Domestic Water Piping Replacement, and Miscellaneous Upgrades.

at

St. Mary Catholic School,
290 Algoma Street,
Massey, Ontario.

for the

Huron-Superior Catholic District School Board.

Project No.# P1336

Prime Consultant:
Nor Mech Engineering Inc.
1141 Old Garden River Road,
Sault Ste. Marie, Ont. P6A 6J8
(705) 942-0114

June / 2026

SECTION 00 21 00
INSTRUCTIONS TO BIDDERS

1 GENERAL

1.1 Tenders are requested for: **Domestic Water Piping Replacement and Miscellaneous Upgrades**; all as described herein and/or as per attached documentation.

1.2 The site is located at: **290 Algoma Street, Massey, Ontario.**

1.3 Before bidding carefully examine all drawings, Site, building, and all services thereon; and ascertain extent and nature of all conditions affecting performance of Work.

1.4 Examine all Bid Documents as soon as possible after receipt. Report to the Consultant all errors, omissions, ambiguities, departure from building codes and by-laws or from good practice discovered therein, as soon as possible. It shall be assumed that the Contractor thoroughly understands the Bid Documents, including those particular items about which questions have been raised and Addenda issued.

1.5 **OVERALL PROJECT ~ SCOPE OF WORK**

1). The general intention for this project is to obtain a Contractor whom is capable and willing to work 'Night Shifts' and 'After Hours' from Date of Contract Award, up to completion of project.

2). All **interior renovation work** must be totally completed **by the end of August / 2026**; so that HSCDSB cleaning staff can clean and prepare these upgraded areas for the restart of school. for the restart in September/2026. Also school staff start to return to the school after this date, to start prepping their classrooms, etc.

3). All essential work required for the proper functioning of the School, such as: Incoming power feed work, Washrooms, and School Corridor areas; must be restored and ready for HSCDSB use by end of day on **August 28th, 2026** (i.e. At least **1-week** prior to the restart of school, so that the ADSB staff & custodians can clean and setup these rooms & areas). [Note: Labour Day is Monday ~ September 7th, 2026.]

4). All other remaining work within the School that is considered non-consequential to the proper operation of the school, and that is not completed before the restart of school, will have to be scheduled and coordinated with Consultant & HSCDSB; and this work is to be completed **after** normal Building Operational hours, potentially on P.D. Days (however will need to seek School Board approval), or on weekends, and/or during holidays.

5). After August 28th, 2026, staff will start to return back to school. As such, the school will be considered an 'occupied' building, and so all other remaining work in the School, will again have to occur during 'after school' hours and on weekends, unless otherwise permitted by the Owner. Contractor must allow to remove all construction debris / materials, and all tools shall be collected and stored after each shift, and respective 'construction areas' cleaned & returned to normal operational status, suitable for the next day.

6). Contractor will be required to follow the Huron-Superior Catholic District School Board's safety policies, no-smoking policy, established standards, and their hot work permit process.

7). It is the Contractor's responsibility to ensure and maintain a safe environment for both the building occupants, as well as all subtrades, at all times. All areas of work to always be safely barricaded and fenced off, c/w clear signage.

1.6 **SCOPE OF WORK ~ GENERAL SUMMARY**:

1). Isolate the main incoming water line for the school, and supply & install a new 50mm dia main shutoff ball valve in the southwest corner of the crawlspace. Install new valve +- 3'-6" above the radon poly floor, so that a serviceman can reach valve from floor access door. Contractor to coordinate & arrange for water outage with local Public Utilities and the School Board.

2). Supply & install new crawlspace floor access door, directly above the main water shutoff valve. Cut && modify wood floor joists, and add joist headers & hangers to structurally frame new floor access door. New access door to be constructed of heavy gauge aluminum, checker-plated (non-slip), +- 20" x 36" opening, c/w a concealed hinge access door, floor flange, and secured using security fasteners; all similar to the other school crawlspace floor access doors.

3). Remove & replace the existing main incoming 50mm domestic water line in the crawlspace, up to and including inside the Basement Electrical Room and existing DHW Tank. New incoming piping to be complete with thermal insulation c/w white vinyl PVC jacketing.

4). Rework, modify, & add new thermostats, miscellaneous accessories, and DHW Recirculation System to the existing DHW Tank in the Basement Electrical Room, as indicated on the DHWT schematic detail. Provide new two 15A/120V circuits from existing adjacent Basement electrical panel, with one circuit to feed a new GFCI receptacle for DHWT Leak Detection system, and the other circuit to feed the new DHW Recirculation pump/timer.

5). Completely remove all existing domestic water lines (DCW & DHW) in the crawlspace and Basement Electrical Room. All existing plumbing fixtures are to be re-fed using new domestic water lines c/w isolation valves from above, via the T-bar ceiling space of the Ground Floor. No domestic water lines are to remain in the crawlspace, other than the main incoming water line.

6). Temporarily remove the existing plumbing fixtures (1-watercloset, & 1-lavatory) in the Universal B/F Washroom, in order to open up sections of the existing painted drywall (east) stud wall, to remove old domestic water piping being fed from crawlspace, and supply & install new domestic water lines from T-bar ceiling space, down within wall cavity, to re-feed the plumbing fixtures. Then re-construct wall, supply & install gypsum board wall patches as required c/w primer coat and matching 2-tone paint finish. Re-install plumbing fixtures, and return Universal Washroom back to it's pre-construction finishes and condition.

7). Temporarily remove the existing plumbing fixtures (1-clothes washer, & 1-laundry tub) in the Workroom, in order to open up sections of the existing painted drywall (south) stud wall, to remove old domestic water piping being fed from crawlspace, and supply & install new domestic water lines from T-bar ceiling space, down within wall cavity, to re-feed the plumbing fixtures. Then re-construct wall, supply & install gypsum board wall patches as required c/w primer coat and matching 2-tone paint finish. Re-install plumbing fixtures, and return Workroom back to it's pre-construction finishes and condition.

8). Construct a new pipe chase from floor to ceiling, in the southwest corner of the Girls

Washroom#1, to conceal new DCW feed for the Corridor drinking fountain. Provide new ceramic wall tile (six rows high of 12" square wall tiles) c/w painted drywall for upper portion of new pipe chase; all to match existing finishes. Provide matching floor wall base, and return Washroom back to it's pre-construction finishes and condition.

9). Temporarily remove the existing plumbing fixtures (1-watercloset, 2-urinals, & 1-washfountain), toilet stall partitions, as well as ceramic wall tiles (south wall) in the Boy's Washroom#1, in order to open up wall, to remove old domestic water piping being fed from crawlspace, and supply & install new domestic water lines from T-bar ceiling space, down within wall cavity, to plumbing fixtures serving the Girls Washroom#1 and the Boys Washroom#1. Then re-construct wall, supply & install matching ceramic wall tile & moulding, and then re-install toilet partitions and plumbing fixtures. Essentially, return Boys Washroom#1 back to it's pre-construction finishes and condition.

10). Temporarily remove the existing plumbing fixtures (1-watercloset, & 1-lavatory) in the Principal Office's Washroom, in order to open up sections of the existing painted drywall (west) stud wall, to remove old domestic water piping being fed from crawlspace, and supply & install new domestic water lines from T-bar ceiling space, down within wall cavity, to re-feed the plumbing fixtures. Then re-construct wall, supply & install gypsum board wall patches as required c/w primer coat and matching 2-tone paint finish. Re-install plumbing fixtures, and return Principal Office's Washroom back to it's pre-construction finishes and condition.

11). Temporarily remove the existing mop sink basin in the Janitor Room, in order to open up section of the existing painted drywall (south) stud wall, to remove old domestic water piping being fed from crawlspace, and supply & install new domestic water lines from T-bar ceiling space, down within wall cavity, to re-feed the mop sink basin. Then re-construct wall, supply & install gypsum board wall patches as required c/w primer coat and matching 2-tone paint finish. Re-install mop sink basin, and return the Janitor Room back to it's pre-construction finishes and condition.

12). Temporarily remove the existing plumbing fixtures (2-waterclosets, 2-urinals, & 1-washfountain), toilet stall partitions, as well as ceramic wall tiles (south wall) in the Boy's Washroom#2, in order to open up wall, to remove old domestic water piping being fed from crawlspace, and supply & install new domestic water lines from T-bar ceiling space, down within wall cavity, to plumbing fixtures serving the Girls Washroom#2, exterior hose bib, and the Boys Washroom#2. Then re-construct wall, supply & install matching ceramic wall tile & moulding, and then re-install toilet partitions and plumbing fixtures. Essentially, return Boys Washroom#2 back to it's pre-construction finishes and condition.

13). Temporarily remove Corridor drinking fountain and existing vertical section of drywall behind the drinking fountain, in order to remove old domestic cold water piping that is being fed from crawlspace, and supply & install new domestic cold water line down from the T-bar ceiling space, within wall cavity. Then re-install painted drywall to match existing adjacent Corridor wall finishes, and re-install the drinking fountain.

14). Disconnect & remove old domestic water piping feeding the Classroom#5 (Kindergarten) double S.S. sink and Dishwasher, from the crawlspace below. Remove section of closet stud wall, in order to supply & install new domestic water lines down from T-bar ceiling space, concealed within the stud wall cavity, to then run through the back of the lower cabinetry, to re-feed the existing sink and dishwasher. Then re-construct wall, and supply & install painted drywall to match adjacent closet wall finishes.

15). All domestic water piping (DCW, DHW, & DHWR) shall all be thermally insulated c/w white vinyl PVC jacketing, and all piping shall be installed c/w identification labelling

16). Remove the +-30 inch section of Upper & Lower cabinets in the northeast corner of the Childcare Room, including the relocation of the existing single S.S. sink, faucet, & piping to the next section of Lower cabinets, in order to accommodate new electrical chaseway.

17). Supply & install new electrical chaseway (approximately 30" wide x 24" deep x 9'-0" high), in order to conceal new electrical feeder cables/conduit for the school's existing 600A-347/600V-3Phase electrical service. Chaseway to be constructed of 2"x4" metal studs at 16" centres c/w 5/8" painted drywall (1-primer + 2-coats) to match adjacent wall finishes. Provide rubber cove baseboard to match existing.

18). Supply & install new incoming electrical service feeders from the hydro pole at the Street, underground in new trench up to the school building, c/w PVC frost expansion fittings at ground penetration, and PVC LB 90 elbows into new electrical chaseway, and then route feeders into the Main Electrical Room, to re-feed the existing 600A-347/600V-3Phase main disconnect switch. Use 2 runs of 4#350MCM RWU90 in 3"dia PVC conduits. Refer to trench detail.

19). Contractor to coordinate and arrange disconnection and new electrical feeder connections for the school, with the local Power Utility Company and the School Board. Electrical outage to be completed during the day this summer, and shall coordinated in advance with Owner.

20). Contractor is responsible to temporarily remove existing T-bar acoustic mineral ceiling tiles, in order to facilitate new domestic water piping installations, and then re-install ceiling tiles.

21). Supply & install numbered 'valve tags' on all new isolation valves, and install frame valve chart in Basement Electrical Room.

2 PRE-TENDER SITE VISIT

2.1 There will be a non-mandatory Pre-Tender site visit and walkthrough for all Bidders, which will be held on **Thursday ~ June 18th, 2026 at 11:00am**.

2.2 Bidders are asked to meet the Consultant and Owner's Representative at the Main School Entrance, on the east side of the building.

3 SCHEDULE OF WORK

3.1 The Schedule of work and project Timelines are estimated and anticipated to be as follows:

June 10, 2026	Tender Announcement.
June 18, 2026	Pre-Tender Site Visit & Walkthrough (Thursday at 11:00 am).
June 25, 2026	**Tenders Due** at office of Consultant (on or before 12:00:00h noon).
June 26, 2026	Project Award (estimated).
Sept. 8, 2026	Substantial Completion.
Sept. 18, 2026	Estimated Total Project Completion. (12 weeks)

3.2 It is the Contractor's responsibility to ensure and maintain a safe environment at all times, for both the building occupants, as well as for their own tradespeople.

3.3 As applicable, all areas of work to always be safely barricaded c/w clear signage; and all as per the Ministry of Labour standards.

3.4 Contractor to ensure that Occupants have clear access to emergency exits at all times.

3.5 When the school is occupied, the Contractor will be responsible to thoroughly clean up tools & construction debris from all areas of work after each shift, and make areas safe for Occupants.

3.6 When the building is occupied, the Contractor will be required to schedule and work around building staff and occupants, so as to cause the least amount of disruption to their daily routines & operations.

3.7 Bidder is advised that the Owner will not reimburse the bidder for any costs incurred in preparation of a tender proposal.

4 ADDENDA

4.1 During bidding period, Bidders may be advised by Addenda of required additions to, deletions from, alterations or clarification to requirements of Bid Documents. All such changes shall become an integral part of Bid Documents and shall be included in the Contract Price.

4.2 Insert, in space provided on Bid Form, numbers of all Addenda received during bidding period including any bound into Specifications.

4.3 If no Addenda have been received insert the word "NONE" instead.

5 QUERIES DURING BIDDING PERIOD

5.1 Address all queries regarding Bid Documents during bidding period to:

Nor Mech Engineering Inc.
1141 Old Garden River Road
Sault Ste. Marie, ON P6A 6J8
Telephone: (705) 942-0114
Email: david@normecheng.ca

Contacts:
Prime Consultant / Project Lead: David Barban, P.Eng., Consulting Engineer.
Project Supervision Assistant: Todd Suriano, Project Assistant

6 MATERIAL VARIATIONS

6.1 Bidders may submit alternates to meet material delivery timelines, or to reduce costs; but the

alternates must not decrease quality, functionality, and/or performance; and must not delay completion of project.

6.2 Note that this is a **base bid** specification. Materials or articles specified by brand name or catalogue number and/or by the name of the manufacturer or supplier will form the basis of the Contract.

6.3 Propose any substitutions for materials or equipment under the following conditions:

(a) Base the Contract Price on the materials and equipment specified.

(b) List all proposed alternates in the appropriate section of the Bid Form, showing the product name and stating what difference, if any, would be made in the amount of the Contract Price for each alternate, should it be accepted.

(c) Any or all such alternates may be accepted or rejected by the Consultant / Owner. In the event of acceptance the Contract Price will be changed accordingly.

