# ADDENDUM



Project:	Turnbull School - Music Room Addition	Addendum No.:	A02
Tender #	N/A	No. of Pages:	43 (incl. Cover Page and drawings)
Project #	Hobin #1705	Date:	August 09, 2018

The following change(s) in the Tender Documents are effective immediately. This Addendum forms part of the Contract Documents.

Acknowledge receipt of this Addendum by signing and dating this cover sheet and return via email or facsimile to Reinhard Vogel (reinhard@hobinarc.com). Failure to do so may subject bidder to disqualification.

#### Item Description

- 1.1 Incorporate Changes identified in **Architectural Addendum A02 (37 pages)** prepared by Hobin Architecture Incorporated and attached.
- 1.2 Incorporate Changes identified in **Electrical Addendum ADD-E01 (6 pages)** prepared by WSP and attached.

Senior Arch. Tech.

Douglas Brooks

OAA, MRAIC, Associate AIA

#### Associates

Partners

Barry J. Hobin OAA, FRAIC, Hon. Fellow AIA

William A. Davis OAA, MRAIC, Associate AIA

Gordon Lorimer OAA, FRAIC, Associate AIA Wendy Brawley

Bryan Bonell OAA, MRAIC, Associate AIA

Marc Thivierge OAA, MRAIC

William Ritcey MRAIC

Reinhard Vogel Senior Arch. Tech.

Dan Henhoeffer Senior Arch. Tech. Signed

Date

Hobin Architecture Incorporated

63 Pamilla Street Ottawa, Ontario Canada K1S 3K7

t 613-238-7200 f 613-235-2005

hobinarc.com



Turnbull School Music Room Addition Hobin Project No. 1705

The following information supplements and/or supersedes the bid documents.

This addendum forms part of the contract documents and is to be read, interpreted, and coordinated with all other parts of the contract documents.

The costs of all contained herein are to be included in the contract sum. The following revisions contained in the Addendum supersede the information (*being revised*) contained in the original drawings and specifications issued for the above-named project to the extent referenced and shall become part thereof. Acknowledge receipt of this Addendum by inserting its number and date on the Tender Form. Failure to do so may subject bidder to disqualification.

Partners	ltem No.	Drawing or Spec Section	Description	
Barry J. Hobin OAA, FRAIC, Hon. Fellow AIA	1.0 GEI	NERAL		
William A. Davis OAA, MRAIC, Associate AIA	1.01	CCDC2	Stipulated Price Contract: The successful bidder will enter into a Stipulated Price Contract,	
Gordon Lorimer OAA, FRAIC, Associate AIA			CCDC-2-2008 Agreement with the Owner (Turnbull School).	
Wendy Brawley OAA, MRAIC, Associate AIA	1.02	Stipulated Price Bid Form	Stipulated Price Bid Form: Submit Bid on attached Stipulated Price Bid Form, Section 00 40 00,	
Douglas Brooks Senior Arch. Tech.			CCDC Model Bid Form for Stipulated Price Contract.	
Associates Bryan Bonell OAA, MRAIC, Associate AIA	1.03	Insurance and Bid Bond	Insurance and Bid Bonds: Refer to the attached Specification Section 00 80 50 – Supplementary Conditions for insurance and bid bonding requirements to be submitted with bid submission at Tender Close.	
Marc Thivierge OAA, MRAIC William Ritcey MRAIC Reinhard Vogel Senior Arch. Tech. Hobin Architecture Incorporated 63 Pamilla Street Ottawa, Ontario	1.04	Tender Submission	Tender Submission and Deadline ExtensionDeadline for submitting bids has been extended to ThursdayAugust 16, 2018 at 2:00pm. Per the attached Stipulated Price Form,bids shall be submitted no later than 2:00:00pm at:Hobin Architecture Incorporated63 Pamilla Street,Ottawa, ON, K1S 3K7Tel: 613-238-7200Bid must be submitted in a sealed envelope, marked as to itscontents (Turnbull School Music Room Addition, Hobin ProjectNo.1705), and be directed to the attention of:Hobin Architecture Incorporated63 Pamilla StreetOttawa, ON, K1S 3K7	
Canada K1S 3K7 t 613-238-7200 f 613-235-2005 hobinarc.com			<b>Bid Submission shall include the following:</b> <b>1. Completed Stipulated Price Bid Form</b> (included with this Addendum).	

Turnbull School Music Room Addition		ADDENDUM No. A02		
Hobin Project No. 1705		Page 2 of 3 August 09, 2018		
		<b>2.</b> Security Deposit: Bids are to be accompanied by a security deposit (Bid Bond CCDC 220-2008) in an amount no less than 10% of the bid price; or certified cheque. Endorse Bid Bond or certified cheque in the name of Owner as oblige, signed and sealed by the Principal (Contractor) and surety.		
		<b>3. Agreement to Bond</b> stating that Surety providing the bid Security is willing to supply 50% Performance Bond and 50% Labour and Materials Payment Bond as required by the Contract Documents (the "Agreement to Bond"). Include cost of bonds in Bid Price.		
		<b>4. Insurance:</b> Successful General Contractor to provide signed "Undertaking of Insurance" on standard form provided by insurance company stating intention to provide insurance in accordance with insurance requirements of Contract Documents. Provide original documents.		
		Tenders will not be opened publicly. Bid submissions will be opened at a time subsequent to the Tender Close Deadline. In the event of a tie bid, following bid evaluation by the Owner and Hobin Architecture Incorporated, and all things being equal, the Owner will make a decision using the standard coin toss.		
		Use most current edition CCDC approved bond forms. All documents must be originals, not photocopies.		
		Security deposit will be returned after deliver to Owner of required Performance and Labour Materials Payment bond(s) by accepted Bidder.		
		If not contract is awarded, security deposits will be returned.		
1.05	Card Readers	<u>Card Reader Information:</u> For doors requiring card reader access, consult ADT Protectron. Contact: Paul Clouthier (819-360-0934). See also Item 2.03 below.		
1.06	Acoustic Panels	Hemisphere Model 180 3D Sound Diffusers: Acoustic Panels noted in Addendum No, A01 are supplied in packs of four. Current panel layout will leave four additional tiles. Tile pattern to remain as shown in Addendum No. A01. Remaining tiles to be turned over to Turnbull School.		
1.07	Finish Schedule	A Finish Schedule will not be submitted for this project. Flooring material is a single product as specified, used throughout all Music Room spaces. Ceiling tile & grid system as specified for ancillary rooms. Paint finishes to be determined at time of construction. As specified in Interior Painting Section 09 91 23, allow for 5 colours.		

### ADDENDUM No. A02

2.0 SPI	ECIFICATIONS	
2.01	00 80 00	Supplementary Conditions: Insert the attached Section 00 80 00 – Supplementary Conditions into the Tender Documents.
2.02	Section 01 11 00	Summary of Work: Subsection 1.2 Contract Method: <i>Replace</i> Sentence 1.2.1 in its entirety as follows: <i>".1 Construct work under a Stipulated Price Contract, CCDC2-2008."</i> See also item 1.1 above.
2.03	Section 01 21 00	Cash Allowances: Insert the attached specification section into the Tender Document to identify Cash Allowances to be carried into the Stipulated Price Bid.
2.04	Section 04 22 00	Concrete Unit Masonry: Where imperial block sizes are noted, replace with metric block sizes to match existing.
2.05	Section 08 71 00	Door Hardware: Refer to the attached Door Hardware Addendum Section 08 71 00 for revisions to door hardware.
3.0 DR	AWINGS	
3.01	C-001 & A1.01	Ramp Guard Rail: Length of steel guard rail to match length of landing at bottom of ramp (+/-6.4m). Guard only required where grade difference greater than 600mm. Guard not required for length of ramp portion. Detailed drawing to be issued at time of construction.
3.02	4/A6.01	Plan Detail @ Window Jamb 1: Composition of wall assembly adjacent to W1-type corner window jamb shall be W2-type with horizontal wood siding per Exterior Elevations
3.02	S100	Pier Schedule (P2): Pier P2 size shall be 325 x 550mm as indicated in the Pier Schedule. Set pier to within upstand foundation wall to allow for setting of 225mm wide baseplate. See BP2 detail on S100.
4.0 ELE	ECTRICAL	
4.01	Electrical Addendum E-01	Electrical Addendum E-01: Refer to the attached Electrical Addendum ADD-E01, dated 2018-08- 02 for drawing revisions to Electrical Set.

ISSUED WITH ADDENDUM A02

CCDC Model Bid Form for Stipulated Price Contract

#### STIPULATED PRICE BID FORM

#### BID FORM TO BE DEPOSITED AT: Hobin Architecture Incorporated (Reinhard Vogel) 63 Pamilla Street Ottawa, ON, K1S 3K7 Tel: 613.238.7200 <u>NO LATER THAN 2:00:00pm LOCAL TIME, THURSDAY AUGUST 16, 2018</u>

Project/Contract: Project Contract No.: **Turnbull School Music Room Addition** Hobin Project No. 1705

From (Bidder):

company name

street address or postal box number

city/town, province and postal code

Telephone

email address

To (Owner):

Turnbull School 1132 Fisher Avenue Ottawa, ON, L1Z 6P7

Page	2	of	3

Turnbull School Music Room Addition Page 2 of 3 Hobin Project No. 1705 August 2018 ISSUED WITH ADDENDUM A02 CCDC Model Bid Form for Stipulated Price Contract We, the undersigned, having examined the Bid Documents for the above-mentioned project/contract, including Addendum Numbers as listed below, and having visited the Place of the Work, hereby offer to perform the work in accordance with the Bid Documents, for the stipulated [base bid] price of:

.1	TOTAL CASH ALLOWANCES IDENTIFIED IN SECTION 01 21 00	
----	--	--

.2 **TOTAL STIPIULATED PRICE** (price for all work to be done, including Total Cash Allowances noted above, exclusive of HST):

#### Repeat TOTAL STIPULATED PRICE in writing:

Canadian Dollars

\$

\$

I/We acknowledges having received, reviewed and provided in its Tender Price for all work and costs associated with the following addenda:

Addendum No.	_dated
Addendum No.	dated
Addendum No.	_dated
Addendum No.	_dated

We, the undersigned, declare that:

we agree to perform the Work within the required completion time specified in the Bid Documents,} {(a)

{or}

- {(a) we agree to attain Substantial Performance of the Work within \_\_\_\_\_ [months] [weeks] [days] after receiving notice of contract award.
- we have arrived at this bid without collusion with any competitor, (b)
- (c) this bid is open to acceptance by the Owner for a period of 30 days from the date of this bid closing,
- (d) all bid form supplements called for by the Bid Documents for an integral part of this bid.

STIPULATED PRICE BID FORM

CCDC Model Bid Form for Stipulated Price Contract

#### Signatures:

Signed and submitted by:

company name

name and title of authorized signing officer

signature of authorized signing officer

name of witness

signature of witness

name and title of authorized signing officer

signature of authorized signing officer

name of witness

signature of witness

Dated this \_\_\_\_\_\_ day of \_\_\_\_\_\_, 20\_\_\_,

**BIDDERS CORPORATE SEAL:** 

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 1 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

The Standard Construction Document CCDC 2 2008 for a Stipulated Price *Contract*, English version, consisting of the Agreement Between *Owner* and *Contractor*, Definitions and General Conditions of the Stipulated Price *Contract*, Parts 1 to 14 inclusive, governing same is hereby made part of these *Contract Documents*, with the following amendments, additions and modifications:

#### AGREEMENT BETWEEN OWNER AND CONTRACTOR

#### ARTICLE A-3 – CONTRACT DOCUMENTS

3.1 Add the following to the list of *Contract Documents* in paragraph 3.1:

- Supplementary Conditions to CCDC 2 2008 Section 00 80 50
- Specifications
- Drawings
- Performance Bond
- Labour and Material Payment Bond
- Tender Form

#### ARTICLE A-5 – PAYMENT

- 5.1.3 Amend paragraph 5.1.3, in the first line, by deleting the words " the issuance of the " and replacing them with "receipt of the *Consultant*'s..."
- 5.3.1 Delete paragraph 5.3.1 and replace with the following:

Should either party fail to make payments as them come due under the terms of the *Contract* or in an award by arbitration or court, interest on such unpaid amounts shall be calculated at the rate of 2 percent per annum above the annual rate of interest quoted by the Bank of Canada for prime business loans as it may change from time to time.

#### DEFINITIONS

4. Amend Definition 4 by adding the following to the end of the Definition:

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

16. Amend Definition 16 by adding the following to the end of the Definition:

*Provide* has this meaning whether or not the first letter is capitalized.

Add the following new definitions:

#### 27. Confidential Information

*Confidential Information* means all the information or material of the *Owner* that is of a proprietary or confidential nature, whether it is identified as proprietary or confidential or not, including but not limited to information and material of every kind and description (such as drawings and move-lists) which is communicated to or comes into the possession or control of the *Contractor* at any time, but *Confidential Information* shall not include information that:

1) is or becomes generally available to the public without fault or breach on the part

of the *Contractor*, including without limitation breach of any duty of confidentiality owed by the *Contractor* to the *Owner* or to any third party, but only after that information becomes generally available to the public;

- 2) the *Contractor* can demonstrate to have been rightfully obtained by the *Contractor* from a third party who had the right to transfer or disclose it to the *Contractor* free of any obligation of confidence;
- 3) the *Contractor* can demonstrate to have been rightfully known to or in the possession of the *Contractor* at the time of disclosure, free of any obligation of confidence; or
- 4) is independently developed by the *Contractor* without use of any *Confidential Information*.

#### 28. Construction Schedule

*Construction Schedule* means the schedule for the performance of the *Work* provided by the *Contractor* pursuant to GC 3.5, including any amendments to the *Construction Schedule* made pursuant to the *Contract Documents*.

#### 29. Force Majeure

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

#### 30. Install

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

#### 31. Labour Dispute

Labour Dispute means any lawful or unlawful labour problems, work stoppage, labour disruption, strike, job action, slow down, lock-outs, picketing, refusal to work or continue to work, refusal to supply materials, cessation or work or other labour controversy which does, or might, affect the *Work*.

#### 32. Overhead

*Overhead* m e a n s all site and head office operations and facilities, all site and head office administration and supervision; all duties and taxes for permits and licenses required by the authorities having jurisdiction at the *Place of the Work*; all requirements of Division 1, including but not limited to submittals, warranty, quality control, insurance and bonding; calculations, testing and inspections; meals and accommodations; and, tools, expendables and clean-up costs.

#### 33. Request for Information/RFI

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 3 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

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

#### GENERAL CONDITIONS OF THE STIPULATED PRICE CONTRACT

1.0 Where a General Condition or paragraph of the General Conditions of the *Contract* is deleted by these amendments, the numbering of the remaining General Conditions or paragraphs shall remain unchanged, unless stated otherwise herein, and the numbering of the deleted item will be retained, unused.

#### GC 1.1 CONTRACT DOCUMENTS

1.1.6 Add the following to the end of paragraph 1.1.6:

The Specifications are divided into divisions and sections for convenience but shall be read as a whole and neither such division nor anything else contained in the Contract Documents will be construed to place responsibility on the Owner or the Consultant to settle disputes among the Subcontractors and Suppliers with respect to such divisions. The Drawings are, in part, diagrammatic and are intended to convey the scope of the Work and indicate general and appropriate locations, arrangements and sizes of fixtures, equipment and outlets. The Contractor shall obtain more accurate information about the locations, arrangements and sizes from study and coordination of the Drawings, including Shop Drawings and shall become familiar with conditions and spaces affecting those matters before proceedings with the Work. Where site conditions require reasonable minor changes, where the change requires only additional labour of one half hour or less as indicated locations and arrangements, the Contractor shall make such changes at no additional cost to the Owner. Similarly, where known conditions or existing conditions interfere with new installation and require relocation, the Contractor shall include such relocation in the Work. The Contractor shall arrange and install fixtures and equipment in such a way as to conserve as much headroom and space as possible. The schedules are those portions of the Contact Documents, wherever located and whenever issued, which compile information of similar content and may consist of drawings, tables and/or lists.

1.1.7 Amend paragraph 1.1.7.1 by adding:

"Amendments to CCDC 2 – 2008" before "the Agreement between the *Owner* and the *Contractor*"

"Instructions to Tenderers" after "Supplementary Conditions" "Addenda to Instructions to Tenderers" after "Instructions to Tenderers" "Tender Form" after "Addenda to Instructions to Tenderers"

Add new paragraph 1.1.7.5 as follows:

.5 Should reference standards and *Specifications* conflict with each other or if certain requirements of the *Specifications* conflict with other requirements of the *Specifications*, the more stringent requirements shall govern.

1.1.8 Delete paragraph 1.1.8 in its entirety and substitute as follows:

The *Consultant*, on behalf of the *Owner* shall provide the *Contractor* without charge, twenty (20) copies of the *Contract Documents*, exclusive of those required by jurisdictional

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 4 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

authorities and the executed *Contract Documents*. Additional copies can be purchased by the *Contractor* at the *Consultant's* cost of reproduction, handling and applicable taxes. The *Consultants* shall provide the *Contractor* with one electronic set of PDF's of all drawings and specifications for the *Contractor* to print for the purpose of completing the *Work*. The *Contractor* may be required to sign an agreement with the *Consultant* for the use of these files.

#### 1.1.11 Add new paragraph 1.1.11 as follows:

The *Contract Documents* shall be signed in triplicate (3) by the *Owner* and the *Contractor*, and each of the *Contractor*, the *Owner* and the *Consultant* shall retain one set of signed and sealed (if required by the governing law of the *Contract*) *Contract Documents*.

#### GC 1.5 EXAMINATION OF DOCUMENTS AND SITE

Add new GC 1.5 – EXAMINATION OF DOCUMENTS AND SITE as follows:

1.5.1 The *Contractor* declares and represents that in tendering for the *Work*, and in entering into a *Contract* with the *Owner* for the performance of the *Work*, it has either investigated for itself, with reasonable due diligence, the local conditions and the character of the *Work* generally available from a site visit, or that it has elected not to undertake such an investigation, but that in either case the *Contractor* has assumed and does hereby assume all risk of conditions now existing or arising in the course of the *Work* which might or could make the *Work*, or any items thereof more expensive in character, or more onerous to fulfil, than was contemplated or known when the tender was made or the *Contract* signed.

#### GC 1.6 TIME IS OF THE ESSENCE OF THE CONTRACT

Add new GC 1.6 - TIME IS OF THE ESSENCE OF THE CONTRACT as follows:

1.6.1 All time limits stated in the *Contract Documents* are of the essence of the *Contract*. It is acceptable for the Contractor to propose an alternate sequence for the construction phases. Any change to the sequence of construction proposed by the Contractor must be approved by the Owner and Consultant within 4 weeks of award of contract. No additional costs will be considered to adjust the sequencing of the project.

#### GC 2.2 ROLE OF THE CONSULTANT

- 2.2.7 Delete the words "Except with respect to GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER".
- 2.2.13 Amend paragraph 2.2.13 by the addition of the following to the end of that paragraph:

If, in the opinion of the *Contractor*, the *Supplemental Instruction* involves an adjustment in the *Contract Price* or in the *Contract Time*, it shall, within ten (10) *Working Days* of receipt of a *Supplemental Instruction*, provide the *Consultant* with a notice in writing to that effect. Failure to provide written notification within the time stipulated in this paragraph 2.2.13 shall be deemed an acceptance of the *Supplemental Instruction* by the *Contractor*, without any adjustment in the *Contract Price* or *Contract Time*.

Add new paragraph 2.2.1.9 as follows:

2.2.19 The *Consultant* or the *Owner*, acting reasonably, may from time to time require the *Contractor* to remove from the *Project* any personnel of the *Contractor*, including project

managers, superintendents or Subcontractors. Such persons shall be replaced by the *Contractor* in a timely fashion to the satisfaction of the *Consultant* or the *Owner*, as the case may be, at no cost to the *Owner*.

#### GC 2.3 REVIEW AND INSPECTION OF THE WORK

2.3.2 Add new sentence to 2.3.3 as follows:

The Contractor shall provide the Consultants a minimum of 72 hours notice.

2.3.3 Delete paragraph 2.3.3 in its entirety and replace it with the following:

The *Contractor* shall furnish promptly two copies to the *Consultant* and one copy to the *Owner* of all certificates and inspection reports relating to the *Work*.

2.3.4 Insert the word "review" after the word "inspections" in the first, second and third lines of paragraph 2.3.4.

Add a new paragraph 2.3.8 as follows:

2.3.8 The *Consultant* will conduct periodic reviews of the *Work* in progress, to determine general conformance with the requirements of the *Contract Documents*. Such reviews, or lack thereof, shall not give rise to any claims by the *Contractor* in connection with construction means, methods, techniques, sequences and procedures, nor in connection with construction safety at the Place of *Work*, responsibility for which belongs exclusively to the *Contractor*.

#### GC 2.4 DEFECTIVE WORK

2.4.1 Amend GC 2.4.1 by inserting ", the *Owner* and/or its agent" in the first sentence following "rejected by the Consultant".

Add new paragraph 2.4.1.1:

2.4.1.1 The *Contractor* shall prioritize the correction of any defective work, which, in the sole discretion of the *Owner*, adversely affects the day to day operations of the *Owner* or which, in the sole discretion of the Consultant, adversely affects the progress of the *Work*.

Add new paragraph 2.4.4 as follows:

2.4.4 Neither acceptance of the *Work* by the Consultant, nor any failure by the Consultant to identify, observe or warn of defective *Work* or any deficiency in the *Work* shall relieve the *Contractor* from the sole responsibility for rectifying such defect or deficiency at the *Contractor*'s sole cost, even where such failure to identify, observe or warn is negligent.

#### GC 3.1 CONTROL OF THE WORK

3.1.3 Add a new paragraph 3.1.3, 3.1.4 and 3.1.15 as follows:

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 proceedings with any part of the affected *Work*.

- 3.1.4 Notwithstanding the provisions of paragraphs 3.1.1 and 3.1.2, the *Owner* shall have access to the site at all times to monitor all aspects of construction. Such access shall in no circumstances affect the obligations of the *Contractor* to fulfill its contractual obligations.
- 3.1.5 The *Contractor* shall not commence *Work* or procure any materials until both the *Contractor* and the *Owner* have either executed (signed) the *Contract*, or the *Contractor* has received a letter of acceptance of the Tender from the *Owner* or its agent <u>AND</u> the *Contractor* has delivered the required *Work*place Safety and Insurance Board Certificate of Clearance, proof of insurance coverage, <u>AND</u> the *Owner* or its agent has unconditionally accepted such submissions, in writing, as being in compliance with the requirements of the *Contract Documents*.

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

- 3.2.2.2 Delete paragraph 3.2.2.2 in its entirety.
- 3.2.3.2 Delete paragraph 3.2.3.2 and replace it with the following:

Co-ordinate and schedule the activities and work of other contractors and *Owner's* own forces with the *Work* of the *Contractor* and connect as specified or shown in the *Contract Documents*.

Add new paragraphs 3.2.3.4, 3.2.3.5 and 3.2.3.6 as follows:

- 3.2.3.4 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.
- 3.2.3.5 Provide for the coordination of the activities and work of other contractors and the Owners own forces with the Work of the Contract, to the satisfaction of the Owner.
- 3.2.3.6 The following is a list of Owner Supplied Contractors that the Contractor will require to coordinate:
  - 1) Security Installation
  - 2) IT Installation
  - 3) Communications Installation

#### GC 3.4 DOCUMENT REVIEW

3.4.1 Delete paragraph 3.4.1 in its entirety and substitute new paragraph 3.4.1:

The *Contractor* shall review the *Contract Documents* and shall report promptly to the Consultant any error, inconsistency, or omission the *Contractor* may discover. Such review by the *Contractor* shall be undertaken with the standard of care described in paragraph 3.14.1 of the *Contract.* Except for its obligation to make such review and report the result, the

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 7 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

*Contractor* does not assume any responsibility to the *Owner* or to the Consultant for the accuracy of the *Contract Documents*. Provided it has exercised the degree of care and skill described in this paragraph 3.4.1, the *Contractor* shall not be liable for damage or costs resulting from such errors, inconsistencies, or omissions in the *Contract Documents*, which the *Contractor* could not have discovered through the exercise of the required standard of care.

Add new paragraph 3.4.2. as follows:

3.4.2 If, at any time, the *Contractor* finds errors, inconsistencies, or omissions in the *Contract Documents* or has any doubt as to the meaning or intent of any part thereof, including laying out of the *Work*, the *Contractor* shall immediately notify the Consultant, and request written instructions, a *Supplemental Instruction*, Change Order, or Change Directive, as the case may require, and the *Contractor* shall not proceed with the work affected until the *Contractor* has received such written instructions, a *Supplemental Instruction*, Change Order or Change Directive. Neither the *Owner* nor the Consultant will be responsible for the consequences of any action of the *Contractor* based on oral instructions that have not been confirmed in a proper written form in a timely manner.

Add new paragraphs 3.4.3 as follows:

3.4.3 Errors, inconsistencies and/or omissions in the *Drawings* and/or *Specifications* which do not allow completion of the *Work* of the *Contract* shall be brought to the Consultant's attention prior to the execution of the *Contract* by means of an *RFI*.

#### GC 3.8 LABOUR AND PRODUCTS

3.8.3 Amend paragraph 3.8.3 by adding the words, ", agents, Subcontractors and *Suppliers*" after the word "employees" in the first line.

#### **GC3.9 DOCUMENTS AT THE SITE**

Add new paragraph 3.9.2 as follows:

#### 3.9.2 Record drawings:

- .1 The Contractor shall be required to produce and demonstrate to the Consultant on a monthly basis that the Contractor has kept the records of adjustments of the work on a set of Record Drawings kept on site.
- .2 The Contractor shall on a monthly basis issue a certificate with their monthly progress draw that the Record drawings are complete and up to date as reflected in the work certified to date.
- .3 As part of the project breakdown, the Contractor shall identify a schedule of values associated with the monthly Record drawing update with a value of 0.5% of the project and billed on a monthly basis.
- 4. When the Contractor submits a request for Substantial Performance, the Contractor shall submit mark-up Record drawings.
- 5. The Contractor will submit Operation and Maintenance Instruction Manuals updated and revised to show construction revisions. Operation and Maintenance Instruction Manuals shall be updated to reflect equipment and materials being used within each phase of construction.

