

August 16, 2023

**Request for Bids
Lansing School District
Purchasing Department
519 West Kalamazoo
Lansing, MI 48933**

This is not an order

Sealed proposals for the furnishing of items and services listed on the sheets attached to the bid proposal documents that are available on our web-site will be received in the Lansing School District Purchasing Office, 519 W. Kalamazoo St., Lansing, Michigan 48933 until

September 7, 2023 2:00 PM local time.

At this time and place bids will be opened publicly and read aloud.

One (1) original and Two (2) copies of the bid are to be submitted on the forms furnished by the Lansing School District in a sealed envelope and clearly marked:

Bid SB-0057 Cavanaugh and Cumberland Pre-Purchase Package

BID DOCUMENTS WILL BE POSTED BY August 17, 2023

To obtain a copy of this request for bid please visit our web site at:

www.lansingschools.net

(Click on Quicklinks at the top and click on Vendors (Bid Info), scroll down to Current Requests for Bids or Proposals) or the bid documents are also posted on the State of Michigan's procurement system SIGMA. If you need assistance, please contact the Lansing School District Purchasing Department at 517-755-3030.

No faxed, telephone or e-mailed bids will be accepted. Late submittals will not be considered.

All questions must be in writing and should be directed to Jon Laing, Chief Financial Officer at: projects@lansingschools.net, no later than 12:00 PM on Tuesday, August 29, 2023. Addendums will be posted on the Lansing School District's web-site and SIGMA as they are issued.

All bids/proposals must be accompanied by a 5% bid bond and a sworn and notarized statement disclosing any familial relationship with the Board of Education and selected staff. Bids must include the completed statement to be accepted or considered.

All bids shall be submitted in accordance with the attached instructions and shall remain firm for a period of ninety (90) days after the opening of bids.

A bid bond is required with this bid in the amount of 5% of the total bid amount. Certified payrolls are required with each invoice or pay application. A performance, labor and materials bond will be required to cover 100% of the project.

The Lansing School District reserves the right to reject any or all bids in whole or in part and to accept the proposal or portion of the proposal that, in their opinion, best serves the interests of the Lansing School District.

Lansing School District

Jon Laing
Chief Financial Officer

PRE-BID INFORMATION

There will be a VIRTUAL Pre-Bid Meeting held Thursday, August 24, 2023 at 9:00 AM. This meeting will be held on Microsoft TEAMS using meeting ID: 277 351 815 953 and passcode: SXMxBU. Attendance is HIGHLY RECOMMENDED.

PROJECT MANUAL

Cavanaugh & Cumberland HVAC Remodel Lansing, MI

VOLUME I

BP I Pre-Purchase Equipment Package

Thursday, August 17, 2023

Mechanical and Electrical Equipment Pre-Purchase Package

CONSTRUCTION MANAGER

The Christman Company
208 N. Capitol Avenue
Lansing, MI 48933-1357
517-482-1488

Architect
Kingscott Associates, Inc.
259 East Michigan Ave, Suite 308
Kalamazoo, MI 49007

Mechanical & Electrical Engineer
Kingscott Associates, Inc.
259 East Michigan Ave, Suite 308
Kalamazoo, MI 49007

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Affidavit of Bidder – Non-Collusion
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Guarantee

AIA Documents are not included in this specification, but are part of the contract documents, copies may be obtained from the Construction Manager

Contractor's Qualification Statement (AIA Document A305)

Application and Certificate for Payment and Continuation Sheet
(AIA Documents G702 and 703) Submitted and utilized electronically via
Trade Contractor Portal

Certificate of Substantial Completion (AIA Document G704)

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0750	General Conditions of the Contract for Construction (AIA Document A201-2007 Edition)
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Cumberland:

000110	Table of Contents
238200	Convection Heating and Cooling Units
260573	Power System Studies
262416	Panelboards

SECTION 00025

Project: **Cavanaugh & Cumberland HVAC Remodel**
Pre-Purchase of long lead time Mechanical and
Electrical equipment.

Owner: **Lansing School District**
519 W Kalamazoo St
Lansing, MI 48933

Architect/Engineer: **Kingscott Associates, Inc.**
259 East Michigan Ave, Suite 308
Kalamazoo, MI 49007

Construction Manager: The Christman Company
208 N. Capitol Avenue
Lansing, MI 48933-1357
517-482-1488

Sealed proposals for all work categories as described in the Project Manual for the above project will be received no later than **Thursday, September 7, 2023 at 2:00 PM**. Proposals must be received at the Lansing School District Purchasing Office, ATTN: Jon Laing, 519 W. Kalamazoo St., Rm 208 Lansing, MI. The Lansing School District will not consider late, faxed or electronic mail bids. Bids will be opened and publicly read aloud. All bids must be presented on the forms provided in the contract documents.

Duplicate proposals shall be submitted at the above address on the proposal form provided, in a sealed envelope clearly marked **WORK CATEGORY NO.**_____, and shall be identified with the project name and the bidder's name and address.

All contractors bidding on work must be bondable and must include in their bid the cost for furnishing a Co-Obligee Labor and Material Payment Bond and a Co-Obligee Performance Bond. On the proposal form the contractor will identify a cost to be added to their bid should bonds be required.

All questions are to be directed to the Construction Manager. No direct contact with the Owner or Architect is requested. **All questions need to be emailed to projects@lansingschools.net no later than 8/29/23 at 12:00pm.**

Each Proposal shall be accompanied by a certified check, cashiers' check, money order, or bid bond made payable to The Christman Company in an amount not less than five percent (5%) of the base bid as a bid security. The Bid Security of Bidders under consideration will be returned

immediately after award of contracts by the Construction Manager. The amount of the guarantee shall be forfeited to the Owner if the successful Bidder fails to enter into a contract and furnish required bonds and insurance within 30 days after award of contracts.

All proposals submitted shall remain valid for a period of sixty (60) days after the bid date. The Owner, Architect and Construction Manager reserve the right to waive any irregularities, reject any or all proposals, or accept any proposal, which, in their opinion, will serve their best interest.

There will be a virtual pre-bid conference on Thursday, August 24, 2023 at 9:00 AM conducted by the Construction Manager. It is strongly recommended that contractors attend the pre-bid conference. The conference call information is below:

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 277 351 815 953

Passcode: XSMxBU

[Download Teams](#) | [Join on the web](#)

END OF SECTION 00025

ARTICLE 1, SCOPE OF PROPOSALS

- 1.1 This is a "Construction Manager Project" for which The Christman Company is the "Construction Manager" For this portion of this project the successful bidders will become "Trade Contractors" and will enter into "Trade Contracts" with the Construction Manager. The Construction Manager will administer separate Trade Contracts for all Work Categories involved in the project. The project will be controlled, coordinated, and scheduled by the Construction Manager on behalf of the Owner.
- 1.2 Provisions shall be such that the Trade Contractor will assume the Construction Manager's obligations to the Owner for the portion of the work performed by each Trade Contractor.
- 1.3 Proposals: Separate proposals for the Work Categories included in this phase of the construction will be received by the Construction Manager. The time and place where proposals shall be received and a listing of the Work Categories included in this phase of the work are included in the Advertisement for Bids.

ARTICLE 2, BIDDER'S REPRESENTATION

- 2.1 Each Bidder by making his bid, represents that he has read and understands the bidding documents, and that they visited the site and familiarized himself with the local conditions under which the work is to be performed. No plea of ignorance of conditions that exist, or of any other relevant matter concerning the work to be performed in the execution of the work will be accepted as justification for failure to fulfill every detail of all the requirements of the Contract Documents. The Bidder, if awarded the Contract, shall not be allowed any extra compensation by reason of any matter or thing concerning which such Bidder did not fully inform himself prior to the bidding.

ARTICLE 3, BIDDING PROCEDURES

- 3.1 Proposals shall be submitted in duplicate, only on the forms provided by the Construction Manager, all blank spaces shall be fully filled in, including Addenda, Alternates, Price Breakouts, Unit Prices and Bidder's Certificate where applicable. All designations and prices shall be fully and clearly set forth with the amount of the bid stated in words and repeated in numerical figures. In cases of variations, the worded amount shall prevail. Erasures or other changes in the bid shall bear the signature of the Bidder. Insert N/A in those blanks on the Proposal Form that are not applicable. Separate Proposal Forms shall be prepared for each Work Category.
- 3.2 The bids shall be on the basis of a Lump Sum. Proposals shall not contain any added recapitulation of the work to be done as otherwise the proposal may be declared irregular. Oral, telegraphic or telephonic modifications of the work and/or the bid amounts shall not be considered.
- 3.3 The Architect or Construction Manager will make clarifications and corrections by the issuance of an addendum to all Bidders recorded in the Construction Manager's office as having in their possession a set of bidding documents. Addenda shall also be issued to all plan rooms in which bidding documents are on file.

- 3.4 It shall be the responsibility of the Bidders on record to provide all of their prospective sub-bidders with the information contained in any addenda.
- 3.5 Duplicate proposals shall be submitted in an opaque envelope, clearly marked "PROPOSAL FOR WORK CATEGORY NO. _____", and shall be identified with the Project Name and the Bidder's name and address.
- 3.6 Proposals for this phase of the work will be received at the time and place indicated in the "Advertisement for Bids".
- 3.7 An award of Contracts: Each Work Category or combination of Work Categories will be awarded based on the dollar value of the proposal, qualifications of the Contractor, his ability to perform the work, and in the best interest of the Owner.

ARTICLE 4, EXAMINATION OF THE SITE

- 4.1 Each Bidder shall carefully examine the site of the project and surrounding territory; the means of approach to the site, and the structure of the ground, and make all necessary investigations required to inform himself thoroughly and fully as to facilities for delivering, storing, placing and handling of materials and equipment, and to inform himself fully as to all difficulties that may be encountered in the complete execution of all work in accordance with the Contract Documents.
- 4.2 Should a bidder find apparent discrepancies in, or omission from the Contract Documents, or should he be in doubt as to their true meaning, or should he have any questions regarding any work or material intended, then such Bidder, either Trade Contractor or Trade Subcontractor, shall submit to the Architect, through the Construction Manager, a written request for an interpretation thereof. The person submitting the request shall be responsible for its prompt delivery and such request must be delivered to the Architect by the Construction Manager at least five days before the opening of proposals.
- 4.3 Any verbal information obtained from, or statements made by a representative of the Owner, Architect, or the Construction Manager at the time of examination of the Contract Documents or Site shall not be construed as in any way amending the Contract Documents. Only such corrections or addenda as are issued in writing to all Bidders shall become a part of the Contract. Neither the Owner, the Architect, nor the Construction Manager shall be responsible for verbal instructions.

ARTICLE 5, MODIFICATION OR WITHDRAWAL OF BID

- 5.1 Bids submitted prior to the time and date designated for receipt of Bids may be modified or withdrawn only by notice to the party receiving Bids. Such notice shall be in writing over the signature of the Bidder, and must be received prior to date and time set for receipt of Bids. Any modification shall be so worded as not to reveal the amount of the original Bid.

ARTICLE 6, REJECTION OF BIDS

- 6.1 The Bidder acknowledges the right of the Construction Manager, Architect, and Owner to reject any or all bids, and to waive any informality or irregularity in any bid received, or to accept any bid which in the opinion of the Construction Manager, Architect, and Owner shall serve their best interests. In addition, the Bidder recognizes the right of the Construction Manager, Architect, and Owner to reject a bid if the Bidder failed to submit on the date and time required by the bidding documents, or if the bid is in any way incomplete or irregular, including a bid security, if required, is not received with the bid proposal.

ARTICLE 7, PERFORMANCE CO-OBLIGEE BOND AND LABOR & MATERIAL PAYMENT CO-OBLIGEE BOND OWNER AND CONSTRUCTION MANAGER

- 7.1 The Construction Manager may, prior to the execution of the Contract, require the successful Bidders to furnish Co-obligee bonds, written in favor of the Owner and the Construction Manager, covering the faithful performance of the Contract and the payment of all obligations arising thereunder in an acceptable form to the Owner and the Construction Manager, and with such sureties secured through the Bidder's usual sources as long as the surety is licensed to do business in the State of Michigan and holds a minimum "A.M. Best" rating of A. Bonds shall be in the amount of 100% of the Contract sum. The premium for such bonds shall be paid by the Bidder. A space has been provided on the Proposal Form for the Bidders to indicate the amount that shall be deducted from their proposals if Bonds are not required. Should they be required, the Bidder shall deliver the bonds to the Construction Manager not later than the date of execution of the Contract.
- 7.2 The Bidder shall require the attorney-in-fact who executes the bonds on behalf of the surety, to affix thereto a certified and current copy of his power of attorney indicating the monetary limit of such power.

ARTICLE 8, VARIATIONS FROM MATERIALS SPECIFIED

- 8.1 Wherever materials are specified using names of specific manufacturers, the purpose is to establish a standard of quality and design, and not to limit competition. Contractors desiring to use materials of manufacturers other than those specified, shall indicate such material, manufacturer, and change of price, if any, in the space provided under the heading "Variations from Materials Specified" on the Proposal Forms. BASE BID PROPOSALS SHALL INCLUDE ONLY MATERIALS SPECIFIED. Variations, if accepted, shall be incorporated in the Contract, and the Contract Price adjusted accordingly, and no other materials shall be allowed accept upon written authorization of the Architect, Construction Manager, and Owner.

ARTICLE 9, THE CONTRACT FORM

- 9.1 Unless otherwise provided in the Bidding Documents, the Agreement for the Work shall be between the Trade Contractor and the Construction Manager on the contract form referenced in the Standard form section of the Project Manual (The Christman Company subcontract agreement). By submitting your bid the Trade Contractor fully agrees to accept **ALL** terms

and conditions of The Christman Company Subcontractor Agreement without modification.

ARTICLE 10. TIME OF COMPLETION

- 10.1 Each Bidder, as evidenced by submitting a proposal, shall agree to abide by the construction schedule dates as indicated in the Contract Documents, as developed during the post bid interview, scheduling meetings, and as required by Construction Manager. **The completion schedule for this project shall be met without exceptions.**

ARTICLE 11. QUALIFICATION OF BIDDER

- 11.1 The Owner, Architect, and Construction Manager may make such investigations as they deem necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish all such information and data for this purpose as the Construction Manager may request within 24 hours, including a list of projects completed, a financial statement, organization of the firm, etc. The Owner reserves the right, based on the advice of the Construction Manager and Architect, to reject any bid if the evidence submitted by, or investigation of such Bidder fails to prove that such Bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

ARTICLE 12. TAXES AND CONTRIBUTIONS

- 12.1 It is understood that the bid prices stated shall include all applicable Federal, State or other Governmental Division taxes and assessments. Also, all contributions for unemployment compensation, health and welfare, old age benefits or other purposes now or hereafter effective during the term of the contract, and the Owner and Construction Manager shall not be liable for any additional charges therefore.

ARTICLE 13. WARRANTY

- 13.1 All work shall be guaranteed for a period of at least one (1) year and/or as more specifically stated in the contract documents after final payment but not earlier than substantial completion as determined by the Architect, and all service within that period shall be rendered without charge to the Owner.

END OF SECTION

00201 - The Construction Manager will be located at 208 N. Capitol Avenue, Lansing, MI 48933-1357 for questions regarding this Bid Package. Any questions regarding information contained in this Project Manual will be answered following a written request to the Architect through the Construction Manager, and clarified in an addendum. **Under no circumstances should any prospective bidder call the Owner or Architect for clarification of the Bidding Documents.**

00202 - AIA CONTRACT FORMS

Sample AIA Documents are available for review and reference in the Construction Manager's Main Office.

00203 - AIA STANDARD FORM FOR GENERAL CONDITIONS

AIA Document A201\2007, "General Conditions of the Contract for Construction as modified for this project," is available for review at the Construction Managers Main Office..

00205 - PRELIMINARY CONSTRUCTION SCHEDULE NARRATIVE

1. Time is of the essence on this project. The Project sequencing will be scheduled by the Construction Manager and must be adhered to by all Trade Contractors. Time, labor, material, equipment and possible cost implication of this sequencing and others not fully conceived or described prior to the time of bidding, shall be included in base bid.

A preliminary schedule is included for reference only. It is emphasized that start dates for work may shift. The bidder shall familiarize himself with expected maximum durations and shall include in his proposal sufficient manpower to meet these requirements. All milestone dates are approximate and are to be used as guidelines for the Trade Contractor's basis for bid.

2. The project will start and adhere to the following milestones.

Activity Description	Start Date	Completion Date
Bidding	8/17/23	9/7/23
Contract Approval	9/8/23	10/6/23
Contractor Submit Submittals	10/9/23	10/20/23
A/E Review Submittals	10/23/23	11/3/23
Equipment Shipped to Site	Mid-June 2024	

3. It is the Trade Contractor's responsibility to establish which items of work within the scope of his work category will be affected by the Owner's or other Trade Contractors operations and coordinate and schedule completion of his work accordingly at no cost to the Owner.

END OF SECTION 00200

Work Category No. 00 – General Requirements for All Subcontractors

Work Included:

1. All permits, fees, inspections and approvals required by governing jurisdictions are included within base bid. Coordinate well in advance (at least 24 hours), required inspections and testing with the Construction Manager. This will include liaison between state and local agencies to ensure code compliance and for securing approval for the facility.
2. Cleanup is required on a daily basis, and/or as directed by the Construction Manager. Cleanup dunnage, shipping materials and associated materials/debris generated from installation and dispose of properly. At no time will shipping containers, crates, materials, piles of debris, tarps, boxes, etc. be left on site, unattended and unsecured, subject to unsafe conditions (i.e. access, fire and slip hazards and wind blown debris).
3. At least two (2) weeks prior to starting on-site, meet with the Construction Manager, Architect and Engineer to discuss and resolve any issues relating to status of material procurements, site conditions, access, staging/storage requirements, safety, testing, sequencing and scheduling of work.
4. Any work that could interfere with existing owners operation, i.e. use of certain roads, parking lots, access to buildings, shall require pre-task planning with the Construction Manager and shut-down notification requests shall be prepared (72) hrs in advance of any work being scheduled. Pre-task planning shall review and discuss scheduling, coordination with Owner operations, working durations, safe practices and procedures.
5. Protect existing structures, equipment, and finishes, including new work in place, from damage during the performance of this work category. Any protection removed to facilitate other work shall be reinstalled / replaced by the trade needing access.
6. Include all layout and engineering for each work category. Unless otherwise indicated in Section 00210, two control lines and one bench mark will be provided by the Construction Manager for Trade Contractor use.
7. Prior to commencing with installation, verify all field conditions and measurements and report any discrepancies to the Construction Manager.
8. Whenever possible all embeds to be furnished to other trades shall be fabricated / modified by the providing contractor with holes / tabs, etc to allow easy for installation by the installing contractor.
9. Provide full-time on-site supervision during the performance of your work. Supervision will be responsible for coordination, scheduling, safety, manpower, and other activities necessary to achieve safety, quality and scheduling requirements set forth under this work category. Supervision shall not be removed from this project without prior written consent and approval of the Construction Manager.
10. Full compliance with all site specific rules and regulations, including (but not limited to) OSHA, State Authorities, Local Authorities, and the Construction Manager. This subcontractor shall submit, prior to performing any work on-site, a copy of their site specific safety program/manual.
11. Should Subcontractor require on-site trailer or storage units, Subcontractor shall obtain approval from the Construction Manager on size, count and where to locate, prior to delivery on-site. Subcontractor to arrange and pay for service to trailers, including (but not limited to) electrical, phone, etc.
12. For material deliveries, if traffic control is required, Subcontractor to arrange manpower accordingly and provide signage, barricading, flagman etc., necessary for the safe performance of own work and protection

of the public. Staging, storage on-site, and all deliveries required to support this installation must be reviewed and approved in advance by the Construction Manager.

13. Furnish and receive all required materials and deliver FOB jobsite. All deliveries shall be closely coordinated with the Construction Manager and 72 hour advance notice shall be given prior to delivery. Unless noted otherwise, deliveries must be coordinated to be complete with unloading during normal working hours.
14. This subcontractor will receive and handle all respective material and properly store/protect before, during and after installations. Excessive and out-of-sequence deliveries will be prohibited and subject to re-handling and removal offsite as directed by the Construction Manager.
15. Unless noted otherwise in Section 00210, furnish all hoisting, lifting, scaffolding, and handling to complete your own work.
16. Hoisting of materials and equipment over occupied areas will not be permitted, unless areas below are vacated or occupancy access is controlled during lifting. Each subcontractor will be required to notify Construction Manager seven (7) days in advance of required hoisting over occupied areas. Pre-Task planning and shut-down notifications will be required to assure minimum interruptions to Owner operations. In general, any hoisting equipment required to be used on-site must be reviewed in advance with Construction Manager for coordination of site logistics, safety procedures (including FAA approvals if required), access, lift swing areas, duration and overall activities relating to this hoisting equipment.
17. Approved O&M manuals are required at least 2 weeks prior to equipment start-up, start of warranty, and Owner training, but no later than thirty (30) days prior to substantial completion.
18. In the event of any jurisdictional or labor issues, the subcontractor assigned the work shall arrange to complete all work as required to avoid any interruptions/continuity of work on this project at no additional cost. All labor requirements pertaining to the project will be met.
19. Cooperate fully with representatives from Architect, Engineer, Owner, Construction Manager and independent testing agency, and allow for in progress inspections, including providing access to areas of work, when required.
20. This project may require multiple phases, which will require re-mobilization. All costs for multiple phasing shall be included.
21. Each Trade Contractor shall assume full responsibility for all pre-ordered products after their arrival at this designated location. This includes transportation, storage, start-up, warranty services, and installation in accordance with the General Conditions unless otherwise specified.
22. Critical Scheduling and Sequencing of Work:

The Construction Manager shall provide overall scheduling and coordination for the entire project. All Trade Contractors shall acknowledge the Construction Manager's right to establish and set up, or subsequently modify the sequencing and scheduling of all work on this project for the earliest completion and/or benefit to the Owner. More restrictive sequencing to coordinate the Owner's on-going operations and/or for the coordination of the various trades shall be spelled out by the Work Category descriptions or as otherwise directed by the Construction Manager. All Trade Contractors agree to cooperate and alter their operations to maintain these more specified restrictions and sequences of the work.

 - A. Subcontractor agrees to work concurrently with other subcontractors and the Construction Manager, according to the Master Project Schedule.
 - B. Subcontractor shall confirm fabrication lead times, installation durations and sequencing for their

Work in writing within two weeks of award, and report any discrepancies to Construction Manager.

C. Scheduling updates and proper coordination and communication with other trades shall be accomplished as follows:

- Weekly sub-progress meetings
- Safety meetings, BIM meetings, scheduling meetings, pre-installation meetings, etc.

23. Construction Waste Management And Disposal – Review Spec Section 017419 Construction Waste Management And Disposal

24. General Commissioning Requirements – Review Spec Section 019113 General Commissioning Requirements.

End of Work Category No. 00

Work Category No. 25A – Cavanaugh Unit Ventilators

Work Included:

The subcontractor shall timely perform all Equipment Pre-Purchase work, as detailed below, in accordance with the contract documents (including Bidding Requirements, Proposal Section, Contract Forms, General Conditions, Supplemental Conditions, General Requirements, Addenda, etc.), including, but not limited to, the following Specification Sections and Work Scope Items. Unless otherwise noted, this contractor is responsible for all items specified in the following specifications sections:

Cavanaugh:

238200 Convection Heating and Cooling Units

Work Category Notes:

1. Provide unit ventilators for Cavanaugh per the contract documents. Include all associated accessories.
2. This work category to includes costs in proposal to provide all necessary work, material, labor, transportation, etc. through delivery of equipment to the construction site.
3. Include owner training, commissioning support, and start up services for provided equipment.
4. Include support not shown but required for this work. Provide coordination drawings for work by other trades showing location of backing, supports, electrical connections, etc..
5. All deliveries F.O.B. job site, freight cost included.

Specific Notes and Details:

The following details and notes are included in this Work Category; this list is to clarify the specific items noted below and does not exclude other details or otherwise limit the scope of work for this Work Category.

1. Delivery of equipment is essential. All equipment is to be delivered to the jobsite (300 W Cavanaugh Rd, Lansing, MI) by mid-June 2024. This WC is to store equipment until mid-June 2024 when Lansing School District is out of school and summer construction has started.
2. Provide all accessories for the unit ventilators including but not limited to coils, compressors, disconnects, fans, economizer, reheat, bipolar ionization, manufacturer control system, backnet network card, 6" rear extension, EC motors, face and by-pass damper, control valve, filter, adjustable wall sleeve, louver, outside air rear extension, drainable blade, and condensate drain.

A. Control valves need to be coordinated with SC Tech before purchasing.

Related Work by Others:

1. Installation of unit ventilators by future WC.
2. Providing Cumberland Unit Vents by WC 25B.

Allowances:

This Contractor shall include in their Base Bid a Construction Manager's allowance of \$0. Reference Section 01020 for specific instructions on allowances.

Unit Prices:

Unit Prices are to be complete furnished in-place operations, and include all costs, incidental materials and work, insurance, fringes, bonds, engineering, overhead and profit. Reference the Trade Contract Proposal form for unit

pricing required.

End of Work Category No. 25A

Work Category No. 25B - Cumberland Unit Ventilators

Work Included:

The subcontractor shall timely perform all Equipment Pre-Purchase work, as detailed below, in accordance with the contract documents (including Bidding Requirements, Proposal Section, Contract Forms, General Conditions, Supplemental Conditions, General Requirements, Addenda, etc.), including, but not limited to, the following Specification Sections and Work Scope Items. Unless otherwise noted, this contractor is responsible for all items specified in the following specifications sections:

Cumberland:

238200 Convection Heating and Cooling Units

Work Category Notes:

1. Provide unit ventilators and condensing units for Cumberland per the contract documents. Include all associated accessories.
2. This work category to includes costs in proposal to provide all necessary work, material, labor, transportation, etc. through delivery of equipment to the construction site.
3. Include owner training, commissioning support, and start up services for provided equipment.
4. Include support not shown but required for this work. Provide coordination drawings for work by other trades showing location of backing, supports, electrical connections, etc..
5. All deliveries F.O.B. job site, freight cost included.

Specific Notes and Details:

The following details and notes are included in this Work Category; this list is to clarify the specific items noted below and does not exclude other details or otherwise limit the scope of work for this Work Category.

1. Delivery of equipment is essential. All equipment is to be delivered to the jobsite (2801 Cumberland Rd, Lansing, MI) by mid-June 2024. This WC is to store equipment until mid-June 2024 when Lansing School District is out of school and summer construction has started.
2. Provide all accessories for the unit ventilators including but not limited to coils, condensing units, 18" support stands, disconnects, fans, filter, bipolar ionization, manufacturer control system, backnet network card, 2" step down adapter back, end panels, side panels, utility compartments, EC motors, wall sleeve, louver, drainable blade, and condensate drain.

A. Control valves need to be coordinated with SC Tech before purchasing.

Related Work by Others:

1. Installation of unit ventilators by future WC.
2. Dampers provided by future WC.
3. Providing Cavanaugh Unit Vents by WC 25A.

Allowances:

This Contractor shall include in their Base Bid a Construction Manager's allowance of \$0. Reference Section 01020 for specific instructions on allowances.

Unit Prices:

Unit Prices are to be complete furnished in-place operations, and include all costs, incidental materials and work, insurance, fringes, bonds, engineering, overhead and profit. Reference the Trade Contract Proposal form for unit pricing required.

End of Work Category No. 25B

Work Category No. 25C – Transformers, Switchboards, & Panelboards

Work Included:

The subcontractor shall timely perform all Equipment Pre-Purchase work, as detailed below, in accordance with the contract documents (including Bidding Requirements, Proposal Section, Contract Forms, General Conditions, Supplemental Conditions, General Requirements, Addenda, etc.), including, but not limited to, the following Specification Sections and Work Scope Items. Unless otherwise noted, this contractor is responsible for all items specified in the following specifications sections:

Cavanaugh:

260573 Power System Studies

262416 Panelboards

Cumberland:

260573 Power System Studies

262416 Panelboards

Work Category Notes:

1. Provide electrical panels for Cavanaugh and Cumberland per the contract documents including all associated accessories.
2. This work category to includes costs in proposal to provide all necessary work, material, labor, transportation, etc. through delivery of equipment to the construction site.
3. Include owner training, commissioning support, and start up services for provided equipment.
4. Include support not shown but required for this work. Provide coordination drawings for work by other trades showing location of backing, supports, electrical connections, etc..
5. All deliveries F.O.B. job site, freight cost included.

Specific Notes and Details:

The following details and notes are included in this Work Category; this list is to clarify the specific items noted below and does not exclude other details or otherwise limit the scope of work for this Work Category.

1. Delivery of equipment is essential. All equipment is to be delivered to the jobsites (300 W Cavanaugh Rd, Lansing, MI and 2801 Cumberland Rd, Lansing, MI) by mid-June 2024. This WC is to store equipment until mid-June 2024 when Lansing School District is out of school and summer construction has started.
2. Perform power system studies as indicated in the contract documents.
3. Submit product data and sizing of electrical equipment in bid proposal. We need to know if equipment comes in pieces, can be tilted, etc. to determine if it can fit into place and how it will get there through the building.

Related Work by Others:

1. Installation of unit ventilators by future WC.

2. Concrete equipment pad by future WC.

Allowances:

This Contractor shall include in their Base Bid a Construction Manager's allowance of \$0. Reference Section 01020 for specific instructions on allowances.

Unit Prices:

Unit Prices are to be complete furnished in-place operations, and include all costs, incidental materials and work, insurance, fringes, bonds, engineering, overhead and profit. Reference the Trade Contract Proposal form for unit pricing required.

End of Work Category No. 25C

Trade Contract Proposal Pre-Submission Checklist

Trade Contract Proposal Form completely filled out?

Form signed by authorized officer of firm?

Performance and Labor & Material Bond costs NOT included in base bid proposal sum but listed separately?

All taxes included in base proposal sum?

Bid security (bond or certified check or money order) of at least 5% of base proposal sum included?

Requested alternates & unit prices quoted?

Non-Discrimination Certification included with your proposal?

Affidavit of Bidder – Non-Collusion included with your proposal?

Iran Sanctions Act Certificate included with your proposal?

All information (proposal, bond, etc.) Submitted in duplicate?

Proposal submitted in sealed envelope per specifications?

TRADE CONTRACT PROPOSAL FORM

WORK CATEGORY NO. 00 and _____

Date: _____

TO: The Christman Company
208 N. Capitol Avenue
Lansing, MI 48933-1357

Re: Cavanaugh & Cumberland HVAC Remodel

Ladies & Gentlemen:

Having carefully examined General Conditions, Supplementary Conditions, General Requirements, Advertisement for Bids, Instructions to Bidders, Proposal Section, Specifications, Drawings, all Addenda issued, Work Category Descriptions, and understanding the scope of work involved in this Work Category (ies) and those that interface with it (them), the undersigned does hereby propose to furnish all labor, materials, insurances, taxes, tools, equipment and services to complete all work required for the Work Category(ies) indicated in accordance with the Work Category Description and the Contract Documents prepared by _____.

BASE PROPOSAL SUM:

_____ (\$ _____)

PERFORMANCE & PAYMENT BOND: The Trade Contractor may be required to furnish a Co-Obligee Labor & Material Payment & Performance Bonds for the full contract amount.

The name of the Bonding Company is: _____.

The sum of (\$ _____) to cover cost of furnishing these bonds is **added to** the base bid.

EXPERIENCE MODIFICATION RATING (EMR):

List the EMR for your firm as determined by your insurance carrier for the past three (3) years.

2023 _____ 2022 _____ 2021 _____

ADDENDA: The following Addenda have been received, are hereby acknowledged, and their execution is included in Bid Sums listed herein.

No _____ Dated _____ No _____ Dated _____ No. _____ Dated _____

OVERHEAD AND PROFIT(FOR FUTURE CHANGES): Overhead and Profit shall include the following: Supervision, Superintendents, Commercial General Liability and Umbrella Insurances, Wage of Time Keepers, Watchmen and Clerks, Small tools with material value of less than \$1,500.00. Incidentals, General Office Expense, and all other expenses not included in Labor Rates as listed above. The percentage fee for Overhead and Profit on the Contractor's own work shall be 15% of net cost. The percentage fee for Overhead and Profit on Subcontractor's work shall be 5% (see log).

MANDATORY ALTERNATES:

Reference Specification Section 01100 for alternate descriptions.

None

TRADE CONTRACT PROPOSAL FORM

WORK CATEGORY NO. 00 and _____

Date: _____

UNIT PRICES:

Attach unit prices worksheet for all accessories included with your equipment.

VOLUNTARY ALTERNATIVES (Variations From Materials Specified):

Undersigned proposes the following voluntary alternates for materials and/or equipment specified, it being understood that, should any voluntary alternate(s) be accepted by the Owner, applicable amount(s) hereinafter listed will be added to or deducted from the Base Bid. (No voluntary alternates are required)

- | | |
|----------|-----------------------|
| 1. _____ | \$ _____ (Add/Deduct) |
| 2. _____ | \$ _____ (Add/Deduct) |
| 3. _____ | \$ _____ (Add/Deduct) |

LEAD TIMES:

Provide current lead times for each type of equipment your WC is responsible for providing.

Equipment: _____	Submittal Generation Duration: _____	Lead Time: _____
Equipment: _____	Submittal Generation Duration: _____	Lead Time: _____
Equipment: _____	Submittal Generation Duration: _____	Lead Time: _____
Equipment: _____	Submittal Generation Duration: _____	Lead Time: _____

SCHEDULE:

The undersigned if awarded a Contract, agrees to work concurrently with the work of other Trade Contractors and the Construction Manager, according to the "Approved Construction Schedule."

BIDDER'S CERTIFICATE:

I hereby certify that all statements herein are made on behalf of

(Name of Corporation, Partnership or Person Submitting a Bid)

A Corporation organized and existing under the laws of the State of _____

An individual doing business as _____

Signature: _____

Title: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

AFFIDAVIT OF BIDDER

The undersigned, the owner or authorized officer of _____ (the "Bidder), pursuant to the familial disclosure requirement provided in the _____ (the "School District") advertisement for construction bids, hereby represent and warrant, except as provided below, that no familial relationships exist between the owner(s) or any employee of _____ and any member of the Board of Education of the School District or the Superintendent of the School District.

List any Familial Relationships:

BIDDER:

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the _____ day of _____, 20____, by
_____.

, Notary Public

_____ County, Michigan

My Commission Expires: _____

Acting in the County of: _____

AFFIDAVIT OF BIDDER

The undersigned, the owner or authorized officer of _____ (the "Bidder), pursuant to the familial disclosure requirement provided in the _____ (the "School District") advertisement for construction bids, hereby represent and warrant, except as provided below, that no familial relationships exist between the owner(s) or any employee of C2AE Architects and or The Christman Company.

List any Familial Relationships:

BIDDER:

By:

Its:

STATE OF MICHIGAN)
)ss.
COUNTY OF)

This instrument was acknowledged before me on the _____ day of _____, 20____, by

.

_____, Notary Public

County, Michigan

My Commission Expires:

Acting in the County of:

NON-DISCRIMINATION IN EMPLOYMENT CERTIFICATION

Lansing School District Certificate of Intent to Comply with “NON-DISCRIMINATION IN EMPLOYMENT” POLICY

I have read Lansing School District’s Policy #3310, including paragraph #13 and hereby state my intent to comply with the terms and conditions contained therein. Further I agree to furnish the Michigan Civil Rights Commission with such data and records concerning employment as may be requested by that agency in determining compliance with the policy.

Print or type name of Contact Person:

Signed: _____

Title: _____

Company: _____

Date: _____

AFFIDAVIT OF BIDDER - NON-COLLUSION

Lansing School District
AFFIDAVIT OF BIDDER
SWORN STATEMENT
“Non-Collusion”

DATE: _____

The Bidder, by its officers and agents or representatives, present at the time of filing this bid, being duly sworn, on their oaths, say that neither they nor any of them, have in any way, directly or indirectly, entered into any arrangement or agreement with any other Bidder, whereby such affiant or affiants or either of them has paid or is to pay to such other Bidder any sum of money, or has given, or is to give, to such other Bidder anything of value whatever, or such affiant or affiants or either of them has not, directly or indirectly, entered into any arrangement or agreement with any other Bidder or Bidders, which tends to or does lessen or destroy free competition in the letting of the Contract sought for by the attached bids; that no inducement of any form or character other than that which appears upon the face of the bid, will be suggested, offered, paid or delivered to any person whomsoever to influence the acceptance of the said bid or awarding of the Contract, nor has this Bidder any agreement or understanding of any kind whatsoever, with any person whomsoever to pay, deliver to, or share with any other person in any way or manner, any of the proceeds of the Contract sought by this bid.

IN TESTIMONY WHEREOF, the Bidder (an authorized individual) has agrees to the above:

(Company Name)

By: _____
(Authorized Signer)

Print or type Name and Title of Signer

Address: _____

Notary Public: _____

Subscribed and sworn to before me on this _____ day of _____, 2016

County of: _____ My Commission expires: _____

Telephone number: _____

IRAN ECONOMIC SANCTIONS ACT CERTIFICATE

In accordance with the Iran Economic Sanctions Act, Michigan 2012 PA 517, effective April 1, 2013, (MCL 129.311, *et seq.*), (the "Act"), the undersigned certifies in support of its bid or proposal that it is not an Iran linked business as such is defined in the Act.

Contractor: _____

By: _____

Dated: _____

Name: _____

Title: _____

Act No. 517
Public Acts of 2012
Approved by the Governor
December 28, 2012
Filed with the Secretary of State
December 28, 2012
EFFECTIVE DATE: April 1, 2013

**STATE OF MICHIGAN
96TH LEGISLATURE
REGULAR SESSION OF 2012**

Introduced by Senators Kahn, Marleau, Brandenburg, Anderson, Green and Booher

ENROLLED SENATE BILL No. 1024

AN ACT to prohibit persons who have certain economic relationships with Iran from submitting bids on requests for proposals with this state, political subdivisions of this state, and other public entities; to require bidders for certain public contracts to submit certification of eligibility with the bid; to require reports; and to provide for sanctions for false certification.

The People of the State of Michigan enact:

Sec. 1. This act shall be known and may be cited as the "Iran economic sanctions act".

Sec. 2. As used in this act:

- (a) "Energy sector of Iran" means activities to develop petroleum or natural gas resources or nuclear power in Iran.
- (b) "Investment" means 1 or more of the following:
 - (i) A commitment or contribution of funds or property.
 - (ii) A loan or other extension of credit.
 - (iii) The entry into or renewal of a contract for goods or services.
- (c) "Investment activity" means 1 or more of the following:
 - (i) A person who has an investment of \$20,000,000.00 or more in the energy sector of Iran.
 - (ii) A financial institution that extends \$20,000,000.00 or more in credit to another person, for 45 days or more, if that person will use the credit for investment in the energy sector of Iran.
- (d) "Iran" means any agency or instrumentality of Iran.
- (e) "Iran linked business" means either of the following:
 - (i) A person engaging in investment activities in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers or products used to construct or maintain pipelines used to transport oil or liquefied natural gas for the energy sector of Iran.
 - (ii) A financial institution that extends credit to another person, if that person will use the credit to engage in investment activities in the energy sector of Iran.
- (f) "Person" means any of the following:
 - (i) An individual, corporation, company, limited liability company, business association, partnership, society, trust, or any other nongovernmental entity, organization, or group.
 - (ii) Any governmental entity or instrumentality of a government, including a multilateral development institution, as defined in section 1701(c)(3) of the international financial institutional act, 22 USC 262r(c)(3).

(iii) Any successor, subunit, parent company, or subsidiary of, or company under common ownership or control with, any entity described in subparagraph (i) or (ii).

(g) "Public entity" means this state or an agency or authority of this state, school district, community college district, intermediate school district, city, village, township, county, public authority, or public airport authority.

Sec. 3. (1) Beginning April 1, 2013, an Iran linked business is not eligible to submit a bid on a request for proposal with a public entity.

(2) Beginning April 1, 2013, a public entity shall require a person that submits a bid on a request for proposal with the public entity to certify that it is not an Iran linked business.

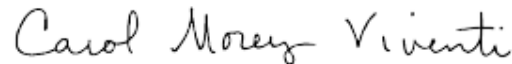
Sec. 4. If a public entity determines, using credible information available to the public, that a person has submitted a false certification under section 3(2), the public entity shall provide the person with written notice of its determination and of the intent not to enter into or renew a contract with the person. The notice shall include information on how to contest the determination and specify that the person may become eligible for a future contract with the public entity if the person ceases the activities that cause it to be an Iran linked business. The person shall have 90 days following receipt of the notice to respond in writing and to demonstrate that the determination of false certification was made in error. If a person does not make that demonstration within 90 days after receipt of the notice, the public entity may terminate any existing contract and shall report the name of the person to the attorney general together with information supporting the determination.

Sec. 5. The attorney general may bring a civil action against any person reported under section 4. If a civil action results in a finding that the person submitted a false certification, the person is responsible for a civil penalty of not more than \$250,000.00 or 2 times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the public entity's investigation, and reasonable attorney fees, in addition to the fine. A person who submitted a false certification shall be ineligible to bid on a request for proposal for 3 years from the date the public entity determines that the person has submitted the false certification.

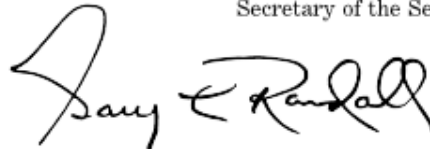
Sec. 6. The provisions of this act are effective only if Iran is a state sponsor of terror as defined under section 2 of the divestment from terror act, 2008 PA 234, MCL 129.292.

Enacting section 1. This act takes effect April 1, 2013.

This act is ordered to take immediate effect.



Secretary of the Senate



Clerk of the House of Representatives

LEGAL STATUS OF BIDDER

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER

RESPONSIBILITY MATTERS. The Vendor and/or Bidder certifies to the best of its knowledge and belief that it and its principals: Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency; Have not within a three-year period preceding this agreement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated above in this certification; and Have not within a three-year period preceding this agreement had one or more public transactions (Federal, State, or local) terminated for cause or default; is not now or has been, within a three-year period preceding this date, been listed on the Excluded Parties List System website (EPLS).

Vendor/contractor will notify the Lansing School District Purchasing Office immediately upon becoming suspended or debarred if there is any current or ongoing contract or agreement in place between the district and the vendor/contractor.

Firm Name:

Address:

Phone &

E-mail:

Name, title and signature of individual duly authorized to execute contracts:

The Owner, Principal, or Corporate Office of the responding firm is also attesting that all the information provided within this response is true.

Name:

Title:

Signature:

**A Corporation organized and existing under the laws of the
State of _____**

Project:	(Name) (Address) (City & State)	P.O. Number: Date:
To Vendor	(Vendor Name) (Address) (City & State)	Sales Tax Status:

Required Delivery:	Terms:
--------------------	--------

VIA	F.O.B.	Freight Allowed To:
-----	--------	---------------------

Item	Description	Amount
		\$
		\$
		\$
		\$
		\$
		\$
All For The Sum Of		\$

THIS ORDER IS SUBJECT TO THE FOLLOWING CONDITIONS:

- Terms.** Vendor's written acceptance of this Purchase Order ("Order") or the start of any work shall constitute Vendor's acceptance of this Order and its terms. No additional or contrary terms, whether in an order, acknowledgment, or other Vendor document is binding on Purchaser. Purchaser's performance is conditioned upon Vendor's unmodified consent exclusively to these terms. If Vendor conditions its acceptance of this Order on Purchaser's acceptance of any different terms, neither Purchaser's acceptance of delivery of any Goods nor payment there for shall constitute acceptance of such different terms. The Parties may execute and exchange information in electronic form.
- Price.** Unless otherwise stated expressly herein, all pricing is firm and not subject to escalation. Vendor may invoice material upon delivery to the site. Unless otherwise noted, retainage will not apply. All invoices must be processed in the Trade Contractor Portal with a bill of lading. All invoices and packing slips must show the job number and name.
- Warranty.** Vendor warrants that the goods and related materials, incidental design and services, (collectively "Goods") shall conform to the specifications, drawings, and other requirements furnished by Purchaser and shall be fit for the purpose intended, of good material and workmanship and free from any defect, lien or encumbrance. Vendor guarantees the Goods from any failure of any nature for a period of one year from the date of acceptance by the Purchaser, or for such longer period as set forth in the specifications whichever sets the warrant expiration to the latest date. If any failure appears during that period, Vendor shall, at Purchaser's sole option, correct, repair or replace same at its own expense, including packaging and transportation. This warranty is in addition to warranties and remedies, express and implied, or as provided by the Uniform Commercial Code (UCC) as applicable.
- Schedule.** Time is of the essence. Vendor shall deliver Goods by the time specified by Purchaser. Vendor shall notify Purchaser promptly in writing if delivery or performance will not be made as scheduled and what arrangements have been made by Vendor to overcome such deficiencies in the delivery or performance.
- Investigation.** Vendor shall investigate and satisfy itself as to the requirements of the Goods and all conditions that might affect the Goods. If working drawings are required, Vendor shall furnish seven (7) copies for review and approval before the start of fabrication of any material.
- Inspection.** All Goods are subject to Purchaser's right of inspection before payment or acceptance. Payment for the Goods shall not constitute acceptance thereof. Rejected Goods may be returned or held at Vendor's risk and expense.
- Shipping.** At Vendor's sole expense, all goods shall be suitably packed, marked, shipped and delivered to the location as specified by Purchaser. Title to proper storage and the risk of loss of the Goods shall not pass to Purchaser until the Goods are installed and Purchaser

accepts the Goods. Vendor shall maintain all appropriate insurance to cover the Goods while in transit. At Vendor's expense, Vendor shall prepare and file claims against carriers for loss or damage to Goods in transit. Each separate article in a shipment must be tagged with the job name and number.

8. **Indemnity.** Vendor shall defend, indemnify and hold harmless Purchaser, its agents, employees, officers and directors, and the party with whom Purchaser has contracted ("Indemnitees"), from any claim, action, cost, expenses, damages, including actual attorney fees, (collectively "Claims"), alleged to arise out of the Goods, or from the presence of Vendor or its subcontractors, suppliers, agents or employees on Purchaser's premises or job site, or from the use of any Goods purchased, whether or not caused in part by the active or passive negligence or other fault of Indemnitees, excepting only injury or damage to property caused by the sole negligence of Indemnitees. Vendor shall defend, indemnify and hold Indemnitees harmless from all Claims based upon any actual or alleged unfair competition or infringement of any patent, trademark or copyright relating to the Goods.

9. **Taxes.** Vendor shall pay all sales and use taxes and all import, export and other customs duties, charges, levies and fees imposed or incurred in connection with the Goods and shall defend, indemnify and hold Purchaser harmless from any claims related to the foregoing.

10. **Payment.** Payment shall be made net 30 after Goods are delivered and accepted by Purchaser, however Payment to Purchaser by Purchaser's Customer is an absolute condition precedent to Purchaser's obligation to pay Vendor. Purchaser may reject an invoice or withhold amounts from any invoice as reasonably necessary to offset any amount owed by Vendor to Purchaser or to protect Purchaser from loss or damage caused by Vendor's failure to promptly correct rejected, defective or nonconforming Goods or other failure to fulfill Vendor's obligations under this Order. Vendor must use the Purchaser's Subcontract Pay Application Portal to submit its invoices, Sworn Statement, and Waivers of Lien.

11. **Extras.** No extra work or charges may occur unless authorized in writing by Purchaser before the work is performed.

12. **Default.** If Vendor defaults in performance, Purchaser shall have the right to purchase substitute Goods. In such event, Purchaser shall be entitled to any damages available under common law or the UCC.

13. **Ownership of Documents.** All intellectual property and instruments of service related to the Goods, including drawings, specifications, calculations and other documents, whether generated by Vendor or its lower tier suppliers shall upon their production become Purchaser's property and Purchaser will have all common law and statutory rights, including copyright interest. Purchaser may transfer ownership of same to Purchaser's Customer.

14. **Prime Contract.** Vendor shall be bound to Purchaser by the terms of the contract ("prime contract") Purchaser has with its Customer and all documents incorporated therein, including the specifications, drawings, general and special conditions ("conditions"), but excluding all payment terms. Vendor assumes toward Purchaser as to Vendor's work all of the obligations and responsibilities that Purchaser assumes under the prime contract. The prime contract, excluding price and payment terms, is incorporated into this Order and is available at Purchaser's office for inspection.

15. **Integration.** The parties intend these terms to be the final, complete and exclusive statement of the terms of their agreement. This Order may not be modified or cancelled except by writing signed by Purchaser. Cancellation shall be upon terms indemnifying Purchaser against all losses caused thereby.

16. **Assignment.** Vendor shall not assign or delegate any right or obligation without Purchaser's written consent.

17. **Compliance with Laws.** Vendor warrants its Goods shall be manufactured and delivered in compliance with all applicable federal, state and local laws and regulations applicable to the project location. Vendor shall furnish upon request, certification of such compliance. Vendor shall defend, indemnify and hold harmless Purchaser for all damages, losses, costs or expenses, including actual attorney fees that Purchaser may incur as a result of Vendor's failure to comply with this Order and for the failure of the Goods to so comply. Vendor shall provide Safety Data Sheets (SDSs) in accordance with HazCom 1994, as amended. If this Order involves the use of federal funds, Vendor shall comply with all federal laws affecting the use or purchase of Goods, including Buy American Act, Equal Employment Opportunity Act and prevailing wage laws.

18. **Venue.** All disputes relating to this Order shall be resolved in the court in the county where the project is located and such county shall be the proper and exclusive venue. Vendor consents to personal jurisdiction in any court whose jurisdiction includes the county where the project is located. The parties waive their right to a trial by jury.