7 BID COMPLETION AND SUBMISSION

7.1 Each Bid shall state Stipulated Price for which Bidder will undertake to carry out the Work required by Bid Documents.

7.2 Make two copies of Bid Form, and retain one for your records. Return one copy of Bid Form, completed exactly as required, enclosed and sealed in an envelope. Fill in all blank spaces. Put the name of the project, your return address and company name on the envelope.

7.3 Bids may be submitted by telecommunications (email only). However, **emailed bids** must also include a copy of the required **Bid Bond,** and a copy of required **agreement to bond/consent of surety**. Emailed Bids must be received by designated office prior to established time for closing of Bids; and all emailed Bid transmissions are solely at the contractor's own risk.

7.4 Any Bid to be submitted with a tender deposit in the form of a certified cheque or bank draft, must be **hand delivered in sealed envelope**; and must be received by designated office prior to established time for closing of Bids.

7.5 Type or legibly print using ink, Bidder's full business name and address in spaces provided on Bid Form. Sign and seal Bid in space provided. Signatures shall be executed in longhand by the principal duly authorized to sign contracts.

7.6 Deliver sealed bids to the office of the Consultant, addressed as follows:

To: Huron-Superior Catholic District School Board.
c/o: Nor Mech Engineering Inc.
1141 Old Garden River Road,
Sault Ste. Marie, Ontario
P6A 6J8

Reference: **St. Mary Catholic School (Massey, ON.) ~ Domestic Water Piping Replacement and Miscellaneous Upgrades. (Project No.# P1336)**

at or before **12:00:00 NOON LOCAL TIME on THURSDAY, JUNE 25th, 2026**.

7.6 Bidder submitting more than one bid under same or different name will not be accepted.

7.6 Bid Form shall be completed without illegible alterations or erasures.

7.7 Upon receipt, Bid envelope will be dated and time recorded by the designated Office.

7.8 Bids received after the designated closing time shall be considered invalid.

8 TAXES

8.1 Include on your Bid Form, the amount of Harmonized Sales Tax. In case of Mathematical Discrepancy, the Stipulated Price shall prevail.

9 ALTERNATE PRICES

9.1 Insert in the spaces provided on the Bid Form 'alternate prices', if any, for all proposed substitutions.

9.2 All **Alternate Prices** included on the Bid Form shall not be included in the Stipulated Price.

9.3 Owner reserves the right to either accept or reject Alternate Prices, whichever is in the best interest of the Owner.

9.4 Owner reserves the right to award tender based solely upon the Base Bid, or based upon the combination of all or some of the Alternate Prices plus the Base Bid; whichever is in the best interest of the Owner.

10 PERMITS

10.1 All applicable Permit Costs associated with this project (i.e. Building Permit, Electrical Permit, Disposal Permit, etc.), shall be included in the Stipulated Price. The Contractor shall be responsible to apply and pay for all permits.

11 ACCEPTANCE OF BID

11.1 The Owner reserves the right to disqualify Bids not submitted in strict accordance with requirements of Bid Document.

11.2 Lowest or any Bid will not necessarily be accepted.

11.3 The Owner reserves the right to delete portions of the Work prior to the award of the Contract. The Contractor shall not be entitled to compensation for any costs which may arise because of any deletions.

11.4 Owner reserves the right to award tender based solely upon the Base Bid, or based upon the combination of all or some of the Alternate Prices plus the Base Bid; whichever is in the best interest of the Owner.

11.5 Bid shall remain valid and open for acceptance by the Owner for a period of sixty (60) days from date of bid closing, or until a Letter of Intent is issued or formal contract is executed by the Owner and successful bidder, whichever is sooner.

11.6 The successful Bidder shall commence project immediately upon receipt of Letter of Intent.

12 TENDER DEPOSIT / BID SECURITY

12.1 Every tender shall be accompanied by tender deposit in the form of a certified cheque, bank draft or bid bond payable to the Owner in the amount equal to **$ 5,000.00**.

12.2 Such deposit shall be security to the Owner that the bidder, if successful, will execute the contract documents and will start work as specified.

12.3 The bid bond shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the province of Ontario. The form of the bond shall be in accordance with the latest edition of the CCDC approved bond forms.

12.4 Failure to execute the documents, or failure to start work as specified, will result in forfeiture of the tender deposit.

12.5 Bid Security of all bidders, except of the successful bidder will be returned within three (3) working days after award of the contract.

12.6 The tender deposit of the successful bidder will be returned when the Contract Documents have been executed, and all other requirements of confirming the tender have been met.

12.7 The above shall constitute notice in writing prior to submission of tender proposals. The Contractor shall pay all premiums.

12.8 Tenders not accompanied by the tender deposit will be declared invalid.

13 AGREEMENT TO BOND/CONSENT OF SURETY

13.1 Submit with your Bid, Agreement to Bond or Consent of Surety issued by an approved Bank or Surety.

13.2 This requirement is waived if the Bid Security was submitted in the form of a Certified Cheque or Bank Draft.

13.3 Bids not accompanied by an Agreement to Bond or Consent of Surety will be declared informal and be disqualified.

13.4 Agreement to Bond or Consent of Surety will be returned to all Bidders as promptly as possible after execution of a Contract with the successful Bidder.

13.5 Agreement to Bond or Consent of Surety shall confirm that the Surety will issue the Contract security specified in the Contract Documents if the Bidder's Bid is accepted.

13.6 The Tender Deposit in the form of a Certified Cheque or Bank Draft of the successful proponent, shall be kept until specified 'Contract Security' is provided.

14 CONTRACT SECURITY

14.1 The contractor shall within fifteen (15) days of receipt of notice accepting tender offer, pay all respective premiums and provide to the Owner the following Contract Security:

14.2 Contract Security in the form of a Certified Cheque or Bank Draft, made payable to the Owner in the amount equal to **$ 30,000.00**. (*Will be returned after project Total Completion is achieved*).

Or,

14.3 Contract Security in the form of Bonding:

14.3.1 A **Performance Bond** equal to fifty (50%) percent of the Stipulated Contract Price.

14.3.2 A **Labour and Material Payment Bond** will not be required.

14.4 Bonding shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the province of Ontario, and shall maintain in good standing until the fulfilment of the Contract. The form of the bond shall be in accordance with the latest edition of the CCDC approved bond forms.

14.5 The Bonding shall be issued by the Surety Company providing the Agreement to Bond or Consent of Surety and shall provide performance security to the Owner in order to secure the due and faithful performance of the Contract in the event of the Contractor's failure to faithfully perform the Contract, whether from bankruptcy or otherwise, for all expenses incurred to properly complete the work, including legal fees, additional consultant fees, etc.

14.6 If the Contractor fails to meet the requirements of this article then the Owner at its sole option shall have the right to terminate the Contract and use the bid security toward damages.

15 CLEARANCES & MISCELLANEOUS SUBMITTAL REQUIREMENTS

15.1 Upon acceptance of bid, Contractor shall provide **Proof of Insurances**, and submit **W.S.I.B. Clearance certificate**.

15.2 Submit a 'Statutory Declaration' with progress draw submissions, as applicable.

16 INSURANCE

16.1 Liability Coverage: Amount of coverage to be minimum **$5 million** per occurrence. Both the Owner and Consultant to be shown as **additional insured**.

16.2 Automobile Liability Coverage: Amount of coverage to be minimum **$5 million** per occurrence.

17 FORM OF CONTRACT

17.1 The form of Contract will most likely be CCDC 2-2020 - 'Stipulated Price Contract'. Unless amended or altered in Supplementary General Conditions, all of CCDC-2 2020, including provisions for amounts and form of Insurance shall apply to this Contract.

18 ALLOWANCES

18.1 **Contingency Allowance**: - A Project contingency allowance shall be carried to cover any unforeseen items that might be uncovered or arise during construction.

Contractor is NOT to include mark-up on the Contingency Allowance within their stipulated bid price. If the contingency allowance is used, Contractor is permitted to 10% overhead & 5% profit mark-up. Any amount of contingency allowance that is not utilized, shall revert back to Owner.

This Contingency Allowance for this project shall be in the amount of: **$ 10,000 + HST.**

18.2 **Cash Allowances**:

'Asbestos Abatement' Allowance: - for any costs required to properly remove any asbestos that may be found, that is preventing the execution of the contract. **$ 5,500 + HST.**

'Local Public Utility Company' Allowance: - for any costs required to isolate the incoming water & power services, to accommodate these renovations and upgrades. **$ 9,500 + HST.**

Contractor mark-up on this Cash Allowance is to be included within their stipulated bid price. Any amount of cash allowance that is not utilized, shall revert back to Owner.

End of Section

1 GENERAL AND SUPPLEMENTARY CONDITIONS

1.1 The Standard Construction Document for Stipulated Price Contract, (CCDC2 2020 - English Version), consisting of the Agreement between Owner and Contractor, Definitions, and General Conditions of the Stipulated Price Contract, Parts 1 to 12 inclusive, governing same is hereby made part of these Contract Documents, with the following amendments, additions and modifications:

1.2 ARTICLE A-9: CONFLICT OF INTEREST

1.2.1 Add new Article A-9 - Conflict of Interest:

1.2.1.1 "9.1 The *Contractor*, all of the *Subcontractors,* and any of their respective advisors, partners, directors, officers, employees, agents, and volunteers shall not engage in any activity or provide any services where such activity or the provision of such services creates a conflict of interest (actually or potentially, in the sole opinion of the *Owner*) with the provision of the *Work* pursuant to the *Contract*. The *Contractor* acknowledges and agrees that a conflict of interest includes the use of *Confidential Information* where the *Owner* has not specifically authorized such use."

9.2 The *Contractor* shall disclose to the *Owner*, in writing, without delay any actual or potential situation that may be reasonably interpreted as either a conflict of interest or a potential conflict of interest, including the retention of any *Subcontractor* or *Supplier* that is directly or indirectly affiliated with or related to the *Contractor*.

9.3 A breach of this Article by the *Contractor*, any of the *Subcontractors,* or any of their respective advisors, partners, directors, officers, employees, agents, and volunteers shall entitle the *Owner* to terminate the *Contract*, in addition to any other rights and remedies that the *Owner* has in the *Contract*, in law, or in equity."

1.3 DEFINITIONS

1.3.1 Add the following definition: "29. Submittals: Submittals are documents or items required by the Contract Documents to be provided by the Contractor, such as:

1.3.1.1 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

1.3.1.2 Record drawings and manuals to provide instructions to the operation and maintenance of the Work.

1.3.2 Add the following definition: "30. As-Built Drawings: As-Built Drawings means drawings prepared by the *Contractor* by marking on a copy of the Drawings the changes from the Drawings which occur during construction including, but are not limited to the exact location of major building components that were shown generally on the Drawings.

1.4 GENERAL

1.4.1 Where a General Condition or paragraph of the General Conditions of the Stipulated Price Contract is deleted by these Supplementary Conditions, the numbering of the remaining General Conditions or paragraphs shall remain unchanged, and the numbering of the deleted item will be retained, unused.

1.5 G.C. 1.1 CONTRACT DOCUMENTS

1.5.1 Add to end of subparagraph 1.1.6.2: “Except where the Consultant shall be indemnified as a third party beneficiary as provided in subparagraphs 9.2.7.4, 9.2.8.4, 9.5.2.4, 9.5.3.4, and in 13.1.1.”

1.5.2 Add new paragraph 1.1.12:

1.5.2.1 1.1.12 The *Owner* shall provide the *Contractor*, without charge, a PDF digital copy of the Contract Documents. The Contractor is responsible for printing of copies.

1.6 G.C. 1.4 ASSIGNMENT

1.6.1 Delete paragraph 1.4.1 in its entirety, and substitute new paragraph 1.4.1:

1.6.1.1 1.4.1 The *Owner* may assign the *Contract* or a portion thereof without the consent of the *Contractor*, where such assignment is to an entity undertaking the *Project*. The Contractor may not assign the Contract or a portion thereof without the consent of the Owner, and the granting of such consent shall be in the Owner’s discretion, not to be unreasonably withheld.

1.7 G.C. 2.2 ROLE OF THE CONSULTANT

1.7.1 Add the word ‘schedules’ after the word ‘techniques’ in paragraph 2.2.5.

1.7.2 Add to the end of the second sentence of paragraph 2.2.5: “or to adhere to the construction schedule”.

1.7.3 Add at the end of paragraph 2.2.5: “The Owner and the Contractor shall waive any claims against the Consultant arising out of the making of such interpretations and findings in accordance with paragraphs 2.2.6., 2.2.7., and 2.2.8".

1.7.4 Delete the comma after the word ‘submittals’, and add the words: “which are provided” before the words ‘in accordance’ in paragraph 2.2.13.

1.7.5 Add a new sentence to end of paragraph 2.2.10" “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".

1.8 **G.C. 2.4 DEFECTIVE WORK**

1.8.1 Add new sentences 2.4.1.1 and 2.4.1.2:

1.8.1.1 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.

1.8.1.2 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.

1.9 **G.C. 3.1 CONTROL OF THE WORK**

1.9.1 Add the word "schedules" after the word 'techniques' in paragraph 3.1.2.

1.9.2 Add new paragraph 3.1.3:

1.9.2.1 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.

1.10 **G.C. 3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS**

1.10.1 Add new subparagraph 3.2.3.5:

"3.2.3.5 - Subject to General Condition 9.4 - CONSTRUCTION SAFETY, where paragraph 3.2.4 of General Condition 3.2 - CONSTRUCTION BY OWNER OR OTHER CONTRACTORS applies, for the *Owner's* own forces and for other contractors performing work identified in the *Contract Documents*, assume overall responsibility for compliance with all aspects of the applicable health and safety legislation in the *Place of the Work*, including all of the responsibilities of the constructor as that term is defined in the *Occupational Health and Safety Act*, R.S.O 1990, c. O.1, as amended."

1.11 **G.C. 3.6 SUB-CONTRACTORS AND SUPPLIERS**

1.11.1 Delete the words 'through the Consultant' in paragraph 3.6.6.

1.12 G.C. 3.7 LABOUR AND PRODUCTS

1.12.1 Delete paragraph 3.7.3, and replace with new paragraph 3.7.3:

1.12.1.1 "3.7.3 - Unless otherwise specified in the Contract Documents, Products provided shall be new and as specified. The *Contractor* shall not provide substitutions for specified Products without the express written consent of the Consultant and the Owner."