#### GC 3.11 USE OF THE WORK

3.11.1 In the second line between the words "permits" and "or" add, "by direction of the *Owner* or

Consultant, ".

Add new paragraph 3.11.3 as follows:

3.11.3 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 use before Substantial Performance of the *Work*, if, in the opinion of the Consultant, such entry and occupation does not prevent or substantially interfere with the *Contractor* in the performance of the *Contract* within the *Contract Time*. Such entry or occupation shall neither be considered as acceptance of the *Work*, nor in any way relieve the *Contractor* from its responsibility to complete the *Contract*.

Add new paragraph 3.11.4 as follows:

3.11.4 The Contractor shall abide by and enforce the Owner's directives and policies regarding Criminal Background Checks, signs, advertisements, fires and smoking at the Place of Work,

#### GC 3.14 CONTRACTOR STANDARD OF CARE

Add a new General Condition 3.14 – CONTRACTOR STANDARD OF CARE as follows:

- 3.14.1 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*.
- 3.14.2 The *Contractor* further represents, covenants and warrants to the *Owner* that:
  - .1 the personnel it assigns to the *Project* are appropriately experienced;
  - .2 there are no pending, threatened or anticipated claims, liabilities or contingent liabilities that would have a material effect on the financial ability of the *Contractor* to perform its work under the *Contract*.

#### GC 3.15 OCCUPANCY OF THE WORK

Add a new General Condition 3.15 – OCCUPANCY OF THE WORK as follows:

- 3.15.1 The *Owner* reserves the right to take possession of and use for any intended purpose any portion or all of the undelivered portion of the *Project* even though the *Work* may not be substantially performed, provided that such taking possession and use will not interfere, in any material way, with the progress of the *Work*, having obtained all necessary approvals from the Authorities having Jurisdiction The taking of possession or use of any such portion of the *Project* shall not be deemed to be the *Owner's* acknowledgment or acceptance of the *Work* or the *Project*, nor shall it relieve the *Contractor* of any of its obligations under the *Contract*.
- 3.15.2 Whether the *Project* contemplates *Work* by way of renovations in buildings which will be in use or be occupied during the course of the *Work* or where the *Project* involves *Work* that is adjacent to a structure which is in use or is occupied, the *Contractor*, without in any way limiting its responsibilities under the *Contract*, shall take all reasonable steps to avoid

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 9 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

interference with fire exits, building access and egress, continuity of electric power and all other utilities, to suppress dust and noise and to avoid conditions likely to propagate mould or fungus of any kind and all other steps reasonably necessary to promote and maintain the safety and comfort of the users and occupants of such structures or adjacent structures.

#### GC 4.1 CASH ALLOWANCES

- 4.1.1 Delete the second sentence in paragraph 4.1.1
- 4.1.4 Delete paragraph 4.1.4 in its entirety and substitute the following:

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*.

4.1.5 Delete paragraph 4.1.5 in its entirety and substitute the following:

The net amount of any unexpended cash allowances, after providing for any reallocations as contemplated in paragraph 4.1.4, shall be deducted from the *Contract* Price by Change Order without any adjustment for the *Contractor's* overhead and profit on such amount.

Add new paragraphs 4.1.8 and 4.1.9 as follows:

- 4.1.8 The Owner reserves the right to call, or to have the *Contractor* call, for competitive bids for portions of the *Work*, which are to be paid for from cash allowances.
- 4.1.9 Cash allowances cover the net cost to the *Contractor* of services, Products, Construction Equipment, freight, unloading, handling, storage, installation, All applicable taxes, and other authorized expenses incurred in performing any *Work* stipulated under the cash allowances but does not include any Value Added Taxes payable by the *Owner* and the *Contractor*.

#### GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

- 5.1.1 Delete paragraph 5.1.1 in its entirety.
- 5.1.2 Delete paragraph 5.1.2 in its entirety.

#### GC 5.2 APPLICATIONS FOR PROGRESS PAYMENT

5.2.2 Delete paragraph 5.2.2 in its entirety and substitute the following:

Applications for payment shall be dated the last day of each payment period, which is the last day of the month or an alternative day of the month agreed in writing by the parties. The amount claimed shall be for the value, proportionate to the amount of the *Contract*, or work performed and Products delivered and incorporated into the *Work* at that date. No amount claimed shall include products delivered and not incorporated into the work, unless the products are free and clear of all security interests, liens and other claims of third parties.

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 10 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

Each application for payment, except the first, shall include a statutory declaration, in the CCDC 9A - 2001 form, up to the date of the application for payment, in a form approved by the Consultant. Each application for payment (including the first), shall also include:

.1 A certificate, issued by an agency or firm providing workers' compensation insurance to the *Contractor*, verifying that coverage is in force at the time of making the application for payment, and that coverage will remain in force for at least sixty (60) days thereafter.

.2 A declaration by the *Contractor*, in a form approved by the Consultant, verifying that the performance of the *Work* is in compliance with all applicable regulatory requirements respecting environmental protection, first safety, public safety and occupational health and safety.

.3 A pre-approved schedule of values, supplied by the *Contractor*, for Divisions 1 through 14 and 31 through 33 of the *Work*, aggregating the total amount of the *Contract* Price. The schedule of values shall be broken down by Phase of the Contract.

.4 A separate pre-approved schedule of values, supplied by each Subcontractor, for each of Division 20 through 28 of the *Work*, aggregating the total amount of the Subcontract Price.

.5 Invoices to support all claims against the cash allowance.

#### GC5.2 APPLICATIONS FOR PROGRESS PAYMENT

Add to the end of the paragraph 5.2.7 the following sentence:

Any Products delivered to the Place of the Work but not yet incorporated into the Work shall remain at the risk of the Contactor notwithstanding that title has passed to the Owner pursuant to General Condition 13.1 - OWNERSHIP OF MATERIALS.

Add paragraph 5.2.8 as follows:

5.2.8 The Contractor shall prepare current As-Built Drawings during the course of the Work, which current As-Built Drawings shall be maintained by the Contractor and made available to the Consultant for review with each application for progress payment. The Consultant may retain a reasonable amount and up to a maximum of the amounts outlined in paragraph 5.4.6, from any progress payments for the value of the As-Built Drawings not presented for review until the As-Built Drawings are presented for review.

#### GC 5.3 PROGRESS PAYMENT

5.3.1.3 Delete subparagraph 5.3.1.3 in its entirety and substitute as follows:

The *Owner* shall make payment to the *Contractor* on account as provided in Article A-5 of the Agreement – PAYMENT no later than 20 calendar days after the date that a complete certificate of payment is issued by the Consultant

Add new paragraphs 5.3.2 and 5.3.3 as follows:

5.3.2 If the *Contractor* fails to provide all documentation as required by GC 5.2 – APPLICATIONS

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 11 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

FOR PROGRESS PAYMENT, the Consultant or *Owner* shall be entitled to return the application for progress payment to the *Contractor* for completion. The 10 day review period by the Consultant and 20 day payment period by the *Owner* will commence upon receipt of a complete application for progress payment.

#### GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK

5.4.2 Delete paragraph 5.4.2 in its entirety and substitute the following:

The Consultant will review the *Work* to verify the validity of the application and shall promptly, and in any event, no later than 20 calendar days after receipt of the *Contractor's* complete deficiency list and application:

.1 prepare a final deficiency list incorporating all items to be completed or corrected. Each item is to have an indicated value for correction or completion. Determination of the value is defined in GC 5.10 – DEFICIENCY HOLDBACK. The final deficiency list complete with values is to be included with the Consultant's draft verification.

- .2 having completed 5.4.2.1, the Consultant shall:
  - .1 advise the *Contractor* in writing that the *Work* or the designated portion of the *Work* is not substantially performed and give reasons why, or
  - .2 state the date of Substantial Performance of the *Work* in a certificate and issue a copy of that certificate to each of the *Owner* and the *Contractor*.
- 5.4.3 Delete paragraph 5.4.3 in its entirety and substitute the following:

Following the issuance of the certificate of Substantial Performance of the *Work*, the following shall apply to completing the *Work*:

- .1 *Contractor* is to complete the *Work* within sixty (60) calendar days.
- .2 No payments will be processed between Substantial Performance of the *Work* and the completion of the *Work*.
- .3 The *Owner* reserves the right to *Contract* out any or all unfinished *Work* if it has not been completed within sixty (60) days of Substantial Performance of the *Work* without prejudice to any other right or remedy and without affecting the warranty period. The cost of completing the *Work* shall be deducted from the *Contract* Price.

Add new paragraphs 5.4.4, 5.4.5 and 5.4.6:

- 5.4.4 Within the time prescribed by the construction/builder's lien legislation in force at the Place of the *Work*, or where there is no legislation or no time prescribed, within a reasonable time of receiving a copy of the certificate of Substantial Performance of the *Work* signed by the Consultant, the *Contractor* shall take whatever steps are required to publish or post a signed copy of the certificate, as is required by such legislation. If the *Contractor* fails to comply with this provision, the *Owner* may take the required steps pursuant to the legislation and charge the *Contractor* for any costs so incurred.
- 5.4.5 Prior to submitting its written application for Substantial Performance of the *Work*, the *Contractor* shall submit to the Consultant all:

ISSUED FOR ADDENDUM A02

- .1 guarantees;
- .2 warranties;
- .3 certificates;
- .4 final testing and balancing reports;
- .5 distribution system diagrams;
- .6 spare parts;
- .7 maintenance manuals;
- .8 samples;
- .9 reports and correspondence from authorities having jurisdiction in the Place of the *Work*
- .10 shop drawings;
- .11 inspection certificates;
- .12 marked-up record or as-built drawings from the construction trailer.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*. The Consultant shall refuse to certify Substantial Performance of the *Work* if the submittals referred to in this paragraph 5.4.5 are not provided by the *Contractor*. Alternatively a sum may be withheld pending the Consultant establishing a value for some or all of the remaining work to be completed from the list above.
- 5.4.6 The *Contractor* shall submit full and complete digital record or as-built drawings to the Consultant within forty-five (45) days of the issuance of the certificate of Substantial Performance of the *Work* and the *Owner* shall be at liberty to withhold, from amounts otherwise payable to the *Contractor*, an amount not to exceed one (1) percent of the *Contract* Price as security for the obligation of the *Contractor* to deliver such digital record or as built drawings.

Add new paragraph 5.4.7 as follows:

- 5.4.7 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

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 13 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

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.

#### GC 5.5 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

5.5.1.1 Add to end of sentence ", and the application by the *Contractor* shall be accompanied by:

.1 a certificate, issued by an agency or firm providing workers' compensation insurance to the *Contractor*, verifying that coverage is in force at the time of making application for payment, and that coverage will remain in force for at least sixty (60) days thereafter; and,

.2 a declaration by the *Contractor*, in a form approved by the Consultant, verifying performance of the *Work* in compliance with all applicable regulatory requirements respecting environmental protection, fire safety, public safety and occupational health and safety."

Add new subparagraph 5.5.1.3 as follows

- 5.5.1.3 submit a statement that no written notices of liens have been received by it
- 5.5.3 Delete paragraph 5.5.3 in its entirety.
- 5.5.5 Delete paragraph 5.5.5 in its entirety.

#### GC 5.6 PROGRESSIVE RELEASE OF HOLDBACK

Delete GC 5.6 in its entirety.

#### GC 5.7 FINAL PAYMENT

5.7.1 Delete paragraph 5.7.1 in its entirety and substitute as follows:

When the *Contractor* considers that the *Work* is completed, as defined in the lien legislation applicable to the Place of the *Work* or if such definition does not exist, in accordance with other applicable legislation, industry practice or provisions which may be agreed to between the parties, 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 5.4.5, together with complete and final as-built drawings and:

.1 the *Contractor's* written request for release of the deficiency holdback, including a statement that no written notices of lien have been received by it;

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 14 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

- .2 a Statutory Declaration CCDC 9A-2001;
- .3 the evidence of workers' compensation compliance required by GC 10.4.1.

The *Work* shall be deemed not to be completed until all of the aforementioned documents have been delivered, completed to the satisfaction of the *Owner*, and the *Owner* may withhold payment in respect of the delivery of any documents in an amount determined by the Consultant in accordance with the provisions of GC 5.8 - WITHHOLDING OF PAYMENT.

- 5.7.2 Delete from the first line of paragraph 5.7.2 the words, "calendar days" and substitute the words "*Working Days*".
- 5.7.4 Delete from the second line of paragraph 5.7.4 the words, "5 calendar days after the issuance" and substitute the words "20 calendar days after receipt of".

#### GC 5.10 DEFICIENCY HOLDBACK

Add a new General Condition 5.10 - DEFICIENCY HOLDBACK as follows:

5.10.1 Notwithstanding any provisions contained in the *Contract Documents* concerning certification and release of monies to the *Contractor*, the *Owner* reserves the right to establish a deficiency holdback, at the time of the review for Substantial Performance, based on a 200% dollar value of the deficiencies listed by the Consultant. No individual deficiency will be valued at less than two hundred dollars (\$200.00). The *Owner* shall retain the entire deficiency holdback amount until completion of all of the deficiencies listed by the Consultant to the satisfaction of the Consultant.

#### GC 6.1 OWNER'S RIGHT TO MAKE CHANGES

Add new paragraphs 6.1.3., 6.1.4, 6.1.5, 6.1.6 and 6.1.7 as follows:

- 6.1.3 Labour costs shall be actual, prevailing rates at the Place of the *Work* paid to workers, plus statutory charges on labour including WSIB, unemployment insurance, Canada pension, vacation pay, hospitalization and medical insurance. The *Contractor* shall provides these rates, when requested by the Consultant, for review and/or agreement.
- 6.1.4 Quotations for changes to the *Work* shall be accompanied by itemized breakdowns together with detailed, substantiating quotations or cost vouchers from Subcontractors and *Suppliers*, submitted in a format acceptable to the Consultant and including any costs associated with extensions in *Contract Time*.
- 6.1.5 When both additions and deletions covering related *Work* or substitutions are involved in a change to the *Work*, payment, including Overhead and profit, shall be calculated on the basis of the net difference, if any, with respect to that change in the *Work*.
- 6.1.6 No extension to the *Contract Time* shall be granted for changes in the *Work* unless the *Contractor* can clearly demonstrate that such changes significantly alter the overall construction schedule submitted at the commencement of the *Work*. Extensions of *Contract Time* and all associated costs, if approved pursuant to GC 3.4.2, are to be included in the relevant Change Order.
- 6.1.7 When a change in the *Work* is proposed or required, the *Contractor* shall within 10 calendar days submit to the Consultant for review a claim for a change in *Contract* Price and/or

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 15 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

*Contract Time*. Should 10 calendar days be insufficient to prepare the submission, the *Contractor* shall within 5 calendar days, advise the Consultant in writing of the proposed date of submission of the claim. Claims submitted after the dates prescribed herein will not be considered.

#### GC 6.2 CHANGE ORDER

6.2.1 Add after the last sentence in the paragraph:

The adjustment in the *Contract Time* and the *Contract* Price shall include an adjustment, if any, for delay or for the impact that the change in the *Work* has on the *Work* of the *Contractor*, and once such adjustment is made, the *Contractor* shall be precluded from making any further claims for delay or impact with respect to the change in the *Work*, except for unforeseen conditions that arise in the process of completion of the change in the *Work*.

Add new paragraph 6.2.3 6.2.4, 6.2.5 and 6.2.6 as follows

- 6.2.3 The value of a change shall be determined in one or more of the following methods as directed by the Consultant.
  - .1 by estimate and acceptance of a lump sum;
  - .2 by negotiated unit prices which include the *Contractor's* Overhead and profit, or;
  - .3 by the actual cost to the *Owner*, such costs to be the actual cost after all credits included in the change have been deducted, plus the following ranges of mark-up on such costs:
    - .1 for Change Orders with a value of \$0 to \$20,000 the total Subcontractor/Supplier mark-up including Overhead and profit shall be 15% and the total *Contractor* mark-up including overhead and profit shall be 10%.
    - .2 For Change Orders with a value in excess of \$20,000, the Subcontractor/Supplier and *Contractor* mark-up on the first \$20,000 shall be as in 6.2.3.3.1 above and the mark-up including Overhead and profit on the balance of the invoice shall, for Subcontractors and *Suppliers*, be 7.5 percent and for the *Contractor*, 5 percent.
- 6.2.4 All quotations will be submitted in a complete manner listing:
  - .1 quantity of each material,
  - .2 unit cost of each material,
  - .3 man hours involved,
  - .4 cost per hour,
  - .5 Subcontractor quotations submitted listing items 1 to 4 above and item 6 below.
  - .6 mark-up
- 6.2.5 The Owner and the Consultant will not be responsible for delays to the Work resulting from

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 16 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

late, incomplete or inadequately broken down valuations submitted by the Contractor.

- 6.2.6 Notwithstanding the foregoing, errors, inconsistencies, discrepancies and/or omissions shall not include lack of reference on the *Drawings* or in the *Specifications* to labour and/or Products that are required or normally recognized within respective trade practices as being necessary for the complete execution of the *Work*. The *Contractor* shall not use subsequent *RFIs*, issued during execution of the *Work* to establish a change and/or changes in the *Work* pursuant to Part 6 CHANGES IN THE WORK. The contractor shall include the pricing for all work and all trades involved in the scope of the change.
- GC 6.3 CHANGE DIRECTIVE
- 6.3.6.1 Amend paragraph 6.3.6.1 by deleting the final period and adding as follows "which shall be calculated as follows":
  - .1 for Change Orders with a value of \$0 to \$20,000 the total Subcontractor/Supplier mark-up including Overhead and profit shall be 15% and the total *Contractor* mark-up including overhead and profit shall be 10%.
  - .2 For Change Orders with a value in excess of \$20,000, the Subcontractor/Supplier and Contractor mark-up on the first \$20,000 shall be as in 6.3.6.1.1 above and the mark-up including Overhead and profit on the balance of the invoice shall, for Subcontractors and Suppliers, be 7.5 percent and for the Contractor, 5 percent.
- 6.3.6.2 Delete paragraph 6.3.6.2 and replace it with the following:

If a change in the *Work* results in a net decrease in the *Contract* Price in excess of \$20,000 the amount of the credit shall be the net cost, with deduction for Overhead and profit. If a change in the *Work* results in a net decrease in the *Contract* Price of \$20,000 or less, the amount of the credit shall be the net cost, without deduction for Overhead or profit.

- 6.3.7.1 In subparagraph 6.3.7.1 insert "while directly engaged in the work attributable to the change" after the words 'in the direct employ of the *Contractor*".
- 6.3.7 At the end of paragraph 6.3.7 add the following:

All other costs attributable to the change in the *Work* including the costs of all administrative or supervisory personnel are included in Overhead and profit calculated in accordance with the provisions of paragraph 6.1.5 of GC6.1 – OWNER'S RIGHT TO MAKE CHANGES.

#### GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

Add new paragraph 6.4.5

6.4.5 If the Contractor was given access to the Place of the Work prior to submission of the bid on which the Contract was awarded, then the Contractor confirms that it carefully investigate the Place of the Work and, in doing so, applied to that investigation the degree of care and skill required by paragraph 3.14.1. In those circumstances, the Contractor is not entitled to an adjustment to the Contract Price or to an extension of the Contract Time for conditions which could reasonably have been ascertained by the Contractor by such careful investigation, or which could have been reasonably inferred

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 17 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

from the material provided with the Contract Documents. In those circumstances, should a claim arise, the Contractor will have the burden of establishing that it could not have discovered the materially different conditions from a careful investigation, because of restrictions placed on its access or inferred the existence of the conditions from the material provided with the Contract Documents. This clause in no way limits the Contractors rights under GC6.4.1.

#### GC 6.5 DELAYS

Add new paragraphs 6.5.6 and 6.5.7

- 6.5.6 The Costs which the Contractor may, from time to time, be entitled to pursuant to the provisions of paragraph 6.5.1, 6.5.2 or 6.5.3 shall not include loss of profits or consequential damages. "Reasonable costs", as referenced in paragraph 6.5.1, 6.5.2 and, or 6.5.3 shall be specifically defined as documented, itemized costs directly attributable to delay and categorized as follows: extended job supervision, extended site office overhead, extended use of construction equipment, wage and material escalation, extended office overhead and profit for the work at a reasonable rate demonstrated by the Contractor.
- 6.5.7 Upon notice of Delay, the Contractor shall demonstrate the impact of the delay clearly identified on each subsequent schedule update.

#### GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT –

At paragraph 7.1.2 Add the following subsections.

- .1 If in the opinion of the Owner or Owner's Agent, the Contractor fails to satisfactorily carry out the obligations and duties of an employer and/or constructor as required under the Occupational Health and Safety Act, the Owner reserves the right to immediately notify the contractor in writing of the alleged default.
- .2 Upon issuance, the notice of alleged default shall be signed off by both the Contractor and the Owner or Owner's Agent.

At paragraph 7.1.3 Add the following subsections:

.4 In the case of an alleged default under GC 7.1.2.1, upon receipt of written notice, the Contractor shall take action forthwith to correct the default to the satisfaction of the Owner, or the Owner's Agent.

At paragraph 7.1.4.2 Add the following subsections:

.3 In the case of an alleged default under GC 7.1.2.1, and should the Contractor disagree with the alleged default, the Owner or the Owner's Agent reserves the right to stop all or part of the work and immediately contact the Ontario Ministry of Labour to render a decision.

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 18 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

.4 In the case of an alleged default under GC 7.1.2.1, should it be determined by the Ontario Ministry of Labour that a default did not occur, the Owner will reimburse the Contractor for its reasonable costs arising from the termination of all or part of the work.

#### GC 8.2 NEGOTIATION, MEDIATION AND ARBITRATION

- 8.2.1 Amend paragraph 8.2.1 by changing part of the second line from "shall appoint a *Project* Mediator" to "may appoint a *Project* Mediator, except that such an appointment shall only be made if both the *Owner* and the *Contractor* agree."
- 8.2.4 Amend paragraph 8.2.4 by changing part of the second line from "the parties shall request the *Project*

Mediator" to "and subject to paragraph 8.2.1 the parties may request the *Project* Mediator" and by adding after the word "dispute" at the end of the first sentence the words "such request to be effective only if it is made by both parties".

8.2.6 Delete paragraphs 8.2.6 in its entirety and substitute with:

The dispute may be finally resolved by arbitration under the Rules for Arbitration of Construction Disputes as provided in CCDC 40 in effect at the time of bid closing, provided that both the *Contractor* and the *Owner* agree. If the *Contractor* and the *Owner* agree to resolve the dispute by arbitration, the arbitration shall be conducted in the Town of Renfrew, Ontario or as the parties may agree.

Delete paragraphs 8.2.7 and 8.2.8 in their entirety.

#### GC 9.1 PROTECTION OF WORK AND PROPERTY

9.1.1.1 Delete subparagraph 9.1.1.1 in its entirety and substitute the following:

errors in the *Contract* Documents which the *Contractor* could not have discovered applying the standard of care described in paragraph 3.14.1;

9.1.2 Delete paragraph 9.1.2 in its entirety and substitute as follows:

Before commencing any *Work*, the *Contractor* shall determine the locations of all underground or hidden utilities and structures indicated in or inferable from the *Contract* Documents, or that are inferable from an inspection of the Place of the *Work* exercising the degree of care and skill described in paragraph 3.14.1.

Add new paragraph 9.1.5 as follows:

9.1.5 With respect to any damage to which paragraphs 9.1.3 or 9.1.4 apply, 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.

Add new paragraph 9.1.6 as follows:

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 19 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

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, to protect the Owner's interests, the Contractor shall provide those services at the Owner's expense. Where the Contractor cannot secure the perimeter of the construction zone because of the work in progress the Contractor shall provide those services at the Contractor's expense.

#### GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

Add a new subparagraph 9.2.5.5 as follows:

- 9.2.5.5 in addition to the steps described in subparagraph 9.2.5.3, take any further steps it deems necessary to mitigate or stabilize any conditions resulting from encountering toxic or hazardous substances or materials.
- 9.2.6 Add the following to paragraph 9.2.6, after the word "responsible" in the second line:

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

9.2.8 Add the following to paragraph 9.2.8, after the word "responsible" in the second line:

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

Add new paragraphs 9.2.10 and 9.2.11 as follows:

- 9.2.10 The *Contractor*, Subcontractors and *Suppliers* shall not bring on to the Place of the *Work* any toxic or hazardous substances and materials except as required in order to perform the *Work*. If such toxic or hazardous substances or materials are required, storage in quantities sufficient to allow work to proceed to the end of any current work week only shall be permitted. All such toxic and hazardous materials and substances shall be handled and disposed of only in accordance with all laws and regulations that are applicable at the Place of the *Work*.
- 9.2.11 The *Contractor* shall indemnify and hold harmless the *Owner*, its parent, subsidiaries and affiliates, the Consultant and their respective partners, officers, directors, agents and employees from and against any and all liabilities, costs, expenses, and claims resulting from bodily injury, including death, and damage to property of any person, corporation or other body politic, that arises from the neglect or improper use by the *Contractor*, Subcontractors and *Suppliers* of any toxic or hazardous substances or materials at the Place of the *Work*.