Purchase Order

ACCEPTED BY

The Christman Company
208 North Capitol Avenue
Lansing, MI 48933

ACCEPTED BY VENDOR

(Vendor name & address)

(principal)

(signature)

(date)

(date)

SUBCONTRACTOR PERFORMANCE BOND

BOND NUMBER: _____

SUBCONTRACTOR:

Address: _____
As Principal (the Principal), and _____

SURETY: (or Sureties)

Address: _____
Phone Number: _____
Email: _____
As Surety or Co-Sureties (collectively, Surety), and _____

CONTRACTOR:

Address: _____
As Obligor (Obligor)

THE CHRISTMAN COMPANY

208 N. Capitol Avenue, Lansing, MI 48933

PROJECT:

SUBCONTRACT DATE:

CONTRACT AMOUNT:

\$ _____

BOND AMOUNT (Penal
Sum):

Dollars _____
(\$ _____)

WHEREAS, Principal has by written agreement entered into a Subcontract Agreement or Purchase Order (Agreement) with Obligor in the amount stated above (Contract Amount) for the performance of work, including warranty obligations (Work), as detailed in the Agreement, which Agreement in its entirety is by reference expressly incorporated into this Bond.

WHEREAS, the amount of this Bond (Penal Sum) is in the amount stated above.

NOW THEREFORE, Principal and Surety are held and firmly bound to Obligor for the payment of the Penal Sum and agree to bind themselves and their respective heirs, administrators, executors, successors and permitted assigns, jointly and severally, firmly as follows:

1. If Principal shall promptly and faithfully perform the Agreement within the time provided therein, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

2. Surety agrees that no change, extension of time, alteration, addition, deletion, amendment, or other modification of the Agreement or the Prime Contract between Obligor and the Project owner, or both, or in the Work, specifications, drawings, whether material or otherwise, or in the manner, time or amount of payment as provided therein, and whether or not made in the manner as provided therein, shall in any way affect Surety's obligations on this Bond, except that the Penal Sum of this Bond shall increase directly with any additive amendments to the Agreement provided the additive change(s) do not, either singly or in the aggregate, exceed 20% of the original Contract Amount. If any change singly or in the aggregate exceeds 20% of the original Contract Amount, Obligor shall obtain Surety's written consent to increase the Penal Sum. Surety hereby waives notice of any changes, extensions of time, alterations, additions, deletions, amendments, and other modifications to the Agreement.

3. Whenever Obligor has declared Principal to be in default of the Agreement, Surety shall, within twenty (20) calendar days of receipt of Obligor's declaration of default (Investigation Period), respond as follows, failure of

SUBCONTRACTOR PERFORMANCE BOND

BOND NUMBER: _____

which shall be a material breach of this Bond:

- a. Determine the amount for which Surety may be liable and tender the amount to Obligor; or,
- b. Notify Obligor that Surety has elected to complete the Work itself or through its agents or contractors in accordance with the terms and conditions of the Agreement, in a manner acceptable to Obligor, and thereafter promptly begin the Work; or,
- c. Obtain bids or offers from replacement subcontractors (Completing Subcontractor), reasonably acceptable to Obligor, to complete the Agreement in accordance with its terms and conditions, and upon determination by Surety and Obligor jointly of the lowest responsible bidder or offeror, arrange for new performance and payment bonds from the Completing Subcontractor in a form and from a surety as required by the Agreement, all of which must be completed before expiration of the Investigation Period. Upon execution of the agreement between Completing Contractor and Obligor, Surety shall pay to Obligor, within five (5) days of execution, the difference between the cost to complete the Work and the Contract Balance; or,
- d. Arrange to provide financial and/or other assistance to the Principal (Financing) to assist the Principal with timely completion of the Agreement. This option is subject to Obligor's concurrence, which concurrence may be withheld in Obligor's sole discretion.
- e. Having made an independent assessment of the facts and circumstances of Obligor's declaration of default, deny Surety's liability in whole or in part and provide a detailed explanation of the reasons for its denial, specifying amounts that are disputed and undisputed. Surety shall tender payment of any undisputed amount.

4. Surety may request an extension of up to twenty (20) calendar days (Extension Period) to respond as required by the Bond. Surety shall finance performance of the Work during the Extension Period on a schedule and in a manner acceptable to Obligor. Upon expiration of the Extension Period, Surety shall respond as outlined in paragraph 3.

5. Upon declaration that Principal is in default, Obligor shall have the right, but not the obligation, to immediately proceed to perform or correct the Work and take such other action pursuant to its rights under the Agreement to mitigate the damages caused by Principal's default (Mitigation Work). Obligor's overhead (both field and home office) and profit shall be included in the cost of the Mitigation Work at a markup of 20% to the actual labor, material, equipment, and subcontractor costs Obligor incurs. Obligor shall keep Surety reasonably informed of costs incurred for the Mitigation Work. Obligor shall be entitled to deduct the cost of the Mitigation Work from the Contract Balance. To the extent Obligor's cost of the Mitigation Work exceeds the Contract Balance, Surety shall, as the Work progresses, promptly and without deduction, reimburse Obligor for such shortage. Reimbursement by Surety shall reduce the Penal Sum by the amount of Surety's reimbursement to Obligor.

6. The term Contract Balance means the Contract Amount, as adjusted by any amendments to the Agreement issued before declaration of default, less the amount paid by Obligor to Principal or others in accordance with the Agreement, less amounts to which Obligor is entitled to a setoff under the Agreement, and less any other amounts for which the Principal or Surety is liable under the Bond or Agreement.

7. Surety shall be liable for:

- a. Principal's responsibilities for correcting defective work, warranty work, latent defects, indemnity, and completion of the Work.
- b. Legal, design professional and delay costs resulting or arising from Principal's default, or resulting or arising from the actions or failure to act of the Surety under paragraph 3 herein,

SUBCONTRACTOR PERFORMANCE BOND

BOND NUMBER: _____

and liquidated damages, or if no liquidated damages are specified in the Agreement, and actual damages caused by delayed performance or non-performance of the Principal.

c. Principal's responsibilities for damages and set-offs in accordance with the Agreement.

8. If Surety elects to act under paragraph 3, Surety's liability is limited to Penal Sum, as adjusted pursuant to paragraph 2 above. Notwithstanding the foregoing, Surety shall reimburse Obligor for Obligor's reasonable attorney fees and costs, which shall not be credited against the Penal Sum, from disputes arising from this Bond.

9. Neither Surety's payments for Work performed before Obligor's declaration of default, nor Surety's payments to Claimants as defined in any payment bond issued by Surety as a companion payment bond to this Bond, shall be credited against the Penal Sum of this Bond.

10. All Information Obligor provides to Surety, whether before or after Surety issues the Bond, is provided by Obligor voluntarily as a matter of courtesy and is merely an expression of opinion. Furnishing such information is not a guaranty or warranty of the accuracy or correctness and no responsibility or liability is assumed by Obligor as a result of providing such information to Surety. Surety shall not rely on such information in any manner and waives and releases Obligor and Obligor's surety from any such claims.

11. Surety shall not be liable to Obligor for obligations of the Principal that are unrelated to the Agreement.

12. If this Bond has been furnished to comply with a statutory requirement in the location of the Project, any provision in this Bond conflicting with the statutory requirement shall be deemed deleted and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

13. No right or action shall accrue on this Bond to or for the use of any person or corporation other than Obligor or its heirs, executors, administrators, assigns or successors.

Principal and Surety cause this Bond to be duly executed and acknowledged as set forth below, on this day of _____.

SUBCONTRACTOR AS PRINCIPAL
Company:

SURETY
Company:

By:
Its:

By:
Its: Attorney in Fact

(Impress Corporate Seal)

SUBCONTRACTOR PAYMENT BOND

BOND NUMBER: _____

SUBCONTRACTOR:

Address: _____

SURETY: (or Sureties)

Address: _____

Phone Number: _____

Email: _____

CONTRACTOR:

Address: _____

THE CHRISTMAN COMPANY

208 N. Capitol Avenue, Lansing, MI 48933

PROJECT:

SUBCONTRACT DATE:

CONTRACT AMOUNT:

\$ _____

BOND AMOUNT:

(\$ _____)

Dollars

Contractor has entered into a Subcontract or Purchase Order (Agreement) with Subcontractor in the amount stated above (Contract Amount) for the Project for the performance of work, including warranty obligations (Work), as detailed in the Agreement. That Agreement is incorporated by reference in its entirety into this Bond.

By virtue of this Bond, Subcontractor and Surety are held and firmly bound to Contractor to pay for labor, materials, and equipment (collectively, "Improvements") furnished for use in performing the Work and agree to bind themselves and their respective heirs, administrators, executors, successors and permitted assigns, jointly and severally, firmly as follows:

1. **Payment Made** If Subcontractor promptly pays all sums due Claimants and defends, indemnifies and holds harmless Contractor from claims, demands, liens or suits by any person or entity seeking payment for Improvements furnished for use in performing the Work, then Subcontractor and Surety shall have no obligation under the Bond.

2. **Surety Obligation to Contractor** Surety's obligations to Contractor shall arise after Contractor notifies Surety and Subcontractor in writing of claims, demands, liens or suits against Contractor or the real property upon which the Project is located, by any person or entity seeking payment for Improvements. Upon such notice, Surety shall promptly, and at Surety's expense, defend, indemnify and hold Contractor harmless from such claim, demand, lien or suit.

3. **Surety Obligation to Claimant** Every Claimant who has not been paid in full before the expiration of ninety (90) days after Claimant provided or performed the last of the Work, or furnished the last of the Improvements for which the claim is made, may have a right of action on this Bond. The Surety's obligation shall not exceed the Bond Sum, as modified.

4. **Limitation of Action** Claimant shall not commence any suit or action on this Bond:

- a. Unless Claimant, except a Claimant having a direct contract with Subcontractor, shall have given written notice of non-payment to Subcontractor, Contractor and Surety within ninety (90) days after Claimant last performed or furnished the Improvements for which the claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom Claimant provided the Improvements. Claimant shall serve such notice to the addresses set forth in this Bond. And, after the expiration of one (1) year from the date when Claimant last performed or provided Improvements to the Project. If this provision is prohibited by law, the minimum period of limitation available to surety in the jurisdiction shall apply; and,
- b. Other than in any court of competent jurisdiction in the location where the Project is located.

5. **Contractor Notice** Contractor's written notice to Subcontractor and Surety of Claimant's claim, served by Contractor to the addresses set forth in this Bond, shall be sufficient to satisfy Claimant's obligation in paragraph 4(a) to furnish notice. Contractor's notice in the form of email with delivery or read-receipt verification shall be sufficient written notice. Notwithstanding the foregoing, Contractor shall have no affirmative obligation to Claimant, Subcontractor or Surety to provide notice on behalf of Claimant.

SUBCONTRACTOR PAYMENT BOND

BOND NUMBER: _____

6. **Surety Response** When the conditions of paragraph 4(a) are satisfied, Surety shall promptly, and at Surety's expense, take the following actions:
 - a. Provide a written response to Claimant, with a copy to Subcontractor, within forty-five (45) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and,
 - b. Pay any undisputed amounts.
7. **Claimant** Claimant means an individual or entity having a direct contract with Subcontractor, or with a subcontractor or vendor of the Subcontractor, to provide Improvements. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located.
8. **Improvements** The intent of this Bond shall be to include, without limitation, in the terms "Improvements" and "labor, materials, or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in performing the Work, architectural, engineering, and consulting services required for the work of the Subcontractor and the Subcontractor's subcontractors, and all other items for which a mechanic's lien may be asserted.
9. **Principal Surety** Surety is the principal surety and its obligations under this Bond shall be deemed primary to any bond procured by Contractor, with Contractor's surety being deemed a sub-surety.
10. **Changes** Surety agrees that no change, extension of time, alteration, addition, deletion, amendment, or other modification of the Agreement or the Prime Contract between Contractor and the Project owner, or both, or in the Work, specifications, drawings, whether material or otherwise, or in the manner, time or amount of payment as provided therein, and whether or not made in the manner as provided therein, shall in any way affect Surety's obligations on this Bond, except that the Bond Sum shall increase directly with any additive amendments to the Agreement. Surety hereby waives notice of any changes, extensions of time, alterations, additions, deletions, amendments, and other modifications to the Agreement.

Subcontractor and Surety cause this Bond to be duly executed and acknowledged as set forth below, on this day of _____.

SUBCONTRACTOR

Company:

SURETY

Company:

By:
Its:

By:
Its: Attorney in Fact

(Impress Corporate Seal)

T r a d e C o n t r a c t o r G u a r a n t e e

Project: _____

Job No.: _____

Owner: _____

A/E: _____

Date: _____

Trade Contractor: INSERT NAME
 INSERT ADDRESS

Work Category No.: ## WC NAME

We, the undersigned, hereby guarantee that all work accomplished and materials provided under the above-named contract or subcontract is in accordance with the terms of the contract documents as prepared by The Christman Company and the Architect/Engineer, including all addenda, change orders, and clarifications issued.

All work under the above-named contract or subcontract shall be guaranteed against defective material and workmanship for a period of **one (1)** year after **INSERT DATE**; correction of any deficiencies or defective work developing during this period shall be undertaken within three (3) working days following the receipt of notice by The Christman Company or Owner; and such work shall be made good by this trade contractor or sub-trade contractor at his own expense.

Trade Contractor: _____

By: _____

Signature: _____

Address: _____

Telephone: _____

Fax: _____

DATE: Thursday, August 17, 2023

PROJECT: Cavanaugh & Cumberland HVAC Remodel

OWNER: Lansing School District

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

Attached project specific version of AIA A201-2017 as modified. All references to the "Standard form of General Conditions" are hereinafter used in these specifications shall refer to the above documents.

END OF SECTION

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

2022 Bond Issue Construction as identified in the preliminary qualification of bonds application # SBL/33-020-4-K12-28-01, in accordance with the Owner-approved plans and specifications, all applicable laws, the Owner's fixed budget, and as otherwise approved by the Owner.

THE OWNER:

(Name, legal status and address)

Lansing School District
519 West Kalamazoo Street
Lansing, Michigan 48933
Telephone Number: (517) 755-1000

THE ARCHITECT:

(Name, legal status and address)

C2AE
106 West Allegan Street, Suite 500
Lansing, MI 48933

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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User Notes:

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the ~~Agreement~~, Agreement in writing, the Contract Documents ~~do not also~~ include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, accepted portions of the Contractor's bid or proposal, or and portions of Addenda relating to bidding or proposal requirements. The Contractor's execution of the Owner/Contractor Agreement and the Architect's execution of the Owner/Architect Agreement shall constitute their respective acceptance of all provisions of the Drawings, Addenda, and all Contract Documents as of the revision applicable to the date of such signature.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate the Contractor's performance of the Architect's ~~its~~ duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions or interpretations, as applicable, on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.1.9 The term "Product(s)" as used in the Contract Documents refers to the materials, systems and equipment provided by the Contractor for use in the work of the Project.

§ 1.1.10 The terms "Warranty" and "Guarantee" as used in the Contract Documents shall have the same meaning and shall be defined as "legally enforceable assurance of satisfactory performance or quality of a product or Work," but in all events subject to the terms and qualifications of the Contract Documents.

§ 1.1.11 Where materials, systems and equipment items are referred to in the singular, such reference shall not serve to limit the quantity required. The Contractor shall furnish quantities as required by the Contract Documents to complete the Work.

§ 1.1.12 Unless specifically limited in the Contract, the words "furnish," "install," and "provide," or any combination thereof, mean to furnish and incorporate into the Work, including all necessary labor, materials, and equipment and other items required to perform the Work indicated.

§ 1.1.13 The Project Manual is a volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. If the Drawings and Specifications conflict with each other regarding the quality or quantity of Work required, the better quality and/or the greater quantity shall govern, and shall be provided, unless instructions are otherwise furnished to the Contractor by the Architect in writing with the Owner's consent.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Where responsibility for particular Work is required of the Contractor, the Contractor shall not be released from that responsibility by reason of the location of the Specification, Drawing, or other information that establishes the responsibility. Thus, for example, the Contractor shall be responsible for all Work required of it, even though that responsibility may be shown only in that portion of the Contract Documents typically pertaining to another contractor or trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 If there should be a conflict between two or more of the Contract Documents, the following order of interpretation shall apply.

- .1 Where requirements specifically set forth in the Agreement are in conflict with other Contract Documents, including, but not limited to, these General Conditions, the Agreement shall govern.
- .2 In all other instances, the conflict shall be resolved by complying with the provision that is most favorable to the Owner, as determined in the Owner's sole discretion.
- .3 When a duplicate of material or equipment occurs in the Drawings, the Specifications or other Contract Documents, each Contractor shall be deemed to have bid on the basis of each furnishing such material or equipment. The Owner will decide which Contractor shall furnish the same.

§ 1.2.4.1 Without limiting the applicability of Section 1.2.4, if there should be conflict or ambiguity within any single Contract Document (for example, these General Conditions, as modified), the conflict or ambiguity shall be resolved by complying with the provision that is most favorable to the Owner, as determined in the Owner's sole discretion.

§ 1.2.5 It is the intent of the Contract Documents to accomplish a complete and workmanlike installation in which there shall be installed new products as specified, and workmanship shall be thoroughly first class, executed by competent and experienced workmen.

- .1 Details of preparation, construction, installation, and finishing encompassed by the Contract Documents shall conform to the industry standards of the respective trades, and that workmanship and construction methods shall be of workmanlike quality so as to accomplish a neat and finished job, consistent with industry standards.
- .2 Where specific recognized standards are mentioned in the Specifications, it shall be interpreted that such requirements shall be complied with.

§ 1.2.6 The Contractor acknowledges that there may be items of the Work that the Contractor is responsible to provide under the Contract Documents that are not drawn or specified in the design but are necessary for the proper execution and completion of the Work, and are consistent with, and reasonably inferable from, the Drawings and Specifications. Provided the necessary work or materials does not materially increase the cost of the Work, all such items shall be provided as part of the Work without delay in its progress and without any increase in the Contract Sum.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and unless otherwise indicated in the Contract Documents or the Owner/Architect Agreement, the Architect and the respective consultants will retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service ~~provided to them, Service,~~ subject to any protocols established pursuant to ~~Sections 1.7 and 1.8, Section 1.7,~~ solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.5.3 The Drawings, Specifications, and other documents and all data used in compiling any tests, surveys, or inspections at the Project Site and the results therefrom, as well as all photographs, drawings, specifications, schedules, data processing output, computer-aided design/drafting (CADD) system disks/tapes, computations, studies, audits, reports, models and other items of like kind, and all intellectual property, prepared or created for or in connection with the Project and required by the Owner, the Contractor, or a third party, belong to the Owner. The Contractor may retain one record set. All copies of them, except Contractor's record set, shall be returned or suitably accounted for upon completion of the Work. They are for use solely with respect to the Project. The Contractor shall not, without the prior written consent of the Owner, use or permit anyone to use any Drawings, Specifications, or other documents prepared for or in connection with the Project, or any concepts or ideas developed in connection with the Project, for any purpose other than the Project. The Owner shall at all times have access to and control over the disposition of any Drawings, Specifications, and other documents pertaining to the Project.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to ~~the designated an appropriate~~ representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by

~~registered or certified mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement; an acknowledgment of receipt is received from the recipient or proof of receipt is otherwise established. The parties acknowledge that an appropriate representative of the Owner shall have authority only to the extent provided by the Owner's Board of Education.~~

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to ~~the designated an appropriate~~ representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery. The parties acknowledge that an appropriate representative of the Owner shall have authority only to the extent provided by the Owner's Board of Education.

§ 1.7 Digital Data Use and Transmission

The parties ~~shall may~~ agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. ~~The parties will use AIA Document E203™ 2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.~~

§ 1.8 ~~Building Information Models Use and Reliance~~

~~Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™ 2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™ 2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.~~

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or ~~authorization. authorization~~ subject to parameters of authority established by the Owner's Board of Education as provided in writing to Contractor. Benjamin Shuldiner or his designee shall serve as initial Owner representatives and shall be reasonably available to Contractor. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 ~~The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.~~ **NOT USED.**

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall ~~furnish~~ furnish, as applicable, to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended ~~appropriately appropriately~~ by a mutual agreement in writing by the Owner and Contractor.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall immediately notify the Owner that the Work has stopped, stopped and state with specificity why any evidence provided (or not provided) by the Owner is insufficient. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this

Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents. The parties' disagreement as to the appropriateness of payment for services performed shall not constitute the Owner's failure to make financial arrangements to fulfill the Owner's obligations under the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where information is protected by law and/or the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose such "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. ~~The~~ To the extent permitted by law, the Contractor may also disclose such "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, ~~including including, but not limited to,~~ those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the ~~jurisdiction where the Project is located.~~ State of Michigan. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor ~~to whom the Contractor has no reasonable objection and~~ whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. ~~The Taking into account the Contractor's experience and expertise, and exercise of professional caution, the~~ Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work. The Contractor shall not be entitled to additional compensation resulting from its failure to confirm the location of site utilities or existing structures.

§ 2.3.5 ~~The~~ Upon specific written request by the Contractor, the Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services. Contracts with other Contractors alone shall not constitute sufficient Owner control for purposes of this Section.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or ~~repeatedly~~ fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3. This right shall be in addition to and not in limitation of the Owner's rights under any provision of the Contract Documents.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ~~ten-day~~ three business day period after receipt of notice from the Owner or the Owner's designee (including, for this purpose, the Architect) to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, ~~correct such default or neglect.~~ Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, including any claim against the Contractor's Performance Bond, correct such default or neglect. In the event the Contractor's default or neglect results in a threat to the safety of persons or property, the Contractor shall immediately commence and continue correction; otherwise, the Owner may undertake the same actions as permitted in the prior sentence. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses, including any and all legal expenses incurred to effectuate and enforce this provision, and compensation for the Architect's and/or other Contractor's additional services made necessary by such default, neglect, or failure. If the Contractor does not agree to a Change Order as described in the preceding sentence, the Owner may nevertheless withhold the reasonable cost of correcting such deficiencies and the expenses identified in the preceding sentence (including, but not limited to, all legal expenses incurred to effectuate and enforce this provision). Exercise of such rights shall in no way limit or jeopardize the Owner's right to any claim against the Performance Bond or Contractor. The Architect may also, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including the aforementioned Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15. In the event the Owner directs another entity to perform Work pursuant to this Section that otherwise is the obligation of the Contractor, including correction of safety violations, either at the Contractor's request or as a result of the Contractor's failure to perform such Work, the Owner may withhold any payments due Contractor to cover all costs for labor, material, and equipment plus that other entity's administrative, profit, and overhead costs. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.1.4 These General Conditions refer to the relationship between the Owner and Contractor. As to the contract between the Contractor and its Subcontractors, the General Conditions shall be read as the Contractor having the position of the Owner and the Subcontractors having the position of the Contractor. The Subcontractors are bound to the Contractor just as the Contractor is bound to the Owner. The Subcontractor shall have all the rights, duties and obligations to the Contractor as the Contractor has rights, duties and obligations to the Owner. The Subcontractors shall agree to and accept the same responsibility to the Owner as the Contractor. In the event any failure of a Subcontractor or the Subcontractor's Subcontractor or supplier, at any tier, causes any type of defective Work, injury, loss or damage to the Owner, direct or indirect, the Contractor shall be jointly and severally liable to the Owner for such injury in addition to any responsibility or liability of the Subcontractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal

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observations with requirements of the Contract Documents. The Contractor shall independently verify all information related to utilities prior to beginning the Work. The Contractor shall make careful investigation to establish the exact location of any such items indicated on the Drawings (e.g., locate via hand digging before excavating). The Contractor shall be responsible for all costs arising out of damage to such items or additional construction costs incurred because Contractor failed to verify said information.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may ~~require~~require, with a copy of same to be forwarded to the Owner.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the ~~Owner, subject to Section 15.1.7,~~ Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.5 Prior to submitting its bid, the Contractor shall have studied and compared the Contract Documents and shall have reported to the Architect any discovered error, inconsistency or omission in the Contract Documents. It will be presumed that the Contract Sum includes the cost of correcting any such error, inconsistency or omission, which could have been discovered by the exercise of reasonable diligence. Unless the Contractor establishes that such error, inconsistency or omission could not have been discovered by the exercise of reasonable diligence, the Contractor and the bidding Subcontractor(s) will make such corrections without additional compensation so that the Work is fully functional.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures. The Contractor shall immediately notify the Architect and Owner of delays of any other Contractors that could impact timely coordination and completion of the Work.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work. The Contractor shall be deemed to have accepted prior work when it commences provision of subsequent Work and shall be responsible for the cost of repair, replacement, or reconstruction if the prior work is found to be improper.

§ 3.4 Labor and Materials and Utilities

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Such provision of labor and materials shall occur in sufficient time to satisfy the existing Project schedule. The Contractor bears the risk of any failure to timely provide such labor and materials for any reason. The Contractor agrees to execute the appropriate UCC forms to effectuate the Owner's ownership of the material and equipment furnished pursuant to this Agreement.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.4.4 The Contractor agrees that neither it nor its Subcontractors will discriminate against any employee or applicant for employment, to be employed in the performance of this Contract, with respect to hire, tenure conditions or privilege of employment, or any matter directly or indirectly related to employment, because of race, age, sex, color, religion, national origin, ancestry or physical disability. Breach of this covenant may be regarded as a material breach of this Contract.

§ 3.4.5 Immediately after "award of the Contract," the Contractor shall provide the Architect a list showing the name of the manufacturer proposed to be used for each of the product(s) identified in the Specifications and, where applicable, the name of the installing Subcontractor.

§ 3.4.6 The Architect will reply in writing to the Contractor stating whether the Owner or the Architect, after due investigation, has reasonable objection to any such proposal. If adequate data on any proposed manufacturer or installer is not available, the Architect may state that action will be deferred until the Contractor provides further data.

§ 3.4.7 In all cases involving utilities, unless the Contract Documents specifically provide otherwise, it shall be the Contractor's responsibility to coordinate the Work with the owners of such utilities for the protection of such utilities and for the safety associated with working with or in the vicinity of such utilities. The Contractor shall coordinate any work required by private and/or public utility companies to provide utilities to the Work and/or shall coordinate relocation of utilities as required by the Work. Any reference to the Owner being responsible for the coordination of, the paying for, or the relocation of any utility or associated equipment, which it does not own or control, requires only reasonable efforts by the Owner to coordinate such activity.

§ 3.4.8 Asbestos-Free Product Installation

§ 3.4.8.1 It is hereby understood and agreed that no product and/or material containing asbestos, including chrysolite, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos and any combination of these materials that have been chemically treated and/or altered shall be installed or introduced into the Work by the Contractor or its employees, agents, Subcontractors, or other individuals or entities over whom the Contractor has control. The Contractor shall be required to provide a signed certification statement ensuring that all products or materials installed or introduced into the Work will be asbestos-free.

§ 3.4.8.2 The Contractor also shall be required to furnish certified statements from the manufacturers of supplied materials used during construction verifying their products to be asbestos-free in accordance with the requirements of Section 3.4.8.1.

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§ 3.4.8.3 The Contractor shall complete and submit to the Owner a certification evidencing asbestos-free product installation prior to issuance of the final Certificate for Payment in a form acceptable to the Owner.

§ 3.4.9 Asbestos may be present within the construction areas. Contractors are to become aware of Owner's hazardous material report prior to construction. Work is not to disturb any in-place hazardous materials. The Contractor must immediately stop all Work and notify the Owner if it reasonably suspects the presence of unknown hazardous materials and/or has disturbed any materials reasonably suspected to be hazardous materials.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. In addition to any other warranties, guarantees, or obligations set forth in the Contract Documents or applicable as a matter of law, and not in limitation of the terms of the Contract Documents, the Contractor warrants and guarantees that:

1. The Owner will have good title to the Work and all materials and equipment incorporated into the Work and, unless otherwise expressly provided in the Contract Documents, will be new.
2. The Work and all materials and equipment incorporated into the Work will be free from all defects, including any defects in workmanship or materials.
3. The Work and all materials and equipment incorporated into the Work will be merchantable at the time of installation.
4. The Work and all materials and equipment incorporated into the Work will conform in all respects to the Contract Documents in the reasonable judgment of Architect.

The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

Upon notice of the breach of any of the foregoing warranties or guarantees or any other warranties or guarantees under the Contract Documents, the Contractor, in addition to any other requirements in the Contract Documents, will commence to correct such breach within 72 hours after written notice thereof and thereafter will use its commercially reasonable best efforts to correct such breach to the satisfaction of the Owner; provided that if such notice is given after final payment hereunder, such 72 hour period shall be extended to seven (7) days. The foregoing warranties and obligations of the Contractor shall survive the final payment and/or termination of the Contract.

The Contractor shall, at the time of final completion of the Work and as a condition precedent to final payment to the Contractor, assign to the Owner all manufacturers' warranties related to the materials and labor used in the Work. The Contractor further agrees to perform the Work in such manner as to preserve any and all such manufacturers' warranties and deliver to the Architect the warranties, project manuals, operating procedures, and other materials related to each of the building systems and materials included in the Contractor's Work and as required by the Specifications.

Notwithstanding anything contrary in the foregoing or in any other Contract Document(s), labor shall be warranted for one year, commencing as of the date specified in the Architect's Certificate of Substantial Completion, and the manufacturer warranties applicable to the materials integrated into the Work shall commence and end as provided in the such warranty documents, provided to Owner in accordance with this Section 3.5.1.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Contractor shall pay all local, state and federal taxes levied on its business, income or property and

shall make all contributions for social security and other wage or payroll taxes. The Contractor shall be solely responsible for such payments and shall indemnify the Owner and hold it harmless from same.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

~~§ 3.7.1 Unless otherwise provided in the Contract Documents, the~~ The Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work ~~knowing it to be~~ contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide written and dated notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Owner and Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, they will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the ~~Architect determines~~ Owner and Architect determine that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the ~~Owner and Contractor~~ Contractor in writing, stating the reasons. If ~~either party~~ Contractor disputes the Architect's determination or recommendation, ~~that party may~~ the Contractor shall submit a Claim as provided in Article 15. The requirements of Section 2 of 1998 PA 57, as amended, are hereby incorporated into this document. The Contractor shall be alert to any indication or evidence of existing underground or concealed utilities or structures not shown on the Contract Documents and shall immediately notify the Owner of discovery of such evidence. If the Contractor encounters such utilities or structures, it shall cease operations immediately to minimize damage and shall notify the Owner and Architect. The Contractor shall bear the cost of damage resulting from its failure to exercise reasonable care in its construction activity or from continuing operations without notifying the Owner.

§ 3.7.4.1 The Contractor bidding on the Work is responsible for visiting the site and determining all local conditions, except those that are hidden or unknown, that may in any way affect its Work.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall ~~notify~~ provide written and dated notification to the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features ~~may be made~~ shall be made, as needed, as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs ~~are more than or less than~~ differ from allowances, the Contract Sum ~~shall~~ may be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The superintendent shall be satisfactory to the Owner in all respects, and the Owner shall have the right to require the Contractor to remove any superintendent from the Project whose performance is not satisfactory to the Owner and to replace such superintendent with a superintendent who is satisfactory to the Owner.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Owner and/or the Architect may notify the Contractor, stating whether the Owner ~~or and/or~~ the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. ~~Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.~~

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's ~~consent, which shall not unreasonably be withheld or delayed.~~ consent.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall ~~prepare and~~ submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits ~~current under the Contract Documents.~~ required under the Contract Documents or any scheduling updates issued by the Architect or Owner. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project. In no event shall the Contractor's Construction Schedule be extended due to action or inaction of the Contractor, except with prior written approval of the Owner within the Owner's sole discretion.

The Contractor shall cooperate with the Architect and Owner in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other contractors or the construction or operations of the Owner's own forces. The Contractor acknowledges and understands that the work schedule will be modified from time-to-time with the Owner's approval to coordinate with the work of others and that such schedule changes do not give rise to a claim for damages or additional compensation by the Contractor for delay or otherwise. The Contractor shall be required to conform to the most recent Owner-approved schedule and acknowledges that fact was taken into account when it agreed to the Contract Sum and entered into this Contract.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the ~~Architect's approval.~~ Owner's and Architect's approval. The Owner's and the Architect's approvals shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, ~~and (2) allow the Architect reasonable time to review submittals.~~ (2) allow for a reasonable amount of time to review submittals, and (3) shall provide for expeditious and practical execution of the Work. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect, approved Project schedules and the most recent Work schedule submitted to the Owner and Architect consistent therewith.

§ 3.10.4 Progress Meetings: Meetings of representatives of the various Contractors may be held for the purpose of coordination and furthering the progress of the Work. Contractor and Subcontractor attendance is mandatory. Meetings shall be held at regular intervals as provided in the General Requirements; special meetings may be held if deemed necessary by the Owner and/or Architect.

§ 3.10.5 The Contractor shall proceed strictly (not substantially) in accordance with the critical path set forth in the Construction Schedule. The Contractor shall monitor the progress of the Work for conformance with the requirements of the Construction Schedule and shall promptly advise the Owner of any delays or potential delays. If any progress report indicates any delays, the Architect shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary. In no event shall any progress report constitute an adjustment of the Contract Time or any Milestone Date or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to a Change Order.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor for submittal to and review by the Architect to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor for submittal to and review by the Architect to illustrate materials or equipment for some portion of the Work. All Work shall be furnished and installed in accordance with the Drawings, Specifications, and as additionally required by the manufacturer's printed instructions. The Contractor shall review the manufacturer's instructions, and where conflict occurs between the Drawings or Specifications and the manufacturer's instructions, the Contractor shall request clarification from the Architect prior to commencing the Work.

§ 3.12.3 Samples are physical examples for submittal to and review by the Architect that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

The Contractor agrees to ensure that its first submissions shall comply with all the requirements of the Contract Documents. It is further agreed that if any Shop Drawing, Project Data, Sample, or similar submittals require excessive submissions to secure the approval of the Architect due to the Contractor's failure to comply with specified

products, resulting in delays or excessive reviews by the Architect, the Contractor will be held responsible for delays, added review costs, and damages to the Owner caused by such delays. Without limiting the foregoing, the Contractor's obligation to hold the Owner harmless from and bear the costs for any delay, good faith rejection of or resulting from any Shop Drawing, Product Data, Sample or similar submittal by Architect provided such delay or rejection is conditioned on such delay or rejection being attributable to a negligent act or omission of Contractor.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's review and approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect in detailed writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Subject to its professional skill and expertise, the Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

~~The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.~~ § 3.13.1 The Contractor shall confine operations at the site to areas

permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 Anything contained in the Contract Documents to the contrary notwithstanding, no one except the Owner shall be permitted to disrupt the operation of any building system or any other services without the Owner's prior written consent. Any request to perform such work shall be in writing, received by the Owner no less than five (5) days prior to the commencement of the requested disruption, and shall detail (i) the exact nature and duration of such interruption, (ii) the area affected, and (iii) any impact upon the Construction Schedule caused by such proposed temporary disruption. Unless otherwise approved by the Owner, all work shall be performed during the hours and on the days set forth in the Specifications, in accordance with the most-recent project schedule, and/or as directed by the Owner or Architect. The Contractor's failure to comply with the notice provisions of this section shall constitute a waiver by the Contractor of any right it may have to an adjustment of the Contract Time, on account of any postponement, rescheduling, or other delays ordered by the Owner in connection with any Work for which appropriate notice was not furnished.

§ 3.13.3 The Contractor will consult with the Owner and the Architect concerning any necessary operations at the Project site, including staging area limits, office or storage trailer locations, dumpster operations, equipment and material deliveries, hoisting areas and any other construction impacts on the Owner's grounds.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor and its Subcontractors, under the Contractor's direction, shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.15.3 Any areas and/or concurrently occupied space both occupied by the Owner and used in the progress of the Work, both within the limits of the construction site and the adjacent areas leading to it, shall be maintained, opened to travel and kept in a clean condition. Failure by the Contractor to maintain said areas will result in the Owner's cleaning of same, at the expense of the Contractor.

§ 3.15.4 In addition to removal of rubbish, the Contractor and its Subcontractors, under the Contractor's direction, shall replace any broken glass, remove stains, spots, marks, and dirt from decorated work, clean hardware, and/or remove spots and smears from all surfaces which were affected by the Work.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall indemnify and hold harmless the Owner and Architect ~~harmless from~~ from any and all cost, damages, or loss on account thereof, including, but not limited to, actual attorneys' fees, but shall not be

responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect. The review by the Owner or Architect of any method of construction, invention, appliance, process, article, device or materials of any kind shall be for its adequacy in the Work and shall not be an approval for the use thereof by the Contractor in violation of any patent or other rights of any third person.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, the Owner's Board of Education, its board members, administration, its successors, assigns, Architect, Architect's consultants, and agents and employees of any of them (the "Indemnitees") from and against any and all claims, costs, damages, losses, liabilities, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, ~~provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused in whole or in part by (i) the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. its officers, directors and employees, agents or subcontractors; (ii) any breach of the terms of the Contract Documents by the Contractor; or (iii) any breach of any representation or warranty by the Contractor under the Contract Documents.~~ The Contractor shall notify the Owner by certified mail, return receipt requested, immediately upon knowledge of any claim, suit, action, or proceeding for which the Owner or one or more of the Indemnitees may be entitled to indemnification under the Contract Documents. Further, the Owner shall be entitled to recover attorneys' fees and legal fees from the Contractor under the following circumstances: (1) the Owner has to defend a third-party claim or action for which the Contractor must indemnify the Owner as described above; and (2) the Owner successfully asserts a claim or action against the Contractor for professional negligence, breach of contract, and/or defective Work. For purposes of the previous sentence "successfully" means the Owner recovers damages from the Contractor, regardless of amount. The Contractor shall not be responsible for indemnifying an Indemnitee for the Indemnitee's negligence, but shall remain responsible to the fullest degree of Contractor's fault, on a comparative basis. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 ~~In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.~~ addition to and not in limitation of the Contractor's other indemnity obligations, the Contractor hereby accepts and assumes exclusive liability for and shall indemnify, protect, and hold harmless the Owner and Architect from and against the payment of the following:

- .1 all contributions, taxes, or premiums (including interest and penalties thereof) which may be payable under the unemployment insurance law of any state, the federal Social Security Act, federal, state, county, and/or municipal tax withholding laws, or any other law, measured upon the payroll of or required to be withheld from employees by whomsoever employed, engaged in the Work to be performed and furnished under this Contract;
- .2 all sales, use, personal property and other taxes (including interest and penalties thereof) required by any federal, state, county, municipal, or other law to be paid or collected by the Contractor or any of its Subcontractors or vendors or any other person or persons acting for, through or under it or any of them, by reason of the performance of the Work or the acquisition, ownership, furnishing, or use of any materials, equipment, supplies, labor, services, or other items for or in connection with the Work; and
- .3 all pension, welfare, vacation, annuity, and other benefit contributions payable under or in connection with respect to all persons by whomsoever employed, engaged in the Work to be performed and furnished under this Contract.

Provided Owner or Architect has, in good faith and to the best of their knowledge, provided Contractor with complete, accurate, reports identifying the presence of any and all hazardous materials on Site as of the date of commencement of the Work, Contractor shall indemnify, defend, and hold the Owner harmless from any claim, damage, loss or

expense, including, but not limited to, actual attorney fees, incurred by the Owner related to any hazardous material, condition or waste, toxic substance, pollution, or contamination brought into the Project site or caused or exacerbated by the Contractor or used, handled, transported, stored, removed, remediated, disturbed, or dispersed of by Contractor.

§ 3.18.3 In the event that any claim is made or asserted, or lawsuit filed for damages or injury arising out of or resulting from the performance of the Work, whether or not the Owner or Architect is named as a party, the Contractor shall immediately advise the Owner and Architect, in writing, of such claim or lawsuit and shall provide a full and complete copy of any documents or pleadings thereto, as well as a full and accurate report of the facts involved.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement. The Term "Architect," "Architect/Engineer," "Engineer," or "Design Professional" as used herein means the Architect or the Architect's authorized representative.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld. Owner and Architect.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. Payment and with the Owner's written concurrence during the correction period. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally more frequently as agreed with the Owner or required by law, to become familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Except as otherwise set forth herein or in the Owner/Architect Agreement, the Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents. The Architect shall provide all services and duties that may be performed by an "Architect" or "Engineer" in 1937 PA 306 and 1980 PA 299, including but not limited to supervision of construction.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, will guard the Owner against defects and deficiencies in the Work, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Except as required by the Owner/Architect Agreement or other Contract Documents, the Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and, except as provided in the agreement between Owner and Architect or this document, will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work. The Architect shall provide all services and duties that may be performed by an "Architect" or "Engineer" in 1937 PA 306 and 1980 PA 299, including but not limited to supervision of construction.

§ 4.2.4 Communications

The Owner and Contractor shall endeavor to include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to materially affecting the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Owner and Architect or, in the absence of an approved submittal schedule, with reasonable promptness as to cause no delay in the Work while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. However, should the Architect discover during the course of such review any inaccuracies, incompleteness, or other irregularities, the Architect shall immediately notify the Owner of the same to determine an appropriate corrective course of action or notify the Contractor of the same to correct the irregularities.

§ 4.2.8 The Architect will ~~prepare review and recommend for approval~~ Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to ~~determine~~ determine, with the Owner's concurrence, the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. ~~The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.~~

§ 4.2.11 The Architect will interpret ~~and decide~~ matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable ~~promptness~~ promptness given the particular circumstances.

§ 4.2.12 Interpretations ~~and decisions~~ of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such ~~interpretations and decisions,~~ interpretations, the Architect will endeavor to secure faithful performance by ~~both Owner and Contractor, will not show partiality to either,~~ and will not be liable for results of interpretations or decisions rendered in good ~~faith~~ faith and without negligence.

§ 4.2.13 The Architect's ~~decisions~~ interpretations on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with

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reasonable ~~promptness~~ promptness given the particular circumstances. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor. The term "Subcontractor" shall also include Sub-subcontractors at any tier and material and equipment suppliers. Each and every subcontract shall be understood to have the Owner as a third-party beneficiary, and the Owner shall enjoy all third-party beneficiary rights permitted by law.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, ~~Documents or the bidding requirements~~, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect in writing of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection. All contractual agreements with additional persons or entities serving as a Subcontractor or supplier shall expressly identify the Owner as a third-party beneficiary, and the Owner shall enjoy all third-party beneficiary rights not prohibited by law.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, despite the Architect's or Owner's reasonable objection, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution. The Contractor shall notify the Owner and Architect of any proposed substitution a minimum of ten (10) days prior to such proposed change.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the

proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work that is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and ~~Contractor~~; Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation ~~shall be equitably adjusted for increases in cost resulting from the suspension~~ may be adjusted as negotiated by the parties.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. ~~If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.~~

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation. The Contractor shall be responsible for coordinating the Work with the work of other Contractors, including the Owner's own forces or Separate Contractors, so as to complete the Work in accordance with the Project time schedule.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 ~~Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.~~ **NOT USED.**

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly

notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not ~~apparent~~ reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's ~~delays, improperly timed activities~~, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor ~~wrongfully~~ causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and ~~the Architect will allocate the cost among those responsible~~. The Owner's right to clean up shall in no event be deemed a duty, and should the Owner choose not to pursue this remedy, the Contractor necessitating such action shall remain fully responsible for the same.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, only by Change Order, Construction Change Directive ~~Directive~~, written contract amendment, or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive ~~requires agreement~~ may be issued by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Unless expressly stated otherwise in the Change Order, an agreement on any Change Order shall constitute the Contractor's final position on all matters relating to the change in the work that is subject to the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in

the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one or more of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

However, the Contract Time shall be adjusted only if the Contractor demonstrates to the Owner that the changes in the Work required by the Construction Change Directive adversely affect the critical path of the Work.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall ~~determine~~ determine, with the Owner's approval, the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to ~~the following:~~ a reasonable amount of the following that are actually incurred by the Contractor:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time. Contractor agreements to a Construction Change Directive shall require a follow-up writing or signature as contemplated in Section 7.3.7.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for undisputed Work completed under the Construction Change Directive in Applications for Payment. ~~The For those undisputed portions, the Architect will make an interim determination for purposes of~~

monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of ~~cost~~ cost, if agreed to by the Owner in writing, shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of ~~either party~~ the Contractor to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree in writing with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the ~~adjustments~~ adjustments in writing, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 In no event shall the Contractor be entitled to receive, and the contractor hereby waives the right to receive, any payment or any extension of time for additional or changed work, whether partially or fully completed or simply proposed, unless such additional work is authorized by a written Change Order or Construction Change Directive signed by the Owner, nor shall the Contractor be obligated to proceed with any such work. Only the Owner shall have the right to issue a written Change Order or Constructive Change Directive to the Contractor authorizing an addition, deletion or other revision in the scope of the Work and/or an adjustment in the Contract Sum or the Construction Schedule.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall either (i) file a Claim in accordance with Article 15 and continue to implement the change in the Work, or (ii) notify the Owner and Architect in writing and shall not proceed to implement the change in the Work. ~~If Without limiting other restrictions on payment, if the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.~~

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for obtaining all supplies, materials, tools and equipment necessary to perform the Work and for properly performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. All work shall be completed in sufficient time to allow for clean-up and preparation for Owner move-in prior to the Date of Substantial Completion.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If Provided the Contractor submits a written request for an extension not more than fourteen (14) days after the occurrence that gives rise to the delay, if the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, fire, government-declared

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emergencies, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; litigation, mediation, arbitration or binding dispute resolution, as applicable; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

determine and with which the Owner agrees. Failure of the Contractor to submit a timely request for an extension shall irrevocably waive the Contractor's right to such an extension of time. If the Contract Time is subject to extension pursuant to this subparagraph, the Contractor shall receive such an extension, and subject to Owner review and written approval, may receive extension costs related to Construction Management staff and GC costs.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents. Only upon Owner review and written approval, the Contractor may receive extension costs related to Construction Management staff and GC costs..

§ 8.4 Delay Damage Claims

§ 8.4.1 In the absence of a delay caused by something outside the Contractor's reasonable control, if the Contractor fails to complete its Work on time resulting in loss or damage to the Owner, whether or not liquidated damages are called for in the Contract Documents, the Owner shall be entitled to make a Claim for direct damages caused by the Contractor's delay.

§ 8.4.2 In the event the Contractor is hindered in the commencement or progress of the Work for any reason by someone other than the Owner, and in the event the Contractor claims damages as a direct and proximate consequence thereof (including, but not limited to, extended general conditions, overhead, profit, overtime, interest, supervision or other costs or profits whatsoever), then the Contractor shall only assert claims against the Owner related to extended general conditions and costs of paying staff.

For any delay claims raised against the Owner for any reason, the Contractor's sole and exclusive remedy is an extension of time to perform the Work not to exceed the time frame of any proven delay. Under no circumstances is the Contractor entitled to monetary delay damages from the Owner.

§ 8.4.3 Notwithstanding the foregoing, in the event of any delay in the completion of the Contractor's Work or scheduling of the Contractor's Work, including the sequence of that Work which is attributable to the Owner, and if it is determined by a court of competent jurisdiction that the Owner is liable for such delay despite the other terms of this Contract barring any Owner liability for damages for delay, then the Owner shall be liable to the Contractor for liquidated damages in the amount of not to exceed One Hundred Dollars (\$100) per day, maximum, which shall include all of the Contractor's claims, including by way of example, delays, compressions of schedule, lost productivity, lost profits, lost opportunities, out of sequence work, overhead, crowding, tools, equipment, rentals, etc.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

~~Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the~~ The Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Owner or Architect may require, and unless objected to by the Owner or Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.2.1 The schedule of values shall be prepared in such manner that the value associated for each major item of work and each subcontracted item of work is shown with materials and labor indicated separately on AIA Document G702 - Application and Certificate of Payment, and AIA Document G703 - Continuation Sheet, or otherwise.

§ 9.3 Applications for Payment

§ 9.3.1 At least ~~ten~~ fifteen (15) days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, values for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents. The form of Application and Certificate for Payment shall be AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet, unless otherwise agreed by the Owner. Applications for Payment are due to the office of the Architect by the designated day of the month. Applications for Payment that are received after the specified date will not be processed until the following month.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders. A request for payment of sums related to work regarding Construction Change Directives shall, unless qualified in writing at the time of request, constitute full and complete consent to the Construction Change Directive(s) and to the issuance of a Change Order.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 The Contractor shall submit with each monthly Application for Payment (1) an Affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the previous application was submitted and for which the Owner might in any way be responsible have been paid or otherwise satisfied, and (2) a release or waiver of liens arising out of the Contract from each Contractor and/or Subcontractor, materialman, supplier and laborer for the Contractor addressing all previous Applications for Payment submitted for the Project.

§ 9.3.1.4 The Contractor must provide copies of the insurance certificates, bonds, and the same for all of the Subcontractors prior to submitting the first Application for Payment.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site. Payment to Contractor for materials stored off site is discouraged. When circumstances indicate that the Owner's best interest is served by off-site storage, the Contractor shall make written request to the Owner for approval to include such material costs in the next progress payment. The Contractor's request shall include the following information:

- .1 A list of the fabricated materials consigned to the Project (which shall be clearly identified, giving the place of storage, together with copies of invoices and reasons why materials cannot be delivered to the site.
- .2 Certification that items have been tagged for delivery to the Project and that they will not be used for another purpose.
- .3 A letter from the Contractor's Surety indicating agreement to the arrangements and that payment to the Contractor shall not relieve either party of their responsibility to complete the Work.
- .4 Evidence of adequate insurance covering the material in storage, which shall name the Owner as additionally insured.
- .5 Costs incurred by the Architect to inspect material in off-site storage shall be paid by the Contractor.