1.12.2 Add new paragraph 3.7.4:

1.12.2.1 "3.7.4 - The Contractor is responsible for the safe on-site storage of Products and their protection (including Products supplied by the Owner and other contractors to be installed under the Contract), in such ways as to avoid dangerous conditions or contamination to the Products or other persons or property and in locations at the Place of the Work to the satisfaction of the Owner and the Consultant. The Owner shall provide all relevant information on the Products to be supplied by the Owner."

1.12.3 Add new paragraph 3.7.5:

1.12.3.1 "3.7.5 - The *Contractor* shall comply with all requirements set out in the *Fair Wage* Program Labour Conditions. The hours of work, the rates of wages paid, and the working conditions shall be in accordance with the Labour Conditions and applicable Schedule of Fair Wage Rates, included therein, as amended from time to time."

1.13 G.C. 3.8 SHOP DRAWINGS

1.13.1 Add the words" AND OTHER SUBMITTALS" to the Title after SHOP DRAWINGS.

1.13.2 Add "and Submittals" after the words 'Shop Drawings' in paragraphs 3.8.1, 3.8.2, 3.8.3, 3.8.3.2, 3.8.5, 3.8.6, and 3.8.7.

1.14 GC 3.14 PERFORMANCE BY CONTRACTOR

1.14.1 Add new General Condition 3.14.1 and 3.14.2:

1.14.1.1 3.14.1 - In performing its services and obligations under the Contract, the Contractor shall exercise a standard of care, skill and diligence that would normally be provided by an experienced and prudent contractor supplying similar services for similar projects. The Contractor acknowledges and agrees that throughout the Contract, the Contractor's obligations, duties, and responsibilities shall be interpreted in accordance with this standard. The Contractor shall exercise the same standard of due care and diligence in respect of any products, personnel, or procedures which it may recommend to the Owner.

1.14.1.2 3.14.2 - The Contractor further represents, covenants, and warrants to the Owner that:

1.14.1.2.1 .1 The personnel it assigns to the Project are appropriately experienced;

1.14.1.2.2 .2 It has sufficient staff of qualified and competent personnel to replace its designated supervisor and project manager, subject to the Owner's approval, in the event of death, incapacity, removal, or resignation.

1.15 GC 3.15 PERFORMANCE OF CONTRACTOR

1.15.1 Add new General Condition 3.15.1, and 3.15.2:

1.15.2 "3.15.1 - In performing its services and obligations under the *Contract*, the *Contractor* shall exercise the standard of care, skill, and diligence that would normally be provided by an experienced and prudent contractor supplying similar services for similar projects. The *Contractor* acknowledges and agrees that throughout the *Contract,* the performance of the *Contractor's* obligations, duties, and responsibilities shall be judged against this standard. The *Contractor* shall exercise the same standard of care, skill, and diligence in respect of any *Products*, personnel, or procedures which it may recommend to the *Owner*."

1.15.3 "3.15.2 - The *Contractor* further represents, covenants and warrants to the *Owner* that:

.1 the personnel it assigns to the *Project* are appropriately experienced;

.2 it has a sufficient staff of qualified and competent personnel to replace any of its appointed representatives, subject to the *Owner's* approval, in the event of death, incapacity, removal or resignation; and

.3 there are no pending, threatened or anticipated claims that would have a material effect on the financial ability of the *Contractor* to perform its work under the *Contract*."

1.16 GC 3.16 RIGHT OF ENTRY

1.16.1 Add new General Condition 3.16.1:

1.16.2 "3.16.1 - The *Owner* shall have the right to enter or occupy the *Work* in whole or in part for the purpose of placing fittings and equipment or for other uses before *Substantial Performance of the Work*, if, in the reasonable opinion of the *Consultant* and *Contractor*, such entry or occupation does not prevent or substantially interfere with the *Contractor's* completion of the *Contract* within the *Contract Time*. Such entry or occupation shall not be considered as acceptance of the *Work* or in any way relieve the *Contractor* from responsibility to complete the *Contract*."

1.17 GC 4.1 CASH ALLOWANCES

1.17.1 Delete paragraph 4.1.4 in its entirety, and substitute new paragraph 4.1.4:

1.17.1.1 4.1.4 - Where the actual cost of the Work under any cash allowance exceeds the amount

of the allowance, any unexpended amounts from other cash allowances shall be reallocated, at the Consultant's direction, to cover the shortfall, and, in that case, there shall be no additional amount added to the Contract Price for overhead and profit. Only where the actual cost of the Work under all cash allowances exceeds the total amount of all cash allowances, shall the Contractor be compensated for the excess incurred and substantiated, plus an amount for overhead and profit on the excess only, as set out in the Contract Documents.

1.17.2 Delete paragraph 4.1.7 in its entirety, and substitute new paragraph 4.1.7:

1.17.2.1 4.1.7 - The Contractor shall prepare a schedule that shows when the Owner must authorize ordering of items called for under cash allowances to avoid delaying the progress of work.

1.17.3 Add new paragraph 4.1.8: "The Owner reserves the right to call, or to have the Contractor call, for competitive bids for portions of the Work, to be paid for from cash allowances.

1.18 GC 5.2 APPLICATIONS FOR PAYMENT

1.18.1 Add to the end of paragraph 5.2.8, the following new sentence:

1.18.1.1 "5.2.8 - 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 that title has passed to the Owner."

1.19 GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK

1.19.1 Add new paragraphs 5.4.7, 5.4.8, 5.4.9, 5.4.10, and 5.4.11:

1.19.1.1 "5.4.7 - Immediately prior to the issuance of the certificate of *Substantial Performance of the Work*, the *Contractor*, in consultation with the *Consultant*, shall establish reasonable dates for finishing the *Work* and correcting deficiencies."

1.19.1.2 "5.4.8 - Within 7 calendar days of receiving a copy of the certificate of *Substantial* Performance of the Work signed by the *Consultant*, the *Contractor* shall publish a copy of the certificate in a construction trade newspaper (as that term is defined in the *Construction Act* or the regulations promulgated thereunder) and shall provide to the *Consultant* and the *Owner* the date of publication and the name of the construction trade newspaper in which the publication occurred. If the *Contractor* fails to comply with this provision, the *Owner* may publish a copy of the certificate and charge the *Contractor* with the costs so incurred."

1.19.1.3 "5.4.9 - Prior to submitting its written application for *Substantial Performance of* the Work, the *Contractor* shall submit to the *Consultant* all:
.1 guarantees;
.2 warranties;

.3 certificates;
.4 testing and balancing reports;
.5 distribution system diagrams;
.6 spare parts;
.7 maintenance manuals;
.8 samples;
.9 existing reports and correspondence from authorities having jurisdiction in the *Place of the Work*;
.10 As-Built Drawings

and other materials or documentation required to be submitted under the Contract, together with written proof acceptable to the *Owner* and the Consultant that the *Work* has been substantially performed in conformance with the requirements of municipal, governmental, and utility authorities having jurisdiction in the *Place of the Work*."

1.19.1.4 "5.4.10 - Except for payment of holdback, from which amounts can only be retained or withheld in accordance with the *Construction Act*, should the *As-Built* Drawings not be delivered in accordance with subparagraph 5.4.9 or any documents or materials not be delivered in accordance with paragraph 5.4.9 by the earlier of 50 days following the date of *Substantial Performance of* the Work and the submission of the *Contractor's* application for final payment under paragraph 5.5.1 of General Condition 5.5 – FINAL PAYMENT, then the amount previously retained shall be forfeit to the *Owner* as compensation for the damages deemed to have been incurred by the *Owner*, and not as a penalty, arising from the failure to deliver the documents or materials, and the Contract Price shall be reduced accordingly."

1.19.1.5 "5.4.11 - Together with the submission of its written application for *Substantial* Performance of the Work, the *Contractor* shall submit to the *Consultant* and to the *Owner* a statutory declaration setting forth in reasonable detail any then outstanding and unresolved disputes or claims between the *Contractor* and any *Subcontractor* or *Supplier,* including any claims allegedly arising from delay, which are, directly or indirectly, related to any then outstanding or anticipated disputes or claims between the *Contractor* and the *Owner,* and this disclosure shall, at a minimum:

.1 identify the parties involved;
.2 identify the amount in dispute;
.3 provide a brief statement summarizing the position of each party;
.4 include copies of any correspondence or documents in support of either party's position;
.5 include copies of any documents of any court or arbitration process related to the matter;
.6 identify the dispute or claim between the *Contractor* and the *Owner* to which the matter relates; and
.7 include a copy of any written agreement or a summary of any oral agreement between the parties related to resolution of the matter.

The disclosure requirements detailed herein are of a continuing nature and survive completion of the *Work*. Accordingly, the *Contractor* shall supplement the information provided with the original statutory declaration with additional materials pertaining to new or existing disputes or claims, as they become available. The *Contractor* shall not be entitled to recover from the *Owner* any amount pertaining to any claim or dispute referred

to in this paragraph, if the provisions of this paragraph have not been fully complied with. For greater certainty, the *Contractor* is not obliged to make the aforementioned disclosure with respect to any dispute or claim that is not related to or does not touch upon any then outstanding and unresolved dispute or claim between the *Contractor* and the *Owner*."

1.20 **GC 5.5 FINAL PAYMENT**

1.20.1 Delete paragraph 5.5.1 in its entirety, and substitute new paragraph 5.5.1:

1.20.1.1 "5.5.1 - When the *Contractor* considers that the *Work* is completed, the *Contractor* shall submit an application for final payment. The *Contractor's* application for final payment shall be accompanied by any documents or materials not yet delivered pursuant to paragraph 5.4.9. The *Work* shall be deemed not to be performed until all of the aforementioned documents have been delivered."

1.20.2 Delete from the first line of paragraph 5.5.2 the words, "calendar days" and substitute the words: "*Working Days*".

1.20.3 Delete from the second line of paragraph 5.5.4 the words, "calendar days" and substitute the words: "*Working Days*".

1.21 **GC 6 CHANGES IN THE WORK**

1.21.1 Add new paragraphs 6.2.3, 6.2.4, 6.2.5, and 6.2.6 as follows:

1.21.2 "6.2.3 - The valuation of a change shall be determined by estimate and acceptance, or n the case of a change directive the actual time and material costs, in a lump sum with the following maximum fees chargeable:

1.21.2.1 Work by the Contractor's own forces:

1.21.2.1.1 Additional Work (Extra) - to the cost of materials including equipment, and labour, and statutory charges applicable to Labour costs only, add 5% for overhead and 10% for profit.

1.21.2.1.2 Less Work (Credit) - the cost of materials including equipment, and labour, and statutory charges applicable to Labour costs, are to be deducted from the Contract amount.

1.21.2.2 Work by Subcontractor:

1.21.2.2.1 Additional Work (Extra) - to the cost of materials including equipment, and labour, and statutory charges applicable to Labour costs only, add 5% for overhead and 10% for profit.

1.21.2.2.2 Less Work (Credit) - to the cost of materials including equipment, and labour, and statutory charges applicable to Labour costs, are to be deducted from the Contract

amount.

1.21.2.3 Contractor's Fee on Work by Subcontractor:

1.21.2.3.1 Additional Work (Extra) - Add 10% for combined overhead and profit.

1.21.2.3.2 Less Work (Credit) - no Fee applicable.

1.21.2.4 Overhead:

1.21.2.4.1 Overhead shall include all costs for items required by Division 0 - Instructions to Bidders, and Division 1 - General Requirements.

1.21.2.5 "6.2.4 - In no event shall the maximum aggregate mark-up applied by all levels of contract for overhead and profit exceed 40% of an approved change.":

1.21.2.6 "6.2.5 - Where the cost of a proposed change is a credit to the *Contract Price*, such credit shall be exclusive of the *Contractor's* overhead and profit."

1.21.2.7 "6.2.6 - The *Contractor's* overhead includes without limitation all site and head office costs, including:

1.21.2.7.1 head office personnel, insurance and bonding (except where additional bonding is at the *Owner's* expense pursuant to sub-paragraph 11.2.3), travelling costs, financing costs including those related to hold back;

1.21.2.7.2 the salaries, premiums for overtime or shift time (unless otherwise approved by the *Owner* in writing prior to the *Work* being performed);

1.21.2.7.3 and other miscellaneous employee benefits and costs for superintendents and sub-trade superintendence, foreman, site supervisor, material handling, cleanup, office administration, timekeepers, accountants, clerks, watch persons and security; processing correspondence, changes, shop drawings, engineering, *As-Built Drawings*, maintenance manuals and all other documents required to be provided prior to certification of *Substantial Performance* of the *Work*, costing and accounting, payroll, technical staff, and all other site supervision staff above foreperson employed directly on the *Work*;

1.21.2.7.4 coordination with other trades affected, use of temporary offices, plant, tools and equipment including operators, sheds, storage compounds and other general temporary site support facilities and all utilities used therein;

1.21.2.7.5 first aid, safety and protection measures, including training;

1.21.2.7.6 as well as licences and permits; scheduling; temporary protection; disposal; garbage chute; scaffolding; hoisting and unloading; commissioning; cutting and patching, health and Safety, daily cleanup;

1.21.2.7.7 ~ and shall be applied to both extras and credits equally."

1.22 GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

1.22.1 Add new subparagraph 6.4.5:

1.22.1.1 6.4.5 - The Contractor confirms that, prior to bidding the Project, it carefully investigated the Place of Work, and applied to that investigation the degree of care and skill described in paragraph 3.14.1, given the amount of time provided between the issue of the bid documents and the actual closing of bids, the degree of access provided to the Contractor prior to submission of bid, and the sufficiency and completeness of the information provided by the Owner. The Contractor is not entitled to compensation or to an extension of the Contract Time for conditions which could reasonably have been ascertained by the Contractor by such careful investigation undertaken prior to the submission of the bid.

1.23 GC 6.5 DELAYS

1.23.1 Delete the period at the end of the paragraph 6.5.1, and substitute the following words: ", but excluding any consequential, indirect, or special damages."

1.23.2 Delete the period at the end of the paragraph 6.5.2, and substitute the following words: ", but excluding any consequential, indirect, or special damages."