### GC 9.4 CONSTRUCTION SAFETY

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 20 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

9.4.1 Delete paragraph 9.4.1 in its entirety and substitute as follows:

The *Contractor* shall be solely responsible for construction safety at the Place of the *Work* and for compliance with the rules, regulations, and practices required by the applicable construction health and safety legislation and shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the *Work*. Add new paragraphs 9.4.2 to 9.4.10 as follows:

- 9.4.2 Prior to the commencement of the *Work*, the *Contractor* shall submit to the *Owner*.
  - .1 the evidence of workers' compensation compliance required by GC 10.4.1;
  - .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 copies of any documentation or notices to be filed or delivered to the authorities having jurisdiction for the regulation of occupational health and safety at the Place of the *Work*.
- 9.4.3 The *Contractor* shall indemnify and save harmless the *Owner*, its agents, trustees, 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 legislation in force at the Place of the *Work* including the payment of legal fees and disbursements on a substantial indemnity basis.
- 9.4.4 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.
- 9.4.5 If the *Owner* is of the reasonable opinion that the *Contractor* has not taken such precautions as are necessary to ensure compliance with the requirements of paragraph 9.4.1, the *Owner* may take any remedial measures which it deems necessary, including stopping the performance of all or any portion of the *Work*, and the *Owner* may use its employees, the *Contractor*, any Subcontractor or any other contractors to perform such remedial measures.
- 9.4.6 The *Contractor* shall file any notices or any similar document required pursuant to the *Contract* or the safety regulations in force at the Place of the *Work*. This duty of the *Contractor* will be considered to be included in the *Work* and no separate payment therefore will be made to the *Contractor*.
- 9.4.7 Unless otherwise provided in the *Contract Documents*, the *Contractor* shall develop, maintain and supervise for the duration of the *Work* a comprehensive safety program that will effectively incorporate and implement all required safety precautions. The program shall, at a minimum, respond fully to the applicable safety regulations and general construction practices for the safety of persons or property, including, without limitation, any general safety rules and regulations of the *Owner* and any workers' compensation or occupational health and safety statutes or regulations in force at the Place of the *Work*.
- 9.4.8 The Contractor shall provide a copy of the safety program described in paragraph 9.4.7 hereof

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 21 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

to the Consultant for delivery to the *Owner* prior to the commencement of the *Work*, and shall, ensure, as far as it is reasonably practical to do so, that every employer and worker performing work in respect of the *Project* complies with such program.

- 9.4.9 The *Contractor* shall arrange regular safety meetings, and shall supply and maintain, at its own expense, at its office or other well-known place at the job site, safety equipment necessary to protect the workers and general public against accident or injury as prescribed by the authorities having jurisdiction at the Place of the *Work*, including, without limitation, articles necessary for administering first-aid to any person and an emergency procedure for the immediate removal of any inured person to a hospital or a doctor's care.
- 9.4.10 The *Contractor* shall promptly report in writing to the *Owner* and the Consultant all accidents of any sort arising out of or in connection with the performance of the *Work*, whether on or adjacent to the job site, giving full details and statements of witnesses. If death or serious injuries or damages are caused, the accident shall be promptly reported by the *Contractor* to the *Owner* and the Consultant by telephone or messenger in addition to any reporting required under the applicable safety regulations.

#### GC 10.1 TAXES AND DUTIES

10.1.2 Amend paragraph 10.1.2 by adding the following sentence to the end of the paragraph:

For greater certainty, the *Contractor* shall not be entitled to any mark-up for overhead or profit on any increase in such taxes and duties and the *Owner* shall not be entitled to any credit relating to mark-up for overhead or profit on any decrease in such taxes. The *Contractor* shall provide a detailed breakdown of additional taxes if requested by the *Owner* in a form satisfactory to the *Owner*.

Add new paragraph 10.1.3 as follows:

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

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

Add to the end of paragraph 10.2.4 as follows:

The Contractor shall notify the Chief Building Official or the registered code agency, where applicable, of the readiness, substantial completion, and completion of the stages of construction set out in the Ontario Building Code. The Contractor shall be present at each site inspection by and inspector or registered code agency. If any laws, ordinances, rules, regulations, or codes conflict, the more stringent shall govern.

10.2.5 Amend paragraph 10.2.5 by adding the words "Subject to paragraph 3.4" at the beginning of the paragraph. Add the following to the end of the second sentence: and no further *Work* on the affected components of the *Contract* shall proceed until these directives have been obtained by the *Contractor* from the Consultant.

Add new paragraph 10.2.8 as follows:

10.2.8 The *Contractor* shall furnish all certificates that are required or given by the appropriate governmental authorities as evidence that the *Work* as installed conforms with the laws and regulations of authorities having jurisdiction, including certificates of compliance for the *Owner's* occupancy or partial occupancy. The certificates are to be final certificates giving complete clearance of the *Work*, in the event that such governmental authorities furnish such certificates.

#### GC 10.4 WORKERS' COMPENSATION

10.4.1 Delete paragraph 10.4.1 and replace with the following:

Prior to commencing the *Work*, and with each and every application for payment thereafter, including the *Contractor's* application for payment of the holdback amount following Substantial Performance of the *Work* and again with the *Contractor's* application for final payment, the *Contractor* shall provide evidence of compliance with workers' compensation legislation in force at the Place of the *Work*, including payments due there under.

#### GC 11.1 INSURANCE

1 Supplementary General Conditions, Delete GC 11.1 Insurance and replace with:

Refer to GC 11.1 Insurance in the CCDC 2 with the following:

2. Delete 11.1.1.

Replace with: Without restricting the generality of GC 12.1 INDEMNIFICATION, the *Contractor* shall provide, maintain and pay for the following insurance coverages, the minimum requirements are not less than \$15,000,000 per occurrence, an aggregate limit of not less than \$15,000,000 within any policy.

3. Delete 11.1.1.1

Replace with: General Liability insurance in the joint name of the Contractor and the Owner, and the Consultants shall be named insureds as follows; Hobin Architecture Incorporated including sub-consultants Cunliffe and Associates, Goodkey Weedmark and Associates, but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the Contractor with regard to the Work. General Liability insurance shall be maintained from the date of commencement of the Work until one year from the date of Substantial Performance of the Work. Liability coverage shall be provided for completed operations hazards from the date of Substantial Performance of the Work, as set out in the certificate of Substantial Performance of the Work, on an ongoing basis for a period of 6 years following Substantial Performance of the Work.

4. Delete 11.1.3 - The parties shall pay their share of the deductible amounts in direct proportion to their responsibility in regards to any loss for which the above policies are required to pay, except where such amounts may be excluded by the terms of the *Contract*.

Replace with: 11.1.3 "The Contractor shall be responsible to pay the deductible amounts for loss which the above policies are required to pay, except where such amounts may be excluded by the terms of the *Contract*.

5. Delete 11.1.1.4

#### Replace with:

- 11.1.1.4 **The Owner shall** provide "Broad Form" property insurance in the joint names of the *Contractor* and the *Owner* and the *Consultants* shall be named insureds as follows; Hobin Architecture Incorporated including sub-consultants Cunliffe and Associates, Goodkey Weedmark and Associates,. The policy shall include as insureds all *Subcontractors*. The "Broad form" property insurance shall be provided from the date of commencement of the Work until the earliest of:
  - (1) 10 calendar days after the date of Substantial Performance of the Work;
  - (2) When left unattended for more than **90** consecutive calendar days or when construction activity has ceased for more than **90** consecutive calendar days.

#### GC 11.2 CONTRACT SECURITY

11.2.2 Delete paragraph after the word "provided" and replace with the following:

Such bonds shall be issued by a duly licensed surety company, which has been approved by the *Owner*, authorized to transact a business of suretyship in the province or territory of the Place of the *Work* and shall be maintained in good standing until the fulfilment of the *Contract*, including all warranty and maintenance periods set out in the *Contract Documents*.

Add new paragraph 11.2.3 as follows:

- 11.2.3 It is the intention of the parties that the performance bond shall be applicable to all of the *Contractor's* obligations in the *Contract* Document and, wherever a performance bond is provided with language which conflicts with this intention, it shall be deemed to be amended to comply. The *Contractor* represents and warrants to the *Owner* that it has provided its surety with a copy of the *Contract Documents* prior to the issuance of such bonds.
- 11.2.4 Insert a new paragraph, numbered 11.2.4, to read as follows: "The Contractor shall provide a performance bond, and a labour and material payment bond, each issued by a bonding company acceptable to the Owner and the Lender and licensed to issue such instruments in the jurisdiction of the Place of the Work, in the amounts and forms as follows:".
- 11.2.4.1 Insert a new paragraph, numbered 11.2.4.1, to read as follows: "Amount of performance bond shall be equal to not less than 50% of the Contract Price.".
- 11.2.4.2 Insert a new paragraph, numbered 11.2.4.2, to read as follows: "The form of performance bond shall be Canadian Standard Construction Document CCDC 221.".

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 24 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

- 11.2.4.3 Insert a new paragraph, numbered 11.2.4.3, to read as follows: "Amount of labour and material payment bond shall be equal to not less than 50% of the Contract Price.".
- 11.2.4.4 Insert a new paragraph, numbered 11.2.4.4, to read as follows: "The form of labour and material payment bond shall be Canadian Standard Construction Document CCDC 222.".
- 11.2.5 Insert a new paragraph, numbered 11.2.5, to read as follows: "The bonds provided in accordance with paragraph 11.2.5 shall guarantee the faithful performance of the Contract in accordance with the Contract Documents including the requirements for warranties provided for the GC 12.3 WARRANTY, and the payment of all obligations incurred in the event of the Contractor's default, including, but not limited to, the following:".
- 11.2.5.1 Insert a new paragraph, numbered 11.2.5.1, to read as follows: "The payment of legal, accounting, architectural, engineering and other Consultant's expenses incurred by the Owner in determining the extent of Work executed and any additional Work required as a result of the interruption of the Work, and its Completion.".
- 11.2.5.2 Insert a new paragraph, numbered 11.2.5.2, to read as follows: "The payment of additional expenses to the Owner in the form of security guard services, light, heat, power, loss of use of premises, and other related costs, payable over the period between the default of the Contract and Completion of the Work.".
- 11.2.6 Insert a new paragraph, numbered 11.2.6, to read as follows: "Without limiting the foregoing in any way, the bonds shall indemnify and hold harmless the Owner for and against costs and expenses (including legal and Consultant services and court costs) arising out of or as a consequence of any default of the Contractor under this Contract.".
- 11.2.7 Insert a new paragraph, numbered 11.2.7, to read as follows: "The Contractor shall be responsible for notifying the surety company of any changes made to the Contract during the course of construction.".
- 11.2.8 Insert a new paragraph, numbered 11.2.8, to read as follows: "The premiums for bonds required by the Contract Documents shall be included in the Contract Price.".
- 11.2.9 Insert a new paragraph, numbered 11.2.9, to read as follows: "Should the Owner or Lender require additional bonds by the Contractor or any of his Subcontractors, after the receipt of bids for the Work, the Contract Price shall be increased by all costs attributable to providing such bonds. The Contractor shall promptly provide the Owner or the Lender, through the Consultant, with any such bonds that may be required.".

#### GC 12.3 WARRANTY

12.3.2 Delete from the first line of paragraph 12.3.2 the word, "The" and substitute the words "Subject to paragraph 3.4.1, the.."

Add new paragraphs 12.3.7 to 12.3.11 as follows:

12.3.7 The *Contractor* shall provide to the *Owner* fully and properly completed and signed copies of all warranties and guarantees required by the *Contract Documents* containing the following:

- .1 the proper name of the Owner,
- .2 the proper name and address of the Project,
- .3 the date the warranty commences, which shall be at the "date of an Occupancy Permit being received for that phase of the Work" unless otherwise agreed upon by the Consultant in writing.
- .4 a clear definition of what is being warranted and/or guaranteed as required by the *Contract Documents*; and
- .5 the signature and seal (if required by the governing law of the *Contract*) of the company issuing the warranty, countersigned by the *Contractor*.
- 12.3.9 The *Contractor* shall ensure that its Subcontractors are bound to the requirements of GC 12.3 WARRANTY for the Subcontractor's portion of the *Work*.
- 12.3.10 The *Contractor* shall ensure that all warranties, guarantees or other obligations for *Work*, services or Products performed or supplied by any Subcontractor, Supplier or other person in connection with the *Work* are obtained and available for the direct benefit of the *Owner*. In the alternative, the *Contractor* shall assign to the *Owner* all warranties, guarantees or other obligations for *Work*, services or Products performed or supplied by any Subcontractor, Supplier or other person in connection with the *Work* and such assignment shall be with the consent of the assigning party, where required by law, or by the terms of that party's *Contract*. Such assignment shall be in addition to, and shall in no way limit, the warranty rights of the *Owner* under the *Contract Documents*.
- 12.3.11 The *Contractor* shall commence or correct any deficiency within 2 *Working Days* after receiving a notice from the *Owner* or the Consultant, and shall complete the *Work* as expeditiously as possible, except in the case where the deficiency prevents maintaining security or where basic systems essential to the ongoing business of the *Owner* and/or its tenants cannot be maintained operational as designed. In those circumstances all necessary corrections and/or installations of temporary replacements shall be carried out immediately as an emergency service. Should the *Contractor* fail to provide this emergency service within 8 hours of a request being made during the normal business hours of the *Contractor*, the *Owner* is authorized, notwithstanding GC 3.1, to carry out all necessary repairs or replacements at the *Contractor's* expense.

#### PART 13 OTHER PROVISIONS

Add new Part 13 and 14 OTHER PROVISIONS as follows:

#### GC 13.1 OWNERSHIP OF MATERIALS

13.1.1 Unless otherwise specified, all materials existing at the Place of the *Work* at the time of execution of the *Contract* shall remain the property of the *Owner*. All *Work* and Products delivered to the Place of the *Work* by the *Contractor* shall be the property of the *Owner*. The *Contractor* shall remove all surplus or rejected materials as its property when notified in writing to do so by the Consultant.

#### GC 13.2 CONSTRUCTION LIENS

13.2.1 In the event that a claim for lien is registered against the *Project* by a

Subcontractor, Sub-subcontractor or Supplier, and provided the *Owner* has paid all amounts properly owing under the *Contract*, the *Contractor* shall, at its own expense:

- .1 within 10 calendar days, ensure that any and all claims for lien and certificates of action are discharged, released, or vacated by the posting of security or otherwise; and
- .2 in the case of written notices of lien, ensure that such notices are withdrawn, in writing.
- 13.2.2 In the event that the *Contractor* fails to conform with the requirements of paragraph 13.2.1, the *Owner* may fulfill those requirements without Notice in Writing to the *Contractor* and set off and deduct from any amount owing to the *Contractor*, all costs and associated expenses, including the costs of posting security and all legal fees and disbursements associated with discharging or vacating the claim for lien or certificate of action and defending the action, unless caused by the owner. If there is no amount owing by the *Owner* to the *Contractor*, then the *Contractor* shall reimburse the *Owner* for all of the said costs and associated expenses.
- 13.2.3 Notwithstanding any other provision in the *Contract*, the Consultant shall not be obligated to issue a certificate and the *Owner* shall not be obligated to make payment to the *Contractor* if, at the time such certificate or payment was otherwise due:
  - .1 a claim for lien has been registered against the *Project* lands, or
  - .2 if the *Owner* or mortgagee of the *Project* lands has received written notice of a lien.. or
  - .3 the *Owner* or Consultant reasonably believe that any party has purported to retain title to Products or materials in respect of which an application for payment has been made.
- 13.2.4 Without limiting the foregoing, the *Contractor* shall, if requested by the *Owner*, defend, indemnify and save the *Owner* harmless from the amount of all such claims and the costs of defending any and all actions commenced against the *Owner* pursuant to the construction/builder's lien legislation in force at the Place of the *Work*, including the legal costs of the *Owner*, unless the lien was a direct result of a breach of the *Contract* by the *Owner* or the non-payment by the *Owner* of a valid charge or claim under the Contract.
- 13.2.5 GC 13.2 CONSTRUCTION LIENS does not apply to construction/builder's liens claimed by the *Contractor*.

### GC 14 CONFLICT OF INTEREST

- 14.1 The *Contractor*, all of the Subcontractors and *Suppliers* 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, as described in this Article A-9, includes, but is not limited to, the use of Confidential Information where the *Owner* has not specifically authorized such use.
- 14.2 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

Turnbull School	SUPPLEMENTARY CONDITIONS	Section 00 80 50
Music Room Addition		Page 27 of 27
Hobin Project No.: 1705	ISSUED FOR ADDENDUM A02	August 2018

conflict of interest, including the retention of any Subcontractor or Supplier that is directly or indirectly affiliated with or related to the *Contractor*.

- 14.3 The *Contractor* covenants and agrees that it will not hire or retain the services of any employee or previous employee of the *Owner* where to do so constitutes a breach by such employee or previous employee of the *Owner*'s conflict of interest policy, as it may be amended from time to time, until after completion of the *Work* under the *Contract*.
- 14.4 Notwithstanding paragraph 7.1.2 of GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK, SUSPEND THE WORK OR TERMINATE THE CONTRACT, 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 fails to comply with the requirements of the Contract, and if the Consultant has given a written statement to the Contractor that sufficient cause exists to justify such action, the Owner may notify the Contractor, in writing, that the Contractor is in default of the Contractor's contractual obligations and instruct the Contractor to correct the default in the five (5) Working Days immediately following the receipt of such notice that the Owner has in the Contract, in law, or in equity.

#### END OF AMENDMENTS TO CCDC 2 - 2008

Turnbull School	ALLOWANCES	Section 01 21 00
Music Room Addition		Page 1 of 2
Hobin Project No.: 1705	ISSUED WITH ADDENDUM A02	August 2018

.1

#### PART 1 - GENERAL

- Canadian Construction Documents Committee (CCDC) .1 CCDC 2-2008 Stipulated Price Contract.
- 1.2 CASH ALLOWANCES
- .1 Refer to CCDC 2, GC 4.1.
- .2 Include in Contract Price specified cash allowances.
- .3 Cash allowances, unless otherwise specified, cover net cost to Contractor of services, products, construction machinery and equipment, freight, handling, unloading, storage installation and other authorized expenses incurred in performing Work.
- .4 Contract Price, and not cash allowance, includes Contractor's overhead and profit in connection with such cash allowance.
- .5 Contract Price will be adjusted by written order to provide for excess or deficit to each cash allowance.
- .6 Where costs under a cash allowance exceed amount of allowance, Contractor will be compensated for excess incurred and substantiated plus allowance for overhead and profit as set out in Contract Documents.
- .7 Include progress payments on accounts of work authorized under cash allowances in Consultant's monthly certificate for payment.
- .8 Prepare schedule jointly with Consultant and Contractor to show when items called for under cash allowances must be authorized by Consultant for ordering purposes so that progress of Work will not be delayed.
- .9 Amount of each allowance, for Work specified in respective specification Sections is as follows:

.1 **CASH ALLOWANCE 1 – Music Room PA work:** Carry <u>\$3,000.00</u> to include mandatory site visit by Owner Designated Audio work to review the existing main P.A. system. Cash Allowance to include supply and installation of new wiring to new PA phone, PA speakers and call switch in Music Room Addition.

.2 **CASH ALLOWANCE 2 – Music Room Data/IT work:** Carry a cash allowance of **\$5,000.00** for Owner Designated Cabling work to include all associated cabling, conduit, data outlets and connections in Music Room Addition to existing IT

Turnbull School		ALLOWANCES	Section 01 21 00
Music Room Addition <u>Hobin Project No.: 1705</u>	IS	SUED WITH ADDENDUM A02	Page 2 of 2 August 2018
		location. .3 <b>CASH ALLOWANCE 3 –</b> Carry a cash allowance of <u>\$1.50</u> by ADT Protectron (Paul Clouthic provide card reader access to ne	<b>0.00</b> for mandatory site visit er, Tel: 819-360-0394) to
		.4 <b>CASH ALLOWANCE 4</b> – Work: Carry a cash allowance of wall, floor, ceiling and painting wo door and entry door into Music Ro Allowance to include all supply & Drywall infill of existing windows a included under this Allowance and the base bid. Demolition work to window frames as noted shall not Allowance and shall otherwise for	rk required when existing exit from Addition are relocated. installation of finishes. as detailed shall not be d shall otherwise form part of remove existing door and be included under this
		.4 TOTAL CASH ALLOWAN	NCES: <u>\$19,500.00</u>
1.3 CONTINGENCY ALLOWANCE	.1	Refer to CCDC 2, GC 4.2.	
	.2	Do not Include in Contract Price of	contingency allowance.
PART 2 - PRODUCTS			
2.1 NOT USED	.1	Not Used.	
PART 3 - EXECUTION			
3.1 NOT USED	.1	Not Used.	

**END OF SECTION** 

Turrels all Oak	1		00 71 00
Turnbull Scho Music Room		DOOR HARDWARE Section	08 /1 00
Hobin Projec		July 201	8
ADDENDUM			
<u>2.4 LOCKS A</u>	ND LATCHES .1	Cylindrical type. Schlage 'AL' series. Saturn (SAT) lever design. Functions as specific Provide dust boxes behind all strikes.	ed.
should read :	.1	Heavy duty cylindrical type. Schlage 'ND' series Rhodes (RHO) lever design. Functions as spec Provide dust boxes behind all strikes.	
<u>ITEM #2</u>	1 SGLE DOOR 101.1	CORRIDOR TO MUSIC ROOM 101	LH
delete:	1 EA LOCKSET	AL70PD x SAT	626
add:	1 EA LOCKSET	ND70PD x RHO	626
<u>ITEM #3</u>	1 SGLE DOOR 102.1	MUSIC ROOM 101 FROM STORAGE 102	LHR
delete:	1 EA LOCKSET	AL70PD x SAT	626
add:	1 EA LOCKSET	ND70PD x RHO	626
<u>ITEM #4</u>	1 SGLE DOOR 103.1	MUSIC ROOM 101 TO OFFICE 103	RH
delete:	1 EA LOCKSET	AL70PD x SAT	626
add:	1 EA LOCKSET	ND70PD x RHO	626
<u>ITEM #5</u> ITEM #6	1 SGLE DOOR 104.1 1 SGLE DOOR 105.1	MUSIC ROOM 101 FROM PRACTICE ROOM MUSIC ROOM 101 FROM PRACTICE ROOM	-
delete:	2 EA LOCKSET	AL70PD x SAT	626
add:	2 EA LOCKSET	ND70PD x RHO	626



Project Name:

Turnbull School Music Room Addition

Architect: Hobin Architecture Incorporated Owner: Turnbull School Electrical Addendum No.:ADD-E01Revision:Rev 00Issue Date2018-08-02Issued with Architectural Addendum No. 2

WSP Project Number:

181-04865-00

The following changes in the tender documents are effective immediately. This addendum will form part of the contract documents. Include in bid amount for the following items of addition, deletion or clarification. Indicate in the space provided on the bid form that you have received and included for the requirements of this addendum.

Reference drawings attached:

E001 Rev C Electrical Legend and Drawing List

E002 Rev C Electrical Specification Sheet 1 of 2

E003 Rev C Electrical Specification Sheet 2 of 2

E101 Rev C Electrical Lighting and Power Systems

E201 Rev C Electrical schedules and Details

**Description of Work:** 

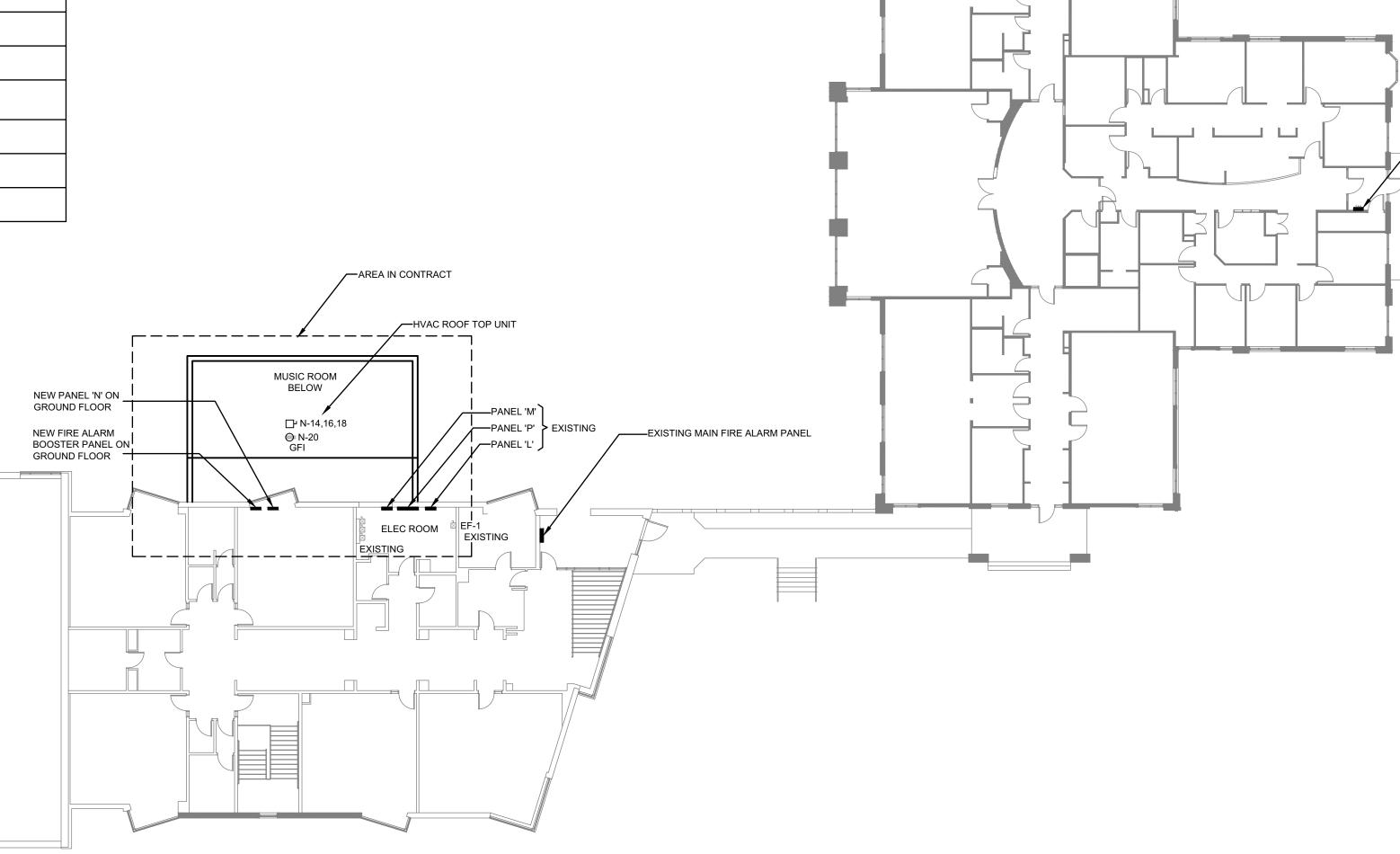
- Refer to Rev clouds on the drawings, E101- Added outdoor wall sconce lighting, door operator and security back box at exit door.
- 2. E201 Added lighting circuit and Type 'W' wall sconce specification.