- .6 Subsequent pay requests shall itemize the materials and their cost which were approved on previous pay requests and remain in off-site storage.
- .7 When a partial payment is allowed on account of material delivered on the site of the Work or in the vicinity thereof or under possession and control of the Contractor, but not yet incorporated therein, such material shall become the property of the Owner, but if such material is stolen, destroyed or damaged by casualty before being used, the Contractor will be required to replace it at its own expense.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. ~~However, Architect, in writing, together with the certification to which it pertains. However, unless otherwise required by the Owner/Architect Agreement, any other Contract Document, or applicable law, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum. Nothing in this Section 9.4.2 shall be interpreted to reduce or eliminate the Architect's duties as set forth in Section 3.1.9 of the Owner/Architect Agreement, including supervision of construction.~~

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied; remedied, or the Contractor is in default on the Agreement;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;

- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 ~~repeated failure to carry out the Work in accordance with the Contract Documents;~~ Documents;
- .8 ~~the Work not having progressed to the extent set forth in the Application for Payment;~~
- .9 ~~representations of the Contractor are untrue;~~
- .10 ~~failing to conform to Project Schedule;~~
- .11 ~~default in the performance of any obligation to the Owner under another contract; or~~
- .12 ~~failure to provide sufficiently skilled workers.~~

§ 9.5.2 When ~~either party~~ the Contractor disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, ~~that party~~ the Contractor may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.5.5 If the Contractor disputes any determination by the Owner or Architect with regard to any Certificate for Payment, the Contractor shall nevertheless continue to expeditiously perform the Work and such dispute shall provide no basis for any manner of suspension of the Contractor's performance of the Work.

§ 9.5.6 Notwithstanding anything herein to the contrary, the Owner has no obligation to pay the Contractor absent receipt of a Certificate for Payment for the requested amount, and neither the Architect's failure to issue a Certificate for Payment nor the Architect's failure to notify the Contractor and/or Owner of a withheld Certificate for Payment creates an obligation on the Owner to pay the Contractor. The foregoing sentence shall not operate to limit the right of the Owner to dispute amounts requested by the Contractor or to withhold payments from the Contractor as provided in the Contract Documents.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4. Owner may, in its sole discretion, after providing Contractor with ten (10) days prior written notice, make direct payments to the Contractor's Subcontractors, suppliers, laborers or claimants relating to labor or material provided to the Contractor for which the Contractor has not provided a waiver of lien, in the event the Subcontractors, suppliers, laborers or claimants threaten to or actually cease providing labor and/or materials for the Project such that, in the Owner's determination, progress of the Project and the Project's Schedule are jeopardized. All payments made

pursuant to this section shall be considered the same as if paid directly to the Contractor and shall constitute partial payment of the Contract Sum. In the event the Contractor disagrees with the amount proposed to be paid to one or more Subcontractors, suppliers, laborers or claimants, the Contractor shall provide a bond in the amount the Contractor believes the Owner will overpay, within ten (10) days of receipt of notice, or be barred from making any claim that the amount of the direct payment was incorrect. Payment under this provision shall not jeopardize any other remedy available to the Owner.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.6.9 Subject to applicable law, if a petition in bankruptcy or any other arrangement or proceeding regarding insolvency, assignment for the benefit of creditors, trust, chattel mortgage, or similar state or federal proceeding, whether voluntary or involuntary, shall be filed with respect to the Contractor, the Owner may withhold the final balance, or any other payments, whether or not an application for progress payment has been properly filed, until expiration of the period of any guarantees or warranties required for the Contractor, and the Owner may pay out such funds the amount necessary to satisfy any claims or costs that otherwise would have been covered by such guarantees or warranties.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if without justifiable basis under the Contract Documents, including these General Conditions, the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' Documents the undisputed amount asserted by the Contractor in its Application for Payment or awarded by a court, then the Contractor may, upon twenty-one (21) additional days' written notice to the Owner and Architect, stop the Work until payment of the undisputed amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents. The Contractor acknowledges the Owner's right to dispute in good faith any amount requested by the Contractor, and, irrespective of the Architect's issuance of a Certificate for Payment, the Owner's right to withhold payments from the Contractor, including, without limitation, to correct Work that fails to conform with the Contract Documents or as an offset or recoupment to recover the cost of damages incurred by the Owner due to the Contractor's breach of the Contract or a wrongful or negligent act or omission of the Contractor.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents and when all required occupancy permits, if any, have been issued, so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of

items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item ~~upon notification by the Architect, immediately.~~ In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.8.6 Notwithstanding Sections 9.8.1 and 9.8.2, as a condition precedent to establishing the date of Substantial Completion, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected (a "punch list"). The Contractor shall respond immediately to correct Work deficiencies and/or punch list items. Should the Contractor fail to make corrections in a timely fashion, but not later than fifteen (15) calendar days from the date of Substantial Completion or notification of the required corrections, whichever is earlier, such Work may be corrected by the Owner at the Contractor's sole expense, and any remaining payments due the Contractor shall be withheld by the Owner.

§ 9.8.7 The Contractor shall promptly notify the Architect, in writing, when the Work deficiencies and/or punch list items are completed. Upon the review of the Work by the Architect after such notification by the Contractor, if Work deficiencies and/or punch list items shall continue to exist, the Contractor shall reimburse the Owner its cost plus ten percent (10%) overhead and profit on any cost incurred by the Owner, including the Architect's fees for re-inspection of the Work. Failure to pay such costs within ten (10) days of receipt of a demand regarding the same shall permit the Owner to pay such costs out of retainage held by the Owner on the Contractor's contract.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.9.4 Any agreement as to the acceptance of non-conforming Work not complying with the requirements of the Contract Documents shall be in writing in the form of a Change Order, acceptable to the Owner's authorized representative and signed by all parties.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, ~~and (6) (6) an affidavit that states the Work is fully completed and performed in accordance with the Contract Documents, (7) in the event of Contractor bankruptcy, at the Owner's option, an order entered by the court having jurisdiction of the Contractor's insolvency proceeding authorizing such payment, (8) a general release executed by the Contractor on a form provided by the Architect, (9) all close-out documents, (10) all warranties collected and provided in an acceptable manner, and (11) if required by the Owner,~~ other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and ~~reasonable-actual~~ attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising ~~from from:~~
.1 ~~liens, Claims, security interests, or encumbrances arising out of the Contract~~ Claims already asserted as of the date of final payment and unsettled;

.2 failure of the Work to comply with the requirements of the Contract Documents and resulting demands and Claims asserted in accordance with the Contract Documents;

.3 terms of ~~special-all~~ warranties required by the Contract Documents; Documents or provided at law or in equity; or

.4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of ~~claims by that payee except those previously made in writing and identified by that payee~~ all claims of the Contractor except those previously made by the Contractor in writing, including Claims pending as of the final payment date, or

identified by the Contractor as unsettled at the time of final Application for ~~Payment~~. Payment and specifically referenced as being an exception to the waiver contained in this section.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall continuously maintain adequate protection of all Work from damage and shall protect the Owner's property from injury or loss. The Contractor shall make good any such damage, injury or loss at no cost to the Owner, except to the extent directly caused by agents or employees of the Owner. The Contractor shall adequately protect the Work and adjacent property as required by law, the Contract Documents, or as otherwise required, to cause no damage to the Work and adjacent property during the execution of the Work. This requirement shall also apply to structures above and below ground as conditions of the site require. The Contractor shall also provide recommendations and information to the Owner regarding (a) the assignment of responsibilities for safety precautions and programs by the Subcontractors and responsibilities for safety precautions and programs by the Subcontractors and the Owner for the safety of the Owner, and the general public; (b) temporary facilities; and (c) equipment, materials and services for common use of Subcontractors. The Contractor shall verify that the requirements and assignment of responsibilities are included in the proposed Contract Documents.

§ 10.1.2 The Contractor is solely responsible to the Owner for safety at the Project site and, accordingly, shall be solely responsible for initiating, monitoring, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. The foregoing does not relieve the Subcontractors of their responsibility to the Contractor for the safe performance of their Work in accordance with all applicable laws.

§ 10.1.3 The Contractor shall develop and implement a safety plan that complies with all applicable laws covering all activities on the Project Site except those activities performed solely by the Owner. The Contractor shall provide the Owner a copy of such health and safety plan prior to commencement of Work. The Owner shall have no duty to review the plan and shall assume no duty by doing so.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take ~~reasonable precautions~~ every reasonable precaution for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall ~~comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.~~ take all reasonable safety precautions with respect to its Work and work of others, shall comply with all standard industry safety measures and shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority and all other requirements of the Contract Documents, including those applicable to the safety of persons or property. The Contractor shall be responsible for the safety of all of the Contractor's employees and the safety of all of the Contractor's Subcontractors, suppliers, and their employees. The Contractor shall report in writing to the Architect any injury to any of Contractor's or its Subcontractor's employees at the site within one (1) day after the occurrence of such injury.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, ~~reasonable-reasonable, necessary and appropriate~~ safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel. The Contractor shall be solely and fully responsible for any and all damage claims and for defense of all actions against the Owner relating to such explosives, hazardous materials and/or unusual methods.

§ 10.2.5 The Contractor shall promptly remedy damage and loss ~~(other than damage or loss insured under property insurance required by the Contract Documents)~~ to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party the Contractor suffers injury or damage to person or property because of an act or omission of the other party, Owner, or of others for whose acts such party the Owner is legally responsible, written notice of the injury or damage, whether or not insured, shall be given to the other party Owner within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter. Owner to investigate the matter. This provision shall be for investigative purposes only and shall not eliminate or reduce a party's obligation to pursue Claims. The Contractor's failure to do so shall be an irrevocable waiver of any Claim arising out of such injury or damage. Injury or damage to persons or property suffered by the Owner because of an act or omission of the Contractor, or others for whose acts the Contractor is legally responsible, shall be subject to the limitation periods established by Michigan law.

§ 10.2.8.1 The Contractor causing damage to the Work of another shall be responsible for the repair and replacement of such damaged Work. Back charges shall be made against the Contract Sum of the damaging Contractor when corrections are not made promptly.

§ 10.2.8.2 If the Contractor or any Subcontractor chooses to use any systems, equipment, facilities, or services which have been incorporated in the Project as a permanent part thereof by any other, the Contractor shall assume full responsibility for damages caused to said systems, equipment, facilities or services, and have damages repaired as required, so that in no case will the performance of the used systems, equipment, facilities or services be diminished from the specified criteria as a result of such use.

§ 10.2.9 The Contractor acknowledges that the safety of the Owner's students, employees and guests is of the utmost importance. The Contractor will take no action which would jeopardize the safety of the Owner's students, employees and guests and, without the Owner's written approval, shall take no action which would interfere with the Owner's activities. Without limiting the foregoing sentence, the Contractor shall comply with all laws applicable to student and/or school safety.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The To the extent specified in the Contract Documents, the Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the

Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect in writing of the condition.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. ~~The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection.~~ When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of costs, as they relate to payment of staff and extended general conditions, to address shutdown, delay, and start-up.

§ 10.3.3 To the ~~fullest~~ extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site ~~unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances-site.~~ To the extent the Contract Documents require the removal, transport and disposal of hazardous materials, the Contractor agrees that it assumes responsibility for said tasks as part of the Contract.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence or attributable fault of any kind on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's reasonable discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7. Nothing in this paragraph will be construed as relieving Contractor from the cost and responsibilities for emergencies covered hereby.

§ 10.5 Notification of Utility Companies

§ 10.5.1 At least five (5) working days prior to the start of work in areas which may involve existing utility lines, the Contractor shall notify the MISS DIG notification system, as legally required and, if applicable, any Registered Utility Protection Service of the utility company possibly affected by the planned work by certified mail with return receipt requested.

§ 10.5.2 The utility company should, upon receipt of notice, stake, mark or otherwise designate the location (and depth) of their lines, or temporarily move the line(s). The Contractor shall wait for the applicable utility to stake and/or mark its utility lines before commencing the relevant Work

§ 10.5.3 The Contractor shall immediately report to the respective utility company any break or leak in its lines, or any dent, gouge, groove or other damage to the utility line or to its coating or cathodic protection made or discovered in the course of the Work.

§ 10.5.4 The Contractor shall immediately alert the Owner, Architect and occupants of nearby premises of any and all emergencies caused or discovered in the utility line(s) in the course of the Work.

§ 10.6 Security

§ 10.6.1 All construction participants, including the Contractor, Architect, Subcontractors, etc., shall cooperate with the Owner's security personnel and shall comply with all of the Owner's security requirements. Such requirements shall include, without limitation, if requested by the Owner, delivering to the Owner's security personnel, prior to the commencement of the Work on each day, a list of all personnel who will be permitted access to the Work. The foregoing, however, shall not relieve the Contractor of any obligation to provide a safe and secure workplace for all parties entering the Project Site. The Contractor shall be responsible to implement commercially reasonable data security protection measures to protect the Owner's networks and data when performing technology-related Work.

§ 10.7 Fire Protection

§ 10.7.1 The Contractor shall maintain free access to the building areas for firefighting equipment and shall at no time block off main roadways or fire aisles without providing adequate auxiliary roadways and means of entrance for firefighting equipment, including heavy fire department trucks, where applicable.

§ 10.7.2 The Contractor shall at all times cooperate with the Owner and kept the municipal fire department informed of the means of entrance and changes to the roadways or fire aisles as needed to provide fire department access to or around the Project Site.

§ 10.7.3 The Contractor shall, during the entire construction period and until the completion of the Work, provide and maintain all material, equipment, and services necessary for an adequate fire protection system, which shall meet the approval of the Owner and/or the Architect. The system shall, at a minimum, meet the requirements set forth in the Contract Documents and of applicable laws. These requirements shall be augmented and/or the installations relocated, as may be necessary to meet, at all time, the demands of adequate protection in all areas and shall not be reduced prior to the completion of the Work with the written approval of the Owner and/or the Architect.

§ 10.8 Environmental Statement and Responsibility of Contractors and Sub-Contractors

§ 10.8.1 It shall be the responsibility of the Contractor to pay any and all costs incurred in any way related to clean up related to any environmental hazard created by means of release, spill, leak or any other means of contamination caused by accident or negligence that is the responsibility of Contractor or its subcontractors or other agents.

§ 10.8.2 It shall be the responsibility of the Contractor to dispose of any product(s) and/or material in strict compliance with applicable federal, state, and local laws (e.g., Environmental Protection Agency, Michigan Department of Natural Resources, etc.).

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as required by law and as otherwise described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies rated A- or better by A.M. Best Company and lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. Owner hereby requires the Contractor to furnish bonds covering

faithful performance of the Contract and payment of obligations arising thereunder, each in the penal sum of 100% of the Contract Sum and in accordance with applicable law, on the date of execution of the Contract. The Owner may also require, through the Contract Documents or otherwise, that any contract valued at \$50,000 or less shall also include payment and performance bonds each in the penal sum of up to 100% of the Contract Sum. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located. The Contractor shall obtain and provide to the Owner copies of any and all bonds required by the Contract prior to Contractor beginning performance pursuant to the Contract. The Contractor's obligation to provide such bonds shall not be waived in any fashion, including any failure to secure such bonds prior to Contractor beginning performance pursuant to the Agreement.

§ 11.1.2.1 The Contractor's liability insurance shall be not less than the following:

.1	General Requirements		
a.	Worker's Compensation	-	Statutory
b.	Employer's Liability	-	\$1,000,000 Each Accident
		-	\$1,000,000 Each Employee
		-	\$1,000,000 Policy Limit
.2	Comprehensive General Liability		
a.	Bodily Injury	-	\$1,000,000 Each Occurrence
		-	\$2,000,000 Aggregate
b.	Personal Injury	-	\$1,000,000 Each Occurrence
		-	\$2,000,000 Aggregate
.3	Automobile Liability		
a.	Bodily Injury	-	\$1,000,000 Each Person
		-	\$1,000,000 Each Occurrence
b.	Property Damage	-	\$1,000,000 Each Occurrence
.4	Independent Contractors	-	\$1,000,000 Each Occurrence
.5	Products and Complete Operations	-	\$1,000,000 for one (1) year, commencing with issuance of final Certificate for Payment
.6	Contractual Liability	-	\$1,000,000 Each Occurrence
.7	Asbestos Abatement Liability	-	\$1,000,000 Per Claim
		-	\$2,000,000 Aggregate
.8	Pollution	-	\$1,000,000
.9	Umbrella Coverage	-	\$4,000,000

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage. For all insurances for which the Contractor is obligated to have its insurance company name the Owner, Architect and Architect's consultants as additional insured, the Contractor shall require such insurance company to add to the policy the following clause: "The insurance afforded to the Additional Insured is primary insurance. If the Additional Insureds have other insurance which is applicable to the loss on an excess or contingent basis, the amount of the insurance company's liability under this policy shall not be reduced by the existence of such other insurance." Insurances provided on a "claims-made" basis shall be enforceable upon commencement of services and maintained for six years following substantial completion. Insurances provided on an "occurrence" basis shall be enforceable upon commencement of services and maintained for one year following substantial completion. Should the Contractor's insurance costs increase due to adding the Architect and/or Architect's Consultants as additional insureds, and should such costs be passed on to the Owner, the Architect and Architect's Consultants, as applicable, shall reimburse the Owner for such additional costs.

§ 11.1.5 Notice of Cancellation or Expiration of Contractor's Required Insurance. Immediately after the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, but in no event less than the sooner of three (3) days after becoming aware or the coverage actually lapsing, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration, including the Contractor's plan to immediately procure replacement insurance as required by the Contract Documents to avoid any lapse in coverage. Contractor's failure to do so is a material breach of this Agreement, shall entitle the Owner to purchase replacement insurance at Contractor's sole cost, and shall subject the Contractor to any and all damages related to its failure to comply with its required insurance obligations. Further, upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right, but not the obligation, to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. This policy will exclude any tools, equipment, scaffolding, glass breakage, etc., owned or rented by the Contractor or Subcontractors and materials stored on the site, but not incorporated into the Project. The Contractor shall be responsible for protecting all product until the Date of Final Completion is established by the Architect/Engineer. The Contractor shall replace any Work if damaged before Final Completion. The Contractor may assume the risk itself or obtain insurance in amounts it deems sufficient.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may ~~delay commencement of the Work and may obtain insurance~~ obtain insurance of reasonable type and coverage amount that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto. Work and the parties shall negotiate an adjustment to the Contract Sum and Contract Time. Property Insurance provided by the Owner will cover only Work incorporated into the construction and will not cover tools, equipment, or other property owned, leased, rented, or borrowed by the Contractor, Subcontractor, Sub-Subcontractor, or others.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the ~~Contractor~~; Contractor and (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) ~~the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled, negotiated.~~ If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 ~~The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages~~

caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property. All parties referenced in this General Conditions or otherwise related to this Project acknowledge and agree that the Owner is not waiving any rights its insurer(s) may have to subrogation. To the extent any term in the Contract Documents contrary to this provision, such term is void and unenforceable.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance. **NOT USED.**

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. ~~The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.~~

~~§11.5 Adjustment and Settlement of Insured Loss~~

§ 11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner. The Owner shall use its best efforts, with consultation of the Architect, to reach a quick and fair settlement for all interested parties, with the insurance companies after a loss.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15-15 if the Contractor timely and properly files a claim under Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract ~~Time~~ Time or Contract Sum.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request with the Owner's consent to see such Work and it shall be uncovered by

the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable negotiated adjustment to the Contract Sum and Contract Time as may be appropriate. At the time the Owner's consent is sought as described herein, the Architect shall notify the Owner that additional costs may apply if the Work is in accordance with the Contract Documents. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

It is understood that the correction of work, either before or after Substantial Completion, shall occur without extension of the Contract Time, without increase in the Contract Sum, and without use of any contingency, unless the need for corrections is due to acts of the Owner, Architect, or others who are acting under the Owner's control.

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including work of other Contractors and Subcontractors, compensation of consultants, any delay or related damages, attorneys' fees incurred by the Owner, additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense. The Owner shall have the right to charge the Contractor for any such costs and expenses and to deduct such amounts from any future payments due the Contractor.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. ~~During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.~~ If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 or other provisions of the Contract Documents establishing a "correction warranty" or other similar concept shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Documents, including, without limitation, Section 3.5. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.2.6 The Contractor shall respond immediately to correct Work deficiencies and/or punch list items. Failure to correct Work deficiencies and/or punch list items in a timely fashion shall be a substantial breach, and the Owner may terminate the Contract immediately. The Owner's right of termination in this Section 12.2.6 is separate and distinct from the right of termination in Section 14.2. Whether or not the Contract is terminated, if the Contractor fails to make corrections in a timely fashion, such Work may be corrected by the Owner, in its sole discretion, at the Contractor's expense and the Contract Sum may be adjusted by back charge and/or withholding future payments due the Contractor accordingly. The Contractor shall promptly notify the Architect in writing when Work deficiencies and/or punch list items are completed. If upon review of the Work by the Architect, after such notification by the Contractor, Work deficiencies and/or punch list items shall continue to exist, the Contractor shall reimburse the Owner for any costs incurred by the Owner, plus ten percent (10%) overhead and profit, as well as the Architect's fees for reinspections of the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. The acceptance of nonconforming Work by the Owner shall be by written Change Order signed by the Owner's authorized representative. Acceptance of nonconforming Work may only occur pursuant to such written Change Order.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4. State of Michigan in all respects, except that Claims and causes of action for breach of the Contract Documents brought by the Owner shall not be deemed untimely if filed within six (6) years of Substantial Completion of the entire Project.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner-Contractor shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, Documents or applicable law, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located. For any late payments by the Owner, the interest rate shall not exceed five percent (5%) per annum (see MCL 438.31).

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days for reasons within the Owner's control and through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- 1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- 2 ~~An act of government, such as a declaration of national emergency, that requires all Work to be stopped;~~
- 3 ~~Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a~~ an undisputed Certificate for Payment within the time stated in the Contract Documents, subject to justifiable withholding of payment as described herein or in the Contract Documents; or
- 4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days for reasons within the Owner's control and through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other

persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1** ~~repeatedly~~ refuses or fails to supply enough properly skilled workers or proper ~~materials; materials to the point of negatively impacting the Project and/or the related schedule;~~
- .2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3** ~~repeatedly~~ disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; ~~or~~
- .4** otherwise is guilty of substantial breach of a provision of the Contract ~~Documents; Documents; or~~
- .5** the Contractor fails to prosecute the Work or any part thereof with promptness and diligence or goes into bankruptcy, liquidation, makes an assignment for the benefit of creditors, enters into a composition with its creditors, or becomes insolvent.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, ~~seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety; three (3) business days' notice, terminate the Contractor's right to proceed with the Work, or such part of the Work as to which such defaults have occurred, and may take any one or more of the following actions:~~

- .1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2** Accept assignment of subcontracts pursuant to Section 5.4; and
- .3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

In the event the Contractor's surety bond requires notice of intent to declare a default of the Contractor and if such bond notice is provided by the Owner, such notice shall be adequate to satisfy the three (3) day written notice described above in this Section.

The three (3) day notice period identified in this Section does not give rise to an opportunity for the Contractor to cure the cause for termination. Further, the Owner's failure to properly follow the termination procedure shall not be a substantial or material breach of the Contract or the Owner's obligations.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner in pursuing termination and completion of the Work, including actual attorney and legal fees and costs, and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly ~~executed~~; ~~executed and~~ costs incurred by reason of the ~~termination, including costs attributable to~~ termination of Subcontracts; and the termination fee, if any, set forth in the ~~Agreement~~ termination.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the ~~Contract~~ Contract, including, but not limited to, additional sums, additional time for performance, or damages for delay. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents. The Contractor shall not knowingly (as "knowingly" is defined in the Federal False Claims Act, 31 USC 3729, et seq.) present or cause to be presented a false or fraudulent Claim. As a condition precedent to making a Claim by the Contractor, the Claim shall be accompanied by an affidavit sworn to before a notary public or other person authorized to administer oaths in the State of Michigan and executed by an authorized representative of the Contractor, which states that, "The Claim which is submitted herewith complies with subparagraph 15.1.1 of the General Conditions, as amended, which provides that the Contractor shall not knowingly present or cause to be presented a false or fraudulent claim." Claims of the Owner shall be governed by the relevant Michigan statutory limitations period, excepting Warranty claims which shall be controlled by the warranty documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims as set forth herein and subject to law and shall pursue all causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2. The Owner shall commence all claims and causes of action in accordance with Section 13.1 and Section 15.1.2.1, regardless of any other time frames identified in the Contract Documents. The Contractor shall commence all Claims and causes of action in accordance with Section 15.1.2 and Section 15.1.3, other provisions of the Contract, and in accordance with Michigan law.

§ 15.1.2.1 Regardless of any provisions to the contrary, the limitations period with respect to any Claim or cause of action by the Owner with respect to defective or nonconforming Work shall not commence until the discovery of such defective or nonconforming Work by the Owner. See also Section 13.1.

§ 15.1.2.2 Surety Notice and Prior Approval

Except where otherwise expressly required by the terms of the Agreement or the General Conditions, exercise by the Owner of any contractual or legal right or remedy without prior notice to or approval by the Contractor's surety shall in no way prohibit the Owner's ability to pursue such right or remedy. Further, pursuit of such a right or remedy

without prior notice to or approval of surety shall in no way compromise, limit or bar any claim by the Owner against a surety bond of the Contractor.

§ 15.1.3 Notice of Claims

~~§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party Owner and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 the Contractor shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant Contractor first recognizes the condition giving rise to the Claim, whichever is later. The Contractor's failure to timely and properly initiate a Claim shall be an absolute and irrevocable waiver of such Claim and any cause of action. Claims and causes of action by the Owner shall be governed by the applicable statute of limitations period. The parties acknowledge, understand, and agree that the Contractor's required prompt filing of a Claim is critical to the Project, as Contractor Claims often affect the Project schedule and/or Project budget, and that the deadline and waiver applicable to Contractor Claims is a material inducement to the Owner entering into an agreement with the Contractor.~~

~~§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required. NOT USED.~~

§ 15.1.4 Continuing Contract Performance

~~§ 15.1.4.1 Pending final resolution of a Claim, Claim or cause of action, including mediation, arbitration and/or litigation, as applicable, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make undisputed payments in accordance with the Contract Documents.~~

~~§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker. NOT USED.~~

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Failure to provide such notice shall serve as an absolute bar against a Claim or cause of action for such an increase in the Contract Sum. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4. A Project delay shall not be a basis for a Claim or cause of action for additional cost by the Contractor, except for costs related to payment of staff and extended general conditions.

§ 15.1.6 Claims for Additional Time

~~§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. the Work due to the increase in Contract Time and allowable costs (e.g., payment of staff and general conditions) sought. In the case of a continuing delay, only one Claim is necessary.~~

~~§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.~~

§ 15.1.7 Waiver of Claims for Consequential Damages

~~The As permitted by law, the Contractor and Owner waive Claims and/or causes of action against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes~~

- ~~.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and~~
- ~~.2 ,without limitation damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.~~

Init.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's ~~termination in accordance with Article 14- termination~~. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, ~~excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall~~ Claims of the Contractor shall, and Claims of the Owner may, be referred to the Initial Decision Maker for initial ~~decision-interpretation~~. The Architect will serve as the Initial Decision Maker, ~~unless otherwise indicated in the Agreement-Maker~~. Except for those Claims excluded by this Section 15.2.1, an initial ~~decision-interpretation~~ shall be required as a condition precedent to ~~mediation of any Claim. If an initial decision-mediation, arbitration and/or litigation of any Claim brought by the Contractor against the Owner. If an initial interpretation~~ has not been rendered within 30 days after ~~the a Contractor-required or Owner-requested~~ Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a ~~decision-an interpretation~~ having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to ~~resolve the Claim. interpret the Claim~~. Within ten (10) days of a written request, the Contractor shall make available to the Owner or its representative all of its books, records, or other documents in its possession or to which it has access relating to a Claim and shall require its Subcontractors, regardless of tier, and suppliers to do the same.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering ~~a decision-an interpretation~~. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker ~~will~~ will, based on its interpretation, either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial ~~decision-interpretation~~ approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial ~~decision-interpretation~~ shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any recommended change in the Contract Sum or Contract Time or both. ~~The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution. If the Claim is timely and properly asserted, the initial interpretation shall be subject to the parties' agreed-upon dispute resolution process.~~

§ 15.2.6 ~~Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.~~
NOT USED.

§ 15.2.6.1 ~~Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.~~

§ 15.2.7 In the event of a Claim against the Contractor, the ~~Owner-Owner, Architect or Initial Decision Maker~~ may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the ~~Owner-Owner, Architect or Initial Decision Maker~~ may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

~~§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.~~

§ 15.3 Mediation

§ 15.3.1 ~~Except as stated in this Agreement or otherwise agreed in writing by the parties, Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, 9.10.4 and 9.10.5, shall be subject to mediation as a condition precedent to binding dispute resolution; the parties' agreed-upon dispute resolution process.~~

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the ~~filing of binding commencement of the parties-agreed-upon~~ dispute resolution proceedings but, in such event, mediation shall proceed in advance of ~~binding dispute resolution such~~ proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. ~~If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings. All limitations periods shall be tolled during the mediation process.~~

§ 15.3.3 ~~Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.~~ **NOT USED.**

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 ~~If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.~~

§ 15.4.1.1 ~~A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.~~

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

The Contractor further agrees to include similar dispute resolution provisions in all agreements with the Subcontractors, suppliers, and independent contractors and consultants retained for the Project and to require them to include a similar dispute resolution provision in all agreements with Subcontractors, all subconsultants, suppliers or fabricators so retained, thereby providing for a consistent method of dispute resolution between the parties to those agreements. Subject to the other limitations periods identified in these General Conditions which are understood to govern over this sentence, no demand for mediation or arbitration shall be made after the date when the applicable statutes of limitation would bar legal or equitable proceedings. During the pendency of any mediation or arbitration, all applicable limitations periods shall be tolled until the conclusion of that process.

The Owner reserves the right in its discretion to require consolidation or joinder of any mediation or other legal proceeding arising out of or relating to this Agreement or any of the agreements incorporated by reference with another mediation or other legal proceeding involving (i) a person or entity not a party to this Agreement or (ii) an independent contractor or consultant engaged by the Owner in connection with the Project, in any event the Owner believes such consolidation or joinder is necessary in order to resolve a dispute or avoid duplication of time, expense or effort. In the event the Owner is involved in a dispute which is not subject to mediation or arbitration involving a person or entity not a party to this Agreement, the mediation and arbitration provisions of this article shall be deemed to be void and nonexistent in the event Owner, in its discretion, determines the Contractor should become a party to that dispute by joinder or otherwise. Any mediation or arbitration hearing shall be held in the general location where the Project is located, unless another location is mutually agreed upon.

Modified: 09/26/22; 11:22 am ~~§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).~~

~~§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.~~

~~§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.~~

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, _____, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with this certification at 11:29:55 ET on 09/26/2022 under Order No. 2114277845 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2017, General Conditions of the Contract for Construction, as published by the AIA in its software, other than changes shown in the attached final document by underscoring added text and striking over deleted text.

(Signed)

(Title)

(Dated)



Cavanaugh & Cumberland HVAC
Remodel
Lansing, MI

Schedule of Drawings

The Drawings which will be issued for the use of Bidders and upon which all Proposals and the Contracts will be based, consist of the following:

Drawing No.	Description	Date
-------------	-------------	------

Cavanaugh:

G0.1	Title Sheet	7/28/23
M1.1	Mechanical Plan – Unit 100	7/28/23
M1.2	Mechanical Plan – Unit 200	7/28/23
M6.0	Mechanical Schedules and Details	7/28/23
M8.0	Mechanical Controls	7/28/23
E7.0	Electrical Diagrams, Schedules and Details	7/28/23

Cumberland:

G0.1	Title Sheet	7/28/23
M0.5	Roof Composite Mechanical Plan	7/28/23
M1.1	Mechanical Plan – Unit 100	7/28/23
M1.2	Mechanical Plan – Unit 200	7/28/23
M1.3	Mechanical Plan – Unit 300	7/28/23
M6.0	Mechanical Schedules and Details	7/28/23
M8.0	Mechanical Controls	7/28/23
E7.0	Electrical Diagrams, Schedules and Details	7/28/23

Section 00210 - Special Provisions

1. General - All Bidders are responsible to review all work categories descriptions, and report any conflicts or ambiguities which may affect the execution of their Work Categories. All Bidders are responsible to review all Bidding Documents and become familiar with them to coordinate their work accordingly. Work Category descriptions should in no way be construed as being all-inclusive. Should a conflict exist between the Work Category description and other Bidding Documents, the Work Category description shall prevail and take precedence. Bidders are required to bid the entire Work Category and may bid more than one Work Category.
2. Electronic Documentation – In an effort to promote sustainability, information shall be conveyed electronically to the greatest extent possible.
3. Pre-approved contractors – The invitation procedure requires that each primary bidder be pre-qualified by the Construction Manager. If you are unsure if you are pre-qualified please contact Andrew Dobbs immediately at 517-482-1488. Subcontractors and vendors responding to the primary bidders do not need to be pre-qualified. To become pre-qualified, please visit the following link - (http://www.christmanco.com/documents_forms.asp) and fill out the “Trade Contractor Information Request” form.
4. Labor Requirements – There are no prevailing wage requirements for this project.
5. Construction Waste Management And Disposal – Review Spec Section 017419 Construction Waste Management And Disposal.
6. General Commissioning Requirements – Review Spec Section 019113 General Commissioning Requirements.
7. Indoor Air Quality Management Plan – During Construction. Comply with site specific IAQ Management Plan for this project.
8. Project Scheduling - A preliminary project schedule has been included within the Bidding Documents for your review and use. As input from the Trade Contractors is provided and as progress begins, this schedule will be periodically updated and re-issued. Each Trade Contractor is required to become familiar with the preliminary schedule and sequence their work accordingly. Activity durations shall be maintained regardless of actual start dates.
9. Post Bid interviews – We will be holding post bid interviews for the low qualified bidders immediately after bids are received. It is essential to the interview process that the primary and secondary Trade Contractors are included in the meeting, as well as the intended project foreman and project manager. The purpose of the interview will be to discuss the bids but will also focus on schedule, submittals, safety, site utilization and unique project requirements.
10. Shop Drawings & Submittals –The Trade Contractor shall review, approve in writing, and submit through the Construction Manager all submittals within two weeks after contract award at the latest, as to cause no delay in the work or in the work of any separate Trade Contractor. Shop drawings, product data and samples shall be properly identified as specified or as the Construction Manager may require. At the time of submission, each Trade Contractor shall inform the Construction Manager in writing of any deviation in the shop drawings, product data or samples from the requirements of the Bidding Documents.

For Re-Submittals – Each Trade Contractor shall make any corrections required by the Construction Manager or Architect and shall resubmit the shop drawings, product data or new samples until approved. Each Trade Contractor shall direct specific attention, in writing or on resubmitted shop drawings, product

data or samples, to revisions other than those requested by the Construction Manager or Architect on previous submittals. Refer to Section 01300 Submittals for definitions of Action Markings.)

Fill-in A/E stamp markings by utilized by the project's architects and engineers: "Reviewed", "Approved as noted", etc.

FINAL UNRESTRICTED RELEASE: Marking: _____ (i.e. "No Exceptions Taken" or "Reviewed")

MAKE CORRECTIONS NOTED: Marking: _____ (i.e. "Approved as Noted")

REVISE AND RESUBMIT: Marking: _____ (i.e. "Revise and Resubmit")

REJECTED: Marking: _____ (i.e. "Rejected")

11. Procure –The Christman Company has set up a Procure Website for the construction documents for the project. This website will be used for (not limited to) the following:

- a. Submittal upload and approvals
- b. RFI upload and approvals
- c. Updated drawings
- d. Updated schedule
- e. Meeting minutes
- f. Project directory
- g. Testing reports
- h. SDS

Procure is provided as a convenience to Bidders. Please note: proposals are based on all contract documents. Therefore, a complete review of all documents should be completed before submitting a bid.

12. Submittal Uploads –All submittals must be submitted to The Christman Company via the Procure and must be the original PDF document. Hard copies or re-scanned documents will not be accepted. The only exception is actual samples (paint draw downs, masonry, etc.); however, all brochures and product data related to these samples must be submitted electronically.

For any questions regarding this process, email Andrew.dobbs@christmanco.com.

13. Schedule of Values (SOV) – Per Section 01370 Schedule of Values, submit for approval through the Trade Contractor Portal. Once approved, adhere to the Application for Payment process. The SOV must be divided up by piece of equipment.
14. Application for payment – Create and Submit the Pay Application through the Trade Contractor Portal. Payment period: Signed payment applications are due the 25th of each month. Each request for payment shall be provided with a fully executed sworn statement along with its relative unconditional waivers. All subcontractors and suppliers are to be listed on the sworn statement.
15. Change Management – Refer to Sections 01150 and 01019 for definitions, but the following change management documents will be utilized on this project: Bulletins, Subcontractor Change Orders
16. Existing Services – The existing utilities and fixtures (power, plumbing, fire alarm system and fire suppression) will remain in operation during construction. Care must be taken when working around the site and in the building. The Owner will pay for all power consumed for the temporary electrical service, all natural gas consumed for temporary heat, and all water consumed for temporary potable water.

Under conditions where tie-ins to existing services/utilities are required, each Trade Contractor will be required to notify Construction Manager five (5) working days in advance. Pre-Task planning and shut-down notifications will be required to assure minimum interruptions to Owner operations, including performing required tie-ins after normal working hours. Trade Contractors are responsible to cover premium time costs to complete required tie-ins.)

17. Hoisting – Any hoisting required will be the responsibility of the individual Trade Contractors. All scheduling and lift times to be coordinated 48 hours in advance with the Construction Manager.
18. Site Boundaries –No swinging or staging of any materials shall extend beyond the project boundaries. Special care must also be taken where there are overhead electrical lines. These power lines will be marked by the utility company, but no equipment or materials should be within 10 feet of the power lines (or as MIOSHA dictates).
19. Material Deliveries and Staging – Due to the limited lay-down area available, all material deliveries must be coordinated with the Construction Manager a minimum of 24-hours in advance of said delivery. At no time, will delivery trucks be allowed to stage or park on existing roads and parking lots. Queuing for trucks will be available on-site at designated locations as coordinated with the Construction Manager. If deliveries require traffic control, the Trade Contractor is required to provide flagmen accordingly. All Trade Contractors are responsible for directing responsible trucks into project site, unloading of materials, handling, protection and storage of all received equipment. The Owner and Construction Manager will not accept deliveries.
20. Independent Testing, Inspections and Commissioning – The Owner has arranged independent testing for certain portions of the project. All Trade Contractors are to cooperate and provide access and assistance for the independent testing and inspections to be performed. These services include at a minimum: soil/material testing and commissioning/
21. Jobsite Safety Orientation – All Trade Contractors of any tier and visitors entering this jobsite will be required to check-in with the Construction Manager upon arrival at the project site. Check-in procedures will include the review and acknowledgement of the Construction Managers Project Specific Safety Orientation and Policies. All construction personnel will be required to wear The Christman Company issued safety sticker when working on or visiting this jobsite).
 - a. Safety (see contract form section for project safety program) - It is a fundamental value of the Construction Manager that safety is always a primary consideration. There is no phase of the project that has greater importance than accident prevention and the preservation of human resources. The Construction Manager's safety program is stringent and rigorous. The following represents a few important pre-construction requirements that apply to this project. Before any awarded Trade Contractor starts work on-site, the following requirements shall be satisfied:
 - i. Provide a copy of Trade Contractor's site specific safety program.
 - ii. Attend Construction Manager's project specific safety orientation program, which includes review of our safety video, review of project specific written safety program, review of Project Specific Infection Control Policy, sign-in and badging requirements.
 - iii. No tobacco products, including but not limited to cigarettes, cigars, chewing tobacco, etc. are permitted on Lansing School District premises.
 - iv. Provide a copy of Material Safety Data Sheets (MSDS) for all proposed materials.

- v. Hardhats and safety glasses are to be worn at all times. Additional personal protection equipment will be worn appropriately based on the work performed.
 - vi. Designate a Safety Representative(s) who will be working on-site – Provide telephone numbers and emergency telephone numbers.
 - vii. Hoisting over occupied areas will not be permitted unless areas are vacated or a controlled access program initiated.
 - viii. Hot work permits shall be obtained as required, including fire watch requirements.
 - ix. Shut down notifications shall be obtained as required with a minimum of five (5) working days advance notice.
 - x. An understanding of our safety program and specifically our policy that in the event of an injury or near miss, all parties involved will be required to take a drug screening test immediately. Failure to perform the required test will result in removal from the site.
 - xi. Fall protection shall be worn and used, 100% of the time, by all persons when there is exposure to a fall greater than six (6) feet unless other provisions such as guardrails, safety nets, or fall restraints have been provided. This includes, but is not limited to, steel erection (including connecting, bolting-up, decking, welding or any other steel erection activity), pre-cast erection, roofing activities and masonry work including overhand laying operations.
 - xii. Hot Work Permits - Hot work permits will be required during all cutting, grinding, welding and torch cutting activities, including fire watch requirements. These permits are to be filled out in the jobsite trailer with a copy of it to be placed at the place of hot work.
22. As-Builts – As-Builts must be accurately updated throughout the project. At the end of the project, the trade contractor must update the As-Builts and forward the following to The Christman Company: CAD drawing file, PDF file and two full size hard copies.
23. Warranties – The contractor shall guarantee all materials and work for a period of two years from Substantial Completion. Before final payment, Contractor must provide a letter of guarantee confirming the effective date and duration of the guarantee.
24. Waste Management/Indoor Air Quality Plan – The Construction Manager’s Waste Management Plan and Indoor Air Quality plan will be strictly adhered to for this project. Please pay special attention to these specifications (01410 and 01524). The trade contractors are responsible to provide the necessary resources to follow these guidelines.
25. RFI’s – Address any Pre-Bid RFI’s or any specific RFI processes to Andrew Dobbs (Andrew.Dobbs@christmanco.com) and Austin Brown (Austin.brown@christmanco.com) by 8/31/23 at 2:00pm.
26. Work Hours - Common jobsite working hours shall be 7:00 am to 3:30 pm, Monday through Friday. Any overtime requires advance approval by Construction Manager.

End of Special Provisions Section 00210



Cavanaugh & Cumberland HVAC Remodel
Lansing, MI

General Requirements
Division I

01010 SUMMARY OF WORK

01011 RELATED DOCUMENTS

- I.1 Drawings and general provisions of the Contract including General and Supplementary Conditions and Division I Specification Sections, apply to work specified in this section.
- I.2 Information given in the Division I General Requirements shall supplement information given in the General and Supplementary Conditions. The most stringent provision in the General Conditions, General Requirements, Contract Drawings and Specifications shall govern the execution of any work or requirement.

01012 CONSTRUCTION MANAGER

- I.1 The Christman Company is the Construction Manager. Wherever the term General Contractor or Contractor (in the context of the General Contractor) is used, it shall be given the same meaning as Construction Manager.
- I.2 The Trade Contractor and his sub-Trade Contractors shall agree to and accept the same responsibility and follow the same terms of the Conditions of the Contract as the Construction Manager for the work for which he is under contract.

01013 PROJECT

- I.1 The Work as defined in the General Conditions and described in the Contract Document.

01014 RELATED WORK NOT-IN-CONTRACT (NIC)

- I.1 Reference Section 00210 for any work that will be performed by the Owner or accomplished under separate contract.

01015 REPLACEMENT MATERIAL (For Owner's future use)

- I.1 If any specific amounts are called for in the individual Sections, provide the specified amounts. If none are specified and a surplus is left, request instructions from the Construction Manager before discarding the surplus.

01016 LABOR, MATERIALS, TAXES & WORKMANSHIP

I. LABOR AND MATERIALS

- I.1 Unless otherwise specified in these Contract Documents, all materials and workmanship shall be new and of the best grade of their respective kind for the purpose.
- I.2 Unless otherwise specifically provided in the Contract Documents, the Trade Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services necessary for the proper execution and completion of the Work.
- I.3 The Trade Contractor shall at all times enforce strict discipline and good order among his

employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him.

2. TAXES

- 2.1 Unless tax exempt status is specifically noted, it is understood that the bid prices stated shall include all applicable Federal, State or other Governmental division taxes and assessments. Also, all contributions for unemployment compensation, health and welfare, old age benefits or other purposes now or hereafter effective during the term of the contract, and the Owner and Construction Manager shall not be liable for any additional charges therefore.

01017 CRITICAL PHASING & STAGES OF CONSTRUCTION

I. INTRODUCTION

- I.1 Critical phasing and critical stages of construction have been established herein for the project. It is extremely important that the "Critical Phasing & Stages of Construction" requirements be understood and complied with.
- I.2 The Construction Manager shall coordinate detailed critical phasing and sequencing and scheduling with the Owner's representative.
- I.3 The Construction Manager shall provide overall scheduling and coordination for the entire project. All Trade Contractors shall acknowledge the Construction Manager's right to establish and set up, or subsequently modify, the sequencing and scheduling of all Work on this project for the earliest completion and/or benefit to the Owner.
- I.4 All Trade Contractors shall expedite the ordering and delivering of materials and equipment, etc. to meet these critical phasing and staging requirements and to make every effort possible to minimize disruption of normal building usage.

2. BID SCHEDULES

- 2.1 The preliminary construction schedule narrative included in the Contract Documents represents the general order and time frames for work to be followed by the Construction Manager in coordinating the project. Trade Contractors are to assume that their work will be coordinated in a manner consistent with industry practice, and the efficient coordination of all other trades. Trade Contractors recognize and accept their work may be sequenced and paced by other trades.
- 2.2 Please note that although the schedule defines the planned order of construction, Bidders should not assume that any assurance is given or implied as to the calendar dates associated with completion of the work of a particular contract.
- 2.3 All Trade Contractors and Trade Subcontractors recognize and shall accept modifications to the schedule which are reasonable, in the opinion of the Construction Manager, for the general interest of the project as a result of allowable time extensions (formally or informally approved) in any contract, and such modifications are inherent to the construction process and shall not qualify as a basis for extra compensation from the Construction Manager or Owner.
- 2.4 The Trade Contractor, in submitting a proposal for the work of a particular work category, agrees to commit the necessary resources to complete the work activities of that work category, within a time span not greater than the planned duration. Work included within a work category, but not specifically defined by a particular work activity, is to be accomplished in a reasonable manner in conjunction with other work of the work category, and in such a way as to avoid complication of or to delay the work of other Trade Contractors.

3. PROJECT SEQUENCING**3.1 GENERAL SEQUENCING**

- 3.1.1 The overall project sequencing is indicated within the Preliminary Construction Schedule. Refer to Section 00200 and Section 01310.

3.2 RESTRICTIVE SEQUENCING & SCHEDULING

- 3.2.1 More restrictive sequencing to coordinate the Owner's on-going operations and/or for the coordination of the various trades shall be identified in Section 00210 SPECIAL PROVISIONS or as otherwise directed by the Construction Manager; All Trade Contractors agree to cooperate and alter their operations to maintain these more specified restrictions and sequences of the work.

3.3 SPECIFIC PROJECT REQUIREMENTS

- 3.3.1. Refer to the work category description and Section 00210 for specific information on scheduling requirements.

4. MUTUAL COOPERATION

- 4.1. Mutual cooperation between the Owner, the Architect, the Construction Manager, and the Trade Contractors to coordinate these construction and building operation requirements is anticipated and expected.

01018 USE OF SITE

- 1.1 Trade Contractor shall limit his use of the premises for his work and for storage to allow for (i) work by other Trade Contractors; (ii) Owner occupancy; and (iii) public use.
- 1.2 Limitations on site usage as well as specified requirements that impact site utilization are indicated on the drawings and by other contract documents. In addition to these limitations and requirements, the Construction Manager will administer allocation of available space equitably among entities needing both access and space so as to produce the best overall efficiency in performance as the total work of the project. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.
- 1.3 **ACCESS TO SITE**
- Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
- 1.4 Trade Contractor shall assume full responsibility for the protection and safekeeping of products under his contract, stored on the site.
- 1.5 Move any stored products, under Trade Contractor's control, which interfere with operations of the Owner or separate Contractor.
- 1.6 Obtain and pay for the use of additional storage or work areas needed for operations.
- 1.7 Nonsmoking Property: Tobacco is not permitted within on the property.

01019 OWNER'S RIGHT TO OCCUPY

- 1.1 The Owner, at his election, may from time to time occupy any parts of the project as the work in connection therewith is completed to such a degree as will, in the opinion of the Owner, permit

of their use for the purposes for which they are intended. The Owner will, prior to any such partial occupancy, give notice to the Construction Manager thereof and such occupancy shall be based upon the following:

- a. Such occupancy shall not constitute an acceptance of work not performed in accordance with the Contract Documents or relieve Trade Contractors of liability to perform any work required by their Contract but not completed at the time of occupancy.
- b. Trade Contractors shall be relieved of all maintenance costs on the units or parts occupied under this agreement.
- c. Owner shall assume the risk of loss with respect to any unit or part occupied under the terms of this agreement.
- d. The Trade Contractor shall not be required to furnish heat, light and water or other such services used in the units or parts occupied, without proper re-numeration therefore.

END OF SECTION

01019 CONTRACT CONSIDERATIONS

SECTION INCLUDES:

- I.1 Inspection and Testing Allowance
- I.2 Schedule of Values
- I.3 Application for Payment
- I.4 Change Procedures

I.1 INSPECTION & TESTING ALLOWANCES

If inspection and testing allowances have been assigned to the Trade Contractors, the following shall apply:

I.1.1 Costs included in allowances

- a. Cost of engaging an inspection or testing firm, execution of inspection or tests, reporting results.

I.1.2 Costs not included in the allowance:

- a. Incidental labor and facilities required to assist inspection or testing firm.
- b. Costs of testing laboratory services required by Contractor separate from Contract Document requirements.
- c. Costs of retesting upon failure of previous tests as determined by Architect-Engineer.