1.23.3 Delete section 6.5.3 in its entirety, and replace with the following new section 6.5.3:

1.23.3.1 If the Contractor is delayed in the performance of the Work by:

- # labour disputes, strikes, lock-outs (including lock-outs decreed or recommended for its members by a recognized contractors' association, of which the Contractor is a member or to which the Contractor is otherwise bound),
- # fire, unusual delay by common carriers or unavoidable casualties;
- # abnormally adverse weather conditions,
- # any cause beyond the Contractor's control other than one resulting from a default or breach of Contract by the Contractor,
- # the requirement to stop the performance of the Work by Order, Directive or Decree under any Government law, ordinance or regulation, including but not limited to an Order pursuant to the *Emergency Management and Civil Protection Act*, R.S.O. 1990. c.E.9 mandating the closure of the construction site where the work is being performed,
- # an Act of war, terrorism, pandemic or epidemic, public health emergency, Act of God, natural disaster, any other casualty beyond the reasonable control of the Contractor,

- # hereinafter each a force majeure event,

- # then the Contractor shall cease working and ensure that the work site is protected and secured in accordance with best construction practices having regard to the directions provided by the Owner and its Consultant.

The Contractor, upon being mandated to stop the performance of the work, shall forthwith prepare a budget of additional costs that the Contractor will incur on a weekly basis as a consequence of the inability to perform the work and the resultant delay in the performance of the Contract and shall provide it to the Owner together with documentary proof as may be requested.

The Contractor's claim for costs during this period is subject to an audit. The Owner shall review the budget of costs for the anticipated delay and shall, in writing, and in its absolute discretion either accept the costs as set forth in the budget and agree to pay those costs to the Contractor or terminate the Contract with the Contractor.

A Notice of Termination shall be provided in writing to the Contractor if the Owner chooses to terminate the Contract. In the event of termination, the Contractor shall be paid all actual costs incurred to the date of termination.

The Contractor shall waive and release the Owner from any and all claims of whatever kind and nature as a consequence of the termination of the Contract. This release shall not affect any claim which is unrelated to the termination set forth herein.

Further, in the event that the Owner accepts the budgeted costs for the delay period, the Owner agrees to grant an extension of the Contract for such reasonable time as the Owner deems appropriate after consulting with the Contractor and the Consultant. Provided that where the work is being performed on premises which are a school or learning facility where students are typically present, then the Owner, in its absolute discretion, may require that the Contractor perform the work and complete the contract at time or times where students are not present at the school or learning facility.

1.23.4 Add new paragraph 6.5.6:

1.23.4.1 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 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'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.

1.24 **GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE**

1.24.1 Add the words "as noted in paragraph 6.6.3", after the words 'of the claim' in paragraph 6.6.5, and Add the words "and the Consultant" at the end of paragraph 6.6.5.

1.25 GC 8.3 NEGOTIATION, MEDIATION, AND ARBITRATION

1.25.1 Add the following new paragraphs 8.3.9, 8.3.10, 8.3.11. 8.3.12, 8.3.13, and 8.3.14:

1.25.1.1 8.3.9 - Within five days of receipt of the notice of arbitration by the responding party under paragraph 8.3.6, the Owner and the Contractor shall give the Consultant a written notice containing:

1.25.1.1.1 a) A copy of the notice of arbitration;

1.25.1.1.2 b) A copy of supplementary conditions 8.3.9 to 8.3.14 of this Contract, and;

1.25.1.1.3 c) Any claims or issues which the Contractor or the Owner, as the case may be, wishes to raise in relation to the Consultant arising out of the issues in dispute in the arbitration.

1.25.1.2 8.3.10 - The Owner and the Contractor agree that the Consultant may elect, within ten days of receipt of the notice under paragraph 8.3.9, to become a full party to the arbitration under paragraph 8.3.6 if the Consultant:

1.25.1.2.1 a) Has a vested or contingent financial interest in the outcome of the arbitration;

1.25.1.2.2 b) Gives notice of election to the Owner and the Contractor before the arbitrator is appointed;

1.25.1.2.3 c) Agrees to be a party to the arbitration within the meaning of the rules referred to in paragraph 8.3.6, and;

1.25.1.2.4 d) Agrees to be bound by the arbitral award made in the arbitration.

1.25.1.3 8.3.11 - If an election is made under paragraph 8.3.10, the Consultant may participate in the appointment of the arbitrator and, notwithstanding the rules referred to in paragraph 8.3.6, the time period reaching agreement on the appointment of the arbitrator shall begin to run from the date the respondent receives a copy of the notice of arbitration.

1.25.1.4 8.3.12 - The arbitrator in the arbitration in which the Consultant has elected under paragraph 8.3.10 to become a full party may:

1.25.1.4.1 a) On application of the Owner or the Contractor, determine whether the Consultant has satisfied the requirements of paragraph 8.3.10, and;

1.25.1.4.2 b) Make any procedural order considered necessary to facilitate the addition of the Consultant as a party to the arbitration.

1.25.1.5 8.3.13 - The provisions of paragraph 8.3.9 shall apply mutatis mutandis to written notice to be given by the Consultant to any sub-consultant.

1.25.1.6 8.3.14 - In the event of notice of arbitration given by the Consultant to a sub-consultant, the sub-consultant is not entitled to any election with respect to the proceeding as outlined in 8.3.10, and is deemed to be bound by the arbitration proceeding.

1.26 GC 9.1 PROTECTION OF WORK AND PROPERTY

1.26.1 Delete subparagraph 9.1.1.1 in its entirety, and substitute new subparagraph 9.1.1.1:

1.26.1.1 9.1.1.1 - Errors in the Contract Documents which the Contractor could not have

discovered applying the standard of care described in paragraph 3.14.1.

1.26.2 Delete subparagraph 9.1.2 in its entirety, and substitute the following new paragraph 9.1.2:

1.26.2.1 9.1.2 - Before commencing any Work, the Contractor shall determine the locations of all underground utilities and structures indicated in the Contract Documents, or that are discoverable by applying to an inspection of the Place of Work the degree of care and skill described in paragraph 3.14.1.

1.26.3 Add new paragraph 9.1.5:

1.26.3.1 "9.1.5 - With respect to any damage to which paragraph 9.1.4 applies, the *Contractor* shall neither undertake to repair or replace any damage whatsoever to the work of other contractors, or to adjoining property, nor acknowledge that the same was caused or occasioned by the *Contractor*, without first consulting the *Owner* and receiving written instructions as to the course of action to be followed from either the *Owner* or the *Consultant*. Where, however, there is danger to life, the environment, or public safety, the *Contractor* shall take such emergency action as it deems necessary to remove the danger."

1.26.4 Add new paragraph 9.1.6:

1.26.4.1 "9.1.6 - The *Contractor* shall be responsible for securing the *Place of Work* at all times and shall take all reasonable precautions necessary to protect the Place of Work, its contents, materials (including *Owner*-supplied materials) and the public from loss or damage during and after working hours. Where the Consultant or the *Owner* deems the provision of security guard services to be necessary, the *Contractor* shall provide those services at the *Owner's* expense."

1.27 GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

1.27.1 Add to paragraph 9.2.6 after the word ‘responsible’, the following new words: “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 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.”

1.27.2 Add “and the Consultant”, after the word ‘Contractor’, in subparagraph 9.2.7.4.

1.27.3 Add to paragraph 9.2.8 after the word ‘responsible’, the following new words: “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 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."

1.28 **GC 9.4 CONSTRUCTION SAFETY**

1.28.1 Add new paragraphs 9.4.6, 9.4.7 and 9.4.8:

1.28.1.1 "9.4.6 - Prior to the commencement of the *Work*, the *Contractor* shall submit to the Owner:

.1 a current Workplace Safety & Insurance Board 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 setting out the *Contractor's* in-house safety programs;
.4 a copy of the Notice of Project filed with the Ministry of Labour naming itself as "constructor" under the *Occupational Health and Safety Act*, R.S.O 1990, c. O.1, as amended."

1.28.1.2 "9.4.7 - The *Contractor* shall indemnify and save harmless the *Owner*, its agents, officers, directors, employees, consultants, successors, appointees, and assigns from and against the consequences of any and all safety infractions committed by the *Contractor* under the *Occupational Health and Safety Act*, R.S.O 1990, c. O.1, as amended, 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."

1.28.1.3 "9.4.8 - The *Owner* undertakes to include in its contracts with other contractors and in its instructions to its own forces the requirement that the other contractor or its own forces, as the case may be, comply with the policies and procedures of and the directions and instructions from the *Contractor* with respect to occupational health and safety and related matters. Prior to admission to the *Place of the Work*, the *Contractor* may, as a condition of admission, require any other contractor or the *Owner's* own forces to sign a written acknowledgement."

1.29 **GC 9.5 MOULD**

1.29.1 Add to subparagraph 9.5.2.3 immediately before the comma, the following new words: "and as a result of the delay".

1.29.2 Add "and the Consultant", after the word 'Contractor', in subparagraph 9.5.3.4.

1.30 **GC 10.2 LAWS, NOTICES, PERMITS, AND FEES**

1.30.1 Revise sentence GC 10.2.2 to read: "unless otherwise indicated, the *Contractor* shall be

responsible for obtaining and paying for the *Building Permit*."

1.31 **GC 10.4 WORKER'S COMPENSATION**

1.31.1 Add to subparagraph 10.4.1 immediately after the first comma, the following new words: "again with each application for progress payment, and"

1.31.2 Add new subparagraph 10.4.2: "The *Contractor* shall ensure that each *Subcontractor* complies with the workers' compensation legislation at the *Place of the Work.*"

1.32 **GC 12.3 WARRANTY**

1.32.1 Delete from the first line of paragraph 12.3.2, the word 'The', and substitute the words: "Subject to paragraph 3.14.1, the....".

1.33 **GC 13.1 INDEMNIFICATION**

1.33.1 Add new clause 13.1.1.3:

1.33.1.1 13.1.1.3 - The Contractor shall indemnify and hold harmless the Consultant, its agents and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings by third parties that arise out of of, or are attributable to, the bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, and caused by negligent acts or omissions of the Contractor or anyone for whose acts the Contractor may be liable, and made in writing within a period of 6 years from the date of Substantial Performance of the Work as set out in the certificate of Substantial Performance of the Work, or within such shorter such period as may be prescribed by any limitation statute or the province or territory of the Place of Work.

END OF SECTION

SECTION 00 41 13
STIPULATED PRICE BID FORM

PROJECT: **Domestic Water Piping Replacement and Miscellaneous Upgrades.**
290 Algoma Street, Massey, Ontario.

From: _____
Name of Company

_____
Street Address

_____
City of Town

_____ _____
Postal Code Telephone

To: Huron-Superior Catholic District School Board.
90 Ontario Avenue,
Sault Ste. Marie, Ontario.
P6B 6G7

1. BID

I/We agree to supply all necessary labour, materials, plant, equipment and services, including all allowances, for the execution and completion of the above Project in strict accordance with the Contract Documents for the Stipulated Price of:

_____ Dollars

($ _____) excluding H.S.T.

The amount of value added taxes (Harmonized Sales Tax) for the above Stipulated Price is:

_____ Dollars ($ _____).

I/We have received and allowed for Addenda numbered as follows: _____
in preparing my/our Bid. *If no Addenda have been received insert the word* 'NONE'.

I/We understand that the price(s) submitted in this Bid is/are based upon the acceptance of the Bid within sixty (60) days of the Bid closing date.

In cases where the expiry date of the acceptance period falls on a Saturday, Sunday or holiday, the time for acceptance shall be extended to the first following business day.

I/We have carefully examined all the Bid Documents, are familiar with the Site and building(s) thereon, and have a clear and comprehensive knowledge of the Work required under this Contract, and of all working conditions.

I/We are in a position to commence the Work of this Contract immediately upon receipt of the Owner's direction; and agree to be Substantially Complete Construction by: _____ , 2026.

I/We expressly warrant that the prices contained in my/our Bid are quoted in the utmost good faith on my/our part without any collusive arrangement or agreement with any other person or partnership or corporation.

I/We expressly warrant that I/we are not party or privy to any deceit tending to mislead the Owner into accepting my/our Bid as a truly competitive Bid whether to the prejudice, injury or benefit of the Owner.

2. ALTERNATE PRICES

I/We propose the following alternate products in lieu of those specified and agree that if any are accepted by the Owner, the Bid stated in Article 1 of this Bid Form will be modified as indicated.

I/We list here with a description of each proposed alternate and cost effect on the Stipulated Price:

Section	Product Specified	Proposed Alternate	ADD to Stipulated Price	DEDUCT from Stipulated Price

I/We acknowledge that each of the above proposed alternates are subject to the written approval of the Owner and/or Consultant; and do not affect acceptance of Bid.

Award of Bid is based upon the 'Base Bid' only, and it is not affected by any proposed Alternates.

3. SIGNATURES AND SEAL

CONTRACTOR'S NAME AND ADDRESS:

_____

_____

_____

SEAL:

AUTHORIZED SIGNATURES:

Name: _____

Title: _____

Name: _____

Title: _____

DATE: _____

WITNESS:

Name: _____

Title: _____

Fill in all blank spaces on this Bid Form.

End of Section

APPENDIX "A"

Refer to enclosed "ASBESTOS SUMMARY REPORT" (2 pages)

Not found, assumed flooring has been changed

MASTER SUMMARY SHEET FOR ASBESTOS

Sample ID	Material Description	RISK ASSESSMENT			Type of Asbestos	Percentage Asbestos	Estimated Quantity	Location
		Accessibility to material	Condition of Material	Friability of Material				
MAR-1	Drywall joint compound	L	L	L	Chrysotile	2%	Unknown	Throughout institution
MAR-3	8x8" light brown floor tiles	L	L	L	Chrysotile	3%	220 ft²	Office washroom and boiler room
~~**MAR-4**~~	~~8x8" dark brown floor tiles~~	~~L~~	~~L~~	~~L~~	~~Chrysotile~~	~~5%~~	~~20 ft²~~	~~Office washroom~~
MAR-8	24x48" textured suspended ceiling tile	L	M / L	M	Amosite	3%	~2500 ft²	Throughout institution
~~**MAR-11**~~	~~Pipe joint insulation~~	~~L~~	~~L / H~~	~~L / H~~	~~Chrysotile~~	~~30%~~	~~15 visible joints~~	~~Mechanical room - Friable and some joints in need of repair~~
MAR-12	12x12" multi brown floor tile	L	L	L	Chrysotile	2%	75 ft²	Electrical room

Not found, assumed to have been removed

NOTE: - TMTQ = Too Many To Quantify
- Estimated quantity based on visible only.
- Risk Assessment - L = Low
M = Medium
H = High

PROJECT NORTH

Consulting Engineers
MRW
M. R. WRIGHT & ASSOCIATES CO. LTD.
SAULT STE. MARIE, ONTARIO

PROJECT No. 7738

DRAWING No. 7738–ST MARY

OCTOBER, 2007

FLOOR PLAN
ST. MARY SCHOOL
290 ALGOMA STREET
MASSEY, ONTARIO

SECTION 22 05 01
PLUMBING GENERAL REQUIREMENTS

1 GENERAL

1.1 RELATED WORK DESCRIBED ELSEWHERE

1.1.1 Electrical General Requirements — Section 26 05 01

1.2 OVERALL PROJECT ~ SCOPE OF WORK

1.2.1 The general intention for this project is to obtain a Contractor whom is capable and willing to work 'Night Shifts' and 'After Hours' from Date of Contract Award, up to completion of project.