Signed by:

I the

Ken MacIntosh

	POWER SYMBOLS		LIGH
SYMBOL	DESCRIPTION	SYMBOL	
¢	DUPLEX U-GROUND 5-20R - 15A/20A, 125 VOLT, 2 POLE, 3 WIRE GROUNDING RECEPTACLE MOUNTED 400 mm ABOVE FINISHED LEVEL, UNLESS OTHERWISE NOTED		(1200MM LETTER
GFI	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	A	(1200MM
С			SUPPLIE
F Ø	DEVICE MOUNTED IN FLOOR MONUMENT SIMILAR TO ABOVE, BUT MOUNTED APPROXIMATELY 3'-6" (1050 mm) ABOVE FINISHED FLOOR LEVEL OR ABOVE COUNTER,	A1	(1200MN LETTER NUMBEF
\$	UNLESS OTHERWISE NOTED QUAD (TWO DUPLEX) U-GROUND 15A, 125 VOLT, 2 POLE, 3 WIRE GROUNDING RECEPTACLE MOUNTED 400 mm ABOVE FINISHED FLOOR LEVEL (IN COMMON FACEPLATE)		STRIP LI LETTER
$\bigtriangleup$	UNLESS OTHERWISE NOTED DATA OUTLET	BB	STRIP LU
		сО	RECESS
		- FOw	WALL MC LETTER I
L6-20R 🕀	20A-250V 2P-3W GROUNDED SINGLE RECEPTACLE (CSA L6-20R) TWIST LOCK MOUNTED 300mm ABOVE FINISHED FLOOR LEVEL, UNLESS OTHERWISE NOTED.		ONE, TW MOUNTE
L6-30R 🕀	30A-250V 2P-3W GROUNDED SINGLE RECEPTACLE (CSA L6-30R) TWIST LOCK MOUNTED 300mm ABOVE FINISHED FLOOR LEVEL, UNLESS OTHERWISE NOTED.	\$ <sup>3</sup>	3 - WAY 9
	FURNITURE SYSTEM CONNECTION POLE	\$ <sup>4</sup>	4 - WAY
$\bigcirc$	120V CONNECTION TO EQUIPMENT	\$ <sup>LV</sup>	LOW VO
	208V, 1PH CONNECTION TO EQUIPMENTE	\$ os	
	208V, 3PH CONNECTION TO EQUIPMENT	\$ <sup>∨</sup> \$	OCCUPA
PP	SINGLE SURFACE MOUNTED PANELBOARD,		VACANC OCCUPA
	SINGLE RECESSED MOUNTED PANELBOARD	D	DIMMER
J	JUNCTION BOX		EXIT SIG
\$HP	HORSE POWER RATED SWITCH		EXIT SIG
РВ	PULL BOX	BAT1	RECEPT
	DUAL CHANNEL (POWER AND DATA) SURFACE RACEWAY IN CARPET WIRE WAY - REFER TO SPECIFICATION - AT THE TRANSITION WALL BOX PROVIDE A 53MM (2") CONDUIT UP TO THE CEILING SPACE FOR DATA	BAT1-1	EMERGE CONNEC EMERGE
6	MOTOR	BAT1-2	CONNEC
Ľ	DISCONNECT SWITCH UNLESS NOTED OTHERWISE		
$\boxtimes$	MOTOR STARTER - MAGNETIC		
×	MAGNETIC STARTER & DISCONNECT SWITCH (COMBINATION STARTER)		
\$M	MOTOR STARTER - MANUAL		
<u>Á</u> b	DISCONNECT SWITCH AND CONNECTION TO DOOR OPERATOR		
	DOOR OPERATOR BUTTON - BACK BOX AND 21MM EMT FOR LV CONTROL		
<i>6</i> -Х	MOTOR c/w STARTER		
	ELECTRIC BASEBOARD HEATER		





 $\Box$ 

	LIGHTING SYMBOLS
	DESCRIPTION
	(1200MM x 600MM) 2'X4' LUMINAIRE, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
	(1200MM x 600MM) 2'X4' LUMINAIRE, SUPPLIED FROM EMERGENCY POWER SOURCE
	(1200MM x 600MM) 2'X4' LUMINAIRE, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE. NUMBER INDICATES CONTROLS (DAYLIGHT HARVESTING)
	STRIP LUMINAIRE, 1200MM, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
נ	STRIP LUMINAIRE, 2400MM, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
	RECESSED DOWNLIGHT, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
	WALL MOUNTED LIGHT LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
Δ	ONE, TWO, THREE AND FOUR GANG LINE VOLTAGE TOGGLE SWITCH MOUNTED 4'-0" (1200MM) ABOVE FINISHED FLOOR LEVEL, UNLESS OTHERWISE NOTED.
	3 - WAY SWITCH
	4 - WAY SWITCH
	LOW VOLTAGE SWITCH
	OCCUPANCY SENSOR - SWITCH MOUNTED
	VACANCY SENSOR - SWITCH MOUNTED
	OCCUPANCY SENSOR - CEILING MOUNTED
	DIMMER SWITCH WITH ON / OFF
	EXIT SIGN - WALL MOUNTED GREEN PICTOGRAM
	EXIT SIGN - CEILING MOUNTED GREEN PICTOGRAM
	EMERGENCY LIGHTING BATTERY PACK (BAT1) C/W TWO HEADS. RECEPTACLE CONNECTED TO LOCAL LIGHTING CIRCUIT
	EMERGENCY LIGHTING REMOTE SINGLE HEAD. CONNECTED TO BAT1
	EMERGENCY LIGHTING REMOTE TWIN HEAD. CONNECTED TO BAT1
_	

	FIRE ALARM SYMBOLS
SYMBOL	DESCRIPTION
F.A.C.P.	RECESSED OR SURFACE MOUNTED FIRE ALARM CONTROL PANEL.
F.A.A.	RECESSED OR SURFACE MOUNTED FIRE ALARM ANNUNCIATOR PANEL.
	FIRE ALARM PULL STATION MOUNTED 4'-0" (1200) ABOVE FINISHED FLOOR LEVEL UNLESS OTHERWISE NOTED.
CG	SIMILAR TO ABOVE, EXCEPT "CG" WHERE SHOWN, DENOTES DEVICE c/w CLEAR GUARD.
₽ <b>⊕</b> <sub>c</sub>	FIRE ALARM SMOKE DETECTOR.
	FIRE ALARM HORN
	FIRE ALARM STROBE HORN COMBINATION.
ZAM	FIRE ALARM SHUTDOWN RELAY

0

		GENERAL NOTES:		
	1. THIS IS A DRAWINGS	COMPREHENSIVE LEGEND AND NOT ALL ITEMS AP	PEAR ON ELECTRICAL	
				C 2018 08 02 ISSUED WITH ADDENDUM No.2
				B2018 08 02ISSUED WITH ADDENDOM NO.2B2018 07 05ISSUED FOR PERMIT & TENDERA2018 06 28ISSUED FOR CO ORDINATION
				no. date revision
				It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect.
EXIS	STING FIRE ALARM ANNU	NCIATOR PANEL		All contractors must comply with all pertinent codes and by-laws.
				Do not scale drawings. This drawing may not be used for construction until signed.
				construction until signed. Copyright reserved.
				<b>\\\\</b>
				300-2611 QUEENSVIEW DRIVE OTTAWA ONTARIO CANADA K2B 8K2 TEL: 1-613-829-2800   FAX: 1-613-829-8299   WWW.WSP.COM
				Hobin Architecture
				63 Pamilla Street Ottawa, Ontario
				Canada K1S3K7 T: 613-238-7200 F: 613-235-2005
		ELECTRICAL DRAWING LIST		E:mail@hobinarc.com HOBIN
	SHEET NO.			PROJECT/LOCATION:
	E001 E002	ELECTRICAL LEGEND AND, DRAWING LIST ELECTRICAL SPECIFICATION SHEET 1 0F 2		TURNBULL SCHOOL MUSIC ROOM ADDITION
	E003 E101	ELECTRICAL SPECIFICATION SHEET 2 0F 2 ELECTRICAL LIGHTING & POWER SYSTEMS		1132 Fisher Avenue, Ottawa
	E201	ELECTRICAL SCHEDULES AND DETAILS		DRAWING TITLE: ELECTRICAL LEGEND
				AND DRAWING LIST
				K. Mcl. APR. 2018 AS SHOWN PROJECT:
				181-04865-00 DRAWING NO.:
				E001
				REVISION NO.:

ELECTRICAL WORK SPECIFICATION

1 GENERAL

- 1.1 COMPLY WITH LATEST REQUIREMENTS OF BUILDING MANAGER'S WORKING REGULATIONS. OBTAIN REGULATIONS AND COMPLY WITH REQUIREMENTS WHEN WORKING ONSITE. UNLESS OTHERWISE NOTED, BASE BUILDING STANDARDS AND SPECIFICATIONS TO BE MINIMUM BASIS FOR WORK, OBTAIN COPY OF DOCUMENTS AND REVIEW.
- 1.2 CONFORM TO OWNER'S/LANDLORD'S TENANT DESIGN CRITERIA AND CONSTRUCTION MANUAL AND TENANT LEASE AGREEMENT. WORK SUBJECT TO REVIEW WITH AND/OR APPROVAL OF OWNER/LANDLORD AND BUILDING MANAGER AND REVIEW WITH CONSULTANT.
- 1.3 SUPPLY LABOUR, TOOLS, SERVICES AND EQUIPMENT, AND PROVIDE PRODUCTS AND MATERIALS REQUIRED TO COMPLETE WORK IN ACCORDANCE WITH THIS SPECIFICATION AND DRAWINGS. COMPLY WITH LAWS, REGULATIONS, AND CODES OF AUTHORITIES HAVING JURISDICTION. CONFORM TO REQUIREMENTS OF CONTRACT DOCUMENTS OF DIVISIONS 00 AND 01 AND REQUIREMENTS HEREIN SPECIFIED WHICH ARE SUPPLEMENTARY TO THOSE REQUIREMENTS. PERFORM WORK IN ACCORDANCE WITH LOCAL APPLICABLE GOVERNING CODES AND AUTHORITIES INCLUDING ONTARIO BUILDING CODE (OBC), ONTARIO ELECTRICAL SAFETY CODE (OESC) AND ISSUED BULLETINS AND SUPPLEMENTARY STANDARDS.
- 1.4 WHERE CODES AND/OR REQUIREMENTS CONFLICT, OR THERE IS DISCREPANCY IN DOCUMENTS, INCLUDE FOR MORE STRINGENT AND COSTLY REQUIREMENTS FOR PRICING. ADVISE CONSULTANT AND OBTAIN CLARIFICATION PRIOR TO STARTING WORK.
- 1.5 SUBMIT TO CONSULTANT, CHANGE NOTICE QUOTATIONS FOR EXTRA OR DELETED WORK COMPLETE WITH ITEMIZED COST BREAKDOWN OF LABOUR AND MATERIALS. FAILURE TO PROVIDE WILL RESULT IN REJECTION. UNLESS OTHERWISE NOTED IN DIVISION 01, ELECTRICAL CHANGE NOTICES TO BE PRICED IN ACCORDANCE WITH NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION MANUAL OF LABOR UNITS AND "ALLPRISER" LESS 25% DISCOUNT FOR LABOUR AND MATERIAL COST. UNLESS OTHERWISE NOTED, ALLOWABLE MAXIMUM PERCENTAGES FOR OVERHEAD AND PROFIT ARE TO BE 7% AND 5% RESPECTIVELY.
- COMPLY WITH EQUIPMENT MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND INSTRUCTIONS UNLESS OTHERWISE NOTED HEREIN OR ON DRAWINGS, OR UNLESS SUCH INSTRUCTIONS AND RECOMMENDATIONS CONTRADICT GOVERNING CODES AND REGULATIONS.
   WHERE STANDARDS OF WORK ARE SPECIFIED OR IMPLIED AND WORK DOES NOT COMPLY WITH PERFORMANCE SPECIFIED OR IMPLIED, CORRECT SUCH DEFICIENCY AS DIRECTED BY
- CONSULTANT OR GOVERNING AUTHORITY. ANY SUBSEQUENT TESTING TO VERIFY PERFORMANCE TO BE PROVIDED AT CONTRACTOR'S EXPENSE. ANY CHARGES FOR OWNER'S STAFF, CONSULTANT OR OTHER PERSONNEL RELATED TO SUCH RETESTING, ARE TO BE AT THE CONTRACTOR'S EXPENSE.
   1.8 FOR COMPLIANCE/SUBSTANTIAL COMPLETION LETTER, SUBMIT FOLLOWING APPLICABLE
- ELECTRONIC DOCUMENTS (PDFS) AS ONE COMPLETE PACKAGE: .1 FIRE ALARM VERIFICATION REPORT WITH SOUND PRESSURE READINGS (MIN. 15 READINGS AT DIFFERENT LOCATIONS WITH DOOR OPEN) AND CERTIFICATE:
- .2 EQUIPMENT DATA SHEETS;
- .3 EQUIPMENT TESTING REPORTS;
- .4 WARRANTIES;
- .5 ESA INSPECTION CERTIFICATE;
- .6 ELECTROMAGNETIC LOCK TEST CERTIFICATE WARRANTY;
- .7 PERMIT NUMBERS;
- .8 AS-BUILT DRAWINGS;.9 CONFIRMATION THAT DEFICIENCIES WERE RECTIFIED.
- 1.9 ELECTRICAL ENCLOSURES IN CLIMATE CONTROLLED AREAS TO BE UNLESS OTHERWISE NOTED, TYPICALLY MINIMUM NEMA 1 TYPE WITH ADDITIONAL SPRINKLER PROTECTION FEATURES OF DRIP SHIELD WHEN SURFACE MOUNTED, GASKETTING AND VENTILATION LOUVRES DESIGNED
- TO PREVENT EGRESS OF WATER SPRAY ONTO LIVE COMPONENTS.
  1.10 PRIOR TO SUBMITTING BID, CAREFULLY EXAMINE CONDITIONS AT SITE WHICH WILL OR MAY AFFECT WORK, DRAWINGS, AND SPECIFICATIONS, AND BECOME FAMILIAR WITH BUILDING CONSTRUCTION, FINISHES AND OTHER WORK ASSOCIATED WITH WORK IN ORDER THAT BID INCLUDES FOR EVERYTHING NECESSARY FOR COMPLETION OF WORK.
- 1.11 BEFORE ANY EQUIPMENT IS ROUGHED IN, DETERMINE ITS INTENDED LOCATION FROM DRAWINGS AND COORDINATE FINAL LOCATIONS WITH SERVICES AND STRUCTURAL CONDITIONS. IF IT IS NOT SHOWN ON DRAWINGS, VERIFY FINAL LOCATION ON SITE. LOCATIONS OF SERVICES ON DRAWINGS ARE APPROXIMATE ONLY. REVIEW WITH CONSULTANT AND COORDINATE WITH RESPECTIVE TRADES TO ENSURE THAT EQUIPMENT IS FULLY ACCESSIBLE FOR MAINTENANCE. FAILURE TO DO SO WILL NOT BE GROUNDS FOR ADDITIONAL COSTS. PROPERLY PLAN AND COORDINATE EXACT LOCATIONS AND ROUTING OF SERVICES PRIOR TO INSTALLATION TO AVOID OBSTRUCTIONS TO OTHER SERVICES AND EQUIPMENT REQUIRING ACCESS. CONCEAL SERVICES IN WALLS, CEILING SPACE AND FLOOR SPACE UNLESS OTHERWISE NOTED.
- 1.12 MAKE APPLICATION FOR, PAY FOR AND OBTAIN, PERMITS AND INSPECTION CERTIFICATES TO COMPLETE WORK. WHEN WORK IS COMPLETE, SUPPLY AND TURN OVER INSPECTION CERTIFICATES FROM GOVERNING AUTHORITIES, INCLUDING ESA, TO CONSULTANT. PAY FEES AND CHARGES LEVIED BY MUNICIPALITY AND OTHER GOVERNING AUTHORITIES FOR PERMITS, INSPECTIONS, AND CERTIFICATES. RETAIN COPY OF SUCH PERMITS AND CERTIFICATES, ETC., ON JOB SITE. WHERE WORK INVOLVES ELECTROMAGNETIC LOCK WORK, PROVIDE PERMITS AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
- 1.13 COORDINATE WORK WITH WORK OF EACH TRADE TO ENSURE PROPER AND COMPLETE INSTALLATION. NOTIFY TRADES CONCERNED OF REQUIREMENTS FOR OPENINGS, SLEEVES, INSERTS AND OTHER HARDWARE NECESSARY IN COORDINATION OF WORK, AND, WHERE WORK IS INTEGRATED WITH WORK OF OTHER TRADES OR IS INSTALLED IN CLOSE PROXIMITY WITH WORK OF OTHER TRADES, CAREFULLY COORDINATE WORK PRIOR TO AND DURING INSTALLATION.
- 1.14 PROPERLY PLAN, COORDINATE AND ESTABLISH EXACT LOCATIONS AND ROUTING OF SERVICES WITH AFFECTED TRADES PRIOR TO INSTALLATION SUCH THAT THEY CLEAR EACH OTHER AS WELL AS ANY OBSTRUCTIONS. GENERALLY, PIPING REQUIRING UNIFORM PITCH IS GIVEN RIGHT OF WAY, WITH OTHER SERVICES LOCATED AND ARRANGED TO SUIT.
- 1.15 SCHEDULE WORK WHICH MAY CAUSE NOISE DISTURBANCES AT TIMES APPROVED BY OWNER AND REVIEWED WITH CONSULTANT. COORDINATE WORK WITH TRADES TO MINIMIZE NOISE DISTURBANCES.
- 1.16 DURING CONSTRUCTION, KEEP SITE REASONABLY CLEAR OF RUBBISH AND WASTE MATERIAL RESULTING FROM WORK ON DAILY BASIS. AFTER COMPLETION OF WORK, REMOVE RUBBISH AND DEBRIS FROM SITE, ARRANGE AND PAY FOR REPAIR OF DAMAGES CAUSED AND LEAVE PREMISES AND WORK IN GOOD ORDER.
- 1.17 PROTECT AND STORE EQUIPMENT AND MATERIALS ON SITE FROM DAMAGE. BE RESPONSIBLE FOR SAFE STORAGE OF EQUIPMENT AND GOODS TO BE RELOCATED AND REPAIR OR REPLACE DAMAGED EQUIPMENT AND GOODS AT DISCRETION OF OWNER.
  1.18 ALLOW CONSULTANT ACCESS TO WORK. NOTIFY CONSULTANT AT AGREED UPON TIMES OF
- STAGES OF WORK.
  1.19 WHERE STANDARDS OF WORK ARE SPECIFIED OR IMPLIED AND WORK DOES NOT COMPLY WITH PERFORMANCE SPECIFIED OR IMPLIED, CORRECT SUCH DEFICIENCY AS DIRECTED BY
- CONSULTANT. INCLUDE ANY SUBSEQUENT TESTING TO VERIFY PERFORMANCE. ANY CHARGES FOR OWNER'S STAFF, CONSULTANT, OR OTHER PERSONNEL RELATED TO SUCH RETESTING TO ALSO BE AT EXPENSE OF CONTRACTOR.
- 1.20 PRODUCTS LISTED AND/OR SPECIFIED ON CONTRACT DOCUMENTS ARE SELECTED TO ESTABLISH DESIGN STANDARDS. IN MOST CASES, ACCEPTABLE MANUFACTURERS ARE LISTED. BASE YOUR BID PRICE ON BASE SPECIFIED PRODUCTS OR PRODUCTS SUPPLIED FROM ACCEPTABLE MANUFACTURERS. ENSURE PRODUCTS SUPPLIED FROM MANUFACTURERS OTHER THAN BASE SPECIFIED MANUFACTURERS ARE EQUIVALENT TO SPECIFIED PRODUCTS. CHANGES TO MANUFACTURERS OF PRODUCTS MAY BE PROPOSED TO CONSULTANT FOR ACCEPTANCE PRIOR TO CLOSING OF BIDS, LISTING IN EACH CASE CORRESPONDING CREDIT. CONSULTANT HAS SOLE DISCRETION IN ACCEPTING ANY PROPOSED SUBSTITUTION. INCLUDE IN BID PRICE ANY ADDITIONAL COSTS FOR CHANGES TO ASSOCIATED OR ADJACENT WORK RESULTING FROM PROVISION OF PRODUCTS SUPPLIED BY MANUFACTURER OTHER THAN BASE SPECIFIED MANUFACTURER. ANY PROPOSED CHANGES INITIATED BY CONTRACTOR AFTER AWARD OF CONTRACT MAY BE CONSIDERED BY CONSULTANT AT CONSULTANT'S DISCRETION, WITH COSTS FOR SUCH CHANGES IF ACCEPTED BY OWNER, AND COSTS OF SUCH REVIEW BY CONSULTANT TO BE PAID FOR BY CONTRACTOR.
- 1.21 UNLESS OTHERWISE NOTED IN DIVISION 01, WARRANT WORK TO BE IN STRICT ACCORDANCE WITH CONTRACT DOCUMENTS AND FREE FROM DEFECTS FOR 1 YEAR PERIOD FROM DATE OF WRITTEN ACCEPTANCE BY CONSULTANT. REPAIR AND/OR REPLACE ANY SUCH DEFECTS WHICH APPEAR IN WORK WITHIN WARRANTY PERIOD, ORDINARY WEAR AND TEAR AND WILFUL DAMAGE BY CARELESSNESS OF OWNER'S STAFF OR AGENTS EXCEPTED, WITHOUT ADDITIONAL EXPENSE TO OWNER. WHERE SUCH DEFECTS OCCUR, BE RESPONSIBLE FOR COSTS INCURRED IN MAKING DEFECTIVE WORK GOOD, INCLUDES REPAIR OR REPLACEMENT OF BUILDING FINISHES, OTHER MATERIALS, OR DAMAGE TO OTHER EQUIPMENT CAUSED BY SUCH DEFECTS, OR BY SUBSEQUENT REPLACEMENT OR REPAIRS.
- 1.22 ENSURE THAT THE INSTALLATION OF EQUIPMENT CONFORMS TO THE APPLICABLE SEISMIC RESTRAINT PROVISIONS INCLUDED IN THE LOCAL GOVERNING BUILDING CODE.
- 2 INTERRUPTIONS TO AND SHUT DOWNS OF EXISTING SERVICES AND SYSTEMS
- 2.1 COORDINATE AND PERFORM SHUT DOWNS AND INTERRUPTIONS TO EXISTING SYSTEMS AND SERVICES AT TIMES ACCEPTABLE TO OWNER. OBTAIN WRITTEN APPROVAL MINIMUM 5 WORKING DAYS IN ADVANCE OF SHUT DOWN OR INTERRUPTION. INCLUDE FOR PREMIUM TIME TO PERFORM WORK DURING NIGHTS, WEEKENDS OR OTHER TIME OUTSIDE OF NORMAL WORKING HOURS, AS NECESSARY TO MAINTAIN SERVICES IN OPERATION OR WITH MINIMUM INTERRUPTIONS AND TO COMPLY WITH OWNER'S REQUIREMENTS. PERFORM WORK ASSOCIATED WITH SHUT DOWNS AND INTERRUPTIONS AS CONTINUOUS OPERATIONS TO MINIMIZE SHUT DOWN TIME AND TO REINSTATE SYSTEMS AS SOON AS POSSIBLE, AND, PRIOR TO SHUT DOWN, ENSURE MATERIALS AND LABOUR REQUIRED TO COMPLETE WORK FOR WHICH SHUT DOWN IS REQUIRED ARE AVAILABLE AT SITE.
  3 CUTTING, PATCHING AND CORE DRILLING
- 3.1 PROVIDE CUTTING, PATCHING AND CORE DRILLING OF BUILDING REQUIRED FOR INSTALLATION OF WORK. PERFORM CUTTING IN NEAT AND TRUE FASHION, WITH PROPER TOOLS AND EQUIPMENT TO OWNER'S APPROVAL. PATCH SURFACES TO EXACTLY MATCH EXISTING FINISHES. UTILIZE TRADESMEN SKILLED IN PARTICULAR TRADE OR APPLICATION WORKED ON TO OWNER'S APPROVAL.
- 3.2 IN FIRE RATED CONSTRUCTION, PACK AND SEAL VOID BETWEEN OPENING AND CONDUIT FOR LENGTH OF OPENING WITH ASBESTOS FREE ELASTOMERIC AND INTUMESCENT ULC LISTED AND LABELLED MATERIALS. INSTALL FIRESTOP AND SMOKE SEAL MATERIALS IN ACCORDANCE TO ULC CERTIFICATION, OBC AND MANUFACTURER'S REQUIREMENTS TO PROVIDE FIRESTOP RATINGS OF OPENINGS IN ACCORDANCE WITH GOVERNING BUILDING CODE REQUIREMENTS. SUBMIT WITH SHOP DRAWINGS, SPECIFIC ULC DESIGNATED NUMBER FOR EACH APPLICATION AND SDS SHEET. ACCEPTABLE MANUFACTURERS ARE 3M, SPECIFIED TECHNOLOGIES, TREMCO, HILTI, AND TYCO FIRE STOP SYSTEMS.