I.1.3 Payment Procedures:

- a. Submit one copy of the inspection or testing firm's invoice with next application for payment.
- b. Pay invoice on approval by Architect-Engineer.

I.1.4 Funds will be drawn from inspection and testing allowances only by Change Order.

I.2 SCHEDULE OF VALUES

- I.2.1 Submit schedule through Contractor's Trade Contractor Portal. Application for Payments cannot be processed until Schedule of Values is approved. Without prior approval of the Construction Manager, **no single line item can exceed \$150,000. Unless indicated otherwise, allowances and change orders must be listed as separate line items.**

The schedule of values must be itemized as follows:

- I.2.2 Format: Unless instructed otherwise, utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section. Identify bonds, insurance, and permits separately.
- I.2.3 Allowances should be added as individual line items for each section in the Schedule of Values.
- I.2.4 Include within each line item, a directly proportional amount of Contractor's overhead and profit.
- I.2.5 Approved Change Orders will automatically be added as a line item in the Schedule of

Values through the Trade Contractor Portal.

I.3 APPLICATIONS FOR PAYMENT

- I.3.1 Pay Applications are to be created and submitted through the Trade Contractor Portal which conforms to the AIA G702 Form. The Trade Contractor Portal is the exclusive method of submitting a payment application.
- I.3.2 Payment Period: First of month to first of month unless agreed to otherwise.
- I.3.3 Waiver of liens and Sworn Statements shall accompany all Payment Requests unless agreed to otherwise. Also to be produced and submitted through the Trade Contractor Portal.

I.4 CHANGE PROCEDURES

- I.4.1 The Architect-Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time as authorized by AIA A201, 1987 Edition, Paragraph 7.4.
- I.4.2 The Architect-Engineer may issue a change management document which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within five (5) calendar days.
- I.4.3 The Contractor may propose a change by submitting request for change to the Architect-Engineer, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Sections 01600 and 01600A.
- I.4.4 Stipulated Sum/Price Change Order: Based on change management document and Contractor's fixed price quotation; or, Contractor's request for a Change Order as approved by Architect-Engineer.
- I.4.5 Unit Price Change Order: For pre-determined unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work, which are not pre-determined, execute Work under a change management document. Changes in Contract sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- I.4.6 Change Management Document: Architect-Engineer may issue a change authorization signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute the change.
- I.4.7 Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. Architect-Engineer will determine the change allowable in Contract Sum/Price and Contract Time as provided in the Contract Documents.
 - a. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate

costs for changes in the Work.

- b. Execution of Change Orders: Architect-Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- c. Overhead and Profit: Overhead and Profit shall include the following:
- d. Supervision, Superintendents, Commercial General Liability and Umbrella Insurances, Wage of Time Keepers, Watchmen and Clerks, Small tools with material value of less than \$1,500.00, Incidentals, General Office Expense, and all other expenses not included in Labor Rates. The percentage fee for Overhead and Profit on the Contractor's own work shall be 15% of net cost. The percentage fee for Overhead and Profit on Subcontractor's work shall be 5%.

END OF SECTION

01040 COORDINATION**01041 GENERAL**

- I.1 The Construction Manager is ultimately responsible for coordination to complete all work shown on the drawings and specified herein independent of the location of the work on drawings and within the specifications. The arrangement of work within the specifications into Divisions and Sections shall be considered as given for convenience of reference only and shall not be held to conform to jurisdictional rules which may prevail in any particular trade. It shall be the responsibility of the Construction Manager to so arrange or group items of work under a particular trade to conform with the prevailing customs of that trade and best interest of the Owner.

01042 GENERAL INSTALLATION PROVISIONS

- I.1 PRE-INSTALLATION CONFERENCES: The Construction Manager shall hold pre-installation meeting at the project site well before installation of each unit of work, which requires coordination with other work. Installer and representatives of the manufacturers and fabricators who are involved in or affected by that unit of work, and with its coordination or interpretation with other work that has preceded or will follow shall attend this meeting. The Construction Manager will advise the Architect/Engineer of scheduled meeting dates.
- a. The Construction Manager shall record significant discussions of each conference, and record agreements and disagreements, along with the final plan of action. The Construction Manager shall then distribute the record of meeting promptly to everyone concerned, including the Owner and Architect/Engineer.
 - b. Do not proceed with the work if the pre-installation conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the work and reconvene pre-installation conference at the earliest possible date.
- I.2 Installer's Inspection of Conditions: Require the installer of each major unit of work to inspect the substrate to receive work and conditions under which the work is to be performed. The installer shall report all unsatisfactory conditions in writing to the Construction Manager. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
- I.3 Coordinate enclosure of the work with required inspections and tests so as to minimize the necessity of uncovering work for that purpose.
- I.4 Mounting Heights: Where mounting heights are not indicated. Refer to the Construction Manager for decision. Products installed at a location not indicated or approved by the Architect or Construction Manager shall be relocated at the Trade Contractor's expense.

01043 COORDINATION OF PERMANENT UTILITY CONNECTIONS

- I.1 New utility connections shall be coordinated with local utilities and the Project Superintendent.

01044 MECHANICAL & ELECTRICAL COORDINATION

- I.1 All Trade Contractors shall make arrangements with the Construction Manager before connecting to existing facilities. If interruption of service is required, it shall be done at the convenience of the Owner as scheduled by the Construction Manager / General Contractor.

END OF SECTION

01049 MECHANICAL & ELECTRICAL COORDINATION**SECTION INCLUDES:**

- I.1 Mechanical and Electrical Coordinator
- I.2 Submittals
- I.3 Coordination Required
- I.4 Coordination Documents
- I.5 Coordination of Submittals
- I.6 Coordination of Substitutions and Modifications
- I.7 Observation of Work
- I.8 Documentation
- I.9 Equipment Start-Up
- I.10 Inspection and Acceptance of Equipment

I.1 MECHANICAL & ELECTRICAL WORK COORDINATOR

- I.2.1 Employ and pay for services of a person, technically qualified and experienced in field coordination for the type of mechanical and electrical work required for this Project, for the duration of the work.
- I.2.2 Qualified person may be already part of staff, verify in writing, person's qualifications.

I.3 SUBMITTALS

- I.3.1 Submit name, address and telephone number of coordinator and name of principle officer to Architect-Engineer for review of his/her qualifications.
- I.3.2 Submit coordination drawings and schedule prior to submitting Shop Drawings, Product Data and Samples.

I.4 COORDINATION REQUIRED

- I.4.1 Coordinate work of all applicable divisions.
- I.4.2 Coordinate progress schedules, including dates for submittals and for delivery of products.
- I.4.3 Conduct conferences among subcontractors and others concerned with the Work to establish and maintain coordination and schedules, and to resolve coordination materials in dispute.
- I.4.4 Participate in progress meetings. Report on progress of Work to be adjusted under coordination requirements, and any required changes in schedules. Transmit minutes of meetings and reports to concerned parties.

I.5 COORDINATION DOCUMENTS

- I.5.1 Prepare coordination drawings to organize installation of Products for efficient use of available space, for proper sequence of installation, and to identify potential conflicts.
- I.5.2 Prepare a master schedule to identify responsibilities under each section of Divisions I through 16 of the Specifications for activities which directly relate to this work, including submittals and temporary utilities. Identify electrical power characteristics and control wiring required for each item of equipment.

- I.5.3 Maintain documents for the duration of the Work, recording changes due to site instructions, modifications or adjustments.
 - I.5.4 After Architect-Engineer review or original and revised documents, reproduce and distribute copies to concerned parties.
- I.6 COORDINATION OF SUBMITTALS
 - I.6.1 Review Shop Drawings, Product Data and Samples for compliance with Contract Documents and for coordination among work of all sections of the Project Manual. Transmit to Contractor for review, and then transmit to Architect-Engineer.
 - I.6.2 Check field dimensions and clearances and relationship to available space and anchors.
 - I.6.3 Check compatibility with equipment and Work of other sections, electrical characteristics, and operational control requirements.
 - I.6.4 Check motor voltages and control characteristics.
 - I.6.5 Coordinate controls, interlocks, wiring of pneumatic switches and relays.
 - I.6.6 Coordinate wiring and control diagrams.
 - I.6.7 Review the effect of any changes on work of other sections.
 - I.6.8 Verify and coordinate maintenance of record documents.
- I.7 COORDINATION OF SUBSTITUTIONS & MODIFICATIONS
 - I.7.1 Review proposals and requests from subcontractors.
 - I.7.2 Verify compliance with Contract Documents and for compatibility with Work and Products of other sections.
 - I.7.3 Submit to Contractor with recommendation for action.
 - I.7.4 Coordinate with Sections 01600 and 1600a.
- I.8 OBSERVATION OF WORK
 - I.8.1 Observe Work for compliance with Contract Documents.
 - I.8.2 Maintain a list of observed deficiencies and defects; promptly submit to contractor.
- I.9 DOCUMENTATION
 - I.9.1 Observe and maintain a record of tests. Record:
 - a. Specification section number, product and name of subcontractor.
 - b. Name of testing agency and name of inspector.
 - c. Name of manufacturer's representative present.
 - d. Date, time and duration of tests.
 - e. Retesting required.
 - f. Type of test and results.
 - I.9.2 Assemble background documentation for dispute and claim settlement by Architect-Engineer.
 - I.9.3 Submit copies of documentation to Architect/Engineer upon request.

I.10 EQUIPMENT START-UP

- I.10.1 Verify utilities, connections and controls are complete and equipment is in operable condition as required by Sections 01039, 01650, and 01700.
- I.10.2 Observe start-up and adjustments; record time and date of start-up and results.
- I.10.3 Observe equipment demonstrations to Owner; record times and additional information required for Operation and Maintenance Manuals.
- I.10.4 Submit an approved Balance Report of HVAC System.

I.11 INSPECTION & ACCEPTANCE OF EQUIPMENT

- I.11.1 Prior to inspection, verify that equipment is tested and operational and clean.
- I.11.2 Assist Architect-Engineer with inspection. Prepare list of items to be completed and corrected.

2.1 PRODUCTS

3.1 EXECUTION

END OF SECTION

01050 FIELD ENGINEERING

01051 LAYOUT

- I.1 Under the supervision and with the assistance of the Construction Manager, each Trade Contractor will be responsible for the layout of his particular portion of the work. Checking of layout and any assistance provided by the Construction Manager shall in no way be construed to relieve the Trade Contractors of their responsibilities for layout dimensions, tolerances, and accuracy of their work as set forth in the Contract Documents.
- I.2 Each Trade Contractor shall carefully protect monuments, stakes, and benchmarks. If destroyed or disturbed by the Trade Contractor or his employees, the cost of replacing them shall be charged against the Trade Contractor and shall be deducted from the Trade Contractor's contract amount.
- I.3 Except as otherwise noted, each Trade Contractor shall obtain his own field measurements and establish lines, grades, levels, and measurements shown on the drawings, and reconcile all measurements and conditions shown on the drawings with existing conditions at site, from the site survey provided and building corner indications and ground floor elevation designated by the Construction Manager.
- I.4 Before custom fabricating any materials, the Trade Contractor shall verify all dimensions of any existing and new work, and shall be responsible for their accuracy. Any differences found shall be submitted to the Architect through the Construction Manager, for consideration before proceeding with the work. No extra compensation will be permitted because of differences between actual dimensions and measurements indicated on the project drawings.

END OF SECTION

01060 REGULATORY REQUIREMENTS**01061 APPLICABLE CODES**

- I.1 Reference section 00210 for the list of applicable codes.

01062 WAGES, LABOR & EQUAL EMPLOYMENT OPPORTUNITY

- I.1 The Trade Contractor shall provide for labor needs from the ranks of working labor locally. The Trade Contractor shall enforce the same conditions upon all Trade Subcontractors engaged by the Trade Contractor for the performance of any portion of the work.
- I.2 Successful bidders shall be required to subscribe to the principles of equal opportunity in its employment practices, and shall be required to enforce the same conditions upon all Trade Subcontractors engaged by the Trade Contractor for the performance of any portion of the work.

01063 FIRE HAZARD CLASSIFICATION

- I.1 Fire hazard classifications for materials as specified in the technical specification shall be those established by publication in Current Building Materials List published by Underwriters' Laboratories, Inc., or certified to by notarized affidavit from Southwest Research Institute, or other agency acceptable to the State Construction Code Commission.
- I.2 Where compliances are established by publication in Building Materials List, Trade Contractor shall so represent in writing to the Construction Manager. Where compliances are to be established by affidavit, Trade Contractor shall submit properly notarized affidavit that the material has been tested in accordance with requirements of ASTM E84, ASTM E119, or other specified standard, and found to qualify for the specified classifications. Affidavit shall state the name of the testing agency. The affidavit for testing is to be certified by the manufacturer for material and by the installer for installation.
- I.3 Six copies of affidavits and other representations of compliance shall be submitted to the Construction Manager at time of shop drawing or sample submittal, whichever comes first.
- I.4 In addition, the Construction Manager and Trade Contractor shall have the said materials inspected upon receipt, also before installation, and shall submit upon request prior to final acceptance of project, six copies of properly notarized affidavits by the Construction Manager and Trade Contractor as to the inspection (naming the inspector and other witnesses), certifying that the materials covered by previously submitted affidavits or other representations of compliance with the requirements for specified classifications were received at the jobsite properly labeled or otherwise certified to, and said materials were installed, and in a manner to in no way harm said compliances.

2. FIRE MARSHAL AFFIDAVITS

- 2.1 The Conditions of the Contract and Division I - General Requirements, are a part of this Section.

- 2.2 The requirements specified hereinafter refer to compliance with Codes and Regulations of governing authorities referred to in Article 4 of the General Conditions.
- 2.3 Submit in triplicate, notarized affidavits for the products required as specified in the various technical sections of the specifications. Affidavits shall be submitted to the appropriate field office responsible for the project. Affidavit shall be signed and notarized, and in the following format:

AFFIDAVIT

This is to certify that, (Name of Product) which was or will be furnished to (Company making Application of Product) for (Job or Project Name and Address) is the same in all respects in content, and specifications for mixing and/or application as the specimen tested by (Name of Laboratory) on their project or test number (Test Number) dated (Date of Test).

Flame Spread	_____
Fuel Contributed	_____
Smoke Developed	_____

END OF SECTION

01070 ABBREVIATIONS & SYMBOLS

01071 LIST OF ABBREVIATIONS

ACI	American Concrete Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
ASTM	American Society for Testing Materials
BIM	Building Information Modeling
BOCA	Building Officials and Code Administrators
ICBO	International Conference of Building Officials
LEED	Leadership in Environmental and Energy Design (if applicable)
DOT	Department of Transportation
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
SMACNA	Sheet Metal & A/C Contractors National Association
UBC	Uniform Building Code
OSHA	Occupational Safety and Health Administration

END OF SECTION

01095 REFERENCE STANDARDS AND DEFINITIONS

I.1 RELATED DOCUMENTS

- a. General provisions of the Contract, including General and Supplementary Conditions, other Division I Specification Sections and Drawings, apply to this Section.

I.2 DEFINITIONS

- a. Basic Contract definitions are included in the General Conditions and Special Conditions.
- b. Indicated: The term "indicated" refers to graphic representations, notes, or schedules on the drawings, other paragraphs or schedules in the specifications, and similar requirements in the Contract Documents. Where terms such as "shown", "noted", "scheduled" and "specified" are used, it is to help the reader locate the reference; no limitation on location is intended.
- c. Regulation: The term "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the work.
- d. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."
- e. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."
- f. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
- g. Installer: An "Installer" is the Contractor or an entity engaged by the Contractor, either as an employee, sub-contractor, or sub-sub-contractor, for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
- h. Unless otherwise indicated, the term "experienced" when used with the term "Installer" means having a minimum of 5 previous projects similar in size and scope to this project, being familiar with the precautions required, and having complied with requirements of the authority having jurisdiction.
- i. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter". It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
- j. Assignment of Specialists: Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with

the Contractor.

This requirement shall not be interpreted to conflict with enforcement of building codes and similar regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

- k. Project Site: The space available to the Trade Contractors for performance of construction activities, either exclusively or in conjunction with others performing other work as part of the Project. The extent of the Project Site is shown on the drawings and may or may not be identical with the description of the land upon which the Project is to be built.
- l. Testing Laboratories: A "testing Laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

I.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- a. Specification Format: The Specifications are organized into Divisions and Sections based on either the Construction Specifications Institute's 16-Division format or the MASTERFORMAT sections 020000-480000.
- b. Specification Content: This Specification uses certain conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 - 1) Abbreviated Language: Language used in Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and the full context of the Contract Documents so indicates.
 - 2) Imperative and streamlined language is used generally in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
 - 3) The words "shall be" shall be included by inference wherever a colon (:) is used within a sentence or phrase.
- c. Summary References: The Summary Article of each Specification Section includes references to Work Included, Related Work Specified Elsewhere, Products Furnished but not Installed by this Section, and similar phrases. These listings are provided as a guide to the Contractor to assist the Contractor in locating related information within the Specification. No guarantee regarding the absolute completeness of these references is intended or may be inferred nor shall the presence, or lack thereof, of any reference relieve the Contractor of the final responsibility for proper completion of the work.

I.4 INDUSTRY STANDARDS

- a. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference.
- b. Publication Dates: Where the date of issue of a referenced standard is not specified, comply with the latest referenced standard in effect at the time of Bid Opening.
- c. Conflicting Requirements: Where compliance with two or more standards is specified, and the standards establish different or conflicting requirements for minimum quantities or quality levels, refer requirements that are different, but apparently equal, and uncertainties to the Architect for a decision before proceeding.
- d. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1) Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source and maintain these standards, for reference by the Contractor, and Architect, in a convenient location within the temporary office.
- e. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviations are used in the Project Manual, they mean the recognized name of the Trade organization, standards generating organization, authority having jurisdiction, or other entity applicable. Refer to the "Encyclopedia of Associations", published by Gale Research Company, available in most libraries.

I.5 SUBMITTALS

- a. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence, and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

PART 2 PRODUCTS

Not applicable.

PART 3 EXECUTION

Not applicable.

END OF SECTION

01150 MEASUREMENT AND PAYMENTS

I.1 DESCRIPTION

This Section describes the means and methods required for payment for work performed as an extra to the Contract.

I.2 CHANGES IN THE WORK

- I.2.1 The Owner and Architect reserve the right to make changes in the work without notice to sureties or in any way rendering the Contract void.
- I.2.2 Changes in the work will be described in Supplemental Instruction (SI), Construction Change Directive (CCD), Bulletins, Proposal Request, or Field Orders issued by the Architect or Construction Manager in accordance with the General Conditions and the Supplementary Conditions, and with procedures described in this Section.
- I.2.3 Unless specified otherwise, Bulletins and Proposal Requests are not authorization to proceed with the changes described, and Supplemental Instructions, Construction Change Directives or Field Orders countersigned by the Owner are authorization to proceed. The Trade Contractor will be authorized to proceed with extra work by an approved quotation or signed Field Order.
- I.2.4 No claims for additional compensation will be considered for changes in the work unless authorization to proceed has been given by a signed Construction Change Directive, Field Order or a Change Order issued by the Construction Manager.
- I.2.5 Promptly submit to the Construction Manager, a written detailed quotation of the additional cost, credit or statement noting no change upon the receipt of each Construction Change Directive, Bulletin or Field Order.
- I.2.6 Each quotation is subject to approval of the Construction Manager, Architect and the Owner, after which a Change Order will be issued to modify each Trade Contract.
- I.2.7 Regard each Construction Change Directive, Bulletin or Field Order as a complete unit and enumerate in detail as to labor, materials and related item in the quotation. Provide additional information as requested by the Construction Manager, Architect and/or Owner.
- I.2.8 Proceed promptly in accordance with, and upon receipt of a Change Order. The Contract Sum will be adjusted in accordance with pricing methods described in the General Conditions or as modified by the Supplementary Conditions and as specified in the contract.

END OF SECTION

01200 PROJECT MEETINGS

01215 PRE-CONSTRUCTION SITE INSPECTION

- I.1 Each Trade Contractor shall be held to have visited the site of the proposed work before submitting his proposal and to have familiarized himself with all existing conditions affecting the execution of his work in this project. No allowance or extra consideration on behalf of the Trade Contractor will subsequently be made by reason of failure to observe the site conditions, nor on behalf of any subcontractor for the same reason.

01225 PROGRESS MEETINGS

- I.1 At regular intervals, the Construction Manager shall hold meetings at the jobsite with the representatives of the various Trade Contractors engaged on the project, to coordinate the progress of the work. The Construction Manager shall notify all parties required to attend, the time and place of these meetings.
- I.2 The Construction Manager shall conduct and keep a written record of all such meetings, and distribute copies of them to the Architect, Owner, and all Trade Contractors interested in the matters covered.
- I.3 All Trade Contractors shall furnish to the Construction Manager's Field Representative, all available information concerning the conditions and progress of their work, including manpower used on a daily basis.

END OF SECTION

013000 SUBMITTALS**I. SHOP DRAWINGS, PRODUCT DATA & SAMPLES****I.1 DESCRIPTION OF REQUIREMENTS****A. GENERAL:**

- a. This Section specifies requirements for submittals including shop drawings, product data, samples and other miscellaneous work related submittals. Shop drawings, product data samples and other work related submittals are required to amplify, expand and coordinate the information contained in the Contract Documents.
- b. Shop drawings are technical drawings and data that have been specially prepared for this project, including but not limited to the following items:
 - Fabrication and installation drawings.
 - Setting diagrams.
 - Shopwork manufacturing instructions.
 - Templates.
 - Patterns.
 - Coordination drawings (for use on site).
 - Schedules.
 - Design mix formulas.
 - Contractor's engineering calculations.
- c. Standard information prepared without specific reference to a project is not considered to be shop drawings.
- d. Product data includes standard printed information on manufactured products that has not been specially prepared for this project, including but not limited to the following items:
 - Manufacturer's product specifications & installation instructions.
 - Standard color charts.
 - Catalog cuts.
 - Roughing-in diagram and templates.
 - Standard wiring diagrams.
 - Printed performance curves.
 - Operational range diagrams.
 - Mill reports.
 - Standard product operating and maintenance manuals.
- e. Samples are physical examples of work, including but not limited to the following items:
 - Partial sections of manufactured or fabricated work.
 - Small cuts or containers of materials.
 - Complete units of repetitively used materials.
 - Swatches showing color, texture and pattern.

- Color range sets.
 - Units of work to be used for independent inspection and testing.
- a. Mock-ups are special forms of samples, which are too large or otherwise inconvenient for handling in the manner specified for transmittal or sample submittals.
- b. Miscellaneous submittals are work related, non-administrative submittals that do not fit in the three previous categories, including, but not limited to the following:
- Specially prepared and standard printed warranties.
 - Maintenance agreements.
 - Workmanship bonds.
 - Survey data and reports.
 - Project photographs.
 - Testing and certification reports.
 - Record drawings.
 - Field measurement data.
 - Operating and maintenance manuals.
 - Keys and other security protection devices.
 - Overrun stock.

I.2 SUBMITTAL PROCEDURES

- I.2.1 Coordination: Coordinate the preparation and processing of submittals with the performance of the work. Coordinate each separate submittal with other submittals and related activities such as testing, purchasing, fabrication, delivery and similar activities that require sequential activity.

Coordinate the submittal of different units of interrelated work so that one submittal will not be delayed by the Architect/Engineer's need to review a related submittal.

The Architect/Engineer reserves the right to withhold action on any submittal requiring coordination with other submittals until related submittals are forthcoming.

- I.2.2 Listing: Prepare a separate listing showing principal submittals and their initial submittal dates as required for coordination of the work. Organize the listing by the related specification number sequence. Submit the listing within 30 days of the date of commencement of the work.

- I.2.3 Coordination of Submittal Times: Prepare and transmit each submittal to the Construction Manager sufficiently in advance of the scheduled performance of related work and other applicable activities.

Transmit different kinds of submittals for the same unit of work so that processing will not be delayed by the Architect/Engineer's need to review submittals concurrently for coordination.

- I.2.4 Review Time: Allow sufficient time so that the installation will not be delayed as a result of the time required to properly process submittals, including time for resubmittal, if necessary.

- a. Allow 15 working days for the Architect/Engineer's initial processing of each submittal. Allow a longer time period where processing must be delayed for coordination with subsequent submittals. The Architect/ Engineer will advise the Construction Manager promptly when it is determined that a submittal being processed must be delayed for coordination.
 - b. Allow 10 working days for reprocessing each submittal.
 - c. No extension of time will be authorized because of the Trade Contractor's failure to transmit submittals to the Construction Manager sufficiently in advance of the work.
- I.2.5 Submittal Transmittal: Transmit each submittal from the Trade Contractor to the Construction Manager, by use of a submittal form. Submittals received from sources other than the Trade Contractor will be returned to the sender "without action".
- I.2.6 Submittal Form: The form required to be used for transmittal of submittals will be provided to the Trade Contractor by the Construction Manager.
- a. Record relevant information and requests for data on the submittal form. On the form, or on a separate sheet attached to the form, record deviations from the requirements of the Contract Documents, if any, including minor variations and limitations.

I.3 SPECIFIC SUBMITTAL REQUIREMENTS

- I.3.1 General: Specific submittal requirements for individual units of work are specified in the applicable specification section. Comply with the requirements specified herein for each type of submittal.

I.4 SHOP DRAWINGS

- I.4.1 Shop Drawings: Information required on shop drawings includes, dimensions, identification of specific products and materials which are included in the work compliance with specified standards and notations of coordination requirements with other work. Provide special notation of dimensions that have been established by field measurement. Highlight, encircle or otherwise indicate deviations from the contract documents on the shop drawings.
- I.4.2 Coordination Drawings: Provide coordination drawings where required for the integration of the work, including work first shown in detail on shop drawings or product data. Show sequencing and relationship of separate units of work, which must interface in a restricted manner to fit in the space provided, or function as indicated. Coordination drawings are considered shop drawings and must be definitive in nature.
- I.4.3 Do not distribute shop drawing copies without an appropriate final "Action" marking by the Architect/Engineer to be used in connection with the work.
- I.4.4 PREPARATION: Submit newly prepared information, drawn to accurate scale. Indicate

the name of the firm that prepared each shop drawing and provide appropriate project identification in the title block.

I.4.5 Do not reproduce contract documents as the basis of shop drawings.

I.4.6 SUBMITTAL:

- a. One of the prints returned will be marked up and maintained by the Trade Contractor as a "Record Document".

I.5 PRODUCT DATA

I.5.1 **PRODUCT DATA:** General information required specifically as product data includes manufacturer's standard printed recommendations for application and use, compliance with recognized standards of trade associations and testing agencies, and the application of their labels and seals (if any), special notation of dimensions which have been verified by way of field measurement, and special coordination requirements for interfacing the material, product or system with other work.

I.5.2 **PREPARATION:** Collect required product data into a single submittal for each unit of work or system. Mark each copy to show which choices and options are applicable to the project. Where product data has been printed to include information on several similar products, some of which are not required for use on the project, or are not included in this submittal, mark the copies to show clearly that such information is not applicable.

I.5.3 **SUBMITTALS:** Product data submittal is required for information and record and to determine that the products, materials and systems comply with the provisions of the contract documents.

I.5.4 **SUBMITTAL:** The Architect/Engineer will retain one copy, the Owner's Representative one copy and will return the others marked with "Action" and corrections as required.

- a. Do not submit product data or allow its use on the project, until compliance with the requirements of the contract documents has been confirmed by the Trade Contractor.

I.5.5 **FINAL DISTRIBUTION:** Furnish copies of product data to trade contractors, suppliers, fabricators, manufacturers, installers, governing authorities and others as required for proper performance of the work.

I.5.6 **INSTALLATION COPY:** Do not proceed with installation of materials, products and systems until a copy of product data applicable to the installation is in the possession of the installer. Do not permit the use of unmarked copies of product data in connection with the performance of the work.

I.6 SAMPLES

I.7.1 Submit samples for the Architect/Engineer's visual review of general generic kind, color, pattern, and texture, and for a final check of the coordination of these characteristics with

other related elements of the work.

Samples are also submitted for quality control comparison of these characteristics between the final sample submittal and the actual work as it is delivered and installed.

- a. Refer to individual sections of these specifications for additional sample requirements.
- b. Documentation required specifically for sample submittals includes a generic description of the sample, the sample source, the product name or manufacturer, compliance with governing regulations and recognized standards.

I.7.2 PREPARATION: Where possible provide samples that are physically identical with the proposed material to be incorporated in the work; provide full scale, fully fabricated samples, cured and finished in the manner specified. Where variations in color, pattern, or texture are inherent in the material represented by the sample, submit not less than 4 units, which show the approximate limits of variations. Where samples are specified for the Architect/Engineer's selection of color, texture or pattern, submit a full set of available choices for the material or product.

- a. Refer to individual sections of these specifications for samples, which, because of their relatively high cost or other special considerations, are intended to be returned to the Contractor for incorporation in the work. Such samples must be in an undamaged condition at the time of use. On the transmittal form to the Architect/Engineer, indicate such special requests regarding the disposition of sample submittals.

I.7.3 DISTRIBUTION OF SAMPLES: Maintain the final submittal sets of samples, last returned by the Architect/Engineer, at the project site, available for quality control comparisons throughout the course of performing the work. In addition, final submittal sets may be used to obtain final acceptance of the work associated with each set.

Prepare and distribute additional sets of samples to subcontractors, suppliers, fabricators, manufacturers, installers, governing authorities, and others as required for proper performance of the work. Show final distribution on transmittal forms.

- a. Mockups and similar samples specified in individual work sections are special types of samples. Comply with sample submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

I.7 MISCELLANEOUS SUBMITTALS

I.7.1 INSPECTION AND TEST REPORTS: Process inspection and test reports in accordance with Product Data requirements.

I.7.2 WARRANTIES: Refer to Section 01740 for specific general requirements on warranties, product bonds, workmanship bonds and maintenance agreements. In addition to copies desired for the Trade Contractor's use, furnish at least 2 executed copies of such warranties, bonds or agreements. Provide at least 2 additional copies where required for maintenance manuals.

- I.7.3 **STANDARDS:** Where submittal of a copy of standards is indicated, submit at least 2 copies of standards for the Architect/Engineer's use. Where workmanship, whether at the project site or elsewhere is governed by a standard, furnish additional copies of the standard to fabricators, installers and others involved in the performance of the work.
 - I.7.4 **CLOSEOUT SUBMITTALS:** Refer to Section 01700 and to individual sections of these specifications for specific submittal requirements of project closeout information, materials, tools, and similar items.
 - I.7.5 **RECORD DOCUMENTS:** Furnish set of original documents as maintained on the project site. Along with original marked up record drawings provide electronic copies of marked up drawings.
 - I.7.6 **OPERATING AND MAINTENANCE DATA:** Unless specified otherwise, furnish at least 4 bound copies of operating data and maintenance manuals, and one electronic copy.
 - I.7.7 **MATERIALS AND TOOLS:** Refer to individual sections of these specifications for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be submitted.
 - I.7.8 **GENERAL DISTRIBUTION:** Provide additional distribution of submittals to subcontractors, suppliers, fabricators, installers, governing authorities, and others as necessary for the proper performance of the work. Include such additional copies of submittals in the transmittal to the Architect/ Engineer where the submittals are required to receive "Action" marking before final distribution. Record distributions on transmittal forms.
- I.8 **ARCHITECT/ENGINEER'S ACTION:**
- I.8.1 **GENERAL:** The Architect/Engineer will review each submittal, mark with appropriate "Action", and where possible return within 10 working days of receipt. Where the submittal must be held for coordination the Architect/Engineer will so advise the Trade Contractor via the Construction Manager without delay.
 - I.8.2 **ACTION STAMP:** The Architect/Engineer will stamp each submittal to be returned with a self explanatory action stamp, appropriately marked to indicate whether the submittal returned is for unrestricted use, final but restricted use (as marked), must be revised and resubmitted (use not permitted) or without action (as explained on the transmittal form). Refer to Section 00210 for action stamp markings.
 - I.8.3 **FINAL UNRESTRICTED RELEASE:** Where the submittals are marked as follows, the work may proceed provided it complies with the requirements of the contract documents; acceptance of the work will depend upon that compliance.
 - I.8.4 **MAKE CORRECTIONS NOTED:** When the submittals are marked as follows, the work may proceed provided it complies with both the Architect's/ Engineer's notations or corrections on the submittal and with the requirements of the contract documents; acceptance of the work will depend on that compliance.

- I.8.5 REVISE AND RESUBMIT: When the submittals are marked as follows, the work may proceed provided it complies with both the Architect's/Engineer's notations or corrections on the submittal and with the requirements of the contract documents, acceptance of the work will depend on that compliance. Revise the submittal and resubmit for Architect's/Engineer's verification of compliance.
- I.8.6 REJECTED: When the submittal is marked as follows, do not proceed with the work including purchasing, fabrication, delivery, or other activity. Revise the submittal or prepare a new submittal in activity. Revise the submittal or prepare a new submittal in accordance with the Architect's/Engineer's notations stating the reasons for returning the submittal; resubmit the submittal without delay. Repeat if necessary to obtain a different action marking. Do not permit submittals with the following marking to be used at the project site, or elsewhere where work is in progress.

END OF SECTION

01310 CONSTRUCTION SCHEDULES**I.1 EXECUTION OF THE WORK****I.2 CONSTRUCTION PLANNING**

Within five (5) days after the award of each Trade Contract, all Trade Contractors shall submit the following scheduling information:

I.2.1 A Procurement Status Report, in a format acceptable to the Construction Manager, which shall itemize all material and equipment, submittal and review requirements, fabrication and delivery lead times, and delivery requirements needed to meet the Trade Contractor's schedule as well as the overall project schedule.

I.2.2 Each Trade Contractor shall submit their own detailed schedule, in a format acceptable to the Construction Manager, which incorporates: the procurement information of Article I.1.1-above, all known interfacing of other trades, the Trade Contractor's anticipated durations, and all other information the Trade Contractor feels is necessary to identify their requirements for the Construction Manager to coordinate with the Construction Manager's direction and scheduling.

I.3 CONSTRUCTION SCHEDULING

I.3.1 A detailed Construction Schedule will be prepared with the Trade Contractor's input immediately after award of bids and submittal of the above information. Section 00200 provides the "preliminary construction schedule" which describes the approximate durations of sequence of the projects. The completion dates provided are firm and must be achieved. It is intended that all bidders agree to accept the final schedule, and acknowledge that other Trade Contractor's work is paced by, or dependent upon, the various activities being able to commence and proceed with associated activities as scheduled. The approved Construction Schedule shall be regarded as a firm contractual commitment by all parties affected therein.

I.3.2 All Trade Contractors and their Trade Subcontractors recognize and shall accept modifications to the schedule which are reasonable, in the opinion of the Construction Manager for the general interest of the project, as a result of allowable time extensions (formally or informally approved) in any contract, and such modifications are inherent to the construction process and shall not qualify as a basis for extra compensation from the Construction Manager or Owner."

I.3.3 If a CPM network schedule is used to coordinate the work of the project, start and finish dates for each work activity will be furnished to the Trade Contractor to schedule his work. Periodically, these dates will be revised to reflect changed project conditions. The Construction Manager will attempt to schedule the start of the work of any Trade Contractor on the date for the activity, and the Trade Contractor agrees to cooperate in following that direction.

I.3.4 If it is apparent that a Trade Contractor is not going to complete his work in the time allotted, said Contractor must notify the Construction Manager within five (5) days after publication of the schedule. Adjustments may be made to accommodate a Trade Contractor, if the above notification is received and it is within the dates established.

Otherwise the schedule shall be deemed accepted by all parties and become the schedule for the Trade Contractor. Each Trade Contractor will be responsible to be familiar with the schedule and how it will effect or modify his operations, including his coordination with the activities of other Trade Contractors.

- I.3.5 It is expressly agreed that time is of the essence for the completion of work under his contract, and the Trade Contractor agrees to perform the work within the time and in the manner specified or within the time extensions the Owner may grant; provided, however, that the Trade Contractor may be liable for any damages suffered by the Owner due to failure of the Trade Contractor to perform the specified work within the specified time.
- I.3.6 The Trade Contractor, within five (5) days after being notified to commence work, agrees to commence work in the field of such points as the Construction Manager may designate, and to continue diligently to perform the work, and to fully complete all of his work to the satisfaction of the Construction Manager and Owner. The work shall be carried to completion with utmost speed.
- I.3.7 If the Trade Contractor delays progress for any reason other than those allowed by the General Conditions, and refuses to adequately man the project or to work overtime, the Construction Manager may accelerate the work of subsequent Trade Contractors and backcharge all costs to the late Trade Contractor. All direction in this regard will be given in writing to the Trade Contractor.

END OF SECTION

01370 SCHEDULE OF VALUES

I.1 REQUIREMENTS: The Christman Company requires that all Pay Applications and related information (Schedule of Values) be processed through its proprietary Trade Contractor Portal. Trade Contractor agrees to comply with the requirements of the portal. This is your only method of submitting a payment application.

I.1.1 There is No Fee associated with using the Portal.

I.1.2 This also includes Compliance related information such as the Sworn Statement, supporting Waivers, and Insurance Certificates.

END OF SECTION

01400 QUALITY CONTROL**01410 TESTING LABORATORY SERVICES****I.1 TESTING LABORATORY SERVICES**

- I.1.1 **GENERAL:** All work (materials and installation procedures) as indicated in specifications, shall be tested and inspected by an independent testing and inspection agency, approved by the Architect/Engineer to provide the quality control requirements in accordance with these specifications. Results of these tests and inspections when performed in accordance with these specifications will not be disputed by either party. Failure of the Trade Contractor to provide quality control in accordance with this specification may result in the replacement of the work at the Trade Contractor's expense.
- I.1.2 **Owner Provided Testing –** Refer to Section 00210 and work category descriptions for testing services provided by the Owner, if applicable.

I.2 TRADE CONTRACTOR'S RESPONSIBILITY

- I.2.1 Unless identified otherwise, Trade Contractors are responsible for testing and/or balancing as defined in their work categories and/or designated specification sections.

I.3 TESTING & INSPECTION AGENCY RESPONSIBILITIES

- I.3.1 Perform all testing and inspection of the work in accordance with these specifications. Furnish qualified personnel and sufficient equipment in a timely manner when required by the Trade Contractor and/or Architect/Engineer to perform all testing and inspection in accordance with these specifications. Provide written reports, electronically and at least one hard copy, in a timely manner of the work tested and inspected. The reports shall include complete material test results and for in place material, a sketch showing the exact location where the test was taken on the project site. The inspection and testing agency and its representatives are not authorized to revoke, alter, relax, enlarge or release any requirements of the contract documents, nor to approve or accept any portion of the work.

Work will be checked by representatives of the testing agencies as it progresses, but failure to detect any defective work or product will not in any way prevent later rejection when such defect is discovered, nor will it obligate the Owner to final acceptance. When it appears that the work or product furnished is in non-conformance with the contract documents, the representative of the testing agency will direct the attention of the Architect/Engineer and Trade Contractor to such non- conformance.

I.4 AUTHORITY OF THE ARCHITECT/ENGINEER

- I.4.1 The Architect/Engineer may order from time to time additional tests and inspection beyond those required, if in his opinion, the subject work may not be meeting specification. The cost for these tests and inspections shall be born by the Trade Contractor if results indicate that work was NOT within the project specifications. The Architect/Engineer may terminate the testing and inspection agency. The Trade

Contractor shall then furnish to Construction Manager the name of an additional agency for approval. The Architect/Engineer may perform quality control tests and inspections.

END OF SECTION

01600 MATERIAL AND EQUIPMENT

01610 MOVING MATERIALS

- I.1 If at any time it becomes necessary to move materials temporarily located on site, which is to enter into their final construction, the Trade Contractor furnishing the materials shall, when so directed by the Construction Manager, move them to another location at his own expense.

01620 STORAGE & PROTECTION

I.1 GENERAL

- I.1.1 Each Trade Contractor shall use the area designated by the Construction Manager for storage of materials, etc., but shall confine this area to a minimum within Contract limits as shown on the plans. Storage beyond this area will not be permitted. Roof areas shall NOT be used for the storage of windows, removals, debris or any other construction items. Storage on the site is very limited and Trade Contractors shall provide for the bulk of materials remote from the site. Refer to Section 00210 for project specific requirements.
- I.1.2 Each Trade Contractor shall provide suitable and sufficiently enclosed and covered spaces, with raised flooring, to protect materials and equipment from damage by weather or construction work.

01625 SALVAGING OF MATERIALS

I.1 GENERAL

- I.1.1 If applicable, materials or equipment shown on drawing or specified herein to be salvaged but not reused, shall become the property of the Owner and each Trade Contractor shall deliver said items to location designated by the Construction Manager. All items not specified to be salvaged for reuse or delivered to the Owner, will be removed from the project site and disposed of legally.

01631 PRODUCTS AND SUBSTITUTIONS

I.1 SUMMARY

Specified Herein: General Requirements for Substitutions and Product Acceptance.

I.2 SUBSTITUTION SUBMITTALS

- I.2.1 The following submittals shall be required for materials, assemblies, and component parts of assemblies where scheduled in the "Submittals" Section of Division I, specified in the Trade Sections or required by the Construction Manager or the Architect as a condition precedent to acceptance of a proposal material, a statement of:

- a. Product Certification
- b. Manufacturer's review of documents and conditions of use.
- c. Approval of proposed Applicator or Installer.
- d. Proposal for on-site instruction.
- e. Manufacturer's supervision of inspection.

I.2.2 Submittals shall be in same form as specified for Request for Acceptance of Materials described herein and, wherever practical should accompany such request.

I.2.3 Submit description of the complete system for each assembly listing all proposed components and acknowledging adjacent materials which are in contact with material or function as a part of the system.

I.2.4 Where one or more of these services are specified, they are considered to be an integral part of the new system. A proposal to delete any specified service will be considered as a reduction in Scope, subject to general conditions for changes in the work.

I.3 MODIFICATIONS

I.3.1 Letter of certification, or request for acceptance, shall indicate all modifications and clarifications to the Contract Documents, including additional instructions for installation or use, which are, in the opinion of the Manufacturer, necessary for proper performance.

I.3.2 If any of the services specified under this Section are not scheduled as a requirement but are normally recommended by the Manufacturer, notify the Construction Manager and the Architect of such recommendation.

I.3.3 Modifications and clarifications to the Contract Documents, which in the opinion of the Architect do not affect the finished quality of appearance of the Work, will be accepted, subject to the following conditions:

- a. Conform to the functional intent of system design.
- b. Accepted by all contracting parties, including Subcontractor and Manufacturer.
- c. Include all costs in the original bid price for adjustments to the scope of the Work including the work of other trades.

I.3.4 Modification which affect the scope of the work, or the work of other trades, and for any reason can not be settled prior to bidding, will be considered under the terms of the General Conditions as Changes in the Work.

I.4 PROTECTION CERTIFICATION

I.4.1 Product certification is a statement by the manufacturer that to the best of its knowledge, the material has not failed to perform when previously used for similar purposes and under similar conditions of use.

I.4.2 Obtain and submit statements from manufacturers and fabricators of materials, assemblies and component parts of assemblies that the product as delivered conforms to their published data.

I.4.3 Obtain manufacturer's approval for all variations from published recommendations for installation, operation and conditions of use.

I.4.4 It shall be the duty of the supplier of any material on this Work to submit evidence, upon request, that his material is in compliance with the applicable codes, ordinances and standards referenced therein, in the method in which the material is used in this project.

I.5 GENERAL REQUIREMENTS FOR SUBSTITUTIONS

I.5.1 The Contract Documents indicate and call for certain articles, devices, products, fixtures, materials and work by named manufacturers. The Contract shall be based on materials and work manufactured and supplied by those named.

I.5.2 Definitions:

- a. Specified Manufacturers or Materials: Those named in the Contract Documents.
- b. Substitutions: Manufacturers or materials, which are not named in the Contract Documents.

I.5.3 Trade Contractor's Responsibility: Manufacturers and trade names are specified to establish a standard. The fact that a product is named does not constitute a guarantee by the Architect that the named Manufacturers have agreed to provide or to modify their product in order to meet all requirements of the Contract Documents. It is the responsibility of the Trade Contractor to obtain assurances from its suppliers that the product it proposes to use will meet all requirements of the Contract Documents. The fact that a material or Manufacturer is a substitution shall not act to either increase or decrease the Trade Contractor's responsibility for performance.

I.5.4 Substitutions During Bidding:

- a. Substitutions shall be included in the proposal under the following conditions only and shall follow all requirements of "Acceptance of Substitutions". Paragraph I.5.6.
- b. When the Trade Contractor knows of another product of equal or better quality and performance, which is more readily available.
- c. When the trade contractor has had unsatisfactory experience with one or more of the specified products or has reason to believe that the specified manufacturer will not provide the necessary guarantees or assume responsibility for performance.

I.5.5 Substitutions After Contract:

- a. Substitutions proposed after execution of the Contract will, if approved by the Architect, be handled in accordance with Article 12 "Changes in the Work" as modified and supplemented herein. A **Request for Change** is sufficient authorization for the Trade Contractor's issuance of a purchase order.
- b. A change of Manufacturer or product previously approved will be considered and handled as a Change in the Work.
- c. Increases in the cost of materials or Work resulting from the failure of the Trade

Contractor to issue a purchase order within the time limits stated in the specified manufacturer's original proposal shall be the sole responsibility of the Trade Contractor and shall not be grounds for a substitution or an increase in the Contract Sum.

I.5.6 Acceptance of Substitutions:

- a. Substitutions will be considered for any manufacturer except where only one manufacturer is listed.
- b. In all cases where substitutions are proposed by the trade contractor, it shall be the sole responsibility of the trade contractor to provide adequate data and samples as required by the Architect to evaluate the substitution.
- c. Request for acceptance of substitution shall be presented not less than seven (7) days in advance of the date on which a decision by the Architect is required and shall:
 - 1) Include all information required by this Specification.
 - 2) State the reason for the substitution.
 - 3) Include accurate cost data if the substitute material involves a change in the Contract Sum, or if so requested by the Architect.
 - 4) Provide or make arrangements for the Manufacturer to provide complete data describing the proposed substitution, including samples and itemized comparison with the specified materials, and work, if requested by the Architect.
- d. The Architect shall not be obliged to justify his reason for rejecting a proposed substitution.
- e. In the event that a substitution is accepted conditionally on the Contractor's agreement to assume full responsibility for equality and performance, the Contract shall provide a full value warranty and agree to make good all damages resulting from the failure of the substitute product.

I.6 ACCEPTANCE OF MATERIALS AND MANUFACTURERS

I.6.1 Standard Materials:

- a. Architect's acceptance applies to the Manufacturer only and shall not act to permit any deviation from other requirements of the Specifications.
- b. Acceptance will be based on the Manufacturer's specifications at time of issuance of Bidding Documents. Deviations from such specifications shall be considered as a substitution.
- c. Requests for acceptance shall be in tabular form stating Specification paragraph and material selected, except as otherwise provided.
- d. Shop Drawings shall not indicate any material for which acceptance has not been received, unless accompanied by a separate request for approval. In no case shall Architect's review and return of Shop Drawings constitute and acceptance of

either specified or substitute manufacturers or materials.

I.6.2 Special Materials

- a. Special materials are materials, which are specified as requiring supervision or technical services by the manufacturer for proper installation.
- b. Request for acceptance of special materials shall include a letter from the manufacturer which letter shall contain all information required hereinafter.

I.6.3 Materials Involving Supplementary Warranty or Maintenance Contract:

- a. These materials shall be submitted as a request for acceptance over the signature of a qualified technical representative in the direct employment of the manufacturer or such other person as the manufacturer may authorize in writing. Request for acceptance shall contain the following information:
 - 1) Name of project.
 - 2) Name of Contractor, Subcontractor or other party to whom material is furnished.
 - 3) Reference to Specification Section and Article where material is specified and other Contract Documents necessary for identification.
 - 4) Statement of acceptance of documents, conditions, and performance requirements.
 - i. Statement that documents as issued are in accordance with manufacturer's recommendations for use of specified materials, or
 - ii. Recommended modification of detail, use, application or for substitution of different product by same manufacturer as being more suitable for the performance requirements of the warranty.
 - 5) Statement that detailed installation instructions will be provided.
 - 6) Extent of job site technical services, consultants or instructors proposed, if any.
 - 7) Statement that warranty will be provided.
 - 8) Special provisions required to keep warranty in force.
- b. Requests for acceptance may be in the form of a letter including the above items and addressed to the subcontractor responsible for installation of the material, or may be according to a sample form of Material Proposal, provided by the Architect.
- c. Upon receipt of the manufacturer's proposal, the subcontractor shall add his own statement agreeing to comply with the manufacturer's requirements and warranting his own workmanship.
- d. The contractor shall submit letter of endorsement and copies of all documents, including letters of comment, to the Architect for approval. In the event that the request for approval recommends a change in the work, modification of detail, or substitution of material, the contractor shall indicate his concurrence with the change as being within the scope of the contract or indicate the change in the Contract Sum for making such change, or state his objections to the change.

I.7 AIR POLLUTION CONTROL

- I.7.1 Request for approval of equipment, which may generate air pollutants, shall be accompanied by certification of compliance with approvals from all State and Local Air Pollution Control Authorities having jurisdiction.
- I.7.2 Request shall state that manufacturer has provided all information and complied with all requirements of the above agencies including requirements for in place monitoring and measurements.

I.8 INSPECTION AND TESTING

- I.8.1 In accordance with Sections of this Division applying to Laboratory Tests and Inspections, the Owner has the option to employ independent inspectors for certain portions of the Work and to have materials tested by an Independent Testing Laboratory.
- I.8.2 In addition to necessary samples of materials, manufacturer shall provide information and data required by the laboratories and inspectors for the proper performance of their work.
- I.8.3 Where certification by Independent Testing Laboratory is required to demonstrate compliance with a specified standard (ASTM, ANSI or similar), Laboratory Reports shall be dated not more than two years prior to submittal and shall refer to the issue of said standard current as of the issue date of the Contract Documents. Later issue or similar standards superseding the standards will be accepted subject approval by the Architect.