1.2.2 All **interior renovation work** must be totally completed **by the end of August / 2026**; so that HSCDSB cleaning staff can clean and prepare these upgraded areas for the restart of school. for the restart in September/2026. Also school staff start to return to the school after this date, to start prepping their classrooms, etc.

1.2.2.1 All essential work required for the proper functioning of the School, such as: Incoming power feed work, Washrooms, and School Corridor areas; must be restored and ready for HSCDSB use by end of day on **August 28th, 2026** (i.e. At least **1-week** prior to the restart of school, so that the ADSB staff & custodians can clean and setup these rooms & areas). [Note: Labour Day is Monday ~ September 7th, 2026.]

1.2.2.2 All other remaining work within the School that is considered non-consequential to the proper operation of the school, and that is not completed before the restart of school, will have to be scheduled and coordinated with Consultant & HSCDSB; and this work is to be completed **after** normal Building Operational hours, potentially on P.D. Days (however will need to seek School Board approval), or on weekends, and/or during holidays.

1.2.2.3 After August 28th, 2026, staff will start to return back to school. As such, the school will be considered an 'occupied' building, and so all other remaining work in the School, will again have to occur during 'after school' hours and on weekends, unless otherwise permitted by the Owner. Contractor must allow to remove all construction debris / materials, and all tools shall be collected and stored after each shift, and respective 'construction areas' cleaned & returned to normal operational status, suitable for the next day.

1.2.3 Contractor will be required to follow the Huron-Superior Catholic District School Board's safety policies, no-smoking policy, established standards, and their hot work permit process.

1.2.4 It is the Contractor's responsibility to ensure and maintain a safe environment for both the building occupants, as well as all subtrades, at all times. All areas of work to always be safely barricaded and fenced off, c/w clear signage.

1.2.5 As applicable, provide all labour, equipment, materials and services required for supplying, installing, testing, and putting into operation all Plumbing Systems of Division 22; - all as indicated on Drawings, as hereinafter specified, and/or as per applicable Codes & Local Building Department requirements.

1.2.6 Provide all labour, equipment, materials and services required for removing, revising / modifying, and/or reworking existing Plumbing Systems of Division 22, in order to accommodate these new renovations & upgrades; all as indicated on plans.

1.2.7 Provide isolation valves for all new domestic water feeds to each plumbing fixture. Identify/tag each isolation valve, and provide valve chart and As-Built Drawing showing all isolation valve locations. Provide clear P-touch label with small black lettering on T-bar grid directly below each valve.

1.2.8 All domestic water (DCW, DHW, & DHWR) piping shall be thermally insulated/wrapped, regardless if exposed, within a ceiling space, or concealed within walls or pipe chases.

1.2.9 It is known that this building has a small quantity of **asbestos** content, most of which is contained mainly to insulation on piping & pipe fittings, flooring, etc. Refer to attached school Asbestos Report provided by the Owner.

1.2.9.1 It is the general intention under this project, to remove all existing asbestos content that is encountered or discovered in crawlspace or within wall cavities, including any located above in the T-bar ceiling space, or that is uncovered and/or discovered during demolition, that had been concealed from view.

1.2.9.2 All associated asbestos abatement costs shall be covered by respective Cash Allowance, and shall be carried out as per the **Occupational Health and Safety Act, Ontario Regulation 278/05**, and as amended and as per local Building Dept requirements; pertaining to asbestos removal.

1.2.9.3 It is suspected that some concealed piping within the walls may have some asbestos insulation content. As applicable, Contractor to use caution when removing existing piping, and when tie-in into existing piping is required.

1.2.10 Before any planning or installation of piping all related Divisions shall meet and coordinate with General Contractor to determine spacing and routing of all piping, conduits and wiring. Once a 'plan of action' has been developed, General Contractor shall seek approval from Consultant prior to commencement of any work or installations.

1.2.11 All cutting and patching of all openings up to and including 150 mm (6"), shall be by respective Section. Coordinate with General Contractor for all other required openings.

1.2.12 Sealing of walls, floors, ceilings shall be performed with respective materials and approved Systems suitable for penetration. Penetration through fire rated walls, ceilings and floors shall be sealed with ULC Listed Materials and Systems for application, all as per General Contractor, Consultant, OBC and local Inspection Department approval.

1.2.12.1 Acceptable Product: 3M Firemaster (Thermal Ceramics) Listed Products and Systems suitable for application; Hilti Firestopping Systems; and/or Equivalent.

1.2.13 Submit **Shop Drawings of products and methods of all 'Firestopping Products'** to be used,

and respective approved “Firestop System(s)”, which will be used per application.

1.3 EXAMINATION

1.3.1 Note that requirements of latest editions of the following are to be adhered - Ontario Building Code, and American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE), Standard 90.1-2010 - Energy Standard For Buildings Except Low-Rise Residential Buildings, and Part 7 - Plumbing of OBC.

1.3.2 Tenderers are advised to carefully examine all Drawings and Specifications, and be satisfied that work can be satisfactorily carried out without changes to building, as required and as shown on these Drawings. Report at once any defect or interference affecting work of these Sections, and do not proceed until satisfactory conditions are corrected.

1.3.3 Route piping in orderly manner and maintain proper grades. Install concealed pipes close to building structure to keep furring space to a minimum, up within the webbing of the OWSJ supports (where applicable), and/or to maintain specified new ceiling heights. Install to conserve headroom and space. Run exposed piping parallel to walls. Group piping wherever practical for trapeze hangers, and to avoid taking up excessive room in ceiling space.

1.4 MECHANICAL LOCATION

1.4.1 Allowances must be carried by each Contractor for Alterations necessary in the arrangements of apparatus, ducting, pipes and equipment that must be incorporated, which may differ from proposed schematic drawing layouts. Any Alterations necessary in arrangements of apparatus, ducting, pipes and equipment, that have been installed prior to proper study of existing conditions and approval, and must be performed to accommodate conditions encountered, shall be done without additional cost to Owner.

1.4.2 Where dimensions locate services and/or equipment, no other location may be selected and used without Consultant's approval.

1.4.3 **Note:** - all piping, wiring and equipment in Ceiling Return Plenums shall be **“FT6 Return Air Plenum Rated"**.

1.5 SHOP DRAWINGS

1.5.1 All shop drawings shall be submitted in “electronic format” via email.

1.5.2 Clearly indicate all applicable equipment, piping and connectors, together with valves, strainers, control assemblies, thermostatic controls, auxiliaries and hardware and recommended ancillaries which are mounted, wired and piped ready for final connection to building system, its size and recommended bypass connections.

1.5.3 Clearly show piping and where valves will be shipped loose by packaged equipment supplier,

showing their final location in field assembly.

1.5.4 Clearly show control equipment shipped loose, by packaged equipment supplier, showing their final location in field assembly.

1.5.5 Clearly show complete internal panel piping and wiring and required external, both as schematics and as actually assembled.

1.5.6 Clearly show dimensions, internal and external construction details, recommended method of installation with proposed structural steel support, sizes and location of mounting bolt holes; include mass distribution drawings showing point loads.

1.5.7 Drawings shall be checked and stamped as being correct by manufacturer and by contractor, before submission.

1.5.8 If the above requirements are not complied with, shop drawings will be rejected by Consultant and returned forthwith.

1.5.9 Submit manufacturer's detailed composite wiring diagrams for control system showing factory installed wiring and equipment on packaged equipment or required for controlling devices or ancillary, or accessory controllers.

1.5.10 For pumps and fans, submit shop drawings of curves for review.

1.5.11 Unless otherwise noted, make packaged equipment manufacturer's data report available to Consultant.

1.5.12 Submit **Shop Drawings of products and methods of all 'Firestopping Products'** to be used, and respective approved "Firestop System(s)", which will be used per application.

1.6 STANDARDS OF MATERIALS

1.6.1 The materials and equipment used in construction of this building shall meet requirements of American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Standard 90.1-2010 - Energy Standard For Buildings Except Low-Rise Residential Buildings and all related requirements of latest edition of Ontario Electrical Safety Code.

1.6.2 New materials and equipment are specifically described and named in this specification for purpose of establishing a standard of materials and workmanship.

1.6.3 New materials required for performance of work shall be best of their respective kinds and of a uniform pattern throughout work.

1.6.4 Where a manufacturer's name is used and is noted as **`Shall be'**, Tender Price shall be based on use of materials or equipment for name mentioned. Alternates to listed equipment shall be included as an Alternate to Base Price, and inserted in appropriate section of the Bid Form.

1.6.5 All equipment listed as **`Acceptable Product'**, means that the item named and specified by catalogue number meets Specification in all respects regarding performance, quality of material and workmanship, similar to existing school equipment, and is acceptable to Consultant.

1.6.5.1 All proposed alternate equipment that is to be considered as an Equivalent product, must meet all the same standards as the listed 'acceptable product', and it is the responsibility of the contractor/supplier to verify and prove to Consultant that any proposed alternate equipment is equal, for it to be considered. This must occur before the deadline for submission.

1.6.5.2 No alternate products will be reviewed/assessed by Consultants for equivalency **within 5 working days** of Tender Close. Unless accepted as an Equivalent, all Alternates to listed equipment shall be included as an Alternate to Base Price, and inserted in appropriate section of the Bid Form.

1.6.5.3 Tender Price shall be based upon Acceptable base products, or accepted Equivalent products, only.

1.6.6 SINGLE SOURCE: For ease of maintenance and parts replacement, to the maximum extent possible use equipment of a single manufacturer. The Consultant reserves the right to reject any materials list which contains equipment from various manufacturers if suitable materials can be secured from fewer manufacturers, and to require source of materials to be unified to maximum extent possible.

1.6.7 OTHER MATERIALS: All other materials, not specifically described but required for a complete and proper installation, shall be as selected by Contractor subject to approval of Consultant.

1.7 EQUIPMENT REQUIREMENTS AND INSTALLATION

1.7.1 Permit equipment maintenance and disassembly by use of unions or flanges to minimize disturbance to connecting piping and duct systems and without interference from building structure or other equipment.

1.7.2 Provide accessible means for lubricating equipment including permanent lubricated "lifetime" bearings.

1.7.3 Equipment, floor plates and ceiling plates shall line-up with building walls wherever possible.

1.8 RESPONSIBILITY FOR TRIAL USAGE

1.8.1 Obtain written permission to start and test new permanent equipment and systems prior to acceptance by Consultant.

1.8.2 Consultant may use new equipment and systems for test purposes prior to acceptance. Supply labour, material and instruments required for testing.

1.8.3 Protect equipment and systems openings from dirt, dust and other foreign materials during trial usage.

1.9 ELECTRIC MOTORS, EQUIPMENT, AND CONTROLS

1.9.1 All mechanical plumbing equipment supplied under this Division, shall have a **minimum 10 KAIC rating**.

1.9.2 All electrical work to conform to Division 26.

1.9.3 Supplier and Installer responsibility is outlined or indicated as in each respective Equipment Schedules listed in Specifications and as in each respective Drawing. Submit related power information from final Equipment Shop Drawings to respective Divisions for physical footprint, power and control requirements.

1.9.4 Power line voltage wiring, breakers, starters, disconnects and conduits are supplied and installed by Division 26.

1.9.5 Provide all necessary information to Division 26 for type, voltage, amperage, wiring diagrams and shop drawings to ensure proper wiring of equipment & controls, prior to installation of equipment.

1.10 MOTORS

1.10.1 This Contractor shall provide motors for all related Mechanical Plumbing Equipment. Minimum acceptable nominal full-load motor efficiency for single-speed polyphase motors shall meet the rating as in ASHRAE 90.1-2010.

1.10.2 If delivery of specified motor will delay delivery or installation of an equipment, install a motor for temporary use. Final acceptance of equipment will not occur until specified motor is installed.

1.11 TESTS

1.11.1 Provide the following supplementary requirements to test specified:

1.11.1.1 Give a minimum 24 hour notice of date when tests will be made.

1.11.1.2 Do not insulate or conceal work until tested and approved. Follow construction schedule and arrange for tests.

1.11.1.3 Conduct tests in presence of Consultant and/or Building inspector as requested.

1.11.1.4 Project Construction Site Supervisor shall witness and sign-off on all tests.

1.11.1.5 Bear all associated costs, including retesting and making good.

1.11.2 When applicable, conduct a 'ball test' on all new main sewer (sanitary / storm) lines in the presence and to the satisfaction of Building inspector.

1.11.3 Hydraulically test all water supply systems at 1-1/2 times systems operating pressure, or minimum 860 kPa.

1.11.4 Maintain test pressures without loss for 4 hours, unless otherwise specified.

1.11.5 Test all related drainage, waste and vent piping to latest Code requirements, and as per local Building Inspector.

1.12 PAINTING

1.12.1 Apply at least one coat of corrosion resistant primer paint to supports, materials, and equipment fabricated from ferrous metals.