- 3.3 FOR EXTERIOR AND/OR UNDERGROUND PENETRATIONS, PROVIDE WATERPROOF, WEATHER-TIGHT, FIRE RATED MATERIALS IN COMPLIANCE WITH LOCAL GOVERNING AUTHORITY AND CODE REQUIREMENTS TO SEAL OPENINGS.
- 3.4 COMPLY WITH PRODUCT MANUFACTURER'S RECOMMENDATIONS FOR PRODUCT THAT SUITS EACH SPECIFIC INSTALLATION. TYPICALLY, PRODUCT TO BE CONSISTENT MANUFACTURER THROUGHOUT BUILDING AS COORDINATED WITH GENERAL CONTRACTOR
- 3.5 DO NOT CUT OR DRILL EXISTING WORK WITHOUT PRIOR OWNER'S APPROVAL AND REVIEW WITH CONSULTANT. IN CONSULTATION WITH OWNER AND BY USE OF NON-DESTRUCTIVE RADAR SCANNING, DETERMINE PRESENCE OF EXISTING SERVICES AND REINFORCING RODS CONCEALED BEHIND SURFACE TO BE CUT. ENSURE THAT AREAS OF BOTH SIDES OF SURFACE BEING CUT ARE PROTECTED FROM DEBRIS. BE RESPONSIBLE FOR DAMAGE DONE TO EXISTING BUILDING AND SERVICES CAUSED BY CUTTING OR DRILLING. IF RADAR SCANNING IS NOT PERMITTED BY OWNER, CAREFULLY HAND CHISEL TO EXPOSE RE-BAR AND BURIED SERVICES AND CHISEL OUT REQUIRED OPENINGS. COMPLY WITH OWNER'S FM GLOBAL INSURANCE AS APPLICABLE, OR OTHER REQUIREMENTS CONFIRMED WITH OWNER.
  4 CONCRETE WORK

LENGTHS

4.1 PROVIDE CONCRETE REQUIRED FOR WORK, INCLUDING FORMWORK AND REINFORCING STEEL.
4.2 PROVIDE CONCRETE WORK IN ACCORDANCE WITH REQUIREMENTS OF DIVISION 03 AND BE OF MINIMUM 3000 PSI READY MIX TYPE.

DISCONNECTION, REMOVAL AND RELOCATION WORK

- 5.1 DISCONNECT AND REMOVE ITEMS OF EXISTING OBSOLETE ELECTRICAL WORK. RELOCATE REQUIRED DEVICES AS REQUIRED FOR WORK AND TO ACCOMMODATE WORK OF OTHER DIVISIONS. WHERE LUMINAIRES, SWITCHES, RECEPTACLES, AND OTHER DEVICES AND/OR EQUIPMENT IS REMOVED, DISCONNECT AT POINT OF ELECTRICAL SUPPLY, REMOVE OBSOLETE WIRING AND CONDUIT UP TO SOURCE, UNLESS OTHERWISE NOTED, AND MAKE SYSTEM SAFE TO OWNER'S SATISFACTION. REMOVE OBSOLETE CONDUIT/RACEWAYS IN ACCESSIBLE CEILING SPACES, EXPOSED LOCATIONS, ETC. WHERE EXISTING OBSOLETE CONDUIT AND SIMILAR RACEWAY MATERIAL CANNOT BE REMOVED, SUCH AS EMBEDDED IN CONCRETE, CUT BACK AND
- CAP OBSOLETE CONDUIT AND RACEWAYS. REFER TO SPECIFIC NOTES ON DRAWINGS.
  5.2 WHEN EXISTING CIRCUITS ARE BEING DISCONNECTED, MAINTAIN SUPERVISION OF AREA TO ENSURE THAT SUCH CIRCUITS DO NOT AFFECT ESSENTIAL EXISTING CIRCUITS BEING RETAINED.
- 5.3 REFER TO ARCHITECTURAL DRAWINGS WHICH DEFINE EXTENT OF AREAS BEING DEMOLISHED IN EXISTING BUILDING. REVIEW DRAWINGS AND SITE AND INCLUDE FOR DEMOLITION AND/OR RENOVATION OF SERVICES AS REQUIRED TO ACCOMMODATE ALTERATIONS DETAILED.
- 5.4 UNLESS OTHERWISE NOTED, TAKE POSSESSION OF OBSOLETE MATERIALS WHICH ARE REMOVED AND ARE NOT TO BE RELOCATED OR REUSED AS DIRECTED BY OWNER. REMOVE FROM SITE AND PROPERLY DISPOSE OF. OBTAIN FROM OWNER, LIST OF EXISTING ELECTRICAL ITEMS WHICH ARE TO BE REMOVED AND TURNED OVER TO OWNER. SAID ITEMS ARE TO REMAIN PROPERTY OF OWNER.
- 5.5 WHERE EXISTING SERVICES PASS THROUGH OR ARE IN AREA TO SERVE ITEMS WHICH ARE TO REMAIN, MAINTAIN SERVICES. REROUTE EXISTING SERVICES CONCEALED BEHIND EXISTING FINISHES AND WHICH BECOME EXPOSED DURING RENOVATION WORK, SO AS TO BE CONCEALED BEHIND NEW OR EXISTING FINISHES. CONFIRM WITH OWNER SERVICES WHICH ARE TO BE KEPT IN SERVICE AND OPERATIONAL.
- 5.6 REVISE PANELBOARD DIRECTORIES ACCORDINGLY, IF AFFECTED BY ANY RENOVATION, DISCONNECTION OR REMOVAL OF WORK. USE OWNER'S ACTUAL ROOM NAMES/NUMBERS.
- 5.7 PROTECT EXISTING DEVICES BEING RELOCATED OR DELETED TO ENSURE THAT THEY ARE NOT DAMAGED. TEST SUCH DEVICES PRIOR TO DISCONNECTION AND DE-ENERGIZATION, TO ENSURE THAT EACH DEVICE IS IN PROPER WORKING CONDITION. ENSURE THAT MOTORS ARE IN PROPER ROTATION DIRECTION. EXAMINE EACH DEVICE FOR DAMAGE. REPORT DEVICES NOT WORKING OR WITH DAMAGE TO CONSULTANT PRIOR TO INITIATING ANY WORK. IT WILL BE ASSUMED THAT DEVICES ARE IN PROPER WORKING ORDER AND GOOD CONDITION IF NOT REPORTED.
- 5.8 PROVIDE JUNCTION BOXES, OUTLET BOXES, WIRING, PLATES, ETC., AS NECESSARY FOR COMPLETE RELOCATION OF DEVICES. CLEAN RELOCATED OR TEMPORARY REMOVED DEVICES AND EQUIPMENT, AND ENSURE THAT THEY ARE IN GOOD OPERATING CONDITION BEFORE BEING REINSTALLED. WHERE EXISTING LUMINAIRES ARE RELOCATED, CLEAN LUMINAIRES AND INSPECT FOR DAMAGE. RELAMP RELOCATED LUMINAIRES. REPORT DEFECTS OR DAMAGES TO CONSULTANT. DO NOT SPLICE CONDUCTORS WITHOUT CONSENT OF CONSULTANT. UTILIZE JUNCTION BOXES AND TERMINAL DEVICES FOR PROPER EXTENSION OF CIRCUITS WHERE APPROVED. OTHERWISE REPLACE CIRCUITS WITH HOME RUN/CONTINUOUS RUN OF SUITABLE
- 5.9 PROVIDE BLANK COVERPLATES ON EXISTING OBSOLETE BOXES WHICH ARE TO REMAIN IN POSITION.
- 5.10 AFTER INSTALLATION IS COMPLETE, TEST PARTS OF RE-USED OR RELOCATED ELECTRICAL EQUIPMENT AND CORRECT FAULTS AND GROUNDS. INCLUDE FOR FIRE ALARM VERIFICATION COMPANY TO VERIFY ANY RELOCATED DEVICES AND DOWNSTREAM AFFECTED DEVICES, AND VERIFY SYSTEM AS REQUIRED BY LOCAL FIRE AUTHORITY TO SUIT ACTUAL RELOCATION WORK. FOR OTHER EXISTING SYSTEMS, ENGAGE MANUFACTURERS AUTHORIZED REPRESENTATIVE OR OWNER'S SYSTEM MAINTENANCE CONTRACTOR, TO INSPECT AND VERIFY RELOCATED DEVICES. COORDINATE AND CONFIRM EXACT REQUIREMENTS WITH OWNER AND REVIEW WITH CONSULTANT. ANY FIRE ALARM, LIFE SAFETY OR COMMUNICATION SYSTEM DEVICE THAT HAS BEEN WORKED ON OR RELOCATED IS TO BE TESTED, VERIFIED, AND CERTIFIED BY MANUFACTURER'S AUTHORIZED TECHNICIAN AFTER COMPLETION OF WORK. INCLUDE FOR SUCH WORK.
- 5.11 INTERIOR, EXTERIOR OR UNDERGROUND ELECTRICAL SERVICES (INCLUDING AUXILIARY SERVICES, TELEPHONE, FIRE ALARM, P.A. SYSTEM, ETC.) TO OPERATING PARTS OF BUILDING ARE TO BE MAINTAINED IN OPERATION, AND TO THAT EFFECT, NECESSARY WORK MAY HAVE TO BE CARRIED OUT DURING NON-REGULAR BUSINESS HOURS AT NO ADDITIONAL COST TO THIS PROJECT. EXISTING RISERS ARE TO BE MAINTAINED IN SERVICE AS REQUIRED TO FEED OTHER AREAS OF BUILDING. DO NOT INTERRUPT ANY SERVICES WITHOUT PRIOR WRITTEN APPROVAL FROM OWNER AND REVIEW WITH CONSULTANT. SUBMIT FORMAL REQUESTS TO CONSULTANT OUTLINING IN DETAIL REQUIREMENTS OF PROPOSAL AND WAIT FOR INSTRUCTIONS FROM CONSULTANT
- 5.12 BE PRESENT WHEN ADDITIONAL DOORS OR OPENINGS ARE BEING CUT INTO EXISTING WALLS AND CEILINGS. SHOULD ANY DAMAGE OCCUR TO ELECTRICAL SYSTEM, RESTORE SYSTEM TO A SAFE AND SOUND CONDITION.
- 5.13 WHERE REFERENCES ARE MADE ON DRAWINGS THAT EXISTING RECEPTACLES, ETC., BE EXTENDED AND/OR RELOCATED TO SUIT NEW CONSTRUCTION, RECEPTACLES, ETC., ARE TO BE TESTED AND IF FOUND DEFECTIVE, BE REPLACED. CRACKED OR BROKEN COVERPLATES ARE TO
- BE REPLACED. FINISHES TO MATCH EXISTING SUBJECT TO REVIEW WITH CONSULTANT.
  5.14 BE RESPONSIBLE FOR DISCONNECTING POWER SUPPLY TO BRANCH CIRCUITS CONTROLLING LIGHTING, RECEPTACLES, PANELS, MECHANICAL EQUIPMENT, ETC., FOR SAFE REMOVAL OF EQUIPMENT, CONDUIT, WIRING, BOXES, ETC., AFFECTED BY DEMOLITION.
- 5.15 CLOSE OPENINGS IN BOXES, PANELS, ETC., THAT RESULT FROM REMOVAL OF EQUIPMENT, CONDUIT, WIRING, FIXTURES, ETC. CLOSE OPENINGS IN PROPER MANNER AND PROPERLY TERMINATE AND INSULATE CABLES TO RESTORE SYSTEM TO SAFE OPERATING CONDITION, TO OWNER'S SATISFACTION.
- 5.16 BE PRESENT AND SUPERVISE REMOVAL OF ELECTRICAL EQUIPMENT AND DEVICES. DURING DEMOLITION OF CEILINGS, WALLS, FLOORS, ETC. EXISTING EQUIPMENT WHICH IS NOT TO BE RELOCATED BUT INTERFERES WITH DEMOLITION IS TO BE TEMPORARILY RELOCATED UNTIL DEMOLITION WORK IS COMPLETED. SERVICES TO TEMPORARILY RELOCATED EQUIPMENT ARE TO BE MAINTAINED AT ALL TIMES.
- 5.17 DELETE EXISTING SYSTEM DEVICES AS NOTED. INCLUDE FOR: DISCONNECTING AND DECOMMISSIONING OF DELETED DEVICES; REMOVAL OF OBSOLETE BOXES, WIRING AND CONDUIT; PATCHING AND MAKING GOOD SURFACES AS COORDINATED WITH GENERAL TRADES CONTRACTOR; ENGAGING OWNER'S EXISTING RESPECTIVE SYSTEM VENDORS TO DECOMMISSION DEVICES, RE-PROGRAM EXISTING SYSTEM TO SUIT RENOVATIONS WORK, TEST AND VERIFY THAT OPERATION OF EXISTING SYSTEM IS IN PROPER ORDER AFTER SYSTEM CHANGES; TURN OVER DELETED DEVICES TO OWNER IF REQUESTED BY OWNER; PROPERLY DISPOSE OF MATERIALS NOT WANTED BY OWNER.
- 5.18 REMOVE AND RE-INSTALL EXISTING CEILING TILES AS REQUIRED TO PERFORM WORK. PRIOR TO REMOVAL, INSPECT TILES FOR DAMAGE AND REPORT ANY TO OWNER AND CONSULTANT. REMOVE AND REINSTALL ELECTRICAL DEVICES/LUMINAIRES AS REQUIRED FOR INSTALLATION OF WORK. SECURE LOOSE CABLING, DEVICES AND LUMINAIRES TO CEILING SLAB. AFTER WORK HAS BEEN COMPLETED AND SUCCESSFULLY TESTED AND INSPECTED, RE-INSTALL CEILING TILES TO EXISTING STANDARDS. REPLACE TILES AND GRID MEMBERS DAMAGED DURING WORK. PATCH AND MAKE GOOD (INCLUDING PAINTING) SURFACES TO MATCH EXISTING. COMPLY WITH APPLICABLE GOVERNING AUTHORITY REQUIREMENTS WITH REGARDS TO CEILING WORK IN SPECIAL AREAS.
- 5.19 CHECK LUMINAIRES TO BE DELETED FOR PCB BALLASTS. DISCONNECT AND REMOVE SUCH BALLASTS. INCLUDE COSTS FOR COMPANY SPECIALIZED IN SUCH HAZARDOUS MATERIALS TO REMOVE AND DISPOSE SUCH MATERIALS OFF-SITE IN COMPLIANCE WITH MINISTRY OF ENVIRONMENT, MINISTRY OF TRANSPORT AND ANY OTHER GOVERNING AUTHORITY REGULATIONS.
- 6 HAZARDOUS MATERIALS
  6.1 IF AT ANY TIME DURING COURSE OF WORK HAZARDOUS MATERIALS ARE ENCOUNTERED OR
- SUSPECTED, CEASE WORK IN AREA IN QUESTION AND IMMEDIATELY REPORT TO CONSULTANT AND COMPLY WITH REGULATIONS OF LOCAL GOVERNING AUTHORITIES. DO NOT RESUME WORK IN AFFECTED AREA WITHOUT APPROVAL FROM OWNER AND REVIEW WITH CONSULTANT.
- 6.2 PROPERLY REMOVE AND DISPOSE OFFSITE MATERIALS CONTAINING HAZARDOUS MATERIALS IN ACCORDANCE WITH LOCAL GOVERNING AUTHORITY REGULATIONS. USE SPECIALTY FIRMS LICENSED BY LOCAL AUTHORITIES AS REQUIRED TO HANDLE SUCH MATERIALS AND TO ENSURE PROPER DISPOSAL TO MINISTRY APPROVED SITES. SUBMIT TO CONSULTANT COPIES OF PERMITS AND/OR APPROVALS.
   7 RECORD DRAWINGS (AS-BUILTS)
- 7.1 DRAWINGS FOR THIS PROJECT HAVE BEEN PREPARED ON AUTOCAD RELEASE VERSION OF SOFTWARE CONFIRMED WITH CONSULTANT. COPIES OF DRAWINGS ON DISKS FOR USE IN PREPARING "AS-BUILTS" MAY BE PURCHASED FROM CONSULTANT AT COST OF \$25 CDN. PLUS HST PER DRAWING.
- 7.2 FOR PRODUCTION OF AS-BUILT DOCUMENTS, OBTAIN CONSULTANT'S ACAD DRAWING FILES AND "CTB" FILE (FOR PLOTTING CORRECT LINE THICKNESS). WHEN WORK BEGINS ON SITE, MAINTAIN "AS-BUILT" WHITE PRINTS AT SITE FOR PERIODIC INSPECTION BY CONSULTANT THROUGHOUT DURATION OF WORK. PAY PARTICULAR ATTENTION TO ACCURATELY DIMENSIONING LOCATION OF CONCEALED SERVICES TERMINATED FOR FUTURE, BURIED WORK AND SERVICES, AND CONCEALED WORK. CLEARLY AND ACCURATELY MARK-UP CHANGES AND DEVIATIONS FROM ROUTING OF DUCTS, CONDUITS, RACEWAYS AND SERVICES, AND LOCATIONS OF EQUIPMENT SHOWN ON CONTRACT DRAWINGS. CHANGES AND DEVIATIONS INCLUDE THOSE MADE BY ADDENDA, CHANGE ORDERS AND SITE INSTRUCTIONS, BEFORE APPLYING FOR A CERTIFICATE OF SUBSTANTIAL COMPLETION, UPDATE AUTOCAD DISK SET IN ACCORDANCE WITH MARKED UP "AS-BUILT" WHITE PRINTS, SUBMIT TO CONSULTANT FOR REVIEW, "AS-BUILT" SITE DRAWING WHITE PRINTS, PRODUCED FROM DISK SET AND DRAWING DISK SET USING CONSULTANT "CTB" FILE. MAKE REVISIONS AS REQUESTED BY CONSULTANT. UPON COMPLETION OF WORK, SUBMIT TO CONSULTANT, COMPLETED "AS-BUILT" DRAWINGS (PLOTTED WITH "CTB" FILE), TRANSPARENCIES, AUTOCAD FILES DISKS AND BUILDING INSPECTION DEPARTMENT'S FINAL CERTIFICATE OF APPROVAL. "AS-BUILT" DRAWINGS TO CONTAIN CONTRACTOR'S NAME AND DATE, FAILURE TO PLOT DRAWINGS WITH CORRECT LINE THICKNESS WILL RESULT IN

REJECTION. CONFIRM QUANTITIES OF SETS OF AS-BUILTS WITH CONSULTANT AT STARTUP.

- 7.3 WHEN WORK BEGINS AT SITE, CLEARLY AND ACCURATELY MARK ON BOUND SET OF WHITE PRINTS OF CONTRACT DRAWINGS, ON DAILY BASIS, CHANGES AND DEVIATIONS FROM ROUTING OF AND LOCATIONS OF EQUIPMENT SHOWN ON CONTRACT DRAWINGS, CHANGES AND DEVIATIONS INCLUDING THOSE MADE BY ADDENDA, CHANGE ORDERS, AND SITE INSTRUCTIONS, AND CHANGES AND DEVIATIONS INDICATED ON SUPPLEMENTAL DRAWINGS ISSUED WITH ADDENDA, CHANGE ORDERS, AND SITE INSTRUCTIONS. MAINTAIN "AS-BUILT" WHITE PRINTS AT SITE FOR PERIODIC INSPECTION BY CONSULTANT THROUGHOUT DURATION OF WORK. PAY PARTICULAR ATTENTION TO ACCURATELY DIMENSIONING LOCATION OF CONCEALED SERVICES TERMINATED FOR FUTURE EXTENSION, BURIED WORK AND SERVICES, AND WORK CONCEALED WITHIN BUILDING IN INACCESSIBLE LOCATIONS. LOCATE AND IDENTIFY FIRE ALARM DEVICES WITH ADDRESSES, AS APPLICABLE.
- 7.4 WHEN WORK ENDS AT SITE, UPDATE A COMPUTER FILE COPY OF CONTRACT DOCUMENT DRAWING SET SO THAT IT REFLECTS DEVIATIONS FROM ORIGINAL CONTRACT DOCUMENT DRAWINGS, THUS FORMING A TRUE "AS-BUILT" DRAWING DISK SET. PROVIDE SET OF PRINTS OF CONTRACT DRAWINGS PRODUCED FROM TRUE "AS-BUILT" DRAWING SET. SUBMIT "AS-BUILT" DRAWING ELECTRONIC FILES WITH WHITE PRINTS AND CAD PRODUCED "AS-BUILT" PRINTS TO CONSULTANT. SUBMITTED DRAWINGS TO BE OF SAME QUALITY AS ORIGINAL CONTRACT DOCUMENT DRAWINGS.
- 7.5 UPDATE ONSITE DISTRIBUTION RISER DIAGRAMS POSTED IN ELECTRICAL ROOMS.
- 8 SHOP DRAWINGS AND OPERATING/MAINTENANCE INSTRUCTION MANUALS
  8.1 SUBMIT SHOP DRAWINGS FOR PRODUCTS. PROPERLY IDENTIFY SHOP DRAWINGS FOR REVIEW AND SHOW IN DETAIL EQUIPMENT AND MATERIALS. ENDORSE EACH DRAWING; INCLUDE COMPANY NAME AND SUBMITTAL DATE.
- 8.2 PROVIDE OPERATING AND MAINTENANCE (O&M) INSTRUCTION MANUALS AS INDEXED, IDENTIFIED, HARD COVER 3 RING BINDERS COMPLETE WITH:
- TITLE SHEET AND LIST OF CONTENTS;
   A COPY OF EACH "REVIEWED" SHOP DRAWING;
- .3 EXPLANATIONS OF OPERATING PRINCIPLES AND SEQUENCES;
- .4 PART LISTS WITH NUMBERS;.5 RECOMMENDED MAINTENANCE PRACTICES AND PRECAUTIONS;
- .6 COPIES OF INSPECTION CERTIFICATES ISSUED BY GOVERNING AUTHORITIES;
- .7 WIRING AND CONNECTION DIAGRAMS;.8 COPIES OF ADDITIONAL AND REVISED PANELBOARD DIRECTORIES.
- 8.3 PROVIDE MINIMUM 2 SETS OF MANUALS UNLESS OTHERWISE DIRECTED IN DIVISION 01. CONFIRM EXACT QUANTITY AND METHOD OF SUBMISSION WITH CONSULTANT. REVIEW BY CONSULTANT DOES NOT MEAN APPROVAL OF DETAIL DESIGN INHERENT IN SHOP DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN SHOP DRAWINGS.
- 8.4 UNLESS OTHERWISE DIRECTED BY CONSULTANT, SUBMIT SHOP DRAWINGS IN ELECTRONIC FORM. UNLESS OTHERWISE DIRECTED BY CONSULTANT ADDITIONALLY INCLUDE ELECTRONIC PDF COPIES OF MANUALS LOADED ON TO USB FLASH DRIVE.
- 9 GENERAL CONDUIT AND CONDUCTOR INSTALLATION REQUIREMENTS
- 9.1 INSTALL CONDUIT AND CONDUCTORS CONCEALED TO DEGREE MADE POSSIBLE BY FINISHES AND PROVIDE INSTALLATIONS IN ACCORDANCE WITH OESC AND LOCAL GOVERNING AUTHORITIES. PLAN AND COORDINATE LOCATIONS AND ROUTING OF SERVICES WITH TRADES PRIOR TO INSTALLATION. IN AREAS WHERE MULTIPLICITY OF SERVICES OCCURS, PREPARE DETAILED DRAWINGS AND SUBMIT TO CONSULTANT FOR REVIEW PRIOR TO START OF AFFECTED WORK.
- 9.2 WHERE CONDUIT AND/OR CONDUCTORS ARE EXPOSED, ARRANGE SAME TO AVOID INTERFERENCE WITH OTHER WORK AND INSTALL SERVICES PARALLEL TO BUILDING LINES. WHERE HORIZONTAL CONDUITS AND/OR CONDUCTORS ARE EXPOSED, INSTALL AS HIGH AS POSSIBLE. DO NOT INSTALL CONDUIT AND/OR CONDUCTORS WITHIN 150 MM OF "HOT" PIPES OR EQUIPMENT UNLESS CONDUIT AND/OR CONDUCTORS ARE ASSOCIATED WITH EQUIPMENT. INDEPENDENTLY RUN CONDUIT AND CONDUCTORS MUST BE SUPPORTED FROM CEILING/WALL STRUCTURE, NOT FROM CEILING HANGERS, DUCTWORK, PIPING, CABLE TRAYS, ETC.
- 9.3 IDENTIFY CONDUIT RUNS. (I.E.: TAG BOTH ENDS OF CONDUIT RUNS).9.4 AT NO EXTRA COST, ALLOW FOR FINAL RELOCATIONS OF DEVICES UP TO 3 M TO SUIT FINAL
- COORDINATED DEVICE LOCATIONS, PRIOR TO INSTALLATION OF WALL COVERINGS.
  9.5 GENERALLY, CONDUCTORS AND CONDUIT ARE SIZED ON DRAWINGS, BUT IN ABSENCE OF DIRECTION IN TYPE AND SIZING, TYPE AND SIZE AND PROVIDE REQUIRED QUANTITY IN ACCORDANCE WITH INTENDED APPLICATION, TO APPLICABLE OESC REQUIREMENTS. SIZES WHERE SHOWN, ARE MINIMUM SIZES AND SHALL NOT BE REDUCED UNLESS APPROVED BY OWNER AND REVIEWED WITH CONSULTANT.
- 9.6 CONDUCTORS IN PLENUM SPACES AND IN RAISED FLOOR AREAS TO COMPLY WITH OBC AND OESC REQUIREMENTS WITH REGARDS TO FLAME AND SMOKE TEST.
  9.7 PROVIDE POLY TYPE PULL STRINGS IN ALL EMPTY CONDUITS.
- 10 PROVISIONS FOR MISCELLANEOUS SYSTEM ROUGH-INS
- 10.1 PROVIDE COMPLETE SYSTEM OF CONDUITS, OUTLET BOXES, JUNCTION BOXES, FACEPLATES AND SLEEVES (IF REQUIRED) AND FIRE RETARDANT PLYWOOD BACKBOARD TO ACCOMMODATE EXTENSION OF EXISTING SYSTEM BY SYSTEMS INSTALLERS WHO WILL PROVIDE EQUIPMENT AND WIRING. PROVIDE BLANK TYPE FACEPLATES.
- 10.2 PROVIDE CONDUIT AS REQUIRED. PROVIDE PULLBOXES IN CONDUIT RUNS LONGER THAN 30 M OR HAVING MORE THAN 2, 90 DEGREE BENDS. PULLBOX SIZES ARE NOT TO BE LESS THAN 8 TIMES ENTERING CONDUIT IN LENGTH. LEAVE CONDUITS FREE AND CLEAR OF OBSTRUCTIONS AND TERMINATE AS REQUIRED. EQUIP TERMINATIONS WITH BUSHINGS AND CLEARLY IDENTIFY EACH RUN. PROVIDE FISH WIRES IN EMPTY CONDUIT. FOR NETWORK CABLING SYSTEMS, BOXES, CONDUITS, AND BENDING RADII TO CONFORM TO EIA/TIA 569 STANDARDS FOR INSTALLATION OF CATEGORY RATING OF CABLING. UNLESS OTHERWISE NOTED, CONDUITS TO BE MINIMUM 27 MM DIAMETER AND INCREASED TO SUIT MAXIMUM CABLE FILL REQUIREMENTS.
- PULL BOXES SHALL BE SECURELY ATTACHED TO THE COMMUNICATIONS PAC-POLE. PLASTIC BUSHINGS MUST BE UTILIZED WHEN TRANSITIONING FROM THE PULL BOX TO THE COMMUNICATION PAC-POLE.
- 11 CONDUIT
- 11.1 PROVIDE CONDUIT FOR CONDUCTORS. INTERIOR CONDUIT TO BE EMT (THINWALL) GALVANIZED, ELECTRICAL METALLIC TUBING TO CSA C22.2 NO. 83, COMPLETE WITH FACTORY MADE BENDS WHERE SITE BENDING IS NOT POSSIBLE, AND JOINTS AND TERMINATIONS MADE WITH SET SCREW TYPE CONNECTORS; FOR SHORT BRANCH CIRCUIT CONNECTORS TO MOTORIZED EQUIPMENT AND TRANSFORMERS (MINIMUM LENGTH 450 MM, MAXIMUM LENGTH 600 MM WITH 180 DEGREE LOOP WHERE POSSIBLE) GALVANIZED STEEL FLEXIBLE FLUID TIGHT METALLIC CONDUIT TO CSA C22.2 NO. 56, COMPLETE WITH IDEAL "STEEL TOUGH" LIQUID TIGHT FLEXIBLE CONDUIT CONNECTORS AT TERMINATIONS. FOR EXTERIOR EXPOSED CONDUIT, AND FOR INTERIOR CONDUIT GREATER THAN 50 MM DIAMETER AND FOR SURFACE MOUNTED CONDUIT AT HEIGHT LESS THAN 1200 MM, PROVIDE RIGID GALVANIZED STEEL TO CSA C22.2 NO. 45 COMPLETE WITH FITTINGS, CONNECTORS, AND RIGID COUPLINGS.
- 11.2 FOR RUNNING UNDERGROUND, OR IN CONCRETE SLABS, PROVIDE CSA APPROVED, RIGID PVC CONDUIT COMPLETE WITH COUPLINGS, EXPANSION JOINTS, ELBOWS, ETC., AS REQUIRED.
  11.3 SUPPORT AND SECURE CONDUIT AT SPACING IN ACCORDANCE WITH CODE REQUIREMENTS BY MEANS OF GALVANIZED PIPE STRAPS, CONDUIT CLIPS, RING BOLT TYPE HANGERS, OR BY OTHER PROPER MANUFACTURED DEVICES. PROVIDE CONDUIT FITTINGS CONSTRUCTED OF SAME MATERIALS AS CONDUIT AND SUITABLE FOR APPLICATION. SQUARE AND PROPERLY REAM ENDS OF SITE CUT CONDUIT. GENERALLY, CONDUIT IS SIZED ON DRAWINGS. SIZE CONDUIT NOT SIZED ON DRAWINGS IN ACCORDANCE WITH CODE. FOR CONTROLS AND COMMUNICATIONS CONDUCTORS, SIZE CONDUIT AS NOTED, BUT INCREASED TO SUFFICIENTLY ACCOMMODATE HOME RUN CONDUCTORS. BEND CONDUIT AT FULL CONDUIT DIAMETER WITH NO KINKING AND NO FLAKING OR CRACKING OF FINISHES.
- 12 NOT USED