END OF SECTION

I 700 PROJECT CLOSEOUT**I.1 DESCRIPTION OF REQUIREMENTS**

I.1.1 DEFINITIONS: Project closeout is the term used to describe certain collective project requirements, indicating completion of the Work that are to be fulfilled near the end of the Contract time in preparations for final acceptance and occupancy of the Work by the Owner, as well as final payment to each Trade Contractor and the normal termination of the Contract.

- a. Specific requirements for individual units of work are included in the appropriate sections in Divisions 2 through 42.

I.2 PREREQUISITES FOR SUBSTANTIAL COMPLETION

I.2.1 GENERAL: Complete the following before requesting the Construction Manager to coordinate inspections for certification of substantial completion, either for the entire Work or for portions of the Work. List known exceptions in the request.

- a. In the progress payment request that coincides with, the date substantial completion is claimed, show either 100% completion for the portion of the Work claimed as "substantially complete", or list incomplete items, the value of incomplete work, and reasons for the Work being incomplete.
- b. Include supporting documentation for completion as indicated in these contract documents.
- c. Advise Construction Manager of pending insurance change-over requirements.
- d. Submit special warranties, workmanship/maintenance bonds, maintenance agreements, final certifications, and similar documents.
- e. Obtain and submit releases enabling the Owner's full, unrestricted use of the Work and access to services and utilities. Where required, include occupancy permits, operating certificates and similar releases.
- f. Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, property survey, and similar final record information.
- g. Deliver tools, spare parts, extra stocks of material and similar physical items to Construction Manager.
- h. Make the final change-over of locks and transmit keys to the Construction Manager. Advise the Construction Manager's personnel of the change over in security provisions.
- i. Complete start up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities and services from the project site, along with construction tools and facilities, mockups, and similar elements.
- j. Complete final cleaning up requirements, including touch-up painting of marred surfaces.
- k. Touch-up and otherwise repair and restore marred exposed finishes.
- l. Submit a statement showing an accounting of change-over requirements.

I.2.2 INSPECTION PROCEDURES: Upon receipt of the Trade Contractor's request for inspection, the Architect/Engineer will either proceed with inspection or advise the Construction Manager of unfilled prerequisites.

- a. Following the initial inspection, the Architect/Engineer will either prepare the certificate of substantial completion, or will advise the Construction Manager of work which must be performed before the certificate will be issued. The Architect/Engineer will repeat the inspection when requested and when assured that the Work has been substantially completed.

- b. Results of the completed inspection will form the initial "punchlist" for final acceptance.

I.3 PREREQUISITES FOR FINAL ACCEPTANCE

I.3.1 **GENERAL:** Complete the following before requesting the Architect / Engineer's final inspection for certification of final acceptance, and final payment as required by the General Conditions. List known exceptions, if any, in the request.

- a. Submit the final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
- b. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
- c. Submit a certified copy of the Architect/Engineer's final punchlist of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and has been endorsed and dated by the Architect/Engineer.
- d. Submit consent of surety.
- e. Submit a final liquidated damages settlement statement, acceptable to the Owner where applicable.
- f. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

I.3.2 **REINSPECTION PROCEDURE:** The Architect/Engineer will reinspect the Work upon receipt of the Construction Manager's notice that the work, including punchlist items resulting from earlier inspections, has been completed, except for these items whose completion has been delayed because of circumstances that are acceptable to the Architect/Engineer.

- a. Upon completion of reinspection, the Architect/Engineer will either prepare a certificate of final acceptance, or will advise the Construction Manager of work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance.
- b. If necessary, the reinspection procedure will be repeated.

I.4 RECORD DOCUMENT SUBMITTALS

I.4.1 **GENERAL:** Specific requirements for record documents are indicated in the individual sections of these specifications. Other requirements are indicated in the General Conditions. General submittal requirements are indicated in the various "submittals" sections.

- a. Do not use record documents for construction purposes; protect from deterioration and loss provide access to record documents for the Architect/Engineer's reference during normal working hours.

I.4.2 **Record Drawings:** Maintain a record set contract drawings and shop drawings in a clean, undamaged condition. Mark up the set of record documents to show the actual installation where the installed work varies substantially from the work as originally shown. Mark whichever drawing is most capable of showing the actual "field" condition fully and accurately; however, where shop drawings are used for mark up, record a cross reference at the corresponding location on the working drawings. Give particular attention to concealed work that would be difficult to measure and record at a later date.

- a. Mark record sets with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work.
- b. Mark up new information, which is known to be important to the Owner, but for some reason was not shown on either contract drawings or shop drawings.
- c. Note related change order numbers where applicable.
- d. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.
- e. At the completion of the Trade Contractor's work, submit record sets of drawings to the Construction Manager showing all record drawing conditions.

I.4.3 RECORD SPECIFICATIONS: Maintain one complete copy of the Project Manual, including specifications addenda, bulletins, and one copy of other written construction documents such as change orders and similar modifications issued in printed form during construction. Mark these documents to show substantial variations in the actual work performed in comparison with the text of the specifications and modifications as issued. Give particular attention to substitutions, selection of options and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable.

- a. Upon completion of the Work, submit record specifications to the Construction Manager for the Owner's records.

I.4.4 RECORD PRODUCT DATA: Maintain one copy of each product data submittal. Mark these documents to show significant variations in the actual Work performed in comparison with the submitted information. Give particular attention to concealed products and portions of the Work, which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and markup of record drawings and specifications.

- a. Upon completion of mark up, submit complete sets of record product data to the Construction Manager for the Owner's records.

I.4.5 MISCELLANEOUS RECORD SUBMITTALS: Refer to other sections of the specifications for requirements of miscellaneous record keeping and submittals in connection with the actual performance of the Work. Immediately prior to the date or dates of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Construction Manager for the Owner's records.

I.4.6 MISCELLANEOUS MANUALS; Organize operating and maintenance data into suitable sets of manageable size. Bind data into individual binders properly identified and indexed. Unless identified otherwise, bind each set of data in a heavy duty 3 ring vinyl covered binder, with pocket folders for folded sheet information. Mark the appropriate identification on both front and spine of each binder. 3-ring vinyl covered binder, with pocket folders for folded sheet information. Mark the appropriate identification on both front and spine of each binder.

- a. Include the following types of information in operation and maintenance manuals:
 - Emergency instructions.
 - Spare parts listing.
 - Copies of warranties.
 - Wiring diagrams.
 - Recommended "turn around" cycles.
 - Inspection procedures.

- Shop drawings and product data.

2.1 EXECUTION

2.2 CLOSEOUT PROCEDURES

2.2.1 **GENERAL OPERATING AND MAINTENANCE INSTRUCTIONS:** Arrange for each installer of operating equipment and other work that requires regular or continuing maintenance, to meet at the site with the Owner's personnel to provide necessary basic instruction in the proper operation and maintenance of the entire Work. Where installers are not experienced in the required procedures, include instruction by the manufacturer's representatives.

- a. As part of this instruction provide a detailed review of the following items:
 - Maintenance manuals.
 - Record documents.
 - Spare parts and materials.
 - Tools.
 - Lubricants.
 - Fuels.
 - Identification systems.
 - Control sequences.
 - Hazards.
 - Cleaning.
 - Warranties, bonds, maintenance agreements and similar continuing commitments.
- b. As part of this instruction for operating equipment demonstrate the following procedures:
 - Start-up.
 - Shut down.
 - Noise and vibration adjustments.

2.3 FINAL CLEANING

2.3.1 **GENERAL:** Special cleaning requirements for specific units of Work are included in the appropriate sections of the specifications. General Cleaning during the regular progress of the Work is required by the General Conditions and Subcontract Agreements.

2.3.2 **CLEANING:** Provide final cleaning of the Work at the time indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a normal, commercial building cleaning and maintenance program. Comply with the manufacturer's instructions for operations.

Complete the following cleaning operations before requesting the Architect /Engineer's inspection for certification of substantial completion:

- a. Remove labels which are not required as permanent labels.
- b. Clean transparent materials, including mirrors and glass in doors and windows, to a polished condition. Remove substances, which are noticeable as vision obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
- c. Clean exposed exterior and interior hard surfaced finishes to a dust free condition, free of dust, stains, films and similar noticeable distracting substances. Leave concrete floors broom clean. Vacuum carpeted surfaces.
- d. Wipe surfaces of mechanical and electrical equipment clean. Remove excess

- lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
- e. Clean the project site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas to a broom clean condition; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even textured surface.

2.3.3 **REMOVAL OF PROTECTION:** Remove temporary protection devices and facilities, which were installed during the course of the work to protect previously, completed work during remainder of the construction period.

2.3.4 **COMPLIANCE:** Comply with safety standards and governing regulations for cleaning operation. Do not burn waste materials at site. Do not bury debris or excess materials on Owner's property. Do not discharge volatile or other harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

- a. Where extra materials of value remaining after completion of associated work have become Owner's property, dispose of these materials to the Owner's best advantage as directed.

END OF SECTION

01740 WARRANTIES

PART I - GENERAL

I.1 SUMMARY

- I.1.1 Specified Herein: Warranties and continuing services required to be provided by manufacturers of materials and systems where required for proper performance.
- I.1.2 The word "Guarantee" when appearing in any Contract Document or construction correspondence shall be defined as warranty in accordance with Article 3.5 of the General Conditions.

I.2 SUBMITTALS

- I.2.1 Submit warranties in accordance with Article 3.5 of the General Conditions as modified by Supplementary Conditions and additional requirements specified under the individual Trade Sections.
- I.2.2 Required types of warranties and additional services are scheduled and listed in the Trade Sections.
- I.2.3 In all cases where "Special Warranties" or "Service Contracts" are required, the request for approval of materials will be accepted by the Owner and the Architect on the understanding that manufacturer agrees to provide the specified warranty or other service unless stated otherwise in the request.
- I.2.4 The Owner will not be bound to accept any limitations or variations from the specified warranty, which were not filed with the request for acceptance and accepted prior to purchase of materials.
- I.2.5 Warranties shall be submitted prior to request for payment for 100% completion in each case, shall acknowledge the responsibilities defined under Supplementary Conditions and shall include:
 - a. Manufacturer's warranty that all materials comply with its published standards, comply with the requirements of the Specifications and where specified, are adequate for the proposed use.
 - b. Subcontractor's warranty that all workmanship complies with the requirements of the Specifications and of the manufacturer.
 - c. Contractor's warranty covering the entire work and accepting responsibility for all limitations imposed by the manufacturer or subcontractor except where such limitations have been previously accepted by the Architect.
 - d. Certification and verification of previously submitted information including statement of all limitations, required maintenance and similar conditions of the warranty.

I.3 STANDARD WARRANTIES

- I.3.1 A standard warranty is a warranty whose terms are essentially the same as normally

offered by the manufacturer of standard with the industry.

- I.3.2 General Conditions require that standard warranties apply as a minimum requirement notwithstanding the fact that submittal of a copy of the warranty is not required.
- I.3.3 Unless otherwise specified, a standard warranty shall be for a period on one (1) year from Date of Substantial Completion.
- I.3.4 Contractor shall obtain and furnish to the Owner from each manufacturer of materials or equipment incorporated into the Work a warranty at least as favorable to Owner as that customarily given by such manufacturer to others. Contractor shall inform itself as to any conditions precedent to the effectiveness of each manufacturer's warranty and comply with all such conditions (or obtain waivers thereof from the manufacturer) so that such warranty shall be fully effective. If any event occurs which might invalidate any manufacturer's warranty, contractor shall promptly notify the Owner and the Architect.
- I.3.5 All warranty periods shall commence on the Date of Substantial Completion except that, if it is discovered after said date that certain work or materials were not in fact in conformance with the requirements of the Contract Documents, the applicable warranty period shall re-commence from the completion of the repair or replacement of such Work to make it so conform.
- I.3.6 The fact that a manufacturer's warranty differs in its terms from those of the contractor or any subcontractor, the acceptance by the Owner of any warranty of a manufacturer or subcontractor, or the fact that the Owner has claimed initially on such warranty, shall not in any way release contractor from his warranty obligations under the contract.

I.4 SPECIAL WARRANTIES

- I.4.1 A special warranty is one whose terms, in addition to the standard coverage offered by the manufacturer, contain other special provisions, including:
 - a. Acknowledgment of specified list of items, which shall be specifically noted as being covered by the warranty.
 - b. Acknowledgment of specific conditions for use or exposure.
 - c. Extension of warranty to waive standard exceptions or to extend limits including time.
 - d. Requirements for specific performance by other trades including method of separation and protection from, or assurance of compatibility with, adjacent materials.
 - e. Assemblies and systems, which may include products of other manufacturers.
 - f. Conditions where certain performance criteria are specified and must be either acknowledged or actual limits are required to be determined by performance testing subject to Owner's review and acceptance.
 - g. Conditions where manufacturer's continuing involvement such as maintenance or advisory service is required.

I.4.2 Maintenance Service During Warranty Period:

- a. Reference to routine maintenance required to be performed by the Owner during

the warranty period shall be listed in the original submittal of proposed warranty.

- b. All other administration and maintenance service required during the warranty period, including installation of items repaired or replaced under the terms of the warranty shall be included in the original Contract.

I.5 SERVICE CONTRACTS

- I.5.1 Required types of Service Contract Proposals are scheduled under Schedule or Required Submittals and are listed in the Trade Sections.
- I.5.2 Where specified, the subcontractor or manufacturer originally supplying services and skills required for proper maintenance and agreeing to maintain availability of replacement parts and materials.
- I.5.3 The Service Contract is in addition to, and independent of, the Warranty and shall not act to either extend the Warranty or to reduce the contractor's responsibilities thereunder.
- I.5.4 Unless otherwise specified or agreed, Service Contracts shall be written for a period of five (5) years starting with the termination of similar services included under the warranty and shall include cancellation privilege annually when exercised at least 60 days prior to anniversary date.
- I.5.5 The contractor shall:
 - a. Prior to submittal of manufacturer of subcontractor for approval, verify that specified service is available and will be offered.
 - b. Secure from the manufacturer of subcontractor a bona fide proposal to perform the specified services.
 - c. When so directed, assist the Architect in obtaining proposals for the performance of the specified services by other competent parties.

I.6 ADVISORY AND INSPECTION SERVICE

- I.6.1 Advisory and Inspection Service consists of:
 - a. Periodic inspection on a regular scheduled basis. Include schedule of proposed inspections of the agreement.
 - b. All necessary information, including special training, where required to adequately instruct Owner's maintenance personnel in preventive maintenance repairs and treatments. If such maintenance work is recommended:
 - 1) Obtain or submit price quotations for recommended work.
 - 2) When so instructed by the Owner, make all necessary arrangements for the performance of the Work.

I.6.2 Parts and Materials Agreement:

- a. Where standard commercially available parts of materials are suitable for maintenance or repair, inform Owner concerning trade name or description and location where they may be obtained.
- b. Where parts or materials are not readily available maintain replacement stocks at a location as required to prevent undue delay in repairs or loss of use of equipment pending delivery.

I.7 MAINTENANCE SERVICE

- I.7.1 A Maintenance Service Contract is an agreement that in addition to Advisory and Inspection Service, the Manufacturer will provide, or otherwise make available through his agent, a regular maintenance service program scheduled during normal working hours.
- I.7.2 Proposals shall schedule proposed times for servicing and list the services to be performed.
- I.7.3 Maintenance service of equipment shall be performed solely by the original Equipment Contractor and shall not be assigned or transferred to any agent or subcontractor without the approval of the Owner.
- I.7.4 Repairs:
 - a. Permanent repairs shall be started within seven (7) days after notification by the Owner.
 - b. In the event that emergency and permanent repairs are not started within the specified time limits, or if the work is stopped without the Owner's consent, the Owner shall have the same options to have repairs performed by others as specified under Warranties without invalidating this agreement.
- I.7.5 Equipment maintenance shall include systematic examinations, and adjustments and lubrication of all equipment. The Equipment Maintenance Contractor shall repair and replace electrical and mechanical parts whenever required using only genuine standard parts recommended or produced by the manufacturer of the equipment.
- I.7.6 Addition work when so directed by the Owner shall be included under the work of the Maintenance Contract and the Contractor shall be reimbursed at the current prevailing rate for the cost of materials, labor and services. Such additional work shall include:
 - a. Repairs or replacement required as a result of negligence, abuse, or other actions contrary to the Equipment Contractor's operating instructions.
 - b. Improvement or additional equipment required by the Owner, Insurance Companies, or Governmental Authorities.
 - c. Except for emergency service, the additional cost for overtime work based on the difference between regular and overtime labor when the Owner requests that such work be performed outside of regular working and so authorized in writing.

- I.7.7 Additional requirements for specific maintenance contracts are specified in the various Trade Sections.

I.8 EMERGENCY CALL-BACK SERVICE

- I.8.1 Emergency Call-Back Service is an agreement to provide rescue and repair service on an emergency basis where required for the protection of life and property.
- I.8.2 Owner's agreement to permit manufacturers to assign agreement to an agent does not relieve manufacturer of responsibility to verify that service remains available for the specified time.
- I.8.3 Agreement shall remain in effect for the lifetime of all Warranties, Service Contracts and for such longer time as may be specified or agreed.
- I.8.4 Service shall be available on a 24 hour, 7-day basis and shall be performed within the following time limit after notification of emergency unless otherwise specified. Maintain emergency telephone number on file with the Owner for nights and weekends.

I.9 CERTIFICATION

- I.9.1 Product Certification: See Division I, Section titled "Material and Equipment".
- I.9.2 Workmanship Certification is a statement by the applicator or installer that all materials and workmanship in connection with the system have been furnished and installed in complete conformance with Contract Documents, and with the manufacturer's specifications and requirements for the particular type of use specified.
- I.9.3 A product certification where specified as a requirement shall be in a form similar to the following:

"We, the (Manufacturing Company), certify that the complete system as detailed and specified can be installed and will perform in accordance with the requirements of the specifications and the ASTM Standards referenced therein for the guarantee period of one year or such longer period as may be negotiated between the Owner and the (Manufacturing Company).

Upon completion of the Project we will inspect the work and certify to the Owner that the system as installed is in accordance with the Manufacturer's requirements or indicated in writing what remedial action is necessary in order that it does so conform."

END OF SECTION

SECTION 019113 - GENERAL COMMISSIONING REQUIREMENTS

PART I - GENERAL

I.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. OPR and BoD documentation are included by reference for information only.

I.2 SUMMARY

- A. Section includes general requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.
- B. Related Sections:
 - 2. Division 01 Section "Facilities Exterior Enclosure Commissioning" for commissioning process activities for building exterior enclosure, roof, and foundation systems, assemblies, equipment, and components.
 - 2. Division 01 Section "Interiors Commissioning" for commissioning process activities for building interiors construction, stairways, and finish systems and assemblies.
 - 2. Division 14 Section "Commissioning of Conveying Equipment" for commissioning process activities for conveying systems, assemblies, equipment, and components.
 - 2. Division 21 Section "Commissioning of Fire Suppression" for commissioning process activities for fire-suppression systems, assemblies, equipment, and components.
 - 2. Division 22 Section "Commissioning of Plumbing" for commissioning process activities for plumbing systems, assemblies, equipment, and components.
 - 2. Division 23 Section "Commissioning of HVAC" for commissioning process activities for HVAC&R systems, assemblies, equipment, and components.
 - 2. Division 25 Section "Commissioning of Integrated Automation" for commissioning process activities for integrated automation systems, assemblies, equipment, and components.
 - 2. Division 26 Section "Commissioning of Electrical Systems" for commissioning process activities for electrical systems, assemblies, equipment, and components.
 - 2. Division 27 Section "Commissioning of Communications" for commissioning process activities for communications systems, assemblies, equipment, and components.
 - 2. Division 28 Section "Commissioning of Electronic Safety and Security" for commissioning process activities for electronic safety and security systems, assemblies, equipment, and components.

I.3 DEFINITIONS

- A. BoD: Basis of Design. A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- B. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- C. CxA: Commissioning Authority.
- D. OPR: Owner's Project Requirements. A document that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- E. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.

I.4 COMMISSIONING TEAM

- A. Members Appointed by Contractor(s): Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall consist of, but not be limited to, representatives of each Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.
- B. Members Appointed by Owner:
 - 2. CxA: The designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process. Owner will engage the CxA under a separate contract.
 - 2. Representatives of the facility user and operation and maintenance personnel.
 - 2. Architect and engineering design professionals.

I.5 OWNER'S RESPONSIBILITIES

- A. Provide the OPR documentation to the CxA and each Contractor for information and use.
- B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.
- C. Provide the BoD documentation, prepared by Architect and approved by Owner, to the CxA and each Contractor for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.

I.6 CONTRACTOR'S RESPONSIBILITIES

- A. Contractor shall assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:
 - 2. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
 - 2. Cooperate with the CxA for resolution of issues recorded in the Issues Log.
 - 2. Attend commissioning team meetings held on a as scheduled basis.
 - 2. Integrate and coordinate commissioning process activities with construction schedule.
 - 2. Review and construction checklists as Work is completed and provide to the Commissioning Authority on a scheduled basis.
 - 2. Review and accept commissioning process test procedures provided by the Commissioning Authority.
 - 2. Complete commissioning process test procedures.

I.7 CxA'S RESPONSIBILITIES

- A. Organize and lead the commissioning team.
- B. Provide commissioning plan.
- C. Convene commissioning team meetings.
- D. Provide Project-specific construction checklists and commissioning process test procedures.
- E. Verify the execution of commissioning process activities using random sampling. The sampling rate may vary from 1 to 100 percent. Verification will include, but is not limited to, equipment submittals, construction checklists, training, operating and maintenance data, tests, and test reports to verify compliance with the OPR. When a random sample does not meet the requirement, the CxA will report the failure in the Issues Log.
- F. Prepare and maintain the Issues Log.
- G. Prepare and maintain completed construction checklist log.
- H. Witness systems, assemblies, equipment, and component startup.
- I. Compile test data, inspection reports, and certificates; include them in the systems manual and commissioning process report.

PART 2 - PRODUCTS (Not Used)**PART 3 - EXECUTION (Not Used)**

END OF SECTION 019113

TECHNICAL SPECIFICATIONS
FOR
**CAVANAUGH HVAC REMODEL
PRE-PURCHASE EQUIPMENT PACKAGE
LANSING SCHOOL DISTRICT
LANSING, MICHIGAN**

JULY 28, 2023

A/E NO. 2616-01B

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Lansing School District
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SECTION 013300
ARCHITECT'S SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting RFI's, Shop Drawings, Product Data, Samples, and other submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Documents will be provided by Architect for Contractor's use in preparing submittals. See 1.4 below.
- B. All submittals must be in electronic form. Paper copies are not acceptable unless specifically listed. The architect will review, stamp and return an electronic document for the contractor's use. Copies of the reviewed shop drawings shall be provided by the contractor for distribution as required by the Construction Manager.
- C. Each submittal item shall be submitted in its entirety as one complete package including all information required to fully review the item. Material sample, data, warranty and maintenance information, and drawings shall come as one package. Submittals missing required components and / or without product selections identified will be rejected without review.
- D. Compliance Certificate: Refer to the attached Compliance Certificate. Compliance Certificates are to be used by contractors to indicate the products/devices intended for use in this project without the need and time for product data submittals. Contractors shall use Compliance Certificates whenever possible to expedite the work and limit paper work. Items listed on the form must be approved products listed in the specifications. No substitutions allowed. Select one (1) source for each category, sign this sheet, and submit as the contractor's commitment to use products required by the contract documents. No further product data submittals are required for this section. Physical sample, color samples, or layout shop drawings must be submitted where required by the specification. Refer to the attached specification list for sections that are subject to this certificate. **NOTE: Not all specification sections listed below will apply to the project listed above. There might not be specification sections included that are in the project listed above, in that case coordinate with architect at post bid interview for submittal requirements.**

- E. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- F. Submittals Schedule: Comply with requirements in Division 1 Section Construction Progress Documentation for list of submittals and time requirements for scheduled performance of related construction activities.
- G. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. RFI's, request for information: Allow 5 working days for initial response for each RFI. Allow additional time if coordination with subsequent RFI is required, or when additional information is need for the response.
 2. Shop drawings, sample, and product data:
 - a. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - b. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - c. Resubmittal Review: Allow 15 days for review of each resubmittal.
 - d. Sequential Review: where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
 - e. Submissions that are large or of multiple submissions or requires detailed or lengthy review by the Architect or his consultant may require additional time.
 - f. Submissions for products or material that require a long lead time for delivery shall be noted as such and marked "Top Priority" so the architect may expedite the process. The architect will expedite reviews when the contractor legitimately can't submit within a reasonable time due to construction schedule. Failure to submit in a timely manner or to allow sufficient time for initial review and resubmittal reviews may result in project delays, additional service charges by the architect, or other penalties for the contractor.
- H. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.

2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06100.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
- I. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.
- J. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 1. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
- K. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form including electronic submittals. Architect will discard submittals received from sources other than the Construction Manager. Architect will return any submittal with a transmittal, which doesn't fully list, and properly identify the enclosed items.
- L. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked Review or reviewed with comments.
- M. Distribution: Furnish copies of reviewed submittals to the Construction Manager, manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

1.4 CONTRACTOR'S USE OF ARCHITECT'S CAD FILES

- A. General: At Contractor's written request, copies of Architect's CAD files will be provided to the Contractor for Contractor's use in connection with Project, subject to the following conditions:
 - 1. The Architect will provide, electronic data files, compatible with AutoCAD for contractor's convenience and use in the preparation of shop drawings. **Refer to Terms and Conditions at the end of this specification.** Requests for electronic data shall be in written form through the architect. Prior to the release of electronic files, the Architect will require a signed waiver of release. Contractors should allow a minimum of 1-week for this process.

PART 2 - RFI'S – REQUEST FOR INFORMATION

- 1. All RFI's shall be submitted to the Architect in electronic form. PDF's and Word files are acceptable.
- 2. PDF RFI forms shall include an editable text area for response, date, and signature.
- 3. RFI's shall be distributed by e-mail. E-mail title shall be specific to job name, and RFI number. This is mandatory for proper tracking.
- 4. Faxed and Hand written RFI's are not acceptable and will be rejected.

PART 3 - PRODUCTS

3.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
 - 1. Submittal Types:
 - a. Shop Drawing
 - b. Product Data
 - c. Sample
 - d. Other
- B. Kingscott Review Stamp Statement: "Reviewed only for the limited purpose of checking for conformance with the design concept expressed in the Contract Documents. Dimensions, quantities, accuracy, assembly methods, installation methods, coordination with other trades and field verification are the responsibility of the contractor."
 - 1. The following Actions will be taken:
 - a. Reviewed with no exceptions
 - b. Reviewed with Exceptions
 - c. Revise and resubmit
 - d. Rejected
- C. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. Use the Material Compliance form when permitted and whenever possible to save time and paper work.
 2. If information must be specially prepared for submittal because standard data are not suitable for use, submit as Shop Drawings, not as Product Data.
 3. Mark each copy of each submittal to show which products and options are applicable. Unmarked submittals will be rejected. Failure to mark appropriate products will result in rejection of the submittal.
 4. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Manufacturer's catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.
 - h. Compliance with specified referenced standards.
 - i. Testing by recognized testing agency.
 5. Number of Copies: Submit one electronic copy of Product Data, unless otherwise indicated. Architect will return one electronic copy. See the Construction Manager's submittal requirements for final record and distribution copy requirements.
- D. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal of Architect's CAD Drawings is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shop work manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Notation of coordination requirements.
 - j. Notation of dimensions established by field measurement.
 - k. Relationship to adjoining construction clearly indicated.
 - l. Seal and signature of professional engineer if specified.
 - m. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
 3. Number of Copies: Submit one opaque (bond) copy, and one electronic copy of each submittal. Architect will return one electronic copy for printing and distribution.

- E. Samples: **Submit Physical Samples** for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of appropriate Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available. **Scanned color charts, samples, etc. will be REJECTED. Send physical samples, color charts, etc. as described in each specification section.**
 - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection. **Scanned color charts, samples, etc., will be REJECTED. Send physical samples, color charts, etc. as described in each specification section.**
 - a. Number of Samples: Submit three sets of Samples. Architect will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.

3.2 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit four copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 4 - EXECUTION

4.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions prior to submission for review. It is the contractor's responsibility to review and identify major discrepancy with the contract documents, and significant missing information. Documents with discrepancies and substantially missing information shall be returned for revisions prior to submission to the Construction Manager.
- B. Mark with approval stamp before submitting to the Construction Manager.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

4.2 CONSTRUCTION MANAGER'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions prior to submission for review. It is the Construction Manager's responsibility to review and identify major discrepancy with the contract documents, and significant missing information. Documents with discrepancies and substantially missing information shall be returned for revisions prior to submission to the Architect.
- B. Mark with approval stamp before submitting to Architect.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

4.3 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's and Construction Managers approval stamp, and have not been fully reviewed and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 1. Reviewed with no exceptions.
 2. Reviewed with exceptions.
 3. Revise and resubmit.
 4. Rejected.

- C. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.
- D. Incomplete submittals with substantial missing information, will be considered non-responsive, and will be returned without review.
- E. Non-complaint submittals, will be considered non-responsive, and will be returned without review.
- F. Submittals not required by the Contract Documents will not be reviewed and will be discarded.

SUBMITTALS REQUESTED BY SPECIFICATION SECTION						
<i>This is a general guide, but may vary by project.</i>						
Given the age of digital submittal, product information and images, and multiple files can be compiled into one complete product data page. When this complete product data sheet is submitted, it becomes an acceptable option to help limit physical samples and paper.						
SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
033000	CAST-IN-PLACE CONCRETE	X		X		X
042000	UNIT MASONRY/BRICK	X	X (BRICK)			
047200	CAST STONE	X	X			
051200	STRUCTURAL STEEL FRAMING			X		
052100	STEEL JOIST			X		
053100	STEEL DECKING				X	
054000	COLD-FORMED METAL FRAMING			X		
055000	METAL FABRICATIONS			X		
055113	METAL PAN STAIRS			X		
055213	PIPE AND TUBE			X		
061000	ROUGH CARPENTRY				X	
061053	MISCELLANEOUS ROUGH CARPENTRY				X	
061063	EXTERIOR ROUGH CARPENTRY				X	
061600	SHEATHING				X	
061753	SHOP-FABRICATED WOOD TRUSSES			X		
062013	EXTERIOR FINISH CARPENTRY		X		X	
062023	INTERIOR FINISH CARPENTRY		X		X	
071326	SELF-ADHERING SHEET	X			X	
072100	THERMAL INSULATION	X			X	
072119	FOAMED-IN-PLACE INSULATION	X			X	
072500	WEATHER BARRIERS	X			X	
072600	VAPOR RETARDERS	X			X	
073113	ASPHALT SHINGLES		X			

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
074113.16	STANDING-SEAM METAL ROOF PANELS		X			
074213.13	FORMED METAL WALL PANELS		X	X		
074213.19	INSULATED METAL WALL PANELS		X	X		
075323	ETHYLENE- PROPYLENE-DIENE- MONOMER (EPDM) ROOFING			X		
075423	THERMOPLASTIC POLYOLEFIN (TPO) ROOFING			X		
076200	SHEET METAL FLASHING AND TRIM		X			
077100	ROOF SPECIALTIES	X			X	
077129	MANUFACTURED ROOF EXPANSION JOINTS	X			X	
077200	ROOF ACCESSORIES	X			X	
078413	PENETRATION FIRESTOPPING				X	
078443	JOINT FIRESTOPPING				X	
079200	JOINT SEALANTS	X	X			
079219	ACOUSTICAL JOINT SEALANTS	X	X			
081213	HOLLOW METAL DOORS AND FRAMES			X		
081416	FLUSH WOOD DOORS		X	X		
083113	ACCESS DOORS AND FRAMES				X	
083313	COILING COUNTER DOORS			X		
083323	OVERHEAD COILING DOORS			X		
083513	FOLDING DOORS			X		
083613	SECTIONAL DOORS			X		

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
084113	ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS		X	X		
084413	GLAZED ALUMINUM CURTAIN WALLS		X	X		
084523	FIBERGLASS- SANDWICH-PANEL ASSEMBLIES	X			X	
085113	ALUMINUM WINDOWS		X	X		
087100	DOOR HARDWARE			X		
088000	GLAZING	X			X	
088300	MIRRORS				X	
089119	FIXED LOUVERS		X	X		
092116.23	GYPSTUM BOARD SHAFT WALL ASSEMBLIES				X	
092216	NON-STRUCTURAL METAL FRAMING				X	
092900	GYPSTUM BOARD				X	
093013	CERAMIC TILE	X			X	
095113	ACOUSTICAL PANEL CEILING				X	
096513	RESILIENT BASE & ACCESSORIES				X	
096516	RESILIENT SHEET VINYL	X				
096519	RESILIENT TILE FLOORING	X				
096566	RESILIENT ATHLETIC FLOORING	X				
096813	TILE CARPET	X				
096816	SHEET CARPET	X				
097200	WALL COVERINGS	X				
098433	SOUND ABSORBING WALL UNITS	X				
098436	SOUND ABSORBING CEILING UNITS	X				
099113	EXTERIOR PAINTING		X			
099123	INTERIOR PAINTING		X			
099600	HIGH PERFORMANCE COATINGS		X			

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
101100	VISUAL DISPLAY BOARDS			X	X	
101200	DISPLAY CASES			X	X	
101423	PANEL SIGNAGE		X	X		
102113	TOILET COMPARTMENTS	X		X		
102116	SHOWER AND DRESSING COMPARTMENTS	X		X		
102123	CUBICAL CURTAINS AND TRACK	X			X	
102800	TOILET, BATH, AND LAUNDRY ACCESSORIES (CONTRACTOR TO VERIFY QUANTITIES)				X	
104413	FIRE PROTECTION CABINETS				X	
104416	FIRE EXTINGUISHERS				X	
105113	METAL LOCKERS		X	X		
105613	METAL SHELVING				X	
105626	MOBILE STORAGE SHELVING			X	X	
113100	RESIDENTIAL APPLIANCES				X	
115123	LIBRARY STACK SYSTEMS		X	X		
115213	PROJECTION SCREENS				X	
115313	LABORATORY FUME HOODS		X	X		
116143	STAGE CURTAINS		X	X		
116623	GYMNASIUM EQUIPMENT		X	X		
126600	TELESCOPING STANDS		X	X		
122113	HORIZONTAL BLINDS	X				
122413	VERTICLE BLINDS	X				
122413	ROLLER SHADES (OPERABLE SHOP DRAWINGS)	X		X	X	

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
123__	CASEWORK AND COUNTERTOPS		X	X		
124816	ENTRANCE FLOOR GRILLS	X				

Material Compliance Form

Name of Building:

Owner:

Bid Package #:

A/E #:

Cc:

Material Compliance Submittal Section:

This document is to be used by this contractor to indicate the products/devices intended for use in this project without the need for product data submittals. Items listed are approved products in the specifications. No substitutions allowed. Select one (1) source for each category, sign this sheet, and submit as the contractor's commitment to use products required by the contract documents. **No further product data submittals are required for this section. However, physical sample, color samples, or layout shop drawings must be submitted where required by the specification.**

As contractor for work specified under the section named above, I agree to use only the products/devices listed below that were listed in the specification section.

Contractor:

Date:

Print Name: Filled out by Contractor

Title:

Signature: _____

Notary:

County:

Date Commission Expires:

Print Name:

Signature: _____

Filled out by Contractor and Notary used from Contractor

Reviewed By: Construction Manager, Inc.

Date:

Print Name: Filled out by Construction Manager

Signature: _____

Reviewed By: Kingscott Associates, Inc.

Date:

Print Name:

Signature: _____

Filled out by Architect

List the manufacturer's name and model number(s) for each item being submitted in this division. Provide all relevant information not covered by the model number to show full compliance with each requirement of the specification. This will include but is not limited to color, finish, size, thickness and all other selectable option. Note: Use location for each listed item when several different products in this division are used in specific locations.

Specification Section:

Manufacturer's Name:

Model Number:

096519
096519

Shaw Commercial
Shaw Commercial

Uncommon Ground 6 #0188V (LVT-1)
Skyline #02560 (LVT-2)

095113
095113
095113
095113

Armstrong
Armstrong
Armstrong
Armstrong

#1713 (CP-1)
#3101 (CP-2)
Armstrong Prelude XL (ME-1 grid)
Armstrong Axiom Classic Trim (ME-2 grid and trim)

Material Compliance Form

Name of Building:

Owner:

Bid Package #:

A/E #:

Cc:

Material Compliance Submittal Section:

This document is to be used by this contractor to indicate the products/devices intended for use in this project without the need for product data submittals. Items listed are approved products in the specifications. No substitutions allowed. Select one (1) source for each category, sign this sheet, and submit as the contractor's commitment to use products required by the contract documents. **No further product data submittals are required for this section. However, physical sample, color samples, or layout shop drawings must be submitted where required by the specification.**

As contractor for work specified under the section named above, I agree to use only the products/devices listed below that were listed in the specification section.

Contractor:

Date:

Print Name:

Title:

Signature:

Notary:

County:

Date Commission Expires:

Print Name:

Signature:

Reviewed By: Construction Manager, Inc.

Date:

Print Name:

Signature:

Reviewed By: Kingscott Associates, Inc.

Date:

Print Name:

Signature:

List the manufacturer's name and model number(s) below for each item being submitted in this division. Provide all relevant information not covered by the model number to show full compliance with each requirement of the specification. This will include but is not limited to color, finish, size, thickness and all other selectable option. Note: Use location for each listed item when several different products in this division are used in specific locations.

Specification Section:

Manufacturer's Name:

Model Number:

Electronic Media Authorization

Media Fee Schedule:

1 to 6 Drawings – No Fee

No more than six (6) drawings

Signed waiver required prior to release

Project Name: _____ KAI Project# _____

Name : _____ Company: _____

Address: _____

City, State, Zip: _____

Phone: _____ Email: _____

Autocad file version: _____

Signature: _____ Date: _____

By signing, you are agreeing to the Terms and Conditions on the following page

Documents Requested:	KAI DWG #	Issued Date on DWG
----------------------	-----------	--------------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

Approved by: _____ Date: _____

Return Form to:

ldailey@kingscott.com

Kingscott Associates

259 East Michigan Avenue, Suite 308, Kalamazoo, MI 49007

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At your request, Kingscott Associates, Inc. (Kingscott) will provide electronic files related to subject to the following terms and conditions.

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LIMITATIONS ON USE; WAIVER OF LEGAL AND EQUIVABLE CLAIMS

Data contained on these electronic files is part of Kingscott's instruments of service and shall not be used by you or anyone else receiving this data through or from you for any purpose other than as a convenience in the preparation of shop drawings for the referenced project. Any other use or reuse by you or by others will be at your sole risk and without liability or legal exposure to Kingscott. You agree to make no claim or hereby waive, to the fullest extent permitted by law, any legal or equitable claim or cause of action of any nature against Kingscott, its officers, employees, agents or subconsultants which may arise out of or in connection with your use of the electronic files.

INDEMNIFICATION

You agree to the fullest extent permitted by law, indemnify and hold harmless, Kingscott from all claims, damages, losses and expenses, including attorney's fees arising out of or resulting from your use of these electronic files. Because of the potential that the information presented on the electronic files can be modified, unintentionally or otherwise, Kingscott reserves the right to remove all indicia of its ownership and/or involvement for each electronic display. These electronic files are for the exclusive use of the addressee and shall not be transferred to a second party without the written consent of Kingscott.

Kingscott will furnish to you electronic files after the completion of the Electronic Media Authorization Form. Under no circumstances, shall a delivery of the electronic files for use by you, be deemed a sale by Kingscott.

SECTION 23 8200
CONVECTION HEATING AND COOLING UNITS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Unit ventilators.

1.2 RELATED REQUIREMENTS

- A. Division 01 - General Requirements: Project procedural and administrative requirements.
- B. Section 23 0005 - Basic HVAC Requirements
- C. Section 23 0913 - Instrumentation and Control Devices for HVAC.
- D. Section 23 0993 - Sequence of Operations for HVAC Controls.
- E. Section 23 2300 - Refrigerant Piping.
- F. Section 23 3100 - HVAC Ducts and Casings.

1.3 REFERENCE STANDARDS

- A. AHRI Directory of Certified Product Performance - Air-Conditioning, Heating, and Refrigeration Institute (AHRI) Current Edition.
- B. AHRI 350 - Sound Performance Rating of Non-Ducted Indoor Air-Conditioning and Heat Pump Equipment 2015.
- C. AHRI 840 - Unit Ventilators 1998.
- D. ASHRAE (HVAC) - ASHRAE Handbook - HVAC Applications Most Recent Edition Cited by Referring Code or Reference Standard.
- E. ASTM B88 - Standard Specification for Seamless Copper Water Tube 2022.
- F. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems 2021.
- G. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible 2021.

1.4 SUBMITTALS

- A. Contractor shall provide submittals for equipment listed herein. Refer to Division 01 - General Requirements for submittal procedures.
- B. Product Data: Provide typical catalog of information including arrangements.
- C. Shop Drawings:
 - 1. Indicate cross sections of cabinets, grilles, bracing and reinforcing, and typical elevations.

2. Indicate air coil and frame configurations, dimensions, materials, rows, connections, and rough-in dimensions.
 3. Submit schedules of equipment and enclosures typically indicating length and number of pieces of element and enclosure, corner pieces, end caps, cap strips, access doors, pilaster covers, and comparison of specified heat required to actual heat output provided.
- D. Manufacturer's Instructions: Indicate installation instructions and recommendations.
- E. Project Record Documents: Record actual locations of components and locations of access doors in radiation cabinets required for access or valving.
- F. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, installation instructions, maintenance and repair data, and parts listings.
- G. Warranty: Submit manufacturer's warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.1 VERTICAL UNIT VENTILATORS

- A. Manufacturers:
1. Airedale (Basis of Design): www.modinehvac.com
 2. ChangeAir: www.systemaire.com
 3. Substitutions: Refer to front end specifications for substitution requirements.
- B. Performance Data and Safety Requirements:
1. Unit capacities certified and tested in accordance with AHRI 840 and AHRI 350.
 2. Provide products listed, classified, and labeled by Underwriters Laboratories Inc. (UL), Intertek (ETL), or testing firm acceptable to Authority Having Jurisdiction as suitable for the purpose indicated.
- C. Required Directory Listings: AHRI Directory of Certified Product Performance - Air-Conditioning, Heating, and Refrigeration Institute (AHRI).
- D. Cabinet:

1. Insulation: 1-inch thick, acoustic Hushcloth Polyester/Polyurethane foam with density of 2-pounds per cubic foot containing no fibrous materials. 1-inch thick, acoustic Hushcloth Melamine with barrier and 2 acoustic Hushcloth Melamine with density of 0.56 pounds per cubic foot.
 - a. Fire-Hazard Classification: Insulation shall have a fire rating of UL94HF-1.
 - b. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1-2010.
2. Cabinet Construction: Constructed from aluminized steel with 20 gauge panels, degreased and coated with electrostatically applied baked-on polyester powder paint, except back panel will remain unpainted.
3. STUDY Acoustic Package: Unit to be constructed with multi-layered premium foam insulation with barrier, and revised airflow paths to maximize acoustic dampening.
4. Cabinet Interior: Interior right and left hand sides shall employ 20 gauge galvanized steel full double wall construction.
5. Cabinet Finish: The unit color shall be CUSTOMER TO SPECIFY COLOR. Paint finish shall be easily cleanable and hard wearing to give maximum protection.
6. Service and Maintenance Access: All service and maintenance access shall be possible through the front of the unit only.
7. Return air openings shall be integrated into the cabinet sides.
8. Access door is factory installed on the front of the unit. Door interior shall be fully insulated to provide for superior noise deadening at front of unit. Door shall employ heavy duty 1/4" zinc plated steel plunger hinges with a spring-loaded 1/4" zinc plated steel pin to allow for easy removal, if required. Door is secured with two (2) key locks. Door swing designed to turn into itself allowing side of the unit to be installed directly against a wall in the corner of a room.
9. Condensate Connection: Factory installed condensate connection stub provided for connection to the field installed building condensate drain. Tube dimensions 3/4" ID, 1" OD.

E. Refrigeration System

1. Compressor: Two stage hermetic scroll compressor mounted on four (4) 125 lb neoprene rubber 35-45 durometer vibration isolators for quiet operation. Compressor contains an internal unloading mechanism to provide capacity control and enable part load efficiencies to be increased.
 - a. An internal overload protector included to protect compressor against excessive motor temperatures and currents.

- b. Compressor is equipped with a crankcase heater to guard against liquid flood-back conditions and the elimination of oil foaming upon start up.
- c. Factory set high and low-pressure switches, automatic reset high pressure cutout, and automatic reset low-pressure cutout.

2. Coil

- a. Provide factory installed thermal expansion valves, properly sized to accommodate the selected condensing unit.
- b. Factory proof and leak tested to ensure leak tight operation.
- c. Provide insulated drain pan, to prevent condensation, with field convertible left or right hand connections.

F. Heating Hot Water Coil

- 1. Hot Water Coil (unit mounted): Unit is equipped with a one row hot water heating coil integral to the unit mounted in the reheat position relative to the evaporator coil. The coil is manufactured from refrigeration quality copper tubing mechanically bonded onto aluminum fins. Coil is fitted with both an air bleed and a drain plug.
- 2. The hot water coil shall include the following:
 - a. 3/4" two-way or three-way modulating valve for capacity control; refer to drawings and schedules for valve arrangement.
 - b. Two 3/4" manual shut-off valves
 - c. 3/4" hot water strainer
 - d. 3/4" hot water circuit setter
 - e. 3/4" hot water drain with hose and bib
 - f. 3/4" PT Ports

G. Fans: The indoor fan assembly consists of one blower inside teardrop housing assembly engineered specifically for optimal airflow with low noise and minimal power consumption. Blower is powered by electronically commutated motor (ECM). The DC motor features brushless, permanently lubricated ball bearing construction for maintenance free operation. A wide range of programmable speeds and torque characteristics is possible for ultra-high efficiency and low audible noise. The ECM provides constant airflow by automatically adjusting the speed if the external static pressure changes. Electrical and control wiring to fan assembly includes quick disconnect plug local to assembly.

H. Controls:

- 1. Provide units with control valves furnished by the unit ventilator manufacturer.

2. Provide units with BACnet Network Card.
 3. Control Panel: Located at top of the unit behind the front door for direct, centrally located access to controller, controller transformer (24V), and all necessary contactors, relays, and circuit breakers.
 4. Wiring: Individually numbered terminal blocks and wires are to match job-specific wiring diagrams. All electrical wires in the control panel will run in an enclosed trough. Wiring outside the control panel to be contained in a protective sleeve. All controls and wiring is factory installed in a clean, organized arrangement.
 5. Plug and Socket Wiring: Supply and Exhaust Fan decks, compressor, damper assembly, and energy wheel assembly (if applicable) wiring includes plugs local to the assembly allowing for quick wiring disconnect when the component requires removal for service.
 6. Provide ASHRAE Cycle I as defined in ASHRAE (HVACA) Handbook - HVAC Applications.
- I. Economizer:
1. Single-blade damper that pivots using a central single shaft attached to a single actuator allowing for complete balance of the return, outside, and exhaust air streams. Capable of full modulation allowing any mixture of outside air and return air to be possible. Will allow for 100% of the units airflow to be taken from the outside during conditions allowing for full economizer savings. Damper blade edges lined with rubber gasket to prevent air infiltration in full recirculation or full economizer operation. Complete damper assembly slides out of unit on rails allowing for the damper assembly to be removed through the front of the unit if it requires service. Electrical and control wiring to damper assembly includes quick disconnect plug local to assembly.
 2. Damper Actuator: Low voltage modulating damper actuator with spring-return, fail safe. When power is cut to actuator, damper actuator will force damper blade closed to outside air.
- J. Factory Installed Options:
1. Needlepoint Bipolar Ionization (NPBI): Mounted to the supply fan blower housing, NPBI introduces ions into the space to purify the air by eliminating airborne particulates, odors, and pathogens. When ions are introduced to the space, particles are clustered together and captured by the unit's filter. The device shall operate between -20°F and 200°F, and 0-100% relative humidity. The device is UL, cUL, and CE listed, UL 867 and UL 2998 certified, and maintenance free (self-cleaning).
 2. Disconnect Switch: A power disconnect switch sized for the full load amperage of the unit. Allows the unit to be disconnected from the power supply prior to any maintenance. In the off position the switch can be locked out.
- K. Filter:

1. Filter: 2" thick and utilize 17.5 pleats per foot. Filter shall be constructed from 100 Synthetic media and be LEED/Green compliant. Minimum Efficiency Reporting Value of MERV 13 per ASHRAE standard 52.2. 99 Arrestance and 70-80 Dust Spot Efficiency based on the ASHRAE 52.1 - 1992 test method.

L. Field Installed Accessories

1. Wall Sleeve: Designed to provide a sealed plenum for the fresh air intake and exhaust air outlet on the back of the classroom unit to the outside of the building. Intake and exhaust airstreams are separated with an insulated horizontal splitter plate. A two-piece frame allows for the sleeve to adjust to wall depths between 8" and 14". Includes double-sided gasket to create an air tight seal between the wall sleeves and the back of the unit.
2. Louver: An outdoor louver suitable for masonry, glass, or panel wall construction. The louvers are flanged style with the following finish:
 - a. Anodized Aluminum with bird screen
3. Outside Air Rear Extension: Where site conditions do not permit the use of the standard locations for outside air intake and exhaust air discharge, an insulated outside air rear extension is supplied for site installation between the back of the unit and the outside wall by the mechanical contractor. The outside air rear extension is 6" deep and with adjustable panels to allow for the exhaust air discharge to be at a height from floor of 22' - 30'.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are suitable for installation.

