual mechanical operation.
8. In phase monitor adjusted to signal the transfer switch to operate when the incoming power source is within ten electrical degrees of the connected power source.
9. Transfer control center microprocessor to detail information on:
  - system status
  - power source parameters
  - voltage, frequency, time delay and settings
  - optional settings – historical even lag, system diagnostic

## 2.5. EQUIPMENT IDENTIFICATION

1. Provide equipment identification in accordance with Section 26 05 00 – Common Work Results - Electrical.
2. Control panel:
  1. for selector switch and manual switch: size 4 nameplates
  2. for meters, indicating lights, minor controls: size 2 nameplates

## 2.6. FABRICATION

1. Shop assemble transfer equipment including:
  1. Mounting base and enclosure.
  2. Transfer switch and operating mechanism.
  3. Control transformers and relays.
  4. Accessories.
  5. Manual bypass switch.

## 2.7. STANDARD OF ACCEPTANCE

1. GE
2. ASCO
3. EATON
4. CUMMINS
5. OR APPROVED EQUIVALENT

## PART 3 – EXECUTION

### 3.1. INSTALLATION

1. Locate, install and connect transfer equipment as indicated.
2. Provide 100mm concrete housekeeping pad under floor standing equipment.
3. Check relays and solid state monitors and adjust as required.
4. Install and connect battery and remote alarms as indicated.
5. Provide all required controls and connections between automatic transfer switch and emergency generator.
6. Provide all required connections to elevator controller and related systems.

### 3.2. TESTS

1. Perform tests and verify equipment operation at the time of the engine generator set start up.
2. Energize transfer equipment from normal power supply.
3. Set selector switch in “Test” position to ensure proper standby start, running, transfer, retransfer. Return selector switch to “Auto” position to ensure standby shuts down.
4. Set selector switch in “Manual” position and check to ensure proper performance.
5. Set selector switch in “Engine start” position and check to ensure proper performance. Return switch to “Auto” to stop engine.
6. Set selector switch in “Auto” position and open normal power supply disconnect. Standby should start, come up to rated voltage and frequency, and then load should transfer to standby. Allow to operate for 10 min., then close main power supply disconnect. Load should transfer back to normal power supply and standby should shutdown.



7. Repeat, at 1 h intervals, 4 times. Complete test with selector switch in each position, for each test.

END OF SECTION 26 36 23

## **PART 1- GENERAL**

### **1.1. GENERAL**

1. Division 1, General Requirements is part of this Section and shall apply as if repeated here.

### **1.2. PRODUCT DATA**

1. Submit product data in accordance with Division 1, including:
  1. Electrical data of components, including input and output voltages, operating time, phase, AC and DC ampere ratings.
  2. Mounting methods, dimensional outline and accessories.
  3. Lamp heads type, watt/ampere, lumen output, horizontal and vertical adjustments.
  4. Data for battery, charger and auxiliary instruments and devices.

### **1.3. DELIVERY**

1. Deliver batteries in dry state, unless hermetically sealed.
2. Provide electrolyte in hazard-proof container.

### **1.4. WARRANTY**

1. For batteries, the 12 months warranty period prescribed in subsection GC 32.1 of General Conditions "C" is extended to 120 months, with a no-charge replacement during the first 5 years and a pro-rate charge on the second 5 years.
2. Provide written copy of terms of battery guarantee in maintenance manual, and note date of acceptance for start of guarantee period.

## **PART 2- PRODUCTS**

### **2.1. EQUIPMENT**

1. Unit equipment for emergency lighting: to CSA C22.2 No. 141.
2. Supply voltage: Universal Voltage 120 V.

3. Output voltage: 12 VDC.
4. Battery: sealed, maintenance free, sized to 30 min. operation plus 20% spare capacity. Battery capacity to be 360 W, unless otherwise noted.
5. Charger: solid state, multi-rate, voltage/current regulated, inverse temperature compensated, short circuit protected with regulated output of plus or minus 0.01V for plus or minus 10% input variation.
6. Solid state transfer circuit.
7. Low voltage disconnect: solid state, modular, operates at 80% battery output voltage.
8. Signal lights: solid state, life expectancy 100,000 h minimum, for 'AC Power ON' and 'High Charge'.
9. Cabinet: suitable for direct or shelf mounting to wall and c/w knockouts for conduit. Removable or hinged front panel for easy access to batteries.
10. Finish: white baked enamel.
11. Auxiliary equipment:
  1. Lamp disconnect switch.
  2. Momentary test switch.
  3. Time delay relay.
  4. Battery disconnect device.
  5. Shelf.
  6. Cord and plug connection for ac.
  7. Self-diagnostics (auto-test).

## 2.2. WIRING OF REMOTE HEADS

1. Conduit: type EMT, to Section 26 05 34 – Conduits, Conduit Fastenings and Conduit Fittings.
2. Conductors: RW90 type to Section 26 05 21, sized to limit voltage drop to 5%.

## PART 3- EXECUTION

### 3.1. INSTALLATION

1. Install unit equipment for emergency lighting in accordance with CSA C22.1-12.
2. Install unit equipment and remote mounted fixtures as indicated.
3. Unit equipment shall be mounted with the bottom of the enclosure not less than 2 meters above the floor.
4. Receptacles to which unit equipment is to be connected shall be not less than 2.5 meters above the floor.
5. Connect exit lights to unit equipment as indicated.
6. Clean all heads and direct as indicated by consultant at type of acceptance.
7. Test each unit and verify operation of all remote heads.
8. Unit equipment shall be installed in such a manner that it will be automatically actuated upon failure of the power supply to the normal lighting in the area covered by that unit equipment.
9. For all battery units that are equipped with self-diagnostics (auto-test), ensure that the system is connected as per manufacturer's instructions. Note that some battery packs with self-diagnostics have two circuits and the circuits should be balanced as close as possible for the system to work properly. Also, the DC side of the system must be connected first before the AC is initiated to prevent damage to the circuit board electronics.
10. Provide complete instruction for the operation and maintenance of the unit equipment for emergency lighting as per the OBC and the manufacturer's recommendations. Instructions to include testing unit equipment at least once a month to ensure proper operation. Installation instructions to be posted on the premises in a frame under glass.

END OF SECTION 26 52 01