1.12.2 Apply corrosion resistant exterior paint protection to all exposed piping.

1.13 DIELECTRIC COUPLINGS

1.13.1 Provide wherever pipes of dissimilar metals are joined.

1.13.2 Provide insulating unions for pipe sizes NPS 2 and under and flanges for pipe sizes over NPS 2.

1.13.3 Cast brass adapters may be used where approved by Consultant.

1.13.4 Provide felt or rubber gaskets to prevent dissimilar metals contact.

1.14 INSTRUCTION OF OPERATING STAFF

1.14.1 This Contractor shall provide certified personnel to instruct operating staff on operation of mechanical plumbing equipment. Provide appropriate maintenance specialist personnel to instruct operating staff on maintenance and adjustment of all new mechanical plumbing equipment and any changes or modification in existing plumbing equipment made under terms of guarantee.

1.14.2 Allow for a minimum of one 1.0 hour long session to provide Owner instructions (unless otherwise indicated), which shall be conducted during regular work hours, prior to acceptance and turn over to operating staff for regular operation.

1.14.3 Use operation and maintenance data manual for instruction purposes. On completion of instruction, turn one manual over to Mechanical Consultant, the balance to Owner; unless otherwise directed.

1.15 QUALIFICATIONS

1.15.1 Packaged equipment shall be product of locally represented manufacturer engaged in production of units of type and size specified who issued complete catalogue data on such products, and accepts responsibility for selection, operating characteristics, quality and assembled package. Local representation must include service agency.

1.15.2 For actual fabrication, installation, and testing of work under this Section, use only thoroughly trained and experienced workmen completely familiar with items required and manufacturer's current recommended methods of installation.

1.15.3 In acceptance or rejection of installed work, Consultant will make no allowance for lack of skill on the part of workmen.

1.16 IDENTIFICATION OF EQUIPMENT

1.16.1 Provide on each piece of equipment a metal nameplate, mechanically fastened with raised or recessed letters.

1.16.2 Include registration plates, e.g. pressure vessel, Underwriters' Laboratories and CSA approval, as required by respective agency and as specified. Indicate size, equipment model, manufacturer's name, serial number, voltage, cycle, phase and power of motors, all factory supplied.

1.16.3 Locate nameplates so that they are easily read. Do not insulate or paint over plates.

1.17 IDENTIFICATION OF PIPING

1.17.1 Label all piping installed under this Division after all Thermal Insulation & wrap has been installed to indicate content and direction of flow. Include operating pressure or vacuum for piping carrying steam, gas, compressed air or vacuum, when applicable.

1.17.2 Locate labels as follows:

- At every end of every pipe run, adjacent to valve or item of equipment serviced.
- At valves, tees and changes of direction.
- On each exposed pipe passing through wall, partition or floor (one on each side of such wall, partition or floor).
- At intervals of 15 m (50'-0") along every exposed pipe run exceeding 15 m (50'-0") in length.
- At every access point on concealed piping.

1.17.3 Locate labels so they are visible from 1.5 m (5'-0") above adjacent floor or platform.

1.17.4 Treat any surface which is "dusty" or "chalky" with a sodium silicate solution before application of labels. After application of labels, apply a clear lacquer, as approved by Consultant, over labels, and at least 25 mm (1") beyond perimeter of labels.

1.17.5 Provide labels of plastic coated tape with self-adhesive backing surface, and for installation on insulated pipe, provide adhesive suitable for this application, or Coil-Mark type similar to Smillie McAdams Summerlin.

1.17.6 Where outside diameter of pipe (or insulation) exceeds 75 mm (3"), provide labels with a minimum width of 64 mm (2-1/2") and 50 mm (2") high letters. Where outside diameter of pipe (or insulation) is 75 mm (3") or less, provide labels of 29 mm (1-1/8") width and 25 mm (1") high lettering. Length of labels as dictated by legend.

1.17.7 Conform with CAN/CGSB-24.3 or/and latest edition for primary label colour, and with legend and direction arrows in black. Print legend in full wherever feasible, or a recognized abbreviation of service involved.

1.17.8 Before ordering identification labels, submit to Consultant for approval, a full list of all services to be labelled and colour and legend it is proposed to use for each service.

1.18 MANUFACTURED ITEMS

1.18.1 Catalogue or published ratings shall be those obtained from tests carried out by manufacturer or those ordered by him from Independent Testing Agency signifying adherence to codes and standards in force.

1.19 DELIVERY AND STORAGE

1.19.1 Seal all openings to prevent entry of foreign matter. Store with accessories and hardware in areas protected from the weather, moisture and possible damage.

1.19.2 Handle to prevent damage to interior or exterior surfaces.

1.19.3 Provide touch up paint to match factory finishes.

2 PRODUCTS

2.1 DOMESTIC WATER PIPE AND FITTINGS

2.1.1 **AquaRise CPVC domestic water system piping** (as manufactured by IPEX), along with associated fittings, isolation valves, etc.; would be the preferred product, over use of copper piping.

2.1.1.1 All AquaRise piping installations are still required to be thermally insulated/wrapped.

2.1.2 An alternate acceptable product would be **potable PEX piping** may be used, but must be adequately supported using ‘cradle’ pipe support hangers c/w thermal insulation/wrap to the satisfaction of Consultant. No sagging of piping is permitted. All runs to be installed parallel and

true to building lines. PEX piping used must be approved to be installed within return air ceiling plenums, and capable of penetrating fire separations with use of an approved firestopping system.

2.1.2.1 Contractor to be prepared to provide documentation to support above requirements, to both the Consultant and the local C.B.O.

2.1.2.1.1 Acceptable Product: Wirsbo; or equivalent.

2.1.3 **Copper Piping** - Acceptable Alternate Product: Piping 62 mm and up to 100 mm shall be Type `K' ASTM B-88 with mechanical 'ProPress' copper type pipe couplings and fittings with 'Smart Connect' feature and ProPress Tools as Manufactured by **Viega ProPress XL-C** or equivalent.

2.1.4 Piping under 50 mm nominal, copper tube to ASTM B-88 type `K' hard above ground, with mechanical 'ProPress' copper type pipe couplings and fittings with 'Smart Connect' feature and ProPress Tools as Manufactured by **Viega ProPress** or equivalent.

2.1.5 Fittings: sweat wrought copper fittings.

2.1.6 Connections: Solder: Lead Free soldering material. Unions, threaded 50 mm nominal and under: all bronze unions 1MPa rating, ground seat.

2.1.7 Galvanized type piping and fittings shall **NOT** be used in this project.

2.2 TYPES OF DOMESTIC WATER COPPER PIPING

2.2.1 **Type 'K' Copper Pipe**: - pipe wall has an average thickness of .65 inches. It is the thickest type of copper pipe, and most durable & long-lasting. This piping is typically stamped with 'green' identification labelling. Used typically for Commercial & high-rise Residential applications, and so Type 'K' can be used on this project.

2.2.2 **Type 'L' Copper Pipe**: - pipe wall has an average thickness of .40 inches. Type L is thinner than Type K. This piping is typically stamped with 'blue' identification labelling. Used mostly for Residential applications, and so Type 'L' is **not** to be used on this project.

2.2.3 Type 'M' Copper Pipe: - has an average thickness of 0.28 inches. It is known for premature failure and pitting due to it's thin wall construction. This piping is typically stamped with 'red' identification labelling. Type M is NOT permitted to be used on this project.

2.3 VALVES

2.3.1.1 Reference Standards

2.3.1.1.1 Conform to requirements of ANSI, ASTM, ASME, and applicable MSS standards.

2.3.1.2 Provide valves of same manufacturer throughout, where possible.

2.3.1.3 Provide valves with manufacturer's name and pressure rating clearly marked on body (per MSS-SP-25).

2.3.1.4 Product shall carry valid CRN (Canadian Registration Number) issued by respective Provinces.

2.3.1.5 Unless otherwise specified or noted, valves to be ANSI Class 1.4 MPa or 860/1400 Kpa non shock, screwed or soldered ends, malleable iron handle.

2.3.1.6 Provide ball valves at each piece of plumbing equipment, at each branch take-off and where balancing is required. Gate valves are **not** acceptable.

2.3.1.7 Ball Valves (Isolation)

2.3.1.7.1 Up to 100mm (4") - 1034 KPA (150psig) / 600WOG Rating, AquaRise IPEX, Brass and or Bronze body, Full port, suitable to copper ProPress copper piping system with Smart Connect and Lever Handle.

2.3.1.8 Acceptable Products: **IPEX; Viega ProPress;** or equivalent.

2.4 PIPE HANGERS AND SUPPORTS

2.4.1 Fabricate hangers, supports and sway braces in accordance with ANSI/ASME B31.1, MSS SP58, MSS SP69, and requirements of ULC.

2.4.2 Establish route of piping in relation to heights and space available with General Contractor before installation of inserts or hangers.

2.4.3 Use split adjustable steel ring hanger on piping NPS 50 (2") and under. Use clevis type for NPS 62 (2.5") and above. Use roller type hangers as required.

2.4.4 Rigid hangers to be used on domestic hot water when ratio of pipe expansion to hanger rod length does not exceed 25:600 mm. Minimum rod length to be 300 mm or to suit ceiling and bulkhead requirements.

2.4.5 Support plumbing piping in accordance with more stringent requirements of authorities having jurisdiction. Canadian Plumbing Code, Provincial Code, Municipal Code, or as specified:

2.4.5.1 Support NPS 12 (½") copper pipe every 1500 (5 ft).

2.4.5.2 Place support within 300 (12") of each horizontal elbow.

2.4.5.3 Hangers shall be 3 piece minimum standard, i.e. attachment, rod, pipe attachment.

2.4.5.4 Mild steel wall hooks may be used to support non-expanding piping. Allow 25 (1") minimum clearance for insulated pipe.

2.4.5.5 Provide riser clamps as indicated.

2.4.6 On uninsulated copper piping, use copper hangers with plastic type inserts.

2.4.7 Provide insulation saddles for insulated pipe and prefabricated insulation shields with high density insulation.

2.4.8 Offset hanger pipe and structural attachments in such a manner that rod is vertical when piping is hot.

2.4.9 Adjust hanger rods to equalize load.

2.5 SLEEVES

2.5.1 Provide pipe sleeves at point where pipes pass through masonry or concrete.

2.5.2 Provide sleeves of plastic or minimum 20 gauge thick galvanized sheet steel with lock seam joints.

2.5.3 Use cast iron or steel pipe sleeves with annular fin continuously welded at midpoint through foundation walls.

2.5.4 Provide approved fire stopping systems as required.

2.5.5 SIZES:

2.5.5.1 Provide 6 mm (1/4") clearance all around, between sleeve and pipes or between sleeve and insulation.

2.5.5.2 Where piping passes below footings, provide minimum clearance of 50 (2") between sleeve and pipe. Back-fill up to underside of footing with concrete of same strength as footing.

2.5.5.3 Terminate sleeves flush with surface of concrete and masonry.

2.5.6 For pipes passing through roofs, use cast iron sleeves with caulking recess and flashing clamp device. Anchor sleeves in roof construction; caulk between sleeve recess and pipe; fasten roof flashing to clamp device; make water-tight durable joint.

2.5.7 Fill voids around pipes. Remove plastic sleeves.

2.5.8 Caulk between sleeve and pipe in foundation walls below grade floors with required approved water-proof type caulking.

2.5.9 Where sleeves pass through walls or floors, caulk space between insulation and sleeve or between pipe and sleeve with waterproof fire retardant non-hardening mastic. Seal space at each end of sleeve with waterproof, fire retardant, non-hardening mastic.

2.5.10 Ensure no contact between copper tube or pipe and ferrous sleeve.

2.5.11 Coat exposed exterior surfaces of ferrous sleeves with heavy application of zinc rich paint.

2.5.12 Where pipes pass through fire rated walls and partitions, provide approved type Firestopping Systems.

2.6 ESCUTCHEONS AND PLATES

2.6.1 Provide on pipes passing through finished walls, partitions, floors and ceilings.

2.6.2 Use chrome or nickel plated brass, solid type with set screws for ceiling or wall mounting.

2.6.3 Inside diameter shall fit around finished pipe. Outside diameter shall cover openings or sleeve.

2.6.4 Where sleeve extends above finished floor, escutcheons or plates shall clear sleeve extension.

2.6.5 Secure to pipe or finished surface but not insulation.

2.7 WATER SPECIALTIES

2.7.1.1 Water hammer arresters (shock absorbers). Provide arresters to Plumbing and Drainage Institute Standard PD1-WH 201, on branch supplies to each fixture or group of fixtures.

2.7.1.2 All cases of water hammer shall be corrected by this Contractor at his expense.

2.7.1.2.1 Acceptable Product: Watts # SG-050 series.

2.8 FLEXIBLE WATER CONNECTIONS

2.8.1.1 **Use braided stainless steel type flexible connectors** with copper to copper couplings to all new hot and cold water supply serving all new fixtures.

2.9 ACCESS DOORS

2.9.1 This Contractor shall supply & install stainless steel, keyed-alike plumbing access doors, all as per locations and sizes indicated on drawings.

2.9.2 Where access doors are required for servicing cleanouts, etc., and sizing is not indicated on drawings; Contractor to provide an 8"x8" S.S. keyed-alike access door.

2.9.3 Acceptable Product: Zurn, Enpoco, Anco-Lehage.

2.10 TRAP SEAL PRIMER

2.10.1 Provide priming device piped to existing floor drains located above the crawlspace. Contractor to review & verify extents on site.

2.10.2 Make allowance for a new trap seal primer (TSP) unit for the Existing Universal Washroom, Boys & Girls Washroom#1, Janitor's Room, and Boys & Girls Washroom#2.

2.10.3 The TSP device will introduce regulated amount of water complete with 'adjustment screw' into the trap whenever the water is used, or use trap primer distribution unit system for multi Floor drains, all according to Plumbing Code.

2.10.4 Supply & install new 12mm PEX piping secured to floor joist in crawlspace, to feed existing floor drain trap seal priming provisions.

2.10.4.1 Acceptable Product: Precision Plumbing Products # P1 - 500, or # DU - 4.

3 WARRANTY

3.1.1 The Warranty period shall commence on established day of Substantial Completion of the overall project.

3.1.2 All equipment under this section shall be complete with a minimum 1 full year parts & labour warranty (including all travel costs) during the Warranty period; unless otherwise indicated.