3.2 PREPARATION

- A. Provide housekeeping pads for blower-coil units under provisions of Section 03 3000.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's recommendations.
- B. Install equipment exposed to finished areas after walls and ceilings are finished and painted.
- C. Do not damage equipment or finishes.
- D. Unit Ventilators:
 1. Locate as indicated, level and shim units, and anchor to structure.
 2. Coordinate exact location of wall louvers.
 3. Install shelving and auxiliary cabinetry.

4. Provide wall trim pieces for continuous wall-to-wall installation.

E. Units with Hydronic Coils:

1. Provide with shut-off valve on supply piping and tamper-proof, balancing valve with memory stop on return piping.
2. If not easily accessible, extend air vent to exterior surface of cabinet for ease of servicing.

F. Units with Cooling Coils: Connect drain pan to condensate drain.

3.4 FIELD QUALITY CONTROL

- A. Refer to Division 01 - General Requirements for additional requirements.

3.5 CLEANING

- A. Touch-up marred or scratched surfaces of factory-finished cabinets using finish materials furnished by the manufacturer.
- B. Install new filters.

3.6 PROTECTION

- A. Provide finished cabinet units with protective covers during the balance of construction.

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SECTION 26 0573
POWER SYSTEM STUDIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Short-circuit study.
- B. Protective device coordination study.
- C. Arc flash and shock risk assessment.
 - 1. Includes arc flash hazard warning labels.
- D. Criteria for the selection and adjustment of equipment and associated protective devices not specified in this section, as determined by studies to be performed.

1.2 RELATED REQUIREMENTS

- A. Division 01 - General Requirements: Project administrative and procedural requirements.
- B. Section 26 0005 - Basic Electrical Requirements.
- C. Section 26 0553 - Identification for Electrical Systems: Additional requirements for arc flash hazard warning labels.
- D. Section 26 2416 - Panelboards.
- E. Section 26 2813 - Fuses.
- F. Section 26 2816.16 - Enclosed Switches.

1.3 REFERENCE STANDARDS

- A. ANSI 535.4 - American National Standard for Product Safety Signs and Labels 2011 (Reaffirmed 2017).
- B. IEEE 141 - IEEE Recommended Practice for Electrical Power Distribution for Industrial Plants 1993 (Reaffirmed 1999).
- C. IEEE 242 - IEEE Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems 2001, with Errata (2003).
- D. IEEE 399 - IEEE Recommended Practice for Industrial and Commercial Power Systems Analysis 1997.
- E. IEEE 551 - IEEE Recommended Practice for Calculating Short-Circuit Currents in Industrial and Commercial Power Systems 2006.
- F. IEEE 1584 - IEEE Guide for Performing Arc-Flash Hazard Calculations 2018, with Errata (2019).

- G. NEMA MG 1 - Motors and Generators 2021.
- H. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.
- I. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. NFPA 70E - Standard for Electrical Safety in the Workplace 2021.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Existing Installations: Coordinate with equipment manufacturer(s) to obtain data necessary for completion of studies.
 - 2. Coordinate the work to provide equipment and associated protective devices complying with criteria for selection and adjustment, as determined by studies to be performed.
 - 3. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Submit study reports prior to or concurrent with product submittals.
 - 2. Do not order equipment until matching study reports and product submittals have both been evaluated by Architect.

1.5 SUBMITTALS

- A. Contractor shall provide submittals for equipment listed herein. Refer to Division 01 for submittal procedures.
- B. Study reports, stamped or sealed and signed by study preparer.
- C. Product Data: In addition to submittal requirements specified in other sections, include manufacturer's standard catalog pages and data sheets for equipment and protective devices indicating information relevant to studies.
 - 1. Identify modifications made in accordance with studies that:
 - a. Can be made at no additional cost to Owner.
 - b. As submitted will involve a change to the contract sum.

1.6 POWER SYSTEM STUDIES

- A. Scope of Studies:
 - 1. Perform analysis of new electrical distribution system as indicated on drawings.

2. Except where study descriptions below indicate exclusions, analyze system at each bus from primary protective devices of utility source down to each piece of equipment involved, including parts of system affecting calculations being performed (e.g. fault current contribution from motors).
3. Include in analysis alternate sources and operating modes (including known future configurations) to determine worst case conditions.

B. General Study Requirements:

1. Comply with NFPA 70.
2. Perform studies utilizing computer software complying with specified requirements; manual calculations are not permitted.

C. Data Collection:

1. Compile information on project-specific characteristics of actual installed equipment, protective devices, feeders, etc. as necessary to develop single-line diagram of electrical distribution system and associated input data for use in system modeling.
 - a. Utility Source Data: Include primary voltage, maximum and minimum three-phase and line-to-ground fault currents, impedance, X/R ratio, and primary protective device information.
 - 1) Obtain up-to-date information from Utility Company.
 - b. Generators: Include manufacturer/model, kW and voltage ratings, and impedance.
 - c. Motors: Include manufacturer/model, type (e.g. induction, synchronous), horsepower rating, voltage rating, full load amps, and locked rotor current or NEMA MG 1 code letter designation.
 - d. Transformers: Include primary and secondary voltage ratings, kVA rating, winding configuration, percent impedance, and X/R ratio.
 - e. Protective Devices:
 - 1) Circuit Breakers: Include manufacturer/model, type (e.g. thermal magnetic, electronic trip), frame size, trip rating, voltage rating, interrupting rating, available field-adjustable trip response settings, and features (e.g. zone selective interlocking).
 - 2) Fuses: Include manufacturer/model, type/class (e.g. Class J), size/rating, and speed (e.g. time delay, fast acting).
 - f. Protective Relays: Include manufacturer/model, type, settings, current/potential transformer ratio, and associated protective device.

- g. Conductors: Include feeder size, material (e.g. copper, aluminum), insulation type, voltage rating, number per phase, raceway type, and actual length.

D. Short-Circuit Study:

1. Comply with IEEE 551 and applicable portions of IEEE 141, IEEE 242, and IEEE 399.
2. For purposes of determining equipment short circuit current ratings, consider conditions that may result in maximum available fault current, including but not limited to:
 - a. Maximum utility fault currents.
 - b. Maximum motor contribution.
 - c. Known operating modes (e.g. utility as source, generator as source, utility/generator in parallel, bus tie breaker open/close positions).
3. For each bus location, calculate the maximum available three-phase bolted symmetrical and asymmetrical fault currents. For grounded systems, also calculate the maximum available line-to-ground bolted fault currents.

E. Arc Flash and Shock Risk Assessment:

1. Comply with NFPA 70E.
2. Perform incident energy and arc flash boundary calculations in accordance with IEEE 1584 (as referenced in NFPA 70E Annex D), where applicable.
3. Analyze alternate scenarios considering conditions that may result in maximum incident energy, including but not limited to:
 - a. Maximum and minimum utility fault currents.
 - b. Maximum and minimum motor contribution.
 - c. Known operating modes (e.g. utility as source, generator as source, utility/generator in parallel, bus tie breaker open/close positions).

F. Study Reports:

1. General Requirements:
 - a. Identify date of study and study preparer.
 - b. Identify study methodology and software product(s) used.
 - c. Identify scope of studies, assumptions made, implications of possible alternate scenarios, and any exclusions from studies.
 - d. Identify base used for per unit values.

- e. Include single-line diagram and associated input data used for studies; identify buses on single-line diagram as referenced in reports, and indicate bus voltage.
 - f. Include conclusions and recommendations.
- 2. Short-Circuit Study:
 - a. For each scenario, identify at each bus location:
 - 1) Calculated maximum available symmetrical and asymmetrical fault currents (both three-phase and line-to-ground where applicable).
 - 2) Fault point X/R ratio.
 - 3) Associated equipment short circuit current ratings.
 - b. Identify locations where the available fault current exceeds the equipment short circuit current rating, along with recommendations.
- 3. Arc Flash and Shock Risk Assessment:
 - a. For the worst case for each scenario, identify at each bus location:
 - 1) Calculated incident energy and associated working distance.
 - 2) Calculated arc flash boundary.
 - 3) Bolted fault current.
 - 4) Arcing fault current.
 - 5) Clearing time.
 - 6) Arc gap distance.
 - b. For purposes of producing arc flash hazard warning labels, summarize the maximum incident energy and associated data reflecting the worst case condition of all scenarios at each bus location.

1.7 QUALITY ASSURANCE

- A. Study Preparer Qualifications: Professional electrical engineer licensed in the State in which the Project is located and with minimum five years experience in preparation of studies of similar type and complexity using specified computer software.
- B. Computer Software for Study Preparation: Use the latest edition of commercially available software utilizing specified methodologies.

PART 2 PRODUCTS

2.1 ARC FLASH HAZARD WARNING LABELS

- A. Provide warning labels complying with ANSI 535.4 to identify arc flash hazards for each work location analyzed by the arc flash and shock risk assessment.
 - 1. Materials: Comply with Section 26 0553.
 - 2. Legend: Provide custom legend in accordance with NFPA 70E based on equipment-specific data as determined by arc flash and shock risk assessment.
 - a. Include the following information:
 - 1) Arc flash boundary.
 - 2) Available incident energy and corresponding working distance.
 - 3) Nominal system voltage.
 - 4) Equipment identification.
 - 5) Study preparer, report reference, and date calculations were performed.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install arc flash warning labels in accordance with Section 26 0553.

3.2 FIELD QUALITY CONTROL

- A. Provide the services of field testing agency or equipment manufacturer's representative to perform inspection, testing, and adjusting.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Adjust equipment and protective devices for compliance with studies and recommended settings.
- D. Notify Strategic Energy Solutions, Inc. of any conflicts with or deviations from studies. Obtain direction before proceeding.

SECTION 26 2416
PANELBOARDS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Power distribution panelboards.
- B. Overcurrent protective devices for panelboards.

1.2 RELATED REQUIREMENTS

- A. Division 01 - General Requirements: Project administrative and procedural requirements.
- B. Division 02 - Existing Conditions: Demolition, cleaning and disposal requirements, cutting and patching requirements, and repairs.
- C. Division 03 - Concrete: Concrete equipment pads.
- D. Section 26 0005 - Basic Electrical Requirements.
- E. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- F. Section 26 0529 - Hangers and Supports for Electrical Systems.
- G. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.
- H. Section 26 0573 - Power System Studies: Additional criteria for the selection and adjustment of equipment and associated protective devices specified in this section.
- I. Section 26 2813 - Fuses: Fuses for fusible switches and spare fuse cabinets.
- J. Section 26 4300 - Surge Protective Devices.

1.3 REFERENCE STANDARDS

- A. FS W-C-375 - Circuit Breakers, Molded Case; Branch Circuit and Service 2013e, with Amendment (2017).
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- C. NECA 407 - Standard for Installing and Maintaining Panelboards 2015.
- D. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.
- E. NEMA PB 1 - Panelboards 2011.
- F. NEMA PB 1.1 - General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less 2013.

- G. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.
- H. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- I. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations Current Edition, Including All Revisions.
- J. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations Current Edition, Including All Revisions.
- K. UL 67 - Panelboards Current Edition, Including All Revisions.
- L. UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit Breaker Enclosures Current Edition, Including All Revisions.
- M. UL 869A - Reference Standard for Service Equipment Current Edition, Including All Revisions.
- N. UL 943 - Ground-Fault Circuit-Interrupters Current Edition, Including All Revisions.
- O. UL 1699 - Arc-Fault Circuit-Interrupters Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
 - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 3. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.
 - 4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.5 SUBMITTALS

- A. Contractor shall provide submittals for equipment listed herein. Refer to Division 01 for submittal procedures.
- B. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, overcurrent protective device arrangement and sizes, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.
 - 1. Include documentation of listed series ratings as indicated in Section 26 0573.

- C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.
- D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Panelboard Keys: Two of each different key.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. ABB/GE: www.geindustrial.com
- B. Eaton Corporation: www.eaton.com
- C. Schneider Electric; Square D Products: www.schneider-electric.us
- D. Siemens Industry, Inc: www.usa.siemens.com
- E. Source Limitations: Furnish panelboards and associated components produced by the same manufacturer as the other electrical distribution equipment used for this project and obtained from a single supplier.

2.2 PANELBOARDS - GENERAL REQUIREMENTS

- A. Provide products listed, classified, and labeled as suitable for the purpose intended.
- B. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:
 - 1. Altitude: Less than 6,600 feet.
 - 2. Ambient Temperature:
 - a. Panelboards Containing Circuit Breakers: Between 23 degrees F and 104 degrees F.
 - b. Panelboards Containing Fusible Switches: Between -22 degrees F and 104 degrees F.
- C. Short Circuit Current Rating:
 - 1. Provide panelboards with listed short circuit current rating not less than the available fault current at the installed location as indicated on the drawings.
- D. Panelboards Used for Service Entrance: Listed and labeled as suitable for use as service equipment according to UL 869A.
- E. Mains: Configure for top or bottom incoming feed as indicated or as required for the installation.

- F. Branch Overcurrent Protective Devices: Replaceable without disturbing adjacent devices.
- G. Bussing: Sized in accordance with UL 67 temperature rise requirements.
 - 1. Provide solidly bonded equipment ground bus in each panelboard, with a suitable lug for each feeder and branch circuit equipment grounding conductor.
- H. Conductor Terminations: Suitable for use with the conductors to be installed.
- I. Enclosures: Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E.
 - 1. Environment Type per NEMA 250: Unless otherwise indicated, as specified for the following installation locations:
 - a. Indoor Clean, Dry Locations: Type 1.
 - b. Outdoor Locations: Type 3R.
 - 2. Boxes: Galvanized steel unless otherwise indicated.
 - a. Provide wiring gutters sized to accommodate the conductors to be installed.
 - b. Increase gutter space as required where sub-feed lugs, feed-through lugs, gutter taps, or oversized lugs are provided.
 - 3. Fronts:
 - a. Fronts for Surface-Mounted Enclosures: Same dimensions as boxes.
 - b. Fronts for Flush-Mounted Enclosures: Overlap boxes on all sides to conceal rough opening.
 - 4. Lockable Doors: All locks keyed alike unless otherwise indicated.
- J. Future Provisions: Prepare all unused spaces for future installation of devices including bussing, connectors, mounting hardware and all other required provisions.
- K. Surge Protective Devices: Where factory-installed, internally mounted surge protective devices are provided in accordance with Section 26 4300, list and label panelboards as a complete assembly including surge protective device.
 - 1. Provide Surge Protective Devices internally mounted within all panels which are specified as part of the Emergency distribution power system.
- L. Multi-Section Panelboards: Provide enclosures of the same height, with feed-through lugs or sub-feed lugs and feeders as indicated or as required to interconnect sections.
- M. Load centers are not acceptable.

2.3 POWER DISTRIBUTION PANELBOARDS

- A. Description: Panelboards complying with NEMA PB 1, power and feeder distribution type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.
- B. Conductor Terminations:
 - 1. Main and Neutral Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
 - 2. Main and Neutral Lug Type: Mechanical.
- C. Bussing:
 - 1. Phase and Neutral Bus Material: Aluminum.
 - 2. Ground Bus Material: Aluminum.
- D. Circuit Breakers:
 - 1. Provide bolt-on type or plug-in type secured with locking mechanical restraints.
- E. Enclosures:
 - 1. Provide surface-mounted enclosures unless otherwise indicated.
 - 2. Fronts: Provide trims to cover access to load terminals, wiring gutters, and other live parts, with exposed access to overcurrent protective device handles.
 - 3. Provide clear plastic circuit directory holder mounted on inside of door.

2.4 OVERCURRENT PROTECTIVE DEVICES

- A. Molded Case Circuit Breakers:
 - 1. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489, and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
 - 2. Interrupting Capacity:
 - a. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated.
 - b. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.
 - 3. Conductor Terminations:
 - a. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.

4. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.
5. Provide the following circuit breaker types where indicated:
 - a. Ground Fault Circuit Interrupter (GFCI) Circuit Breakers: Listed as complying with UL 943, class A for protection of personnel.
 - b. Ground Fault Equipment Protection Circuit Breakers: Designed to trip at 30 mA for protection of equipment.
 - c. Arc-Fault Circuit Interrupter (AFCI) Circuit Breakers: Combination type listed as complying with UL 1699.
 - d. 100 Percent Rated Circuit Breakers: Listed for application within the panelboard where installed at 100 percent of the continuous current rating.
6. Do not use tandem circuit breakers.
7. Do not use handle ties in lieu of multi-pole circuit breakers.
8. Provide multi-pole circuit breakers for multi-wire branch circuits as required by NFPA 70.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that the ratings and configurations of the panelboards and associated components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive panelboards.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship).
- B. Install products in accordance with manufacturer's instructions.
- C. Install panelboards in accordance with NECA 407 and NEMA PB 1.1.
- D. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- E. Provide required support and attachment in accordance with Section 26 0529.
- F. Install panelboards plumb.

- G. Mount panelboards such that the highest position of any operating handle for circuit breakers or switches does not exceed 79 inches above the floor or working platform.
- H. Mount floor-mounted power distribution panelboards on properly sized 3 inch high concrete pad constructed in accordance with Section 03 3000.
- I. Provide grounding and bonding in accordance with Section 26 0526.
- J. Install all field-installed branch devices, components, and accessories.
- K. Provide filler plates to cover unused spaces in panelboards.

3.3 FIELD QUALITY CONTROL

- A. Inspect and test in accordance with NETA ATS, except Section 4.
- B. Fusible Switches: Perform inspections and tests listed in NETA ATS, Section 7.5.1.1.
- C. Molded Case Circuit Breakers: Perform inspections and tests listed in NETA ATS, Section 7.6.1.1 for all main circuit breakers and circuit breakers larger than 225 amperes. Tests listed as optional are not required.
- D. Ground Fault Protection Systems: Test in accordance with manufacturer's instructions as required by NFPA 70.
- E. Test GFCI circuit breakers to verify proper operation.
- F. Test AFCI circuit breakers to verify proper operation.
- G. Correct deficiencies and replace damaged or defective panelboards or associated components.

3.4 ADJUSTING

- A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.
- B. Adjust alignment of panelboard fronts.
- C. Load Balancing: For each panelboard, rearrange circuits such that the difference between each measured steady state phase load does not exceed 20 percent and adjust circuit directories accordingly. Maintain proper phasing for multi-wire branch circuits.

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CAVANAUGH HVAC REMODEL

LANSING SCHOOL DISTRICT

300 W Cavanaugh Road
Lansing, MI 48910

PRE -PURCHASE EQUIPMENT PACKAGE
JULY 28, 2023



CAVANAUGH HVAC
REMODEL
LANSING SCHOOL DISTRICT
300 W Cavanaugh Road
Lansing, MI 48910



ISSUANCES	DATE
SCHEMATIC DESIGN	04/27/2023
DESIGN DEVELOPMENT	07/27/2023
PRE PURCHASE EQUIPMENT	07/28/2023

JOB NO. 2616-018

SHEET TITLE
TITLE SHEET

SHEET NO.

G0.1

KINGS SCOTT ASSOCIATES INC. KALAMAZOO, MICHIGAN

DIRECTORY

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4000 WEST 11 MILE ROAD
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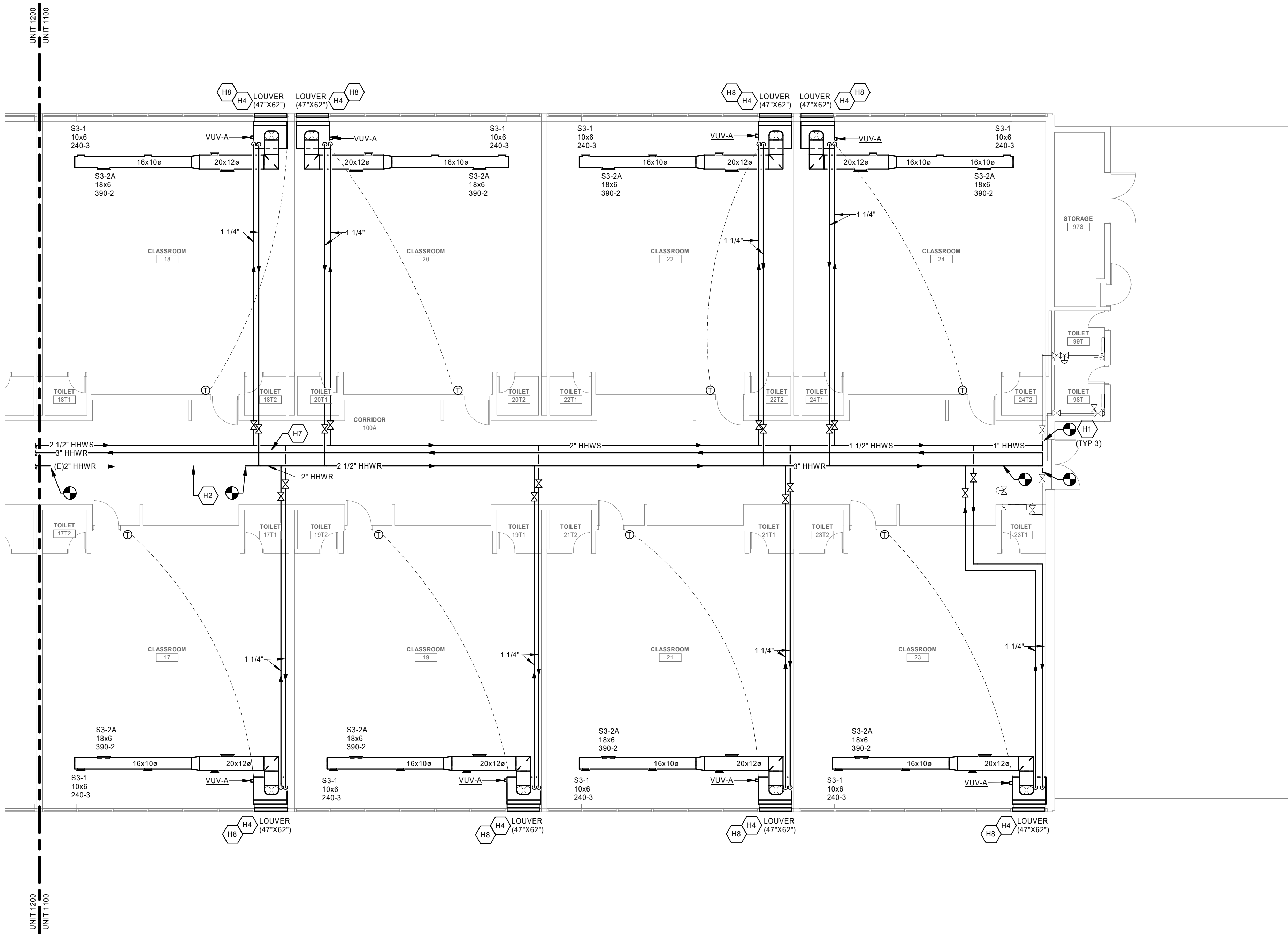
STRUCTURAL ENGINEER:
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ANN ARBOR, MI 48104
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SHEET INDEX:

NO.	NAME
M1.1	MECHANICAL PLAN - UNIT 100
M1.2	MECHANICAL PLAN - UNIT 200
M6.0	MECHANICAL SCHEDULES AND DETAILS
M9.0	MECHANICAL CONTROLS
ET.0	ELECTRICAL DIAGRAMS, SCHEDULES AND DETAILS



THESE DRAWINGS AND THE WORK REPRESENTED THEREIN ARE THE PROPERTY OF SES. NO PART OF THESE DRAWINGS MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM SES. © 2023 SES, INC. C:\Users\jdo\Documents\230518181_LHS_Cavanaugh_MEP_2023_3646a.rvt



MECHANICAL PLAN - UNIT 100
SCALE: 1/8" = 1'-0"

HVAC GENERAL NOTES

- THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. PROVIDE HVAC SYSTEMS COMPLETE PER SPECIFICATION, SMACNA STANDARDS, AND PER APPLICABLE CODES INCLUDING ALL NECESSARY OFFSETS, FITTINGS, SPECIAL RADII OR MITERED ELBOWS WHICH ARE REQUIRED DUE TO SPACE CONSTRAINTS OR STRUCTURAL CONDITIONS OR OTHER CONDITIONS.
- CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE WORK OF ALL OTHER TRADES. ALL DUCTWORK IS TO BE ROUTED AS HIGH AS POSSIBLE. PROVIDE ACCESS AROUND ALL NEW EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ALL CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK.
- DUCTWORK/PIPING SHALL BE ROUTED AS HIGH AS POSSIBLE AND SHALL NOT BE LOCATED OVER ELECTRICAL EQUIPMENT/PANELS. PROVIDE REQUIRED CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT. DUCTWORK/PIPING SHALL NOT INTERFERE WITH ELECTRICAL EQUIPMENT CLEARANCE.
- DUCTWORK/PIPING SHALL NOT BE INSTALLED IN A LOCATION THAT RESTRICTS THE ACCESS TO MECHANICAL DEVICES REQUIRING ACCESS.
- THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
- COORDINATE FLOOR, WALL, ROOF PENETRATIONS, LOUVER SIZES, PAD LOCATIONS ETC. WITH ARCHITECTURAL TRADES. SEAL ALL PIPING AND DUCT PENETRATIONS.
- THE CONTRACTOR SHALL REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.
- COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILING AREAS FOR ACCESS TO BALANCING DAMPERS, ETC. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- BRANCH DUCTWORK TO GRILLES, REGISTERS AND DIFFUSERS SHALL BE THE SAME SIZE AS THE GRILLE, REGISTER OR DIFFUSER NECK SIZE WHERE NO DUCT SIZE IS INDICATED ON PLAN.
- MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 5'-0".
- FOR EQUIPMENT VALVING, COMPONENT, AND PIPING ARRANGEMENT, REFER TO PIPING DIAGRAMS AND DETAILS.
- PAIN ALL VISIBLE INTERIOR SURFACES OF EXHAUST/RETURN GRILLES, REGISTERS AND VISIBLE ASSOCIATED DUCTWORK FLAT BLACK.
- THE CEILING SPACE IS USED AS A RETURN AIR PLENUM. NO PLASTIC MATERIALS INCLUDING PVC PIPING, CONDUIT, WIRING, ETC. SHALL BE USED. ALL MATERIAL IN THE CEILING SPACE IS TO BE PLENUM RATED.
- PROVIDE CODE REQUIRED CLEARANCE/ACCESS DOORS FOR DAMPERS, VALVES, AND CLEANOUTS LOCATED IN WALLS OR ABOVE HARD CEILINGS. COORDINATE LOCATIONS WITH ARCHITECT. REFER TO ARCHITECTURAL PLANS FOR CEILING TYPES.
- DUCTWORK TO AND FROM VAV BOXES/TERMINAL UNITS SHALL BE EQUAL TO THE BOX CONNECTIONS SIZES UNLESS INDICATED OTHERWISE.
- CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.
- ALL BRANCH PIPING TO TERMINAL UNITS TO BE 3/4" UNLESS OTHERWISE NOTED.

HVAC KEYNOTES

- CONNECT EXISTING HYDRONIC PIPING INTO NEW MAINS. COORDINATE EXACT LOCATION IN FIELD.
- REUSE EXISTING HHWR WHERE ABLE. COORDINATE EXACT LOCATION IN FIELD.
- EXISTING LOUVER TO REMAIN. PROVIDE SHEET METAL PANEL ON INSIDE TO SEAL EXISTING LOUVER WEATHER TIGHT. INSULATE WITH 4" OF RIGID BOARD INSULATION AND CAULK EDGES.
- PROVIDE NEW LOUVER TO FIT WITHIN EXISTING METAL PANEL MULLIONS. SIZE IS APPROXIMATE. FIELD VERIFY EXACT SIZE PRIOR TO ORDERING. WHERE LOUVER IS LARGER THAN REQUIRED OPENING ON BACKSIDE OF VERTICAL UNIT VENTILATOR, PROVIDE SHEET METAL PANEL ON INSIDE TO SEAL NEW LOUVER WEATHER TIGHT. INSULATE WITH 4" ON RIGID INSULATION AND CAULK EDGES. COORDINATE DETAILING AND INSTALLATION WITH ARCHITECTURAL TRADES.
- PROVIDE NEW LOUVER. SIZE IS APPROXIMATE. FIELD VERIFY EXACT SIZE PRIOR TO ORDERING. WHERE LOUVER IS LARGER THAN REQUIRED OPENING ON BACKSIDE OF VERTICAL UNIT VENTILATOR, PROVIDE SHEET METAL PANEL ON INSIDE TO SEAL NEW LOUVER WEATHER TIGHT. INSULATE WITH 4" ON RIGID INSULATION AND CAULK EDGES. COORDINATE DETAILING AND INSTALLATION WITH ARCHITECTURAL TRADES.
- MECHANICAL CONTRACTOR TO COORDINATE INSTALLATION OF REFRIGERANT PIPING BETWEEN INDOOR AND OUTDOOR UNITS PER MANUFACTURER REQUIREMENTS. PUMP CONDENSATE UP TO ROOF.
- APPROXIMATE LOCATION OF DIFFERENTIAL PRESSURE DEVICE. DEVICE TO BE LOCATED 2/3 OF THE LONGEST LENGTH OF PIPING FROM THE HEATING HOT WATER PUMPS. CONTRACTOR SHALL FIRST COORDINATE WITH TAB CONTRACTOR TO VERIFY PROPER DPT INSTALLATION LOCATION IN ORDER TO HAVE ACCURATE DP READING THAT CAN BE CONTROLLED WITH THE HHW PUMPS.
- LOUVER LOCATED AT APPROX. 34.5' AFF. COORDINATE EXACT LOCATION IN FIELD AND WITH ARCHITECTURAL TRADES. COORDINATE UNIT VENTILATOR REAR EXTENSION WITH THE SILL HEIGHT AT SPECIFIC MULLION LOCATION.
- LOUVER LOCATED AT APPROX. 26.5' AFF. COORDINATE EXACT LOCATION IN FIELD AND WITH ARCHITECTURAL TRADES. COORDINATE UNIT VENTILATOR REAR EXTENSION WITH THE SILL HEIGHT AT SPECIFIC MULLION LOCATION.
- LOUVER LOCATED AT APPROX. 35' AFF. COORDINATE EXACT LOCATION IN FIELD AND WITH ARCHITECTURAL TRADES. COORDINATE UNIT VENTILATOR REAR EXTENSION WITH THE SILL HEIGHT AT SPECIFIC MULLION LOCATION.
- LOUVER LOCATED AT APPROX. 38' AFF. COORDINATE EXACT LOCATION IN FIELD AND WITH ARCHITECTURAL TRADES. COORDINATE UNIT VENTILATOR REAR EXTENSION WITH THE SILL HEIGHT REQUIRED FOR LOUVER.



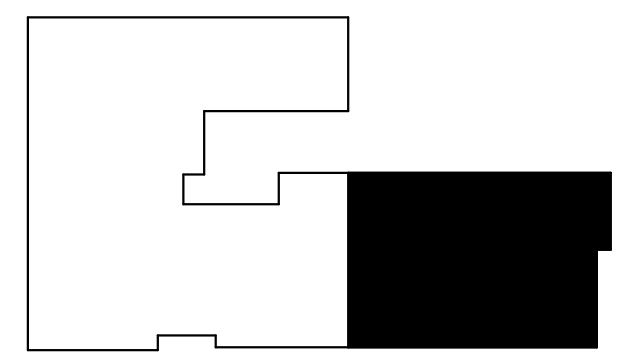
CAVANAUGH HVAC REMODEL

LANSING SCHOOL DISTRICT

300 W Cavanaugh Road
Lansing, MI 48910



ISSUANCES **DATE**
DESIGN DEVELOPMENT 07/27/2023
PRE PURCHASE EQUIPMENT 07/28/2023



KEY PLAN



JOB 2616-01B

SHEET TITLE
MECHANICAL PLAN - UNIT 100

SHEET NO.

M1.1

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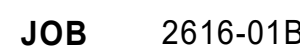
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SES Project # 23 0588

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LANGING SCHOOL DISTRICT

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Lansing, MI 48910





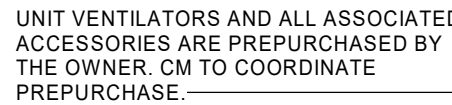
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MECHANICAL PLAN - UNIT
200

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M1.2



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UNIT VENTILATOR W/ 3-WAY CONTROL VALVE PIPING DETAIL

GRILLE, REGISTER AND DIFFUSER SCHEDULE																
UNIT ID	TYPE	AIRFLOW (CFM)		FACE SIZE (IN)	NECK SIZE (IN)	MAX AIR PD (IN-WG)	MAX NC	THROW PATTERN	THROW (FT)	MOUNTING	BORDER	MATERIAL	FINISH	ACCESSORY	MANUFACTURER / MODEL NO.	REMARKS
		MIN FLOW	MAX FLOW						[50 FPM - 100 FPM - 150 FPM]							
S1-3	SQUARE PLAQUE	285	435	24x24	10x	0.10	25	4WAY	4-6-11	LAY IN CEILING	TYPE 31	STEEL	WHITE		PRICE / SPD	
S1-3	SPIRAL DUCT GRILLE	0	420	NECK14	18x6	0.10	20	45° DOUBLE DEFLECTION	7-10-19	SHUTTLE		STEEL	WHITE	AIR SCOOP	PRICE / SDGE	
S3-2A	SPIRAL DUCT GRILLE	0	420	NECK14	18x6	0.10	20	22° DOUBLE DEFLECTION	9-14-19	SIDEWALL		STEEL	WHITE	AIR SCOOP	PRICE / SDGE	
S3-2B	SPIRAL DUCT GRILLE	0	420	NECK14	18x6	0.10	20	45° DOUBLE DEFLECTION	9-14-19	SIDEWALL		STEEL	WHITE	AIR SCOOP	PRICE / SDGE	
S3-3	SPIRAL DUCT GRILLE	0	480	NECK14	20x6	0.10	20	22° DOUBLE DEFLECTION	16-23-33	SIDEWALL		STEEL	WHITE	AIR SCOOP	PRICE / SDGE	

[illegible]

MINI-SPLIT INDOOR UNIT SCHEDULE																	
UNIT ID	UNIT TYPE	ASSOCIATED OUTDOOR UNIT ID	AREA SERVED	SUPPLY (WET COIL) (CFM)	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	DIMENSIONS			ELECTRICAL			DISCONNECT			MANUFACTURER / MODEL NO.	REMARKS
							LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	F.L.A	VOLTS	PHASE	FURN BY	INST BY	TYPE		
AC-1	WALL MOUNTED	CU-1	SERVER	400	9000	9000	35"	8 1/2"	11 3/4"	0.12	230	1	EC	EC	SWITCH	SAMSUNG / RNS05ABT	

VENTILATION SCHEDULE																				
ROOM NUMBER	ROOM NAME	AREA (FT2)	OCCUPANCY CLASSIFICATION	2015 MMC 403.3			VENTILATION										SCHEDULED SA	SCHEDULED OA	SCHEDULED EA	
				PEOPLE RATE	AREA RATE	DENSITY #/1000	DEFAULT PEOPLE	ACTUAL PEOPLE	PEOPLE OA	AREA OA	ACH OA	FIXTURE #	PER FIXTURE EXHAUST	TOTAL EA	AIR DISTRIBUTION EFFECTIVENESS	TOTAL MIN OA				
1	CLASSROOM	1375	CLASSROOM (AGES 9+)	10	0.12	35	49	33	330	165	0	0	0	0	0	0.8	620	1800	620	-
1A	CLASSROOM	910	CLASSROOM (AGES 9+)	10	0.12	35	32	-	320	110	0	0	0	0	0	0.8	540	1500	565	-
1B	CLASSROOM	943	CLASSROOM (AGES 9+)	10	0.12	35	34	33	340	115	0	0	0	0	0	0.8	570	1800	620	-
2	CLASSROOM	1375	CLASSROOM (AGES 9+)	10	0.12	35	49	33	330	165	0	0	0	0	0	0.8	620	1800	620	-
3	CLASSROOM	1020	CLASSROOM (AGES 9+)	10	0.12	35	36	33	360	125	0	0	0	0	0	0.8	610	1500	565	-
4	CLASSROOM	993	CLASSROOM (AGES 9+)	10	0.12	35	35	33	350	120	0	0	0	0	0	0.8	590	1800	620	-
12	CLASSROOM	1130	CLASSROOM (AGES 9+)	10	0.12	35	40	33	400	140	0	0	0	0	0	0.8	675	1500	565	-
15	CLASSROOM	935	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	0	0.8	560	1500	565	-
16	CLASSROOM	935	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	0	0.8	560	1500	565	-
17	CLASSROOM	935	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	0	0.8	560	1500	565	-
18	CLASSROOM	935	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	0	0.8	560	1500	565	-
19	CLASSROOM	935	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	0	0.8	560	1500	565	-
20	CLASSROOM	935	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	0	0.8	560	1500	565	-
21	CLASSROOM	935	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	0	0.8	560	1500	565	-
22	CLASSROOM	935	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	0	0.8	560	1500	565	-
23	CLASSROOM	935	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	0	0.8	560	1500	565	-



KINGSCOTT

KALAMAZOO | GRAND RAPIDS | CHELSEA | ROYAL OAK

**CAVANAUGH HVAC
REMODEL**

LANSING SCHOOL DISTRICT

300 W Cavanaugh Road
Lansing, MI 48910



ISSUANCES	DATE
DESIGN DEVELOPMENT	07/27/2023
PRE PURCHASE EQUIPMENT	07/28/2023

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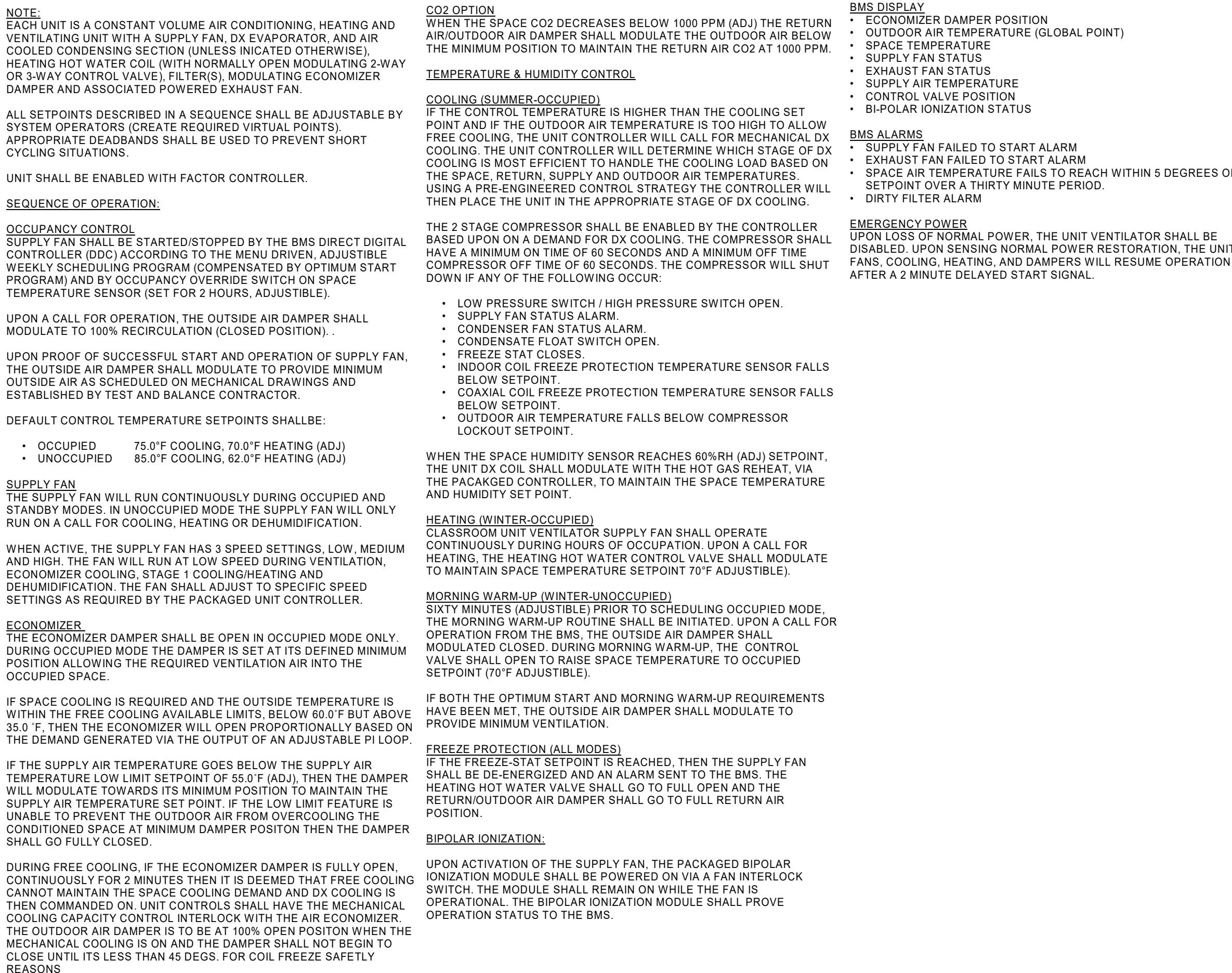
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**MECHANICAL SCHEDULES
AND DETAILS**

SHEET NO. _____

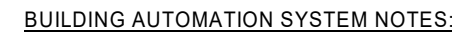
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NO SCALE



1. CONFIGURATION AND ORDER OF CONTROLLER CONNECTION IS FOR REPRESENTATION PURPOSES ONLY. CONTROL SYSTEM DRAWINGS SHALL BE PROVIDED TO THE TCC BY THE TCC ENGINEER/CONTRACTOR. THE TCC ENGINEER/CONTRACTOR SHALL PROVIDE THE TCC PANELS AND/OR POWER SUPPLIES AS REQUIRED. IT IS THE TCC RESPONSIBILITY TO PROVIDE POWER TO THOSE PANELS AND COORDINATE WITH THE ELECTRICAL ENGINEER/CONTRACTOR. IT SHOULD BE NOTED THAT ADDITIONAL ELEMENTS SUCH AS GENERAL VALVES, OTHER NON-ACTIVELY CONTROLLED DEVICES, AND/OR OTHER DEVICES MAY BE REQUIRED TO BE PROVIDED BY THE TCC ENGINEER/CONTRACTOR. THE TCC ENGINEER/CONTRACTOR SHALL NOT BE SHOWN ON CONTROLS DRAWINGS OR FLOOR PLANS. REFER TO THE DETAILS, PROJECT PLANS, AND SPECIFICATIONS FOR ADDITIONAL DEVICES AND INSTRUCTIONS THAT ARE REQUIRED IN THE CONSTRUCTION OF THESE SYSTEMS.
2. INTEGRATE NEW EQUIPMENT/CONTROLS/CONTROLLER INTO EXISTING DISTRICT BMS AS REQUIRED AND UPDATE GRAPHICS AND SEQUENCES ACCORDINGLY TO REFLECT ALL NEW EQUIPMENT.
3. TCC SHALL MATCH EXISTING BMS INTEGRATOR: _____ TO TCC TEMPERATURE CONTROLS CONTRACTOR
4. PROVIDE PROGRAMMING FOR ADDITIONAL ALARMS AS REQUESTED BY THE OWNER AND/OR ENGINEER.
5. SEE FLOOR PLANS, SPECIFICATIONS, AND SHOP DRAWINGS FOR POSITION AND/OR OF ALL MECHANICAL EQUIPMENT AND CONTROL DEVICES. MAINTAIN ACCEPTABLE CLEARANCE IN ALL AREAS REQUIRED FOR SERVICE AND ACCESS OF MECHANICAL EQUIPMENT AS PER ANY APPLICABLE CODES. PROVIDE CLEARANCE ABOVE AND IN FRONT OF ALL ELECTRICAL PANELS, INCLUDING THOSE INCLUDED AS A PART OF MECHANICAL EQUIPMENT.
6. FOR EQUIPMENT PROVIDED WITH BACNET OR MODBUS CONTROLLERS/COMMUNICATION INTERFACES, PROVIDE SUB-GRAPHICS THROUGH THE BMS AT THE OWS. THE GRAPHIC SHALL DISPLAY ALL POINTS LISTED IN INDIVIDUAL SUB-GRAPHICS. ADDITIONAL POINTS NOT LISTED IN THE SUB-GRAPHICS SHALL BE PROVIDED BY THE OWNER FOR THE TCC ENGINEER/CONTRACTOR.
7. PROVIDE ALL DEVICES SHOWN IN THE DIAGRAMS NOT PROVIDED BY THE UNIT MANUFACTURER AS REQUIRED TO PROVIDE THE DESIRED SEQUENCE OF OPERATION. REFER TO INDIVIDUAL CONTROL DI

NO SCALE



LANGING SCHOOL DISTRICT

300 W Cavanaugh Road
Lansing, MI 48910



DATE _____

DESIGN DEVELOPMENT 07/27/2023

DESIGN DEVELOPMENT	07/27/2023
PRE PURCHASE EQUIPMENT	07/28/2023

JOB 2616-01B

SHEET TITLE
MECHANICAL CONTROLS

SHEET NO.

M8.0

KINGSCOTT ASSOCIATES INC.

KALAMAZOO, MICHIGAN

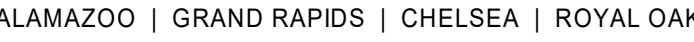


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LANGING SCHOOL DISTRICT

300 W Cavanaugh Road
Lansing, MI 48910

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED LOAD	PANEL TOTALS
RECEPTACLE	180 VA	100.00%	180 VA	
POWER	196178 VA	100.00%	196176 VA	CONNECTED LOAD: 196 KVA
				DEMAND LOAD: 196 KVA
				TOTAL CONNECTED: 818 A
				TOTAL DEMAND: 818 A



NO SCALE



SCALE: 1/8" = 1'-0"

N1 DOWNSTREAM ELECTRICAL EQUIPMENT TO BE RELOCATED TO A NEW PANEL. DISCONNECT EXISTING FEED, PULL WIRE BACK, AND SAVE FEEDER FOR REUSE. REFER TO NEW WORK RISER DIAGRAM FOR EXTENSION OF FEEDER TO NEW PANEL.

N1 DOWNSTREAM ELECTRICAL EQUIPMENT TO BE RELOCATED TO A NEW PANEL. DISCONNECT EXISTING FEED, PULL WIRE BACK, AND SAVE FEEDER FOR REUSE. REFER TO NEW WORK RISER DIAGRAM FOR EXTENSION OF FEEDER TO NEW PANEL.

01 VERIFY SIZE OF FA PANEL AND PROVIDE NEW BREAKER SIZE AS APPROPRIATE. EXTEND EXISTING CONDUIT AND CABLE AS REQUIRED TO NEW LOCATION.

01 VERIFY SIZE OF FA PANEL AND PROVIDE NEW BREAKER SIZE AS APPROPRIATE. EXTEND EXISTING CONDUIT AND CABLE AS REQUIRED TO NEW LOCATION.



DESIGN DEVELOPMENT	07/27/2023
PRE PURCHASE EQUIPMENT	07/28/202

JOB 2616-01B

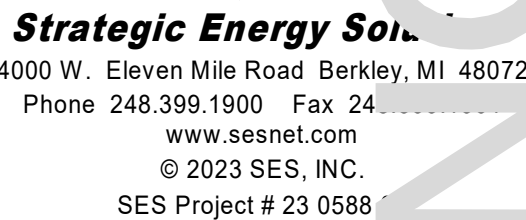
SHEET TITLE
ELECTRICAL DIAGRAMS,
SCHEDULES AND DETAILS

SHEET NO

E7.0

KINGSCOTT ASSOCIATES INC

KALAMAZOO, MICHIGA



TECHNICAL SPECIFICATIONS
FOR
**CUMBERLAND HVAC REMODEL
PRE-PURCHASE EQUIPMENT PACKAGE
LANSING SCHOOL DISTRICT
LANSING, MICHIGAN**

JULY 28, 2023

A/E NO. 2616-01C

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Kingscott Associates, Inc.
Architects/Engineers
Kalamazoo, Michigan

Lansing School District
Cumberland HVAC Remodel
Lansing, Michigan

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DIVISION 23 – HEATING, VENTILATING AND AIR CONDITIONING

238200 CONVECTION HEATING AND COOLING UNITS

DIVISION 26 – ELECTRICAL

260573 POWER SYSTEM STUDIES

262416 PANELBOARDS

DIVISION 27 THRU 33 (NOT USED)

SECTION 013300
ARCHITECT'S SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting RFI's, Shop Drawings, Product Data, Samples, and other submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Documents will be provided by Architect for Contractor's use in preparing submittals. See 1.4 below.
- B. All submittals must be in electronic form. Paper copies are not acceptable unless specifically listed. The architect will review, stamp and return an electronic document for the contractor's use. Copies of the reviewed shop drawings shall be provided by the contractor for distribution as required by the Construction Manager.
- C. Each submittal item shall be submitted in its entirety as one complete package including all information required to fully review the item. Material sample, data, warranty and maintenance information, and drawings shall come as one package. Submittals missing required components and / or without product selections identified will be rejected without review.
- D. Compliance Certificate: Refer to the attached Compliance Certificate. Compliance Certificates are to be used by contractors to indicate the products/devices intended for use in this project without the need and time for product data submittals. Contractors shall use Compliance Certificates whenever possible to expedite the work and limit paper work. Items listed on the form must be approved products listed in the specifications. No substitutions allowed. Select one (1) source for each category, sign this sheet, and submit as the contractor's commitment to use products required by the contract documents. No further product data submittals are required for this section. Physical sample, color samples, or layout shop drawings must be submitted where required by the specification. Refer to the attached specification list for sections that are subject to this certificate. **NOTE: Not all specification sections listed below will apply to the project listed above. There might not be specification sections included that are in the project listed above, in that case coordinate with architect at post bid interview for submittal requirements.**

- E. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- F. Submittals Schedule: Comply with requirements in Division 1 Section Construction Progress Documentation for list of submittals and time requirements for scheduled performance of related construction activities.
- G. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. RFI's, request for information: Allow 5 working days for initial response for each RFI. Allow additional time if coordination with subsequent RFI is required, or when additional information is need for the response.
 2. Shop drawings, sample, and product data:
 - a. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - b. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - c. Resubmittal Review: Allow 15 days for review of each resubmittal.
 - d. Sequential Review: where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
 - e. Submissions that are large or of multiple submissions or requires detailed or lengthy review by the Architect or his consultant may require additional time.
 - f. Submissions for products or material that require a long lead time for delivery shall be noted as such and marked "Top Priority" so the architect may expedite the process. The architect will expedite reviews when the contractor legitimately can't submit within a reasonable time due to construction schedule. Failure to submit in a timely manner or to allow sufficient time for initial review and resubmittal reviews may result in project delays, additional service charges by the architect, or other penalties for the contractor.
- H. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.