### 13 CONDUCTORS

- 13.1 PROVIDE CONDUCTORS. CONDUCTORS TO BE COPPER. REFER TO DRAWINGS FOR SIZING CONDUCTORS. GENERALLY, CONDUCTOR SIZES ARE INDICATED ON DRAWINGS. SUCH S ARE MINIMUM REQUIREMENTS AND MUST BE INCREASED TO SUIT LENGTH OF RUN VOLTAGE DROP IN ACCORDANCE WITH SCHEDULE OBTAINED FROM CONSULTANT. CONDUCTORS NOT SIZED ON DRAWINGS IN ACCORDANCE WITH OESC. PROVIDE CA SUPPORT SYSTEM ACCESSORIES WHICH ARE NOT SPECIFIED HEREIN OR SHOWN ON DRAWI BUT ARE REQUIRED FOR PROPER INSTALLATION.
- 13.2 INTERIOR CONDUCTORS: "T90 NYLON" SINGLE COPPER CONDUCTOR TO CSA C22.2 NO. COLOUR CODED, 90°C RATED, PVC INSULATED AND NYLON COVERED; OR "RW90", SIN COPPER CONDUCTOR TO CSA C22.2 NO. 38, 600 VOLTS, MAXIMUM 90°C CONDUC TEMPERATURE, MINUS 40°C MINIMUM INSTALLATION TEMPERATURE, X-LINK POLYETHYL INSULATION, COLOUR CODED.
- 13.3 CONDUCTORS IN ACCESSIBLE SUSPENDED CEILING SPACES OR IN STUD WALL CONSTRUCT TO SUSPENDED CEILING SPACES, MAY BE "BX" TYPE, AC 90 FLEXIBLE ARMOURED CABLE W "RW 90" COPPER CONDUCTORS (MAXIMUM 6 M RUN PERMITTED), AND WITH BARE COPI GROUND CONDUCTOR. "BX" TO COMPLY WITH CSA C22.2 NO. 51 (BULLETIN NO. 994). PROV PROPER SQUEEZE TYPE CONNECTORS AND PLASTIC ANTI SHORT BUSHINGS AT TERMINATIC SUPPORT "BX" IN CEILING SPACES AND IN STUD WALL CONSTRUCTION WITH STEEL 2 H CABLE STRAPS TO CODE REQUIREMENTS. RUN BX PERPENDICULAR AND PARALLEL TO BUILD
- 13.4 CONDUCTORS UP TO AND INCLUDING NO. 10 AWG TO BE SOLID. CONDUCTORS IN SIZES LAR THAN NO. 10 AWG TO BE STRANDED. PROVIDE CONDUCTORS CONSTRUCTED OF CONDUCTIVE COPPER AND APPROVED FOR 600 V. DO NOT USE CONDUCTORS SMALLER T NO. 12 AWG.
- 13.5 PROVIDE IDI ELECTRIC "IDEAL" NO. 451, NO. 452 AND NO. 453 "WING NUT" CSA CERTIFIED ( RATED PRESSURE TYPE CONNECTORS.
  13.6 COLOUR CODE CONDUCTORS IN ACCORDANCE WITH CODE, THROUGHOUT TO IDEN
- PHASES, NEUTRALS AND GROUND BY MEANS OF SELF-LAMINATING COLOURED T. COLOURED CONDUCTOR INSULATION, OR PROPERLY SECURED COLOURED PLASTIC DISCS. 13.7 WHEN PULLING WIRES INTO CONDUIT, USE IDI ELECTRIC "IDEAL YELLOW 77" LUBRIC.
- ENSURE WIRES ARE KEPT STRAIGHT AND ARE NOT TWISTED OR ABRAISED.
  13.8 PROVIDE A NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT, AND A MINIMUM OF ONE GR INSULATED GROUND CONDUCTOR PER THREE CIRCUITS. TYPICALLY, FOR EACH 37S PROVIDE A JUNCTION BOX WITH THE BRANCH CIRCUITS, NEUTRALS, AND GROU CONDUCTORS AS DESCRIBED.
- 14 OUTLET BOXES, PULLBOXES AND JUNCTION BOXES
- 14.1 PROVIDE CSA APPROVED STAMPED GALVANIZED STEEL ELECTRICAL BOXES FOR E LUMINAIRE, DEVICE AND OTHER PRODUCT FOR WIRING TERMINATIONS AS REQUIRED. REFER DRAWINGS FOR TYPICAL LOCATIONS OF OUTLETS. CONFIRM EXACT LOCATIONS PRIOR ROUGHING IN. BOXES FOR RIGID STEEL CONDUITS TO BE CAST FS/FD TYPES. PROVIDE BOXES FOR PVC CONDUIT SYSTEMS.
- 14.2 PROVIDE PULLBOXES AND JUNCTION BOXES WHEREVER NECESSARY TO FACILIT CONDUCTOR/CONDUIT INSTALLATIONS. GENERALLY, PROVIDE CONDUIT RUNS EXCEEDING 3 IN LENGTH, OR WITH MORE THAN 2, 90-DEGREE BENDS WITH PULLBOX INSTALLED CONVENIENT AND SUITABLE INTERMEDIATE ACCESSIBLE LOCATION. PROVIDE JUNCTION BO AND PULLBOXES SIZED IN ACCORDANCE WITH CODE TO SUIT NUMBER AND SIZE OF CONDU AND CONDUCTORS. BOXES TO BE GALVANIZED OR PRIME COATED PLATE STEEL COMPL WITH SCREW ON OR HINGED COVERS AND KNOCKOUTS. BOXES MUST BE ACCESSIBLE AF WORK IS COMPLETE.
- 14.3 SIZE, ARRANGEMENT AND TYPE OF BOXES TO BE SUITABLE FOR APPLICATION. PROVIDE BLA COVERPLATES ON EXISTING OBSOLETE BOXES WHICH ARE TO REMAIN. CLEARLY IDENTIFY M PULL OR JUNCTION BOXES BY PAINTING COVERS IN ACCORDANCE WITH FOLLOWING COLD SCHEDULE:
- .1 LIGHTING YELLOW; .2 NORMAL POWER - BLUE;
- .3 FIRE ALARM RED.
- 15 RECEPTACLES, SWITCHES AND FACEPLATES
- 15.1 FOR GENERAL AREAS: PROVIDE CSA APPROVED, EXTRA HEAVY DUTY, INDUSTRIAL GRADE QUIET ACTION NYLON TOGGLE TYPE, 20A, 120 277V SWITCHES AND, TAMPER RESISTANT, EX HEAVY DUTY, SPECIFICATION GRADE PREMIUM QUALITY, NYLON BODY CONSTRUCTION, DUP 15 OR 20A 125V, 3W GROUNDING RECEPTACLES EQUAL TO HUBBELL 5362WTR. DEVICES TO BACK AND SIDE WIRED. PROVIDE STAINLESS STEEL TYPE OR IMPACT RESIST THERMOPLASTIC FACEPLATES WITH MATCHING SCREWS, AS PER EXISTING STANDARDS REVIEWED WITH CONSULTANT.
- 15.2 FOR PUBLIC SPACES OR OTHER AREAS WHERE DESIGNER DEVICES ARE REQUIRED: PROVI CSA APPROVED, SPECIFICATION GRADE, ROCKER TYPE, 20A, 120 277V DECORATIVE T SWITCHES SPECIFICATION GRADE, DUPLEX NYLON CONSTRUCTION, 15A 125V, 3W DECORA RECEPTACLES. DEVICES TO BE BACK AND SIDE WIRED. PROVIDE IMPACT RESIST THERMOPLASTIC FACEPLATES WITH MATCHING SCREWS.
- 15.3 WHERE REQUIRED, PROVIDE 15A 125V, ULC LISTED, 2 POLE, 3W, ORANGE COLOUF SPECIFICATION GRADE ISOLATED GROUND DUPLEX RECEPTACLE COMPLETE WITH STAINL STEEL FACEPLATE AND MATCHING SCREWS.
- 15.4 WHERE REQUIRED, PROVIDE WEATHER RESISTANT SERIES, 15A 125V, ULC LISTED, CLAS GROUP ONE, 2 POLE, 3W, IVORY COLOURED, SPECIFICATION GRADE, GROUND FA INTERRUPTER DUPLEX RECEPTACLE, COMPLETE WITH STAINLESS STEEL FACEPLATES MATCHING SCREWS.
- 15.5 IDENTIFY CIRCUIT NUMBERS ON RECEPTACLE DESIGNATED LABELLING SPACES. PROV PERMANENTLY LABELLED, SELF-ADHESIVE, IDENTIFICATION TAPE ON OUTSIDE OF EACH DEV OUTLET, IDENTIFYING LOCATION FROM WHERE EACH DEVICE IS FED.
- 15.6 CONFIRM TYPE, NUMBER OF WAY, NUMBER OF POLES, AND FINISHES OF DEVICES W CONSULTANT PRIOR TO ORDERING. SUBMIT SAMPLES AND FINISHES FOR CONSULTAN REVIEW.
- 15.7 ACCEPTABLE MANUFACTURERS INCLUDE HUBBELL, LEGRAND P&S, COOPER ARROW HART LEVITON.
- 16 ACCESS DOORS
- 16.1 PROVIDE MINIMUM NO. 12 GAUGE PRIME COAT PAINTED STEEL FLUSH ACCESS DOORS, E. COMPLETE WITH A HEAVY FRAME AND ANCHOR, HEAVY DUTY RUST RESISTANT CONCEA HINGES, POSITIVE LOCKING SCREWDRIVER LOCK, AND MOUNTING AND FINISHING PROVISION TO SUIT PARTICULAR CONSTRUCTION IN WHICH IT IS INSTALLED. ACCESS DOORS TYPICA STANDARD SIZE AND TO SUIT CONCEALED WORK FOR WHICH THEY ARE SUPPLIED BUT NOT LESS THAN 600 MM X 600 MM. ACCESS DOORS IN FIRE RATED CEILINGS, WALLS, PARTITIC STRUCTURES, ETC., TO BE ULC LISTED AND LABELLED AND OF A RATING TO MAINTAIN F SEPARATION INTEGRITY.
- 16.2 WHERE ACCESS DOORS ARE LOCATED IN SURFACES WHERE SPECIAL FINISHES ARE REQUIR PROVIDE RECESSED DOOR TYPE CAPABLE OF ACCEPTING FINISH IN WHICH THEY ARE TO INSTALLED SO AS TO MAINTAIN FINAL BUILDING SURFACE APPEARANCE THROUGHOUT.
  16.3 SUPPLY ACCESS DOORS TO GIVE ACCESS TO JUNCTION BOXES, PULLBOXES, CONDUCTOR/E
- JOINTS AND OTHER SIMILAR ELECTRICAL WORK WHICH MAY NEED MAINTENANCE OR REF BUT WHICH IS CONCEALED IN INACCESSIBLE CONSTRUCTION. 16.4 BEFORE COMMENCING INSTALLATION OF WORK, PREPARE ON SET OF REFLECTED CEIL
- PLANS, COMPLETE LAYOUTS OF REQUIRED CEILING ACCESS DOORS. SUBMIT F CONSULTANT'S REVIEW, LAYOUTS SHOWING EXACT SIZES AND LOCATIONS. LOCATE / ARRANGE WORK TO SUIT. COORDINATE SUCH THAT MECHANICAL AND ELECTRICAL SERVIC CAN BE ACCESSED AT SAME LOCATION WHERE POSSIBLE.
- 16.5 ACCESS DOORS TO BE INSTALLED BY TRADE RESPONSIBLE FOR PARTICULAR TYPE CONSTRUCTION IN WHICH DOORS ARE REQUIRED. SUPPLY ACCESS DOORS TO TRA INSTALLING SAME AT PROPER TIME.
  16.6 CONFIRM EXACT DIMENSIONS PRIOR TO ORDERING. CONFIRM FINISHES WITH CONSULTANT.
- 17 FASTENING AND SECURING HARDWARE
- 17.1 PROVIDE PROPER FASTENERS, HANGERS AND SIMILAR HARDWARE REQUIRED FOR COND CONDUCTORS AND EQUIPMENT. DO NOT USE EXPLOSIVE POWDER ACTUATED FASTEN WITHOUT WRITTEN APPROVAL FROM OWNER AND REVIEW WITH CONSULTANT. UNDER CIRCUMSTANCES SHALL CEILING SUSPENSION HANGERS OR GRIDS BE USED FOR SUSPENS OF CONDUIT AND CONDUCTORS.
- 17.2 PROVIDE METAL "J" HOOKS OR PANDUIT "J-PRO" CABLE SUPPORT SYSTEMS I COMMUNICATIONS SYSTEM CABLING IN ACCESSIBLE CEILING SPACES WERE CONDUIT OR CA TRAY IS NOT BEING PROVIDED. OBTAIN WRITTEN APPROVAL OF OWNER FOR USE OF J-HOO COMPLY WITH J-HOOK MANUFACTURER'S LOADING LIMITATIONS AND SPACING CRITERIA. NOT EXCEED 1.2 M SPACING INTERVAL. ADD ADDITIONAL J-HOOKS IF CABLING SAGS, DISCRETION OF CONSULTANT. DO NOT INSTALL MORE THAN ONE SYSTEM ON EACH J-HOOK.
- 17.3 PROVIDE VELCRO TIE WRAPS FOR BUNDLING AND SECURING CABLES. DO NOT OVER TIGH PROVIDE FT6/CMP RATED WRAPS IN PLENUM TYPE SPACES AS PER LOCAL BUILDING C REQUIREMENTS.
- 18 **IDENTIFICATION NAMEPLATES**
- 18.1 FOR EACH PIECE OF ELECTRICAL DISTRIBUTION EQUIPMENT FROM ELECTRICAL SOURCE SUPPLY UP TO AND INCLUDING PANELBOARDS, AND OTHER SYSTEMS CONTROL CABINETS A ASSOCIATED ENCLOSURES, PROVIDE ENGRAVED LAMACOID IDENTIFICATION NAMEPLA SECURED TO APPARATUS WITH STAINLESS STEEL SCREWS, WORDING TO INDICATE SOURCE ELECTRICAL SUPPLY AND SIZED TO SUIT EQUIPMENT FOR WHICH IT IS PROVIDED. REV EXACT NAMEPLATE WORDING, DESIGNATIONS, AND SIZES WITH CONSULTANT PRIOR MANUFACTURE.
- 19 SYSTEM BACKBOARDS
- 19.1 FSC (FOREST STEWARDSHIP COUNCIL), G1S CONSTRUCTION GRADE FIR PLYWOOD, FLA RETARDANT PRIME COAT PAINTED ON EXPOSED SURFACES, MINIMUM 20 MM THICK, AS SIZED DRAWINGS AND WITH FLAME SPREAD RATING IN ACCORDANCE WITH OBC REQUIREMENTS.