END OF SECTION

1 GENERAL

1.1 RELATED WORK DESCRIBED ELSEWHERE

1.1.1 Plumbing General Requirements — Section 22 05 01

1.2 SCOPE OF WORK

1.2.1 This Contractor shall provide all labour, equipment, materials and accessories and perform all operations necessary for the installation of Thermal Insulation & wrap for all Domestic Piping Systems (DCW, DHW, & DHWR), in this Division; regardless if exposed or concealed within walls, ceiling spaces, bulkheads, millwork, and/or pipe spaces; all as indicated on Drawings or specified herein.

1.2.2 Provide new identification labelling for new piping, after thermal insulation/wrap & jacketing has been installed.

1.2.3 Supply & install thermal insulation c/w protective white PVC vinyl jacketing on all exposed domestic supply water piping, such as in within millwork, crawlspace, Janitor Room risers, DHW Tank, and within Mechanical/Electrical Service Rooms.

1.2.4 It is known that this building has a small quantity of **asbestos** content, most of which is contained mainly to insulation on piping & pipe fittings, flooring, etc. Refer to attached school Asbestos Report provided by the Owner.

1.2.4.1 It is the general intention under this project, to remove all existing asbestos content that is encountered or discovered in crawlspace or within wall cavities, including any located above in the T-bar ceiling space, or that is uncovered and/or discovered during demolition, that had been concealed from view.

1.2.4.2 All associated asbestos abatement costs shall be covered by respective Cash Allowance, and shall be carried out as per the **Occupational Health and Safety Act, Ontario Regulation 278/05**, and as amended and as per local Building Dept requirements; pertaining to asbestos removal.

1.2.4.3 It is suspected that some concealed piping within the walls may have some asbestos insulation content. As applicable, Contractor to use caution when removing existing piping, and when tie-in into existing piping is required.

1.3 REQUIREMENTS OF REGULATORY AGENCIES

1.3.1 Note that requirements of latest edition of the Ontario Building Code, are to be adhered to.

1.4 REFERENCES

ANSI/NFPA 90A Air Conditioning and Ventilating Systems, Installation
ANSI/NFPA 90B Warm Air Heating and Air Conditioning Systems.
ASTM C335-95 Test Method for Steady-State Heat Transfer Properties of Horizontal Pipe Insulations.
ASTM C411-97 Test Method for Hot-Surface Performance of High - Temperature Thermal Insulation.
CAN/ULC S701-01 Thermal Insulation, Polystyrene, Boards and Pipe Covering
CAN/CGSB-51.40 Thermal Insulation, Flexible, Elastomeric, Unicellular, Sheet and Pipe Covering.
CAN/ULC-S102- 1988(2000) Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies
CGSB 51-GP-9M - Thermal Insulation, Mineral Fibre, Sleeving for Piping and Round Ducting.
CGSB 51-GP-11M - Thermal Insulation, Mineral Fibre, Blanket for Piping, Ducting, Machinery and Boilers.
CGSB 51-GP-52M - Vapour Barrier Jacket and Facing Material for Pipe, Duct and Equipment Thermal Insulation.
CGSB 51-GP-53M - Jacketing, Polyvinyl, Chloride Sheet for Insulating Pipes, Vessels and Round Ducts.
CSA HA Series - CSA Standards for Aluminum and Aluminum Alloys.
MNECB 1997 - Model National Energy Code of Canada for Buildings.
ASHRAE 90.1-2010 - Energy Standard for Buildings Except Low-Rise Residential Buildings.

1.5 COMPATIBILITY OF COMPONENTS

1.5.1 Mechanical fasteners, adhesives, sealers, vapour coating, mastic, lagging and bedding compounds, shall be compatible with materials to which they are applied. They shall not soften, corrode or otherwise attach such material in either wet or dry state and shall only be those recommended by manufacturer of insulation as suitable for application proposed. Apply within ambient temperatures recommended by manufacturer.

2 PRODUCTS

2.1 ACCEPTABLE PRODUCTS

2.1.1 Insulation materials: only materials listed on Qualified Product List for Thermal Insulation, Accessories and Systems issued by Interdepartmental Qualification Board are acceptable for use on this project.

2.2 MATERIALS

2.2.1 For Domestic Hot Water Systems (140^{o}F and less), piping 38 mm (1.5") diameter and less ~ use 25 mm (1") thick materials; and piping from 38 mm (1.5") diameter to 200mm (8") diameter ~ use 38 mm (1.5") thick materials of preformed rigid glass fibre sections with factory attached glass fabric-reinforced craft aluminum jacket with white vinyl over-spray finish and with longitudinal laps.

2.2.2 Sealing strip for butt joints is a 75 mm (3") wide vapour seal tape, glass fibre-reinforced craft aluminum foil with vinyl over-spray finish.

2.2.2.1 Acceptable Product: Manson Alley-K 650 AP.

2.2.3 **Finish:**

2.2.3.1 **All insulated piping that will be exposed in any Area,** including within accessible millwork, crawlspace (main line), Janitor Room (vertical risers), Mechanical/Electrical Service Rooms, etc.; shall be **covered and protected with approved white PVC vinyl jacketing** using necessary fastenings on approximately 100 mm (4") centres. Cover longitudinal and circumferential joints with finishing tape neatly applied. This is regardless if piping used is AquaRise, PEX or copper piping.

2.2.3.2 As applicable, where insulated piping is located in exposed areas, and it is required to be painted, substitute PVC vinyl jacketing with paintable canvass wrap type material.

2.2.3.3 Over insulated fittings, valve bodies, valve bonnets, strainers and flanges, apply PVC jacket or performed PVC fitting covers to provide complete vinyl jacket system.

2.2.3.4 Secure cover with appropriate fastenings and jacket finishing tape. Vinyl PVC jacket shall be ultra-violet ray resistant.

3 PART THREE - EXECUTION

3.1 WORKMANSHIP

3.1.1 Do not apply coverings until approved by Consultant. Insulation shall be clean and dry when installed and during application of any finish.

3.1.2 Work shall be performed by licensed journeymen.

3.1.3 Insulation and coverings on hot equipment to be applied while surface is hot. Contractor to provide any required temporary heat.

3.1.4 Cold surfaces to be dry and ferrous surfaces are to be coated with a rust penetrating protective paint before applying insulation and vapour barriers.

3.1.5 Vapour barriers and insulation to be complete over the full length of pipe or surface, without penetration for hangers, standing duct seams, and without interruption at sleeves, pipes and fittings.

3.1.6 Install insulation with smooth and even surfaces, with round shapes laid to true circular and concentric shape, shaped to blend with fitting insulation and adjacent covering; with full length sections and tight to insulated object.

3.1.7 Insulate fittings, flanges and valves with fibrous glass insulation of thickness required and finish

with a pre-moulded PVC cover, securely fastened and sealed with Foster 85-75 or Bakor 230-39 to form a vapour proof joint.

3.1.8 Apply insulation materials, accessories and finishes in accordance with manufacturer's recommendations.

END OF SECTION

1 GENERAL

1.1 RELATED WORK DESCRIBED ELSEWHERE

1.1.1 Plumbing General Requirements — Section 22 05 01

1.2 OVERALL PROJECT - SCOPE OF WORK

1.2.1 The general intention for this project is to obtain a Contractor whom is capable and willing to work 'Night Shifts' and 'After Hours' from Date of Contract Award, up to completion of project.

1.2.2 All **interior renovation work** must be totally completed **by the end of August / 2026**; so that HSCDSB cleaning staff can clean and prepare these upgraded areas for the restart of school. for the restart in September/2026. Also school staff start to return to the school after this date, to start prepping their classrooms, etc.

1.2.2.1 All essential work required for the proper functioning of the School, such as: Incoming power feed work, Washrooms, and School Corridor areas; must be restored and ready for HSCDSB use by end of day on **August 28th, 2026** (i.e. At least **1-week** prior to the restart of school, so that the ADSB staff & custodians can clean and setup these rooms & areas). [Note: Labour Day is Monday ~ September 7th, 2026.]

1.2.2.2 All other remaining work within the School that is considered non-consequential to the proper operation of the school, and that is not completed before the restart of school, will have to be scheduled and coordinated with Consultant & HSCDSB; and this work is to be completed **after** normal Building Operational hours, potentially on P.D. Days (however will need to seek School Board approval), or on weekends, and/or during holidays.

1.2.2.3 After August 28th, 2026, staff will start to return back to school. As such, the school will be considered an 'occupied' building, and so all other remaining work in the School, will again have to occur during 'after school' hours and on weekends, unless otherwise permitted by the Owner. Contractor must allow to remove all construction debris / materials, and all tools shall be collected and stored after each shift, and respective 'construction areas' cleaned & returned to normal operational status, suitable for the next day.

1.2.3 Contractor will be required to follow the Huron-Superior Catholic District School Board's safety policies, no-smoking policy, established standards, and their hot work permit process.

1.2.4 It is the Contractor's responsibility to ensure and maintain a safe environment for both the building occupants, as well as all subtrades, at all times. All areas of work to always be safely barricaded and fenced off, c/w clear signage.

1.3 SCOPE OF WORK

1.3.1 This Contractor shall provide all labour, materials and equipment to complete all of the removals,

modifications, and additions of Electrical work associated with the Upgrades; - all as shown on the Drawings and/or as specified herein; which includes but is not necessarily limited to, the work indicated in the following paragraphs.

1.3.2 Disconnect & remove the existing 600A-347/600V-3Phase-4W existing electrical service feeders from the street hydro pole on Algoma Street, underground to the Main Service Entrance Disconnect Switch located in the Main Electrical Room. (Recent investigation by the local Hydro Utility company discovered that this existing underground electrical armoured teck cabling is damaged, and needs to be replaced).

1.3.3 Modify existing millwork in the Childcare Classroom, and then construct a new electrical chaseway (floor to ceiling), to house the new incoming electrical service cabling & PVC conduit.

1.3.4 Supply & install new underground 600A-347/600V-3Phase-4W electrical service feeds from the existing hydro pole on the south side of Algoma Street, underground across the asphalt paved street, and continue underground across the school property to the building. Elbow into new electrical chaseway, and route over to the existing Main Service Entrance Disconnect Switch located in the Main Electrical Room. Refer to drawings for electrical trench details and site plan for further information.

1.3.5 Supply & install two new 15A/120V circuit breakers in Basement Electrical Room, using adjacent available electrical panel, to feed new DHWR Pump/Timer and DHW Tank Leak Detector system GFCI receptacle.

1.3.6 Supply & installation of all required new circuit breakers, wiring, grounding/bonding systems, conduit/outlet box systems and accessories; all as outlined on the Drawings, and/or as specified herein.

1.3.7 Supply & install new type-written legends, for all modified existing electrical panels. Insert a copy of the panel legends in the Project Data Booklets.

1.3.8 All wiring & conduit work to be run true & parallel to building lines. Provide firestopping at all wall fire separations or Corridor wall penetrations, as well as any penetrations at M&E Service Rooms and/or Janitor Room walls.

1.3.9 Note that all ceiling spaces are ‘Return Air Plenums’, therefore all exposed electrical wiring and materials in ceiling spaces must be ‘FT6' return air plenum rated.

1.3.10 Provide power and connection to all required equipment supplied by other Sections, as well as to any Owner provided equipment; all as indicated on drawings & specifications.

1.3.11 Coordinate with other trades for related work and for location and type of equipment supplied; as well as verify with the Mechanical Drawings and other Specification Sections.

1.3.12 Use Flexible type cabling to all vibrating and motor driven equipment, such as pumps, HVAC Units, exhaust fans, and other movable equipment.

1.3.13 All cutting and patching of all openings up to and including 150 mm (6") shall be by respective

Section. Coordinate with General Contractor for all other larger required openings. Sealing of walls, floors, ceilings shall be pre-formed with respective materials and approved Systems suitable for the penetration. Penetration through fire rated walls, shall be sealed with ULC Listed Materials and Systems for the application, all as per General Contractor, Consultant, O.B.C., and local Inspection Department approval.

1.3.13.1 Acceptable Product: 3M Firemaster (Thermal Ceramics) Listed Products and Systems suitable for the application; or Hilti Firestopping Systems; or equivalent.

1.3.13.2 Each Section shall submit **Shop Drawings of products and methods of all 'Firestopping Products'** to be used, and respective approved "Firestop System(s)", which will be used per application. It is preferred that the same firestopping product will be used consistently throughout the building, by all Sections and General Contractor.

1.3.14 Refer to the Mechanical Drawings for related information. Note that equipment supplied by others may vary in size, MOCP, and/or electrical requirements. This Contractor shall allow for any changes without any change (extra or credit) in this Contract, that the Consultant considers to be reasonable and that may occur during Shop Drawing review. [i.e. Final equipment shop drawings, might indicate that a slightly larger circuit breaker and associated wiring might be required (i.e. Next size breaker/wire required).] This Contractor shall review the Mechanical Drawings and Specifications for all equipment that require power and are supplied by others.

1.4 EXAMINATION

1.4.1 Tenderers are advised to carefully examine all Architectural and related Drawings and Specifications and be satisfied that work can be satisfactorily carried out without changes to building, as required and as shown on these Drawings.

1.4.2 Report at once any defect or interference affecting work of these Sections, and do not proceed until satisfactory conditions are corrected.

1.4.3 Refer to all Drawings for related information.

1.5 CODES

1.5.1 Refer to Division 1 and Ontario Electrical Safety Code based upon CSA C22.1-02 or latest Edition.

1.5.2 Work in accordance with these drawings and specifications, meet the latest requirements of Canadian Electrical Code and latest applicable Municipal and O.B.C. regulations. The code, regulations, statute, by-law or this specification having most stringent requirement applies.

1.5.3 Note that requirements of latest edition of the Ontario Building Code are to be adhered to, which includes requirements of American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Standard 90.1-2010 - Energy Standard For Buildings Except Low-Rise Residential Buildings.

1.6 MECHANICAL LOCATION

1.6.1 Allowances must be carried by each Contractor for Alterations necessary in the arrangements of apparatus, electrical, conduits, ducting, piping, and equipment that must be incorporated, due to Site conditions, which may differ from **proposed Schematic Drawing Layouts**. Any Alterations necessary in the above arrangements, that have been installed prior to proper study of existing conditions and approval, and/or coordination with other subtrades, must be performed to accommodate or overcome conditions encountered, and shall be done without additional cost to Owner.

1.6.2 Where dimensions locate services and/or equipment, no other location may be selected and used without Consultant's approval.