2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06100.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
- I. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.
- J. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 1. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
- K. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form including electronic submittals. Architect will discard submittals received from sources other than the Construction Manager. Architect will return any submittal with a transmittal, which doesn't fully list, and properly identify the enclosed items.
- L. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked Review or reviewed with comments.
- M. Distribution: Furnish copies of reviewed submittals to the Construction Manager, manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

1.4 CONTRACTOR'S USE OF ARCHITECT'S CAD FILES

- A. General: At Contractor's written request, copies of Architect's CAD files will be provided to the Contractor for Contractor's use in connection with Project, subject to the following conditions:
 - 1. The Architect will provide, electronic data files, compatible with AutoCAD for contractor's convenience and use in the preparation of shop drawings. **Refer to Terms and Conditions at the end of this specification.** Requests for electronic data shall be in written form through the architect. Prior to the release of electronic files, the Architect will require a signed waiver of release. Contractors should allow a minimum of 1-week for this process.

PART 2 - RFI'S – REQUEST FOR INFORMATION

- 1. All RFI's shall be submitted to the Architect in electronic form. PDF's and Word files are acceptable.
- 2. PDF RFI forms shall include an editable text area for response, date, and signature.
- 3. RFI's shall be distributed by e-mail. E-mail title shall be specific to job name, and RFI number. This is mandatory for proper tracking.
- 4. Faxed and Hand written RFI's are not acceptable and will be rejected.

PART 3 - PRODUCTS

3.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
 - 1. Submittal Types:
 - a. Shop Drawing
 - b. Product Data
 - c. Sample
 - d. Other
- B. Kingscott Review Stamp Statement: "Reviewed only for the limited purpose of checking for conformance with the design concept expressed in the Contract Documents. Dimensions, quantities, accuracy, assembly methods, installation methods, coordination with other trades and field verification are the responsibility of the contractor."
 - 1. The following Actions will be taken:
 - a. Reviewed with no exceptions
 - b. Reviewed with Exceptions
 - c. Revise and resubmit
 - d. Rejected
- C. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. Use the Material Compliance form when permitted and whenever possible to save time and paper work.
 2. If information must be specially prepared for submittal because standard data are not suitable for use, submit as Shop Drawings, not as Product Data.
 3. Mark each copy of each submittal to show which products and options are applicable. Unmarked submittals will be rejected. Failure to mark appropriate products will result in rejection of the submittal.
 4. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Manufacturer's catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.
 - h. Compliance with specified referenced standards.
 - i. Testing by recognized testing agency.
 5. Number of Copies: Submit one electronic copy of Product Data, unless otherwise indicated. Architect will return one electronic copy. See the Construction Manager's submittal requirements for final record and distribution copy requirements.
- D. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal of Architect's CAD Drawings is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shop work manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Notation of coordination requirements.
 - j. Notation of dimensions established by field measurement.
 - k. Relationship to adjoining construction clearly indicated.
 - l. Seal and signature of professional engineer if specified.
 - m. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
 3. Number of Copies: Submit one opaque (bond) copy, and one electronic copy of each submittal. Architect will return one electronic copy for printing and distribution.

- E. Samples: **Submit Physical Samples** for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of appropriate Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available. **Scanned color charts, samples, etc. will be REJECTED. Send physical samples, color charts, etc. as described in each specification section.**
 - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection. **Scanned color charts, samples, etc., will be REJECTED. Send physical samples, color charts, etc. as described in each specification section.**
 - a. Number of Samples: Submit three sets of Samples. Architect will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.

3.2 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit four copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 4 - EXECUTION

4.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions prior to submission for review. It is the contractor's responsibility to review and identify major discrepancy with the contract documents, and significant missing information. Documents with discrepancies and substantially missing information shall be returned for revisions prior to submission to the Construction Manager.
- B. Mark with approval stamp before submitting to the Construction Manager.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

4.2 CONSTRUCTION MANAGER'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions prior to submission for review. It is the Construction Manager's responsibility to review and identify major discrepancy with the contract documents, and significant missing information. Documents with discrepancies and substantially missing information shall be returned for revisions prior to submission to the Architect.
- B. Mark with approval stamp before submitting to Architect.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

4.3 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's and Construction Managers approval stamp, and have not been fully reviewed and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 1. Reviewed with no exceptions.
 2. Reviewed with exceptions.
 3. Revise and resubmit.
 4. Rejected.

- C. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.
- D. Incomplete submittals with substantial missing information, will be considered non-responsive, and will be returned without review.
- E. Non-complaint submittals, will be considered non-responsive, and will be returned without review.
- F. Submittals not required by the Contract Documents will not be reviewed and will be discarded.

SUBMITTALS REQUESTED BY SPECIFICATION SECTION						
<i>This is a general guide, but may vary by project.</i>						
Given the age of digital submittal, product information and images, and multiple files can be compiled into one complete product data page. When this complete product data sheet is submitted, it becomes an acceptable option to help limit physical samples and paper.						
SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
033000	CAST-IN-PLACE CONCRETE	X		X		X
042000	UNIT MASONRY/BRICK	X	X (BRICK)			
047200	CAST STONE	X	X			
051200	STRUCTURAL STEEL FRAMING			X		
052100	STEEL JOIST			X		
053100	STEEL DECKING				X	
054000	COLD-FORMED METAL FRAMING			X		
055000	METAL FABRICATIONS			X		
055113	METAL PAN STAIRS			X		
055213	PIPE AND TUBE			X		
061000	ROUGH CARPENTRY				X	
061053	MISCELLANEOUS ROUGH CARPENTRY				X	
061063	EXTERIOR ROUGH CARPENTRY				X	
061600	SHEATHING				X	
061753	SHOP-FABRICATED WOOD TRUSSES			X		
062013	EXTERIOR FINISH CARPENTRY		X		X	
062023	INTERIOR FINISH CARPENTRY		X		X	
071326	SELF-ADHERING SHEET	X			X	
072100	THERMAL INSULATION	X			X	
072119	FOAMED-IN-PLACE INSULATION	X			X	
072500	WEATHER BARRIERS	X			X	
072600	VAPOR RETARDERS	X			X	
073113	ASPHALT SHINGLES		X			

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
074113.16	STANDING-SEAM METAL ROOF PANELS		X			
074213.13	FORMED METAL WALL PANELS		X	X		
074213.19	INSULATED METAL WALL PANELS		X	X		
075323	ETHYLENE- PROPYLENE-DIENE- MONOMER (EPDM) ROOFING			X		
075423	THERMOPLASTIC POLYOLEFIN (TPO) ROOFING			X		
076200	SHEET METAL FLASHING AND TRIM		X			
077100	ROOF SPECIALTIES	X			X	
077129	MANUFACTURED ROOF EXPANSION JOINTS	X			X	
077200	ROOF ACCESSORIES	X			X	
078413	PENETRATION FIRESTOPPING				X	
078443	JOINT FIRESTOPPING				X	
079200	JOINT SEALANTS	X	X			
079219	ACOUSTICAL JOINT SEALANTS	X	X			
081213	HOLLOW METAL DOORS AND FRAMES			X		
081416	FLUSH WOOD DOORS		X	X		
083113	ACCESS DOORS AND FRAMES				X	
083313	COILING COUNTER DOORS			X		
083323	OVERHEAD COILING DOORS			X		
083513	FOLDING DOORS			X		
083613	SECTIONAL DOORS			X		

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
084113	ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS		X	X		
084413	GLAZED ALUMINUM CURTAIN WALLS		X	X		
084523	FIBERGLASS- SANDWICH-PANEL ASSEMBLIES	X			X	
085113	ALUMINUM WINDOWS		X	X		
087100	DOOR HARDWARE			X		
088000	GLAZING	X			X	
088300	MIRRORS				X	
089119	FIXED LOUVERS		X	X		
092116.23	GYPSON BOARD SHAFT WALL ASSEMBLIES				X	
092216	NON-STRUCTURAL METAL FRAMING				X	
092900	GYPSON BOARD				X	
093013	CERAMIC TILE	X			X	
095113	ACOUSTICAL PANEL CEILING				X	
096513	RESILIENT BASE & ACCESSORIES				X	
096516	RESILIENT SHEET VINYL	X				
096519	RESILIENT TILE FLOORING	X				
096566	RESILIENT ATHLETIC FLOORING	X				
096813	TILE CARPET	X				
096816	SHEET CARPET	X				
097200	WALL COVERINGS	X				
098433	SOUND ABSORBING WALL UNITS	X				
098436	SOUND ABSORBING CEILING UNITS	X				
099113	EXTERIOR PAINTING		X			
099123	INTERIOR PAINTING		X			
099600	HIGH PERFORMANCE COATINGS		X			

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
101100	VISUAL DISPLAY BOARDS			X	X	
101200	DISPLAY CASES			X	X	
101423	PANEL SIGNAGE		X	X		
102113	TOILET COMPARTMENTS	X		X		
102116	SHOWER AND DRESSING COMPARTMENTS	X		X		
102123	CUBICAL CURTAINS AND TRACK	X			X	
102800	TOILET, BATH, AND LAUNDRY ACCESSORIES (CONTRACTOR TO VERIFY QUANTITIES				X	
104413	FIRE PROTECTION CABINETS				X	
104416	FIRE EXTINGUISHERS				X	
105113	METAL LOCKERS		X	X		
105613	METAL SHELVING				X	
105626	MOBILE STORAGE SHELVING			X	X	
113100	RESIDENTIAL APPLIANCES				X	
115123	LIBRARY STACK SYSTEMS		X	X		
115213	PROJECTION SCREENS				X	
115313	LABORATORY FUME HOODS		X	X		
116143	STAGE CURTAINS		X	X		
116623	GYMNASIUM EQUIPMENT		X	X		
126600	TELESCOPING STANDS		X	X		
122113	HORIZONTAL BLINDS	X				
122413	VERTICLE BLINDS	X				
122413	ROLLER SHADES (OPERABLE SHOP DRAWINGS)	X		X	X	

SECTION. NO.	SECTION TITLE	PRODUCT DATA	SAMPLE	SHOP DRAWINGS	MATERIAL COMPLIANCE	TESTING
123__	CASEWORK AND COUNTERTOPS		X	X		
124816	ENTRANCE FLOOR GRILLS	X				

Material Compliance Form

Name of Building:

Owner:

Bid Package #:

A/E #:

Cc:

Material Compliance Submittal Section:

This document is to be used by this contractor to indicate the products/devices intended for use in this project without the need for product data submittals. Items listed are approved products in the specifications. No substitutions allowed. Select one (1) source for each category, sign this sheet, and submit as the contractor's commitment to use products required by the contract documents. **No further product data submittals are required for this section. However, physical sample, color samples, or layout shop drawings must be submitted where required by the specification.**

As contractor for work specified under the section named above, I agree to use only the products/devices listed below that were listed in the specification section.

Contractor:

Date:

Print Name: **Filled out by Contractor**

Title:

Signature: _____

Notary:

County:

Date Commission Expires:

Print Name:

Signature: _____

Filled out by Contractor and Notary used from Contractor

Reviewed By: Construction Manager, Inc.

Date:

Print Name: **Filled out by Construction Manager**

Signature: _____

Reviewed By: Kingscott Associates, Inc.

Date:

Print Name:

Signature: _____

Filled out by Architect

List the manufacturer's name and model number(s) for each item being submitted in this division. Provide all relevant information not covered by the model number to show full compliance with each requirement of the specification. This will include but is not limited to color, finish, size, thickness and all other selectable option. Note: Use location for each listed item when several different products in this division are used in specific locations.

Specification Section:

Manufacturer's Name:

Model Number:

096519
096519

Shaw Commercial
Shaw Commercial

Uncommon Ground 6 #0188V (LVT-1)
Skyline #02560 (LVT-2)

095113
095113
095113
095113

Armstrong
Armstrong
Armstrong
Armstrong

#1713 (CP-1)
#3101 (CP-2)
Armstrong Prelude XL (ME-1 grid)
Armstrong Axiom Classic Trim (ME-2 grid and trim)

Material Compliance Form

Name of Building:

Owner:

Bid Package #:

A/E #:

Cc:

Material Compliance Submittal Section:

This document is to be used by this contractor to indicate the products/devices intended for use in this project without the need for product data submittals. Items listed are approved products in the specifications. No substitutions allowed. Select one (1) source for each category, sign this sheet, and submit as the contractor's commitment to use products required by the contract documents. **No further product data submittals are required for this section. However, physical sample, color samples, or layout shop drawings must be submitted where required by the specification.**

As contractor for work specified under the section named above, I agree to use only the products/devices listed below that were listed in the specification section.

Contractor:

Date:

Print Name:

Title:

Signature:

Notary:

County:

Date Commission Expires:

Print Name:

Signature:

Reviewed By: Construction Manager, Inc.

Date:

Print Name:

Signature:

Reviewed By: Kingscott Associates, Inc.

Date:

Print Name:

Signature:

List the manufacturer's name and model number(s) below for each item being submitted in this division. Provide all relevant information not covered by the model number to show full compliance with each requirement of the specification. This will include but is not limited to color, finish, size, thickness and all other selectable option. Note: Use location for each listed item when several different products in this division are used in specific locations.

Specification Section:

Manufacturer's Name:

Model Number:

Electronic Media Authorization

Media Fee Schedule:

1 to 6 Drawings – No Fee

No more than six (6) drawings

Signed waiver required prior to release

Project Name: _____ KAI Project# _____

Name : _____ Company: _____

Address: _____

City, State, Zip: _____

Phone: _____ Email: _____

Autocad file version: _____

Signature: _____ Date: _____

By signing, you are agreeing to the Terms and Conditions on the following page

Documents Requested:	KAI DWG #	Issued Date on DWG
----------------------	-----------	--------------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

Approved by: _____ Date: _____

Return Form to:

ldailey@kingscott.com

Kingscott Associates

259 East Michigan Avenue, Suite 308, Kalamazoo, MI 49007

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At your request, Kingscott Associates, Inc. (Kingscott) will provide electronic files related to subject to the following terms and conditions.

Kingscott's electronic files are compatible with Autocadd. Kingscott makes no representation as to the compatibility of these files with your hardware or your software.

NOTICE: THESE ELECTRONIC FILES ARE NOT CONTRACT DOCUMENTS.

These electronic files are not Contract Documents. Significant differences may exist between these electronic files and corresponding hard copy contract documents due to addenda, change order or other revisions. Kingscott makes no representation regarding the accuracy or completeness of the electronic files you receive. In the event that a conflict arises between the contract documents prepared by Kingscott and electronic files, the contract documents shall govern. You are responsible for determining if any conflict exists. By your use of these electronic files, you are not relieved of your duty to fully comply with the contract documents. Including and without limitation, the need to check, confirm and coordinate all dimensions and details, take field measurements, verify field conditions and coordinate your work with that of the contractors for the project.

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In no event shall Kingscott or its consultants, contractors, agents, servants or employees be liable for any damages, including without limitation, special, loss or profits, indirect or consequential damages, or any damages whatsoever, whether in an action on contract, negligence or any other legal or equitable theory, arising out of or in connection with the use or performance of these files. Your sole remedy will be the return of the service fee, and/or replacement of the electronic files, at the election of Kingscott.

LIMITATIONS ON USE; WAIVER OF LEGAL AND EQUITABLE CLAIMS

Data contained on these electronic files is part of Kingscott's instruments of service and shall not be used by you or anyone else receiving this data through or from you for any purpose other than as a convenience in the preparation of shop drawings for the referenced project. Any other use or reuse by you or by others will be at your sole risk and without liability or legal exposure to Kingscott. You agree to make no claim or hereby waive, to the fullest extent permitted by law, any legal or equitable claim or cause of action of any nature against Kingscott, its officers, employees, agents or subconsultants which may arise out of or in connection with your use of the electronic files.

INDEMNIFICATION

You agree to the fullest extent permitted by law, indemnify and hold harmless, Kingscott from all claims, damages, losses and expenses, including attorney's fees arising out of or resulting from your use of these electronic files. Because of the potential that the information presented on the electronic files can be modified, unintentionally or otherwise, Kingscott reserves the right to remove all indicia of its ownership and/or involvement for each electronic display. These electronic files are for the exclusive use of the addressee and shall not be transferred to a second party without the written consent of Kingscott.

Kingscott will furnish to you electronic files after the completion of the Electronic Media Authorization Form. Under no circumstances, shall a delivery of the electronic files for use by you, be deemed a sale by Kingscott.

SECTION 23 8200
CONVECTION HEATING AND COOLING UNITS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Unit ventilators.

1.2 RELATED REQUIREMENTS

- A. Division 01 - General Requirements: Project procedural and administrative requirements.
- B. Section 23 0005 - Basic HVAC Requirements
- C. Section 23 0716 - HVAC Equipment Insulation.
- D. Section 23 0719 - HVAC Piping Insulation.
- E. Section 23 0913 - Instrumentation and Control Devices for HVAC.
- F. Section 23 2213 - Steam and Condensate Heating Piping.
- G. Section 23 2214 - Steam and Condensate Heating Specialties.
- H. Section 23 2300 - Refrigerant Piping.

1.3 REFERENCE STANDARDS

- A. AHRI Directory of Certified Product Performance - Air-Conditioning, Heating, and Refrigeration Institute (AHRI) Current Edition.
- B. AHRI 350 - Sound Performance Rating of Non-Ducted Indoor Air-Conditioning and Heat Pump Equipment 2015.
- C. AHRI 840 - Unit Ventilators 1998.
- D. ASTM B88 - Standard Specification for Seamless Copper Water Tube 2022.
- E. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems 2021.
- F. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible 2021.

1.4 SUBMITTALS

- A. Contractor shall provide submittals for equipment listed herein. Refer to Division 01 - General Requirements for submittal procedures.
- B. Product Data: Provide typical catalog of information including arrangements.
- C. Shop Drawings:

1. Indicate cross sections of cabinets, grilles, bracing and reinforcing, and typical elevations.
 2. Indicate air coil and frame configurations, dimensions, materials, rows, connections, and rough-in dimensions.
 3. Submit schedules of equipment and enclosures typically indicating length and number of pieces of element and enclosure, corner pieces, end caps, cap strips, access doors, pilaster covers, and comparison of specified heat required to actual heat output provided.
- D. Manufacturer's Instructions: Indicate installation instructions and recommendations.
- E. Project Record Documents: Record actual locations of components and locations of access doors in radiation cabinets required for access or valving.
- F. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, installation instructions, maintenance and repair data, and parts listings.
- G. Warranty: Submit manufacturer's warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.1 UNIT VENTILATORS

- A. Manufacturers:
1. Airedale (Basis of Design): www.modinehvac.com
 2. Daikin Applied: www.daikinapplied.com.
 3. Trane, a brand of Ingersoll Rand: www.trane.com.
 4. Substitutions: Refer to front end specifications for substitution requirements.
- B. Performance Data and Safety Requirements:
1. Unit capacities certified and tested in accordance with AHRI 840 and AHRI 350.
 2. Provide products listed, classified, and labeled by Underwriters Laboratories Inc. (UL), Intertek (ETL), or testing firm acceptable to Authority Having Jurisdiction as suitable for the purpose indicated.
- C. Required Directory Listings: AHRI Directory of Certified Product Performance - Air-Conditioning, Heating, and Refrigeration Institute (AHRI).
- D. Cabinet:

1. Cabinet Construction: The exterior panels of the cabinet shall be constructed of 16 gauge sheet steel, degreased and coated with electrostatically applied baked-on polyester powder paint.
2. Fresh Return Air: Unit shall provide an opening in rear for fresh air. Return air is from bottom front of unit.
3. Pipe Tunnel: Unit shall utilize a closed rear pipe tunnel.
4. Service and Maintenance Access: All service and maintenance access shall be possible through the top and front of the unit only.
5. The front panel and compartment panels shall be easily removable with tamperproof fasteners securing it to the rest of the unit cabinet.
6. Unit Color: The unit color shall be .
7. Paint finish shall be easily cleanable and hard wearing to give maximum protection.
8. Insulation: 1-inch thick, acoustic Hushcloth Polyester/Polyurethane foam with density of 2-pounds per cubic foot containing no fibrous materials.
9. Fire-Hazard Classification: Insulation shall have a fire rating of UL94HF-1.
10. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1-2010.
11. The back of the cabinet shall have an opening for connection to a wall sleeve and louver.
12. Drain Pan: Each unit shall be fitted with a 20 gauge, 304 stainless steel welded construction drain pan sloped in 3 directions. The condensate connection will be at the same side as the chilled water or DX coil access side and include 3/4" reinforced condensate tubing and splashguard over the drain port.
13. Discharge Air: The unit shall have a pencil-proof clear anodized aluminum supply air bar grill and 1/4" galvanized steel mesh mounted on the top panel.

E. Fan-Coil System

1. Evaporator Coil: Direct expansion units include a factory installed thermal expansion valve and utilize large surface area evaporator coils ideally positioned to optimize heat transfer and airflow. Each evaporator is manufactured from refrigeration quality copper tubes with mechanically bonded aluminum fins.
2. Steam Coils: Large surface area slab coils shall be utilized to optimize heat transfer and airflow.

3. Coil Construction: Each coil shall be manufactured from refrigeration quality 3/8" diameter copper tubing mechanically bonded onto aluminum Highmix □ fins with coil circuitry designed to ensure minimum waterside pressure drops. Each coil shall be fitted with an air bleed at the high point of the coil and a drain plug at the low point.

F. Fan and Motors:

1. Supply airflow shall be provided by double inlet, forward curved, centrifugal type fan with offset aerodynamic blades. The assembly shall be statically and dynamically balanced to ensure smooth running and minimum noise levels. The fan and motor assembly shall be direct drive type with fan shaft bearings positioned outside of the airstream. The fan shaft bearings shall include provisions for periodic oiling as part of normal preventative maintenance.
2. The fan motor shall be an electronically commutated motor (ECM). The ECM provides constant torque to minimize airflow changes with varying external static pressure changes. The DC motor features a brushless, permanently lubricated ball bearing construction for maintenance free operation.
3. The fan assembly shall be positioned for a "draw through" configuration.

G. Filter:

1. Filter: 1" thick disposable cotton and synthetic blend filters shall be provided and installed at the factory and located to provide filtration of the outdoor and return air prior to being conditioned. Minimum Efficiency Reporting Value of MERV 13 per ASHRAE standard 52.2.

H. Dampers:

1. Fresh Return Air Dampers: Each unit shall be fitted with separate outside air and return air dampers. The dampers shall have the capability of permitting only the outside air into the space, or recycling the return air and allowing only a minimum of outside air to enter the space. Full modulation allowing any mixture of outside air and return air shall be possible. A minimum damper position setting shall also be possible to continuously maintain outside air ventilation requirements dependent on control via the unit's microprocessor controller.
2. Fresh Return Air Dampers Construction: The outside air damper is constructed of galvanized steel and the return air damper is constructed of aluminum. Dampers shall be gasketed to prevent air bypass and shall pivot on self-lubricating nylon bearings.

I. Controls:

1. Provide units with control valves furnished by the unit ventilator manufacturer.
2. Provide units with BACnet Network Card.

3. The control panel is located in the left-hand compartment. All components located in the panel shall be clearly marked for easy identification. All terminal blocks and wires shall be individually numbered. All electrical wires in the control panel shall be run in an enclosed trough. Wiring outside the control panel shall be run in protective sleeves.
4. The unit shall be fitted with a power disconnect switch sized for the full load amperage of the unit to enable the unit to be disconnected from the power supply prior to any maintenance.
5. The 3 speed selector switch enables adjustment of the supply air volume. Reduction in fan speed shall be achieved by a step down multi-tap transformer.
6. DDC Ready Controls: Factory installed DDC ready controls shall include a fan relay, 24-volt control circuit transformer and terminal strip. Controls also include a 2-10Vdc outside air and/or face bypass damper actuator where applicable.
7. All components located in the panel shall be clearly marked for easy identification. All terminal blocks and wires shall be individually numbered.
8. All electrical wires in the control panel shall be run in an enclosed trough. Wiring outside the control panel shall be run in protective sleeves.
9. Freeze Stat: The unit shall be fitted with a freeze protection sensor mounted on the discharge side of the first coil to prevent any freezing of the water coil assembly. When the sensor detects a freeze up condition it shall shut the damper and force the flow control valve open and prevent the unit supply fan from running.

J. Factory Installed Accessories:

1. Needlepoint Bipolar Ionization (NPBI): Mounted in the supply air stream, NPBI introduces ions into the space to purify the air by eliminating airborne particulates, odors, and pathogens. When ions are introduced to the space, particles are clustered together and captured by the unit's filter. The device shall operate between -20°F and 200°F, and 0-100 relative humidity. The device is UL, cUL, and CE listed, UL 867 and UL 2998 certified, and maintenance free (self-cleaning).

K. Field Installed Accessories:

1. Side Panel(s): Factory supplied side panel(s) constructed of 14 gauge sheet steel and painted to match the unit shall be field mounted to the base unit.
2. Wall Sleeve: The wall sleeve shall be constructed from galvanized steel. The sleeve shall be field assembled and insulated by the installing contractor with foil back insulation.
3. Outdoor Louver: An outdoor louver suitable for masonry, glass, or panel wall construction. The louvers are flanged style with the following finish:
 - a. Anodized Aluminum with bird screen and a clear anodized finish.

b. Refer to Drawings for size.

L. Associated Condensing Units:

1. Condenser Coils: The coil is constructed of aluminum microchannel tubing and enhanced aluminum fins for increased efficiency and corrosion protection.
2. Compressor: Compressors are internally protected against high pressure and temperature. This is accomplished by simultaneous operation of high pressure relief valve and a temperature sensor which protects the compressor if undesirable operating conditions occur. A liquid line filter-drier further protects the compressor.
3. Hard Start Kit: A hard start kit provides increased starting torque for areas with low voltage.
4. Cabinet: The cabinet is made of pre-painted steel. The pre-treated galvanized steel provides a better paint to steel bond, which resists corrosion and rust creep. Special primer formulas and matted-textured finish ensure less fading when exposed to sunlight.
5. Top Discharge: The warm air from the top mounted fan is blown up and away from the structure and any landscaping. This allows compact location on multi-unit applications.
6. Low Operating Sound Level: The upward air flow carries the normal operating noise away from the occupied area. The rigid top panel effectively isolates any motor sound. Isolator mounted compressor and rippled fins of the condenser coil muffle the normal fan motor and compressor operating sounds.
7. Bearings: Long life permanently lubricated motor-bearings need no annual servicing.
8. Service Access: Fully exposed refrigerant connections and a single panel covering the electrical controls makes for easy servicing of the unit.
9. Valves: Secured re-usable service valves are provided on both the liquid and vapor sweat connections for ease of evacuating and charging.
10. U.L. and C.U.L. Listed: Approved for outdoor application.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are suitable for installation.

3.2 PREPARATION

- A. Provide housekeeping pads for blower-coil units under provisions of Section 03 3000.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's recommendations.

B. Install equipment exposed to finished areas after walls and ceilings are finished and painted.

C. Do not damage equipment or finishes.

D. Unit Ventilators:

1. Locate as indicated, level and shim units, and anchor to structure.

2. Coordinate exact location of wall louvers.

3. Install shelving and auxiliary cabinetry.

4. Provide wall trim pieces for continuous wall-to-wall installation.

E. Units with Cooling Coils: Connect drain pan to condensate drain.

3.4 FIELD QUALITY CONTROL

A. Refer to Division 01 - General Requirements for additional requirements.

3.5 CLEANING

A. Touch-up marred or scratched surfaces of factory-finished cabinets using finish materials furnished by the manufacturer.

B. Install new filters.

3.6 PROTECTION

A. Provide finished cabinet units with protective covers during the balance of construction.

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SECTION 26 0573
POWER SYSTEM STUDIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Short-circuit study.
- B. Protective device coordination study.
- C. Arc flash and shock risk assessment.
 - 1. Includes arc flash hazard warning labels.
- D. Criteria for the selection and adjustment of equipment and associated protective devices not specified in this section, as determined by studies to be performed.

1.2 RELATED REQUIREMENTS

- A. Division 01 - General Requirements: Project administrative and procedural requirements.
- B. Section 26 0005 - Basic Electrical Requirements.
- C. Section 26 0553 - Identification for Electrical Systems: Additional requirements for arc flash hazard warning labels.
- D. Section 26 2416 - Panelboards.
- E. Section 26 2813 - Fuses.
- F. Section 26 2816.16 - Enclosed Switches.

1.3 REFERENCE STANDARDS

- A. ANSI 535.4 - American National Standard for Product Safety Signs and Labels 2011 (Reaffirmed 2017).
- B. IEEE 141 - IEEE Recommended Practice for Electrical Power Distribution for Industrial Plants 1993 (Reaffirmed 1999).
- C. IEEE 242 - IEEE Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems 2001, with Errata (2003).
- D. IEEE 399 - IEEE Recommended Practice for Industrial and Commercial Power Systems Analysis 1997.
- E. IEEE 551 - IEEE Recommended Practice for Calculating Short-Circuit Currents in Industrial and Commercial Power Systems 2006.
- F. IEEE 1584 - IEEE Guide for Performing Arc-Flash Hazard Calculations 2018, with Errata (2019).

- G. NEMA MG 1 - Motors and Generators 2021.
- H. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.
- I. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. NFPA 70E - Standard for Electrical Safety in the Workplace 2021.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Existing Installations: Coordinate with equipment manufacturer(s) to obtain data necessary for completion of studies.
 - 2. Coordinate the work to provide equipment and associated protective devices complying with criteria for selection and adjustment, as determined by studies to be performed.
 - 3. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Submit study reports prior to or concurrent with product submittals.
 - 2. Do not order equipment until matching study reports and product submittals have both been evaluated by Architect.

1.5 SUBMITTALS

- A. Contractor shall provide submittals for equipment listed herein. Refer to Division 01 for submittal procedures.
- B. Study reports, stamped or sealed and signed by study preparer.
- C. Product Data: In addition to submittal requirements specified in other sections, include manufacturer's standard catalog pages and data sheets for equipment and protective devices indicating information relevant to studies.
 - 1. Identify modifications made in accordance with studies that:
 - a. Can be made at no additional cost to Owner.
 - b. As submitted will involve a change to the contract sum.

1.6 POWER SYSTEM STUDIES

- A. Scope of Studies:
 - 1. Perform analysis of new electrical distribution system as indicated on drawings.

2. Except where study descriptions below indicate exclusions, analyze system at each bus from primary protective devices of utility source down to each piece of equipment involved, including parts of system affecting calculations being performed (e.g. fault current contribution from motors).
3. Include in analysis alternate sources and operating modes (including known future configurations) to determine worst case conditions.

B. General Study Requirements:

1. Comply with NFPA 70.
2. Perform studies utilizing computer software complying with specified requirements; manual calculations are not permitted.

C. Data Collection:

1. Compile information on project-specific characteristics of actual installed equipment, protective devices, feeders, etc. as necessary to develop single-line diagram of electrical distribution system and associated input data for use in system modeling.
 - a. Utility Source Data: Include primary voltage, maximum and minimum three-phase and line-to-ground fault currents, impedance, X/R ratio, and primary protective device information.
 - 1) Obtain up-to-date information from Utility Company.
 - b. Generators: Include manufacturer/model, kW and voltage ratings, and impedance.
 - c. Motors: Include manufacturer/model, type (e.g. induction, synchronous), horsepower rating, voltage rating, full load amps, and locked rotor current or NEMA MG 1 code letter designation.
 - d. Transformers: Include primary and secondary voltage ratings, kVA rating, winding configuration, percent impedance, and X/R ratio.
 - e. Protective Devices:
 - 1) Circuit Breakers: Include manufacturer/model, type (e.g. thermal magnetic, electronic trip), frame size, trip rating, voltage rating, interrupting rating, available field-adjustable trip response settings, and features (e.g. zone selective interlocking).
 - 2) Fuses: Include manufacturer/model, type/class (e.g. Class J), size/rating, and speed (e.g. time delay, fast acting).
 - f. Protective Relays: Include manufacturer/model, type, settings, current/potential transformer ratio, and associated protective device.

- g. Conductors: Include feeder size, material (e.g. copper, aluminum), insulation type, voltage rating, number per phase, raceway type, and actual length.

D. Short-Circuit Study:

1. Comply with IEEE 551 and applicable portions of IEEE 141, IEEE 242, and IEEE 399.
2. For purposes of determining equipment short circuit current ratings, consider conditions that may result in maximum available fault current, including but not limited to:
 - a. Maximum utility fault currents.
 - b. Maximum motor contribution.
 - c. Known operating modes (e.g. utility as source, generator as source, utility/generator in parallel, bus tie breaker open/close positions).
3. For each bus location, calculate the maximum available three-phase bolted symmetrical and asymmetrical fault currents. For grounded systems, also calculate the maximum available line-to-ground bolted fault currents.

E. Arc Flash and Shock Risk Assessment:

1. Comply with NFPA 70E.
2. Perform incident energy and arc flash boundary calculations in accordance with IEEE 1584 (as referenced in NFPA 70E Annex D), where applicable.
3. Analyze alternate scenarios considering conditions that may result in maximum incident energy, including but not limited to:
 - a. Maximum and minimum utility fault currents.
 - b. Maximum and minimum motor contribution.
 - c. Known operating modes (e.g. utility as source, generator as source, utility/generator in parallel, bus tie breaker open/close positions).

F. Study Reports:

1. General Requirements:
 - a. Identify date of study and study preparer.
 - b. Identify study methodology and software product(s) used.
 - c. Identify scope of studies, assumptions made, implications of possible alternate scenarios, and any exclusions from studies.
 - d. Identify base used for per unit values.

- e. Include single-line diagram and associated input data used for studies; identify buses on single-line diagram as referenced in reports, and indicate bus voltage.
 - f. Include conclusions and recommendations.
- 2. Short-Circuit Study:
 - a. For each scenario, identify at each bus location:
 - 1) Calculated maximum available symmetrical and asymmetrical fault currents (both three-phase and line-to-ground where applicable).
 - 2) Fault point X/R ratio.
 - 3) Associated equipment short circuit current ratings.
 - b. Identify locations where the available fault current exceeds the equipment short circuit current rating, along with recommendations.
- 3. Arc Flash and Shock Risk Assessment:
 - a. For the worst case for each scenario, identify at each bus location:
 - 1) Calculated incident energy and associated working distance.
 - 2) Calculated arc flash boundary.
 - 3) Bolted fault current.
 - 4) Arcing fault current.
 - 5) Clearing time.
 - 6) Arc gap distance.
 - b. For purposes of producing arc flash hazard warning labels, summarize the maximum incident energy and associated data reflecting the worst case condition of all scenarios at each bus location.

1.7 QUALITY ASSURANCE

- A. Study Preparer Qualifications: Professional electrical engineer licensed in the State in which the Project is located and with minimum five years experience in preparation of studies of similar type and complexity using specified computer software.
- B. Computer Software for Study Preparation: Use the latest edition of commercially available software utilizing specified methodologies.

PART 2 PRODUCTS

2.1 ARC FLASH HAZARD WARNING LABELS

- A. Provide warning labels complying with ANSI 535.4 to identify arc flash hazards for each work location analyzed by the arc flash and shock risk assessment.
 - 1. Materials: Comply with Section 26 0553.
 - 2. Legend: Provide custom legend in accordance with NFPA 70E based on equipment-specific data as determined by arc flash and shock risk assessment.
 - a. Include the following information:
 - 1) Arc flash boundary.
 - 2) Available incident energy and corresponding working distance.
 - 3) Nominal system voltage.
 - 4) Equipment identification.
 - 5) Study preparer, report reference, and date calculations were performed.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install arc flash warning labels in accordance with Section 26 0553.

3.2 FIELD QUALITY CONTROL

- A. Provide the services of field testing agency or equipment manufacturer's representative to perform inspection, testing, and adjusting.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Adjust equipment and protective devices for compliance with studies and recommended settings.
- D. Notify Strategic Energy Solutions, Inc. of any conflicts with or deviations from studies. Obtain direction before proceeding.

SECTION 26 2416
PANELBOARDS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Power distribution panelboards.
- B. Lighting and appliance panelboards.
- C. Overcurrent protective devices for panelboards.

1.2 RELATED REQUIREMENTS

- A. Division 01 - General Requirements: Project administrative and procedural requirements.
- B. Division 02 - Existing Conditions: Demolition, cleaning and disposal requirements, cutting and patching requirements, and repairs.
- C. Division 03 - Concrete: Concrete equipment pads.
- D. Section 26 0005 - Basic Electrical Requirements.
- E. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- F. Section 26 0529 - Hangers and Supports for Electrical Systems.
- G. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.
- H. Section 26 0573 - Power System Studies: Additional criteria for the selection and adjustment of equipment and associated protective devices specified in this section.
- I. Section 26 2200 - Low-Voltage Transformers: Small power centers with integral primary breaker, transformer, and panelboard.
- J. Section 26 2813 - Fuses: Fuses for fusible switches and spare fuse cabinets.
- K. Section 26 4300 - Surge Protective Devices.

1.3 REFERENCE STANDARDS

- A. FS W-C-375 - Circuit Breakers, Molded Case; Branch Circuit and Service 2013e, with Amendment (2017).
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
- C. NECA 407 - Standard for Installing and Maintaining Panelboards 2015.
- D. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.

- E. NEMA PB 1 - Panelboards 2011.
- F. NEMA PB 1.1 - General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less 2013.
- G. NETA ATS - Standard For Acceptance Testing Specifications For Electrical Power Equipment And Systems 2021.
- H. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- I. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations Current Edition, Including All Revisions.
- J. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations Current Edition, Including All Revisions.
- K. UL 67 - Panelboards Current Edition, Including All Revisions.
- L. UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit Breaker Enclosures Current Edition, Including All Revisions.
- M. UL 869A - Reference Standard for Service Equipment Current Edition, Including All Revisions.
- N. UL 943 - Ground-Fault Circuit-Interrupters Current Edition, Including All Revisions.
- O. UL 1699 - Arc-Fault Circuit-Interrupters Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
3. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted panelboards where indicated.
4. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.
5. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.5 SUBMITTALS

- A. Contractor shall provide submittals for equipment listed herein. Refer to Division 01 for submittal procedures.
- B. Shop Drawings: Indicate outline and support point dimensions, voltage, main bus ampacity, overcurrent protective device arrangement and sizes, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.
 - 1. Include documentation of listed series ratings as indicated in Section 26 0573.
- C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.
- D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Panelboard Keys: Two of each different key.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. ABB/GE: www.geindustrial.com
- B. Eaton Corporation: www.eaton.com
- C. Schneider Electric; Square D Products: www.schneider-electric.us
- D. Siemens Industry, Inc: www.usa.siemens.com
- E. Source Limitations: Furnish panelboards and associated components produced by the same manufacturer as the other electrical distribution equipment used for this project and obtained from a single supplier.

2.2 PANELBOARDS - GENERAL REQUIREMENTS

- A. Provide products listed, classified, and labeled as suitable for the purpose intended.
- B. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:
 - 1. Altitude: Less than 6,600 feet.
 - 2. Ambient Temperature:
 - a. Panelboards Containing Circuit Breakers: Between 23 degrees F and 104 degrees F.
 - b. Panelboards Containing Fusible Switches: Between -22 degrees F and 104 degrees F.
- C. Short Circuit Current Rating:

1. Provide panelboards with listed short circuit current rating not less than the available fault current at the installed location as indicated on the drawings.
- D. Panelboards Used for Service Entrance: Listed and labeled as suitable for use as service equipment according to UL 869A.
- E. Mains: Configure for top or bottom incoming feed as indicated or as required for the installation.
- F. Branch Overcurrent Protective Devices: Replaceable without disturbing adjacent devices.
- G. Bussing: Sized in accordance with UL 67 temperature rise requirements.
 1. Provide solidly bonded equipment ground bus in each panelboard, with a suitable lug for each feeder and branch circuit equipment grounding conductor.
- H. Conductor Terminations: Suitable for use with the conductors to be installed.
- I. Enclosures: Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E.
 1. Environment Type per NEMA 250: Unless otherwise indicated, as specified for the following installation locations:
 - a. Indoor Clean, Dry Locations: Type 1.
 - b. Outdoor Locations: Type 3R.
 2. Boxes: Galvanized steel unless otherwise indicated.
 - a. Provide wiring gutters sized to accommodate the conductors to be installed.
 - b. Increase gutter space as required where sub-feed lugs, feed-through lugs, gutter taps, or oversized lugs are provided.
 3. Fronts:
 - a. Fronts for Surface-Mounted Enclosures: Same dimensions as boxes.
 - b. Fronts for Flush-Mounted Enclosures: Overlap boxes on all sides to conceal rough opening.
 4. Lockable Doors: All locks keyed alike unless otherwise indicated.
- J. Future Provisions: Prepare all unused spaces for future installation of devices including bussing, connectors, mounting hardware and all other required provisions.
- K. Surge Protective Devices: Where factory-installed, internally mounted surge protective devices are provided in accordance with Section 26 4300, list and label panelboards as a complete assembly including surge protective device.

1. Provide Surge Protective Devices internally mounted within all panels which are specified as part of the Emergency distribution power system.
- L. Multi-Section Panelboards: Provide enclosures of the same height, with feed-through lugs or sub-feed lugs and feeders as indicated or as required to interconnect sections.
- M. Load centers are not acceptable.

2.3 POWER DISTRIBUTION PANELBOARDS

- A. Description: Panelboards complying with NEMA PB 1, power and feeder distribution type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.
- B. Conductor Terminations:
 1. Main and Neutral Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
 2. Main and Neutral Lug Type: Mechanical.
- C. Bussing:
 1. Phase and Neutral Bus Material: Aluminum.
 2. Ground Bus Material: Aluminum.
- D. Circuit Breakers:
 1. Provide bolt-on type or plug-in type secured with locking mechanical restraints.
- E. Enclosures:
 1. Provide surface-mounted enclosures unless otherwise indicated.
 2. Fronts: Provide trims to cover access to load terminals, wiring gutters, and other live parts, with exposed access to overcurrent protective device handles.
 3. Provide clear plastic circuit directory holder mounted on inside of door.

2.4 LIGHTING AND APPLIANCE PANELBOARDS

- A. Description: Panelboards complying with NEMA PB 1, lighting and appliance branch circuit type, circuit breaker type, and listed and labeled as complying with UL 67; ratings, configurations and features as indicated on the drawings.
- B. Conductor Terminations:
 1. Main and Neutral Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
 2. Main and Neutral Lug Type: Mechanical.

C. Bussing:

1. Phase Bus Connections: Arranged for sequential phasing of overcurrent protective devices.
2. Phase and Neutral Bus Material: Aluminum.
3. Ground Bus Material: Aluminum.

D. Circuit Breakers: Thermal magnetic bolt-on type unless otherwise indicated.

E. Enclosures:

1. Provide surface-mounted or flush-mounted enclosures as indicated.
2. Provide clear plastic circuit directory holder mounted on inside of door.

2.5 OVERCURRENT PROTECTIVE DEVICES

A. Molded Case Circuit Breakers:

1. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489, and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
2. Interrupting Capacity:
 - a. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated.
 - b. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.
3. Conductor Terminations:
 - a. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.
4. Thermal Magnetic Circuit Breakers: For each pole, furnish thermal inverse time tripping element for overload protection and magnetic instantaneous tripping element for short circuit protection.
5. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.
6. Provide the following circuit breaker types where indicated:
 - a. Ground Fault Circuit Interrupter (GFCI) Circuit Breakers: Listed as complying with UL 943, class A for protection of personnel.

- b. Ground Fault Equipment Protection Circuit Breakers: Designed to trip at 30 mA for protection of equipment.
 - c. Arc-Fault Circuit Interrupter (AFCI) Circuit Breakers: Combination type listed as complying with UL 1699.
 - d. 100 Percent Rated Circuit Breakers: Listed for application within the panelboard where installed at 100 percent of the continuous current rating.
- 7. Do not use tandem circuit breakers.
 - 8. Do not use handle ties in lieu of multi-pole circuit breakers.
 - 9. Provide multi-pole circuit breakers for multi-wire branch circuits as required by NFPA 70.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that the ratings and configurations of the panelboards and associated components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive panelboards.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship).
- B. Install products in accordance with manufacturer's instructions.
- C. Install panelboards in accordance with NECA 407 and NEMA PB 1.1.
- D. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- E. Provide required support and attachment in accordance with Section 26 0529.
- F. Install panelboards plumb.
- G. Install flush-mounted panelboards so that trims fit completely flush to wall with no gaps and rough opening completely covered.
- H. Mount panelboards such that the highest position of any operating handle for circuit breakers or switches does not exceed 79 inches above the floor or working platform.
- I. Mount floor-mounted power distribution panelboards on properly sized 3 inch high concrete pad constructed in accordance with Section 03 3000.

- J. Provide minimum of six spare 1 inch trade size conduits out of each flush-mounted panelboard stubbed into accessible space above ceiling and below floor.
- K. Provide grounding and bonding in accordance with Section 26 0526.
- L. Install all field-installed branch devices, components, and accessories.
- M. Provide filler plates to cover unused spaces in panelboards.
- N. Provide circuit breaker lock-on devices to prevent unauthorized personnel from de-energizing essential loads where indicated. Also provide for the following:
 - 1. Fire detection and alarm circuits.
 - 2. Intrusion detection and access control system circuits.
 - 3. Video surveillance system circuits.

3.3 FIELD QUALITY CONTROL

- A. Inspect and test in accordance with NETA ATS, except Section 4.
- B. Fusible Switches: Perform inspections and tests listed in NETA ATS, Section 7.5.1.1.
- C. Molded Case Circuit Breakers: Perform inspections and tests listed in NETA ATS, Section 7.6.1.1 for all main circuit breakers and circuit breakers larger than 225 amperes. Tests listed as optional are not required.
- D. Ground Fault Protection Systems: Test in accordance with manufacturer's instructions as required by NFPA 70.
- E. Test GFCI circuit breakers to verify proper operation.
- F. Test AFCI circuit breakers to verify proper operation.
- G. Correct deficiencies and replace damaged or defective panelboards or associated components.

3.4 ADJUSTING

- A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.
- B. Adjust alignment of panelboard fronts.
- C. Load Balancing: For each panelboard, rearrange circuits such that the difference between each measured steady state phase load does not exceed 20 percent and adjust circuit directories accordingly. Maintain proper phasing for multi-wire branch circuits.



CUMBERLAND HVAC REMODEL

LANSING SCHOOL DISTRICT

2801 Cumberland Road
Lansing, MI 48906

PRE -PURCHASE EQUIPMENT PACKAGE
JULY 28, 2023



CUMBERLAND HVAC
REMODEL
LANSING SCHOOL DISTRICT
2801 Cumberland Road
Lansing, MI 48906



ISSUANCES	DATE
SCHEMATIC DESIGN	04/27/2023
DESIGN DEVELOPMENT	07/27/2023
PRE PURCHASE EQUIPMENT	07/28/2023

JOB NO. 2616-01C

SHEET TITLE
TITLE SHEET

SHEET NO.

G0.1

KINGS SCOTT ASSOCIATES INC. KALAMAZOO, MICHIGAN

DIRECTORY

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CONSTRUCTION MANAGER:
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200 N CAPITOL AVENUE
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STRUCTURAL ENGINEER:
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440 SOUTH MAIN STREET
ANN ARBOR, MI 48104
TEL. (734) 761-0113

SHEET INDEX:

NO.	NAME
M0.5	ROOF COMPOSITE MECHANICAL PLAN
M1.1	MECHANICAL PLAN - UNIT 100
M1.2	MECHANICAL PLAN - UNIT 200
M1.3	MECHANICAL PLAN - UNIT 300
M6.0	MECHANICAL SCHEDULES AND DETAILS
M8.0	MECHANICAL CONTROLS
E1.0	ELECTRICAL DIAGRAMS, SCHEDULES AND DETAILS

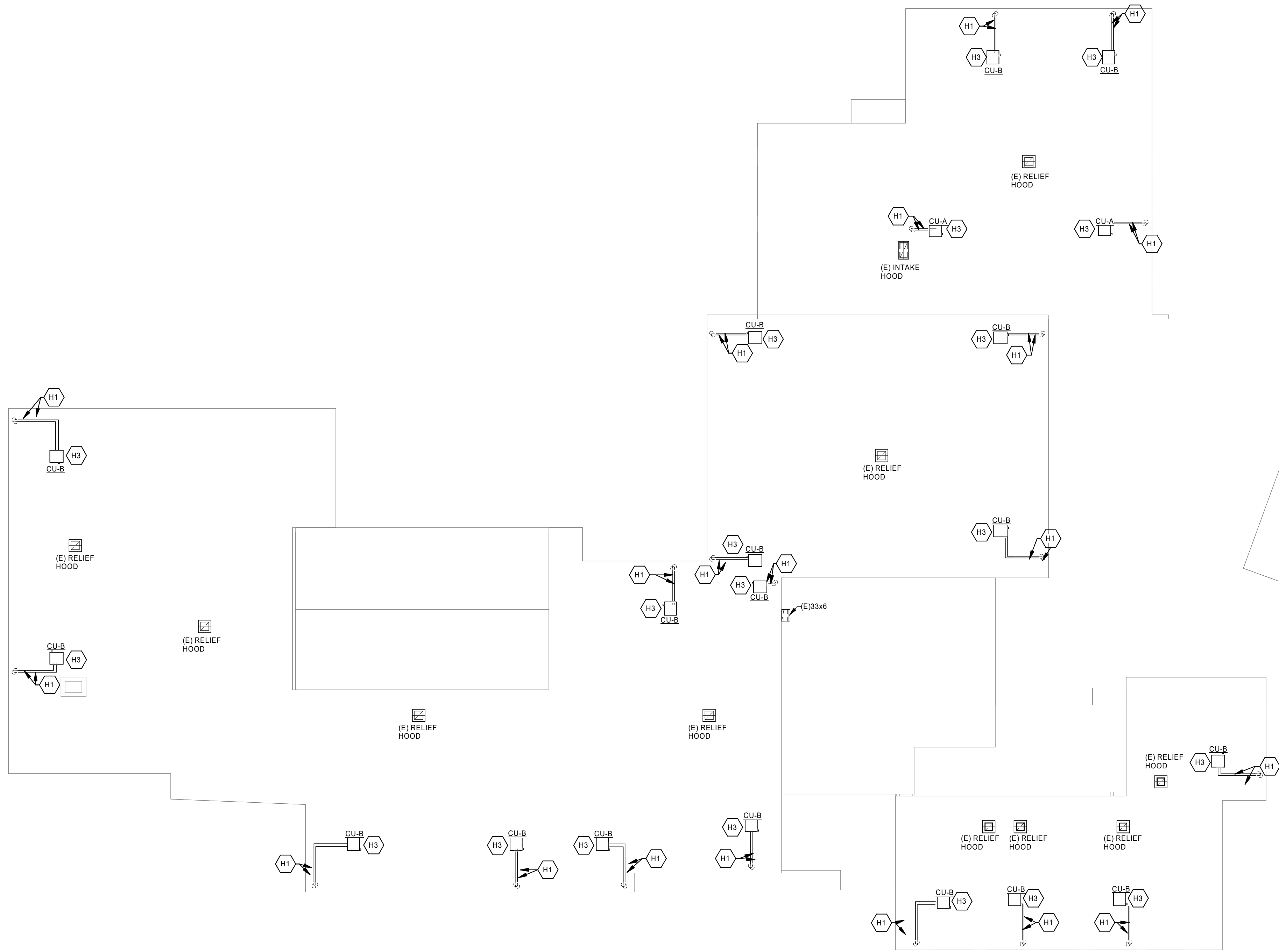


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ROOF COMPOSITE MECHANICAL PLAN

SCALE: 1/16" = 1'-0"



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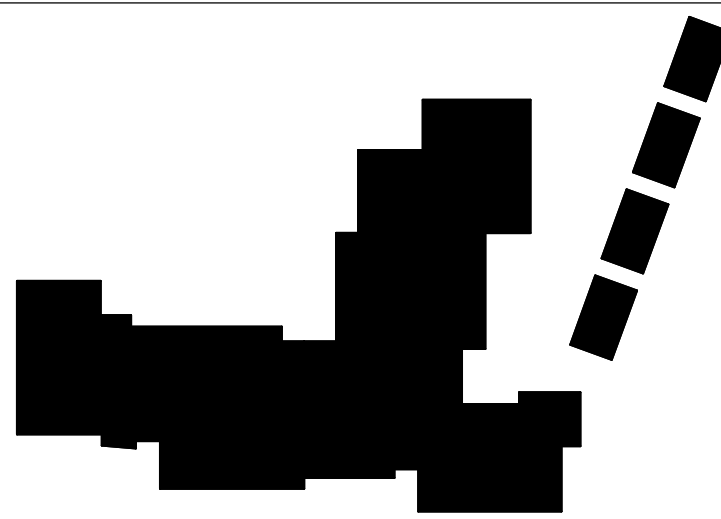
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LANSING SCHOOL DISTRICT

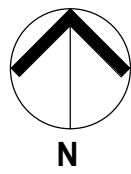
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ISSUANCES	DATE
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KEY PLAN



JOB 2616-01C

SHEET TITLE
ROOF COMPOSITE
MECHANICAL PLAN

SHEET NO.

M0.5

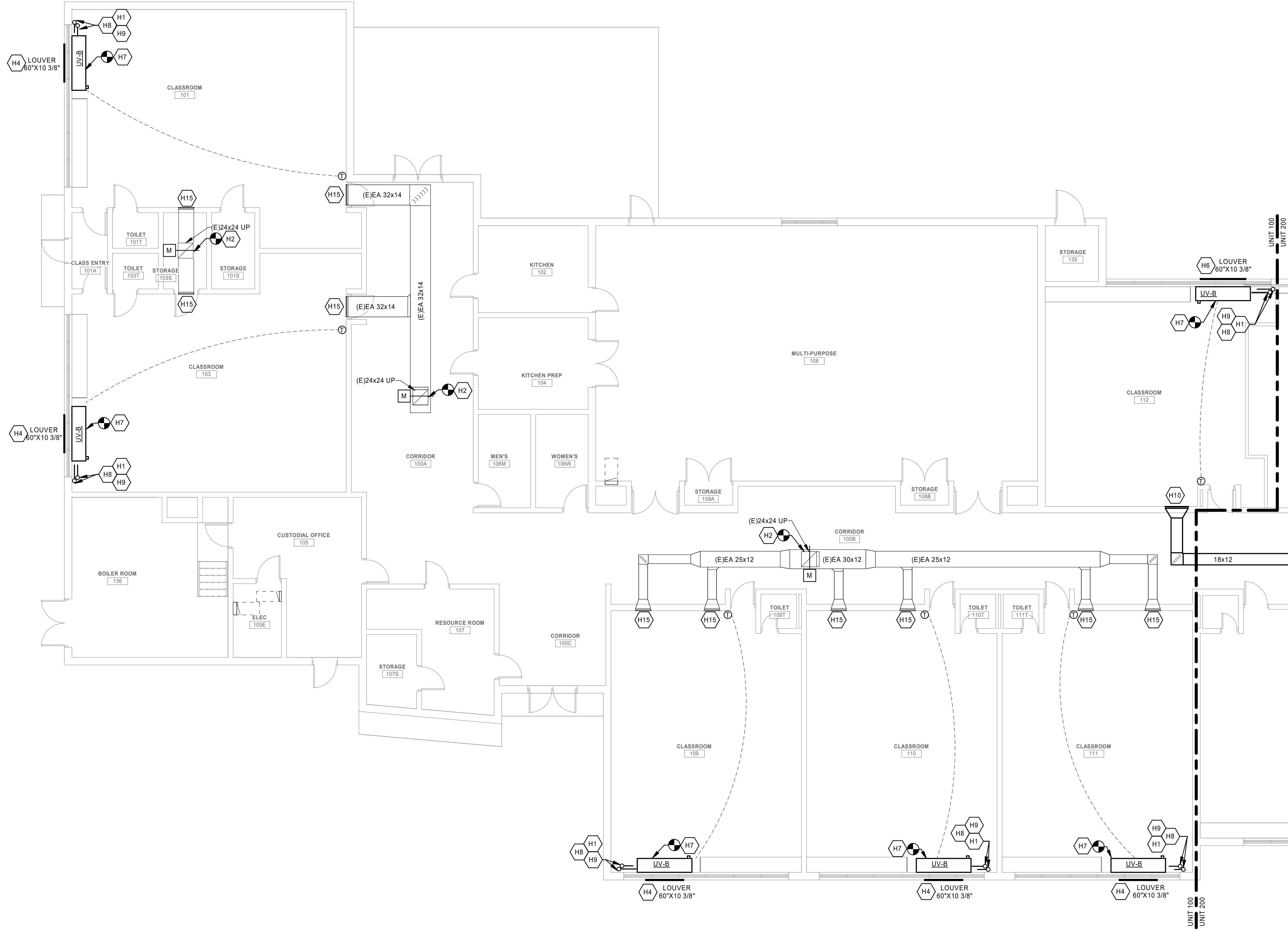
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MECHANICAL PLAN - UNIT 100
SCALE: 1/8" = 1'-0"

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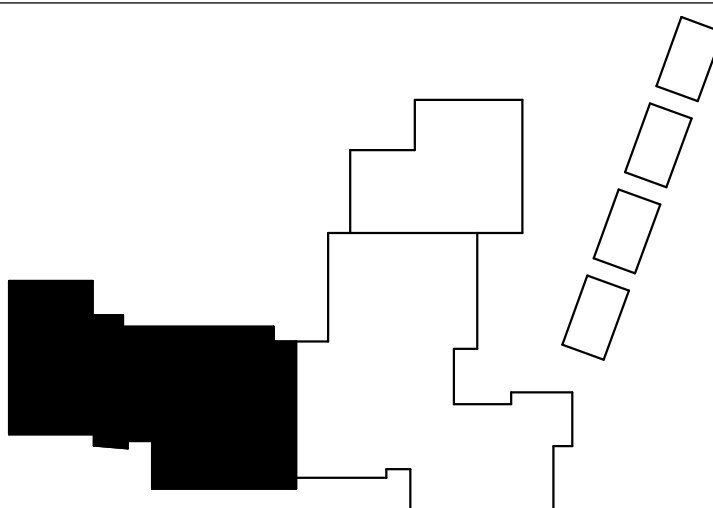
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LANSING SCHOOL DISTRICT

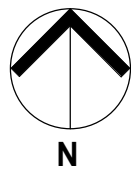
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Lansing, MI 48906



ISSUANCES	DATE
DESIGN DEVELOPMENT	07/27/2023
PRE PURCHASE EQUIPMENT	07/28/2023



KEY PLAN



JOB 2616-01C

SHEET TITLE
MECHANICAL PLAN - UNIT
100

SHEET NO.

M1.1

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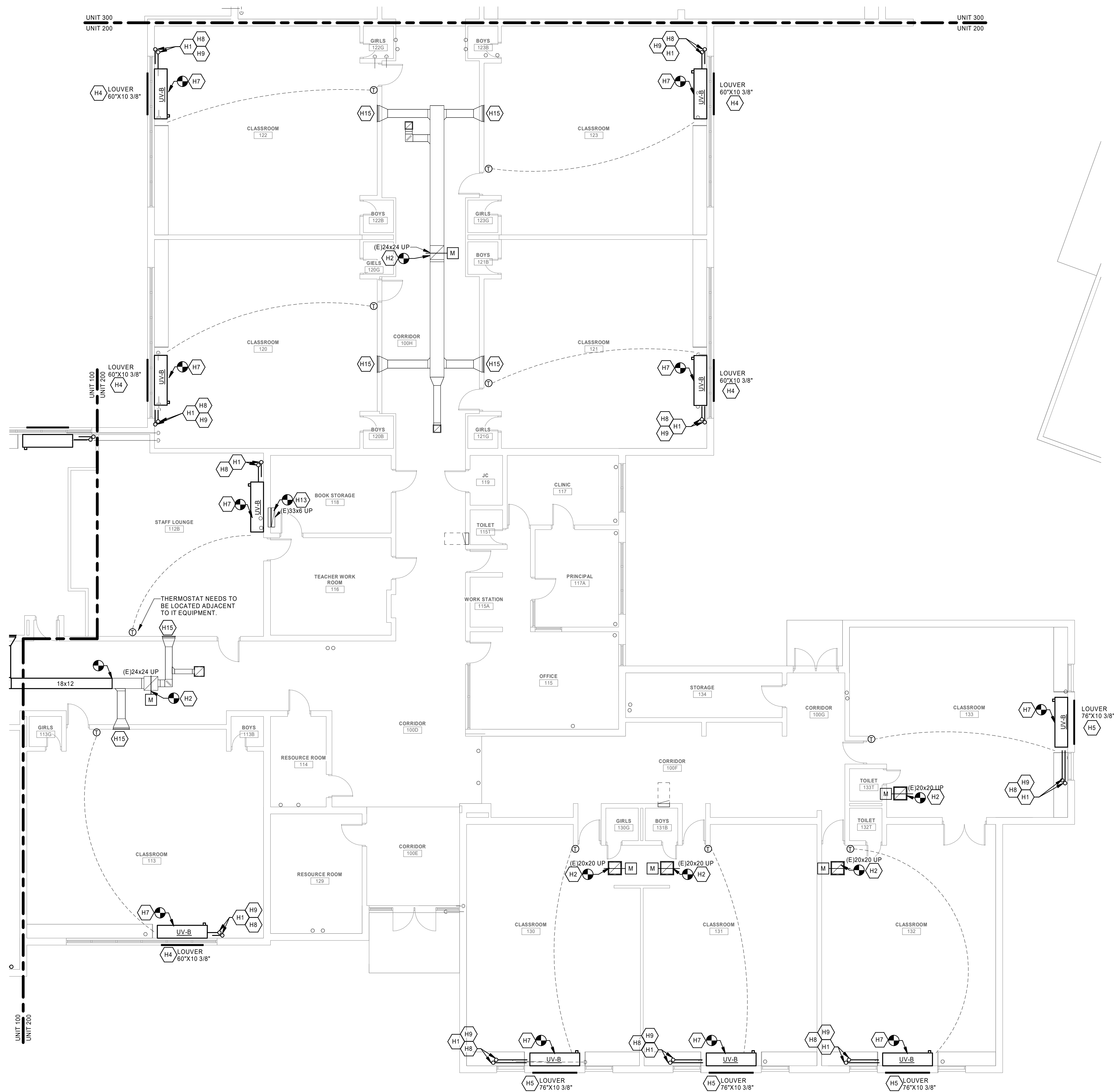


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MECHANICAL PLAN - UNIT 200
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- EXISTING LOUVER OPENING IS APPROXIMATELY 76"x12". PROVIDE NEW 76"x10 3/8" 2" DRAINABLE BLADE LOUVER TO MATCH EXISTING OPENING. NEW LOUVER HEIGHT TO BE 4 BRICK COURSINGS TALL AT MATCH HEIGHT OF EXISTING LOUVER. FIELD VERIFY AND REVISE OPENING SIZE AS REQUIRED FOR NEW LOUVER. COORDINATE WITH ARCHITECTURAL TRADES.
- EXISTING LOUVER OPENING IS APPROXIMATELY 56"x10 3/8". PROVIDE NEW 60"x10 3/8" 2" DRAINABLE BLADE LOUVER. FIELD VERIFY AND REVISE OPENING SIZE AS REQUIRED FOR NEW LOUVER. NEW LOUVER HEIGHT TO BE 4 BRICK COURSINGS TALL AT MATCH HEIGHT OF EXISTING LOUVER. COORDINATE WITH ARCHITECTURAL TRADES.
- CONNECT NEW 1 1/4" STEAM AND 1" STEAM CONDENSATE TO MAIN PIPING IN TUNNELS BELOW. PROVIDE NEW STEAM CONTROL VALVE, NECESSARY ACCESSORIES AND CONDENSATE TRAP. REFER TO DETAILS FOR ADDITIONAL INFORMATION. COORDINATE EXACT LOCATION IN FIELD.
- ROUTE VERTICAL REFRIGERANT PIPING TIGHT TO WALL, ALONG EDGE OF WINDOW, AND PROVIDE METAL OR PLASTIC PIPE COVER. PROVIDE PIPE COVER THAT IS FACTORY FINISHED WITH COLOR COORDINATED WITH ARCHITECTURE. TOUCH UP PAINTING AS REQUIRED.
- ROUTE HORIZONTAL REFRIGERANT PIPING TIGHT TO WALL IN ABANDONED CHASE BEHIND CASEWORK. COORDINATE WITH ARCHITECTURAL TRADES.
- CLEAN AND RELOCATE EXISTING GRILLE FROM STAFF LOUNGE TO CLASSROOM 112.
- ROUTE VERTICAL REFRIGERANT PIPING TIGHT TO WALL AND PROVIDE PIPE COVER. PROVIDE METAL OR PLASTIC PIPE COVER THAT IS FACTORY FINISHED WITH COLOR COORDINATED WITH ARCHITECTURE. TOUCH UP PAINTING AS REQUIRED.
- ROUTE HORIZONTAL REFRIGERANT PIPING TIGHT TO WALL PROVIDE PIPE COVER. PROVIDE METAL OR PLASTIC PIPE COVER THAT IS FACTORY FINISHED WITH COLOR COORDINATED WITH ARCHITECTURE. TOUCH UP PAINTING AS REQUIRED.
- CONNECT EXISTING ON DUCT FROM INTAKE HOOD/DOORNECK ON ROOF ABOVE. FIELD COORDINATE OPENING IN BACK SIDE OF UNIT VENTILATOR TO MATCH SIZE OF EXISTING LOUVER.
- CLEAN EXISTING DIFFUSERS TO REMAIN.
- EXISTING GRILLE TO REMAIN. ENSURE MANUAL DAMPER LOCATED BEHIND/PART OF GRILLE IS FULLY OPEN. CLEAN EXISTING GRILLE.



KALAMAZOO | GRAND RAPIDS | CHELSEA | ROYAL OAK

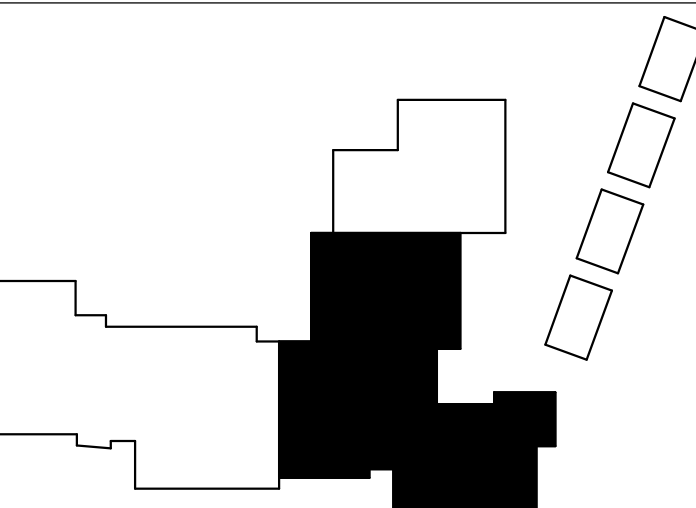
CUMBERLAND HVAC REMODEL

LANSING SCHOOL DISTRICT

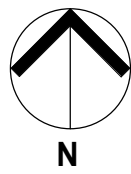
2801 Cumberland Road
Lansing, MI 48906



ISSUANCES	DATE
DESIGN DEVELOPMENT	07/27/2023
PRE PURCHASE EQUIPMENT	07/28/2023



KEY PLAN



JOB 2616-01C

SHEET TITLE
MECHANICAL PLAN - UNIT
200

SHEET NO.

M1.2



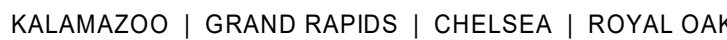
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[illegible]

- H2 REFRIGERANT PIPING TO/FROM CONDENSING UNIT ON ROOF AND UNIT VENTILATOR. DUCT SHALL BE INSULATED TO PREVENT CONDENSATION.
- H3 PROVIDE NEW 24V MOTORIZED DAMPER IN VERTICAL DUCT UP TO RELIEF HOOD. DUCT SHALL BE INSULATED. COORDINATE EXACT SIZE IN FIELD PRIOR TO ORDERING NEW DAMPER.
- H4 MINIMUM CONDENSING UNIT ON EQUIPMENT STAND. ENSURE CONDENSING UNIT IS MINIMUM 10 FT FROM EXISTING ROOF.
- H5 EXISTING LOUVER OPENING IS APPROXIMATELY 5'10"X12". PROVIDE NEW 60"X10" 38" 2" MINIMUM STEEL LOUVER. PROVIDE NEW 2" MINIMUM STEEL BRICK COURSEINGS AT MATCH HEIGHT TO NEW LOUVER. NEW LOUVER HEIGHT TO BE 4 BRICK COURSEINGS TALL AT MATCH HEIGHT TO EXISTING LOUVER.
- H6 EXISTING LOUVER OPENING IS APPROXIMATELY 7'8"X12". PROVIDE NEW 60"X10" 38" 2" MINIMUM STEEL LOUVER. PROVIDE NEW 2" MINIMUM STEEL BRICK COURSEINGS AT MATCH HEIGHT TO EXISTING LOUVER. FIELD VERIFY AND PROVIDE BRICK COURSEINGS TALL AT MATCH HEIGHT TO EXISTING LOUVER. COORDINATE WITH ARCHITECTURAL TRADES.
- H7 EXISTING LOUVER OPENING IS APPROXIMATELY 5'6"X10 38" 2". PROVIDE NEW 60"X10 38" 2" MINIMUM STEEL LOUVER. PROVIDE NEW 2" MINIMUM STEEL BRICK COURSEINGS AS REQUIRED FOR NEW LOUVER. COORDINATE WITH ARCHITECTURAL TRADES.
- H8 EXISTING LOUVER OPENING IS APPROXIMATELY 5'6"X10 38" 2". PROVIDE NEW 60"X10 38" 2" MINIMUM STEEL LOUVER. PROVIDE NEW 2" MINIMUM STEEL BRICK COURSEINGS AS REQUIRED FOR NEW LOUVER. NEW LOUVER HEIGHT TO BE 4 BRICK COURSEINGS TALL AT MATCH HEIGHT TO EXISTING LOUVER.
- H9 CONNECT NEW 1 1/4" STEAM AND 1 1/2" STEAM CONDENSATE TO MAIN PIPING IN TUNNELS. PROVIDE NEW 1 1/4" STEAM AND 1 1/2" STEAM CONDENSATE TO MAIN PIPING IN TUNNELS. COORDINATE WITH ARCHITECTURAL TRADES. PROVIDE NEW 1 1/4" STEAM AND 1 1/2" STEAM CONDENSATE TRAP. REFER TO DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH ARCHITECTURAL TRADES.
- H10 ROUTE VERTICAL REFRIGERANT PIPING TIGHT TO WALL, ALONG EDGE OF WINDOW, AND PROVIDE METAL OR PLASTIC PIPE COVER. PROVIDE PIPE COVER THAT IS FACTORY FINISHED WITH COLOR MATCHING ARCHITECTURAL TRADES.
- H11 PROVIDE HORIZONTAL REFRIGERANT PIPING TIGHT TO WALL IN ABANDONED CASE BEHIND CASEWORK. COORDINATE WITH ARCHITECTURAL TRADES.
- H12 ROUTE VERTICAL REFRIGERANT PIPING TIGHT TO WALL AND PROVIDE PIPE COVER. PROVIDE METAL OR PLASTIC PIPE COVER THAT IS FACTORY FINISHED WITH COLOR MATCHING ARCHITECTURAL TRADES.
- H13 ROUTE HORIZONTAL REFRIGERANT PIPING TIGHT TO WALL PROVIDE PIPE COVER. PROVIDE METAL OR PLASTIC PIPE COVER THAT IS FACTORY FINISHED WITH COLOR MATCHING ARCHITECTURAL TRADES. TOUCH UP PAINTING AS REQUIRED.
- H14 PROVIDE NEW 24V MOTORIZED DAMPER IN VERTICAL DUCT ON ROOF ABOVE EXISTING EXHAUST OPENING IN BACK SIDE OF UNIT VENTILATOR TO MATCH SIZE OF EXISTING DAMPER.
- H15 CLEAN EXISTING DISAMFERS TO REMAIN.
- H16 EXISTING GREGGIE TO REMAIN. ENSURE MANUAL DAMPER LOCATED BEHIND/OPPOSITE OF EXISTING GREGGIE.

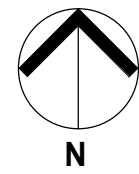


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LANSING SCHOOL DISTRICT

2801 Cumberland Road
Lansing, MI 48906



JOB 2616-01C

SHEET TITLE
MECHANICAL PLAN - UNIT
300

SHEET NO

M1.3

 KINGSCOTT ASSOCIATES INC.

KALAMAZOO, MICHIGAN

UNIT VENTILATOR AND ASSOCIATED CONDENSING UNIT AND ALL ASSOCIATED ACCESSORIES ARE PREPURCHASED BY THE OWNER. CM TO COORDINATE PREPURCHASE.

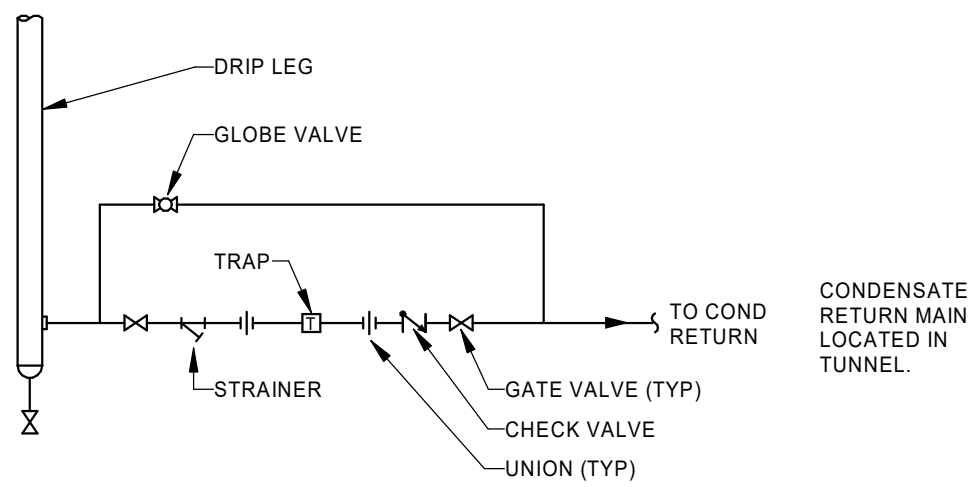
UNIT VENTILATOR SCHEDULE - (SPLIT DX)																													
		STEAM HEATING COIL							DX COOLING COIL							DIMENSIONS			ELECTRICAL			DISCONNECT							
		AIR							AIR							REFRIGERANT													
UNIT ID	COND. UNIT ID	AIRFLOW (CFM)	MIN. OA (CFM)	MIN. TOTAL CAPACITY (MBH)	EDB (T)	LDB (T)	PSI	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EDB (T)	EWB (T)	LDB (T)	LWB (T)	SUCT. TEMP (T)	TYPE	DEPTH (IN)	WIDTH (IN)	HEIGHT (IN)	MOCP	MCA	VOLTS	PHASE	FURN. BY	INST. BY	FILTER TYPE	MANUFACTURER / MODEL NO.	REMARKS		
UV-A	CU-A	1250	225	92	55	120	5	42	32	80	67	61	56	45	R410A	22"	86"	30 1/4"	35	21.4	230		MFR	MFR	MERV 13	AIREDALE / ZVY1250			
UV-B	CU-B	1250	455	95	49	119	5	42	32	80	67	61	56	45	R410A	22"	86"	30 1/4"	35	21.4	230	1	MFR	MFR	MERV 13	AIREDALE / ZVY1250			

- NOTES:
1. PROVIDE UNIT WITH BIPOLAR IONIZATION. COORDINATE WITH ELECTRICAL CONTRACTOR AS REQUIRED.
 2. COORDINATE UNIT AND PIPING ARRANGEMENT WITH FIELD CONDITIONS PRIOR TO ORDERING.
 3. PROVIDE UNIT WITH MANUFACTURER CONTROL SYSTEM AND BACNET NETWORK CARD. TCC RESPONSIBLE FOR UNIT TIE IN TO THE BMS GRAPHICAL INTERFACE. TCC = TEMPERATURE CONTROLS CONTRACTOR
 4. PROVIDE WITH FACTORY MOUNTED AND WIRED UNIT DISCONNECT SWITCH.
 5. PROVIDE WITH EC MOTOR(S).
 6. PROVIDE WITH 2" DRAINABLE BLADE ANODIZED ALUMINUM IN COLOR OUTDOOR AIR LOUVER (REFER TO FLOOR PLANS FOR SIZE), 2" STEP DOWN ADAPTER BACK, END PANELS, UTILITY COMPARTMENTS. PROVIDE UTILITY COMPARTMENTS AS REQUIRED TO ENSURE STEAM CONTROL VALVE CAN BE LOCATED WITHIN UNIT.
 7. PROVIDE COPPER CONDENSATE DRAIN THROUGH EXTERIOR WALL. TERMINATE WITH ELBOW AT GRADE.

CONDENSING UNIT SCHEDULE																	
		COMPRESSOR					ELECTRICAL					DISCONNECT			UNIT	MANUFACTURER / MODEL NO.	REMARKS
UNIT ID	UNIT SERVED	NOMINAL TONNAGE	MINIMUM SEER	DESIGN AMBIENT (T)	NO. OF FANS	NO.	TYPE	MOCp	MCA	VOLTS	PHASE	FURN. BY	INST. BY	TYPE	WEIGHT (LBS)		
CU-A	UV-A	3	16	95	1	1	2 STAGE SCROLL	35	21.4	230	1	EC	EC	SWITCH	265	YORK / YXT36	
CU-B	UV-B	3	16	95	1	1	2 STAGE SCROLL	35	21.4	230	1	EC	EC	SWITCH	265	YORK / YXT36	

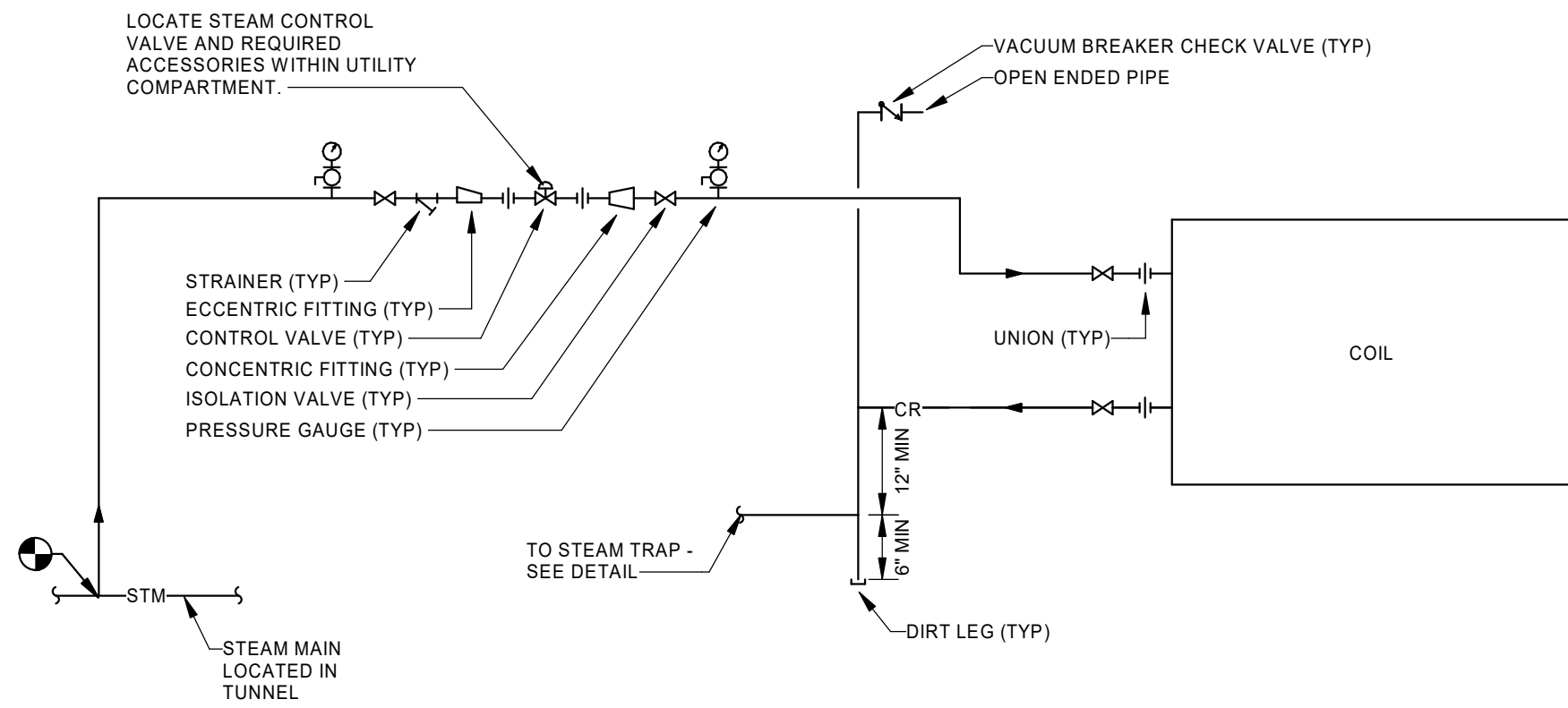
- NOTES:
1. MOUNT ON 18" SUPPORT STAND.
 2. CONNECT CONDENSING UNIT TO UNIT VENTILATOR VIA REFRIGERANT LINESETS. INSULATION SHALL MATCH SPECIFICATIONS. PRE-INSULATED LINESETS ARE NOT ACCEPTABLE.

VENTILATION SCHEDULE																	
ROOM NUMBER	ROOM NAME	AREA (FT2)	OCCUPANCY CLASSIFICATION	2015 MMC 403.3			VENTILATION										SCHEDULED SA
				PEOPLE RATE	AREA RATE	DENSITY #/1000	DEFAULT PEOPLE	ACTUAL PEOPLE	PEOPLE OA	AREA OA	ACH OA	FIXTURE #	PER FIXTURE EXHAUST	TOTAL EA	AIR DISTRIBUTION EFFECTIVENESS	TOTAL MIN OA	
101	CLASSROOM	1005	CLASSROOM (AGES 9+)	10	0.12	35	36	33	330	125	0	0	0	0	1	455	1250
103	CLASSROOM	1005	CLASSROOM (AGES 9+)	10	0.12	35	36	33	330	125	0	0	0	0	1	455	1250
109	CLASSROOM	840	CLASSROOM (AGES 9+)	10	0.12	35	30	33	330	105	0	0	0	0	1	435	1250
110	CLASSROOM	840	CLASSROOM (AGES 9+)	10	0.12	35	30	33	330	105	0	0	0	0	1	435	1250
111	CLASSROOM	840	CLASSROOM (AGES 9+)	10	0.12	35	30	33	330	105	0	0	0	0	1	435	1250
112	CLASSROOM	776	CLASSROOM (AGES 9+)	10	0.12	35	28	33	330	95	0	0	0	0	1	425	1250
112B	LOUNGE	721	CLASSROOM (AGES 9+)	10	0.12	35	26	33	330	90	0	0	0	0	1	420	1250
113	CLASSROOM	985	CLASSROOM (AGES 9+)	10	0.12	35	35	33	330	120	0	0	0	0	1	450	1250
120	CLASSROOM	933	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	1	445	1250
121	CLASSROOM	933	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	1	445	1250
122	CLASSROOM	933	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	1	445	1250
123	CLASSROOM	933	CLASSROOM (AGES 9+)	10	0.12	35	33	-	330	115	0	0	0	0	1	445	1250
125	LIBRARY	1765	CLASSROOM (AGES 9+)	10	0.12	10	18	33	330	215	0	0	0	0	1	545	2500
127A	CLASSROOM	875	CLASSROOM (AGES 9+)	10	0.12	35	31	-	310	105	0	0	0	0	1	415	1250
127B	CLASSROOM	875	CLASSROOM (AGES 9+)	10	0.12	35	31	-	310	105	0	0	0	0	1	415	1500
130	CLASSROOM	835	CLASSROOM (AGES 9+)	10	0.12	35	30	-	300	105	0	0	0	0	1	405	1250
131	CLASSROOM	835	CLASSROOM (AGES 9+)	10	0.12	35	30	-	300	105	0	0	0	0	1	405	1250
132	CLASSROOM	838	CLASSROOM (AGES 9+)	10	0.12	35	30	-	300	105	0	0	0	0	1	405	1250
133	CLASSROOM	805	CLASSROOM (AGES 9+)	10	0.12	35	29	-	290	100	0	0	0	0	1	390	1250

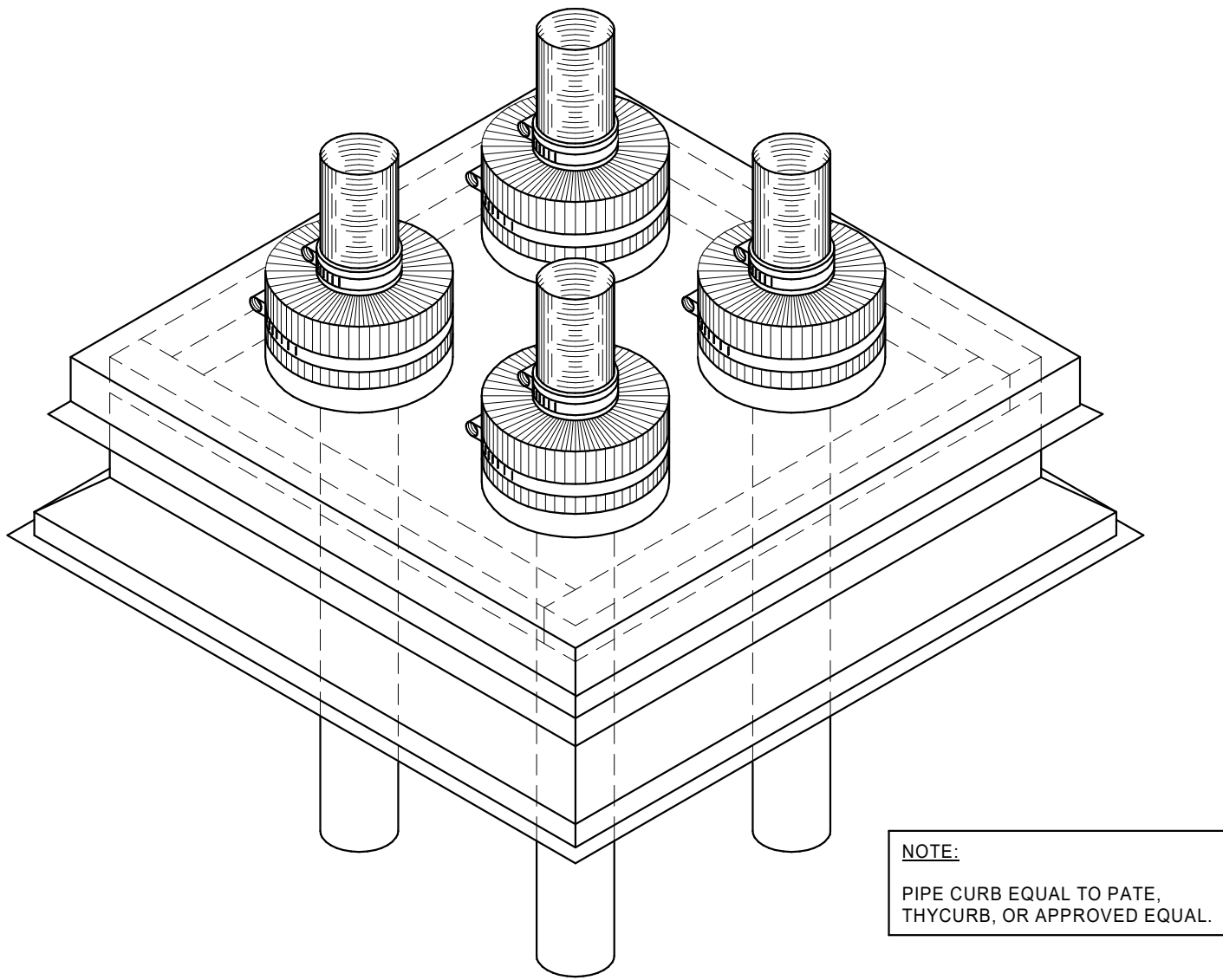


- NOTES:
1. FOR HEATING COILS AND END OF MAIN DRIPS, PROVIDE FLOAT & THERMOSTATIC TRAPS SIZED AT TWICE THE CONDENSATE LOAD.
 2. FOR VALVES AND FITTINGS, SEE PIPING STANDARD IN SPECIFICATION.
 3. STEAM TRAP CAN BE LOCATED WITHIN UNIT VENTILATOR UTILITY COMPARTMENT WHERE ABLE; OTHERWISE LOCATE IN TUNNEL SPACE BELOW.

CONDENSATE DRIP-TRAP DETAIL
NO SCALE



STEAM HEATING HEATING COIL PIPING DIAGRAM
NO SCALE



PIPE CURB - MULTIPLE PIPE DETAIL
NO SCALE



KALAMAZOO | GRAND RAPIDS | CHELSEA | ROYAL OAK

CUMBERLAND HVAC REMODEL

LANSING SCHOOL DISTRICT

2801 Cumberland Road
Lansing, MI 48906



ISSUANCES DATE
DESIGN DEVELOPMENT 07/27/2023
PRE PURCHASE EQUIPMENT 07/28/2023

JOB 2616-01C

SHEET TITLE
MECHANICAL SCHEDULES
AND DETAILS

SHEET NO.

M6.0

KINGSCOTT ASSOCIATES INC.

KALAMAZOO, MICHIGAN



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- ## DDC SYSTEM ARCHITECTURE

NOTE:-

RELIEF HOOD CONTROLS DIAGRAM

NO SCALE

KALAMAZOO, MICHIGAN



PANEL NAME: MR1

PANEL LOCATION: BOOK STORAGE 118				MAIN: MLO				VOLTAGE: 120/240 Single			
ENCLOSURE: TYPE 1				BUSSING: 400 A				PHASE: 1			
MOUNTING: SURFACE				GROUND BUS: STANDARD				WIRE: 3			
				NEUTRAL: 100.00%				MIN A.I.C. RATING: 10,000			
CKT	DESCRIPTION	BKR SIZE	P	A	B	P	BKR SIZE	DESCRIPTION	CKT		
1	CU-B - RM 120 - ROOF	30 A	2	2112	2112	2	30 A	CU-B - RM 121 - ROOF	2		
3									4		
5	UV-B - CLASSROOM 122	15 A	2	492	492	2	15 A	UV-B - CLASSROOM 123	6		
7									8		
9	CU-B - RM 122 - ROOF	30 A	2	2112	2112	2	30 A	CU-B - RM 123 - ROOF	10		
11									12		
13	UV-A - CLASSROOM 125	15 A	2	250	250	2	15 A	UV-A - CLASSROOM 125	14		
15									16		
17	CU-A - RM 125 - ROOF	30 A	2	1836	1836	2	30 A	CU-A - RM 125 - ROOF	18		
19									20		
21	UV-A - CLASSROOM 127A	15 A	2	492	492	2	15 A	UV-A - CLASSROOM 127B	22		
23									24		
25	CU-B - RM 127A - ROOF	30 A	2	2112	2112	2	30 A	CU-B - RM 127B - ROOF	26		
27									28		
29	UV-B - CLASSROOM 130	15 A	2	492	492	2	15 A	UV-B - CLASSROOM 131	30		
31									32		
33	CU-B - RM 130 - ROOF	30 A	2	2112	2112	2	30 A	CU-B - RM 131 - ROOF	34		
35									36		
37	UV-B - CLASSROOM 132	15 A	2	492	492	2	15 A	UV-B - CLASSROOM 133	38		
39									40		
41	CU-B - RM 132 - ROOF	30 A	2	2112	2112	2	30 A	CU-B - RM 133 - ROOF	42		
43									44		
45	REC - ROOF MAINTENANCE	20 A	1	900	720	1	20 A	REC - ROOF MAINTENANCE	46		
47	REC - ROOF MAINTENANCE	20 A	1		540				48		
49									50		
51									52		
53									54		
55									56		
57									58		
59									60		
TOTAL LOAD:				30848 VA	29768 VA						
TOTAL AMP:				257 A	248 A						
LOAD CLASSIFICATION				CONNECTED LOAD	DEMAND FACTOR	ESTIMATED LOAD	PANEL TOTALS				
HVAC				58456 VA	100.00%	58456 VA	CONNECTED LOAD: 61 kVA				
RECEPTACLE				2160 VA	100.00%	2160 VA	DEMAND LOAD: 61 kVA				
							TOTAL CONNECTED: 253 A				
							TOTAL DEMAND: 253 A				
NOTES:											

MDP AND PANEL ARE PREPURCHASED BY THE OWNER. CM TO COORDINATED PREPURCHASE.

PANEL NAME: MDP2

PANEL LOCATION: ELEC 105E				MAIN: 1000 A				VOLTAGE: 120/240 Single			
ENCLOSURE: TYPE 1				BUSSING: 1000 A				PHASE: 1			
MOUNTING: FLOOR				GROUND BUS: STANDARD				WIRE: 3			
				NEUTRAL: 100.00%				MIN A.I.C. RATING: 14,000			
CKT	DESCRIPTION	BKR SIZE	P	A	B	P	BKR SIZE	DESCRIPTION	CKT		
1	UV-B - CLASSROOM 101	15 A	2	492	492	2	15 A	UV-B - CLASSROOM 103	2		
3					492	492			4		
5	CU-B - RM 101 - ROOF	30 A	2	2112	2112	2	30 A	CU-B - RM 103 - ROOF	6		
7					2112	2112			8		
9	UV-B - CLASSROOM 109	15 A	2	492	492	2	15 A	UV-B - CLASSROOM 110	10		
11	CU-B - RM 109 - ROOF	30 A	2	2112	2112	2	30 A	CU-B - RM 110 - ROOF	12		
13					2112	2112			14		
15	UV-B - CLASSROOM 111	15 A	2	492	492	2	15 A	UV-B - CLASSROOM 112	16		
17					492	492			18		
19	CU-B - RM 111 - ROOF	30 A	2	2112	2112	2	30 A	CU-B - RM 112 - ROOF	20		
21					2112	2112			22		
23	UV-B - CLASSROOM 113	15 A	2	492	492	2	15 A	UV-B - STAFF LOUNGE 112B	24		
25					492	492			26		
27	CU-B - RM 113 - ROOF	30 A	2	2112	2112	2	30 A	CU-B - RM 112B - ROOF	28		
29					2112	2112			30		
31	UV-B - CLASSROOM 120	15 A	2	492	492	2	15 A	UV-B - CLASSROOM 121	32		
33					492	492			34		
35	PANEL MR1	400 A	2	30848					36		
37					29768				38		
39									40		
41									42		
43									44		
45									46		
47									48		
49									50		
51									52		
53									54		
55									56		
57									58		
59									60		
TOTAL LOAD:				52664 VA	51584 VA						
TOTAL AMP:				439 A	430 A						
LOAD CLASSIFICATION				CONNECTED LOAD	DEMAND FACTOR	ESTIMATED LOAD	PANEL TOTALS				
HVAC				102088 VA	100.00%	102088 VA	CONNECTED LOAD: 104 kVA				
RECEPTACLE				2160 VA	100.00%	2160 VA	DEMAND LOAD: 104 kVA				
							TOTAL CONNECTED: 434 A				
							TOTAL DEMAND: 434 A				
NOTES:											

PANEL NAME: MDP1

PANEL LOCATION: ELEC 105E				MAIN: 800 A				VOLTAGE: 120/240 Single			
ENCLOSURE: TYPE 1				BUSSING: 800 A				PHASE: 1			
MOUNTING: FLOOR				GROUND BUS: STANDARD				WIRE: 3			
				NEUTRAL: 100.00%				MIN A.I.C. RATING: 14,000			
CKT	DESCRIPTION	BKR SIZE	P	A	B	P	BKR SIZE	DESCRIPTION	CKT		
1	PANEL A	225 A	2	0	0	2	100 A	PANEL B	2		
3					0	0			4		
5	PANEL C	200 A	2	0	0	2	200 A	PANEL D	6		
7					0	0			8		
9	PANEL H	200 A	2	0	0	1	60 A	PANEL EX	10		
11					0				12		
13									14		
15									16		
17									18		
19									20		
21									22		
23									24		
25									26		
27									28		
29									30		
TOTAL LOAD:				0 VA	0 VA						
TOTAL AMP:				0 A	0 A						
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED LOAD	PANEL TOTALS						
					CONNECTED LOAD: 0 kVA						
					DEMAND LOAD: 0 kVA						
					TOTAL CONNECTED: 0 A						
					TOTAL DEMAND: 0 A						
NOTES:											
EXISTING SERVICE TO BE CONSOLIDATED AND REPED FROM NEW PANEL. NO ADDITIONAL LOAD IS BEING ADDED.											



KALAMAZOO | GRAND RAPIDS | CHELSEA | ROYAL OAK

CUMBERLAND HVAC
REMODEL
LANSING SCHOOL DISTRICT
2801 Cumberland Road
Lansing, MI 48906

DEMO RISER DIAGRAM KEYNOTES

N1 DOWNSTREAM ELECTRICAL EQUIPMENT TO BE RELOCATED TO A NEW PANEL. DISCONNECT EXISTING FEED, PULL WIRE BACK, AND SAVE FEEDER FOR REUSE. REFER TO NEW WORK RISER DIAGRAM FOR EXTENSION OF FEEDER TO NEW PANEL.

DEMOLITION ELECTRICAL RISER DIAGRAM

NO SCALE

NEW RISER DIAGRAM KEYNOTES

O1 EXTEND FEEDERS FROM RELOCATED PANEL TO NEW DISTRIBUTION PANEL AS SHOWN.
O2 CONFIRM EXISTING FEEDER SIZE/TYP WITH UTILITY (LBWL) AND EXTEND TO NEW DISTRIBUTION PANEL AS SHOWN.

NEW WORK ELECTRICAL RISER DIAGRAM

NO SCALE

ISSUANCES

DESIGN DEVELOPMENT 07/27/2023
PRE PURCHASE EQUIPMENT 07/28/2023

JOB 2616-01C

SHEET TITLE
ELECTRICAL DIAGRAMS,
SCHEDULES AND DETAILS

SHEET NO.

E7.0



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