	CIRCUIT BREAKERS FOR EXISTING PANELBOARDS PROVIDE BREAKERS IN EXISTING PANELBOARDS OF TYPE, QUALITY AND STANDARDS TO MATCH EXISTING DEVICES. CONFIRM REQUIREMENTS ON SITE PRIOR TO ORDERING. BREAKERS TO BE FULL HEIGHT MODULES. PROVIDE MODIFICATIONS TO PANELBOARDS TO ACCOMMODATE BREAKERS AND FEEDER INSTALLATIONS. PROVIDE REPLACEMENT BRANCH CIRCUIT DIRECTORY CARDS, NEATLY TYPEWRITTEN TO INCORPORATE ADDITIONAL AND EXISTING CONNECTED LOADS, TO CONSULTANT'S DIRECTIONS. DIRECTORIES TO USE OWNER'S ACTUAL ROOM	
21	NAMES/NUMBERS AND NOT CONTRACT DRAWINGS NAMES/NUMBERS. PROVIDE ENGRAVED LAMACOID I.D. NAMEPLATES FOR DISTRIBUTION PANELBOARDS, TO CONSULTANT'S DIRECTIONS.	
21.1	PROVIDE CUTLER-HAMMER CANADA TYPE "POW-R-LINE 1" FACTORY ASSEMBLED DEAD FRONT PANELBOARDS, 120/208V, 3-PHASE, 4-WIRE, MANUFACTURED TO CSA STANDARD C22.2 NO. 29 AND OESC, AND DESIGNED FOR AN INTERRUPTING CAPACITY OF 10 KA SYMMETRICAL AT 208V, UNLESS OTHEWISE NOTED.	
21.2	INSTALL PANELBOARDS WHERE SHOWN COMPLETE WITH:	
	<ul> <li>EEMAC 2 SPRINKLER-PROOF ENCLOSURE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL WITH REMOVABLE BOX ENDS, WIRING GUTTER SPACE ON SIDES, AND FACTORY PAINTED WITH ASA-61 GREY BAKED, ACRYLIC ENAMEL FINISH;</li> <li>TRIM FOR RECESSED OR SURFACE WALL MOUNTING AS SHOWN, CONSTRUCTED CODE GAUGE STEEL, BONDERIZED, FACTORY FINISHED WITH ASA-61 GREY BAKED ACRYLIC ENAMEL AND COMPLETE WITH CONCEALED FASTENERS, CONCEALED HINGE, CHROME PLATED DOOR LATCH AND KEYED ALIKE LOCK WITH KEY, STEEL FRAME HOLDER AND CIRCUIT DIPOR</li> </ul>	
	<ul> <li>BREAKER IDENTIFICATION STRIPS;</li> <li>.3 FACTORY PAINTED DRIP SHIELD FOR SURFACE MOUNTED PANELBOARDS;</li> <li>.4 HARD DRAWN ELECTRICAL GRADE COPPER BUS AND GROUND BUS;</li> <li>.5 HIGH STRENGTH, SET SCREW TYPE, ANTI-TURNING WIRE CONNECTORS;</li> <li>.6 BOLT ON MOULDED CASE CIRCUIT BREAKERS;</li> <li>.7 MAIN BREAKER AND GREEN POWER "ON" INDICATOR LIGHT, WHERE SCHEDULED;</li> <li>.8 200% CAPACITY NEUTRALS FOR PANELBOARDS AS SCHEDULED.</li> </ul>	
21.3	PROVIDE DOUBLE LUGGING TO EXISTING PANELBOARDS AS SHOWN.	
21.4	SUPPORT CABINET INDEPENDENT OF CONNECTING CONDUIT. TURN OVER TO CONSULTANT, PRIOR TO APPLICATION FOR SUBSTANTIAL PERFORMANCE OF WORK, QUANTITY OF 2 PANELBOARD CABINET KEYS PER PANELBOARD. IDENTIFY PANELBOARD BREAKERS IN PERMANENT MANNER, AND COMPLETE TYPED CIRCUIT DIRECTORY TO OWNER'S APPROVAL.	
21.5	ACCEPTABLE MANUFACTURERS INCLUDE SIEMENS ELECTRIC AND SQUARE D.	
	GROUNDING AND BONDING PROVIDE COMPLETE SYSTEM OF GROUNDING AND BONDING, WHICH COMPLIES WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR ELECTRICAL WORK, INCLUDING REQUIRED GROUNDING SECTIONS OF OESC. CONNECT GROUNDING CONDUCTORS TO EXISTING BUILDING GROUND SYSTEM. PROVIDE SEPARATE INSULATED GROUND WIRE FOR EACH SOLATED GROUND CIRCUIT. MAKE BURIED OR IN SLAB GROUND CONNECTIONS WITH ERICO CADWELD TYPE WELDED COPPER CONNECTIONS OR BURNDY HYGROUND COMPRESSION CONNECTORS. UNLESS OTHERWISE NOTED OR REQUIRED BY CODE, CONDUCTORS GREATER THAN 400 A TO BE PROVIDED WITH MINIMUM 3/0 AWG GROUND CONDUCTOR.	
	PROVIDE A GROUND CONDUCTOR IN ALL CONDUITS AND EMT. PROVIDE TELECOMMUNICATIONS GROUNDING BUSBAR (MINIMUM 300MM X 50MM X 9MM) MOUNTED WITH STANDOFF INSULATORS ON WALLS OF LAN CLOSETS. BUSBAR TO INCLUDE MINIMUM 8-DRILLED HOLES. CONNECT TO EQUIPMENT WITH GROUND CONDUCTORS AS REQUIRED.	
23	CONNECTIONS FOR MECHANICAL, OWNER'S, ETC., EQUIPMENT	
23.1	PROVIDE REQUIRED ELECTRICAL AND COMMUNICATIONS CONNECTIONS TO APPARATUS SUPPLIED BY MECHANICAL DIVISION AND BY OWNER AS PART OF OTHER DIVISIONS. PERFORM ELECTRICAL WORK FOR EQUIPMENT SCHEDULED ON DRAWINGS. MECHANICAL DIVISION CONTRACTOR WILL SUPPLY STARTERS FOR MOTORIZED APPARATUS SUPPLIED BY THEM AND WILL PROVIDE LAMACOID IDENTIFICATION THROUGHOUT.	C 2018 08 02 ISSUED WITH ADDENDUM No.2
23.2	COORDINATE WITH TRADES OF OTHER DIVISIONS TO ENSURE PROVISION OF PROPER ELECTRICAL AND COMMUNICATIONS REQUIREMENTS. UNLESS OTHERWISE NOTED OR DIRECTED BY CONSULTANT, PROVIDE INTERCONNECTION WIRING BETWEEN REMOTE OPERATOR DEVICES/CONTROLLERS AND EQUIPMENT BEING CONTROLLED BY OPERATOR DEVICES, WHETHER OR NOT SUCH DEVICES ARE SUPPLIED BY ELECTRICAL DIVISION. PROVIDE DISCONNECT SWITCHES, RECEPTACLES AND OTHER REQUIRED WIRING AND CONNECTION ACCESSORIES. COORDINATE WORK WITH SUPPLIERS OF EQUIPMENT TO BE PROVIDED WITH	B       2018 07 05       ISSUED FOR PERMIT & TENDER         A       2018 06 28       ISSUED FOR CO ORDINATION         no.       date       revision         It is the responsibility of the appropriate
23.3	CONNECTIONS AND WITH STRUCTURED CABLING SYSTEM VENDOR.	contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect.
	<ol> <li>COMPLETE INSTALLATION AND CONNECTION OF STARTERS AND PROVIDE "LINE" AND "LOAD" POWER CONNECTIONS AND INTERLOCKING AS REQUIRED;</li> <li>PROVIDE MOTOR STARTER PANELS CONSISTING OF NO. 14 GAUGE STEEL BOLTED PANELS</li> </ol>	All contractors must comply with all pertinent codes and by-laws.
	<ul> <li>SIZED TO ACCOMMODATE STARTERS AS REQUIRED AND SUITABLE SPLITTER;</li> <li>UNLESS OTHERWISE NOTED OR SHOWN ON DRAWINGS, MOUNT 1 PHASE STARTERS ADJACENT TO EQUIPMENT THEY SERVE AND CONNECT COMPLETE;</li> <li>COORDINATE FEEDER ENTRIES TO STARTERS AND STARTER ASSEMBLIES WITH</li> </ul>	Do not scale drawings. This drawing may not be used for construction until signed.
	<ul> <li>MECHANICAL DIVISION;</li> <li>PROVIDE ADDITIONAL DISCONNECT SWITCHES (COMPLETE WITH IDENTIFICATION), AS REQUIRED BY CODE, OR FOR APPARATUS WHICH CANNOT BE SEEN FROM ITS STARTER OR IS IN EXCESS OF 9 M (30') FROM ITS STARTER;</li> <li>PROVIDE INTERLOCK WIRING AS INDICATED ON DRAWINGS AND AS REQUIRED AND AS COORDINATED WITH MECHANICAL DIVISION CONTRACTOR;</li> <li>CONNECT REQUIRED CIRCUITS TO MOTOR STARTER PANEL SO AS TO BALANCE ACTUAL LOADS (WATTAGE).</li> </ul>	Copyright reserved.
24 24.1	LUMINAIRES INCLUDE WITH SHOP DRAWING SUBMISSIONS, PHOTOMETRIC DATA, LAMP AND DRIVER INFORMATION FOR EACH LUMINAIRE. PHOTOMETRIC DATA TO INCLUDE: TOTAL INPUT WATTS,	
24.2	CANDLEPOWER SUMMARY, CANDELA DISTRIBUTION ZONAL LUMEN SUMMARY, LUMINAIRE EFFICIENCY, CIE TYPE, COEFFICIENT OF UTILIZATION, LAMP TYPE AND LUMEN RATING IN ACCORDANCE WITH IESNA TESTING PROCEDURES. PROVIDE LUMINAIRES AS NOTED COMPLETE WITH LED LAMPS AND DRIVERS WITH FEATURES AS FOLLOWS:	300-2611 QUEENSVIEW DRIVE OTTAWA ONTARIO CANADA K2B BK2
	<ol> <li>CSA APPROVED, ULC LISTED AND LABELLED;</li> <li>OPERATING TEMPERATURE RANGE THROUGH -20°C TO 50°C ;</li> <li>SPECIFICATION STANDARDS TO MEET REQUIREMENTS OF IES LM-79 AND LM-80;</li> </ol>	TEL: 1-613-829-2800   FAX: 1-613-829-8299   WWW.WSP.COM
	<ul> <li>4 BE 100% COMPATIBLE WITH CONNECTED DIMMER CONTROLS TO PROVIDE DIMMING DOWN TO 10%;</li> <li>5 LEDS TO BE SELECTED FROM SAME COLOUR BIN SIZE FOR CONSISTENCY IN CHROMATICITY AND MEET ANSI C78 377A AS A MINIMUM;</li> </ul>	63 Pamilla Street Ottawa, Ontario
	<ul> <li>GENERALLY, COLOUR TEMPERATURE RANGE TO BE FROM 2700 K TO 6500 K; SPECIFIC TEMPERATURE REQUIREMENTS TO BE IDENTIFIED ON SCHEDULE OF LUMINAIRES;</li> <li>MINIMUM CRI OF 80;</li> <li>RATED LIFE (BASED ON 70% LUMEN DEPRECIATION LEVEL) FROM 50,000 TO 70,000 HOURS.</li> </ul>	Canada K1S3K7 T: 613-238-7200 F: 613-235-2005
	<ul> <li>OPERATE FROM 60 HZ INPUT SOURCE OF 120 VAC WITH SUSTAINED VARIATIONS OF ± 10% (VOLTAGE AND FREQUENCY) WITH NO DAMAGE TO DRIVER;</li> <li>OUTPUT REGULATED TO ±5% ACROSS LOAD RANGE;</li> </ul>	E:mail@hobinarc.com HOBIN
	<ul><li>POWER FACTOR GREATER THAN 0.90;</li><li>TOTAL HARMONIC DISTORTION LESS THAN 20%;</li></ul>	
	<ul> <li>CLASS A SOUND RATING;</li> <li>COMPLY WITH ANSI C62.41 CATEGORY A FOR TRANSIENT PROTECTION;</li> <li>ACCEPTABLE MANUFACTURERS INCLUDE PHILIPS, LITHONIA, AND COOPER.</li> </ul>	PROJECT/LOCATION: TURNBULL SCHOOL
24.3	THOROUGHLY REVIEW CEILING TYPES, FINISHES AND CONSTRUCTION DETAILS WITH OWNER BEFORE PLACING LUMINAIRE ORDERS AND ENSURE REQUIRED MOUNTING ASSEMBLIES, RINGS AND SIMILAR FEATURES ARE INCLUDED. INCLUDE FOR ASSEMBLY, MOUNTING AND ADJUSTING OF LUMINAIRES, COMPLETE WITH WIRING, CONNECTIONS, HANGERS, ALIGNERS, BOX COVERS,	MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa
	AND ACCESSORIES FOR COMPLETE, SAFE, FULLY OPERATIONAL ASSEMBLY. CAREFULLY COORDINATE LUMINAIRE INSTALLATION WITH WORK OF OTHER TRADES TO ENSURE NECESSARY RECESSING DEPTHS AND MOUNTING SPACES ARE PROVIDED. INSTALL LUMINAIRES IN ACCORDANCE WITH APPLICABLE ARCHITECTURAL REFLECTED CEILING PLANS AND/OR WALL	
	ELEVATIONS. CONFIRM LUMINAIRE LOCATIONS PRIOR TO ROUGHING IN. REVIEW LAMP COLOUR TEMPERATURES WITH CONSULTANT/OWNER PRIOR TO ORDERING. SUPPORT LUMINAIRES DIRECTLY TO CEILING SLAB STRUCTURE, NOT TO CEILING HANGERS, DUCTWORK, PIPING, CABLE TRAYS, ETC. ENSURE THAT THE INSTALLATION OF THE LUMINAIRES CONFORMS TO THE	SHEET 1 OF 2       DRAWN BY:     DATE:       SCALE:
	APPLICABLE SEISMIC RESTRAINT PROVISIONS INCLUDED IN THE LOCAL GOVERNING BUILDING CODE.	K. Mcl. APR. 2018 N.T.S. PROJECT: 181-04865-00

LUUZ

REVISION NO.

- 24.4 CONNECT LUMINAIRES TO CIRCUITS AND NEW OR EXISTING LIGHTING CONTROL EQUIPMENT AS REQUIRED. DO NOT OVERLOAD CIRCUITS BEYOND FIXTURE MANUFACTURER'S
- RECOMMENDATIONS. 24.5 ENSURE THAT PRODUCTS THAT ARE TO BE DIMMED ARE COMPATIBLE WITH EACH OTHER, AND OF ONE MANUFACTURER. ENSURE DIMMING PERFORMANCE LEVELS ARE ACCEPTABLE TO CONSULTANT. UNLESS OTHERWISE NOTED, LIGHTING TO BE DIMMED FROM 100% DOWN TO 10%. 24.6 ACCEPTABLE DRIVER MANUFACTURERS ARE ADVANCE, OSRAM SYLVANIA, AND UNIVERSAL.
- 25 WALL BOX DIMMERS
- 25.1 PROVIDE WALL BOX DIMMERS TO MATCH THE LIGHTING BEING CONTROLLED ( i.e. OF THE SAME MANUFACTURER OR AS RECOMMENDED BY THE LIGHTING MANUFACTURER). DIMMERS TO BE OF TYPE AND CAPACITY TO SUIT INTENDED LOADS, EACH COMPLETE WITH CALIBRATED LINEAR SLIDE CONTROL WITH SILVER CONTACTS AND SILENT POSITIVE ON/OFF, FACEPLATE, EMI AND RFI FILTERING. REVIEW FINISHES WITH CONSULTANT PRIOR TO ORDERING.
- 25.2 INSTALL FLUSH WALL BOX DIMMERS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS, AND CONNECT TO CONTROL LIGHTING. REVIEW EXACT LOCATIONS WITH CONSULTANT PRIOR TO ROUGHING IN. EQUIP EACH DIMMER WITH FACEPLATE. WHEN INSTALLATION IS COMPLETE, CHECK AND TEST OPERATION OF DIMMERS AND ADJUST AS REQUIRED.
- 26 LOW VOLTAGE RELAYS/CONTACTORS
- 26.1 NOT USED
- 26.2 MAGNETIC, FULL VOLTAGE CONTACTORS, SUITABLE FOR APPLICATIONS; 26.3 ELECTRICAL ENCLOSURES/ BOXES SUITABLE FOR HOUSING COMPONENTS.
- 27 OCCUPANCY SENSORS
- 27.1 PROVIDE DEVICES TO MATCH THE LIGHTING BEING CONTROLLED. DEVICES TO BE CSA APPROVED AND TO PROVIDE AUTOMATIC CONTROL OF LIGHTING WITH FOLLOWING COMPONENTS:
- .1 POWER AND SLAVE PACKS; LOW VOLTAGE OR LINE VOLTAGE OPERATION TO SUIT SPECIFIC APPLICATIONS;
- .2 DUAL TECHNOLOGY OCCUPANCY SENSORS;
- .3 OVERRIDE SWITCHES TO BE WALL MOUNTING IN SINGLE GANG RECESSED OUTLET BOXES; .4 DAY LIGHT SENSORS TO BE PROVIDED WHERE REQUIRED FOR DIMMING OR CONTROLLING LIGHTS IN AREAS WITH WINDOWS AND ATRIUMS/SKY LIGHTS;
- .5 MOUNTING HARDWARE AND ANCILLARY DEVICES AS REQUIRED;
- .6 WIRING IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS AND APPLICABLE LOCAL GOVERNING CODES AND STANDARDS.
- 27.2 DUAL TECHNOLOGY TYPE SENSORS AS FOLLOWS:
- .1 COMBINATION PASSIVE INFRARED AND ULTRASONIC TECHNOLOGIES;
- .2 WHEN BOTH PIR AND ULTRASONIC TECHNOLOGIES DETECT OCCUPANCY, LIGHTS TURN ON AUTOMATICALLY; ONCE LIGHTS ARE ON, DETECTION BY EITHER TECHNOLOGY HOLDS LIGHTS ON UNTIL OCCUPANCY IS NO LONGER DETECTED AND TIME DELAY ELAPSES: .3 360° LENS AREA COVERAGE, EXTENDING OUT UP TO 6 M AND AREA OF 92.9 M2;
- .4 LOW PROFILE CEILING MOUNTING DESIGN; INTEGRAL LIGHT SENSOR;
- .5 ADJUSTABLE SENSITIVITY AND DIGITAL TIME DELAY; WALK-THROUGH MODE; LED
- INDICATION OF OCCUPANCY DETECTION; .6 ISOLATED RELAY FOR INTERCONNECTION TO AUXILIARY CONTROL SYSTEMS WHERE REQUIRED.
- 27.3 FOR APPLICATIONS IN WASHROOMS AND SMALL STORAGE ROOMS: WALL MOUNTED DUAL TECHNOLOGY SENSORS AS FOLLOWS:
- .1 WALL SWITCH SENSOR TURNS LIGHTS OFF AND ON BASED ON OCCUPANCY;
- .2 FACTORY DEFAULT OPERATION IS FOR MANUAL-ON MODE, SO THAT USERS TURN LIGHT ON ONLY WHEN NEEDED;
- .3 VARIETY OF CONTROL OPTIONS INCLUDING AUTO-ON OPERATION, WALK-THROUGH AND TEST MODE; ADDITIONAL SETTINGS ALLOW CHOICE OF WHICH SENSING TECHNOLOGIES HOLD ON OR RETRIGGER LIGHTING;
- .4 COLOUR MATCHED LENS AND LOW PROFILE DESIGN; .5 WIDE DISPERSION LENS AREA COVERAGE, EXTENDING OUT UP TO 10 M AND AREA OF 37
- .6 INFRARED AND ULTRASONIC TECHNOLOGIES; .7 ADJUSTABLE TIME DELAYS AND SENSITIVITY; MANUAL PUSHBUTTON OPERATION (OVERRIDE).
- 27.4 EXACT TYPE OF OCCUPANCY SENSORS AND TYPE OF LENSES TO BE VERIFIED BY MANUFACTURER/SUPPLIER TO ENSURE PROPER COVERAGE IN SENSED AREAS ONLY. AND COMPATIBILITY TO INTERCONNECTED SYSTEMS. CONFIRM WITH RESPECTIVE MANUFACTURERS. 27.5 PROVIDE, LOCATE, AND AIM APPROPRIATE SENSORS IN CORRECT LOCATION REQUIRED FOR
- COMPLETE AND PROPER VOLUMETRIC COVERAGE WITHIN RANGE OF COVERAGE OF CONTROLLED AREAS PER MANUFACTURER'S RECOMMENDATIONS. ADJUST SENSITIVITY AND TIME DELAYS TO SUIT. 27.6 ACCEPTABLE MANUFACTURERS INCLUDE HUBBELL, PHILIPS, SENSOR SWITCH; LEVITON,
- 28 EMERGENCY LIGHTING BATTERY UNITS

WATTSTOPPER AND GE.

- 28.1 PROVIDE EMERGI-LITE 12V DC, "ESL" SERIES LONG LIFE (10 YEAR) SEALED LEAD, BATTERY UNITS. UNITS SHALL BE COMPLETE WITH AUTO-DIAGNOSTIC CONTROLLER, SOLID STATE CHARGER, AC LINE CORD AND PLUG SET, NO. 18 GAUGE STEEL CABINET AND INEGRAL 12V/6W LED ADJUSTABLE LAMP HEADS. UNLESS OTHERWISE NOTED, REMOTE SURFACE LAMP HEADS TO BE DISTINCTION DESIGNER SERIES TYPE EF150, 12V/6W MR16 LED SURFACE MOUNTED SINGLE/DUAL LAMP HEADS AND RECESSED UNITS TO MATCH BATTERY PACK. 12V/5W MR16 LED SURFACE, WITH ADJUSTABLE AIM. CONNECT COMPLETE, BACK TO BATTERY UNIT, CHARGER TO RESTORE BATTERIES TO FULL CHARGE WITHIN 12 HOURS. SYSTEM TO HAVE OBC REQUIRED DURATION OF OUTPUT CAPACITY FOR LOAD OF SYSTEM (BUT MINIMUM 30 MINUTES).
- 28.2 MOUNT UNIT IN AREA AS REQUIRED AND PLUG UNIT INTO ADJACENT RECEPTACLE. PROVIDE REMOTE LAMP HEADS WHERE REQUIRED AND PROVIDE WIRING IN CONDUIT TO BATTERY UNIT. CONFIRM EXACT LOCATIONS. SIZE CIRCUIT WIRING IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS FOR VOLTAGE DROP PROTECTION. TEST, CHECK, AND ADJUST AS REQUIRED. 28.3 INCLUDE FOR MANUFACTURER TO PROVIDE TESTING OF SYSTEM AND MEASUREMENT OF LIGHT LEVELS TO OBTAIN LOCAL INSPECTION APPROVALS AND PERMITS. MANUFACTURER'S AUTHORIZED TECHNICIAN TO PREPARE AND PROVIDE SIGNED TEST REPORT VERIFYING THAT SYSTEM IS PROPERLY WORKING AND THAT LIGHT LEVELS MEET LOCAL CODE REQUIREMENTS.
- INCLUDE REQUIRED TEST MEASUREMENTS IN REPORT AND SUBMIT TO CONSULTANT. 28.4 ACCEPTABLE MANUFACTURERS INCLUDE LUMACELL, AIMLITE, BEGHELLI AND EMERGI-LITE.
- 29 LOW VOLTAGE LIGHTING CONTROL COMPONENTS
- 29.1 NOT USED
- 30 EXISTING FIRE ALARM SYSTEM WORK SIEMENS CONTACT: STEVE.WOZNY@SIEMENS.COM

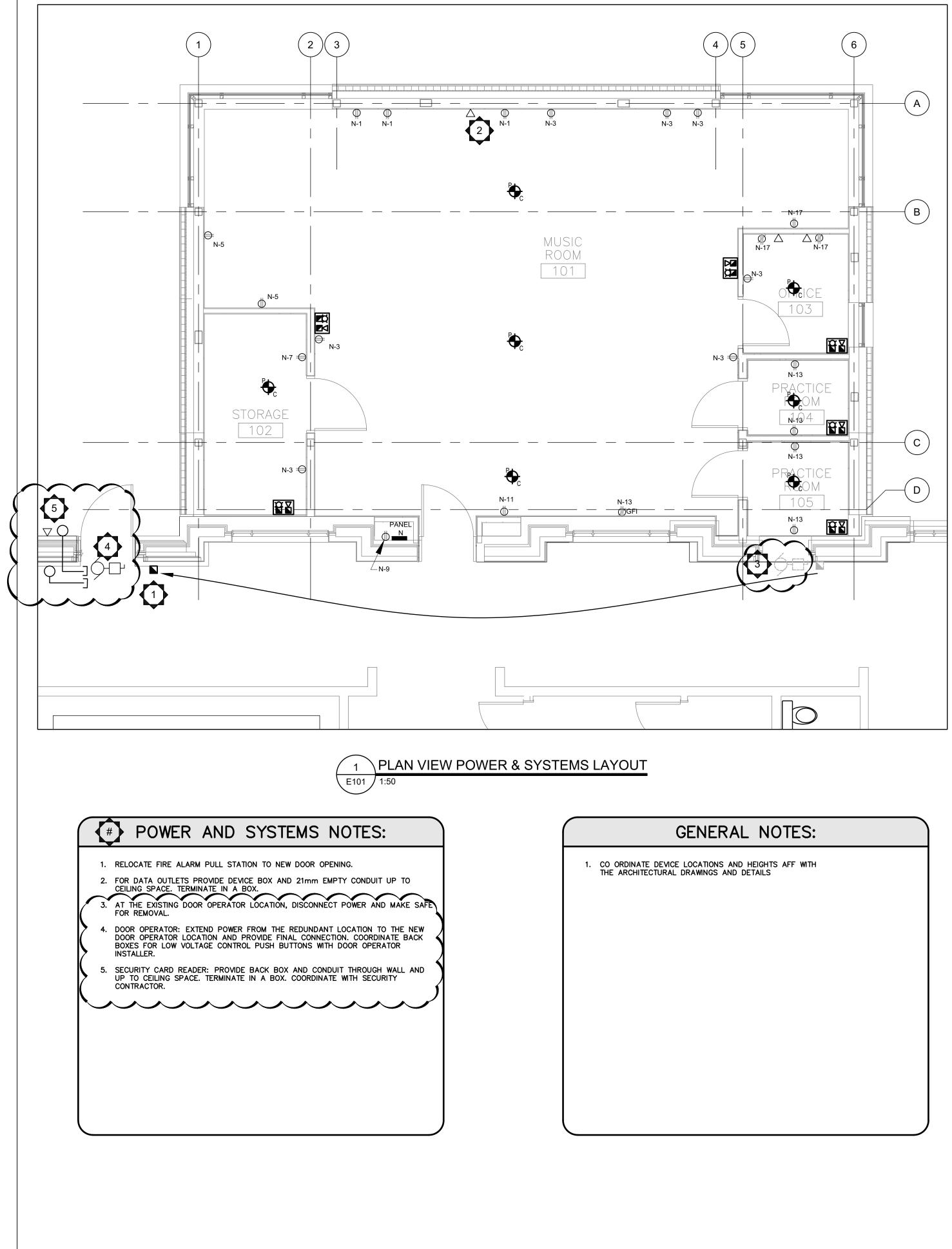
Existing system: Edwards EST-6616 and Siemens TXL-1000

- 30.1 ENGAGE EXISTING FIRE ALARM SYSTEM VENDOR AS APPROVED BY OWNER, TO PROVIDE SYSTEM WORK. DISCONNECT, RELOCATE, AND RECONNECT REQUIRED DEVICES. WORK TO BE AN EXTENSION OF EXISTING SYSTEM. PROVIDE ADDITIONAL DEVICES, CONDUCTORS IN CONDUIT AND END OF LINE RESISTORS, PROVIDE ULC LISTED DEVICES TO MATCH EXISTING DEVICES AND BE COMPLETELY COMPATIBLE WITH EXISTING SYSTEM. PERFORM WORK IN ACCORDANCE WITH LATEST EDITION OF CAN/ULC S524. SEQUENCE OF OPERATION OF NEW WORK TO FUNCTION AS PER EXISTING SYSTEM. UNLESS OTHERWISE NOTED, CONNECT ADDITIONAL DEVICES TO EXISTING ZONES SERVING AREA, AS PER SYSTEM MANUFACTURER'S INSTRUCTIONS, TO EXISTING STANDARDS AND AS APPROVED BY LOCAL FIRE AUTHORITY. PROVIDE WIRING OF MINIMUM NO. 16 AWG IN CONDUIT AND AS PER OESC REQUIREMENTS. RUN ALARM INITIATING CIRCUITS IN SEPARATE CONDUITS FROM ALARM SIGNALLING CIRCUITS.
- 30.2 PROVIDE ADDITIONAL DEVICES OF TYPE TO SUIT APPLICATIONS AS RECOMMENDED BY SYSTEM SUPPLIER, INCLUDE REQUIRED ACCESSORIES FOR PROPER OPERATION AND INSTALLATION. RE-PROGRAM SYSTEM TO ACCOMMODATE ADDITIONS AND MODIFICATIONS. RE-BURN SOFTWARE AS REQUIRED BY LOCAL FIRE AUTHORITY. MODIFY ANNUNCIATOR PANELS AS REQUIRED TO INCORPORATE REVISIONS AND ADDITIONS. PROVIDE AUDIBLE DEVICES AND ADJUST TO SOUND AT LEVELS AS PER LOCAL FIRE AUTHORITY REQUIREMENTS. PROVIDE ADDITIONAL DEVICES AS REQUIRED TO ACHIEVE SOUND LEVEL STANDARDS.
- 30.3 DURING WORK TO EXISTING FIRE ALARM SYSTEM, TIME AND DURATION OF INTERRUPTION TO BE APPROVED BY OWNER AND ONLY ONE ZONE SHALL BE INTERRUPTED AT ANY ONE TIME. IN AREAS WHERE RENOVATION WORK REQUIRES SHUTDOWN OF ANY PART OF FIRE ALARM PROTECTION SYSTEM, PROVIDE MANUAL FIRE ALARM PROTECTION (FIRE WARDEN) BY MEANS OF SUPERVISING AREA AS APPROVED BY GOVERNING AUTHORITIES. AT NO TIME SHALL FIRE ALARM SYSTEM OR ANY ONE ZONE BE LEFT INOPERATIVE OVERNIGHT. PROVIDE REQUIRED BYPASS WIRING AND TEMPORARY WIRING AS MAY BE REQUIRED TO MAINTAIN ENTIRE FIRE ALARM SYSTEM OPERATIVE DURING CONSTRUCTION AND ALTERATIONS.
- 30.4 COVER EXISTING DETECTORS TO PROTECT FROM DEMOLITION/CONSTRUCTION DUST. REMOVE COVERS WHEN ALTERNATIVE FIRE ALARM PROTECTION IN AREA IS NOT AVAILABLE OVERNIGHT.