1.6.3 **Note:** Due to nature of renovation work within an existing building, contractor will inevitably encounter existing restrictive ceiling spaces and/or require relocation of proposed routes of new or revised electrical & piping; in order to overcome existing mechanical/ electrical or structural interferences, all as required to complete general intent of all installations. All Divisions shall make allowances to coordinate and/or revise locations / routes, to avoid interferences with existing light fixtures, structural beams, piping, electrical systems, etc.

1.7 STANDARDS OF MATERIALS

1.7.1 The materials and equipment used in construction of this building shall meet requirements of Ontario Building Code and ASHRAE Standard 90.1-2010.

1.7.2 New materials and equipment are specifically described and named in this specification for purpose of establishing a standard of materials and workmanship.

1.7.3 New materials required for performance of work shall be best of their respective kinds and of a uniform pattern throughout the work.

1.7.4 Where a manufacturer's name is used and is noted as **`Shall be'**, Tender Price shall be based on use of materials or equipment for name mentioned. Alternates to listed equipment shall be included as an Alternate to Base Price, and inserted in appropriate section of the Bid Form.

1.7.5 All equipment listed as **`Acceptable Product'**, means that the item named and specified by catalogue number meets Specification in all respects regarding performance, quality of material and workmanship, similar to existing campus equipment, and is acceptable to Consultant.

1.7.5.1 All proposed alternate equipment that is to be considered as an Equivalent product, must meet all the same standards as the listed ‘acceptable product’, and it is the responsibility of the contractor/supplier to verify and prove to Consultant that any proposed alternate equipment is equal, for it to be considered. This must occur before the deadline for submission.

1.7.5.2 No alternate products will be reviewed/assessed by Consultants for equivalency **within 5 working days** of Tender Close. Unless accepted as an Equivalent, all Alternates to listed equipment shall be included as an Alternate to Base Price, and inserted in appropriate section of the Bid Form.

1.7.5.3 Tender Price shall be based upon Acceptable base products, or accepted Equivalent products, only.

1.8 SHOP DRAWINGS

1.8.1 It is Consultant's preference to use an "electronic" shop drawing submittal and review process. This method has proven to significantly expedite this process and avoid delays.

1.8.2 Submit shop drawings in accordance with General Requirements. Show on shop drawings, details of construction, dimensions, capacity, weight and electrical performance characteristics of equipment or material. Where applicable, include wiring, single line, and schematic diagrams.

1.8.3 Each Section shall submit **Shop Drawings of products and methods of all 'Firestopping Products'** to be used, and respective approved "Firestop System(s)", which will be use per application.

1.9 OPERATION AND MAINTENANCE DATA

1.9.1 Submit operation and maintenance data in accordance with Division 1.

1.9.2 Include in the manuals, information based on the following requirements:

1.9.3 Operation and maintenance instructions to be sufficiently detailed with respect to design elements, construction features, component function and maintenance requirements to permit effective start-up, operation, maintenance modification and expansion of any portion or feature of installation.

1.10 DEFINITIONS

1.10.1 The following are definitions of terms and expressions used in the specification:

1.10.1.1 "Inspection Authority" means Electrical Safety Authority (ESA).

1.10.1.2 "Electrical Code" means Canadian Electrical Code CSA C22.1-02 or code in force at project location.

1.10.1.3 "Indicated" means as shown on contract drawings or as noted in contract documents.

1.11 E.S.A. PERMIT AND INSPECTION

1.11.1 Contractor required to obtain all necessary electrical permits and inspections for all electrical work associated with this project.

1.11.2 Obtain a Final Certificate of Acceptance from Electrical Safety Authority (ESA) on completion of work and submit copy to Consultant, as well as include in Project Data Booklets.

1.11.3 Consultant will carry out inspections and prepare deficiency list for action by Contractor, during, and upon completion of project.

2 PRODUCTS

2.1 GENERAL

2.1.1 Equipment and material to be new CSA certified or special Hydro approval, manufactured to minimum standards quoted, but incorporating additional specified requirement.

2.1.2 Manufacturer's nameplates and CSA labels to be visible and legible after equipment is installed.

2.1.3 Control panels and component assemblies to be shop manufactured.

2.1.4 Use regular material and equipment available from regular production of manufacturer.

2.1.5 This contractor shall coordinate KAIC rating requirements with other subtrades to ensure all Mechanical equipment provided, match building electrical service KAIC requirements.

2.2 BREAKERS

2.2.1 For existing & new panels, use common-trip breakers with single handle for multiple applications, with minimum 22 kAIC breakers (unless lower KAIC is permitted by the O.E.S.C.), all as per Panel Schedule and drawings.

2.2.2 New circuit breakers to match KAIC rating for all existing electrical panels. Review & verify extents on site.

2.2.3 Use bolt-on or plug-in molded case circuit breaker (Thermal Magnetic type for 45A/3P or less, otherwise Electronic Trip for 50A/3P or larger), quick make and break type, for manual and automatic operation with temperature compensation for 40^{o}C ambient and matching interrupting capacities.

2.2.4 All new electronic breakers to be adjustable type, and setup to reduce the “Instant Energy” as much as possible (i.e. lower Calories/cm^{2}), without causing any nuisance tripping.

2.2.5 Provide the following Square’D’ I-Line 600 Vac Branch Breakers (as applicable):
50A - 3P & larger: Square’D’ #RK series @ 65kA (Electronic Trip); or equivalent.
3A to 45A - 3P: Square’D’ #HL series @ 50kA (Thermal Magnetic); or equivalent.

2.2.5.1 OTHER ACCEPTABLE MANUFACTURERS: Eaton, Cutler/Hammer, Siemens.

2.3 CONDUIT AND BOXES

2.3.1 Conduit Fastenings

2.3.1.1 Provide one hole steel straps to secure surface conduits 2"(50 mm) and smaller. Use two hole steel straps for conduits larger than 2"(50 mm).

2.3.2 Conduit Fittings - General

2.3.2.1 Provide fittings manufactured for use with conduit specified.

2.3.2.2 Provide factory "bends" where 90^{o} bends are required for 2"(50 mm) and larger conduits.

2.3.2.3 Provide watertight type connectors and coupling for EMT, as required.

2.3.3 Outlet and Conduit Boxes - General

2.3.3.1 4"(100 mm) square or larger outlet boxes as required for special devices.

2.3.3.2 Gang boxes where wiring devices are grouped.

2.3.3.3 Blank coverplates for boxes without wiring devices.

2.3.4 Sheet Steel Outlet Boxes

2.3.4.1 Galvanized steel single and multi-gang flush device boxes for flush installation, minimum size 3"x 2"x 1-1/2"(75 mm x 50 mm x 38 mm, unless otherwise indicated. Use shallow type boxes for exterior walls. 4"(100 mm) square outlet boxes when more than one conduit enters one side with extension and plaster rings as required.

2.3.4.2 Galvanized steel utility boxes for outlets connected to surface mounted EMT conduit, minimum size 4"x 2"x 1-1/2"(100 mm x 50 mm x 38 mm).

2.3.4.3 4"(100 mm) octagonal outlet boxes for lighting fixtures.

2.3.5 Exterior Wall and Cold Ceiling Outlets

2.3.5.1 Outlet boxes shall be equipped with vapour proof plastic boxes to fit over.

2.3.5.2 Plastic boxes shall be used on the interior of exterior walls to prevent infiltration of cold air and condensation.

2.4 WIRING DEVICES

2.4.1 **SWITCHES**

2.4.1.1 Similar to existing switches; 20 ampere, toggle type, 120 volt, (or 347 volt where required), single pole, 3-way or 4-way as indicated, colour to match existing and as indicated below, commercial specification grade, back and side wired. [Excluding special lighting control devices].

2.4.1.1.1 Acceptable Product: Leviton, Hubbell, Pass&Seymour, or equivalent.

2.4.2 **RECEPTACLES**

2.4.2.1 Similar to existing receptacles; Duplex, 125 volt, 15A or 20A (Type 'T'), U-ground, colour to match existing and as indicated below, commercial specification grade, and tamper resistant.

2.4.2.2 If no existing receptacles within the general vicinity, verify with Consultant on what colour the wiring device should be. (Typical)

2.4.2.2.1 Acceptable Product: Leviton, Hubbell, Pass&Seymour, or equivalent.

2.4.2.2.2 Provide similar brand products for any required GFCI receptacles or 20A/120V Type 'T' receptacles.

2.4.2.2.3 All isolated ground receptacle to be similar in appearance to the standard receptacles, with the exception of a small red triangular symbol to differentiate between the two types.

2.4.2.2.4 Provide proper weather-proof gasketed (in-use) enclosures for all WP GFCI exterior receptacles, as per ESA requirements.

2.4.2.3 Special receptacles: 120 or 208 Volt of type and sizes as listed on drawings. Consult final shop drawings of equipment, prior to installation.

2.4.3 **COVERPLATES**

2.4.3.1 Provide **stainless steel** or **white** coverplates for all new or modified wiring devices. Otherwise, match adjacent wiring device coverplates.

2.4.3.2 Provide blank coverplates on recessed outlet boxes at any removed wiring devices, if wall is not receiving any new wall finishes.

2.4.3.3 Coverplates from one manufacturer throughout project.

2.4.3.4 Sheet steel utility box cover for wiring devices, installed in surface mounted utility boxes.

2.4.3.4.1 Acceptable Product: Leviton, Hubbell, Pass&Seymour, or equivalent.

2.4.3.5 Sheet metal cover plates for wiring devices mounted in surface mounted FS or FD type conduit boxes.

3 EXECUTION

3.1 INSTALLATION

3.1.1 All buried underground conduit / duct and cabling installations shall meet CSA Standard C22.3 No.7 “Underground Systems”, and comply with OESC Rule 12-012.

3.1.2 Maintain minimum spacing (190mm) between parallel underground ducts, in accordance with OESC Rule 4-004 and Tables D17.

3.1.3 Minimum bonding wire size shall comply to Ontario Electrical Safety Code (OESC) - Table 16.

3.1.4 Provide grounding electrode provisions, and grounding conductor sizing, as required to comply with OESC Section 10.

3.1.5 Provide mounting and supports required for safe installation to Consultant's satisfaction, as per manufacturer’s recommendations, and all to meet latest requirements of E.S.A.

3.1.6 Shop finish metal enclosure surfaces by removal of rust and scale, cleaning, application of rust resistant primer inside and outside, and at least two coats of finish enamel.

3.1.7 Clean and touch-up surfaces of shop-painted equipment scratched or marred during shipment or installation, to match original paint.

3.2 LABELLING AND IDENTIFICATION

3.2.1 Identify names of all Electrical Equipment and Disconnect Switches, using phenolic plastic laminate, machine engraved black plates, white letters; adhered and permanently fastened (i.e. screws or revits). Wording on nameplates to be approved by Consultant, prior to manufacture.

3.2.2 Provide clear P-Touch labelling c/w black type-written lettering on ALL equipment disconnect switches and ALL new, relocated, or reused receptacle coverplates, clearly indicating respective electrical panel and circuit feed.

3.2.3 After all removals, modifications, and additions, this Contractor shall allow to provide all new type-written electrical panel legends for all existing electrical panels that have been affected by these renovations.

3.3 ACCESS DOORS

3.3.1 This Contractor shall supply & install access doors, fire rated or not, for furred ceilings or spaces for servicing the equipment and accessories or for inspection of safety, operating or fire devices

for installation under the Division erecting the walls or ceilings.

3.3.2 Access doors shall be flush mounted 600 mm x 600 mm for body entry and 300 mm x 300 mm for hand entry unless otherwise noted. Doors shall open 180^{o}, have rounded safety corners, concealed hinges, screwdriver latches and anchor straps. Steel shall be prime coated. Doors shall be of approved manufacturer with published literature, and for fire rated ceilings, access doors shall be the fire rated type.

3.3.3 Provide fire rated access doors at locations where required to maintain the fire rating of the walls, floors and ceilings.

3.3.4 Acceptable Product: Zurn, Enpoco, Anco-Lehage.

3.4 LOCATION OF OUTLETS AND EQUIPMENT

3.4.1 Location of outlets, junction boxes or disconnects of equipment indicated may be changed by Consultant at no extra cost or credit, providing distance does not exceed 10 feet, information is given before installation, Consultant considers it to be reasonable, and construction is similar.

3.4.2 Check direction of door swings on site. Locate light switch controls (i.e. sensor/switches) on latch side of doors. Make necessary adjustments when interior finish is completed.

3.5 PROTECTION & LABELLING

3.5.1 Protect exposed live equipment such as panel mains and outlet wiring during construction for personnel safety. Shield and mark all live parts "LIVE-120 VOLTS', or with appropriate voltage.

3.5.2 Provide permanent Shock and Arc Flash protection warning label provisions and required PPE, on all applicable equipment, to comply to the Ontario Electrical Code Rule 2-306.

3.6 CONDUIT, SLEEVES AND HOLES

3.6.1 Install conduit, and sleeves prior to pouring of concrete. Holes through exterior walls to be flashed and made weatherproof.

3.6.2 Install cables, conduits and fittings neatly and close to building structure so that necessary furring can be kept to minimum.

3.7 INSULATION RESISTANCE TESTING

3.7.1 Conduct ‘megger testing’ of new incoming underground 600V electrical service feeders, using a 1000V instrument.

3.7.2 Ensure that resistance to ground is not less than that required by Code before energizing. Verify

extents with Consultant.

3.7.3 Submit report of Testing procedures, and insert copy within Project Data Booklets.

3.8 FIELD CONDITIONS

3.8.1 Exact dimensions and locations of equipment shall be checked and verified in the field. Without additional charge or expense to the owner, make necessary changes to accommodate structural conditions.

3.8.2 Notify the Consultant immediately and secure their authority in writing for such revisions before proceeding. Changes and alterations required by an inspector of authority shall be carried out without additional cost to the Owner.

3.9 WORKMANSHIP

3.9.1 First class workmanship only will be accepted, and will be deemed to include safety, efficiency, durability and neatness of detail.

3.9.2 When electrical work is being carried out, this must be done under the direction of at least one licensed journeymen electrician who shall at all times be on the job site.

4 WARRANTY

4.1.1 The Warranty period shall commence on established day of Substantial Completion of the overall project.

4.1.2 All equipment supplied and installed under this section shall be complete with a minimum 1 full year parts & labour warranty (including travel costs) during the Warranty period.

END OF SECTION