- 30.5 COORDINATE WORK WITH MECHANICAL DIVISION WITH REGARDS TO INTERCONNECTIONS TO AIR HANDLING SYSTEMS, FIRE SUPPRESSION SYSTEMS, SUPERVISORY VALVES AND FLOW SWITCHES, BUILDING AUTOMATION SYSTEM, ETC. PERFORM SUCH INTERCONNECTIONS TO STANDARDS OF EXISTING SYSTEMS AND DOCUMENT IN SHOP DRAWINGS.
- 30.6 WHEN FIRE ALARM SYSTEM WORK IS COMPLETE AND READY FOR ACCEPTANCE, EXISTING SYSTEM MANUFACTURER/VENDOR TO INSPECT, TEST, VERIFY AND CERTIFY WORK AND EQUIPMENT, INCLUDING INITIATING DEVICES, SIGNALLING DEVICES, CONTROL DEVICES AND WIRING.
- 30.7 TEST AND VERIFY THAT AUDIBLE SIGNALS ARE AT LEVELS ACCEPTABLE TO LOCAL FIRE AUTHORITY AND THAT BATTERIES ARE OF SUFFICIENT CAPACITY AS PER OBC. PROVIDE CERTIFICATE OF LIABILITY INSURANCE REGISTERED FOR THIS PROJECT TO SHOW SATISFACTORY PROOF OF MANUFACTURER'S LIABILITY COVERAGE FOR BOTH HIS PRODUCT AND PERSONNEL. CONDUCT WORK IN ACCORDANCE WITH LATEST EDITIONS OF CAN/ULC \$536 AND \$537, TESTS TO BE CONDUCTED IN PRESENCE OF OWNER AND/OR CONSULTANT, PROVIDE TO CONSULTANT MINIMUM ONE HARD COPY AND ELECTRONIC COPY OF TEST REPORT WITH DETAILED SCHEDULES OF TESTED DEVICES. REPORTS SHALL BE SIGNED BY AUTHORIZED CERTIFIED TESTING TECHNICIAN. DIGITAL COPY OF REPORT TO BE PROVIDED IN COMPATIBLE FORMAT CONFIRMED WITH CONSULTANT.
- 30.8 OBTAIN FROM LOCAL FIRE AUTHORITY, APPROVAL CERTIFICATE AND SUBMIT TO CONSULTANT WITH REPORTS.
- 30.9 EMPLOY TECHNICIANS CERTIFIED BY CANADIAN FIRE ALARM ASSOCIATION AND/OR ONTARIO FIRE MARSHALL AS APPLICABLE AND TO REQUIREMENTS OF ONTARIO FIRE CODE.
- 31 GENERAL ELECTRICAL WORK TESTING
- 31.1 IN ADDITION TO TESTS REQUIRED BY GOVERNING AUTHORITIES AND REGULATIONS, TEST WORK TO ENSURE THERE ARE NO GROUNDS OR CROSSES. ENSURE DEVICES ARE COMMISSIONED AND OPERABLE. CONNECT CIRCUITS TO PANELBOARDS SO AS TO BALANCE ACTUAL LOADS (WATTAGE) WITHIN 5%. IF REQUIRED, TRANSPOSE CIRCUITS WHEN WORK IS COMPLETE TO MEET THIS REQUIREMENT.
- 31.2 IN ADDITION, PERFORM FOLLOWING:
- .1 CHECK COMPONENT CONNECTIONS AND OVERALL INSTALLATION; .2 ENSURE THAT DEVICES ARE COMMISSIONED AND OPERABLE;
- .3 TEST AND ADJUST SYSTEM AND ASCERTAIN THAT COMPONENTS ARE AS SPECIFIED AND ENSURE THAT PRODUCTS OPERATE AS DESIGNED;
- .4 PREPARE, DOCUMENT AND EVALUATE TEST RESULTS; .5 AUTHENTICATE TEST RESULTS WITH SIGNATURE OF AUTHORIZED TESTING
- ENGINEER/TECHNICIAN. 31.3 SUBMIT SIGNED REPORTS TO CONSULTANT.
- 32 SYSTEM TESTING, CO-ORDINATION AND VERIFICATION
- 32.1 PROVIDE ON-SITE ENGINEERING INSPECTION, TESTING AND VERIFICATION OF DISTRIBUTION EQUIPMENT AND OTHER SYSTEMS, REVIEW AND SURVEY EXISTING DISTRIBUTION SYSTEM PROTECTIVE DEVICES AS REQUIRED TO PROPERLY CO-ORDINATE ADDITIONAL SYSTEM DEVICES. FOR MAJOR DISTRIBUTION EQUIPMENT, PROVIDE PRELIMINARY COORDINATION STUDY AND AVAILABLE FAULT CURRENT CALCULATIONS AND SUPPLY TO CONSULTANT DURING SHOP DRAWING REVIEW PROCESS.
- 32.2 ENGINEERING INSPECTION AND TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT TESTING COMPANY AND INCLUDE WHERE APPLICABLE: .1 TESTING, CLEANING WHEN NECESSARY, AND CALIBRATING RELAYS AND CIRCUIT BREAKER
- TRIP DEVICES (CALIBRATION OF PROTECTIVE DEVICES SHALL CONFORM TO REQUIREMENTS OF APPROVED COORDINATION CURVES); .2 FUNCTION TEST OF ASSOCIATED CONTROL DEVICES;
- .3 PROVIDE A COORDINATION STUDY PREPARED TO REVIEW REVISED DISTRIBUTION SYSTEM DEVICES INCLUDING EXISTING MAIN OVER CURRENT PROTECTION DEVICES FEEDING RESPECTIVE MCCS OR PANELS WHERE ADDITIONAL LOADS HAVE BEEN ADDED; REVIEW COORDINATION OF DEVICES AND RESET/ADJUST WHERE POSSIBLE AND AS REQUIRED;
- .4 REPLACEMENT OF FUSES DESTROYED DURING TESTING;
- .5 AN ACCEPTANCE TEST IN PRESENCE OF AND AT SATISFACTION OF CONSULTANT; .6 PRESENCE, FOR LENGTH OF TIME REQUIRED, OF QUALIFIED AND COMPETENT EQUIPMENT
- MANUFACTURER'S SERVICE REPRESENTATIVE DURING START UP; .7 ADJUSTMENTS, START-UP PROCEDURES AND VERIFICATION OF EQUIPMENT;
- .8 TESTING OF INSTALLED ELECTRICAL DEVICES, WHETHER OR NOT SUPPLIED BY ELECTRICAL DIVISION.
- 32.3 PROVIDE VISUAL AND MECHANICAL INSPECTION OF GROUND SYSTEM AND VERIFY THAT IT IS IN COMPLIANCE WITH ISSUED DOCUMENTS AND OESC REQUIREMENTS.
- 32.4 TESTING SHALL BE DOCUMENTED IN A REPORT SIGNED BY PROFESSIONAL ENGINEERS OF ONTARIO LICENSED TESTING ENGINEER AUTHORIZED BY TESTING COMPANY. INCLUDE FOR MINIMUM 2 HARD COPIES AND ELECTRONIC VERSION OF REPORT SUBMITTED TO CONSULTANT FOR REVIEW. REPORT TO INCLUDE TEST RESULTS WITH PROPERLY PLOTTED CURVES, IDENTIFIED TROUBLE AREAS OF COORDINATION, EXTENSIVE COMMENTS REGARDING TEST
- RESULTS AND RECOMMENDATIONS ON BEST REMEDIAL COURSE OF ACTION. 32.5 PRODUCT MANUFACTURER TO EXAMINE PLANS AND SPECIFICATIONS TO ENSURE THAT RELAYS AND PROTECTIVE DEVICES BEING INSTALLED IN DISTRIBUTION SYSTEM WILL PROVIDE SATISFACTORY COORDINATION.
- 32.6 ACCEPTABLE TESTING COMPANIES TO BE INDEPENDENT OF EQUIPMENT MANUFACTURERS/SUPPLIERS AND ARE G.T. WOODS LTD., AC TESLA, PELIKAN, EATON ELECTRIC AND SCHNEIDER ELECTRIC.

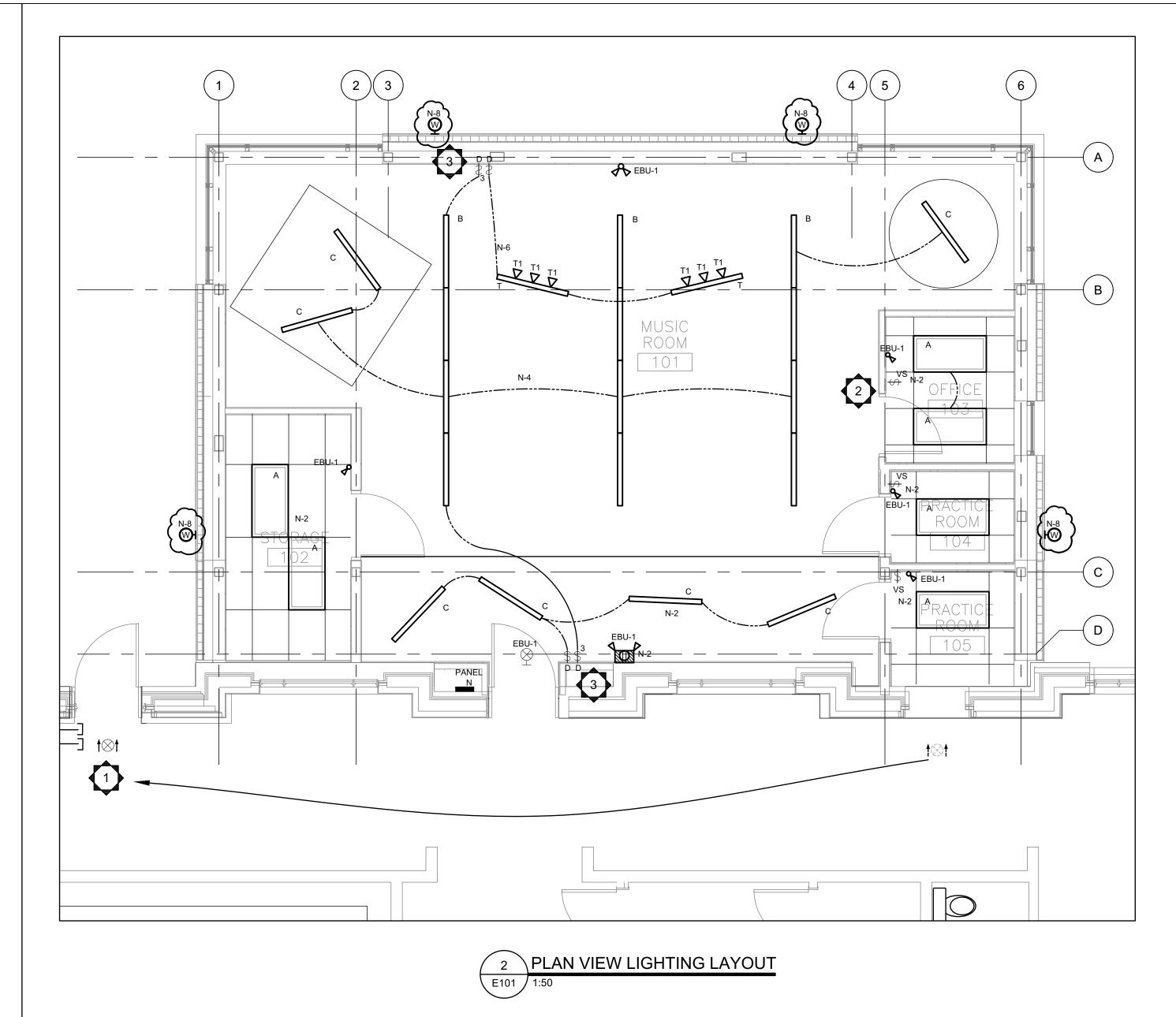
END

С	2019 09 02		ADDENDUM No.2
В			PERMIT & TENDER
A	2018 06 28	ISSUED FOR	CO ORDINATION
no.	date	revision	
con <sup>-</sup> sion	tractor to ch s on site ar	sibility of the leck and verify ld report all e the architect.	/ all dimen—
		nust comply w and by—laws.	rith all
	not scale dr		
con	drawing ma struction unt yright reserve	-	d for
		eu.	
	33 ОТТА TEL: 1-613-829-24	NO-2611 QUEENSVIEW DRIVE VA ONTARIO CANADA K2B 8 NOO   FAX: 1-613-829-829	K2 9   WWW.WSP.COM
III € € T F E	Iobin Architec ncorporated 3 Pamilla Street Attawa, Ontario Canada K1S 3K7 Canada	om H (	
PRO	MUSIC	DN: IBULL SC ROOM A Fisher Avenue,	DDITION
DRA	WING TITLE:		· A I
	SP	LECTRIC ECIFICA <sup>-</sup> IEET 2 O	TION
DRA K. M		)ATE: APR. 2018	SCALE: N.T.S.
			PROJECT:
			181-04865-00 DRAWING NO.:
			E003
			REVISION NO.:



None None

 $\Box$ 



## LIGHTING NOTES:

1. RELOCATE EXIT SIGN TO NEW DOOR OPENING.

#

- LIGHTING CONTROL AS FOLLOWS: CLASSROOMS OCCUPANCY CONTROL AND DIMMING STORAGE ROOM OCCUPANCY PRACTICE ROOMS VACANCY CONTROL. OFFICE, DIMMING AND VACANCY CONTROL
- WIRELESS LIGHT SWITCHES -THE FUNCTION OF THE SWITCH IS INDICATED ON THE DRAWING: D DIMMER , OCCUPANCY, DAYLIGHT HARVESTING VS DIMMER , VACANCY, DAYLIGHT HARVESTING 3.

# GENERAL NOTES:

1. CO ORDINATE DEVICE LOCATIONS AND HEIGHTS AFF WITH THE ARCHITECTURAL DRAWINGS AND DETAILS

С	2018 08 02	ISSUED WITH ADDENDUM No.2
B A		ISSUED FOR PERMIT & TENDER ISSUED FOR CO ORDINATION
no.	date	revision
It is	s the respo	onsibility of the appropriate check and verify all dimen—
sior	ns on site	and report all errors and/ o the architect.
		must comply with all s and by-laws.
	not scale o	-
This	s drawing n struction ur	nay not be used for
	byright reser	0
		<b>\\\\\</b>
	3 OTTAI TEL: 1–613–829–24	00-2611 QUEENSVIEW DRIVE WA ONTARIO CANADA K2B 8K2 800   FAX: 1-613-829-8299   WWW.WSP.COM
 6 € € T F E	tel: 1-613-829-24 tobin Architec ncorporated 3 Pamilla Street ttawa, Ontario canada K1S3K7 5 613-238-7200 5 613-235-2005 5 mail@hobinarc.com	20-2611 QUEENSVIEW DRIVE MA ONTARIO CANADA K2B BK2 BOO   FAX: 1-613-829-8299   WWW.WSP.COM Ture
	Interior 1 - 613 - 829 - 24 Iobin Architec ncorporated 3 Pamilla Street 3 Pamill	ture
	Interior and the second	ATION: BULL SCHOOLTION BULL SCHOOLTION Fisher Avenue, Ottawa
	Interior and the second	ATION: BULL SCHOOLAND ATION: BULL SCHOOL BULL SCHOOL
	Interior and the second	ATION: BULL SCHOOLANDA AVENUE BULL SCHOOLANDA Tisher Avenue, Ottawa E: LECTRICAL IGHTING AND SYSTEMS DATE: SCALE:
	Interior and the second	AND CANADA K28 BK2 BOO   FAX: 1-613-829-8299   WWW.WSP.COM

		SCHEDULE		MINAIRE5			
TYPE	DESIGN BASED ON SPECIFIED MANUFACTURER AND CATALOG NUMBER	PRODUCT DESCRIPTION	VOLTS	LAMPS LUMENS WATTS COLOUR TEMPERATURE	MOUNTING	NOTES	
A	PHILIPS DAYBRIGHT CFI FluxGrid 2FG G 42B 835 4D 120 DIM DAY OCC	610mm X 1220mm RECESSED SOFT OPAL DIFFUSER OL	120V	LED MODULE 4276 LUMENS 36.2 WATTS 3500K	RECESSED IN CEILING GRID	DAYLIGHT SENSING C/W DIMMING AND SELECTABLE OCCUPANCY (SPACEWISE)	
В	PHILIPS LEADALITE TRUGROOVE 2901LBGQN0471EW DIM DAY OCC	1200mm X 100mm SUSPENDED LINEAR	120V	LED MODULE 4576 LUMENS 40.9 WATTS 3500K	SUSPENDED	DAYLIGHT SENSING C/W DIMMING AND SELECTABLE OCCUPANCY (SPACEWISE)	
с	PHILIPS LEADALITE TRUGROOVE 3901LBGQS40471EW DIM SWZDT	1200mm X 100mm RECESSED LINEAR	120V	LED MODULE 4114 LUMENS 41.8 WATTS 3500K	RECESSED IN DRYWALL FEATURE	DAYLIGHT SENSING C/W DIMMING AND SELECTABLE OCCUPANCY (SPACEWISE)	
\$	PHILIPS WIRELESS SWITCH UID8451/10	SINGLE GANG SWITCH PROVIDES SELECTABLE FUNCTIONS DIMMER, VACANCY AND OCCUPANCY	SELF POWERED	N/A	RECESSED IN ELECTRICAL WALL BOX OR SURFACE MOUNTING	WIRELESS	
т	PHILIPS LIGHTOLIER LYTESPAN 6001NWH	1200mm LONG BASIC ONE CIRCUIT TRACK	120V	N/A	SUSPENDED (TBD)	CONTROLLED BY DIMMER TRAILING EDGE (ELV) DIMMIN COMPATIBILITY PHILIPS CONTROLS SR400RPC120	
T1	PHILIPS LIGHTOLIER CorePro LT- 08 RWF 830 WH VA	MICRO CYLINDER 57mm Dia X 114mm H COLOUR WHITE MOUNTED ON PIVOTING ARM	120V	LED MODULE 963 LUMENS 9 WATTS 3000K	MOUNTED ON TRACK	DIMMABLE TRACK LIGHTS	
W	PHILIPS KEENE LytePro LPW16-7-BZ	315mm W X 130mm H X 145MM D WALL SCONCE COLOUR BRONZE	120V	LED MODULE 3374 LUMENS 36 WATTS TYPE 3 DISTRIBUTION	MOUNTED SURFACE AT 3538MM AFF	PHOTO CELL CONTROL P105A	

SCHEDULE OF LUMINAIRES √ E201 / N.T.S.

LIGHTING FIXTURE SCHEDULE NOTES:

- 1. DESIGN IS BASED ON THE LUMINAIRES SPECIFIED. IN ALL CASES, ALTERNATIVE LUMINAIRES SHALL BE COMPARABLE TO THE SPECIFIED LUMINAIRE IN QUALITY, PERFORMANCE, AND VISUAL CHARACTERISTICS. ACCEPTABILITY WITH RESPECT TO VISUAL CHARACTERISTICS SHALL BE AT THE SOLE DISCRETION OF THE CONSULTANT. IF A PROPOSED ALTERNATIVE LUMINAIRE IS DEEMED TO BE NOT VISUALLY COMPARABLE, THE SPECIFIED LUMINAIRE SHALL BE PROVIDED.
- 2. SUBJECT TO NOTE 1, ALTERNATIVES TO NOTED LUMINAIRES MANUFACTURED BY PHILIPS (AND AFFILIATES) OR BY LITHONIA ARE ACCEPTABLE, AND MAY BE SUPPLIED WITHOUT CREDIT TO CONTRACT AMOUNT. LUMINAIRES NOT SO NOTED SHALL BE PROVIDED AS SPECIFIED; PROPOSED ALTERNATIVES MAY BE ACCEPTED BY THE CONSULTANT, AND, IF THEY ARE, SHALL RESULT IN A CREDIT TO THE CONTRACT AMOUNT.
- 3. SUBJECT TO NOTE 1, ALTERNATIVES TO NOTED LUMINAIRES MANUFACTURED BY EMERGI-LITE, COOPER (AND AFFILIATES), CANLYTE (AND AFFILIATES) OR BY LITHONIA ARE ACCEPTABLE, AND MAY BE SUPPLIED WITHOUT CREDIT TO CONTRACT AMOUNT. LUMINAIRES NOT SO NOTED SHALL BE PROVIDED AS SPECIFIED; PROPOSED ALTERNATIVES MAY BE ACCEPTED BY THE CONSULTANT, AND, IF THEY ARE, SHALL RESULT IN A CREDIT TO THE CONTRACT AMOUNT.
- 4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHT OF LUMINAIRES.

BATTERY PACK SCHEDULE									
TAG	DC VOLTS	TWIN HEAD ON BATTERY PACK	# OF TWIN REMOTE HEADS	# OF SINGLE REMOTE HEADS	# OF EXIT LIGHTS	EBU WATTAGE	DESCRIPTION		
EBU-1	12VDC	1 OF 2 x 5W	1 OF 2 x 5W	4 OF 5W	1 SIGN 2W	72	EQUAL TO THOMAS & BETTS, EMERGI-LITE 12ESL72 U/2 LI WHITE FINISH		
NOTES: 1. EMERGENCY BATTERY UNIT TO HAVE MINIMUM OF 60 MINUTES BACK UP POWER. 2. CONNECT EMERGENCY LIGHTING BATTERY PACKS TO LOCAL (UNSWITCHED) LIGHTING CIRCUIT.									



 $\square$ 

S		
Ī	$-20^{1}$	RECEPTACLES (MUSIC ROOM) -
	$\tilde{\mathbf{O}}$ a	
F	20 <u>\_3</u>	RECEPTACLES (MUSIC ROOM, STORAGE, OFFICE) -
L	$-20^{5}$	RECEPTACLES (MUSIC ROOM) -
	$\bigcirc$ 7	
ľ	20	RECEPTACLES (OFFICE) —
L	<u>209</u>	RECEPTACLES (ELECTRICAL ROOM) -
	20 11	RECEPTACLES (MUSIC ROOM) -
Г		RECEPTACLES (MOSIC ROOM) —
┝	$-1_{20}$ 13	RECEPTACLES (MUSIC ROOM, PRACTICE ROOM) -
	20 15	SPARE —
Γ	20	SFARE -
┡		RECEPTACLES (OFFICE) -

NEW
PANEL 'N' 120/208V 3Ø, 4W 24CCT

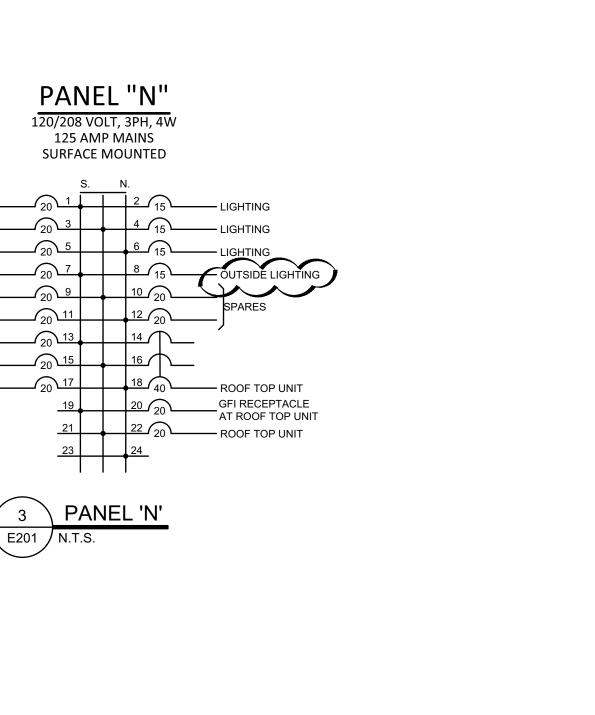
[	EXISTING
	PANEL 'P' 120/208 VOLT, 3PH, 4W 225 AMP MAINS SURFACE MOUNTED
	60A 3P P-54,56,58 —

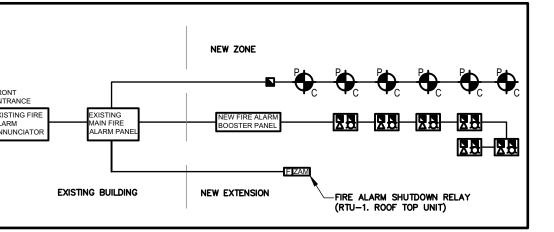


4#6AWG + #8 AWG GROUND IN 27MM CONDUIT

		ROP					_			
WIRE SIZE	BREAKER SIZE (AMPERES)	15	20	30	40	50	60	70	80	100
	MAX. LOAD AT 80% (AMPERES)	12	16	24	32	40	48	56	68	80
NO.12		16.8	12.2							
NO.10		25.9	19.0	12.9						
NO.8		39.6	30.4	20.5	15.2					
NO.6		62.4	47.2	32.0	23.6	19.0	16.0			
NO.4		99.0	73.1	50.2	38.1	30.4	24.3	21.3	19.0	
NO. 2			114.3	77.2	57.9	47.2	38.8	33.5	28.9	22.8
NO.1				96.0	73.1	57.9	47.2	42.6	36.5	27.4
NO.1/0					85.3	68.5	56.3	48.7	41.9	33.5
NO2/0					102.8	80.7	67.0	57.9	50.2	40.3
NO3/0						95.2	79.2	68.5	59.4	47.2
NO4/0							92.9	79.2	70.1	56.3
250 MCM							102.8	86.8	76.2	60.9
300 MCM								100.5	88.3	70.1

5 120 VOLT SYSTEM AT 2% VOLTAGE DROP TABLE E201 N.T.S.







C2018 08 02ISSUED WITH ADDENDUM NB2018 07 05ISSUED FOR PERMIT & TENA2018 06 28ISSUED FOR CO ORDINATIONno.daterevision	IDER
It is the responsibility of the appropriat contractor to check and verify all dime sions on site and report all errors and, or omissions to the architect.	n –
All contractors must comply with all pertinent codes and by—laws. Do not scale drawings.	
This drawing may not be used for construction until signed. Copyright reserved.	
S00-2611 QUEENSVIEW DRIVE OTTAWA ONTARIO CANADA K2B 8K2 TEL: 1-613-829-2800   FAX: 1-613-829-8299   WWW.WSP.COM	
Hobin Architecture Incorporated 63 Pamilla Street Ottawa, Ontario Canada K1S 3K7 T: 613-238-7200 F: 613-235-2005 E: mail@hobinarc.com hobinarc.com	
PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION	
1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES 8	x
DETAILSDRAWN BY:DATE:SCALE:K. Mcl.APR. 2018AS SHOWN	
PROJECT: 181-04865-00 DRAWING N	0.:
E20	1

REVISION NO .: