

ADDENDUM NO. 2
TO
CONTRACT DOCUMENTS
AND
TECHNICAL SPECIFICATIONS
FOR
REFERENDUM PROJECTS Y2022-2028
AT
ULSTER COUNTY BOCES
ADMIN/MHRIC (NEW PALTZ CAMPUS)

NYSED #62-90-00-00-1-003-016

Ulster County BOCES
175 Route 32 North
New Paltz, NY 12561

Contact: Ms. Amanda Stokes,
Director of School Business

LAN Job #4.1342.24
December 7, 2023

Vlad Potiyevsky, RA
NYS #030220

1.0 General: The original contract documents dated **March 1, 2023** issued to the New York State Education Department for this project are hereby amended as noted in this addendum which shall become part of said contract documents, as if originally included therein. Bidders must acknowledge receipt of this addendum and all other addenda on the proposal form when submitting proposals. In case any bidder fails to acknowledge receipt of addenda, his proposal will nevertheless be construed as though it has been received, acknowledged, and the submission of his proposal shall constitute acknowledgment by the bidder of the receipt of same.

Note that the bid due date and time has changed and shall be Thursday, January 4, 2023 at 1:30 p.m. in the Office of Ms. Amanda Stokes, 175 Route 32N, New Paltz, NY 12561.

2.0 Amendments to Specifications:

Section No.	Page No.	Addendum Requirements
TOC	ALL	The Table of Contents has been revised.
A132	ALL	Specification section has been revised.
A232	ALL	Specification section has been revised.
230000	4	Commissioning section of specification was revised.
230713.1	ALL	Specification was added.
230993	ALL	DOAS-2 was revised to a ground-mounted packaged DOAS unit. Fin-tube radiator and Wall-mounted AC units (WPACs) sequences were revised.
231123	ALL	Specification was added.
238236	3	Basis of design control valve was added.

3.0 Amendments to Drawings:

Drawing No.	Addendum Requirements
M2.01	Revised ductwork layout in office area 107. Removed AC-C in reception/waiting 106. Removed AC-A1 from offices 107F, 107G and 107H. Relocated AC-A1 from meeting room 107C to reception/waiting 106. Relocated AC-C located next to kitchen 107K to adjacent wall. Added new AC-A3 to new offices 107C and 107F. Added new keynote 11 for existing ductwork in conf. center 102.
M2.02	Revised ductwork layout in attic. Removed ACCU-8. Removed one (1) AC-E from office area 204. Relocated DOAS-2 from attic to exterior. Relocated ACCU-5, ACCU-6 and ACCU-7. Relocated BSU-A in electrical room 104A. Added new AC-K to attic. Added new exterior ductwork for DOAS-2. Added new CO detector in DOAS-2 supply main. Added new keynotes 8, 9, 10 and 11.

3.0 Amendments to Drawings: (continued)

Drawing No.	Addendum Requirements
M2.03	Added new duct smoke detectors in exhaust mains. Add new CO detector in supply main. Revised mechanical plan notes and mechanical key notes.
M2.04	Revised refrigerant piping layout, condensate piping layout and thermostat locations per equipment removals, relocations and additions on M2.01.
M2.05	Revised refrigerant piping layout, condensate piping layout and thermostat locations per equipment removals, relocations and additions on M2.02. Added new controller and thermostat in computer room 109 for WPAC-1, WPAC-2, and WPAC-3. Revised keynote 8 and added new keynotes 9, 10 and 11.
M6.01	Revised DOAS-2 schedule to reflect relocation from attic to exterior. Revised outdoor ACC unit schedule. Added AC-K to indoor VRF AC/Heat Pump terminal unit schedule. Revised unit quantities in indoor VRF AC/Heat Pump terminal unit schedule.
M6.02	Revised wall-mounted outdoor air conditioning unit schedule per coordination with owner.
M6.04	Created new detail sheet and added nine (9) new details.
M6.05	Created new detail and elevation sheet. Added two (2) new details and one (1) new exterior ductwork elevation.

4.0 Requests for Information (RFI's):

No.	Comment / Response
1	<p>Comment: I do not see any insurance requirements listed.</p> <p>Response: Please see revised AIA A232 – Article XI and Appendix A for insurance requirements.</p>
2	<p>Comment: The pipe insulation spec (230719) omits refrigerant.</p> <p>Drawing M0.01 has the following notes:</p> <ul style="list-style-type: none"> • Refrigerant suction & hot gas by-pass piping shall be insulated with min. 1" thick flexible elastomeric insulation. • Exterior refrigerant suction & hot gas bypass shall be provided with 1" thick flexible elastomeric insulation and be provided with a min. 30 MIL PVC field-applied jacket.

4.0 Requests for Information (RFI's): (continued)

No. Comment / Response

Drawing M2.04 has the following note:

- All refrigerant piping shall be insulated and supported as per manufacturers recommendations/specifications. Provide weatherproof jacket for piping located outside. Verify exact pipe routing in the field. Each line represents one (1) refrigerant circuit (liquid & suction) from the air-cooled condensing units. Refrigerant piping and wiring shall be located above the hung ceiling. This is schematic piping layout for reference only. Contractor shall coordinate with manufacturer for exact pipe sizes & routing.

For clarity is it the engineer's intent that ALL refrigerant pipe be insulated?

Response: All refrigerant piping shall be insulated.

5.0 Clarifications:

No. Comment / Response

- 1 Attached for contractor reference are the Trane equipment and controls packages and scopes that are being purchased under cooperative contract.

END OF ADDENDUM NO. 2

Attachments: #1 - Table of Contents
#2 - Revised A132 Standard Form of Agreement Between Owner and Contractor
#3 - Revised A232 General Conditions of the Contract for Construction
#4 - Revised specification sections 23000, 230993 and 238236
#5 - Added specification sections 230713.1 and 231123
#6 - Revised drawings M2.01, M2.02, M2.03, M2.04, M2.05, M6.01, M6.02, M6.04, M6.05
#7 - Trane Equipment Proposal for Administrative Section
#8 - Trane Equipment Proposal for MHRIC Section
#9 - Trane Controls Proposal for Admin/MHRIC

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DRAFT AIA® Document A132™ – 2019

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month, and year.)

BETWEEN the Owner:
(Name, legal status, address, and other information)

«Ulster County BOCES »« »
«175 Route 32 N »
«New Paltz, NY 12561 »
« »

and the Contractor:
(Name, legal status, address, and other information)

« »« »
« »
« »
« »

for the following Project:
(Name, location, and detailed description)

«Ulster County BOCES (4.1342.24)»
«Capital Projects Y2022-2028 / Removal and Replacement of HVAC Equipment,
Ceiling and Lighting Replacement and Bathroom Toilet Partition Replacement within
the Mid-Hudson Regional Information Center and Administration Buildings at the New
Paltz Campus»

The Construction Manager:
(Name, legal status, address, and other information)

«The Palombo Group »« »
«PO Box 74 »
«Standfordville, NY 12581 »
« »

The Architect:
(Name, legal status, address, and other information)

«LAN Associates, Engineering, Planning, Architecture, Surveying, LLP »« »
«252 Main Street »
«Goshen, NY 10924 »
« »

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

This document is intended to be used in conjunction with AIA Documents A232™-2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132™-2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™-2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser. AIA Document A232™-2019 is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND DATES OF SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

☐ The date of this Agreement.

☐ A date set forth in a notice to proceed issued by the Owner.

☐ Established as follows:

(Insert a date or a means to determine the date of commencement of the Work.)

☐

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion of the Project or Portions Thereof

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the date of Substantial Completion of the Work of all of the Contractors for the Project will be:

(Insert the date of Substantial Completion of the Work of all Contractors for the Project.)

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work of all of the Contractors for the Project are to be completed prior to Substantial Completion of the entire Work of all of the Contractors for the Project, the Contractors shall achieve Substantial Completion of such portions by the following dates:

Portion of Work

Substantial Completion Date

§ 3.4 When the Work of this Contract, or any Portion Thereof, is Substantially Complete

§ 3.4.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall substantially complete the entire Work of this Contract:

(Check one of the following boxes and complete the necessary information.)

☐ Not later than () calendar days from the date of commencement of the Work.

☐ By the following date:

§ 3.4.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work of this Contract are to be substantially complete prior to when the entire Work of this Contract shall be substantially complete, the Contractor shall substantially complete such portions by the following dates:

Portion of Work

Date to be substantially complete

§ 3.4.3 If the Contractor fails to substantially complete the Work of this Contract, or portions thereof, as provided in this Section 3.4, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:

(Check the appropriate box.)

☐ Stipulated Sum, in accordance with Section 4.2 below

☐ Cost of the Work plus the Contractor's Fee, in accordance with Section 4.3 below

☐ Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 4.4 below

(Based on the selection above, complete Section 4.2, 4.3 or 4.4 below.)

§ 4.2 Stipulated Sum

§ 4.2.1 The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2.2 Alternates

§ 4.2.2.1 Alternates, if any, included in the Contract Sum:

Item

Price

§ 4.2.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.

(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.2.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.2.4 Unit prices, if any:
(Identify the item and state the unit price, and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 4.3 Cost of the Work Plus Contractor's Fee without a Guaranteed Maximum Price

§ 4.3.1 The Cost of the Work is as defined in Exhibit B, Determination of the Cost of the Work.

§ 4.3.2 The Contractor's Fee:
(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee.)

<< >>

§ 4.3.3 The method of adjustment of the Contractor's Fee for changes in the Work:

<< >>

§ 4.3.4 Limitations, if any, on a Subcontractor's overhead and profit for increases in the cost of its portion of the Work:

<< >>

§ 4.3.5 Rental rates for Contractor-owned equipment shall not exceed << >> percent (<< >> %) of the standard rental rate paid at the place of the Project.

§ 4.3.6 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 4.3.7 The Contractor shall prepare and submit to the Construction Manager, within 14 days of executing this Agreement, a written Control Estimate for the Owner's review and approval. The Control Estimate shall include the items in Section B.1 of Exhibit B, Determination of the Cost of the Work.

§ 4.4 Cost of the Work Plus Contractor's Fee with a Guaranteed Maximum Price

§ 4.4.1 The Cost of the Work is as defined in Exhibit B, Determination of the Cost of the Work.

§ 4.4.2 The Contractor's Fee:
(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee.)

<< >>

§ 4.4.3 The method of adjustment of the Contractor's Fee for changes in the Work:

<< >>

§ 4.4.4 Limitations, if any, on a Subcontractor's overhead and profit for increases in the cost of its portion of the Work:

« »

§ 4.4.5 Rental rates for Contractor-owned equipment shall not exceed « » percent (« » %) of the standard rental rate paid at the place of the Project.

§ 4.4.6 Unit Prices, if any:

(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 4.4.7 Guaranteed Maximum Price

§ 4.4.7.1 The Contract Sum is guaranteed by the Contractor not to exceed « » (\$ « »), subject to additions and deductions by Change Order as provided in the Contract Documents. This maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.

§ 4.4.7.2 Alternates

§ 4.4.7.2.1 Alternates, if any, included in the Guaranteed Maximum Price:

Item	Price

§ 4.4.7.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.

(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.4.7.3 Allowances, if any, included in the Guaranteed Maximum Price:

(Identify each allowance.)

Item	Price

§ 4.4.7.4 Assumptions, if any, upon which the Guaranteed Maximum Price is based:

(Identify each assumption.)

« »

§ 4.4.8 To the extent that the Contract Documents are anticipated to require further development, the Guaranteed Maximum Price includes the costs attributable to such further development consistent with the Contract Documents and reasonably inferable therefrom. Such further development does not include changes in scope, systems, kinds and quality of materials, finishes, or equipment, all of which, if required, shall be incorporated by Change Order.

§ 4.4.9 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in Section 4.4.7.4. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the agreed-upon assumptions contained in Section 4.4.7.4 and the revised Contract Documents.

§ 4.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any, to be assessed in accordance with Section 3.4.)

« »

§ 4.6 Other:

(Insert provisions for bonus, cost savings or other incentives, if any, that might result in a change to the Contract Sum.)

<< >>

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and Certificates for Payment issued by the Construction Manager and Architect, the Owner shall make progress payments on account of the Contract Sum, to the Contractor, as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

<< >>

§ 5.1.3 Provided that an Application for Payment is received by the Construction Manager not later than the <> day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the <> day of the <> month. If an Application for Payment is received by the Construction Manager after the application date fixed above, payment of the amount certified shall be made by the Owner not later than <> (<>) days after the Construction Manager receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum

§ 5.1.4.1 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Construction Manager and Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.4.2 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.4.3 In accordance with AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.4.3.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.4.3.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A232–2019;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A232–2019; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.5 Progress Payments Where the Contract Sum is Based on the Cost of the Work without a Guaranteed Maximum Price

§ 5.1.5.1 With each Application for Payment, the Contractor shall submit the cost control information required in Exhibit B, Determination of the Cost of the Work, along with payrolls, petty cash accounts, receipted invoices, or invoices with check vouchers attached, and any other evidence required by the Owner, Construction Manager or Architect to demonstrate that payments already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor, plus payrolls for the period covered by the present Application for Payment, less that portion of the payments attributable to the Contractor's Fee.

§ 5.1.5.2 Applications for Payment shall show the Cost of the Work actually incurred by the Contractor through the end of the period covered by the Application for Payment and for which the Contractor has made or intends to make actual payment prior to the next Application for Payment.

§ 5.1.5.3 In accordance with AIA Document A232-2019 and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.5.3.1 The amount of each progress payment shall first include:

- .1 The Cost of the Work as described in Exhibit B, Determination of the Cost of the Work;
- .2 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified; and
- .3 The Contractor's Fee computed upon the Cost of the Work described in the preceding Section 5.1.5.3.1.1 at the rate stated in Section 4.3.2; or if the Contractor's Fee is stated as a fixed sum in Section 4.3.2 an amount which bears the same ratio to that fixed-sum Fee as the Cost of the Work included in Section 5.1.5.3.1.1 bears to a reasonable estimate of the probable Cost of the Work upon its completion.

§ 5.1.5.3.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A232-2019;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A232-2019;
- .5 The shortfall, if any, indicated by the Contractor in the documentation required by Section 5.1.5.1 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner's auditors in such documentation; and
- .6 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.5.4 The Owner, Construction Manager and Contractor shall agree upon a mutually acceptable procedure for review and approval of payments to Subcontractors and the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.

§ 5.1.5.5 In taking action on the Contractor's Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor, and such action shall not be deemed to be a representation that (1) the Construction Manager and Architect have made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Article 5 or other supporting data; (2) that the Construction Manager and Architect have made exhaustive or continuous on-site inspections; or (3) that the Construction Manager and Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.

§ 5.1.5.6 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.1.5.7 If final completion of the Work is materially delayed through no fault of the Contractor, then the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A232-2019.

§ 5.1.6 Progress Payments Where the Contract Sum is Based on the Cost of the Work with a Guaranteed Maximum Price

§ 5.1.6.1 With each Application for Payment, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner, Construction Manager or Architect to demonstrate that payments already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Contractor's Fee.

§ 5.1.6.2 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Guaranteed Maximum Price among: (1) the various portions of the Work; (2) any contingency for costs that are included in the Guaranteed Maximum Price but not otherwise allocated to another line item or included in a Change Order; and (3) the Contractor's Fee.

§ 5.1.6.2.1 The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Construction Manager and Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.6.2.2 The allocation of the Guaranteed Maximum Price under this Section 5.1.6.2 shall not constitute a separate guaranteed maximum price for the Cost of the Work of each individual line item in the schedule of values.

§ 5.1.6.2.3 When the Contractor allocates costs from a contingency to another line item in the schedule of values, the Contractor shall submit supporting documentation to the Architect and Construction Manager.

§ 5.1.6.3 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment. The percentage of completion shall be the lesser of (1) the percentage of that portion of the Work which has actually been completed; or (2) the percentage obtained by dividing (a) the expense that has actually been incurred by the Contractor on account of that portion of the Work and for which the Contractor has made payment or intends to make payment prior to the next Application for Payment by (b) the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values.

§ 5.1.6.4 In accordance with AIA Document A232-2019, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.4.1 The amount of each progress payment shall first include:

- .1 That portion of the Guaranteed Maximum Price properly allocable to completed Work as determined by multiplying the percentage of completion of each portion of the Work by the share of the Guaranteed Maximum Price allocated to that portion of the Work in the most recent schedule of values;
- .2 That portion of the Guaranteed Maximum Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction or, if approved in writing in advance by the Owner, suitably stored off the site at a location agreed upon in writing;
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified; and
- .4 The Contractor's Fee, computed upon the Cost of the Work described in the preceding Sections 5.1.6.4.1.1 and 5.1.6.4.1.2 at the rate stated in Section 4.4.2 or, if the Contractor's Fee is stated as a fixed sum in that Section, an amount that bears the same ratio to that fixed-sum fee as the Cost of the Work included in Sections 5.1.6.4.1.1 and 5.1.6.4.1.2 bears to a reasonable estimate of the probable Cost of the Work upon its completion.

§ 5.1.6.4.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A232-2019;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A232-2019;
- .5 The shortfall, if any, indicated by the Contractor in the documentation required by Section 5.1.6.1 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner's auditors in such documentation; and
- .6 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.6.5 The Owner and the Contractor shall agree upon a mutually acceptable procedure for review and approval of payments to Subcontractors and the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.

§ 5.1.6.6 In taking action on the Contractor's Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor and such action shall not be deemed to be a representation that (1) the Construction Manager or Architect have made a detailed examination, audit, or arithmetic verification of the documentation submitted in accordance with Section 5.1.6.1 or other supporting data; (2) that the Construction Manager or Architect have made exhaustive or continuous on-site inspections; or (3) that the Construction Manager or Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits, and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.

§ 5.1.6.7 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.1.6.8 If final completion of the Work is materially delayed through no fault of the Contractor, then the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A232-2019.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to when the Work of this Contract is substantially complete, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

« »

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

« »

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.7.1 is to be modified prior to when the entire Work of this Contract is substantially complete, including modifications for completion of portions of the Work as provided in Section 3.4.2, insert provisions for such modifications.)

« »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, when the Work of this Contract is substantially complete, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted when the Work of this Contract is substantially complete shall not include retainage as follows:

(Insert any other conditions for release of retainage when the Work of this Contract is substantially complete, or upon Substantial Completion of the Work of all Contractors on the Project or portions thereof.)

« »

§ 5.2 Final Payment

§ 5.2.1 Final Payment Where the Contract Sum is Based on a Stipulated Sum

§ 5.2.1.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A232–2019, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect.

§ 5.2.1.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the final Certificate for Payment or Project Certificate for Payment, or as follows:

« »

§ 5.2.2 Final Payment Where the Contract Sum is Based on the Cost of the Work with or without a Guaranteed Maximum Price

§ 5.2.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A232–2019, and to satisfy other requirements, if any, which extend beyond final payment;
- .2 the Contractor has submitted a final accounting for the Cost of the Work, pursuant to Exhibit B, Determination of the Cost of the Work and a final Application for Payment; and
- .3 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect in accordance with Exhibit B, Determination of the Cost of the Work.

§ 5.2.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the final Certificate for Payment or Project Certificate for Payment, or as follows:

« »

§ 5.3 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located. *(Insert rate of interest agreed upon, if any.)*

« » % « »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as Initial Decision Maker pursuant to Article 15 of AIA Document A232–2019, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »

« »

« »

« »

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A232–2019, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

[☒] Litigation in a court of competent jurisdiction.

[☐] Other: *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2019.

§ 7.1.1.1 If the Contract is terminated for the Owner’s convenience in accordance with Article 14 of AIA Document A232–2019, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner’s convenience.)

§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2019.

§ 7.2 Where the Contract Sum is Based on the Cost of the Work with or without a Guaranteed Maximum Price

§ 7.2.1 Termination

§ 7.2.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2019.

§ 7.2.1.2 Termination by the Owner for Cause

§ 7.2.1.2.1 If the Owner terminates the Contract for cause as provided in Article 14 of AIA Document A232–2019, the Owner shall then only pay the Contractor an amount as follows:

- .1 Take the Cost of the Work incurred by the Contractor to the date of termination;
- .2 Add the Contractor’s Fee, computed upon the Cost of the Work to the date of termination at the rate stated in Section 4.3.2 or 4.4.2, as applicable, or, if the Contractor’s Fee is stated as a fixed sum in that Section, an amount that bears the same ratio to that fixed-sum Fee as the Cost of the Work at the time of termination bears to a reasonable estimate of the probable Cost of the Work upon its completion;
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract the costs and damages incurred, or to be incurred, by the Owner under Article 14 of AIA Document A232–2019.

§ 7.2.1.2.2 When the Contract Sum is based on the Cost of the Work with a Guaranteed Maximum Price, if the Owner terminates the Contract for cause as provided in Article 14 of AIA Document A232–2019, the amount, if any, to be paid to the Contractor under Article 14 of AIA Document A232–2019 shall not cause the Guaranteed Maximum Price to be exceeded, nor shall it exceed the amount calculated in Section 7.2.1.2.1.

§ 7.2.1.2.3 The Owner shall also pay the Contractor fair compensation, either by purchase or rental at the election of the Owner, for any equipment owned by the Contractor that the Owner elects to retain and that is not otherwise included in the Cost of the Work under Section 7.2.1.2.1.1. To the extent that the Owner elects to take legal assignment of subcontracts and purchase orders (including rental agreements), the Contractor shall, as a condition of receiving the payments referred to in this Article 7, execute and deliver all such papers and take all such steps, including the legal assignment of such subcontracts and other contractual rights of the Contractor, as the Owner may require for the purpose of fully vesting in the Owner the rights and benefits of the Contractor under such subcontracts or purchase orders. All Subcontracts, purchase orders and rental agreements entered into by the Contractor will contain provisions allowing for assignment to the Owner as described above.

§ 7.2.1.3 Termination by the Owner for Convenience

If the Owner terminates the Contract for convenience in accordance with Article 14 of AIA Document A232–2019, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of or method for determining the fee, if any, payable to the Contractor following a termination for the Owner’s convenience.)

« »

§ 7.3 Suspension

The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2019; in such case, the Contract Sum and Contract Time shall be increased as provided in Article 14 of AIA Document A232–2019, except that the term “profit” shall be understood to mean the Contractor’s Fee as described in Section 4.3.2 or 4.4.2, as applicable, of this Agreement.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A232–2019 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:

(Name, address, email address, and other information)

«Ms. Amanda Stokes »
«Ulster County BOCES »
«175 Route 32 N »
«New Paltz, NY 12561 »
«T. 845-255-3010 »
«E. Astokes@ulsterboces.org »

§ 8.3 The Contractor’s representative:

(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.4 Neither the Owner’s nor the Contractor’s representative shall be changed without ten days’ prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A132™–2019, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A232–2019, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

« »

§ 8.7 Relationship of the Parties

Where the Contract is based on the Cost of the Work plus the Contractor’s Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor’s skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of

workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.

§ 8.8 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition
- .2 AIA Document A132™–2019,
- .3 AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition
- .4 Supplemental General Conditions

« »

- .5 Drawings

Number	Title	Date

- .6 Specifications

Section	Title	Date	Pages

- .7 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

- .8 Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[☐] AIA Document A132™–2019, Exhibit B, Determination of the Cost of the Work

[☐] AIA Document E235™–2019, Sustainable Projects Exhibit, Construction Manager as Adviser Edition, dated as indicated below:
(Insert the date of the E235-2019 incorporated into this Agreement.)

« »

[☐] The Sustainability Plan:

Title	Date	Pages

[☐] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A232–2019 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

« »

This Agreement is entered into as of the day and year first written above.

OWNER (Signature)

« »« »

(Printed name and title)

CONTRACTOR (Signature)

« »« »

(Printed name and title)

DRAFT AIA® Document A232™ – 2019

General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

for the following PROJECT:

(Name, and location or address)

«Ulster County BOCES (4.1342.24)»

«Capital Projects Y2022-2028 / Removal and Replacement of HVAC Equipment,
Ceiling and Lighting Replacement and Bathroom Toilet Partition Replacement within
the Mid-Hudson Regional Information Center and Administration Buildings at the New
Paltz Campus»

THE CONSTRUCTION MANAGER:

(Name, legal status, and address)

«The Palombo Group »

«PO Box 74 »

«Stanfordville, NY 12581 »

THE OWNER:

(Name, legal status, and address)

«Ulster County BOCES »

«175 Route 32 N »

«New Paltz, NY 12561 »

THE ARCHITECT:

(Name, legal status, and address)

«LAN Associates, Engineering, Planning, Architecture, Surveying, LLP »

«252 Main Street »

«Goshen, NY 10924 »

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

This document is intended to be used in conjunction with AIA Documents A132™-2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™-2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™-2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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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 eliminated in the Agreement, the Contract Documents include the bidding requirements (advertisement or invitation to bid or Notice to Bidders, Information or Instructions to Bidders, sample forms) and the Project Manual

§ 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 the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of their 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 other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 Contractors. Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager.

§ 1.1.6 Separate Contractors. Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 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.

§ 1.1.8 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.

§ 1.1.9 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.

§ 1.1.10 Initial Decision Maker. The Initial Decision Maker is the person identified in the Agreement to render initial decisions 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.

§ 1.1.11 Project Manual. The Project Manual is the bound document which is issued simultaneously with the Project Drawings and includes the Notice to Bidders, Instructions or Information to Bidders, Bid Proposal Form, Prevailing Wage Rate Schedule, Performance Bond forms, Statement of Contractor Qualifications, Owner/Contractor

Agreement, these General Conditions, and the written requirements for labor, materials, equipment, construction systems and the like necessary for the Contractor to complete the work for which it has been engaged.

§ 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.

It is further intended that all mechanical and electrical systems will be complete and in proper operation and that all construction components will be complete and in compliance with accepted construction practice upon completion of the Work. Even if items are missing from the Plans and/or Specifications, but are normally required for proper operation of mechanical and electrical systems, or to complete otherwise incomplete construction or to meet governing code requirements, they shall be included by the Contractor, unless he sought and received contradictory interpretation or clarification from the Architect.

§ 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.

§1.2.1.1 In the case of an inconsistency between or among the Contract Documents, the more specific provision will take precedence over the less specific; the more stringent will take precedence over the less stringent; the more expensive item will take precedence over the less expensive, in accordance with the Architect's interpretation.

§1.2.1.2 Scaling Drawings for dimensions, if done, is done at the Contractor's own risk.

§ 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.

§ 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 Each Contractor shall examine the building in which the Work is to be installed and shall acquaint himself fully with the existing conditions which relate to the Work to be performed. He shall compare existing conditions to those shown on Drawings or mentioned in the Specifications. Any discrepancies found between actual conditions and those shown on Drawings; or any interferences found which limit or prevent the proper installation or operation of the Work shown to be performed or specified shall be reported to the Architect before the Proposal is submitted. By submitting the Proposal without such notification to the Architect of discrepancies or interferences, the Contractor agrees that no subsequent modification of the Contract Price will be requested or made by reason of the Contractor's failure to acquaint himself fully with existing conditions, the Drawings and the Specifications.

§ 1.2.5 Discrepancies between any Drawings and/or Specifications and the parts thereof, any omissions of detail, materials and/or appurtenances normally required or items that are open to possible variations to interpretation shall be referred to the Architect for clarification before submitting a bid. In the event of failure on the part of the Contractor to request such clarification before submitting a bid, it shall be assumed that the Contractor has based his bid on supplying and installing all such omissions or, where a discrepancy on matter of interpretation exists, that his bid was based on executing the work in the most expensive manner.

§ 1.2.6 Where references are made to standards and codes, i.e. American Society of Testing and Materials (ASTM), American National Standards Institute (ANSI), Underwriters' Laboratories (UL) and Federal Specifications, in these Specifications, they refer to the latest issue of these Specifications at the time of bidding.

§ 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 may, at the Architect’s sole discretion, furnish electronic versions of some of the Instruments of Service to the Contractor. The Contractor shall comply with any conditions set by the Architect for the use of these electronic documents, including compensation to the Architect or the Architect’s consultants. The Contract Documents shall take precedence over any electronic versions of the Instruments of Service that are furnished to the Contractor. The Contractor shall be responsible for identifying and correlating any discrepancies between the Contract Documents, approved submittals, changes in the work, field conditions and any electronic versions of the Instruments of Service.

1.5.1 The Contractor shall not transfer or reuse electronic versions of the Instruments of Service in electronic or machine readable form without the prior written consent of the Architect.

§ 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 representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 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 and actually received by the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall 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 Disclaimer

In no event shall the Owner or the Architect have any responsibility for the Contractor’s construction means, methods, techniques, sequences, procedures or for safety or for safety precautions and programs in connection with the Work notwithstanding any of the rights and authority granted the Owner in the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the Board of Education listed on the first page of the General Conditions of Contract. Owner shall have exclusive the authority to: (1) modify, delete or supplement terms of Contract Documents; (2) approve and authorize the use of allowances; (3) adjust time and payment terms of the Contract Documents; and (4) accept Work performed that is not in compliance with the Contract Documents. The Owner shall designate in writing a representative who shall have express authority to address administrative matters beyond this exclusive scope of duty. Except as otherwise provided in Article 4, the Construction Manager and the Architect shall not have such authority

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant, as specifically requested, 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.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 This section is intentionally omitted.

§ 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 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. Unless otherwise provided under the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit.

§ 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. 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 The Owner may retain a construction manager adviser lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.5 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.

§ 2.3.6 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, with a copy of such request to the Architect and Construction Manager.

§ 2.3.8 The Owner shall forward all communications to the Contractor through the Construction Manager or other designated representative. Other communication shall be made as set forth in Section 4.2.6.

§ 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, as determined by the Architect, the Owner, or the Construction Manager, 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.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults, fails or neglects to carry out the Work in accordance with the Contract Documents and fails within a five (5) calendar day period after receipt of written notice from the Owner to commence and continue correction of such default, failure or neglect with diligence and promptness, the Owner may, without further notice (except to inform the Contractor its attempt to cure is inadequate) and without prejudice to other remedies the Owner may have to correct such deficiencies, including the Owner's right to have Contractor's surety perform and correct such deficiencies. In such case an appropriate Change Order or Construction Change Directive shall be issued deducting from Payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Architect's and any respective consultants' additional services and expenses made necessary by such default, neglect or failure. If Payments then or thereafter due are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

Such action by the Owner and amounts charged to the Contractor shall be equally binding upon the Contractor's

Performance and Payment Bond Surety.

§2.5.1 In the event Contractor fails, refuses or neglects to perform closeout obligations, including without limitation performance of punch-list items, within sixty (60) days following the date of Substantial Completion, Contractor shall be liable to the Owner for any additional costs, including without limitation those charged by Architect, Attorneys, or others attributable to such failure, refusal or neglect.

§ 2.6 Acceleration Clause

§ 2.6.1 The Owner reserves the right to accelerate the work of the Contract. In the event that the Owner directs acceleration, such directive will be only in written form. The Contractor shall keep cost and other project records related to the acceleration directive separately from normal project costs and records and shall provide a written record of acceleration cost to the Owner on a daily basis. THE FAILURE OF THE CONTRACTOR TO KEEP WRITTEN RECORDS OF ITS COSTS AND EXPENSES ASSOCIATED WITH ACCELERATION SHALL RESULT IN A WAIVER OF ANY CLAIM FOR SUCH COSTS AND EXPENSES.

§ 2.6.2 In the event that the Contractor believes that some action or inaction on the part of the Owner constitutes an acceleration directive, the Contractor shall immediately notify the Owner in writing that the Contractor considers the actions an acceleration directive, with copies to the Architect and Construction Manager. This written notification shall detail the circumstances of the claimed acceleration directive. The Contractor shall not accelerate their work efforts until the Owner responds in writing to the written notification. If acceleration is then directed or required by the Owner, all cost records referred to above shall be maintained by the Contractor and provided to the Owner on a daily basis.

§ 2.6.3 In order to preserve a claim to recover additional costs due to acceleration, the Contractor must document that additional expenses were incurred and paid by the Contractor. Labor costs recoverable will be only overtime or shift premium costs or the cost of additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will be only the cost of added equipment mobilized to the site to accomplish the accelerated work effort. No other costs or expenses are reimbursable.

§2.7 OWNER'S RIGHTS FOR USE OF PREMISES

§2.7.1 Whether work of various Contractors is or is not partially or fully completed, the premises (site and buildings) are the property of the Owner who shall have certain rights and privileges in connection with use of same.

§2.7.2 Should there be, in the opinion of the Architect or Initial Decision Maker, unwarranted delay on the part of any Contractor in completion of uncompleted work or other Contractor requirements, the Owner may have full or partial use and occupancy of any or all portions of buildings as required for moving in or installing furniture, fixtures, supplies or equipment and for general cleaning and maintenance work. In such event Contractor whose unfinished work is performed subsequently shall be responsible for the prevention of any damage to such Owner's installation. Such use or occupancy by the Owner shall in no instance constitute acceptance of any of the Work.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 Execution of the contract by the Contractor is a representation that the Contractor has carefully examined the Contract Documents and the site, and represents that the Contractor is thoroughly familiar with the nature and location of the Work, the site, the specific conditions under which the Work is to be performed, and all matters which may in any way affect the Work or its performance. The Contractor further represents that as a result of such examinations and investigations, the Contractor thoroughly understands the Contract Documents and their intent and purpose, and is familiar with all applicable codes, ordinances, laws, regulations, and rules as they apply to the Work, and that the Contractor will abide by same. Claims for additional time or additional compensation as a result of the Contractor's failure to follow the foregoing procedure and to familiarize itself with all local conditions and the Contract Documents will not be permitted

§ 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 Construction Manager or Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 By executing the Contract, Contractor represents and warrants to the Owner that:

- .1 Contractor is and will be financially responsible and has and will have sufficient liquidity to meet its financial responsibilities under the Contract and for all other Projects in which Contractor is or may become involved;
- .2 Contractor has carefully examined the Contract Documents and has visited and carefully examined the site, and represents that the Contractor is thoroughly familiar with the nature and location of the Work, the site, the specific conditions under which the Work is to be performed, and all matters which may in any way affect the Work or its performance.
- .3 From Contractor's investigation, Contractor has satisfied itself as to the nature and location of the proposed Work, general and local conditions, and all matters which may in any way affect the Work or its performance; and
- .4 Contractor fully understands the intent and purpose of the Contract Documents.
- .5 The Contractor acknowledges that the Owner is a school district which is subject to various laws and regulations of the State of New York. The Contractor will, in each phase of the Contract, in accordance with applicable standards, comply with applicable laws and regulations as they pertain to the bidding and construction of the Project, including, without limitation, the requirements of Article 5-A of the General Municipal Law; Article 9 of the Education Law; Article 8 of the New York Labor Law; and Sub-Chapter J, Part 155 of Title 8, Chapter II of the Codes, Rules and Regulations of the State of New York.

§ 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 2.3.5, 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 Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information submitted to the Construction Manager in such form as the Construction Manager and 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. The Contractor shall be held responsible for any cost or delay resulting from the Contractor's failure to obtain or heed the Architect's or Construction Manager's clarifications or instructions concerning any discovered error, omission, discrepancy or inconsistency.

§3.2.2.1 The Contractor shall promptly notify the Architect, in writing, of any inconsistencies or errors to provide the Architect ample time for observation, investigation, detail drawings, etc.

§3.2.2.2 All Contractors submitting bid proposals shall be presumed to have examined the site to consider fully all conditions, which may have a bearing on the work, and to have accounted for these conditions in their bid proposals.

§3.2.2.3 When required, off-site storage is the responsibility of the Contractor.

§3.2.2.4 The exactness of grades, elevations, dimensions or locations indicated on the Drawings or of Work installed by others is not guaranteed by the Architect or the Owner.

§3.2.2.5 Except as to any reported errors, inconsistencies, nonconformities or omissions, and to concealed or unknown conditions referred to in paragraph 3.7.4, by executing the Agreement, the Contractor represents the following:

.1 The Contract Documents are sufficiently complete and detailed for the Contractor to (1) perform the Work required to produce the results intended by the Contract Documents and (2) comply with all the requirements of the Contract Documents.

.2 The Work required by the Contract Documents, including, without limitation, all construction details, construction means, methods, procedure and techniques necessary to perform the Work, use of materials, selection of equipment and requirements of product manufacturers are consistent with: (1) good and sound practices within the construction industry; (2) generally prevailing and accepted industry standards applicable to Work; (3) requirements of any warranties applicable to the Work; and (4) all laws, ordinances, regulations, rules and orders which bear upon the Contractor's performance of the Work.

§3.2.2.6 The Contractor shall satisfy itself as to the accuracy of all grades, elevations, dimensions and locations indicated on the Drawings. Where the Work of this Contract connects or interfaces with existing or other work Contractor shall verify at the site all conditions of such existing or other work. Any errors due to the Contractor's failure to verify such information shall be promptly remedied by the Contractor at no additional cost to the Owner.

§3.2.2.7 Before ordering any materials or doing any Work, the Contractor and each Subcontractor shall verify all existing conditions and measurements. Any differences, which may be found, between actual measurements and dimensions indicated on the Drawings shall be submitted to the Architect for resolution before proceeding with the Work. No extra compensation will be allowed for such discrepancies.

§ 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 Construction Manager and Architect any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and Architect may require.

§ 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, 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.

§3.2.4.1 The exactness of grades, elevations, dimensions, or locations given on any Drawings issued by the Architect, or the work installed by other contractors, is not guaranteed by the Architect or the Owner.

§ 3.2.5 Should the Contractor encounter conditions at the site materially differing from those shown on the Drawings or indicated in the Specifications, the Contractor shall immediately give notice to the Architect of such conditions before they are disturbed. The Architect shall thereupon promptly investigate the conditions, and shall at once make such changes in the Drawings and/or Specifications as he may find necessary. Any increase or decrease of cost resulting from such changes may be adjusted in the manner provided herein for adjustments as to extra and/or additional work and changes.

§ 3.2.6 The Owner shall be entitled to deduct from the Contract Sum any additional amounts paid to the Architect to evaluate and respond to the Contractor's requests for information where such information was readily available to the Contractor or should have been known to the Contractor from a study and comparison of the Contract Documents, field conditions, site visit(s), or prior Project correspondence or documentation.

§ 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, the Construction Manager, and the 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. The Construction Manager shall review the proposed alternative for sequencing, constructability, and coordination impacts on the other Contractors. Unless the Architect or the Construction Manager objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§3.3.1.1 Coordination: Each Prime Contractor shall be fully responsible for the coordination of the relationship of the Work of his subcontractors and other Contractors and shall cross check all of his Instructions, Specifications, Drawings, Shop Drawings, Instruments of Service and installations with those of other Contractors and with existing conditions.

§3.3.1.2 Laying Out the Work: Each Contractor shall carefully lay out his work in accordance with the Contract Documents and shall coordinate his work with existing and new work and he shall verify all lines and levels indicated in the Contract Documents that affect his work.

§3.3.1.4 Preconstruction Meetings: Prior to commencing the Work and before commencing certain portions of the work, Contractors and their Subcontractors shall be required to participate in preconstruction meetings when deemed necessary by Architect and Construction Manager to coordinate work between trades or to address concerns of the Owner.

§ 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 the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 The Contractor alone shall be responsible for the safety, efficiency and adequacy of his plan, appliances and methods, and for any damages which may result from their failure or their improper construction, maintenance or operation. The Contractor shall observe, comply with and be subject to all terms, conditions, requirements and limitations of the Contract and Specifications and shall do, carry on, and complete the entire work to the satisfaction of the Construction Manager, the Architect, and Owner.

§3.3.5 Shut Downs: Such work as connections to existing sewers, plumbing, heating and electric systems, shall be done at a time agreeable to the Owner and the Architect, and shall be determined and agreed to well in advance of the actual doing of such work so as to interfere as little as possible with the operation and use of existing facilities. Shut downs must be coordinated through the designated representative of the Owner. The continued uninterrupted operation of all facilities of the building is essential.

- .1 If any existing facilities must be interrupted, the Contractor for the Work shall provide all necessary temporary facilities and connections necessary for maintaining these existing facilities at no increase in Contract price except as otherwise specified.
- .2 No mechanical, heating, plumbing, sprinkler or electric services shall be interrupted at any time, except as approved in advance by the Owner. All communication systems must be maintained without interruption. As much related work as possible shall be performed prior to shut-downs, so as to minimize the period of shut-down.
- .3 All material and manpower to do the work involved shall be at the job prior to interruption of services.

§3.3.5 The Contractor, its employees and subcontractors shall be subject to such rules and regulations for the conduct of the work as the Owner may establish. The Contractor shall be responsible for the enforcement of same among his

employees and those of its subcontractors.

§3.3.6 Where equipment lines of piping and/or conduit are shown diagrammatically, the Contractor shall be responsible for the coordination and orderly arrangement of the various lines of exposed piping and conduit included in the Work of his Contract. He shall coordinate the work of several Subcontractors and prevent all interferences between equipment, lines of piping, architectural features, and avoid any unsightly arrangements in the exposed work.

§ 3.4 Labor and Materials

§ 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.

§ 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, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change Directive. In the event that Contractor wants to make a substitution and Architect requires additional compensation to evaluate same, Contractor agrees to have the cost of a reasonable Architect's fee (for this additional service) deducted from its contract.

The Architect will be allowed a reasonable time within which to evaluate each proposed substitution. The Architect will be the sole judge of equivalence, and no substitution shall be ordered, installed or utilized without the Architect's prior written acceptance. Owner may require Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitution. The Architect will record time required by the Architect and the Architect's Consultants in evaluating substitutions proposed by Contractor and in making changes in the Contract Documents occasioned thereby. Whether or not the Architect accepts a proposed substitution, Contractor shall reimburse Owner for the charges of the Architect and the Architect's consultants for evaluating each proposed substitution.

By making requests for substitutions, the Contractor:

- .1 Represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
- .2 Represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;
- .3 Certifies that the cost data presented is complete and includes all related costs under this Contract except the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent;
- .4 Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects;
- .5 Represents that he will reimburse the Owner for additional costs from claims by other Contractors resulting from incorporation of requested substitution; and
- .6 Represents that he will reimburse the Owner for all additional costs billed by the Architect or his consultants for the review of the substitution request(s), any redesign of the Work of this Contractor or associated Contractors, additional site visits related to the substitution request and for the work to prepare Change Directives or Change Orders.

§ 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 Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect to evaluate the Contractor's proposed substitutions and to make agreed-upon changes in the Drawings and Specifications made necessary by the Owner's acceptance of such substitutions. This amount will be determined by the Architect when submission is made and before any additional work is performed by the Architect in regard to the substitution to allow the contractor the option of going forward with said proposal consideration or not.

§ 3.4.5 Contractor's Title to Materials – No materials or supplies for the Work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that he has had good title to all materials and supplies used by him in the Work, free from all liens, claims or encumbrances.

§3.4.6 A shortage of labor in the industry shall not be accepted as an excuse for not properly manning the project at each site.

§3.4.7 Each Contractor shall be responsible for the care and protection of all equipment and materials for his work of this project, including equipment and material furnished by the Owner.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner, Construction Manager, 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, including substitutions not properly approved or authorized, may be considered defective. 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 Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 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.

§ 3.5.3 Neither final payment, nor provision in Contract Documents, nor partial nor entire occupancy of premises by Owner shall constitute an acceptance of Work not done in accordance with Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.

§ 3.5.4 The Contractor shall warrant all materials and operating systems to be free from any defects and faulty equipment for a period of two (2) years from the date the Architect or Owner recommends final payment,. The Performance and Payment bonds shall remain in full force and effect through the guarantee period.

§ 3.5.5 In emergencies occurring during the guarantee period, the Owner may correct any defect immediately and charge the cost to the Contractor. The Owner shall at once notify the Contractor, who may take over the Work and make any corrections remaining after his forces arrive at the Work. Any repair work not started within seven days following notice to the Contractor of any defect shall be considered an emergency.

§ 3.5.6 The Contractor shall obtain and furnish to the Architect written Manufacturer's Warranties for all major materials and for all equipment. The terms of the warranty shall be as individually specified for the item. If no term is specified, the term shall be for a minimum of one year.

§ 3.6 Taxes

The Owner is an organization, which is exempt from New York State and Local Sales and Use Taxes. Materials purchased for use in fulfilling this Contract will be exempt from New York Sales Tax. The Owner will provide the Contractor with a completed Form ST-119.1, Exempt Organization Certification. The Contractor shall present a

copy of this Form and a completed Form ST-120.1, Contractor Exempt Purchase Certificate, to each supplier. Should sales tax be assessed, the Owner shall not be held responsible.

§ 3.6.1 Except as otherwise specified, all Federal, State and Local taxes are to be included in the Contract price.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 Each Contractor shall secure and pay for all required permits, governmental fees, licenses, certificates of inspection, of occupancy, of Underwriters, and of all other required certificates for the Work, necessary for the proper execution and completion of the Work, which are customarily secured after execution of the Contract and which are legally required at the time the bids are received.

Since this is a New York State School project, the New York State Education Department is the authority having jurisdiction and will issue the building permit at no cost to the Contractor(s) when they (New York State Education Department (N.Y.S.E.D.)) approve the project. The costs of other required inspection fees, permits, etc., are the responsibility of the Contractor(s).

§ 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, or should have known, 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, including applicable fines and penalties incurred by Contractor, Owner, Architect, or Construction Manager.

§ 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 notice to the Owner, Construction Manager, and the Architect before conditions are disturbed or affected work is performed and in no event later than 14 days after first observance of the conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, 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, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect, in consultation with the Construction Manager, determines 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, Construction Manager, and Contractor, stating the reasons. If the Owner or Contractor disputes the Architect's determination or recommendation, either party may submit a Claim as provided in Article 15.

§ 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 the Owner, Construction Manager, 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 as provided in Article 15.

§ 3.7.6 The Contractor shall be responsible for securing and paying for permits for itself and its employees, as required by applicable law. Contractor represents that all such required licenses, fees or permits are or will be secured by the date of execution of the Contract, where possible, and in no case later than commencement of the Work. **Failure to possess any such license constitutes a material breach of this Contract.**

§ 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 allowances, the Contract Sum shall 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.

§ 3.8.4 The Contractor shall include installation costs in the allowance and exclude them from the allowance where required by the Contract Documents. In absence of any clarification in the contract documents in regard to installation costs, Contractor shall include the installation costs in the allowance amounts.

§ 3.9 Superintendent

§ 3.9.1

Prior to starting the Work, the Contractor shall, in writing, propose to the Architect and Owner through the Construction Manager, the Project Manager, Superintendent, and other key individuals who will be employed and assigned to the Project through final completion. The superintendent will not be employed or used on any other project during the course of the Work and must be approved by the Architect and Owner. The superintendent will be in attendance at the project site throughout the Work, including completion of the punch list and will attend all project meetings. Should a representative leave the Contractor employ, Contractor shall promptly designate a new representative subject to Architect and Owner approval. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Owner will have the right, at any time, to direct a change in the Contractor's representative if their performance is unsatisfactory. In that event, Contractor will, within seven (7) days after notification thereof, replace the individual(s) with an individual satisfactory to Owner. If the replacement is disapproved, the Contractor may, at Owner's option, be terminated for cause. The Superintendent will represent the Contractor, and communications given to the Superintendent will be as binding as if given to the Contractor. The Owner will have no obligation to direct or monitor the Contractor's employees. All references herein to the Superintendent will be taken to mean the Contractor's superintending staff

§3.9.3 The Contractor shall not reduce or terminate supervision of the Work, nor change the superintendent without the prior written approval of the Owner and Architect.

§3.9.4 If, for any reason, the Contractor takes an action resulting in any of the changes noted in Subparagraph 3.9.4, the Owner may take remedial action to insure continued progress of the Work, including the hiring of suitable supervisory personnel, and charge the Contractor all costs associated with these remedial actions including the costs of legal, and Architectural services.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information, and the Construction Manager's use in developing the Project schedule, 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. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project. The Contractor shall cooperate with the Construction Manager 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 or Separate Contractors.

§ 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 Construction Manager's and Architect's approval. The Architect and Construction Manager's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Construction Manager and Architect reasonable time to review submittals. 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 participate with other Contractors, the Construction Manager, and the Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project schedule.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner, Construction Manager, and Architect, and incorporated into the approved Project schedule. Each Contractor shall coordinate their schedule with the Construction Manager, the Owner's operations and with the schedule of other Contractors employed by the Owner. The Contractor shall modify his schedule as required to incorporate the activities of the Owner, the schedules of other Contractors and the requirements of the Contract Documents. Contractors shall cooperate with the Owner and the Owner's representatives to coordinate schedules and to complete the project in a timely manner. Contractor understands and agrees to assist in coordinating all activities around the school day in order to avoid any disruption to the school day and students.

§ 3.11 Documents and Samples at the Site

§ 3.11.1 The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These documents shall be available to the Architect and delivered to the Construction Manager for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.11.2 During the progress of the work, the Contractor shall maintain and record on Drawings the location of all buried or concealed work where a specific location is not called for on Contract Drawings or where actual installation, alignment or location varies from Contract Drawings.

§ 3.11.2.1 At the conclusion of the work and before a final Certificate for Payment is issued, the Contractor shall prepare a final hard copy and one digital copy of "As Built" drawings with the Contractor's own Title Block bearing the Contractor's name, date and signature on each drawing attesting that the work was installed as shown. Each drawing shall be titled "As Built". The Contractor shall submit one (1) paper prints to the Construction Manager for initial review. Such drawings shall be produced upon request of Architect and/or Construction Manager.

§ 3.11.2.2 Such drawings shall also indicate location and type of variation in actual installation from Contract Drawings throughout the work. Prints from these drawings shall be submitted to the Construction Manager for the Architect's review in the same manner as required for shop drawings. Drawings and other data including, but not limited to, location of water, sewer, telephone, electric, gas and any other utility lines as they relate to the Project. The Contractor shall certify the "As Built" drawings as accurate, and shall include in its schedule of values an allocation for the production of "As Built" drawings. The Construction Manager shall advise the Owner immediately if the Construction Manager becomes aware that a Contractor is not maintaining a set of record drawings.

§ 3.11.2.3 After the prints are reviewed and returned to the Contractor, the Contractor shall deliver to the Construction Manager one (1) hard copy of the "As Built" drawings and one (1) digital copy of each drawing.

§ 3.11.2.4 The Architect shall be the sole judge of the acceptability of any and all drawings.

§ 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 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 to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples 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 and Construction Manager is subject to the limitations of Sections 4.2.10 through 4.2.12. Informational submittals upon which the Construction Manager and Architect are 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 Construction Manager or Architect without action.

§3.12.4.1 Shop drawings and product submittals for all site improvement, architectural, structural, mechanical, electrical and signal work shall be submitted to the Architect for its review. Refer to Contract (General, Supplementary and other conditions) Section on "SUBMITTALS" for more complete information.

§3.12.4.2 The Contractor represents and warrants that all shop drawings shall be prepared by a person or entity possessing expertise and experience in the trade for which the shop drawing has been prepared and, if required by the Contract Documents or law, by a licensed professional engineer.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the Project submittal schedule approved by the Construction Manager and Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by other Contractors.

§3.12.5.1 No extension of time will be granted to the Contractor because of failure to have shop drawings, product data, and samples submitted in ample time to allow for review by the Architect or their Consultants.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, 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 Shop drawings, samples, brochures, material safety data sheets (MSDS) and other diagrammatic material of work to be furnished under the Contract, reviewed and approved by the Contractor, shall be submitted to the Architect for his review. This material shall be processed by the Architect within a reasonable time and returned to the Contractor bearing the action to be taken.

§ 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 approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Construction Manager and Architect 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 Construction Manager and 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 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, the Architect, and the Construction Manager 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. The Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors.

§ 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 Construction Manager and Architect at the time and in the form specified by the Architect.

§3.12.10.3 If it is the position of the Contractor, or its licensed design professional, that the Owner and Architect have not provided all performance and design criteria, the Contractor shall request additional criteria in writing before proceeding with the professional services described in 3.12.10. Proceeding with the professional services shall be evidence that the Owner and Architect have provided all necessary performance and design criteria.

§ 3.12.11 The Architect's review of Contractor's submittals will be limited to examination of an initial submittal and two (2) resubmittals. The Owner shall be entitled to deduct from the Contract sum amounts paid to the Architect for evaluation of such additional re-submittals, unless such additional submittals are required because of the Architect's negligence, which shall be Contractor's burden to prove in a Claim brought in accordance with Article 15.

§ 3.13 Use of Site

§ 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 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the site.

§ 3.13.3 The Contractor shall be responsible for enforcing the following rules of conduct for its personnel and those of its subcontractors, sub-subcontractors, and suppliers at the Project site, and the Owner's Project Representative, with the assistance of the Architect and Construction Manager,

shall provide interpretations should a question arise if the rules of conduct are being adequately enforced by the Contractor:

- .1 No smoking or use of tobacco or marijuana products.
- .2 No drinking of alcoholic beverages or use of controlled substances.
- .3 No working, or presence on site, under the influence of alcoholic beverages or controlled substances.
- .4 No use of indecent language or display of indecent images, publications or terms.
- .5 No use of radios or other entertainment devices.
- .6 No horseplay or dangerous behavior.
- .7 No firearms or other weapons.
- .8 No communication with staff or students.
- .9 Follow Department of Health and Empire State Development Corporation protocols, as applicable and as such protocols and guidance documents may be amended from time to time, as they pertain to construction projects during the COVID 19 pandemic.

§ 3.13.4 The Contractor shall require its personnel and those of its subcontractors, sub-subcontractors and suppliers to wear visible photo-identification badges acceptable to the Owner, at all times for identification and security purposes. The failure to wear proper identification may result in the immediate expulsion from the Owner's premises.

§ 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, Separate Contractors, or of other Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner, Separate Contractors, or by other Contractors except with written consent of the Construction Manager, Owner, and such other Contractors or Separate Contractors. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Separate Contractors, other Contractors, or the Owner, its consent to cutting or otherwise altering the Work.

§ 3.14.3 All costs caused by defective work shall be borne by the party responsible therefor.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor 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, or Construction Manager with the Owner's approval, may do so and the Owner shall be entitled to reimbursement from the Contractor. Such reimbursement shall be deducted from the Contractors contract value.

§ 3.15.3 It shall be the responsibility of the Contractor to remove all debris accumulated by workmen under their employ from the building or site on a daily basis. All debris shall be disposed of in a dumpster or dumpsters provided and maintained for the duration of the project by the Contractor on the premises. The Contractor is to provide a dumpster for debris removal and shipping carton disposal. Contractor shall be responsible for any costs and liability associated with such disposal.

§3.15.4 Each Contractor is solely responsible for clean-up to the Owner's satisfaction. Further, each Contractor shall fully cooperate with all other Contractors in the coordinated effort to meet the Owner's time and quality

requirements for clean-up.

§ 3.16 Access to Work

The Contractor shall provide the Owner (or any individual(s) on the Owner's behalf), Construction Manager, 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 hold the Owner, Construction Manager, and Architect harmless from loss on account thereof, 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, Architect, or Construction Manager. 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 through the Construction Manager.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Construction Manager, Architect, Construction Manager's and Architect's consultants, and agents and employees of any of them (indemnitees) 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, 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 by the work, operations, acts, or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, excluding only liability created by indemnitee's sole and exclusive negligence. 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.

Contractor's obligation to defend the indemnitees attaches and is triggered from the date that any allegations (whether or not meritorious), claims, suits, subpoenas, liabilities, losses, obligations, damages, penalties, costs, charges, losses of use, business interruption, and expenses are asserted against such indemnitees and shall not be contingent on a judicial finding of Owner's responsibility, fault, negligence, or liability.

§ 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.

§ 3.18.3 Owner Party shall have the right, at its option, upon notice to and consultation with Contractor to approve such counsel as Contractor deems necessary to defend the Owner Party's interest in connection with any liability indemnified under Section 3.18 or in the event of an actual conflict to have independent counsel named at Owner Party's option and all reasonable fees and expenses of such named counsel shall be the sole responsibility of the Contractor. In the event Contractor's insured selects counsel to defend the interests of any Owner Party, the Owner Party shall have the same rights under the terms of the insurance policy to object to counsel when there is an actual conflict of interest between the interests of the Contractor, the Owner Party and/or insurer concerning the defense of a liability claim that is indemnified under Section 3.18.

§ 3.18.4 Contractor's obligations under Section 3.18 shall not be impaired by the terms of any insurance policy or the amount of any insurance procured by Contractor, Owner, Construction Manager, or Architect.

§ 3.18.5 The Contractor shall require similar clauses in every contract between the Contractor and every subcontractor to the effect that every subcontractor, as a part of his subcontract, shall likewise be required to indemnify and hold harmless the Owner, the Construction Manager, the Construction Manager's consultants, the

Architect, the Architect's consultants, and agents and employees of any of them against and from all suits, claims and actions of every name and description brought against the Owner and/or the Architect.

§ 3.19 Union Disputes

§ 3.19.1 All Union Disputes will be resolved by the Contractor immediately in order to prevent any delays. Should delays occur the Contractor will be held responsible for all damages including extras incurred by other Prime Contractors and charged to the Owner as a result of such delays. Failure to correct any such dispute within seven (7) days shall result in the contract being subject to termination by the Owner.

§ 3.20 Materials/Finishes

§ 3.20.1 Color selections shall be from the manufacturers specified. If the Contractor submits an equivalent substitution, this substitution shall meet the Architect's specified product in every respect including texture, color, size, shape and finish. Failure to meet these requirements shall result in the Architect's rejection of the Contractor's substitute manufacturer of submitted material.

§ 3.21 Surveys

§ 3.21.1 All grades, lines, levels and bench marks shall be established by and maintained by the Contractor for General Construction Work, who shall be responsible for same.

§ 3.21.2 Verify all grades, lines, levels and dimensions as shown on the Drawings and report any errors or inconsistencies in the above to the Architect before commencing work.

§ 3.22 Daily Records Clause

§ 3.22.1 The Contractor shall prepare and maintain Daily Inspection Records to document the progress of the work on a daily basis. Such daily records shall include a daily accounting of all labor and all equipment on the site for the Contractor and all subcontractors, at any tier. Such daily records will make a clear distinction between work being performed under Change Order, base scope work and/or disputed work.

§ 3.22.2 In the event that any labor or equipment is idled, solely as a result of Owner actions or inactions, the daily records shall record which laborers and equipment were idled and for how long. In the event that specific work activities were stopped, solely as a result of Owner actions or inactions, and labor and equipment was reassigned to perform work on other activities, the daily records will make a clear record of which activities were stopped and where labor and equipment was redirected to.

§ 3.19.3 Such daily records shall be copied and provided to the Owner at the end of every week.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 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.

§ 4.1.2 The Construction Manager is the person or entity retained by the Owner pursuant to Section 2.3.3 and identified as such in the Agreement.

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

§ 4.2 Administration of the Contract

§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues

the final Certificate for Payment. The Construction Manager and 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 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. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction Manager known deviations from the Contract Documents and defects and deficiencies observed in the Work.

§ 4.2.2.1 The Contractor shall reimburse the Owner for compensation paid to the Architect for additional site visits made necessary by the fault, neglect or request of the Contractor.

§ 4.2.3 The Construction Manager shall provide one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of the Work, and will promptly report to the Owner and Architect known deviations from the Contract Documents and the most recent Project schedule, and defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Contractors in accordance with the latest approved Project schedule.

§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and 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, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of, or be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 Communications.

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Construction Manager, and shall contemporaneously provide the same communications to the Architect about matters arising out of or relating to the Contract Documents. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with other Multiple Prime Contractors shall be through the Construction Manager and shall be contemporaneously provided to the Architect if those communications are about matters arising out of or related to the Contract Documents. Communications by and with the Owner's own forces shall be through the Owner.

§ 4.2.6.1 Any direct communication between the Owner and the Contractor that affects performance or administration of the Contract shall be made or confirmed in writing, with copies to the Architect and Construction Manager, and any such communications that represent a modification of the Contract requirements shall be documented by a modification.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about the rejection. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect.

However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 Utilizing the submittal schedule provided by the Contractor, the Construction Manager shall prepare, and revise as necessary, a Project submittal schedule incorporating information from other Contractors, the Owner, Owner's consultants, Owner's Separate Contractors and vendors, governmental agencies, and participants in the Project under the management of the Construction Manager. The Project submittal schedule and any revisions shall be submitted to the Architect for approval.

§ 4.2.10 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data, and Samples. Where there are other Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from the Contractor and other Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.11 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 Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.12 Review of the Contractor's submittals by the Construction Manager and Architect 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 Construction Manager and 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 Construction Manager and 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.

§ 4.2.13 The Construction Manager or Architect, as outlined in their respective contracts, will prepare Change Orders and Construction Change Directives.

§ 4.2.14 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.15 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

§ 4.2.16 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project

Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.17 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 Construction Manager of any change in the duties, responsibilities and limitations of authority of the Project representatives.

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

§ 4.2.19 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, 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 so rendered in good faith.

§4.2.19.1 If Work is described or indicated in a manner which makes it impossible to carry out the requirements of the Contract Documents, or should discrepancies appear among the Contract Documents, the Contractor shall request interpretation before proceeding with the Work. If Contractor fails to make such a request, no excuse will be entertained for failure to carry out the Work of the Contract Documents. Should a conflict occur in or between Contract Documents, the Contractor is deemed to have estimated on the more expensive way of doing the Work.

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

§ 4.2.21 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. 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 other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors.

§ 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, the Contractor, as soon as practicable after award of the Contract, shall notify the Construction Manager, for review by the Owner, Construction Manager and Architect, 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 Construction Manager may notify the Contractor whether the Owner, the Construction Manager or the Architect (1) has reasonable objection to any such proposed person or entity or, (2) requires additional time for review. Failure of the Construction Manager to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§5.2.1.1 Include the names of persons or entities proposed as manufacturers and names of propriety products.

§5.2.1.2 Initial submittal shall be made to the Architect, in writing, within (15) days after the Contractor's receipt of Contract award notification. In no case will a payment be made on the Contract until the complete list of subcontractors and sub-subcontractors has been submitted by the Contractor to the Architect. Such list will not be considered complete if the Owner, and/or the Architect have any reasonable objection to any name listed thereon. Such list shall be submitted and re-submitted if necessary until it is considered complete.

§5.2.1.3 Subcontractors will not be acceptable unless, when requested by the Architect, or Owner, evidence is furnished that the proposed satisfactorily completed similar subcontracts as contemplated under the prime Contract, and has the necessary experience, personnel, equipment, plant and financial ability to complete the subcontract in accordance with the intent of the Contract Documents.

§5.2.1.4 Maintenance of the Project Schedule is critical. Contractors shall award subcontracts to entities capable of performing in a manner that will maintain the Project Schedule and require its subcontractors to complete their work in accordance with the Project Schedule.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager 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, Construction Manager, or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager, or Architect has no reasonable objection, and any Contractor claim for additional cost and/or additional time shall be subject to the Change Order or Construction Change Directive process. No increase in the Contract Sum shall be allowed if the Owner and Architect both have reasonable objections to a proposed subcontractor.

§ 5.2. The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner, Construction Manager or Architect makes reasonable objection to such substitution.

§ 5.2.5 Subcontractors will not be acceptable unless, when requested by the Architect or the Owner, evidence is furnished that the proposed subcontractor has satisfactorily completed similar subcontracts as contemplated under this prime contract, and has the necessary experience, personnel, equipment, plant and financial ability to complete the subcontract in accordance with the intent of the Contract Documents.

§ 5.2.6 The Contractor shall not award work to any one Subcontractor in excess of 50 percent of the Contract Sum, without prior written approval of the Owner.

§ 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, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager 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 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; 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, provided that such suspension of the Work was not due to the fault of the Contractor or Subcontractor.

§ 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.

§ 5.4.4 The Contractor shall provide copies of written subcontract agreements to the Owner or Architect within thirty days of their full execution or within thirty days of a subcontractor beginning Work, whichever is earlier.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 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. If the Contractor claims that a delay is involved because of such action by the Owner, the Contractor may only make a claim for an extension of time as provided in Article 15.

§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces or Separate Contractors, the Owner shall provide for coordination of such forces and Separate Contractors with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 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.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner's own forces, Separate Contractors, Construction Manager and other 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's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Construction Manager, Owner, other contractors, and Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and 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 or other Contractors' 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 Contractors or other Contractors that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a Separate Contractors or to other Contractors, because of the Contractor's delays, improperly timed activities 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, Separate Contractors, or other Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner, Separate Contractors, and other Contractors 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, other 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 Construction Manager, with notice to the Architect, will allocate the cost among those responsible.

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, by Change Order, Construction Change Directive 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, Construction Manager, Architect and Contractor. A Construction Change Directive requires agreement by the Owner, Construction Manager 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.

§ 7.1.4 The maximum combined overhead and profit included in the total cost to the Owner of a change in the Work shall be limited based on the following schedule:

- .1 For the Contractor, for Work performed by the Contractor's own forces, 15 percent of the cost.
- .2 For the Contractor, for Work performed by the Contractor's Subcontractors, 5 percent of the amount due the Subcontractors.
- .3 For each Subcontractor involved, for Work performed by that Subcontractor's own forces, 10 percent of the cost.
- .4 For each Subcontractor involved, for Work performed by the Subcontractor's Sub-subcontractors, 5 percent of the amount due the Sub-subcontractor.
- .5 Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.7.
- .6 For each change the total aggregate of the overhead and profit for the Contractor, any Subcontractors and any Sub-subcontractors shall not exceed 20% of the direct cost of the work. The Contractor, Subcontractors and Sub-subcontractors shall determine the distribution thereof.
- .7 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over \$2,000 be approved without such itemization.
- .8 Contractor agrees to provide Construction Manager and Architect a complete breakdown of all costs or estimated costs in any level of detail requested by the Construction Manager or Architect in regards to any change order item(s).

§ 7.2 Change Orders

A Change Order is a written instrument prepared by the Architect or Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, 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 All Change Orders must have the approval of the Owner, and the Architect in writing.

§7.2.3 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any all adjustments to the Contract Sum and the construction schedule.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Construction Manager and signed by the Owner, Construction Manager 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 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.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Construction Manager shall determine 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 Construction Manager 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:

- .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 Construction Manager and 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, excluding office personnel, directly attributable to the change.
- .6 Costs for project management, estimating, main office personnel, field office personnel, warranty, hand tools, training programs, safety programs, insurances and bonds, and similar expenses may not be included in the direct costs of a change; they shall be considered overhead expenses.

§ 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. THE FAILURE TO TIMELY FILE A CLAIM IN ACCORDANCE WITH ARTICLE 15 SHALL CONSTITUTE A WAIVER OF ALL CLAIMS.

§ 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 Construction Manager 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.

§ 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 Construction Manager and 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. The Contractor shall provide a credit for the reduced costs of bond and insurance premiums related to any credits for deleting work or reductions in cost.

§ 7.3.8.1 The Schedule of Value shall be as legitimate and as accurate as possible since it may be used to compute credits for the deletion of contract work and to determine unit prices. The Schedule of Values amounts for each item shall include the contractors' overhead and profit for that line item.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

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

7.3.11 The Contractor shall provide detailed documentation of the actual costs for any change, including increased costs for bond and insurance premiums, if requested by the Architect or Construction Manager.

§ 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 notify the Construction Manager, Owner, and Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Construction Manager, Owner, and 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 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.

§ 8.2.3.1 Contractor shall cooperate with the Owner, Architect, Construction Manager, and other contractors on the project, making every reasonable effort to reduce the Contract Time.

§ 8.2.4 Any work necessary to be performed after regular working hours, on Sundays or Legal Holidays, shall be performed without additional expense to the Owner, if such overtime work is required for reasons or causes not originating with the Owner. Should the Owner require the work to be performed in overtime for his own purposes, then the Owner will compensate the Contractor for overtime premiums paid to Mechanics, Laborers and Supervisory Personnel. Should the Contractor wish to perform work after normal working hours or on weekends, permission will be granted by the Owner provided prior notice is given (1 day minimum) in order to make necessary arrangements and such work is not otherwise disruptive to Owner or Owner’s operations.

§ 8.2.5 TIME IS OF THE ESSENCE IN THE COMMENCEMENT, PROSECUTION AND CONSTRUCTION OF THE WORK

§ 8.3 Delays and Extensions of Time

§ 8.3.1 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, Architect, Construction Manager, or an employee of any of them, or of the Owner’s own forces, Separate Contractors, or other Contractors; (2) by changes ordered in the Work; (3) by delay authorized by the Owner pending mediation and binding dispute resolution; or (4) by other causes that the Contractor asserts and the Architect, based on the recommendation of the Construction Manager, determines justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine. The Contract Time shall not be extended for any reason that is attributable to the Contractor’s fault, even in part.

§ 8.3.1.1 An extension of time shall be only for the number of days of delay which the Architect may determine to be due solely to the causes set forth in the application for extension of time. The Contractor shall not be entitled to receive a separate extension of time for each one of several causes of delay operating concurrently, but if at all, only the actual period of delay as determined by the Architect.

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

§ 8.3.3 The Owner shall not be liable to the Contractor and/or any subcontractor for claims or damages of any nature caused by or arising out of delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work, the amount of which shall be subject to the claims procedure set forth herein. Except to the extent, if any, expressly prohibited by law, the Contractor expressly agrees not to make and hereby waives any claim for damages for delay, including, but not limited to, those resulting from increased labor or material costs; directions given or not given by the Owner or Architect, including scheduling and coordination of the Work; the Architect's preparation of drawings and specifications or review of shop drawings and requests for instruction(s); or, on account of any delay, obstruction or hindrance for any cause whatsoever by the Owner, Architect, or any other contractor on the project, whether or not foreseeable or anticipated. The Contractor agrees that its sole right and remedy therefor shall be an extension of time, if appropriate. IT IS EMPHASIZED THAT NO MONETARY RECOVERY MAY BE OBTAINED BY THE CONTRACTOR FOR DELAY AGAINST THE

OWNER OR ARCHITECT BASED ON ANY REASON AND THAT THE CONTRACTOR'S SOLE REMEDY, IF APPROPRIATE, IS ADDITIONAL TIME

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, the applicable unit prices shall be equitably adjusted upon request by the Owner.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Construction Manager, 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 Construction Manager and the Architect. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Construction Manager shall forward to the Architect the Contractor's schedule of values. Any changes to the schedule of values shall be submitted to the Construction Manager and supported by such data to substantiate its accuracy as the Construction Manager and the Architect may require, and unless objected to by the Construction Manager or the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, 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, Construction Manager or Architect require, such as copies of requisitions, and releases of waivers of lien from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents. Mail, Fax or Hand Deliver all application for payments. "Penciled" applications for payments are not acceptable. The form of Application for Payment, duly notarized, shall be a current authorized edition of AIA Document G732 (or current AIA version), Application and Certificate for Payment, supported by a current authorized edition of AIA Document G703 (or current AIA version), Continuation Sheet.

§ 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 Construction Manager and Architect, but not yet included in Change Orders.

§ 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 Owner shall pay 95 percent of the amount due to the Contractor on account of progress payments and withhold payment of 5% retainage. Any time during construction, the Owner shall retain two (2) times the amounts required to satisfy any outstanding liens, claims, judgments or disputes plus the 5% contract retainage. The value of any such amounts shall be as determined by the Architect and Construction Manager. Owner also reserves the right to withhold any amounts required to offset any apparent cost impacts that are made known to the Owner through the Contractor's suppliers and or sub-contractors as well as work discovered or suspected to be non-compliant with the contract documents which may have been previously paid for.

§ 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.

§ 9.3.2.1 All such materials and equipment stored on site but not yet incorporated in the Work, upon which partial payments have been made, shall become the property of the Owner, but the care and protection of such materials and equipment shall remain the responsibility of the Contractor until incorporation in the Work, including maintaining insurance coverage on a replacement cost basis without voluntary deductible.

§ 9.3.2.2 The Contractor shall provide copies of invoices and proof of insurance for any items that are stored off site along with any applications for payment requesting payment for such items.

§ 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.

§9.3.4 The Contractor further expressly undertakes to defend the Owner, at the Contractor's sole expense, against any actions, lawsuits or proceedings brought against Owner as a result of liens filed against the Work, the site of any of the Work, the project site and any improvements thereon, payments due the Contractor or any portion of the property of any of the Owners (referred to collectively as liens in this Paragraph 9.3.3). The Contractor hereby agrees to indemnify and hold Owner harmless against any such liens or claims of lien and agrees to pay any judgment or lien resulting from any such actions, lawsuits or proceedings.

§9.3.5 The Owner shall release any payments withheld due to a lien or a claim of lien if the Contractor obtains security acceptable to the Owner or a lien bond which is: (1) issued by a surety acceptable to the Owner, (2) in form and substance satisfactory to the Owner, and (3) in an amount not less than One Hundred Fifty percent (150%) of such lien claim. By posting a lien bond or other acceptable security, however, the Contractor shall not be relieved of any responsibilities or obligations under this Paragraph 9.3, including, without limitation, the duty to defend and indemnify the Indemnities. The cost of any premiums incurred in connection with such bonds and security shall be the responsibility of the Contractor and shall not be part of, or cause any adjustment to, the Contract Sum.

§9.3.6 The Contractor agrees to waive any right which it may have to assert a mechanic's or other lien against the Project site and any improvements thereon, including, without limit, the Work itself. Furthermore, the Contractor will cause a similar provision, waiving any right to a mechanic's or other lien against the property, to be included in all of its subcontracts, any subcontracts and all contracts with material suppliers. Upon execution of the Agreement, the Contractor shall also execute a waiver of lien.

§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Certificate for Payment, in the full amount of the Application for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager 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 Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there is more than one Contractor performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives all of the Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Contractor's application with information from similar applications for progress payments from the other Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.2.1 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Project Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager 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 Project Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.3 The Construction Manager's certification of an Application for Payment or, in the case of more than one Contractor, a Project Application and Certificate for Payment, shall be based upon the Construction Manager's evaluation of the Work and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager'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, or Contractors are, entitled to payment in the amount certified.

§ 9.4.4 The Architect's issuance of a Certificate for Payment or, in the case of more than one Contractor, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and data in the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation 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, or Contractors are, entitled to payment in the amount certified.

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 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 Construction Manager or Architect.

§ 9.4.6 The issuance of a Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or 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.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.3 and 9.4.4 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.2. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or 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 or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

- .1 defective Work not remedied;
- .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 or other 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.
- .8 **Failure to maintain insurance required by the contract.**

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party 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 or Construction Manager withholds certification for payment under Section 9.5.1, 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 Construction Manager, and both will reflect such payment on the next Certificate for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project 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 Construction Manager and 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 Construction Manager 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 Owner, Construction Manager and Architect 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, Construction Manager 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.

§ 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 The Contractor shall submit with his request for progress payments, a release of liens or letter from his Subcontractor indicating that said Subcontractor has been paid “x” percent to date. All progress payments shall be based upon an estimate and a certificate, made by the Architect of the materials furnished, installed and suitably stored at the site and the work done by the Contractor. All progress payments made previous to the last and final payments shall be based on estimates and the right is hereby reserved by the Architect for the Owner, to make all due and proper corrections and adjustments for any previous payments.

§ 9.6.8.1 To the extent required for an effective warranty on a roofing project, the Contractor shall supply with each requisition a letter signed by the manufacturer stating that the work performed by the Contractor has been inspected by the manufacturer, and that the work performed to date has been installed as per their specification and is warrantable.

§ 9.6.8.2 The prime contractors are to submit their certified payrolls to the Construction Manager or Clerk of the Works when they submit their draft requisition for review and approval by them.

§ 9.6.9 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.

§ 9.7 Failure of Payment

If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after the Construction Manager’s receipt of the Contractor’s Application for Payment, or if the Owner does not pay the Contractor within twenty-one days after the date established in the Contract Documents the amount certified by the Construction Manager and Architect, then the Contractor may, upon twenty-one additional days’ written notice to the Owner, Construction Manager and Architect, stop the Work until payment of the 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 shut-down, delay and start-up, plus interest as provided for in the Contract Documents, provided that such shut-down and/or delay was not the fault of the Contractor.

§ 9.8 Substantial Completion

§ 9.8.1 The Date of Substantial Completion of the Project or a designated portion thereof is the date when construction is sufficiently complete in accordance with the Drawings and Specifications so the Owner can occupy or utilize the entire Project (or such portion thereof as Owner earlier elects to occupy or utilize) for the use for which it is intended. Substantial Completion shall not be deemed to exist until the Owner receives a Certificate of Occupancy for the Project (or such portion as elected by Owner) if such Certificate of Occupancy is required, and any other permits, approvals, licenses and any other documents from governmental authorities having jurisdiction therefore necessary for the beneficial occupancy of the project and the Contractor, Architect and Owner have agreed upon a schedule to provide the Owner with all as built drawings, operating manuals and warranties. Warranties called for by the Agreement or by the Drawings and Specifications shall commence on the date of Substantial Completion of the Project or designated portion thereof, or any later date that the parties agree. This date shall be established by a Certificate of Substantial Completion signed by the Owner, Architect and Contractor and shall state their respective responsibilities for security, maintenance, heat utilities, damage to the Work and insurance. This Certificate shall also list the items to be completed or corrected together with a price for each item and a time for their completion and correction.

§ 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 notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment and which shall identify all non-conforming, defective and incomplete Work and establish the date of commencement of warranties in connection with any such Work. 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 list, the Architect, assisted by the Construction Manager, 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 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. In such case, the Contractor shall then submit a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.3.1 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for more than two (2) inspections to determine whether the Work or a designated portion thereof has attained Substantial Completion in accordance with the Contract Documents, unless such additional submittals are required because of the Architect's negligence, which shall be the Contractor's burden to prove in a Claim brought in accordance with Article 15.

§ 9.8.4

When the Work or designated portion thereof is substantially complete, the Architect, assisted by the Construction Manager will prepare a Partial Certification of Substantial Completion which will be sent out by the architect along with an attached punch list. The architect shall fix the time frame within 45 days in which the Contractor shall finish all items on the punch list. When the Partial Certification of Substantial Completion is issued, it shall be submitted to the Owner, Construction Manager and Contractor for their signature. Their signature shall signal their acceptance of the responsibilities assigned to them which include the following: security, maintenance, heat, utilities, damages to the work and insurance. A reduction of the retainage amount will be considered but only if work is on schedule and contractor offers a work plan for completing the punch list in the designated time. Upon such acceptance and consent of surety, if any, the Owner may make payment sufficient to increase the total payments to one hundred percent (100%) of the Contract Sum, less twice the amounts as the Architect and Construction Manager shall determine for the value of incomplete work, and unsettled and unbonded liens, claims, judgments or disputes. The date of the Final Certification of Substantial Completion will be the start of the warranty. Failure by the contractor to complete the punch list in the designated time will void the inception of the warranty, and it will commence when the work is done. Also, failure to complete the punch list as scheduled will entitle the Owner to complete the work at contractor's expense without any further notice. Final Certification of Substantial Completion will be issued upon punch list completion and contractor closeout.

§ 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.

§ 9.9 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 and Construction Manager shall jointly 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 after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, 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.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a notice that the Work is ready for final inspection and acceptance, and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection, and shall then forward the Contractors' notices and Application for Payment or Project Application for Payment, to the Architect, who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their 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 Construction Manager's and Architect's final Certificate for Payment or Project 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.

§ 9.10.1.1 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for more than two (2) inspections to determine whether the Work or a designated portion thereof has attained Final Completion in accordance with the Contract Documents, unless such additional submittals are required because of the Architect's negligence, which shall be the Contractor's burden to prove in a Claim brought in accordance with Article 15.

§ 9.10.1.2 If additional time is needed to complete work identified in the final inspection the Architect may set the date starting the two-year corrective or warranty period at his discretion, but in no case later than the date of final payment. This date established as acceptance and start of warranty period is to be honored by the Contractor regardless of the Contractor's agreements with the product manufacturers in regards to warranties.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (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), 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 attorneys' fees.

§ 9.10.2.1 In addition to the submittals required by Subparagraph 9.10.2, the Contractor shall submit other items as may be required by the Contract Documents and separate release or waivers of liens for each subcontractor, material supplier, and others with lien rights against the property of the Owner, along with a list of all such parties. Contractor shall provide operation manuals and adequate training for the Owner in the operation of mechanical, electrical, heating and air conditioning systems installed by the Contractor.

§ 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 Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and 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 through the Construction Manager 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

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 warranties and/or terms of special warranties required by the Contract Documents; 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 as unsettled at the time of final Application for Payment.

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. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager.

§ 10.1.1 The Contractor shall conform to all applicable conditions and safety requirements in the Contract Documents, including but not limited to the Uniform Safety Standards as required by the New York State Education Department, 8 NYCRR 155, the standards and regulations initiated by the Occupational Safety and Health Administration, Department of Labor (OSHA), Environmental Protection Agency (EPA) and the U.S. Department of Transportation (DOT). However, these shall be deemed to be minimum requirements and shall not relieve the Contractor of the responsibility for other safety precautions and programs in accordance with the requirements of Article 10.

§ 10.1.2 Where solvents, chemicals, etc. are used in the installation and/or cleaning of materials or equipment under this Contract, which might cause injury or sickness to an employee or occupant of the building, they will be used in strict conformance with the manufacturer's direction, material data safety sheets (US Department of Labor Form OSHA 20) in the handling, storage and application of such materials shall be obtained by the Contractor and strictly adhered to. Every precaution shall be taken to prevent seepage of toxic fumes into the building. All hazardous waste material shall not be deposited in any dumpster, in any drain, or any part of the site, but shall be collected in a container specifically authorized by the EPA for the collection of said material, transported in accordance with DOT regulations and legally disposed of. Permits will be obtained for storage, treatment and disposal of all hazardous materials.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions 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;

- .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; and
- .4 construction or operations by the Owner, Separate Contractors, or other Contractors.

§ 10.2.1.1 Some of the proposed work may require various contractors to enter crawlspace/pipe tunnel areas, and/or access plenum spaces associated with the existing ceiling and wall systems (Typical Throughout). Please be advised that these spaces may contain asbestos and asbestos contaminated materials. Any disturbance of such may result in the release of airborne asbestos fibers, therefore potentially creating a hazardous condition to the workers.

§ 10.2.1.2 In accordance with 40 CFR part 763, all Contractors associated with the Project are warned of the presence of asbestos containing, and potentially asbestos contaminated, materials within these spaces, and the potential hazard associated with the disturbance of these materials. Each Contractor is required to have workers “certified and licensed to work in an asbestos hazard environment” to fulfill their contract requirements in these areas as part of their base bid.

§ 10.2.1.3 The Contractor is to notify the Owner’s representative when work will be undertaken in crawl spaces, plenum areas etc., so that an independent monitoring firm can be available to monitor the activities within these spaces.

§ 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.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable 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.

§10.2.4.1 When use or storage of hazardous materials, substances or equipment, or unusual methods is necessary for execution of the Work, the Contractor shall give the Owner, Construction Manager, and Architect reasonable advance written notice. If the Contract Documents require the Contractor to handle materials or substances that under certain circumstances may be designated as hazardous, the Contractor shall handle such materials in an appropriate manner.

§ 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, 10.2.1.3 and 10.2.1.4 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, 10.2.1.3 and 10.2.1.4. 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, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any 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. The Contractor shall also be responsible, at the Contractor's sole cost and expense, for all measures necessary to protect any property adjacent to the Project and improvements therein. Any damage to such property or improvements shall be promptly replaced by the Contractor.

§ 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, Construction Manager 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 suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party 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.

§10.2.9 The Contractor shall promptly report in writing to the Owner, Architect, and Construction Manager, all accidents arising out of or in connection with the Work which cause death, personal injury, or property damage giving full details and statements of any witnesses. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported immediately by telephone or messenger to the Owner and the Architect.

§10.2.10 The Contractor shall be solely responsible for the conditions which develop during construction and in the event any structure is dislocated, over strained, or damaged so as to affect its usefulness, the Contractor shall be solely responsible. The Contractor shall take whatever steps necessary to strengthen, relocate or rebuild the structure to meet requirements.

§10.2.11 The Contractor is responsible for restoration and/or repair of utilities, private property, buildings, pavement, walkways, roads, lawns, landscaping, etc. damaged by his activities under this Agreement.

§ 10.3 Hazardous Materials

§ 10.3.1

The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent the contamination of any portion of the project site, property damage, or any foreseeable bodily injury or death to persons resulting from any material or substance, including but not limited to any material that may contain asbestos, lead or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, immediately upon recognizing any such potential condition, stop Work in the affected area and report the condition to the Owner and the Architect, both verbally and in writing.

§ 10.3.1.1 The Contractor shall thoroughly and carefully review the project site and any information available from the Owner to identify the known and potential locations of any known or suspected hazardous materials prior to commencing the work. The Owner has provided in the contract documents a preconstruction survey by an independent testing company of the presence, location, and condition of hazardous materials.

§ 10.3.1.2 Contractor shall not use products containing asbestos, polychlorinated-biphenyl (PCB) or other toxic substances. The Contractor shall submit, for all materials, Material Safety Data Sheets (MSDS) as outlined in paragraph 3.12, subparagraph 3.12.7.

§ 10.3.1.3 Contractor shall certify that the products, submitted to the Architect for review, specified to be used in the Project, do not contain toxic substances exceeding minimum federal standards and standards of the State in which the work is being performed.

§ 10.3.1.4 Contractor shall further represent that he shall abide by applicable provisions of AHERA, its implementing regulations and any applicable laws, regulations and requirements of the New York State Education Department.

§ 10.3.2 Upon receipt of the Contractor's 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, Construction Manager 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, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager 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.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Construction Manager, Architect, their 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.

§ 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.

§ 10.3.5.1 The Contractor shall be held liable for the costs of remediation of a hazardous material or substance if the Contractor failed to take reasonable precautions with any potentially hazardous material that was encountered during the course of the Work.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's 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.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

- **§ 11.1.1** The Contractor shall, at its sole cost and expense, 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 contractor shall purchase and maintain insurance in accordance with the NYSIR requirements as indicated in Appendix A to this document, for this project. Strict adherence to these requirements must be followed.

. The Owner, Construction Manager and Construction Manager's consultants, and the 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. 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.

§ 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 directly to the Owner, and separately to the Construction Manager, 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.

§ 11.1.5

1. Notwithstanding any terms, conditions or provisions, in any other writing between the parties, the contractor hereby agrees to effectuate the naming of the BOCES as an Additional Insured on the contractor's insurance policies, except for workers' compensation and N.Y. State Disability insurance.
2. The policy naming the District as an Additional Insured shall:
 - a. Be an insurance policy from an A.M. Best A- rated or better insurer, licensed to conduct business in New York State. A New York licensed and admitted insurer is strongly preferred.
 - b. State that the organization's coverage shall be primary and non-contributory coverage for the District/BOCES, its Board, employees and volunteers with a waiver of subrogation in favor of the District/BOCES.
 - c. Additional insured status shall be provided by standard or other endorsements that extend coverage to the District/BOCES for on-going operations (CG 20 38) and products and completed operations (CG 20 37). The decision to accept an endorsement rests solely with the District/BOCES. A completed copy of the endorsements must be attached to the Certificate of Insurance.
3.
 - a. The certificate of insurance must describe the services provided by the contractor (e.g., roofing, carpentry or plumbing) that are covered by the liability policies.
 - b. At the District's/BOCES' request, the contractor shall provide a copy of the declaration page of the liability and umbrella/excess policies with a list of endorsements and forms. If requested, the contractor will provide a copy of the policy endorsements and forms.
 - c. There will be no coverage restrictions and/or exclusions involving New York State Labor Law statutes or gravity related injuries.
 - d. A fully completed New York Construction Certificate of Liability Insurance Addendum (ACORD 855 2014/15) must be included with the certificates of insurance. For any "Yes" answers on Items G through L on this Form— additional details must be provided in writing. Policy exclusions may not be accepted.
4. The contractor agrees to indemnify the District/BOCES for applicable deductibles and self-insured retentions.

5. Minimum Required Insurance:

a. **Commercial General Liability Insurance**

\$1,000,000 per Occurrence/\$2,000,000 Aggregate

\$2,000,000 Products and Completed Operations

\$1,000,000 Personal and Advertising Injury

\$100,000 Fire Damage

\$10,000 Medical Expense

The general aggregate shall apply on a per-project basis.

b. **Owners Contractors Protective (OCP) Insurance**

For projects less than or equal to \$1,000,000 and work on 1 story (10 feet) only; \$1 million per occurrence, \$2 million aggregate with the District/BOCES as the Named Insured.

For projects greater than \$1,000,000 and/or work over 1 story (10 feet); \$2 million per occurrence, \$4 million aggregate with the District/BOCES as the Named Insured.

For all projects where General Liability, Auto and Umbrella/Excess Coverage is with non-licensed and non-admitted carriers in New York State; \$2 million per occurrence, \$4 million aggregate with the District/BOCES as the named Insured.

The District/BOCES will be the Named Insured on OCP Policies. There will be no Additional Insureds on any OCP Policies.

c. **Automobile Liability**

\$1,000,000 combined single limit for owned, hired, borrowed and non-owned motor vehicles.

d. **Workers' Compensation and NYS Disability Insurance**

Statutory Workers' Compensation (C-105.2 or U-26.3); and NYS Disability Insurance (DB-120.1) for all employees. Proof of coverage must be on the approved specific form, as required by the New York State Workers' Compensation Board. ACORD certificates are not acceptable. A person seeking an exemption must file a CE-200 Form with the state. The form can be completed and submitted directly to the WC Board online.

e. **Builder's Risk**

[Omitted]

f. **Umbrella/Excess Insurance**

\$5 million each Occurrence and Aggregate for general construction and no work at elevation (1 story – 10 feet) or project values less than or equal to \$1,000,000.

\$10 million each Occurrence and Aggregate for high-risk construction, work at elevation (>1 story or 10 feet) or project values greater than \$1,000,000.

Umbrella/Excess coverage shall be on a follow-form basis over the Auto Liability and General Liability coverages.

6. Contractor acknowledges that failure to obtain such insurance on behalf of the District/BOCES constitutes a material breach of contract and subjects it to liability for damages, indemnification and all other legal remedies available to the District/BOCES. The contractor is to provide the District/BOCES with a certificate of insurance, evidencing the above requirements have been met, prior to the commencement of work.
7. **Subcontractors are subject to the same terms and conditions as stated above and must submit same to the District/BOCES for approval prior to the start of any work.**
8. In the event the Contractor fails to obtain the required certificates of insurance from the Subcontractor and a claim is made or suffered, the Contractor shall indemnify, defend, and hold harmless the District/BOCES, its Board, employees and volunteers from any and all claims for which the required insurance would have provided coverage. **This indemnity obligation is in addition to any other indemnity obligation provided in the Contract.**

ADDITIONAL REQUIREMENTS ASBESTOS, LEAD ABATEMENT AND/OR HAZARDOUS MATERIALS

Asbestos/Lead Abatement/Pollution Liability Insurance

\$2,000,000 per occurrence/\$2,000,000 aggregate, including products and completed operations. Such insurance shall include coverage for the Contractor's operations including, but not limited to, removal, replacement, enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with any related pollution events, including coverage for third-party liability claims for bodily injury, property damage and clean-up costs. If a retroactive date is used, it shall pre-date the inception of the Contract.

If the Contractor is using motor vehicles for transporting hazardous materials, the Contractor shall maintain pollution liability broadened coverage (ISO Endorsement CA 9948), as well as proof of MCS 90. Coverage shall fulfill all requirements of these specifications and shall extend for a period of three (3) years following acceptance by the District/BOCES of the Certificate of Completion.

Testing Company Errors and Omission Insurance

\$1,000,000 per occurrence/\$2,000,000 aggregate for the testing and other professional acts of the Contractor performed under the Contract with the District/BOCES.

§ 11.1.6 Certificates of insurance acceptable to the Owner shall be submitted to the Construction Manager for transmittal to the Owner with a copy to the Architect prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with

the final Application for Payment as required by this Agreement and thereafter upon renewal or replacement of such coverage until the expiration of the time required herein. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness.

§ 11.1.6.1 The Contractor shall not commence work under the Contract AND SHALL NOT BE CONSIDERED “Approved” until he has obtained all the insurance required under the following paragraphs and such insurance has been approved by the Owner; nor shall the Contractor allow any subcontractor to commence work under his Subcontract until he has obtained all similar insurance for protection of himself, the Contractor and the Owner. All insurance shall be issued by a company authorized to write insurance and licensed as an “admitted carrier” in the State of New York, and rated ‘Secured’ by the A.M. Best Co. and acceptable to the Owner. The Policy, on its face, shall indicate that it is for the benefit of the Owner. The Contractor shall provide two certified copies of the Insurance Policies as well as the Certificates.

11.1.7 If the Contractor has an exclusion on his insurance policy for Pollution/Hazardous Materials that are part of this project, then his Sub-Contractor performing the work must provide that insurance.

§ 11.1.8 Both the binder and the insurance policy must be submitted prior to any work being performed on the Owner’s site. The policy must match the binder.

§ 11.1.9 Evidence of Insurance

§ 11.1.9.1 The Contractor shall file with the Owner, Construction Manager, and the Architect, before commencing work under his Contract, two certified copies of Insurance Policies and Certificates of Insurance in triplicate, concerning the insurance coverage hereinabove provided. Each certificate shall contain the following information:

1. Names and addresses of the insured.
2. Titles and locations of the operations to which the insurance implies.
3. The number of the policy and the type of insurance in force thereunder on the date of the certificate.
4. The expiration date of the policy and the limit or limits of the liability thereunder on the date of the certificate.
5. A statement that the insurance of the type afforded by the policy applied to all of the operations and activities on and at the site of the project or incidental thereto, which are undertaken by the Contractor during the performance of his Contract.
6. A statement as to the exclusions of the policy, if any.
7. A statement that Comprehensive Automobile Liability, including Property Damage has been effected.
8. A statement showing the method of cancellation prescribed by the policy. If cancellation may be effected by the giving of notice to the insureds by the insurer, the policy shall provide for the lapse of such number of days following the giving of such notice that in the ordinary course of transmission of the insureds actually will have received such notice at least thirty (30) days before the cancellation becomes effective.
9. A statement that all insurance herein referred to is being provided by insurance companies licensed to do business in the State of New York by the New York State Insurance Department with an A.M. Best Rating of ‘Secured’ or better. The Contractor shall provide evidence of the required Best Rating to the satisfaction of the Architect at the time of Contracting signing.

§ 11.2 Owner’s Insurance

§ 11.2.1

The Owner shall be responsible for purchasing and maintaining the Owner’s usual liability insurance. The Owner, at his option, may maintain additional insurance as will protect it from its contingent liability for damage, for bodily injuries and/or death, and for property damage, which may arise from operations and activities under the Contract.

§ 11.2.1.1 The Contractor shall provide insurance coverage acceptable to Owner for portions of the Work stored off site, in transit, and stored on site but not incorporated into the Work as full replacement cost basis without voluntary deductible. The Contractor shall, at the Contractor’s own expense, provide insurance coverage for owned or rented machinery, tools, or equipment, which shall be subject to the provisions of Subparagraph 11.3.

§ 11.2.2 Fire Insurance

§ 11.2.3 The Owner, at his option, may effect and maintain fire, extended coverage, vandalism and malicious mischief insurance upon the entire structure on which the work of the Contract is to be done and upon the materials, in or adjacent thereto and intended for use thereon, to one hundred percent (100%) of the insurable value thereof. (Vandalism and malicious mischief insurance shall exclude glass breakage.) The loss, if any, is to be made adjustable with and payable to the Owner as trustee for the insureds as their interest may appear. The Contractor is to be named or designated in such capacity as insured jointly with the Owner in all policies.

§ 11.2.4 The Owner, Contractor and all subcontractors waive all rights, each against the others, for damages caused by fire or other perils covered by insurance provided for under the terms of the Contract Documents, except such right as they may have to the proceeds of insurance.

§ 11.2.5 The Owner shall, upon the occurrence of loss, distribute any money received from the Underwriters proportionately as the interest of the parties may appear from the adjustment arrived at by the adjuster for the Owner and the adjuster for the assured.

§ 11.2.6 In case of a total loss or a partial loss of the structure by fire before its completion, the Contractor shall proceed with the execution of this Contract and he shall not be relieved from any of his obligations under the Contract, except that the time for the completion of the work shall be extended for such number of days as it may have been (in the opinion of the Architect, evidenced by his certificate in writing, which shall be binding and conclusive upon the Contractor) delayed by reason of any such loss or partial loss by fire.

§ 11.2.7 The Owner is not responsible and shall not be held liable for any loss or damage whatsoever to the property of the Contractor(s) or subcontractor(s).

§ 11.3 Waivers of Subrogation

§ 11.3.1 Contractor waives all rights against Owner and Architect and their agents, officers, directors and employees for recovery of damages to the extent these damages are covered by commercial general liability, commercial umbrella liability, business auto liability or workers compensation and employers liability insurance maintained per requirements stated above..

§ 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.

§ 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 Construction Manager, Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Construction Manager, Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 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. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

§ 11.6 Performance Bond and Payment Bond

§ 11.6.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.6.2 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.

§ 11.6.3 The Contractor shall furnish the following:

Bid Bond:	10% of Contract Bid
Final Bond:	Limit 100% of Contract Sum including Performance and Payment Bonds (Labor and materials)
Bond Form:	AIA Document A312 or Current Edition

§ 11.6.4 All bonds must be provided by a bonding company licensed to do business in the State of New York and rated Class A by Best or Moody's Listings. The Contractor shall provide evidence of the required Moody's Listings Class A rating to the satisfaction of the Architect at the time of the Contract signing. The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

§11.6.4.1 All Bonds shall be maintained in full force for a period of twelve (12) months after the date of the Contractor's acceptance of final payment as guarantee that the Contractor will make good any faults or defects in the work arising from improper or defective workmanship or materials which may appear during the period.

§ 11.6.5 Every Bond must display the Surety's Bond Number. A rider including the following provision shall be attached to each Bond:

1. Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Contract documents. Such addition, alteration, change, extension of time, or other modification of the Contract documents, or forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety of its obligations hereunder and notice to the Surety of such matters is hereby waived.
2. Surety further agrees that in event of any default by the Owner in the performance of the Owner's obligations to the Contractor under the Contract, the Contractor or Surety shall cause written notice of such default (specifying said default in detail) to be given to the Owner, and the Owner shall have thirty (30) days from the time after receipt of such notice within which to cure such default, or such additional reasonable period of time as may be required if the nature of such default is such that it cannot be cured within (30) days. Such Notice of Default shall be sent by certified or registered U.S. Mail, return receipt requested, first class postage prepaid, to Lender and the Owner.
3. Surety agrees that it is obligated under the bonds to any successor, grantee or assignee of the Owner.

§11.6.5.1 The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to, or waiver of: (1) notice of changes in the Work; (2) request for reduction or release of retention; (3) request for final payment; and (4) any other material required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety. The Owner may, in the owner's sole

discretion, inform surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interest, privileges and benefits under any pursuant to any bond issued in connection with the Work.

§11.6.5.2 Additional performance and payment bonds may be required by the Owner, in the Owner's discretion, from any Subcontractor whose Subcontract exceeds One Hundred Thousand Dollars (\$100,000.00). The owner shall pay for any premiums charged for obtaining required Subcontractor bonds by executing a Change order which shall increase the Contract Sum in an amount equal to such premiums. All such bonds shall be in form and substance satisfactory to the Owner in the Owner's sole judgment.

§ 11.7 Time of Delivery and Form of Bonds

§ 11.7.1 The Bidder shall deliver the required bonds to the Owner not later than ten (10) days after the Bidder has received notice of the acceptance of its Bid but in no event shall bonds be delivered later than the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section.

§ 11.7.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 11.7.3 The bonds shall be dated on or after the date of the Contract.

§ 11.7.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

§ 11.8 Maintaining Insurances

§ 11.8.1 The Contractor's failure to maintain any of the insurances required by Article 11 shall be cause for the Owner to withhold payment.

§ 11.8.2 The Owner reserves the right to provide additional insurance at the Contractor's expense if the Contractor fails to update their insurance.

§ 11.8.3 The Contractor shall send updated certificates of Insurance acceptable to the Owner shall be submitted to the Construction Manager for transmittal to the Owner.

§ 11.8.4 In all cases, the Notice of Cancellation shall be sent "Registered Mail" to the Contractor, the Owner, the Architect, the Construction Manager, as well as to other named insureds, thirty (30) days prior to date of cancellation.

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 Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Construction Manager or Architect has not specifically requested to examine prior to its being covered, the Construction Manager or Architect may request 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 adjustment to the Contract Sum and Contract Time as may be appropriate. 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

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Construction Manager or 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 additional testing and

inspections, the cost of uncovering and replacement, and compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within two years 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 specific condition. The Owner shall give such notice promptly after discovery of the condition. During the two-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 after receipt of timely notice from the Owner, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The two-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 Upon completion of any Work under or pursuant to this Paragraph 12.2.2 the two (2) year correction period in connection with the Work requiring correction shall be renewed and recommence.

§ 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, Separate Contractors, or other 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. The obligations shall cover any repair and replacement to any part of the Work or other property caused by the defective Work.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the two-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.

§ 12.3 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. Owner's acceptance of such non-conforming Work must be done in writing and must specifically reference this clause to be effective.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located. The parties expressly agree that any claim, dispute, or other controversy of any nature arising out of the contract or performance of the Work shall be commenced and maintained in New York State Supreme Court (or lower court if required by law) located in the County where project is located..4.

§ 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, Construction Manager, 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 Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and 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 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 Construction Manager, 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 Construction Manager and 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 Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and 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, all costs made necessary by such failure, including those of repeated procedures and compensation for the Construction Manager's and 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 Construction Manager for transmittal to the Architect.

§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or 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

Notwithstanding anything to the contrary, payments to Contractor, including any interest, shall be consistent with this Agreement and in accordance with New York State General Municipal Law Section 106-b.

§ 13.6 – intentionally omitted

§ 13.7 – intentionally omitted

§ 13.8 Project Sign

§ 13.8.1 The Contractor may only display a sign on premises approved by the Architect and Owner as to size and content.

§ 13.8.2 The Owner's property may not be used for advertisement.

§ 13.9 Minimum Rates of Wages and Supplements

§ 13.9.1 Every Contractor and Sub-Contractor shall submit to the School District within thirty days after issuance of its first payroll, and every thirty days thereafter, a transcript of the original payroll record, subscribed and affirmed as true under penalties of perjury, as provided by Article 8, Section 220 of the NYS Labor Law. The School District shall be required to receive and maintain such payroll records. The original payroll records or transcripts shall be preserved for three years from the completion of the work on the awarded project unless otherwise required by law.

§ 13.9.2 In accordance with Section 220, Subdivision 3, and 330d of the Labor Law as amended by Chapter 750 of the Laws of 1956, the Industrial Commissioner, Department of Labor, State of New York has ascertained the Prevailing Rates of Wages, including Supplemental Benefits thereto, which will apply to this Project.

§ 13.9.3 The amounts for supplements listed on the schedule do not necessarily include all types of supplements prevailing in the locality, and a future determination of the Industrial Commissioner may require the Contractor to provide additional supplements. If the amount of supplements provided by the Employer is less than the total supplements shown on the Wage Schedule, the difference shall be paid in cash to the employees.

§ 13.9.4 OSHA 10-hour Construction Safety and Health Course –SA1537-A: Effective July 18, 2008, all Public projects of at least \$250,000.00, shall require that all laborers, workers and mechanics working on the site be certified as having successfully completed the OSHA 10-hour Safety and Health Course. Refer to the preceding Prevailing Wage Schedule for additional information.

§ 13.10 Codes and Standards

§ 13.10.1 Where a conflict occurs between the standards cited above or between them and these Specifications, the more stringent requirement shall govern.

§ 13.10.2 In addition to code compliance specified in the "General Conditions", all Electrical Work shall comply with the requirements of the National Electric Code. All electric equipment furnished and installed shall be of type approved for the specified application by the Underwriters' Laboratories, Inc. and bear their identifying label.

§13.11 Equal Opportunity

§ 13.11.1 The Contractor shall maintain policies of employment as follows:

§ 13.11.1.1 The Contractor and the Contractor's Subcontractors shall not discriminate against any employee or applicant for employment because of actual or perceived race, religion, color, sex, or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, or natural origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notice setting forth the policies of non-discrimination. The protected categories herein shall be extended to apply to all protected classes under New York and Federal Law for discrimination and Equal Opportunity purposes.

§13.11.1.2 The Contractor and the Contractor's Subcontractors shall, in all solicitations or advertisement for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to actual or perceived race, religions, color, sex or national origin.

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 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 Construction Manager has not certified or 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, or because the Owner has not made payment on a Certificate for Payment within the time stated 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' notice to the Owner, Construction Manager 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 through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees, or any other persons 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' notice to the Owner, Construction Manager and 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;
- .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.
- .5 Breaches any warranty made by the Contractor under or pursuant to the Contract Documents; or,
- .6 Fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all of the requirements of the Contract Documents
- .7 fails after commencement of the Work to proceed continuously with the construction and completion of the Work for more than ten (10) days, except as permitted under the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, after consultation with the Construction Manager, 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:

- .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. The costs of finishing the Work include, without limitation, all reasonable attorney's fees, additional title costs, insurance, additional interest because of any delay in completing the Work, and all other direct damages incurred by the Owner by reason of the termination of the Contractor as stated herein.

§ 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 Construction Manager's and Architect's services and expenses made necessary thereby, and other damages incurred by the Owner 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, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, 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 the 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 this 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; 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.

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. 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.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and 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 applicable law.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by the Contractor must be initiated by written notice to the Owner, with a copy to the Architect and Construction Manager, within 21 days after the occurrence of the event giving rise to such Claim or within 21 days after the Contractor first should have recognized the condition giving rise to the Claim, whichever occurs first. THE FAILURE OF THE CONTRACTOR TO PROVIDE TIMELY NOTICE OF ITS CLAIM SHALL RESULT IN A WAIVER OF SUCH CLAIM, INCLUDING ANY CONTINUING CLAIM.

§ 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.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, 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 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.

§ 15.1.5 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, including delay claims, 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.

§ 15.1.5.1 The Owner shall not be liable to any Contractor or any subcontractor for any charges or claims for damages for any delays or hindrances, from any cause whatsoever, occurring during the progress of any portion of the Work. Such delays or hindrances shall be compensated for by an extension of time as provided in Subparagraph 15.1.6.

§ 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, 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. In the case of a continuing delay, written updated claims shall be provided on a thirty-day basis.

§ 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 extremely abnormal for the period of time and for that area of the Work, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.6.3 Claims for increase in the Contract Time shall set forth in detail the circumstances that form the basis for the Claim, the date upon which each cause of delay began to affect the progress of the Work, the date upon which each cause of delay ceased to affect the progress of the Work and the number of days' increase in the Contract Time claimed as a consequence of each such cause of delay. The Contractor shall provide such supporting documentation as the Owner may require including, where appropriate, any and all impacts known or being considered, a revised construction schedule indicating all the activities affected by the circumstances forming the basis of the Claim.

§ 15.1.6.4 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor. Any claim for additional time must be supported by documentation showing how the delay contributed to the impact of any and all tasks that are or were in the "critical path" of the project schedule in effect at the time of impact.

§ 15.1.7 Waiver of Claims for Consequential Damages. The Contractor waives Claims against the Owner, Construction Manager, and the Architect for consequential damages arising out of or relating to this Contract, with the exception of the loss of profit anticipated directly from this project. This waiver includes but is not limited to

damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financial, business and reputation, and for loss of profit from other projects.

15.1.8 Claim Procedure

15.1.8.1 Claims by the Contractor must be made by written notice in accordance with the following procedures.

.1 The Contractor may submit a claim concerning a matter properly noticed in accordance with the time requirements of this Contract.

.2 Failure by the Contractor to furnish the required claim documentation within the time set forth above shall constitute waiver of the Contractor's right to compensation for such claim.

.3 Contractor shall furnish three (3) certified copies of the required claim documentation, with a copy submitted to the Owner, Construction Manager, and Architect. The claim documentation shall be complete when furnished. The evaluation of the Contractor's claim will be based, among other things, upon the Owner project records and the Contractor's furnished claim documentation.

.4 Claim documentation shall conform to Generally Accepted Accounting Principles and shall be in the following format:

1. General Introduction
2. General Background Discussion
3. Issues
 - A. Index of Issues (listed numerically)
 - B. For each issue:
 - (1) Background
 - (2) Chronology
 - (3) Contractor's position (reason for Owner's potential liability)
 - (4) Supporting documentation of merit or entitlement
 - (5) Supporting documentation of damages
 - (6) Begin each issue on a new page
4. All critical path method schedules, (as-planned, monthly updates, schedule revisions, and as-built) along with the computer disks of all schedules related to the claim.
5. Productivity exhibits (if appropriate)
6. Summary of Issues and Damages

.5 Supporting documentation of merit for each issue shall be cited by reference, photocopies, or explanation. Supporting documentation may include, but shall not be limited to, general conditions; general requirements; technical specifications; drawings; correspondence; conference notes; shop drawings and submittals; shop drawing logs; survey books; inspection reports; delivery schedules; test reports; daily reports; subcontracts; fragmentary CPM schedules or time impact analyses; photographs; technical reports; requests for information; field instructions; and all other related records necessary to support the Contractor's claim.

.6 Supporting documentation of damages for each issue shall be cited, photocopies, or explained. Supporting documentation may include, but shall not be limited to, any or all documents related to the preparation and submission of the bid; certified, detailed labor records including labor distribution reports; material and equipment procurement records; construction equipment ownership cost records or rental records; subcontractor or vendor files and cost records; service cost records; purchase orders; invoices; project as-planned and as-built cost records; general ledger records; variance reports; accounting adjustment records; and any other accounting materials necessary to support the Contractor's claim.

.7 Each copy of the claim documentation shall be certified by a responsible officer of the Contractor in accordance with the requirements of these Contract Documents.

§ 15.1.8.2 Claims and Actions Thereon: No claim against the Owner for damages for breach of contract or compensation for extra work shall be made or asserted in any action or proceeding at law, or in equity, unless the Contractor shall have strictly complied with all the requirements relating to the giving of notice and of information with respect to such claims all as provided in this Agreement.

§ 15.1.8.3 No Estoppel: Neither the Owner nor any department officer, agent or employees thereof, shall be bound, precluded or estopped by any determination, decision, approval, order, letter, payment or certificate made or given under or in connection with this Contract by the Owner, or any officer, agent or employee of the Owner, either before or after the final completion and acceptance of the Work and payment therefor: (1) from showing the true and correct classification, amount, quality or character of the Work actually done; or that any such termination, decision,

order, letter, payment or certificate was untrue, incorrect or improperly made in any particular matter, or that the Work or any part thereof does not in fact conform to the requirements of this Contract; or (2) from demanding and recovering from the Contractor any overpayments made to him, or such damages as it may sustain by reason of his failure to perform each and every part of this Contract in strict accordance with its terms; or (3) both (1) and (2) hereto.

§ 15.1.9 Nothing contained in Articles 14 or 15 of this Agreement is intended to alter or replace any provisions of the laws of the state of New York relating to claims made against the Owner or to relieve Contractor from any obligations thereunder.

§ 15.2 Initial Decision

§ 15.2.1 Claims by the Contractor shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation or litigation of any Claim, as required by the Contract Documents. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may proceed as otherwise allowed herein, unless the Architect has extended its time to respond in writing.

§ 15.2.2 The Initial Decision Maker will review Claims and within twenty 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.

§ 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. 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 either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties, the Construction Manager, and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to litigation.

§ 15.2.6 The parties may mutually agree to non-binding mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1. If the dispute cannot be settled by direct discussion the parties agree that any action or proceeding arising under this Agreement shall be brought in a New York State court of competent jurisdiction in the County where the Project is located. It is expressly agreed that there will be no arbitration as to any matters arising out of or relating to this Agreement.

§ 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 of receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision, unless the parties agree to extend such time in writing

§ 15.2.7 In the event of a Claim against the Contractor, the Owner 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 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.

§ 15.5 Litigation

Claims shall be resolved in New York State Supreme Court in the County where the Project is located. The Owner shall be entitled to receive its reasonable attorney's fees and litigation expenses if it prevails in the litigation on any issue and regardless of the percentage of which it prevails.

§15.5 SAVING CLAUSE

If, during the term of this Contract, it is found that a specific clause of the Contract is illegal under Federal or State law, the remainder of the Contract not affected by such a ruling shall remain in force.

ARTICLE 16 PROVISIONS REQUIRED BY LAW

§ 16.1 PROVISIONS DEEMED INSERTED

16.1.1 Each and every provision required by law to be inserted in the Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein and in the event any such provision is not inserted or is not correctly inserted then, upon the application of either party, this Contract shall forthwith be physically amended to make such insertion or correction.

§ 16.2 HOURS AND WAGES

16.2.1 No laborer, workman, or mechanic in the employ of a Contractor, subcontractor or other person doing or contracting to do the whole or any part of the work contemplated by the Contract shall be permitted or required to work more than eight (8) hours in any one (1) calendar day or more than five (5) days in any one (1) week except in cases of extraordinary emergency set forth in the Labor Law.

16.2.2 The wages (including supplements) paid for a legal day's work shall not be less than the prevailing rate of wages (including supplements) as defined by law.

§ 16.3 MINIMUM RATE OF WAGE AND SUPPLEMENT

16.3.1 The minimum hourly wage rates (including supplements) to be paid shall not be less than that designated by the New York State Department of Labor, Bureau of Public Works and any redetermination of the prevailing rate of wages after the Contract is approved shall be deemed to be incorporated herein by reference as of the effective date of redetermination and shall form a part of these Contract Documents.

16.3.2 The minimum hourly supplement to be paid shall be in accordance with the prevailing practices in the locality where the work is located and shall be not less than that designated by the Industrial Commissioner. Supplements as defined in Section 220 of the Labor Law, as amended, means all remuneration for employees paid in any medium other than cash or reimbursements for expenses or any payments which are not wages within the meaning of the law, including, but not limited to, health, welfare, non-occupational disability, retirement, vacation benefits, holiday pay and life insurance.

16.3.3 The Contract shall be forfeited by a Contractor and he shall not be entitled to receive any sum of money for any work performed hereunder on his second conviction for willfully paying less than the stipulated wage scale (including supplements) as provided in the Labor Law, Section 220, as

amended, or the stipulated minimum hourly wage scale (including supplements) as provided in the Labor Law, Section 220-d, as amended.

- 16.3.4** Prevailing Wage Rate Schedule shall be submitted by Addendum to all Contractors, unless included in this (General, Supplementary and other conditions)."

§ 16.4 APPRENTICES

- 16.4.1** Apprentices must be registered, individually, under a bona fide program registered with the New York State Department of Labor. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the contractor as to his work force on any job under the registered program. Any employee, who is not registered as above, shall be paid the prevailing wage rate for the classification of work he actually performed. The contractor or subcontractor will be required to furnish written evidence of the registration of his program and apprentices as well as of the appropriate ratios and wage rates for the area of construction, prior to using any apprentices on the contract work. (See Section 220.3-e).

§ 16.5 NON-DISCRIMINATION IN EMPLOYMENT

16.5.1 Each Prime Contractor agrees, in accordance with the applicable provisions of the Labor Law of the State of New York, to the following:

- .1** That in the hiring of employees for the performance of work under this contract or any subcontract hereunder no Contractor, subcontractor nor any person acting on behalf of such Contractor or subcontractor, shall by reason of religion, sex, age, color or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates.
- .2** That no Contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this Contract on account of religion, sex, age, race, color or national origin.
- .3** That there may be deducted from the amount payable to a Contractor by the Owner under this Contract, a penalty of fifty dollars (\$50.00) for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the Contract.
- .4** That this Contract may be cancelled or terminated by the Owner and all monies due or to become due hereunder may be forfeited, for a second or any subsequent violations of the terms of conditions of this Section of the Contract.

- 16.5.2** The aforesaid provisions of this section covering every contract for or on behalf of the Owner for the manufacture, sale or distribution of materials, equipment or supplies shall be limited to operations performed within the territorial limits of the State of New York.

§ 16.6 DUST HAZARDS

16.6.1 If in the construction of the work covered by the Contract, a harmful dust hazard be created for which appliances or method for the elimination of harmful dust hazards have been approved by the Board of Standards and Appeals, such appliances or methods shall be installed and maintained and effectively operated by each Contractor at his sole cost and expense.

§ 16.7 ASSIGNMENT OF PUBLIC CONTRACTS

- 16.7.1** As provided in Section 109 of the General Municipal Law, the Contractor is prohibited from assigning, transferring, conveying, subletting or otherwise disposing of the same, or of his right title, or interest therein, or his power to execute such contract or any other person or corporation without the previous consent in writing of the officer, board or agency awarding the contract. If any contractor, to whom any contract is let, granted and awarded, as required by law, by any officer, board or agency in a political subdivision, or of any district therein, shall without the previous written consent specified in subdivision one of this section, assign, transfer, convey, sublet or otherwise dispose of such contract, or his right, title or interest therein, or his power to execute such contract, to any other person or corporation, the officer, board or agency which let, made, granted, or awarded such contract shall revoke and annul such contract, and the political subdivision or district therein, as the case may be, and such officer, board or agency shall be relieved and discharged from any and all liability and obligations growing out of such contract to such contractor, and to the person or corporation to which such contract shall have been assigned,

transferred, conveyed, sublet or otherwise disposed of, and such contractor, and his assignees, transferees or sublessees shall forfeit and lose all moneys, theretofore earned under such contract, except so much as may be required to pay his employees. The provisions of this section shall not hinder, prevent, or affect an assignment by any such contractor for the benefit of his creditors made pursuant to the laws of this state.”

§ 16.8 FINGERPRINTING

- 16.8.1** Pursuant to the Safe Schools Against Violence in Education Act (“SAVE” legislation) and Part 87 of the Regulations of the Commissioner of Education, any individual who, as a result of their work on this capital project, will move (or migrate) in and out of student occupied areas for more than five (5) days a year, must be fingerprinted. All contractors shall be responsible to ensure that they (and their employees) are in full compliance with the fingerprinting provisions New York’s SAVE Legislation and Part 87 of the Regulations of the Commissioner of Education at their sole cost and expense.

APPENDIX A



SAMPLE INSURANCE REQUIREMENTS – CAPITAL CONSTRUCTION

1. Notwithstanding any terms, conditions or provisions, in any other writing between the parties, the contractor hereby agrees to effectuate the naming of the District/BOCES as an Additional Insured on the contractor's insurance policies, except for workers' compensation and N.Y. State Disability insurance.
2. The policy naming the District as an Additional Insured shall:
 - a. Be an insurance policy from an A.M. Best A- rated or better insurer, **licensed and admitted** to conduct business in New York State. A New York licensed and admitted insurer is **required**.
 - b. State that the organization's coverage shall be primary and non-contributory coverage for the District/BOCES, its Board, employees and volunteers including a waiver of subrogation in favor of the District/BOCES for all coverages including Workers Compensation.
 - c. Additional insured status for General Liability coverage shall be provided by standard or other endorsements that extend coverage to the District/BOCES for on-going operations (CG 20 38 or equivalent) and products and completed operations (CG 20 37 or equivalent). The decision to accept an endorsement rest solely with the District/BOCES. A completed copy of the endorsements must be attached to the Certificate of Insurance to include General Liability, Auto Liability and Umbrella/Excess coverages.
3.
 - a. The certificate of insurance must describe **all services** provided by the contractor (e.g., roofing, carpentry or plumbing) that are covered by the liability policies.
 - b. At the District's/BOCES' request, the contractor shall provide a copy of the declaration page of the liability and umbrella/excess policies with a list of endorsements and forms. If requested, the contractor will provide a copy of the policy endorsements and forms.
 - c. There will be no coverage restrictions and/or exclusions involving New York State Labor Law statutes or gravity related injuries.
 - d. No policies containing escape clauses or exclusions contrary to the Owner's interests will be accepted.



- e. A fully completed New York Construction Certificate of Liability Insurance Addendum (ACORD 855 2014/15) must be included with the certificates of insurance. For any “Yes” answers on Items G through L on this Form– additional details must be provided in writing. Policy exclusions may not be accepted.
- 4. The contractor agrees to indemnify the District/BOCES for applicable deductibles and self-insured retentions.
- 5. Minimum Required Insurance:
 - a. **Commercial General Liability Insurance**
\$1,000,000 per Occurrence/\$2,000,000 Aggregate
\$2,000,000 Products and Completed Operations
\$1,000,000 Personal and Advertising Injury
\$100,000 Fire Damage
\$10,000 Medical Expense
The general aggregate shall apply on a per-project basis.
 - b. **Owners Contractors Protective (OCP) Insurance**
For projects less than or equal to \$1,000,000 and/or work on 1 story (10 feet) only;
\$1,000,000 per occurrence, \$2,000,000 aggregate with the District/BOCES as the Named Insured.

For projects greater than \$1,000,000 and/or work over 1 story (10 feet); \$2,000,000 per occurrence, \$4,000,000 aggregate with the District/BOCES as the Named Insured.

The OCP Policy must be with a NYS licensed and admitted carrier.

The District/BOCES will be the Named Insured on OCP Policies. There will be no Additional Insureds on any OCP Policies.
 - c. **Automobile Liability**
\$1,000,000 combined single limit for owned, hired, borrowed and non-owned motor vehicles.
 - d. **Workers' Compensation and NYS Disability Insurance**
Statutory Workers' Compensation (C-105.2 or U-26.3); and NYS Disability Insurance (DB-120.1) for all employees. Proof of coverage must be on the approved specific form, as required by the New York State Workers' Compensation Board. ACORD certificates are not acceptable. A person seeking an exemption



must file a CE-200 Form with the state. The form can be completed and submitted directly to the WC Board online.

e. **Builder's Risk**

Must be purchased and maintained by the Owner to include interest of the Owner, Contractor, Subcontractors and Sub subcontractors jointly. The limit must reflect the total completed value (all material and labor costs) and provide coverage for fire, lightning, explosion, extended coverage, vandalism, malicious mischief, windstorm, hail and/or flood. Coverage will remain in effect until the Owner is the only entity that has an insurable interest in the property.

f. **Umbrella/Excess Insurance**

\$5,000,000 each Occurrence and Aggregate for general construction and no work at elevation (1 story or 10 feet) and project values less than or equal to \$1,000,000.

\$10,000,000 each Occurrence and Aggregate for high-risk construction, work at elevation (>1 story or 10 feet) and project values greater than \$1,000,000.

Umbrella/Excess coverage shall be on a follow-form basis or provide broader coverage over the General Liability and Auto Liability coverages.

6. Contractor acknowledges that failure to obtain such insurance on behalf of the District/BOCES constitutes a material breach of contract and subjects it to liability for damages, indemnification and all other legal remedies available to the District/BOCES. The contractor is to provide the District/BOCES with a certificate of insurance, evidencing the above requirements have been met, prior to the commencement of work. The failure of the District/BOCES to object to the contents of the certificate or the absence of same shall not be deemed a waiver of any rights held by the District/BOCES.
7. **Subcontractors are subject to the same terms and conditions as stated above and must submit same to the District/BOCES for approval prior to the start of any work.**
8. In the event the General Contractor fails to obtain the required certificates of insurance from the Subcontractor and a claim is made or suffered, the General Contractor shall indemnify, defend, and hold harmless the District/BOCES, its Board, employees and volunteers from any and all claims for which the required insurance would have provided coverage. **This indemnity obligation is in addition to any other indemnity obligation provided in the Contract.**



ADDITIONAL REQUIREMENTS ASBESTOS, LEAD ABATEMENT AND/OR HAZARDOUS MATERIALS

Asbestos/Lead Abatement/Pollution Liability Insurance

\$2,000,000 per occurrence/\$2,000,000 aggregate, including products and completed operations. Such insurance shall include coverage for the Contractor's operations including, but not limited to, removal, replacement, enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with any related pollution events, including coverage for third-party liability claims for bodily injury, property damage and clean-up costs. If a retroactive date is used, it shall pre-date the inception of the Contract.

If the Contractor is using motor vehicles for transporting hazardous materials, the Contractor shall maintain pollution liability broadened coverage (ISO Endorsement CA 9948 or CA 01 12), as well as proof of MCS 90. Coverage shall fulfill all requirements of these specifications and shall extend for a period of three (3) years following acceptance by the District/BOCES of the Certificate of Completion.

Testing Company Errors and Omission Insurance

\$1,000,000 per occurrence/\$2,000,000 aggregate for the testing and other professional acts of the Contractor performed under the Contract with the District/BOCES.

SECTION 230000 – MECHANICAL SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - a. Work covered under Mechanical Contract.
 - b. Work under other contracts.
 - c. Use of premises.
 - d. Owner's occupancy requirements.
 - e. Specification formats and conventions.

- B. Related Sections include the following:

- a. Division 23 Sections.

1.3 WORK COVERED UNDER MECHANICAL CONTRACT

- A. Provide all labor, materials, tools, machinery, equipment, and services necessary to complete the mechanical and DDC work under this contract. All systems and equipment shall be complete in every aspect and all items of material, equipment, and labor shall be provided for a fully operational system. Coordinate the work with work of other trades so as to resolve conflicts without impeding job progress. The mechanical work includes the following:

- B. MECHANICAL

- 1. The mechanical contractor shall furnish all labor, materials, equipment, rigging, appliances, tools and accessories required for providing, installing, connecting and testing the new mechanical system, associated work, controls, etc., in accordance with these specifications and the applicable drawings. The work includes:
 - a. Remove existing HV/HVAC mechanical equipment as shown on the drawings, complete with associated ductwork, air inlets/outlets, dampers, louvers, piping, valves, insulation, supports, thermostats, electricals, controls, etc.
 - b. Remove existing HVAC units, complete with existing insulation, ductwork, outlets, supports, electrical, controls, thermostats, etc.
 - c. Remove existing exhaust fans, roof vents, etc., complete with existing roof curbs, ductwork, air inlets/outlets, supports, electrical, controls, etc.

- d. Remove existing ductwork and air inlets/outlets as called out on plans, complete existing dampers, insulation, supports, etc.
- e. Remove existing piping as called out on the drawings, complete with existing insulation, valves, supports, etc.
- f. Removed all existing controls and wiring associated with demolished mechanical equipment, thermostats, etc.
- g. Remove existing controls on existing mechanical/HV/HVAC units throughout entire school as indicated on the drawings, complete with associated controls, control valves, actuators, thermostats, sensors, etc.
- h. Remove all demolished equipment and debris from the site in accordance with all State and Local regulations.
- i. Coordinate all removals as further scheduled on the drawings so as not to interfere with Owner's use of the building.
- j. Furnish and install new DOAS packaged rooftop unit as scheduled on the drawings, complete with spring vibration isolation roof curb, supports, VFD's, ductwork, gas piping, insulation of all ductwork, air outlets/ inlets, dampers, DDC controls, etc. for a complete and operational system
- k. Furnish and install new HV/HVAC mechanical equipment as scheduled on the plans, complete with new ductwork, piping, insulation, DDC controls, electrical, etc. for a complete and operational system.
- l. Furnish and install new DX split/heat pump DOAS system with indoor/outdoor units as scheduled on the drawings, complete with roof support curbs, supports, fresh air intake ductwork (where indicated on the drawings), refrigerant piping, condensate drain piping, condensate pumps, insulation of all piping/ductwork, valves, gauges, controls, sensors, etc. for a complete and operational system.
- m. **Contractor to note that, hoisting/rigging work needs to be performed after school hours or on a weekend. Coordinate schedule with Owner.**
- n. Furnish and install new HVAC equipment, complete with piping, valves, insulation, supports, wiring, thermostats, electrical, DDC controls, etc. for a complete and operational system. Unit color to be selected by the owner.
- o. Furnish and install exhaust fans complete with supports, vibration isolators, acoustical housing, fan switch, interlock wiring, backdraft dampers, etc. for a complete and operational system
- p. Furnish and install new fin-tube radiator, complete with piping, valves, insulation, supports, wiring, thermostats, disconnect switches, DDC controls, etc. for a complete and operational system. Color to be selected by the owner
- q. Furnish and install new exhaust fans complete with supports, vibration isolators, fan switch, interlock wiring, backdraft dampers, etc. for a complete and operational system.

- r. Furnish and install condensing boilers with base mount centrifugal pumps. All work associated with respective valves, flue, breeching, draft inducers, hydronic components.
- s. **All electrical work associated with new HV/HVAC system shall be performed by the Electrical Subcontractor. Refer to electrical drawings and Division 26 specification sections for information.**
- t. Furnish and install new Honeywell DDC controllers and controls for new equipment as indicated on the drawings, complete with control valves, actuators, thermostats, sensors, etc. Connect new controls to existing BMS building management system (BMS).
- u. All DDC controls, control valves, and wall thermostats shall be provided by Control subcontractor and integrated with existing DDC system to avoid complexity of individual control systems and systems fighting each other. This will ensure optimal energy performance.
- v. All electrical power supply work required for new DDC system shall be performed by the Electrical subcontractor. All low-voltage power supply and wiring work required for new DDC system shall be performed by the DDC control subcontractor.
- w. Furnish and install new supply, return, exhaust and outdoor air ductwork as indicated on the drawings. All ductwork shall be galvanized steel construction.
- x. All new supply, return, exhaust and outdoor air ductwork shall be internally or externally insulated as indicated on drawings. All internally lined ductwork shall be provided with IAQ liner.
- y. Provide high-efficiency electric motors for all new units.
- z. Furnish and install motorized dampers, volume dampers.
- aa. Furnish and install fire dampers of suitable rating at all duct penetrations through all rated partitions (walls/slab), whether indicated on the drawings or not.
- bb. Furnish and install flexible duct connectors at all duct connections to all HV/HVAC units.
- cc. Provide fire stopping for all duct and piping penetrations through rated walls/slabs with pipe escutcheons
- dd. Furnish and install supply and return piping, complete with manual shut-off/temperature balancing valves, check valves, control valves, temperature gauges, union connections, insulation, etc. for a complete operating system. Provide manual isolation valve (on supply) and manual balancing valve (on return) for each terminal unit connection.
- ee. Provide automatic and manual air vents at the top of piping risers/headers, at high points in the system.

- ff. All cutting, patching and alteration work shall be performed.
- gg. Furnish and install all ancillary equipment needed for a complete and proper installation including, but not limited to anchors, hangers, expansion loops, fittings, strainers, valves, unions, etc.
- hh. All ductwork shall be properly fabricated, installed and supported as per SMACNA and ASHRAE guidelines
- ii. Contractor to perform testing, adjusting and balancing (TAB) of the entire HV/HVAC system shown on the drawings, including all new HV/HVAC units, air and water side distributions, air outlets/inlets, etc. **Submit four (4) sets of air and unit TAB reports for review.**
- jj. Provide testing, commissioning and start-up reports for all new mechanical/HV system installed in this project.
- kk. The entire new piping system shall be hydrostatically tested for a minimum of two (2) hours at a minimum of 150 psig or 1.5 times the working pressure, whichever is higher. **Submit four (4) sets of pressure testing report for review.**
- ll. Submit six (6) sets of shop drawings of all equipments, sheet metal standards, piping standards, equipment layout, detailed duct and piping layouts, air inlets, supports, DDC controls, electrical, wiring diagram, etc.
- mm. Contractor to prepare as-built drawings of the entire mechanical/HV system. **Submit four (4) sets of Operation and Maintenance Manuals.**
- nn. Contractor to perform testing, adjusting and balancing (TAB) of the entire HVAC/HV/Mechanical system, including all new rooftop units, air side distribution, air outlets/inlets, water side distribution, finned tube elements/baseboards, etc. TAB on new rooftop units shall include detailed performance verification (cooling capacity, heating capacity, individual pressure drops, amp readings, CFM's, etc.) which will need to be done during respective cooling, heating, and transitional seasons. **Submit four (4) sets of air, water and unit TAB reports for review.**
- oo. Detailed Performance Testing, Adjusting and Balancing (TAB) shall be done during the respective season for the units, during the summer season for cooling mode, during winter for heating mode, and during fall/spring for free cooling mode.
- pp. Provide color coded identification tags, identification markers and equipment tags for all equipment including RTU, HVAC units, fans, ductwork, piping, valves, control valves, etc.
- qq. Warranty: The entire system shall be warranted for a period of two (2) complete years from the date of acceptance by the owner, including all materials and labor components.
- rr. **Commissioning:** The following is the commissioning scope of work for this project:
 - 1. There will not be a separate commissioning agent on this project. The engineer will oversee the commissioning process. The mechanical contractor shall compile all the below reports and data and submit to the engineer for review.

2. Submittals/Shop Drawings shall include detailed start up procedures.
3. All equipment shall be factory tested before being shipped to project site.
4. Perform functional performance test (FPT) of all HV/HVAC systems and equipment. Submit FPT Reports.
5. Provide detailed Start-Up Reports.
6. Trending: The building control system/energy management system, shall be monitored for the first year by the Controls Contractor, as well as by the Owner/Owner designated team for proper operation to optimize energy performance without compromising the comfort conditions.
7. The contractor shall certify in writing that the entire work was completed and systems are operational according to the contract documents, including calibration of instrumentation and controls.
8. Schedule, witness and document tests, inspections and systems startup. Inform architect/engineer sufficiently in advance to enable them to witness startup.
9. Perform testing, adjusting and balancing of all airside, waterside, and units/systems.
10. Compile test data, inspection reports and certificates and include them in the Systems Manual and Commissioning Report.
11. Certify date of acceptance and startup for each item of equipment for start of warranty periods.
12. Prepare as-built drawings. Submit four (4) sets of each, along with two (2) CD's (for drawings).
13. Conduct Operation and Maintenance Training Programs, to be provided by qualified instructors for all HV/HVAC systems and equipment. Videotape and edit training sessions. Submit two (2) videotapes for Owners future use and reference.
14. Submit six (6) sets of all documents.

1.4 WORK UNDER OTHER CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

1.5 USE OF PREMISES

- A. General: Each Contractor shall have limited use of premises for construction operations as indicated on Drawings by the Contract limits.

- B. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - a. Owner Occupancy: Allow for Owner occupancy of Project site and use by the public.
 - b. Driveways and Entrances: Keep driveways parking garage, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Use of Existing Building: Maintain existing building in a weather tight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

1.6 OWNER'S OCCUPANCY REQUIREMENTS

- A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits, unless otherwise indicated.
 - a. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
 - b. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
- B. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
 - a. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
 - b. Obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy.
 - c. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed.

1.7 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the CSI/CSC's "MasterFormat" numbering system.
 - a. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.

- b. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - a. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 - b. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.8 MISCELLANEOUS PROVISIONS

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 230000

SECTION 230713.1 – PRE-ENGINEERED, PRE-INSULATED
PHENOLIC RECTANGULAR OUTDOOR DUCTWORK

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, and Division 1 Specifications Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:
 - 1. Pre-engineered, pre-insulated rectangular outdoor ductwork systems.
- B. This section does not include:
 - 1. Air passages rated over a continuous internal static pressure of 10" w.g. positive, 10" negative, or with test pressure rating over: 10" w.g. startup and 10" w.g. negative (as documented on product labeling).
- C. Related Sections:
 - 1. Section 233113 "Metal Ducts".

1.3 SUBMITTALS

- A. Product data: For each type of product indicated.
- B. Shop drawings: Fabrication, assembly, and installation, including plans, elevations, sections, components, and attachments to other work including.
 - 1. Duct layout indicating sizes and pressure classes.
 - 2. Elevation of top of ducts.
 - 3. Dimensions of main duct runs from building grid lines.
 - 4. Fittings.
 - 5. Penetrations through fire-rated and other partitions.
 - 6. Color selected by Architect.
- C. Coordination Drawings: Plans, drawn to scale, showing coordination general construction, building components, and other building services.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:

Ulster County BOCES/
Referendum Projects Y2022-2028 at
Admin/MHRIC (New Paltz Campus)
NYSED # 62-90-00-00-1-003-016

230713.1-1
ADD NO. 2

#4.1342.24

1. Outdoor ductwork system shall be installed by competent field mechanics who demonstrate competence in the HVAC industry and are certified by the product manufacturer. Installation practices must adhere to the manufacturer's installation manual that is current at the time of product installation.

1.5 CERTIFICATIONS

- A. Duct Leakage Class, follow SMACNA Leakage Class 3 or less.
- B. Outdoor ductwork system shall incorporate a fortified inner liner compliant to UL (C-UL) 181 Standard for Safety Listed, Class 1 system, with included testing and passing the following:
 1. Test for Surface Burning Characteristics
 2. Flame Penetration Test
 3. Burning Test
 4. Mold Growth and Humidity Test
 5. Low Temperature Test and High Temperature Test
 6. Puncture Test
 7. Static Load Test
 8. Impact Test
 9. Pressure Test and Collapse (negative pressure) Test
 10. High Temperature and Humidity for 90 days
 11. Cone Calorimeter
 12. ASTM E2257 Standard Test Method for Room Fire Test of Wall and Ceiling Materials and Assemblies
 13. ASTM E 84 tested, Tunnel Test, does not exceed 25 flame spread, 50 smoke developed.
 14. DW144, Class B
 15. NRTL product approval, (Subpart S of 29 CFR Part 1910, OSHA)
 16. ASTM C 423 noise reduction
 17. ASTM E 96/E 96M Procedure A for permeability
 18. ASTM C 1071 for erosion
 19. ASTM C 518: 2004, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
 20. UL 723, Test for Surface Burning Characteristics of Building Materials

- 21. NFPA Compliance:
 - a. NFPA 90A, "Installation of Air Conditioning and Ventilating Systems"
 - b. NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems"
 - c. NFPA 255, "Standard Method of Test of Surface Burning Characteristics of Building Materials"
- C. Outdoor ductwork system outer shell shall be of UV stable construction with included testing as following:
 - 1. UL-94 Flammability V-0
 - 2. ASTM D-638 Tensile Strength of 6250 psi
 - 3. ASTM D-790 Flexible Strength of 11,000 psi
 - 4. ASTM D-4226 Drop Impact Resistance
 - 5. ASTM D-4216 Cell Classification

1.6 PRODUCT DELIVERY AND STORAGE

- A. Prevent objectionable aesthetic damage to the outer surface of duct segments during transport and storage.
- B. Store duct segments under cover and protect from excessive moisture prior to installation.

PART 2 – PRODUCTS

2.1 PRE-ENGINEERED, PRE-INSULATED PHENOLIC RECTANGULAR OUTDOOR DUCTWORK

- A. Available Manufacturers: Subject to compliance with the requirements, manufacturers offering products that may be incorporated into the work include, but are not limited to:
 - 1. Thermaduct; Thermaduct, LLC.
 - 2. Pro-R Rectangle; Ducts and Cleats.
 - 3. Tuff Duct; Hranec Corp.
- B. Products shall not contain asbestos, lead, mercury, or mercury compounds.
- C. Panel: Ductwork panel shall be constructed as follows:
 - 1. The panel shall be manufactured of CFC-free closed cell rigid thermoset resin thermally bonded on both sides to a factory applied .001" aluminum foil facing reinforced with a fiberglass scrim.

2. The thermal conductivity shall be no greater than 0.146BTU • in/Hr •ft²•°F at 75 deg F mean temperature.
3. The density of the inner foam shall not be less than 3.5 pcf with a minimum compressive strength of 28 psi.
4. Maximum Temperature: Continuous rating of 185 deg F inside ducts or ambient temperature surrounding ducts.
5. Permeability: 0.00 perms maximum when testing according to ASTM E 96/E 96M, Procedure A.
6. Antimicrobial Agent: Additive of antimicrobial shall not be used but instead, raw product mass must pass UL bacteria growth testing.
7. Noise-Reduction Coefficient: 0.05 minimum when testing according to ASTM C 423, Mounting A.
8. Required Markings: All interior duct liners shall bear UL label and other markings required by UL 181 on each full sheet of duct panel; UL ratings for internal closure materials.
9. All insulation materials shall be closed cell with a closed cell content of >90%.
10. R-Value: Minimum R-12

D. Closure Materials:

1. Internal: Internal closure material shall be one of the following:
 - a. Silicone V-Groove adhesive.
 - b. High temperature, high strength, UL181A-P foil tape with coated cold weather acrylic adhesive.
2. External: External closure material shall be one of the following:
 - a. Polymeric sealing system.
 - b. Metal roof adhesive sealant.
3. Duct Connectors: Duct connectors shall be the following:
 - a. Factory manufactured galvanized 4-bolt flange.

E. Outdoor Cladding: The top surface shall be sloped to prevent the buildup of water on top of the duct. The exterior cladding shall be constructed of one of the following:

1. UV stable 0.04" high impact resistant titanium infused vinyl.
2. Galvanized steel pre-coated with a UV stable .20-.30 mil primer baked on finish with a .70-.80 mil polyester topcoat.
3. 0.040" Pre-finished embossed aluminum.
4. Pre-finished embossed color clad steel.

- F. Flange Coverings: Flanges shall be field sealed airtight before flange covers are installed. Flange coverings shall be one of the following:
 - 1. Foam tape insulation with molded 39 mil covers.
 - 2. Air gap (heating only applications) with molded 39 mil covers.
 - 3. Pre-coated galvanized steel.
- G. Reinforcement
 - 1. Ductwork shall be designed and built with adequate reinforcement to both; withstand air pressure forces from within the duct from blower pressure and shall be built to handle expected snow load for the location where the ductwork is being installed.
- H. Weight
 - 1. Ductwork shall provide low weight stresses on the building framing and support members. Hangers and tie- downs are to be detailed in the manufacturer's installation manual for review prior to installation.

PART 3 – EXECUTION

3.1 Shop Fabrication

- A. Certification:
 - 1. Ducts shall be detailed and fully factory manufactured. All fabrication labor will be certified "yellow label" building trade professionals, compliant to SMWIA and SMACNA labor guidelines (work preservation observed).
- B. Fabrication:
 - 1. Fabricated joints, seams, transitions, reinforcement, elbows, branch connections, access doors and panels, and damage repairs according to manufacturer's written and detailed instructions.
 - 2. Fabricated 90-degree mitered elbows to include turning vanes.
 - 3. Fabricated duct segments in accordance with manufacturer's written details.
 - 4. Duct fittings shall include 6 inches of connecting material, as measured, from last bend line to the end of the duct. Connections on machine manufactured duct may be 4 inches.
 - 5. Fabricated duct segments utilizing v-groove method of fabrication: Factory welded or cohesively bonded seams will apply to fully manufactured ductwork and fittings. Internal seams will be supplied with an unbroken layer of low VOC silicone or bonding (for paint shop applications). Each duct segment will be factory supplied with either aluminum grip pro-file or pre-insulated duct connectors in accordance with

manufacturer's detailed submittal guide. Applied duct reinforcement to protect against side deformation from both positive and negative pressure per manufacturer's design guide based on specified ductwork size and system pressure.

6. Designed and fabricated duct segments and fittings will be in accordance with "SMACNA Phenolic Duct Construction Standards" latest edition.
7. Both positive and negative ductwork and fittings shall be constructed to incorporate a UL Listed as a Class 1 air duct to Standard for Safety UL 181 liner with an exterior clad for permanent protection against water intrusion.
8. Duct shall be constructed to exceed requirements for snow and wind loads.

3.2 DUCT INSTALLATION

- A. Duct segments shall be installed per the manufacturer's installation manual by competent HVAC installers.
- B. Install ducts and fittings to comply with manufacturer's installation instructions as follows:
 1. Install ducts with fewest possible joints.
 2. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.
 3. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
 4. Protect duct interiors from the moisture, construction debris and dust, and other foreign materials. Comply with SMACNA's "Duct Cleanliness for New Construction Guidelines."
 5. Use prescribed duct support spacing as described in this specification and manufacturer's recommendations.
- C. Air Leakage: Duct air leakage rates to be in compliance with "SMACNA HVAC Air Duct Leakage Test Manual" latest version per applicable leakage class based on pressure.

3.3 HANGER AND SUPPORT INSTALLATION

- A. Contractor to ensure that the ductwork system is properly and adequately supported per the manufacturer's installation manual.
 1. Ensure that the chosen method is compatible with the specific ductwork system requirements per the manufacturer's installation detail drawings. Pre-installation should be provided prior to work commencement by installing contractor for approval.
 2. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

- B. Supports on straight runs of ductwork shall be positioned in accordance with the

manufacturer's installation manual provided prior to work commencement.

- C. Ductwork shall be supported at changes of direction, at branch duct connections, tee fittings, parallel under turning vanes and all duct accessories such as dampers, etc.
- D. The load of such accessories to the ductwork shall be neutralized by accessory support.

3.4 FIELD QUALITY CONTROL

- A. Inspection: Contractor shall provide outdoor ductwork manufacturer with any required, fully completed, post installation forms with jobsite photos for review.
- B. Remove and replace duct system where initial post installation submission indicate that it does not comply with specified requirements.
- C. Perform additional testing and inspecting, at the Contractor's expense, to determine compliance of replaced or additional work with specified requirements.

END OF SECTION 230713.1

SECTION 230993 – SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes control sequences for HVAC systems, subsystems, & equipment.

1.2 RELATED DOCUMENTS

- A. Drawings & general provisions of the Contract, including General and Supplementary Conditions & Division 01 Specification Sections, apply to this Section.
- B. Related Sections include the following Division 23 Section Instrumentation & Control for HVAC for control equipment & devices & for submittal requirements.
- C. Reference the ATC diagrams for Unit configuration, ATC devices, point types & locations

1.3 COORDINATED SEQUENCES & ATC DIAGRAMS

- A. Project ATC Diagrams: The Sequences of Operations detailed below are predicated on the specific Project ATC diagrams. Reference the ATC Diagrams for the Unit configuration, ATC control devices, point types & locations for each device.
- B. Control Sequence Descriptions: The control sequences below describe all necessary equipment operation including those operations that are provided by the HVAC Equipment Unit manufacturers (UM) & those as part of the Automatic Temperature Controls system (ATC). Due to the nature of the project, the control sequences will require field adjustment and modification. The ATC contractor shall provide all modifications to the sequences as requested by the MEP during the commissioning of the BMS.

1.4 RESPONSIBILITIES

- A. Automatic Temperature Control (ATC) Contractor's Responsibilities: The ATC contractor (ATC) shall provide, field install & wire all necessary software & hardware, wiring, & computing equipment in compliance with this specification. The ATC contractor shall also provide programming, interface design, startup services by competent technicians that regularly employed by the ATC contractor with full responsibility for proper operation of the control system including debugging & proper calibration of each component in the entire system. The ATC contractor (ATC) shall provide power supply wiring to all external control panels, actuators (valves, dampers, etc.), including low voltage transformers, including the power for devices required for operation of BACnet communication as provided as part of complete HVAC Equipment Unit Manufacturer provided BACnet packaged.

1.5 ROOFTOP 100% DEDICATED OUTSIDE AIR SYSTEM (GAS HEATING, DX COOLING & ENERGY RECOVERY) (DOAS-1):

- A. General:
The BAS Contractor shall provide a BacNet-based DDC controller and provide all required controls to perform the sequence of operations below.

- B. The space is treated as a single control Zone; comfort conditioned and ventilated by a 100% dedicated outside air system. DOAS that is capable of 100% outdoor air for economizer operation, and provide energy savings. The DOAS unit is also equipped with part-load dehumidification hot gas reheat. The unit is controlled by space temperature sensor for heating and cooling output to maintain a 70 deg. F (adj.) Space Temperature. The unit is indexed for occupied/unoccupied mode of operation from the LAN gateway.
- C. Zone Optimal Start:
The controller shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.
- D. Zone Unoccupied Override:
The space sensors have a local occupancy override button with a led indication light. When the user depresses the occupancy override button, the led will light and the unit will index into the occupied mode of operation for up to 3 hours (adj). Upon the expiration of the override, the unit is placed into its scheduled mode of operation.
- E. Unoccupied mode:
The fans are off. The outdoor damper will remain closed. The DX cooling and gas heating are "off". When the space temperature falls below 60 deg. F (adj) the supply air fan will cycle on until the space temperature is above 62 deg. F. (adj). During the unoccupied mode the DX cooling and gas heat will remain off.
- F. Occupied mode:
The fans are on and will continue to run to maintain the space temperature set point. The manufacturer's economizer will proportionately position the economizer dampers. A current switch will monitor the status of the unit fans. An alarm will be initiated whenever the fan is not in the anticipated operation.
- G. Heat Recovery Wheel:
The DDC controller or Manufacturer provided Heat Recovery Wheel Module shall run the heat recovery wheel for energy recovery as follows:
1. Cooling Recovery Mode:
The controller shall measure the heat wheel discharge air temperature and run the heat wheel to maintain a set point of 2°F (adj) less than the unit supply air temperature set point. The heat wheel shall run for cool recovery whenever the unit's return air temperature is 5°F (adj) or more below the outside air temperature, the unit is in a cooling mode, and the supply fan is on.
 2. Heating Recovery Mode:
The controller shall measure the heat wheel discharge air temperature and run the heat wheel to maintain a set point of 2°F (adj.) less than the unit supply air temperature set point. The heat wheel shall run for heat recovery whenever the unit's return air temperature is 5°F (adj) or more above the outside air temperature, the unit is in a heating mode, and the supply fan is on.
 3. Dehumidification:
The unit will be provided with a hot gas reheat coil which has the ability to remove the moisture out of the space after the dry bulb temperature set point has been satisfied. The hot gas reheat coil will provide a controlled amount of reheat to the space to meet actual dehumidification requirement. When the space temperature is satisfied but the space humidity is above the humidity set point, the compressors will continue to operate and the factory controlled hot gas reheat control valves will

modulate the amount of hot gas refrigerant gas passing through the reheat coil. The valve positions are controlled to provide a reset supply air temperature set point from a field supplied 0-10VDC reset signal at the BMS system.

- A) Safeties and alarms:
Alarms shall be generated if any equipment for which a status feedback sensor is specified fails to operate when commanded or does not operate within the parameters (pressure, temperature, etc.) set by the Owner and/or the requirements of the engineer.
Alarms shall be generated if any equipment for which a status sensor is specified fails to operate when commanded. Alarms shall be generated when the discharge air temperature sensor detects a temperature of 50 deg. F. (adj) or below for greater than 5 minutes (adj).
Alarms shall be generated when the fan indication is not indicating the correct status.
Alarms shall be generated for VFD Fault.
Alarms shall be generated when space temperature is 5 deg. F. (adj) above/below set point.
The system will be de-energized when the DDC receives a signal from the FACP system. An alarm will be initiated.
- H. Heating mode enable:
When the outdoor air temperature drops below 65 deg. F. (adj), the DDC controller will enable the use of the heating mode.
- I. Cooling mode enable:
When the outdoor air temperature rises above 65 deg. F. (adj), the DDC controller will enable the use of the mechanical cooling mode.
- J. Heating mode:
The space sensor will, through the DDC controller, index the gas furnace to maintain the space temperature set point. If the space temperature falls below the space temperature set point, the controller will index the gas furnace "on" until the space temperature rises to the space set point. If the space temperature rises above the space temperature set point, the controller will index the gas furnace "off" until the space temperature falls to the space set point. An averaging type low limit discharge air sensor shall override the control of gas furnace to prevent the discharge air from falling below 55 deg. F. (adj) regardless of space temperature.
- K. Warm-up mode:
Prior to occupancy mode, the unit will go into a warm-up mode, if the space temperature falls below 66 deg. F. (adj). The economizer dampers will go to the full recirculation position, and the gas furnace will be energized to maintain a discharge air temperature of 85 deg. F. (adj). Once the return air temperature or average space temperature returns above 70 deg. F. (adj) the warm-up mode will be deactivated and the unit will return to normal occupied mode.
- L. Free cooling mode:
The DDC Controller will enable the economizer mode when the outside air temperature is less than 65F (adj); the outside air enthalpy is less than 22 BTU/h (adj) and the outside air temperature is less than the zone air temperature and proportionately position the economizer dampers. A mixed air averaging type sensor will maintain a mixed air temperature set point (55 deg. F.) (adj) by modulating the mixed air dampers.
- M. Mechanical cooling mode:

When the use of mechanical cooling is selected the space temperature sensor will, through the DDC controller, stage the DX cooling to maintain the space air temperature set point. If the space air temperature rises above the space temperature set point, the controller will stage the DX cooling "on" until the space air temperature falls to the space set point. If the space air temperature falls below the space temperature set point, the controller will stage the DX cooling "off". During the mechanical cooling mode the gas furnace will remain "off".

N. Freeze Protection:
The unit will shut down and generate an alarm upon receiving a freeze status.

O. Outside Air Damper:
The outside air damper will open anytime the unit runs and will close anytime the unit stops. The supply fan will start only after the damper status has proven the damper is open. The outside air damper will close 4sec (adj.) after the supply fan stops.

1.6 OUTDOOR PAD MOUNTED 100% DEDICATED OUTSIDE AIR SYSTEM (HEAT PUMP HEATING, SUPPLEMENTAL GAS HEATING, DX COOLING & ENERGY RECOVERY WHEEL) (DOAS-2):

A. General:
The BAS Contractor shall provide a BacNet-based DDC controller and provide all required controls to perform the sequence of operations below.

B. The space is treated as a single control Zone; comfort conditioned and ventilated by a 100% dedicated outside air system. DOAS that is capable of 100% outdoor air for economizer operation, and provide energy savings. The DOAS unit is also equipped with part-load dehumidification hot gas reheat. The unit is controlled by space temperature sensor for heating and cooling output to maintain a 70 deg. F (adj.) Space Temperature. The unit is indexed for occupied/unoccupied mode of operation from the LAN gateway.

C. Zone Optimal Start:
The controller shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

D. Zone Unoccupied Override:
The space sensors have a local occupancy override button with a led indication light. When the user depresses the occupancy override button, the led will light and the unit will index into the occupied mode of operation for up to 3 hours (adj). Upon the expiration of the override, the unit is placed into its scheduled mode of operation.

E. Unoccupied mode:
The fans are off. The outdoor damper will remain closed. The DX cooling, heat pump heating and supplemental gas heating are "off". When the space temperature falls below 60 deg. F (adj) the supply air fan will cycle on until the space temperature is above 62 deg. F. (adj). During the unoccupied mode the DX cooling, heat pump heating, and supplemental gas heat will remain off.

F. Occupied mode:
The fans are on and will continue to run to maintain the space temperature set point. The manufacturer's economizer will proportionately position the economizer dampers. A current switch will monitor the status of the unit fans. An alarm will be initiated whenever the fan is not in the anticipated operation.

G. Heat Recovery Wheel:

The DDC controller or Manufacturer provided Heat Recovery Wheel Module shall run the heat recovery wheel for energy recovery as follows:

1. Cooling Recovery Mode:
The controller shall measure the heat wheel discharge air temperature and run the heat wheel to maintain a set point of 2°F (adj) less than the unit supply air temperature set point. The heat wheel shall run for cool recovery whenever the unit's return air temperature is 5°F (adj) or more below the outside air temperature, the unit is in a cooling mode, and the supply fan is on.
2. Heating Recovery Mode:
The controller shall measure the heat wheel discharge air temperature and run the heat wheel to maintain a set point of 2°F (adj.) less than the unit supply air temperature set point. The heat wheel shall run for heat recovery whenever the unit's return air temperature is 5°F (adj) or more above the outside air temperature, the unit is in a heating mode, and the supply fan is on.
3. Dehumidification:
The unit will be provided with a hot gas reheat coil which has the ability to remove the moisture out of the space after the dry bulb temperature set point has been satisfied. The hot gas reheat coil will provide a controlled amount of reheat to the space to meet actual dehumidification requirement. When the space temperature is satisfied but the space humidity is above the humidity set point, the compressors will continue to operate and the factory controlled hot gas reheat control valves will modulate the amount of hot gas refrigerant gas passing through the reheat coil. The valve positions are controlled to provide a reset supply air temperature set point from a field supplied 0-10VDC reset signal at the BMS system.
 - A) Safeties and alarms:
Alarms shall be generated if any equipment for which a status feedback sensor is specified fails to operate when commanded or does not operate within the parameters (pressure, temperature, etc.) set by the Owner and/or the requirements of the engineer.
Alarms shall be generated if any equipment for which a status sensor is specified fails to operate when commanded. Alarms shall be generated when the discharge air temperature sensor detects a temperature of 50 deg. F. (adj) or below for greater than 5 minutes (adj).
Alarms shall be generated when the fan indication is not indicating the correct status.
Alarms shall be generated for VFD Fault.
Alarms shall be generated when space temperature is 5 deg. F. (adj) above/below set point.
The system will be de-energized when the DDC receives a signal from the FACP system. An alarm will be initiated.
- H. Heating mode enable:
When the outdoor air temperature drops below 65 deg. F. (adj), the DDC controller will enable the use of the heating mode.
- I. Cooling mode enable:
When the outdoor air temperature rises above 65 deg. F. (adj), the DDC controller will enable the use of the mechanical cooling mode.
- J. Heating mode:

The space sensor will, through the DDC controller, index the heat pump heating and supplemental gas heating to maintain the space temperature set point. If the space temperature falls below the space temperature set point, the controller will index the heat pump heating "on" until the space temperature rises to the space set point. If the heat pump heating is unable to keep up with the space load, the controller will index the supplemental gas heating "on" until the space temperature rises to the space set point. If the space temperature rises above the space temperature set point, the controller will index the heat pump heating and/or gas furnace "off" until the space temperature falls to the space set point. An averaging type low limit discharge air sensor shall override the control of the heat pump heating and gas furnace to prevent the discharge air from falling below 55 deg. F. (adj) regardless of space temperature.

- K. Warm-up mode:
Prior to occupancy mode, the unit will go into a warm-up mode, if the space temperature falls below 66 deg. F. (adj). The economizer dampers will go to the full recirculation position, and the heat pump heating, and if required gas furnace, will be energized to maintain a discharge air temperature of 85 deg. F. (adj). Once the return air temperature or average space temperature returns above 70 deg. F. (adj) the warm-up mode will be deactivated and the unit will return to normal occupied mode.
- L. Free cooling mode:
The DDC Controller will enable the economizer mode when the outside air temperature is less than 65F (adj); the outside air enthalpy is less than 22 BTU/h (adj) and the outside air temperature is less than the zone air temperature and proportionately position the economizer dampers. A mixed air averaging type sensor will maintain a mixed air temperature set point (55 deg. F.) (adj) by modulating the mixed air dampers.
- M. Mechanical cooling mode:
When the use of mechanical cooling is selected the space temperature sensor will, through the DDC controller, stage the DX cooling to maintain the space air temperature set point. If the space air temperature rises above the space temperature set point, the controller will stage the DX cooling "on" until the space air temperature falls to the space set point. If the space air temperature falls below the space temperature set point, the controller will stage the DX cooling "off". During the mechanical cooling mode the gas furnace will remain "off".
- N. Freeze Protection:
The unit will shut down and generate an alarm upon receiving a freeze status.
- O. Outside Air Damper:
The outside air damper will open anytime the unit runs and will close anytime the unit stops. The supply fan will start only after the damper status has proven the damper is open. The outside air damper will close 4sec (adj.) after the supply fan stops.

1.7 ENERGY RECOVERY VENTILATORS (ERV-1, ERV-2 & ERV-3)

- A. The ATC contractor (ATC) shall provide a Control Relay (R) & a Current Switch (CS) to monitor the status of the energy recovery ventilators. An alarm shall be generated when the status of the Fan does not meet the commanded sequence after 30 seconds.
- B. "Unoccupied" & "Warm-up" mode of operations: The energy recovery ventilator's fans shall remain off during the "Unoccupied" mode & warm-up mode of operations and the intake/exhaust motorized dampers shall close "OFF".

- C. “Occupied” mode: The energy recovery ventilator’s fan shall be on when the associated HVAC Equipment is in the “Occupied” mode. The ERV associated motorized intake/exhaust dampers shall open “ON” position when unit enables.

1.8 HEAT PUMP AC UNITS (AC-A1, AC-A2, AC-A3, AC-B, AC-C, AC-D, AC-E, AC-F, AC-G, AC-H, AC-I, AC-J, & ACCU-1 – ACCU-8)

- A. The HP/AC Monitoring Manufacturer (UM) shall provide a BACnet MS/TP communications card; all time to coordinate the integration to the BMS. The ATC contractor (ATC) shall provide the BACnet MS/TP communications wiring to the CRAC BACnet MS/TP communications board; provide all time to integrate the BACnet points.
- B. Scheduling: The HP/AC Monitoring shall be enabled (ENABLE) from the BMS
- C. Control: A Unit manufacturer Temperature (TEMP) and Humidity (RH) sensors shall monitor and control the space conditions through the unit’s own internal controls. A Liquid Detection sensor (LDS) mounted in the drip pan shall be hard-wired to shut down the HP/AC Monitoring upon detection of liquid.
- D. Monitoring and Integration: A BMS DDC Space Temperature sensor (RMT) and Humidity sensor (RMRH) shall monitor the space conditions. The BMS shall monitor the alarm status (ALARM) of the CRAC through both a hard-wired connection and BACnet integration.
- E. Operator and Graphical User Interface requirements: The Building Management System Control Diagrams and the tables below shall provide for Operator Control of the HVAC equipment through an accurate depiction of the devices within the unit, along with the I/O points, parameters and alarms shall be displayed on a customized 3-dimensional web-based graphic.

1. Input/Output Points:

HP/AC Monitoring	I/O Points						
Point Name/Description/Legend							Device
X = DDC I/O L = Local Control A = Adjustable O = Override							
HP/AC Monitoring Enable				X	X	X	
Space Temperature (RMT)	X				X	X	TS-W
Space Humidity (RMRH)	X				X	X	RH-W
CRAC Alarm (ALARM)			X		X	X	
Analog Trends shall record data samples every 5 minutes, unless noted otherwise.							
Binary Trends shall record data samples every Change of Value (COV)							

2. Control Parameters and Settings

HP/AC Monitoring	Parameters and Settings			
Parameter Name/Description X = Display on GUI C = Concealed A = Adjustable				Initial-Setting
Setpoint and/or Parameters	A	X	C	Alarm settings
Alarm Reset	A	X	X	
Analog Trends shall record data samples every 5 minutes, unless noted otherwise. Binary Trends shall record data samples every Change of Value (COV)				

3. Alarms

HP/AC Monitoring	Alarms and Conditions		
Alarm Name	Point	Normal	Alarm
Unit Alarms	BACnet	As applicable	As applicable

F. BMS system will control Occupied and Unoccupied Modes through time schedule.

G. Occupied:
The fan shall run continuously. On a call for heating the compressor shall cycle the heating stage(s) to maintain actual setpoint. On a call for cooling the compressor shall cycle the cooling stage(s) to maintain actual setpoint. Time delays for cycling stages shall follow the heat pump manufacturer's specifications. The high and low setpoint knob limits shall be 68 degrees F and 75 degrees F (adjustable). The high and low limits do not need to be displayed at the front-end, but do need to be accessible parameters in the program.

H. Unoccupied:
Fan and compressor shall cycle to maintain the space temperature between the unoccupied heating and cooling setpoints. The unoccupied heating space setpoint shall be 60 degrees F (adjustable setpoint) and the unoccupied cooling setpoint shall be 80 degrees F (adjustable setpoint).

1.9 FINTUBE, RADIATORS (FTR-1, FTR-2 & FTR-3)

A. Scheduling and control: Controlled by local thermostatic valve.

1.10 WALL-MOUNTED OUTDOOR AIR CONDITIONING UNITS (WPAC-1, WPAC-2, & WPAC-3)
WPAC-1, WPAC-2, & WPAC-3: The contractor shall provide and install a BacNet-based DDC controller and provide all required controls to perform the sequence of operation below.

A. The units will run on a 24/7 (adj.) schedule. The unit is controlled by manufacturer provided controller with internal temperature and humidity sensor. One (1) additional space temperature sensor shall be installed behind the existing server racks for heating and cooling output to maintain a 68 deg. F (adj.) Space Temperature. Two (2) units will run while one (1) will remain off. These units will be controlled in a lead/lag configuration on a

seven (7) day cycle. The BMS controls manufacturer/contractor shall connect to the unit control panel and monitor all control points at the central BMS.

- B. Free cooling mode: The DDC Controller will enable the economizer mode when the outside air temperature is less than 65F (adj); the outside air enthalpy is less than 22 BTU/h (adj) and the outside air temperature is less than the zone air temperature and proportionately position the economizer dampers. A mixed air averaging type sensor will maintain a mixed air temperature set point (55 deg. F.) (adj) by modulating the mixed air dampers.
- C. Mechanical cooling mode: When the use of mechanical cooling is selected the space temperature sensor will, through the DDC controller, stage the DX cooling to maintain the space air temperature set point. During the mechanical cooling mode the electric heater will remain "off".
- D. Heating mode enable: When the space temperature drops below 60 deg. F. (adj), the DDC controller will enable the use of the heating mode.
- E. Cooling mode enable: The unit shall operate in cooling mode unless the space temperature drops below the "heating mode enable" temperature. The unit will disable cooling when both the internal temperature sensor in the control panel, and the remote space temperature sensor are both satisfied.
- F. Heating mode: The space sensor will, through the DDC controller, index the electric heater to maintain the space temperature set point. If the space temperature falls below the space temperature set point, the controller will index the electric heater "on" until the space temperature rises to the space set point. If the space temperature rises above the space temperature set point, the controller will index the electric heater "off" until the space temperature falls to the space set point.

1.11 GLOBAL OUTSIDE AIR TEMPERATURE, HUMIDITY & CO2:

- A. The ATC contractor (ATC) shall provide, install & wire an Outside Air temperature & humidity sensors with weather/sunshields enclosure on the northern exposure of the building connected to central BMS.
- B. Operator & Graphical User Interface requirements: The Building Management System Control Diagrams and the tables below shall provide for Operator Control of the HVAC equipment through an accurate depiction of the devices within the unit, along with the I/O points, parameters and alarms shall be displayed on a customized 3-dimensional web-based graphic.

Outside Air Temp, Humidity & CO ₂	I/O Points				Software Point				Initial- Alarm Setting
Point Name/Description/Legend X = DDC I/O L=Local Control A = Adjustable O = Override									
Outside Air Temperature (OAT)	X				X		X	X	
Outside Air Humidity (OAH)	X				X		X	X	
Outside Air CO2 Levels (OACO2)	X				X		X	X	

Highest Values (Past24 hours)					X					X	
Lowest Values (Past 24 Hours)					X					X	
Calculated ° Days (Monthly)					X			X		X	Calc.
Calculated Enthalpy (btu/lbs.)					X			X		X	Calc.

1.12 GRAPHICAL USER INTERFACE (GUI)

- A. Graphical User Interface – Workstation: The ATC contractor (ATC) shall provide a TCP/IP connected Workstation with the ability to read, adjust & override the various parameters for system control; provide each of the DDC controlled equipment with graphics with a minimum of the complete I/O point listing, their associated setpoints & any other variable for the adjustment & operation of the system.
- B. Graphical User Interface - Liquid Crystal Display (LCD): The ATC contractor (ATC) shall provide a Panel Mounted connected Liquid Crystal Display the ability to read, adjust & override the various parameters for system control. Provide each of the DDC controlled equipment with graphics with a minimum of the complete I/O point listing, their associated setpoints & any other variable for the adjustment & operation of the system. Demonstrate the operation of the system to the owner prior to acceptance of the system.
- C. Graphical User Interface Demonstration: Demonstrate the Graphics, trending & communications setup to the owner prior to acceptance of the system.
- D. Alarm Notification: The system shall notify the owner of an alarming condition via a Visual Alerts & Audible sounds locally at the GUI. If connected via a TCP/IP connection, an e-mail sent depending on user configuration. Any maintenance worker shall be capable of interrogating the alarm using the Laptop workstation browsers (via. the internet)

1.13 COMMISSIONING

- A. Startup: The ATC system shall be set up & checked by factory trained competent technicians skilled in the setting & adjustment of the ATC equipment used in this project. The technicians are to be experienced in the type of HVAC systems associated with this project.
- B. Demonstration: At the completion of the commissioning, The ATC contractor (ATC) shall: demonstrate the sequence of operations for each system to the Architect or representative.

1.14 OWNER TRAINING

- A. The ATC contractor (ATC) shall provide 16 hours of training to the Owner's personnel. The Training is to include the operation & maintenance of the control system. Training shall be provided after the system has been commissioned & demonstrated to the Architect or his representative.

2 PRODUCTS (Not Applicable)

3 EXECUTION (Not Applicable)

END OF SECTION 230993

SECTION 231123 – FACILITY NATURAL-GAS PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes fuel gas piping within the building. Products include the following:
 - 1. Pipe, tube, fittings, and joining materials.
 - 2. Protective pipe and fitting coating.
 - 3. Piping specialties.
 - 4. Specialty valves.
 - 5. Pressure regulators.

1.3 PROJECT CONDITIONS

- A. Gas System Pressures: Two pressure ranges. Primary pressure is more than 0.5 psig but not more than 2.0 psig and is reduced to secondary pressure of 0.5 psig or less.
- B. Design values of fuel gas supplied for these systems are as follows:
 - 1. Nominal Heating Value: 1000 Btu/cu. ft.
 - 2. Nominal Specific Gravity: 0.6.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Specialty valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.
 - 2. Pressure regulators. Include pressure rating, capacity, and settings of selected models.
- B. Shop Drawings: For fuel gas piping. Include plans and attachments to other work.
 - 1. Wiring Diagrams: Power, signal, and control wiring.
- C. Welding certificates.

- D. Field quality-control test reports.
- E. Operation and Maintenance Data: For natural gas specialties and accessories to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX.
- B. Electrical Components and Devices: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. NFPA Standard: Comply with NFPA 54, "International Fuel Gas Code."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Handling Flammable Liquids: Remove and legally dispose of liquids from drips in existing gas piping. Handle cautiously to avoid spillage and ignition. Notify fuel gas supplier. Handle flammable liquids used by Installer with proper precautions and do not leave on premises from end of one day to beginning of next day.

1.7 COORDINATION

- A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 3.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 PIPING MATERIALS

- A. Refer to Part 3 "Piping Applications" Article for applications of pipe, tube, fitting, and joining materials.

2.3 PIPES, TUBES, FITTINGS, AND JOINING MATERIALS

- A. Steel Pipe: ASTM A 53/A 53M; Type E or S; Grade B; black. Wall thickness of wrought-steel pipe shall comply with ASME B36.10M.
 - 1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern, with threaded ends according to ASME B1.20.1.
 - 2. Steel Threaded Fittings: ASME B16.11, forged steel with threaded ends according to ASME B1.20.1.
 - 3. Steel Welding Fittings: ASME B16.9, wrought steel or ASME B16.11, forged steel.
 - 4. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends according to ASME B1.20.1.
 - 5. Cast-Iron Flanges and Flanged Fittings: ASME B16.1, Class 125.
 - 6. Joint Compound and Tape: Suitable for natural gas.
 - 7. Steel Flanges and Flanged Fittings: ASME B16.5.
 - 8. Gasket Material: Thickness, material, and type suitable for natural gas.

2.4 PROTECTIVE COATING

- A. Furnish pipe and fittings with factory-applied, corrosion-resistant polyethylene coating for use in contact with materials that may corrode the pipe.

2.5 PIPING SPECIALTIES

- A. Flexible Connectors: ANSI Z21.24, copper alloy.
- B. Quick-Disconnect Devices: ANSI Z21.41, convenience outlets and matching plug connector.

2.6 SPECIALTY VALVES

- A. Valves, NPS 2 (DN 50) and Smaller: Threaded ends according to ASME B1.20.1 for pipe threads.
- B. Valves, NPS 2-1/2 (DN 65) and Larger: Flanged ends according to ASME B16.5 for steel flanges and according to ASME B16.24 for copper and copper-alloy flanges.
- C. Appliance Connector Valves: ANSI Z21.15 and CSA International listed.
 - 1. Manufacturers:
 - a. American Valve Inc.
 - b. B&K Industries, Inc.
 - c. Brass Craft Manufacturing Co.

- d. Cimberio Valves, S. p. A.
 - e. Conbraco Industries, Inc.; Apollo Div.
 - f. E. M. Plastic and Electric Products, Ltd.; Neo Valve Div.
 - g. JMF Company.
 - h. Jomar International Ltd.
 - i. Key Gas Components, Inc.
 - j. Legend Valve and Fitting, Inc.
 - k. McDonald, A. Y. Mfg. Co.
 - l. Mueller Co.; Mueller Gas Products Div.
 - m. Newman Hattersley Ltd.; Specialty Valves Div.
 - n. Robert Manufacturing Co.
 - o. State Metals, Inc.
 - p. Watts Industries, Inc.; Water Products Div.
 - q. Approved equal
- D. Gas Stops: Bronze body with AGA stamp, plug type with bronze plug and flat or square head, ball type with chrome-plated brass ball and lever handle, or butterfly valve with stainless-steel disc and fluorocarbon elastomer seal and lever handle; 2-psig minimum pressure rating.
- E. Gas Valves, NPS 2 (DN 50) and Smaller: ASME B16.33 and CSA International-listed bronze body and 125-psig pressure rating.
- 1. Manufacturers:
 - a. BMI Canada, Inc.
 - b. Crane Valves.
 - c. Dungs, Karl, Inc.
 - d. Flow Control Equipment, Inc.
 - e. Grinnell Corp.
 - f. Honeywell International Inc.
 - g. Jomar International Ltd.
 - h. KITZ Corporation.
 - i. Legend Valve and Fitting, Inc.
 - j. Lyall, R. W. & Co., Inc.
 - k. McDonald, A. Y. Mfg. Co.
 - l. Milwaukee Valve Company.
 - m. Mueller Co.; Mueller Gas Products Div.
 - n. NIBCO INC.
 - o. Red-White Valve Corp.

- p. Velan Inc.
 - q. Watts Industries, Inc.; Water Products Div.
 - r. Approved equal
- 2. Tamperproof Feature: Include design for locking.
- F. Plug Valves, NPS 2-1/2 (DN 65) and Larger: ASME B16.38 and MSS SP-78 cast-iron, lubricated plug valves, with 125-psig pressure rating.
 - 1. Manufacturers:
 - a. Flow Control Equipment, Inc.
 - b. Milliken Valve Co., Inc.
 - c. Nordstrom Valves, Inc.
 - d. Olson Technologies, Inc.; Homestead Valve Div.
 - e. Walworth Co.
 - f. Approved equal
 - 2. Tamperproof Feature: Include design for locking.
- G. General-Duty Valves, NPS 2-1/2 (DN 65) and Larger: ASME B16.38, cast-iron body, suitable for fuel gas service, with "WOG" indicated on valve body, and 125-psig pressure rating.
 - 1. Gate Valves: MSS SP-70, OS&Y type with solid wedge.
 - 2. Butterfly Valves: MSS SP-67, lug type with lever handle.
- H. Automatic Gas Valves: ANSI Z21.21, with electrical/mechanical operator for actuation by appliance automatic shutoff device.
 - 1. Manufacturers:
 - a. ASCO General Controls.
 - b. ASCO Power Technologies, LP; Division of Emerson.
 - c. ASCO Valve Canada, Division of Emerson Electric Canada Limited.
 - d. Dungs, Karl, Inc.
 - e. Eaton Corporation; Controls Div.
 - f. Eclipse Combustion, Inc.
 - g. GPS Gas Protection Systems Inc.
 - h. Honeywell International Inc.
 - i. Johnson Controls.
 - j. Approved equal
- I. Electrically Operated Gas Valves: UL 429, bronze, aluminum, or cast-iron body solenoid valve; 120-V ac, 60 Hz, Class B, continuous-duty molded coil. Include NEMA ISC 6,

Type 4, coil enclosure and electrically opened and closed dual coils. Valve position shall normally be closed.

1. Manufacturers:
 - a. ASCO General Controls.
 - b. ASCO Power Technologies, LP; Division of Emerson.
 - c. Dungs, Karl, Inc.
 - d. Eclipse Combustion, Inc.
 - e. Goyen Valve Corp.; Tyco Environmental Systems.
 - f. Magnatrol Valve Corp.
 - g. Watts Industries, Inc.
 - h. Approved equal

2.7 PRESSURE REGULATORS

- A. Description: Single stage and suitable for fuel gas service. Include steel jacket and corrosion-resistant components, elevation compensator, and atmospheric vent.

1. Manufacturers:
 - a. Service Pressure Regulators:
 - 1) American Meter Company.
 - 2) Fisher Controls International, Inc.; Division of Emerson.
 - 3) Invensys.
 - 4) National Meter Industries, Inc.
 - 5) Richards Industries, Inc.; Jordan Valve Div.
 - 6) Schlumberger Limited; Gas Div.
 - 7) Approved equal
 - b. Line Pressure Regulators:
 - 1) American Meter Company.
 - 2) Donkin, Bryan RMG Canada, Ltd.
 - 3) Eclipse Combustion, Inc.
 - 4) Fisher Controls International, Inc.; Division of Emerson.
 - 5) Invensys.
 - 6) Maxitrol Company.
 - 7) National Meter Industries, Inc.
 - 8) Richards Industries, Inc.; Jordan Valve Div.
 - 9) Schlumberger Limited; Gas Div.
 - 10) Approved equal

c. Appliance Pressure Regulators:

- 1) Canadian Meter Co., Inc.
- 2) Eaton Corporation; Controls Div.
- 3) Harper Wyman Co.
- 4) Maxitrol Company.
- 5) SCP, Inc.
- 6) Approved equal

2. NPS 2 (DN 50) and Smaller: Threaded ends according to ASME B1.20.1 for pipe threads.
3. NPS 2-1/2 (DN 65) and Larger: Flanged ends according to ASME B16.5 for steel flanges and according to ASME B16.24 for copper and copper-alloy flanges.
4. Service Pressure Regulators: ANSI Z21.80. Include 100-psig minimum inlet pressure rating.
5. Line Pressure Regulators: ANSI Z21.80 with 2-psig minimum inlet pressure rating.
6. Line Pressure Regulators: ANSI Z21.80 with 10-psig inlet pressure rating, unless otherwise indicated.
7. Appliance Pressure Regulators: ANSI Z21.18. Regulator may include vent limiting device, instead of vent connection, if approved by authorities having jurisdiction.

- B. Pressure Regulator Vents: Factory- or field-installed, corrosion-resistant screen in opening if not connected to vent piping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in for fuel piping system to verify actual locations of piping connections before equipment installation.
1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Close equipment shutoff valves before turning off fuel gas to premises or section of piping. Perform leakage test as specified in "Field Quality Control" Article to determine that all equipment is turned off in affected piping section.

3.3 PIPING APPLICATIONS

- A. Flanges, unions, transition, and special fittings with pressure ratings same as or higher than system pressure rating may be used in applications below, unless otherwise indicated.
- B. Fuel Gas Piping, 2 psig or Less - aboveground or in pipe tunnel:
 - 1. NPS 3/4 and NPS 1 (DN 20 and DN 25) Steel pipe, malleable-iron threaded fittings, and threaded joints.
 - 2. NPS 1-1/4 to NPS 2 (DN 32 to DN 50) Steel pipe, steel welding fittings, and welded joints.
 - 3. NPS 2-1/2 (DN 65) and Larger: Steel pipe, steel welding fittings, and welded joints.

3.4 VALVE APPLICATIONS

- A. Appliance Shutoff Valves for Pressure 0.5 psig or Less: Appliance connector valve or gas stop.
- B. Appliance Shutoff Valves for Pressure 0.5 to 2 psig: Gas stop or gas valve.
- C. Piping Line Valves, NPS 2 (DN 50) and Smaller: Gas valve.
- D. Piping Line Valves, NPS 2-1/2 (DN 65) and Larger: Plug valve or general-duty valve.

3.5 PIPING INSTALLATION

- A. Basic piping installation requirements are specified in Division 23 Section "Common Work Results for HVAC."
- B. Concealed Locations: Except as specified below, install concealed gas piping in airtight conduit constructed of Schedule 40, seamless, black steel pipe with welded joints. Vent conduit to outside and terminate with screened vent cap.
 - 1. Above-Ceiling Locations: Gas piping may be installed in accessible spaces, subject to approval of authorities having jurisdiction, whether or not such spaces are used as plenums. Do not locate valves above ceilings.
 - 2. In Floors: Gas piping with welded joints and protective wrapping specified in Part 2 "Protective Coating" Article may be installed in floors, subject to approval of authorities having jurisdiction. Surround piping cast in concrete slabs with minimum of 1-1/2 inches of concrete. Piping may not be in physical contact with other metallic structures such as reinforcing rods or electrically neutral conductors. Do not embed piping in concrete slabs containing quick-set additives or cinder aggregate.
 - 3. In Floor Channels: Gas piping may be installed in floor channels, subject to approval of authorities having jurisdiction. Channels must have cover and be open to space above cover for ventilation.

4. In Partitions: Do not install concealed piping in solid partitions. Protect tubing from physical damage when installed inside partitions or hollow walls.
 - a. Exception: Tubing passing through partitions or walls.
5. In Walls: Gas piping with welded joints and protective wrapping specified in Part 2 "Protective Coating" Article may be installed in masonry walls, subject to approval of authorities having jurisdiction.
6. Prohibited Locations: Do not install gas piping in or through circulating air ducts, clothes or trash chutes, chimneys or gas vents (flues), ventilating ducts, or dumbwaiter or elevator shafts.
 - a. Exception: Accessible above-ceiling space specified above.
- C. Drips and Sediment Traps: Install drips at points where condensate may collect. Include outlets of service meters. Locate where readily accessible for cleaning and emptying. Do not install where condensate would be subject to freezing.
 1. Construct drips and sediment traps using tee fitting with bottom outlet plugged or capped. Use minimum-length nipple of 3 pipe diameters, but not less than 3 inches long, and same size as connected pipe. Install with space between bottom of drip and floor for removal of plug or cap.
- D. Conceal pipe installations in walls, pipe spaces, utility spaces, above ceilings, below grade or floors, and in floor channels, unless indicated to be exposed to view.
- E. Install fuel gas piping at uniform grade of 0.1 percent slope upward toward risers.
- F. Use eccentric reducer fittings to make reductions in pipe sizes. Install fittings with level side down.
- G. Connect branch piping from top or side of horizontal piping.
- H. Install unions in pipes NPS 2 (DN 50) and smaller, adjacent to each valve, at final connection to each piece of equipment, and elsewhere as indicated. Unions are not required on flanged devices.
- I. Install strainer on inlet of each line pressure regulator and automatic and electrically operated valve.
- J. Install pressure gage upstream and downstream from each line pressure regulator. Pressure gages are specified in Division 23 Section "Meters and Gages for HVAC Piping."
- K. Install flanges on valves, specialties, and equipment having NPS 2-1/2 (DN 65) and larger connections.
- L. Install vent piping for gas pressure regulators and gas trains, extend outside building, and vent to atmosphere. Terminate vents with turned-down, reducing-elbow fittings with corrosion-resistant insect screens in large end.
- M. Install containment conduits for gas piping below slabs, within building, in gastight conduits extending minimum of 4 inches outside building, and vented to atmosphere.

Terminate vents with turned-down, reducing-elbow fittings with corrosion-resistant insect screens in large end. Prepare and paint outside of conduits with coal-tar, epoxy-polyamide paint according to SSPC-Paint 16.

3.6 JOINT CONSTRUCTION

- A. Basic piping joint construction is specified in Division 23 Section "Common Work Results for HVAC."
- B. Use materials suitable for fuel gas.
 - 1. Brazed Joints: Make with brazing alloy with melting point greater than 1000 deg F. Brazing alloys containing phosphorus are prohibited.
- C. Patch factory-applied protective coating as recommended by manufacturer at field welds and where damage to coating occurs during construction.

3.7 HANGER AND SUPPORT INSTALLATION

- A. Pipe hanger and support and equipment support materials and installation requirements are specified in Division 23 Section "Hangers and Supports for HVAC Piping and Equipment."
- B. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:
 - 1. NPS 1 (DN 25) and Smaller: Maximum span, 96 inches; minimum rod size, 3/8 inch.
 - 2. NPS 1-1/4 (DN 32): Maximum span, 108 inches; minimum rod size, 3/8 inch.
 - 3. NPS 1-1/2 and NPS 2 (DN 40 and DN 50): Maximum span, 108 inches; minimum rod size, 3/8 inch.
 - 4. NPS 2-1/2 to NPS 3-1/2 (DN 65 to DN 90): Maximum span, 10 feet; minimum rod size, 1/2 inch.
 - 5. NPS 4 (DN 100) and Larger: Maximum span, 10 feet; minimum rod size, 5/8 inch.

3.8 CONNECTIONS

- A. Drawings indicate general arrangement of fuel gas piping, fittings, and specialties.
- B. Install piping adjacent to appliances to allow service and maintenance.
- C. Connect piping to appliances using gas with shutoff valves and unions. Install valve upstream from and within 72 inches of each appliance. Install union downstream from valve.
- D. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance using gas.

- E. Ground equipment according to Division 26 Section "Grounding and Bonding."
 - 1. Do not use gas pipe as grounding electrode.
- F. Connect wiring according to Division 26 Section "Building Wire and Cable."

3.9 LABELING AND IDENTIFYING

- A. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplate or sign on or near each service meter, pressure regulator, and specialty valve.
 - 1. Text: In addition to name of identified unit, distinguish between multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.
 - 2. Nameplates, pipe identification, and signs are specified in Division 23 Section "Mechanical Identification."

3.10 PAINTING

- A. Use materials and procedures in Division 09 Sections.
- B. Paint exterior service meters, pressure regulators, and specialty valves.
 - 1. Color: Gray.
- C. Paint gas piping.
 - 1. Color: Yellow (1 primer, 2 finish coats).

3.11 FIELD QUALITY CONTROL

- A. Test, inspect, and purge piping according to NFPA 54 and requirements of authorities having jurisdiction.
- B. Repair leaks and defects with new materials and retest system until satisfactory results are obtained.
- C. Verify capacities and pressure ratings of service meters, pressure regulators, valves, and specialties.
- D. Verify correct pressure settings for pressure regulators.
- E. Verify that specified piping tests are complete.

END OF SECTION 231123

SECTION 238236 – FINNED-TUBE RADIATION HEATERS

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

- A. Section includes hydronic finned-tube radiation heaters.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include rated capacities, operating characteristics, furnished specialties, and accessories.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and details.
 - 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Include details and dimensions of custom-fabricated enclosures.
 - 4. Indicate location and size of each field connection.
 - 5. Indicate location and arrangement of piping valves and specialties.
 - 6. Indicate location and arrangement of integral controls.
 - 7. Include enclosure joints, corner pieces, access doors, and other accessories.
 - 8. Include diagrams for power, signal, and control wiring.
- C. Samples: For each exposed product and for each color and texture specified.
- D. Color Samples for Initial Selection: For finned-tube radiation heaters with factory-applied color finishes.
- E. Color Samples for Verification: For each type of exposed finish.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Floor plans and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Structural members, including wall construction, to which finned-tube radiation heaters will be attached.
 - 2. Method of attaching finned-tube radiation heaters to building structure.
 - 3. Penetrations of fire-rated wall and floor assemblies.
- B. Field quality-control reports.

PART 2 - PRODUCTS

2.1 BASEBOARD RADIATION HEATERS

- A. APPROVED MANUFACTURERS
 - 1. Modine
 - 2. Sterling HVAC Products
 - 3. Engineered Air
 - 4. Zehnder Rittling
 - 5. Or Approved Equal
- B. Performance Ratings: Rate baseboard radiation heaters according to Hydronics Institute's "I=B=R Testing and Rating Standard for Baseboard Radiation."
- C. Heating Elements: Copper tubing mechanically expanded into flanged collars of evenly spaced aluminum fins resting on polypropylene element glides. One end of tube shall be belled.
- D. Enclosures: Minimum 14-gauge steel, removable front cover.
 - 1. End panel.
 - 2. End caps.
 - 3. Inside and outside corners.
 - 4. Joiner pieces to snap together.
 - 5. Enclosure Height: Refer to drawings and schedule.

6. Enclosure Depth: Refer to drawings and schedule.
7. Finish: Baked-enamel finish in manufacturer's standard color as selected by Architect.
8. Element Brackets: Primed and painted steel to support front panel and element.

2.2 FINNED-TUBE RADIATION HEATERS

A. APPROVED MANUFACTURERS

1. Modine
2. Sterling HVAC Products
3. Engineered Air
4. Zehnder Rittling
5. Or Approved Equal

- B. Performance Ratings: Rate finned-tube radiation heaters according to Hydronics Institute's "I=B=R Testing and Rating Standard for Finned-Tube (Commercial) Radiation."
- C. Heating Elements: Copper tubing mechanically expanded into flanged collars of evenly spaced aluminum fins resting on element supports. One end of tube shall be belled.
- D. Element Supports: Ball-bearing cradle type to permit longitudinal movement on enclosure brackets.
- E. Front Panel: Minimum 14-gauge steel.
- F. Wall-Mounted Back Panel: Minimum 18-gauge steel, full height, with full-length channel support for front panel without exposed fasteners.
- G. Support Brackets: Locate at maximum 36-inch spacing to support front panel and element.
- H. Finish: Baked-enamel finish in manufacturer's standard color as selected by Architect.
- I. Damper: Knob-operated internal damper at enclosure outlet.
- J. Access Doors: Factory made, permanently hinged with tamper-resistant fastener, minimum size 6 by 7 inches, integral with enclosure.
- K. Control valve: Basis of design "Danfoss" make, Aveo model, thermostatic sensor.
- L. Enclosure Style & Dimensions: Refer to drawings and schedule.
- M. Accessories: Filler sections, corners, relay sections, and splice plates all matching the enclosure and grille finishes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive finned-tube radiation heaters for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for hydronic-piping connections to verify actual locations before installation of finned-tube radiation heaters.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FINNED-TUBE RADIATION HEATER INSTALLATION

- A. Install units level and plumb.
- B. Install enclosure continuously around corners, using outside and inside corner fittings.
- C. Join sections with splice plates and filler pieces to provide continuous enclosure.
- D. Install enclosure continuously from wall to wall.
- E. Terminate enclosures with manufacturer's end caps except where enclosures are indicated to extend to adjoining walls.
- F. Install air-seal gasket between wall and recessed flanges or front cover of fully recessed unit.

3.3 CONNECTIONS

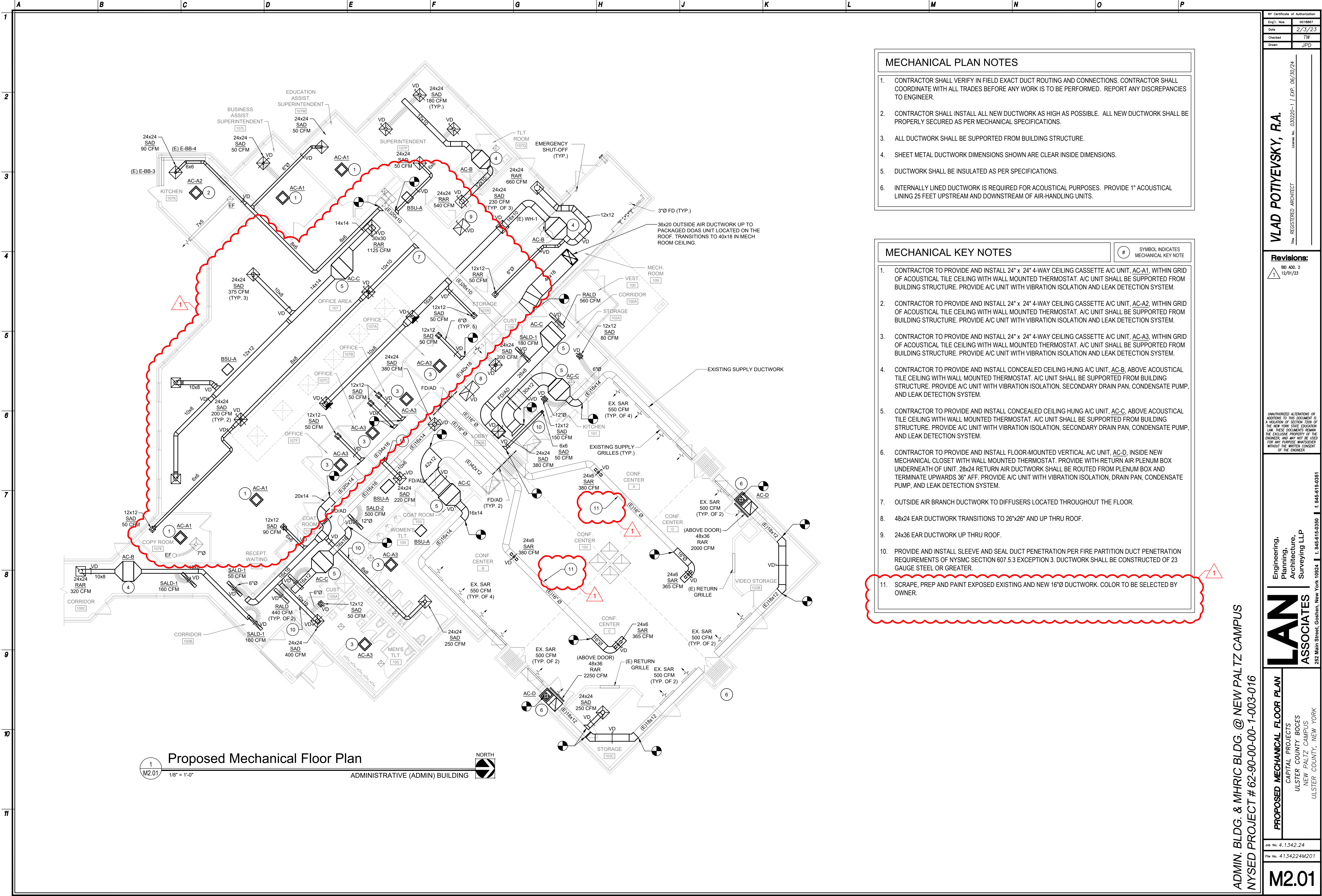
- A. Piping installation requirements are specified in Section 232113 "Hydronic Piping" and Section 232116 Hydronic Piping Specialties." Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect hot-water finned-tube radiation heaters and components to piping according to Section 232113 "Hydronic Piping" and Section 232116 Hydronic Piping Specialties."
 - 1. Install shutoff valves on inlet and outlet, and balancing valve on outlet.
- C. Install control valves as indicated on drawings.
- D. Install piping adjacent to finned-tube radiation heaters to allow service and maintenance.
- E. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

3.4 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Units will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 238236



- ### MECHANICAL PLAN NOTES
- CONTRACTOR SHALL VERIFY IN FIELD EXACT DUCT ROUTING AND CONNECTIONS. CONTRACTOR SHALL COORDINATE WITH ALL TRADES BEFORE ANY WORK IS TO BE PERFORMED. REPORT ANY DISCREPANCIES TO ENGINEER.
 - CONTRACTOR SHALL INSTALL ALL NEW DUCTWORK AS HIGH AS POSSIBLE. ALL NEW DUCTWORK SHALL BE PROPERLY SECURED AS PER MECHANICAL SPECIFICATIONS.
 - ALL DUCTWORK SHALL BE SUPPORTED FROM BUILDING STRUCTURE.
 - SHEET METAL DUCTWORK DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
 - DUCTWORK SHALL BE INSULATED AS PER SPECIFICATIONS.
 - INTERNALLY LINED DUCTWORK IS REQUIRED FOR ACOUSTICAL PURPOSES. PROVIDE 1" ACOUSTICAL LINING 25 FEET UPSTREAM AND DOWNSTREAM OF AIR-HANDLING UNITS.

- ### MECHANICAL KEY NOTES
- # SYMBOL INDICATES MECHANICAL KEY NOTE
- CONTRACTOR TO PROVIDE AND INSTALL 24" x 24" 4-WAY CEILING CASSETTE A/C UNIT, AC-A1, WITHIN GRID OF ACOUSTICAL TILE CEILING WITH WALL MOUNTED THERMOSTAT. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH VIBRATION ISOLATION AND LEAK DETECTION SYSTEM.
 - CONTRACTOR TO PROVIDE AND INSTALL 24" x 24" 4-WAY CEILING CASSETTE A/C UNIT, AC-A2, WITHIN GRID OF ACOUSTICAL TILE CEILING WITH WALL MOUNTED THERMOSTAT. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH VIBRATION ISOLATION AND LEAK DETECTION SYSTEM.
 - CONTRACTOR TO PROVIDE AND INSTALL 24" x 24" 4-WAY CEILING CASSETTE A/C UNIT, AC-A3, WITHIN GRID OF ACOUSTICAL TILE CEILING WITH WALL MOUNTED THERMOSTAT. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH VIBRATION ISOLATION AND LEAK DETECTION SYSTEM.
 - CONTRACTOR TO PROVIDE AND INSTALL CONCEALED CEILING HUNG A/C UNIT, AC-B, ABOVE ACOUSTICAL TILE CEILING WITH WALL MOUNTED THERMOSTAT. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH VIBRATION ISOLATION, SECONDARY DRAIN PAN, CONDENSATE PUMP, AND LEAK DETECTION SYSTEM.
 - CONTRACTOR TO PROVIDE AND INSTALL CONCEALED CEILING HUNG A/C UNIT, AC-C, ABOVE ACOUSTICAL TILE CEILING WITH WALL MOUNTED THERMOSTAT. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH VIBRATION ISOLATION, SECONDARY DRAIN PAN, CONDENSATE PUMP, AND LEAK DETECTION SYSTEM.
 - CONTRACTOR TO PROVIDE AND INSTALL FLOOR-MOUNTED VERTICAL A/C UNIT, AC-D, INSIDE NEW MECHANICAL CLOSET WITH WALL MOUNTED THERMOSTAT. PROVIDE WITH RETURN AIR PLENUM BOX UNDERNEATH OF UNIT. 28x24 RETURN AIR DUCTWORK SHALL BE ROUTED FROM PLENUM BOX AND TERMINATE UPWARDS 36" AFF. PROVIDE A/C UNIT WITH VIBRATION ISOLATION, DRAIN PAN, CONDENSATE PUMP, AND LEAK DETECTION SYSTEM.
 - OUTSIDE AIR BRANCH DUCTWORK TO DIFFUSERS LOCATED THROUGHOUT THE FLOOR.
 - 48x24 EAR DUCTWORK TRANSITIONS TO 26"x26" AND UP THRU ROOF.
 - 24x36 EAR DUCTWORK UP THRU ROOF.
 - PROVIDE AND INSTALL SLEEVE AND SEAL DUCT PENETRATION PER FIRE PARTITION DUCT PENETRATION REQUIREMENTS OF NYSCM SECTION 607.5.3 EXCEPTION 3. DUCTWORK SHALL BE CONSTRUCTED OF 23 GAUGE STEEL OR GREATER.
 - SCRAPE, PREP AND PAINT EXPOSED EXISTING AND NEW 16"Ø DUCTWORK. COLOR TO BE SELECTED BY OWNER.

NY Certificate of Authorization
Eng'r. No. 0018867
Date 2/3/23
Checked TW
Drawn JPD

Vlad Potyevsky, R.A.
REGISTERED ARCHITECT
License No. 030220-1 | EXP. 06/30/24

Revisions:
1 80 ADD. 2
12/01/23

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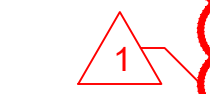
Engineering, Planning, Architecture, Surveying LLP
LAN ASSOCIATES
252 Main Street, Goshen, New York 10924 | t. 845-615-0350 | f. 845-615-0351

PROPOSED MECHANICAL FLOOR PLAN
CAPITAL PROJECTS
ULSTER COUNTY BOCES
NEW PALTZ CAMPUS
ULSTER COUNTY, NEW YORK

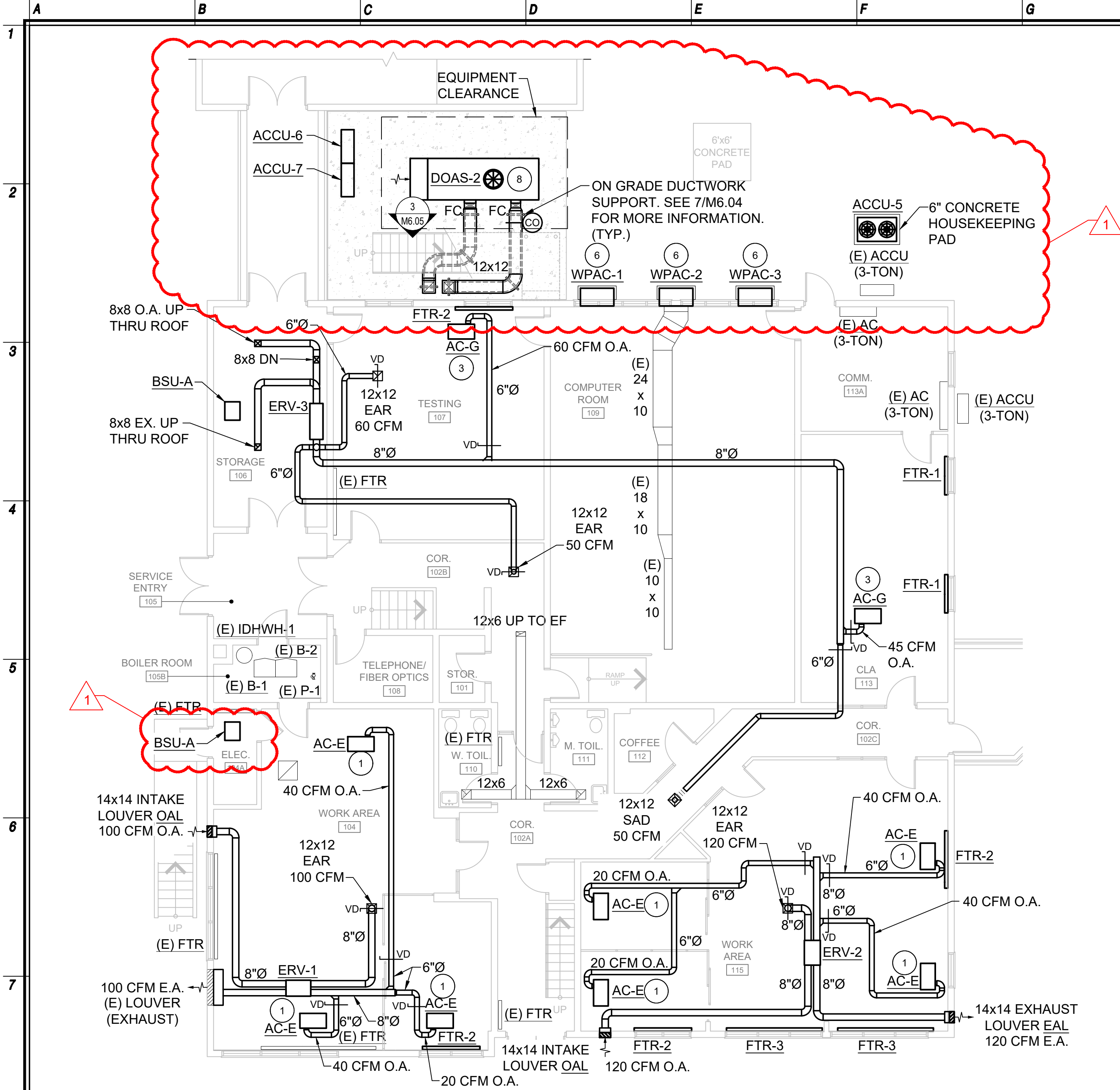
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File No. 4134224M201

M2.01

ADMIN. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS
NYSED PROJECT # 62-90-00-00-1-003-016



ADMIN. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS
NYSED PROJECT # 62-90-00-00- 1-003-016



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MHRIC Proposed Mechanical Plan

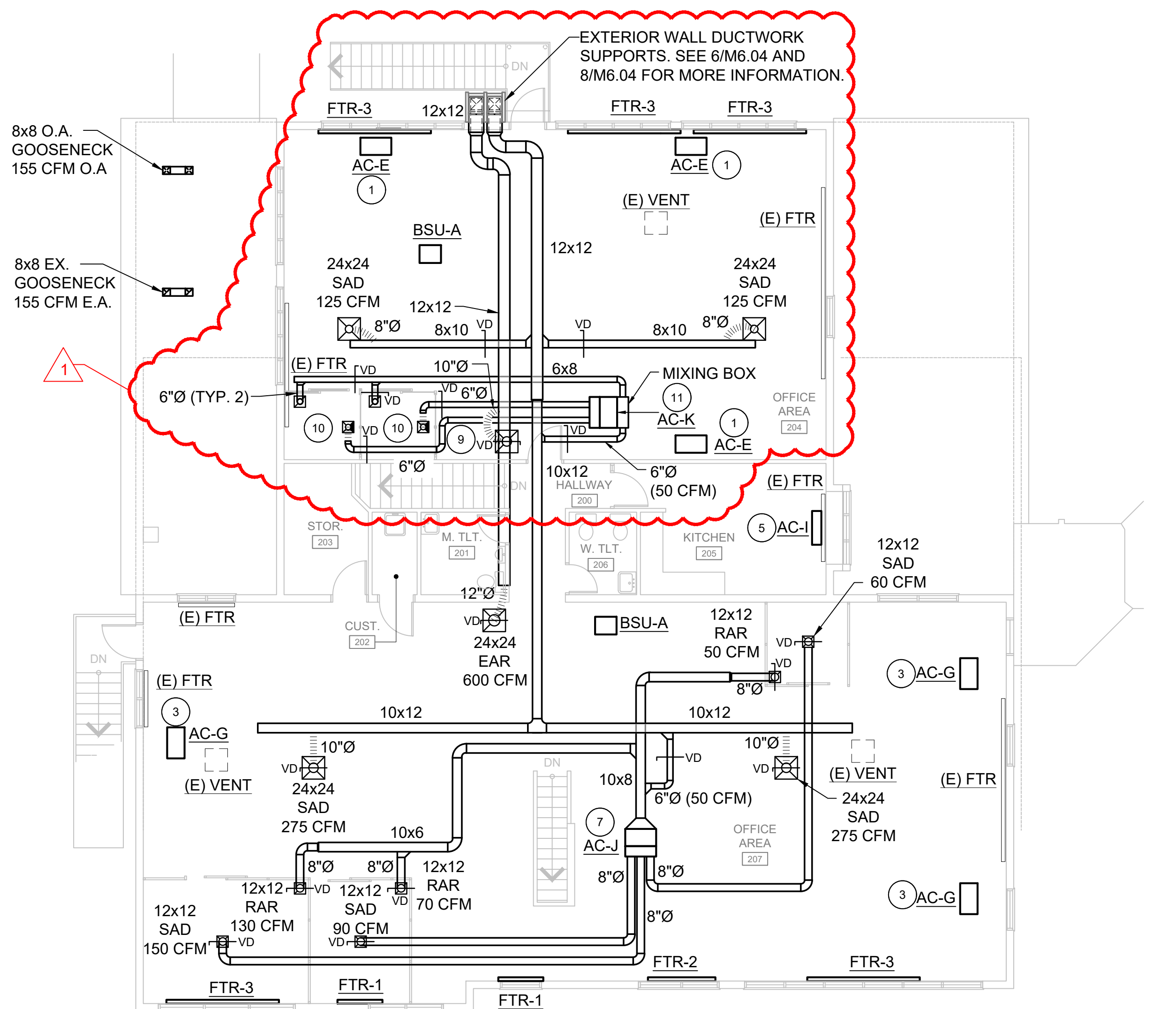
FIRST FLOOR

MECHANICAL PLAN NOTES

- CONTRACTOR SHALL VERIFY IN FIELD EXACT DUCT ROUTING AND CONNECTIONS. CONTRACTOR SHALL COORDINATE WITH ALL TRADES BEFORE ANY WORK IS TO BE PERFORMED. REPORT ANY DISCREPANCIES TO ENGINEER.
- CONTRACTOR SHALL INSTALL ALL NEW DUCTWORK AS HIGH AS POSSIBLE. ALL NEW DUCTWORK SHALL BE PROPERLY SECURED AS PER MECHANICAL SPECIFICATIONS.
- ALL DUCTWORK SHALL BE SUPPORTED FROM BUILDING STRUCTURE.
- SHEET METAL DUCTWORK DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
- DUCTWORK SHALL BE INSULATED AS PER SPECIFICATIONS.
- INTERNALLY LINED DUCTWORK IS REQUIRED FOR ACOUSTICAL PURPOSES. PROVIDE 1" ACOUSTICAL LINING 25 FEET UPSTREAM AND DOWNSTREAM OF AIR-HANDLING UNITS.

MECHANICAL KEY NOTES

- CONTRACTOR TO PROVIDE AND INSTALL ONE-WAY CEILING CASSETTE A/C UNIT, AC-E, WITHIN GRID OF ACOUSTICAL TILE CEILING WITH WALL MOUNTED THERMOSTAT. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH LEAK DETECTION SYSTEM.
- CONTRACTOR TO PROVIDE AND INSTALL ONE-WAY CEILING CASSETTE A/C UNIT, AC-F, WITHIN GRID OF ACOUSTICAL TILE CEILING WITH WALL MOUNTED THERMOSTAT. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH LEAK DETECTION SYSTEM.
- CONTRACTOR TO PROVIDE AND INSTALL ONE-WAY CEILING CASSETTE A/C UNIT, AC-G, WITHIN GRID OF ACOUSTICAL TILE CEILING WITH WALL MOUNTED THERMOSTAT. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH LEAK DETECTION SYSTEM.
- CONTRACTOR TO PROVIDE AND INSTALL ONE-WAY CEILING CASSETTE A/C UNIT, AC-H, WITHIN GRID OF ACOUSTICAL TILE CEILING WITH WALL MOUNTED THERMOSTAT. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH LEAK DETECTION SYSTEM.
- CONTRACTOR TO PROVIDE AND INSTALL WALL-MOUNTED A/C UNIT, AC-I. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE A/C UNIT WITH VIBRATION ISOLATION AND LEAK DETECTION SYSTEM.
- CONTRACTOR TO PROVIDE AND INSTALL EXTERIOR WALL-MOUNT A/C UNIT, WPAC ON THE EXTERIOR WALL. UNIT SHALL CONNECT INTO EXISTING DUCTWORK/SIDE-WALL GRILLES INSIDE THE ROOM. PROVIDE (N) 6" HOUSEKEEPING PAD UNDER UNIT. MOUNT UNIT TO EXTERIOR WALL USING BUILT IN SIDE WALL MOUNTING BRACKETS. FLASH AND SEAL EXTERIOR WALL AROUND UNIT.
- CONTRACTOR TO PROVIDE AND INSTALL DUCTED CONCEALED CEILING UNIT, AC-J, ABOVE THE CEILING IN THE ATTIC WITH WALL MOUNTED THERMOSTAT IN EACH ROOM. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE UNIT WITH LEAK DETECTION. PROVIDE UNIT WITH (3) 8" OUTLET ZONING DAMPER BOX.
- CONTRACTOR TO PROVIDE AND INSTALL OUTDOOR PACKAGED DOAS-2 ON 18" VIBRATION ISOLATION CURB, MECHANICALLY ATTACHED TO CURB AND 6" HIGH CONCRETE PAD.
- 24x24 EAR, 300 CFM.
- 12x12 SAD, 100 CFM SUPPLY. 12x12 RAR, 75 CFM RETURN.
- CONTRACTOR TO PROVIDE AND INSTALL DUCTED CONCEALED CEILING UNIT, AC-K, ABOVE THE CEILING IN THE ATTIC WITH WALL MOUNTED THERMOSTAT IN EACH ROOM. A/C UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE UNIT WITH LEAK DETECTION. PROVIDE UNIT WITH (2) 6" OUTLET ZONING DAMPER DAMPER BOX.



2
M2.02
1 / 8" = 1' - 0"

MHRIC Proposed Mechanical Plan

SECOND FLOOR

ADMIN. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS
NYSED PROJECT # 62-90-00-00-1-003-016

NY Certificate of Authorization	
Eng'r. No.	0018867
Date	2/3/23
Checked	TW
Drawn	SS

VLAD POTYEVSKY, R.A.
REGISTERED ARCHITECT
License No. 030220-1 | EXP. 06/30/24

Revisions:
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12/01/23

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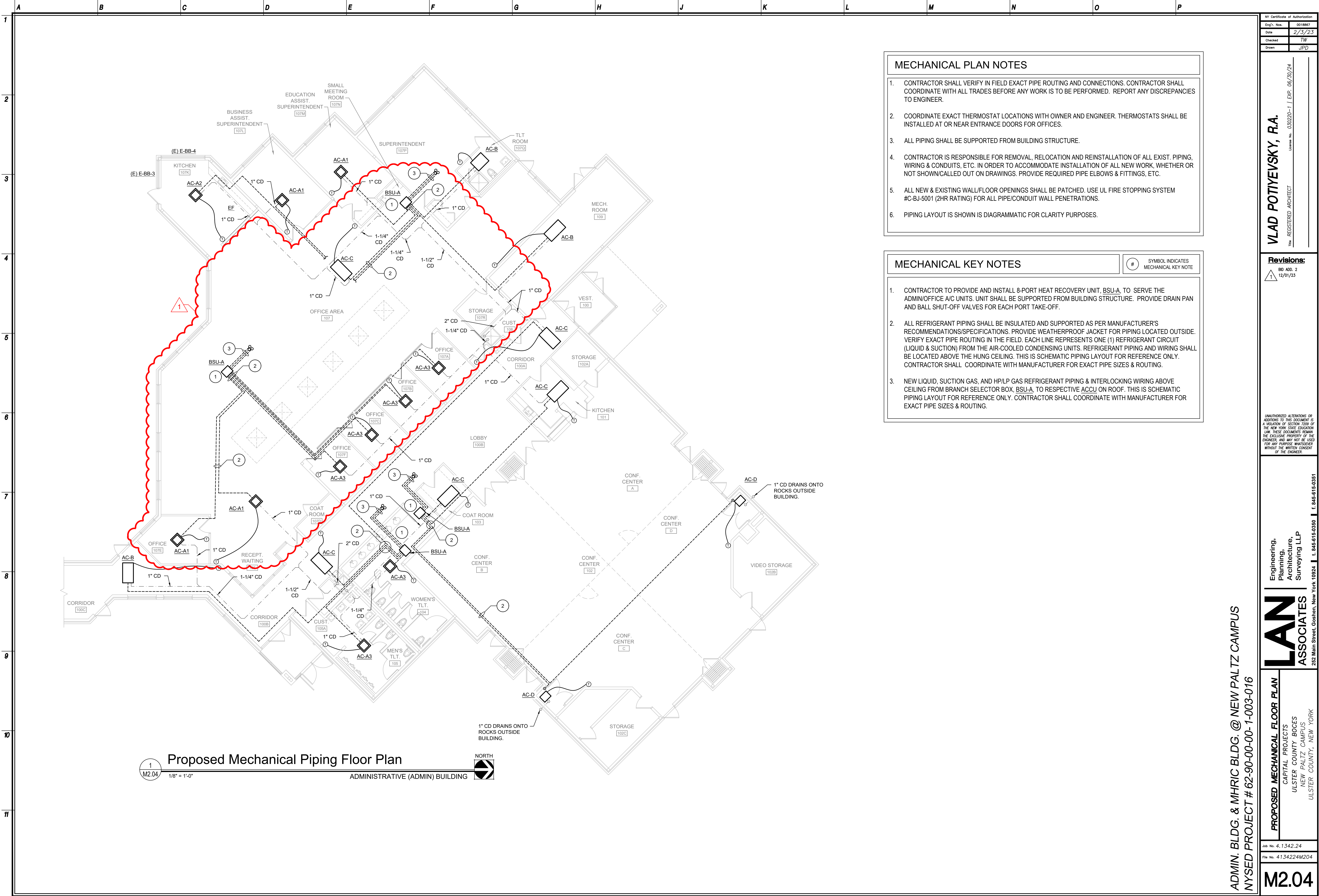
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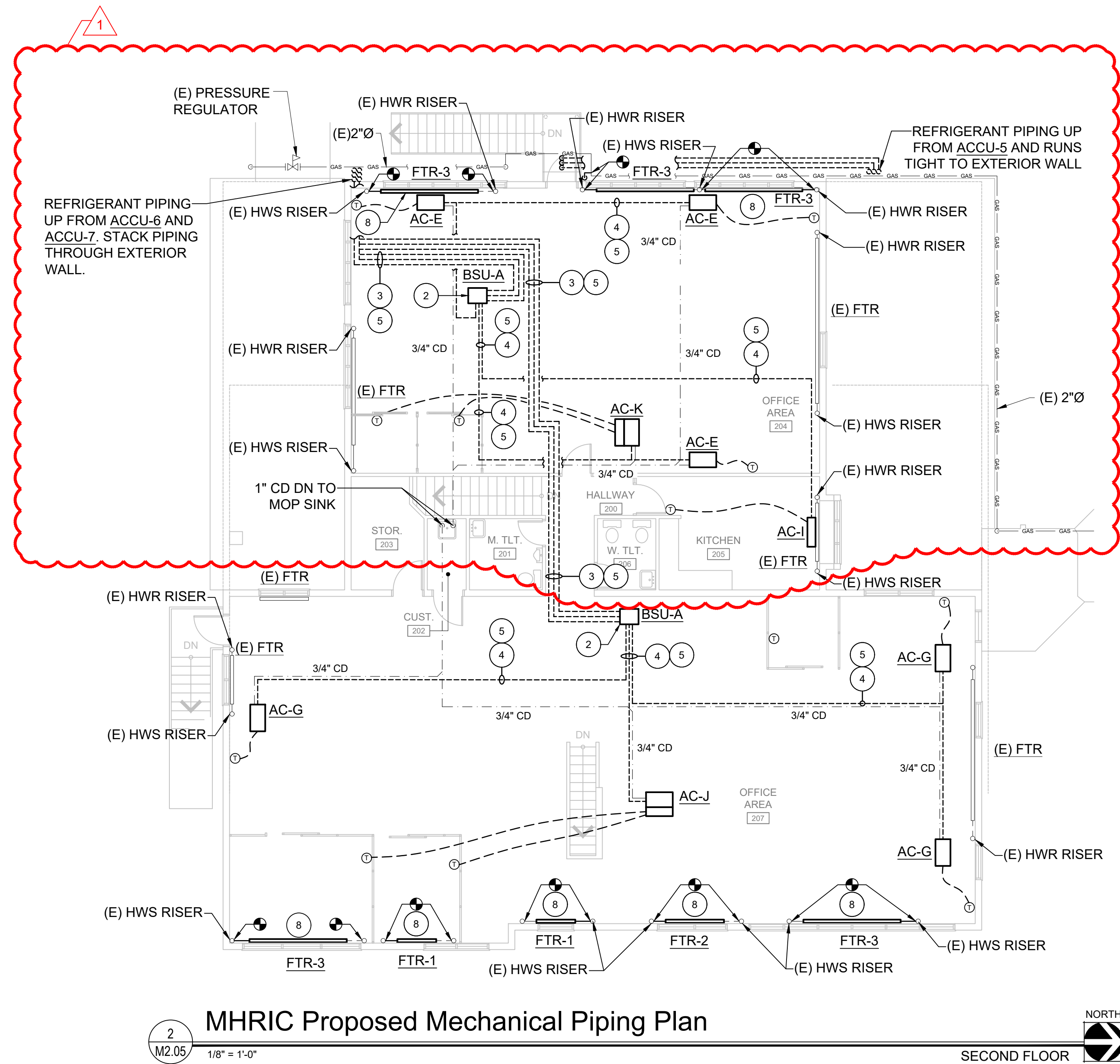
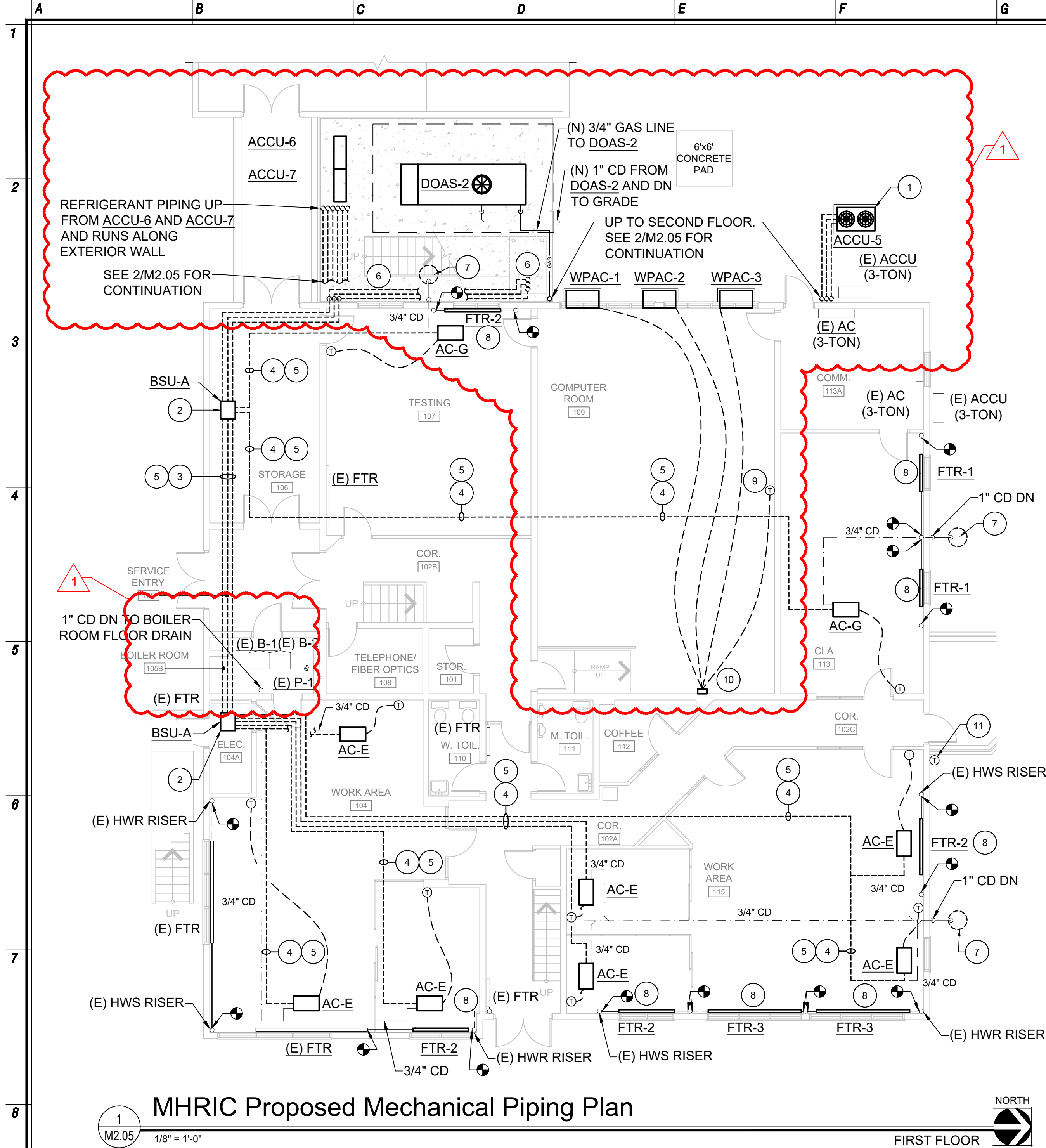
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MHRIC MECHANICAL PROPOSED PLANS
CAPITAL PROJECTS
ULSTER COUNTY BOCES
NEW PALTZ CAMPUS
ULSTER COUNTY, NEW YORK

Job No. 4.1342.24
File No. 4134224M202

M2.02





MECHANICAL PLAN NOTES

- COORDINATE EXACT THERMOSTAT LOCATIONS WITH OWNER AND ENGINEER. THERMOSTATS SHALL BE INSTALLED AT OR NEAR ENTRANCE DOORS FOR OFFICES.
- ALL REFRIGERANT PIPING SHALL BE INSULATED AND SUPPORTED AS PER MANUFACTURER'S RECOMMENDATIONS WITH WEATHERPROOF JACKET. VERIFY EXACT PIPE ROUTING IN THE FIELD.
- CONTRACTOR SHALL VERIFY IN FIELD EXACT PIPE ROUTING AND CONNECTIONS. CONTRACTOR SHALL COORDINATE WITH ALL TRADES BEFORE ANY WORK IS TO BE PERFORMED. REPORT ANY DISCREPANCIES TO ENGINEER.
- CONTRACTOR SHALL VERIFY EXISTING PIPE SIZES IN FIELD AND REPORT ANY DISCREPANCIES TO ENGINEER.
- ALL PIPING SHALL BE SUPPORTED FROM BUILDING STRUCTURE.
- CONTRACTOR TO NOTE THAT NOT ALL EXISTING PIPING IN MECHANICAL ROOMS HAS BEEN SHOWN ON DRAWINGS. CONTRACTOR SHALL CHECK IN FIELD TO AVOID CONFLICTS W/ INSTALLATION OF NEW EQUIPMENT & PIPING, ETC.
- SIZES OF HOT WATER PIPING (HWS & HWR) SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IN FIELD & PROVIDE. ALL NEW VALVES SHALL BE LINE-SIZE. CHECK IN FIELD.
- CONTRACTOR IS RESPONSIBLE FOR REMOVAL, RELOCATION, AND REINSTALLATION OF ALL EXIST. PIPING, WIRING & CONDUITS, ELECTRICAL, ETC. IN ORDER TO ACCOMMODATE INSTALLATION OF ALL NEW WORK, WHETHER OR NOT SHOWN/CALLED OUT ON DRAWINGS. PROVIDE REQUIRED PIPE ELBOWS & FITTINGS, ETC.
- CONTRACTOR IS REQUIRED TO DRAIN-DOWN THE ENTIRE HOT WATER HEATING SYSTEM CONTINUOUSLY UNTIL ALL SCALE & SLUDGE ARE REMOVED FROM THE PIPING SYSTEM. USE EXISTING BLEEDER VALVES THROUGHOUT THE BUILDING TO BLEED OUT ALL AIR FROM THE PIPING SYSTEM.
- ALL NEW & EXISTING WALL/FLOOR OPENINGS SHALL BE PATCHED. USE UL FIRE STOPPING SYSTEM #C-BJ-5001 (2HR RATING) FOR ALL PIPE/CONDUIT WALL PENETRATIONS.
- PIPING LAYOUT IS SHOWN IS DIAGRAMMATIC FOR CLARITY PURPOSES.

MECHANICAL KEY NOTES

- PROVIDE AND INSTALL AIR-COOLED CONDENSING UNIT, ACCU, ON 6" HOUSEKEEPING PAD. CONTRACTOR TO MAINTAIN ALL ACCESS CLEARANCES. ROUTE LIQUID, SUCTION GAS, AND HP/LP GAS REFRIGERANT PIPING FROM CONDENSING UNITS TO BRANCH SELECTOR BOXES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
- CONTRACTOR TO PROVIDE AND INSTALL 8-PORT BRANCH SELECTOR BOX, BSU-A, TO SERVE THE A/C UNITS. UNIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PROVIDE DRAIN PAN AND BALL SHUT-OFF VALVES FOR EACH PORT TAKE-OFF.
- NEW LIQUID, SUCTION GAS, AND HP/LP GAS REFRIGERANT PIPING & INTERLOCKED WIRING ABOVE CEILING FROM BRANCH SELECTOR BOX, BSU-A, TO RESPECTIVE ACCU AT GRADE LEVEL. THIS IS SCHEMATIC PIPING LAYOUT FOR REFERENCES ONLY. CONTRACTOR TO COORDINATE WITH MANUFACTURER FOR EXACT PIPE SIZES & ROUTING.
- FOR CLARITY PURPOSES, EACH LINE REPRESENTS ONE (1) REFRIGERANT CIRCUIT (LIQUID & SUCTION) FROM THE BRANCH SELECTOR BOX TO INDOOR A/C UNIT. REFRIGERANT PIPING SHALL BE LOCATED ABOVE THE HUNG CEILING. VERIFY EXACT PIPE ROUTING IN THE FIELD.
- ALL REFRIGERANT PIPING SHALL BE INSULATED AND SUPPORTED AS PER MANUFACTURER'S RECOMMENDATIONS/SPECIFICATIONS. PROVIDE WEATHERPROOF JACKET FOR PIPING LOCATED OUTSIDE. VERIFY EXACT PIPE ROUTING IN THE FIELD.
- REFRIGERANT PIPING DOWN FROM SECOND FLOOR TO GRADE. REFRIGERANT PIPING THAN RUNS ALONG GRADE UNDER DOAS-2 DUCTWORK TO POINT INDICATED ON PLAN.
- NEW DRY WELL. INSTALL MIN. 2'-0" AWAY FROM BUILDING.
- FURNISH AND INSTALL NEW PERIMETER HOT WATER FIN-TUBE RADIATOR (FTR) ALONG WITH SHUT-OFF VALVES, CONTROL VALVES, BALANCING VALVES, STRAINERS. CONNECT NEW 3/4" HOT WATER SUPPLY AND RETURN PIPING FROM EXISTING HOT WATER SUPPLY AND RETURN RISERS TO NEW FIN-TUBE RADIATOR.
- FINAL LOCATION OF THERMOSTAT TO BE COORDINATED BY CONTRACTOR IN THE FIELD. THERMOSTAT SHALL BE LOCATED BEHIND THE EXISTING SERVER RACKS AND CONNECTED TO UNIT CONTROL PANEL.
- UNIT MANUFACTURER LEAD/LAG UNIT CONTROLLER WITH INTERNAL TEMPERATURE AND HUMIDITY SENSOR.
- CONTRACTOR SHALL PROVIDE AND INSTALL OUTSIDE AIR TEMPERATURE, HUMIDITY AND CO2 SENSOR. SEE SPECIFICATION SECTION 230993 FOR DETAILS.

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MHRIC MECHANICAL PROPOSED PIPING PLANS

CAPITAL PROJECTS
ULSTER COUNTY BOCES
NEW PALTZ CAMPUS
ULSTER COUNTY, NEW YORK

Job No. 4.1342.24
File No. 4134224M205

M2.05

ADMIN. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS

NYSED PROJECT # 62-90-00-00-1-003-016

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PACKAGED ROOFTOP DOAS WITH ENERGY RECOVERY SCHEDULE

(DAIKIN AS STANDARD, OR APPROVED EQUAL)

TAG	AREA SERVED	LOCATION	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	EX. AIR (CFM)	GAS HEATING COIL					DX COOLING COIL					ENERGY RECOVERY WHEEL										FILTERS	SUPPLY FAN DATA							POWER EXHAUST FAN DATA					ELECTRICAL DATA		DIMENSIONS (L x W x H) (In.)	APPROX. WEIGHT (Lbs)	MODEL	MANUFACT.	NOTES										
						CAPACITY (MBH)	EAT (°F)	LAT (°F)	MIN. GAS PRESS. (In. H ₂ O)	MAX. GAS PRESS. (In. H ₂ O)	APD (In. H ₂ O)	MODUL.	COOLING (TMBH)	COOLING (SMBH)	EADB (°F)	EAWB (°F)	LADB (°F)	LAWB (°F)	FACE AREA (FT²)	FACE VEL. (FT/MIN.)	APD (In. H ₂ O)	REFRIG. TYPE	SUMMER					WINTER																											
																							OADB (°F)	OAWB (°F)	RADB (°F)		RAW B (°F)	LADB (°F)	LAWB (°F)	OADB (°F)	OAWB (°F)	RADB (°F)	RAWB (°F)	LADB (°F)	LAWB (°F)																				
DOAS-1	ADMIN BUILDING	ROOF	4,000	4,000	4,000	450	39.8	122.7	5	14	0.36	4 STAGE	182	130	82.8	67.8	53.1	53.0	18.9	211.6	0.19	R410A	95.0	75.0	75.0	62.0	82.8	67.8	-1.0	-1.0	70.0	50.0	39.8	32.0	2" MERV 8 & 4" MERV 14	1.2	3.62	20	4.38	5.0	15.0	YES	0.50	-	1.85	(2) 4.0	(2) 10.4	YES	208 - 3 - 60	96.9 / 150	182.3 x 76.5 x 82.5	4,289	DPS016A	DAIKIN	SEE NOTE(S) BELOW
NOTES: 1. PROVIDE HINGED ACCESS DOORS. 2. PROVIDE VFD's ON ALL SUPPLY AIR FANS. VFD's SHALL BE FACTORY INSTALLED AND WIRED. 3. ALL MOTORS SHALL BE PREMIUM EFFICIENCY TYPE. 4. UNIT SHALL BE PROVIDED WITH SINGLE POINT POWER CONNECTION. PROVIDE UNIT WITH DISCONNECT SWITCH AND INTEGRAL CONVENIENCE RECEPTACLE. 5. ALL NEW DOAS UNITS TO BE PROVIDED WITH NEW DDC CONTROLS BY MANUFACTURER. ATC CONTRACTOR TO TIE INTO THE NEW BMS. 6. REFER TO ELECTRICAL PLANS FOR DETAILS ON EQUIPMENT POWER. 7. ELECTRICAL CONTRACTOR TO PROVIDE DUCT SMOKE DETECTORS IN RETURN AIR DUCT MAINS FOR DOAS. 8. INTERLOCK DOAS WITH FIRE ALARM SYSTEM. DOAS TO BE SHUT DOWN WHEN FIRE ALARM SYSTEM INITIATES. 9. REFER TO STRUCTURAL DRAWINGS FOR DETAILS ON SUPPORTS. 10. PROVIDE INTERNAL SPRING VIBRATION ISOLATORS ON THE FAN SECTION, STEEL EQUIPMENT SUPPORT RAILS WITH ELASTOMERIC VIBRATION ISOLATION PAD UNDER ENTIRE SUPPORT BASE. PROVIDE AND INSTALL 18" HIGH VIBRATION ISOLATION CURB. PROVIDE DISCONNECT SWITCH, WALL MOUNTED PROGRAMMABLE THERMOSTAT, DOUBLE WALL CONSTRUCTION WITH PERFORATED INNER WALL FOR FAN SECTION, ACCESS DOORS, HIGH EFFICIENCY MOTORS, HOT GAS REHEAT.																																																							
ADDITIONAL REMARKS: ----																																																							

PACKAGED GROUND MOUNTED DOAS WITH ENERGY RECOVERY SCHEDULE

(TRANE AS STANDARD, OR APPROVED EQUAL)

TAG	AREA SERVED	LOCATION	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	EX. AIR (CFM)	HEAT PUMP HEATING COIL			GAS FIRED HEATING COIL			DX COOLING COIL							HOT GAS REHEAT COIL	ENERGY RECOVERY HEAT EXCHANGER										FILTERS	SUPPLY FAN DATA					EXHAUST FAN DATA					ELECTRICAL DATA			DIMENSIONS (L x W x H) (In.)	APPROX. WEIGHT (Lbs)	MODEL	MANUFACT.	NOTES						
						EAT (°F)	LAT (°F)	CAPACITY (MBH)	EAT (°F)	LAT (°F)	INPUT (MBH)	OUTPUT (MBH)	COOLING (TMBH)	COOLING (SMBH)	EADB (°F)	EAWB (°F)	LADB (°F)	LAWB (°F)		FACE VEL. (FT/MIN.)	APD (In. H ₂ O)	REFRIG. TYPE	EAT (°F)	LAT (°F)	OADB (°F)	OAWB (°F)	RADB (°F)	RAWB (°F)	LADB (°F)		LAWB (°F)	OADB (°F)	OAWB (°F)	RADB (°F)	RAWB (°F)	LADB (°F)	LAWB (°F)																	
																																						SUMMER	WINTER															
DOAS-2	MHRIC BUILDING	OUTSIDE	900	900	900	56.8	91.5	35.9	56.8	97.8	50	40	36.1	25.3	78.4	65.2	51	50	215	0.1	R410A	51	74.4	95.0	75.0	75	62.5	78.4	65.2	0	-1.8	75.0	53	56.8	45	2" MERV 8	1.2	3.027	0.47	2	5.6	0.8	1.597	0.36	1	3.2	208 - 3 - 60	32.8	40	139 x 52 x 55	1,947	HORIZON B036	TRANE	SEE NOTE(S) BELOW
NOTES: 1. PROVIDE HINGED ACCESS DOORS. 2. PROVIDE VFD's ON ALL SUPPLY AND EXHAUST AIR FANS. VFD's SHALL BE FACTORY INSTALLED AND WIRED. 3. ALL MOTORS SHALL BE PREMIUM EFFICIENCY TYPE. 4. UNIT SHALL BE PROVIDED WITH SINGLE POINT POWER CONNECTION. PROVIDE UNIT WITH DISCONNECT SWITCH AND INTEGRAL CONVENIENCE RECEPTACLE. 5. ALL NEW DOAS UNITS TO BE PROVIDED WITH NEW DDC CONTROLS BY MANUFACTURER. ATC CONTRACTOR TO TIE INTO THE NEW BMS. 6. REFER TO ELECTRICAL PLANS FOR DETAILS ON EQUIPMENT POWER. 7. DOAS UNIT SHALL HAVE HEAT PUMP DX HEATING & COOLING WITH HOT GAS REHEAT COILS AND BACK-UP GAS HEAT. 8. INTERLOCK DOAS WITH FIRE ALARM SYSTEM. DOAS TO BE SHUT DOWN WHEN FIRE ALARM SYSTEM INITIATES. 9. REFER TO STRUCTURAL DRAWINGS FOR DETAILS ON SUPPORTS. PROVIDE UNIT WITH ROOF CURB FROM MANUFACTURER. 10. PROVIDE INTERNAL SPRING VIBRATION ISOLATORS ON THE FAN SECTION, STEEL EQUIPMENT SUPPORT RAILS WITH ELASTOMERIC VIBRATION ISOLATION PAD UNDER ENTIRE SUPPORT BASE. PROVIDE DISCONNECT SWITCH, WALL MOUNTED PROGRAMMABLE THERMOSTAT, DOUBLE WALL CONSTRUCTION WITH PERFORATED INNER WALL FOR FAN SECTION, ACCESS DOORS, HIGH EFFICIENCY MOTORS.																																																						
ADDITIONAL REMARKS: ----																																																						

INDOOR VRF AC / HEAT PUMP TERMINAL UNIT SCHEDULE

(DAIKIN AS STANDARD OR APPROVED EQUAL)

TAG	QUANTITY	LOCATION	AIRFLOW (CFM)	COOLING				HEATING TMBH	REFRIG TYPE	PIPE CONNECTIONS			ELECTRICAL DATA			DIMENSIONS W x H x D (Inches)	APPROX. WEIGHT (Lbs)	MODEL	MANUFACTURER	NOTES
				TMBH	SMBH	EADB	EAWB			RS	RL	COND.	V - Ph - Hz	MCA	MOP					
AC-A1	4	ADMIN BUILDING	353	12	7	75	62.6	13.6	R-410A	1/2"	1/4"	1"	208 - 1 - 60	0.6	15	22.6 x 10.2 x 22.6	41.9	FXZQ12TAVJU	DAIKIN	SEE NOTE(S) BELOW
AC-A2	1	ADMIN BUILDING	511	18	11.4	75	62.6	20.1	R-410A	1/2"	1/4"	1"	208 - 1 - 60	0.4	15	22.6 x 10.2 x 22.6	36.4	FXZQ18TAVJU	DAIKIN	SEE NOTE(S) BELOW
AC-A3	6	ADMIN BUILDING	307	7.5	5.2	75	62.6	8.5	R-410A	1/2"	1/4"	1"	208 - 1 - 60	0.3	15	22.6 x 10.2 x 22.6	35.3	FXZQ07TAVJU	DAIKIN	SEE NOTE(S) BELOW
AC-B	3	ADMIN BUILDING	742	24	15.4	75	62.6	26.9	R-410A	5/8"	3/8"	1"	208 - 1 - 60	1.8	15	39.4 x 9.6 x 31.5	82	FXSQ24TAVJU	DAIKIN	SEE NOTE(S) BELOW
AC-C	4	ADMIN BUILDING	1,130	36	23	75	62.6	39.9	R-410A	5/8"	3/8"	1"	208 - 1 - 60	2.5	15	55.1 x 9.6 x 31.5	101	FXSQ36TAVJU	DAIKIN	SEE NOTE(S) BELOW
AC-D	2	ADMIN BUILDING	1,520	48	28.9	75	62.6	53.9	R-410A	5/8"	3/8"	3/4"	208 - 1 - 60	6.5	15	21 x 53.4 x 21	150	FXTQ48TAVJUD	DAIKIN	SEE NOTE(S) BELOW
AC-E	10	MHRIC BUILDING	260	6.3	4.9	80	67	8.8	R-410A	1/2"	1/4"	1"	208 - 1 - 60	0.3	15	33.1 x 7.9 x 18.5	38	FXEQ07PVJU	DAIKIN	SEE NOTE(S) BELOW
AC-F																		RESERVED		
AC-G	5	MHRIC BUILDING	304	10.1	7.5	80	67	13.9	R-410A	1/2"	1/4"	1"	208 - 1 - 60	0.4	15	33.1 x 7.9 x 18.5	38	FXEQ12PVJU	DAIKIN	SEE NOTE(S) BELOW
AC-H																		RESERVED		
AC-I	1	MHRIC BUILDING	260	6.3	5.5	75	62.6	8.7	R-410A	1/2"	1/4"	3/4"	208 - 1 - 60	0.3	15	31.3 x 11.4 x 9.3	27	FXAQ07PVJU	DAIKIN	SEE NOTE(S) BELOW
AC-J	1	MHRIC BUILDING	300	9.5	7.8	80	67	10.5	R-410A	1/2"	1/4"	1"	208 - 1 - 60	0.6	15	21.6 x 11.8 x 27.6	55	FXMQ09BVJU	DAIKIN	SEE NOTE(S) BELOW
AC-K	1	MHRIC BUILDING	200	7.2	6.4	80	67	8.5	R-410A	1/2"	1/4"	1"	208 - 1 - 60	0.6	15	21.6 x 11.8 x 27.6	55	FXMQ07PBVJU	DAIKIN	SEE NOTE(S) BELOW
NOTES: 1. ALL INDOOR UNITS (WALL MOUNTED OR CEILING CASSETTE) SHALL BE PROVIDED A CONDENSATE LIFT PUMP FROM THE UNIT MANUFACTURER AND FIELD INSTALLED (FOR WALL MOUNTED UNITS). 2. EACH CEILING-MOUNTED CASSETTE UNIT SHALL HAVE VARIABLE SPEED DC MOTOR, 4-WAY AIRFLOW GRILLE. 3. PROVIDE W/ WALL-MOUNTED THERMOSTATS FOR AC UNITS IN ALL ROOMS. 4. PROVIDE W/ PROPER REFRIGERANT CHARGE FOR ALL UNITS. 5. REFER TO DWG. FOR VRF SYSTEM & ASSOCIATED ACCUS. REFER TO SPEC. SECTION FOR ADDITIONAL INFORMATION. 6. INTERNAL AUTOMATIC TEMPERATURE CONTROLS SHALL BE PROVIDED BY ATC CONTRACTOR. THE ATC CONTRACTOR SHALL SHIP THE DDC CONTROLS FOR ALL UNITS TO THE UNIT MANUFACTURER FOR FACTORY MOUNTING. THE ATC CONTRACTOR SHALL PROVIDE, MOUNT AND WIRE ALL EXTERNAL COMPONENTS. ALL UNITS SHALL BE TIED INTO THE NEW BUILDING MANAGEMENT SYSTEM (BMS). REFER TO ATC DIAGRAMS AND SPECIFICATIONS.																				

OUTDOOR ACC UNIT SCHEDULE

TAG	LOCATION	AREAS SERVED	COOLING (TMBH)	HEATING (TMBH)	AMBIENT TEMP (°F)	SUCTION TEMP (°F)	ELECTRICAL DATA V - Ph - Hz	MCA	MOP	EER	DIMENSIONS W x H x D (Inches)	APPROX. WEIGHT (Lbs)	MODEL	MANUFACTURER	
ACCU-1	ADMIN ROOF	101, 102, 102A, 102B, 102C	128	101	95	45	208 - 3 - 60	61.9	70	10.6	48.9 x 66.7 x 30.2	793	REYQ168XATJA	DAIKIN (VRV)	SEE NOTE(S) BELOW
ACCU-2	ADMIN ROOF	100A, 100B, 100C, 104, 105, 105A	83	66	95	45	208 - 3 - 60	38.1	45	12.5	48.9 x 66.7 x 30.2	727	REYQ096XATJA	DAIKIN (VRV)	SEE NOTE(S) BELOW
ACCU-3	ADMIN ROOF	107A, 107B, 107C, 107E, 107F, 107G, 107H, 107J	61	57	95	45	208 - 3 - 60	38.1	45	13.9	48.9 x 66.7 x 30.2	727	REYQ72XATJA	DAIKIN (VRV)	SEE NOTE(S) BELOW
ACCU-4	ADMIN ROOF	106, 107, 107K, 107L, 107M, 107N, 107P, 107R	127	95	95	45	208 - 3 - 60	58.3	70	11.6	48.9 x 66.7 x 30.2	727	REYQ144XATJA	DAIKIN (VRV)	SEE NOTE(S) BELOW
ACCU-5	OUTSIDE MHRIC	102A, 102B, 102C, 104, 107, 114	67.6	71.4	95	45	208 - 3 - 60	36.3	45	14.3	48.9 x 66.7 x 30.2	524.7	RXYQ96XATJA	DAIKIN (VRV)	SEE NOTE(S) BELOW
ACCU-6	OUTSIDE MHRIC	204, 205	39.7	40.4	95	45	208 - 1 - 60	29.1	35	14.3	37.0 x 39.0 x 12.6	176.4	RXTQ48TAVJU	DAIKIN (VRV)	SEE NOTE(S) BELOW
ACCU-7	OUTSIDE MHRIC	207	48.6	49.9	95	45	208 - 1 - 60	29.1	35	14.3	35.4 x 53.0 x 12.6	224.9	RXTQ60TAVJU	DAIKIN (VRV)	SEE NOTE(S) BELOW
NOTES: PROVIDE WITH LOW AMBIENT CONTROL TO 0°F, PATE EQUIPMENT ROOF SUPPORT, INTERLOCK WITH THEIR RESPECTIVE INDOOR AC UNITS.															

ENERGY RECOVERY VENTILATOR

(RENEW AIRE AS STANDARD OR APPROVED EQUAL)

TAG	MFG'R.	MODEL	SA (CFM)	EA (CFM)	ENERGY RECOVERY					FAN DATA		FILTER EFF.	APPROX. UNIT WT. (LBS)	UNIT DIMENSIONS (LxWxH) (IN.)	ELECTRICAL			REMARKS		
					COOLING		HEATING		SENSIBLE EFFECTIVENESS (%)	SENSIBLE EFFECTIVENESS (%)	SENSIBLE EFFECTIVENESS (%)									
					EADB/EAWB (°F)	LADB/LAWB (°F)	EAT (°F)	LADB/LAWB (°F)												
ERV-1	RENEW AIRE	SL75	100	100	95/75	77.6/67.4	0/-1.8	52.2/39.9	69.6	50.1	65.3	0.5 / 0.5	0.85 / 0.85	MERV 8	35	30.8 x 21.3 x 9.5	120/1/60	10	15	SEE NOTES
ERV-2	RENEW AIRE	EV PREMIUM M	120	120	95/75	76.5/66.4	0/-1.8	55.6/42.4	74.1	56.5	70.4	0.5 / 0.5	1.22 / 1.22	MERV 8	36	22.5 x 23.8 x 12.7	120/1/60	10	15	SEE NOTES
ERV-3	RENEW AIRE	EV450	275	275	95/75	75.6/65.6	0/-1.8	58.3/45	77.8	61.2	76.1	0.6 / 0.6	0.81 / 0.81	MERV 8	250	47.2 x 36.4 x 16.4	120/1/60	10.1	15	SEE NOTES
NOTES: 1. PROVIDE HINGED ACCESS DOORS. NON-FUSED DISCONNECT SWITCH, MOTORIZED DAMPERS. 2. ALL MOTORS SHALL BE PREMIUM EFFICIENCY TYPE. 3. PROVIDE WITH 3 KW, 208V / SINGLE PHASE ELECTRIC DUCT HEATER AND THERMOSTAT. DUCT HEATER SHALL HAVE SEPARATE ELECTRICAL CONNECTION AND DISCONNECT SWITCH.																				

ADMIN. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS
NYSED PROJECT # 62-90-00-00-1-003-016

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MECHANICAL SCHEDULES
CAPITAL PROJECTS
ULSTER COUNTY BOCES
NEW PALTZ CAMPUS
ULSTER COUNTY, NEW YORK

Job No. 4.1342.24
File No. 4134224M601

M6.01

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Checked TW	
Drawn SS	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <h1 style="margin: 0;">VLAD POTIYEVSKY, R.A.</h1> <p style="margin: 0;">THE REGISTERED ARCHITECT</p> </div> <div style="text-align: center;"> <p style="margin: 0;">License No. 030220-1 Exp. 06/30/24</p> </div> </div>	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p style="margin: 0;">UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. THESE DOCUMENTS REMAIN THE EXCLUSIVE PROPERTY OF THE ENGINEER AND MAY NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.</p> </div> <div style="text-align: center;"> <h2 style="margin: 0;">Revisions:</h2> <p style="margin: 0;">BD ADD. 2 12/01/23</p> </div> </div>	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <h1 style="margin: 0;">AN ASSOCIATES</h1> <p style="margin: 0;">Engineering, Planning, Architecture, Surveying LLP</p> </div> <div style="text-align: center;"> <p style="margin: 0;">252 Main Street, Goshen, New York 10924</p> <p style="margin: 0;">t. 845-615-0350 f. 845-615-0351</p> </div> </div>	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <h2 style="margin: 0;">MECHANICAL SCHEDULES</h2> <p style="margin: 0;">CAPITAL PROJECTS ULSTER COUNTY BOCES NEW PALTZ CAMPUS ULSTER COUNTY, NEW YORK</p> </div> <div style="text-align: center;"> <p style="margin: 0;">Job No. 4.13422.24</p> <p style="margin: 0;">File No. 4134224M601</p> </div> </div>	
<h1 style="margin: 0;">M6.01</h1>	

A	B			C		D		E		F		G		
1	VENTILATION INDEX - MHRIC BUILDING													
	ROOM NO.	ROOM NAME	FLOOR AREA (SQ. FT.)	OCCUPANCY CLASSIFICATION	REQUIRED O.A. PER SQ. FT.	REQUIRED O.A. FOR SPACE	NO. OF PEOPLE	REQUIRED O.A. PER PERSON	REQUIRED O.A. FOR OCCUPANTS	TOTAL MIN. O.A. REQUIRED (CFM)	ZONE AIR DISTRIBUTION EFFECTIVENESS	ZONE MIN. O.A. REQUIRED (CFM)	DESIGN O.A. (CFM)	DESIGN E.A. (CFM)
2	100	ENTRY	109	CORRIDOR	0.06	7	-	-	-	7	0.8	8	8	
	102A	CORRIDOR	179	CORRIDOR	0.06	11	-	-	-	11	0.8	13	13	
	102B	CORRIDOR	253	CORRIDOR	0.06	15	-	-	-	15	0.8	19	19	
	102C	CORRIDOR	178	CORRIDOR	0.06	11	-	-	-	11	0.8	13	13	
	103	OFFICE	154	OFFICE SPACE	0.06	9	1	5	5	14	0.8	18	18	
3	104	WORK AREA	718	OFFICE SPACE	0.06	43	4	5	20	63	0.8	79	79	
	104A	ELECTRIC	45	N/A	-	-	-	-	-	-	0.8	-	0	
	105	SERVICE ENTRY	130	CORRIDOR	0.06	8	-	-	-	8	0.8	10	10	
	105B	BOILER ROOM	63	N/A	-	-	-	-	-	-	0.8	-	0	
	106	STORAGE	272	STORAGE	0.06	16	1	5	5	21	0.8	27	27	
4	107	TESTING	535	OFFICE SPACE	0.06	32	3	5	15	47	0.8	59	59	
	108	TELEPHONE/FIBER OPTICS	73	TELEPHONE CLOSET	-	-	-	-	-	-	0.8	-	0	
	109	COMPUTER ROOM	1,054	COMPUTER LAB	0.06	63	4	5	20	83	0.8	104	104	
	112	COFFEE	64	COFFEE STATIONS	0.06	4	2	5	10	14	0.8	17	17	
	113	CLA	429	OFFICE SPACE	0.06	26	2	5	10	36	0.8	45	45	
5	114	OFFICE AREA	249	OFFICE SPACE	0.06	15	1	5	5	20	0.8	25	25	
	114A	OFFICE AREA	138	OFFICE SPACE	0.06	8	1	5	5	13	0.8	17	17	
	115	TECH AREA	550	OFFICE SPACE	0.06	33	3	5	15	48	0.8	60	60	
	113A	COMM.	199	TELEPHONE CLOSET	-	-	-	-	-	-	0.8	-	0	
	200	HALLWAY	132	CORRIDOR	0.06	8	-	-	-	8	0.8	10	10	
6	202	CUSTODIAN	29	CUSTODIAN	1.00	29	-	-	-	29	0.8	36	29	29
	203	STORAGE	82	STORAGE	0.06	5	-	5	-	5	0.8	6	6	
	204	WORK AREA	1,243	OFFICE SPACE	0.06	75	6	5	30	105	0.8	131	131	
	204A	OFFICE	161	OFFICE SPACE	0.06	10	1	5	5	15	0.8	18	35	
	205	KITCHEN	211	KITCHENS (COOKING)	0.12	25	4	8	30	55	0.8	69	69	0
7	207	WORK AREA	1,674	OFFICE SPACE	0.06	100	8	5	40	140	0.8	176	176	
	207A	OFFICE	243	OFFICE SPACE	0.06	15	1	5	5	20	0.8	24	24	
	207B	OFFICE	181	OFFICE SPACE	0.06	11	1	5	5	16	0.8	20	20	
	207C	OFFICE	166	OFFICE SPACE	0.06	10	1	5	5	15	0.8	19	19	
	207D	OFFICE	180	OFFICE SPACE	0.06	11	1	5	5	16	0.8	20	20	
	207E	OFFICE	136	OFFICE SPACE	0.06	8	1	5	5	13	0.8	16	16	

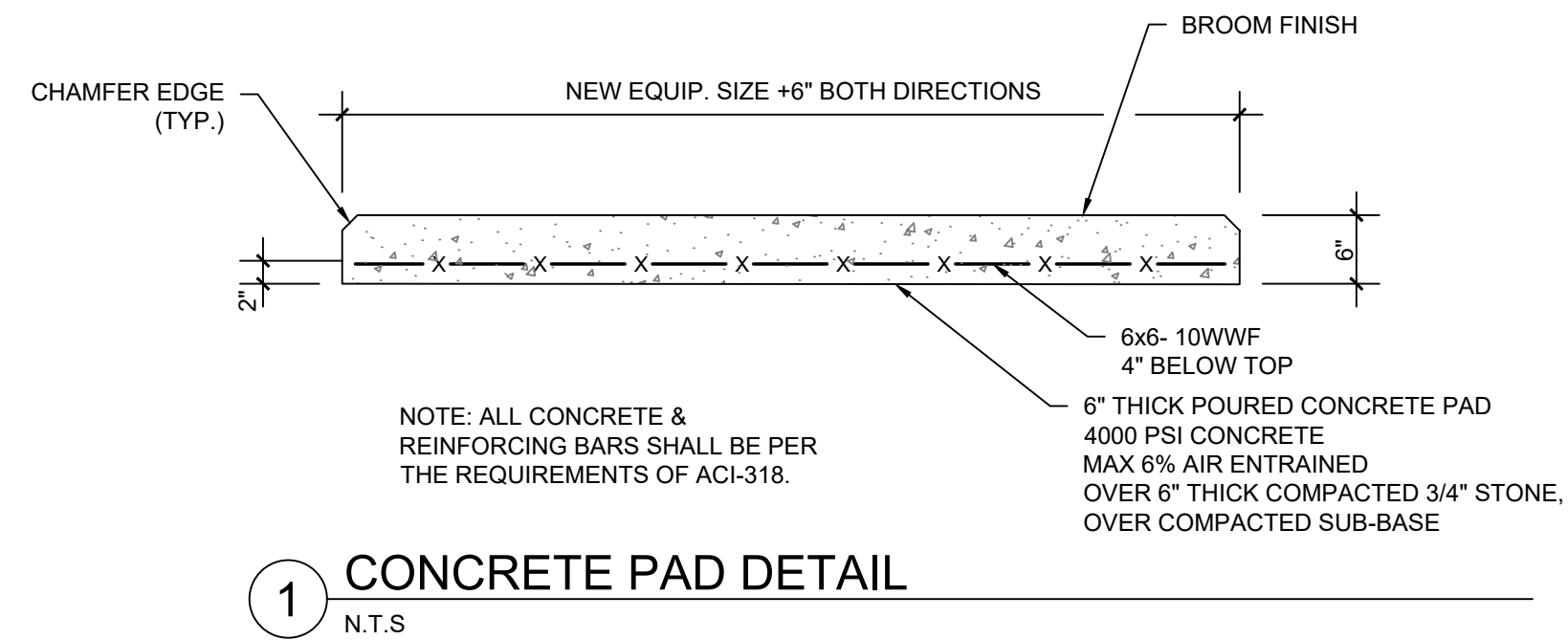
ROOM NO.	ROOM NAME	FLOOR AREA (SQ. FT.)	OCCUPANCY CLASSIFICATION	REQUIRED O.A. PER SQ. FT.	REQUIRED O.A. FOR SPACE	NO. OF PEOPLE	REQUIRED O.A. PER PERSON	REQUIRED O.A. FOR OCCUPANTS	TOTAL MIN. O.A. REQUIRED (CFM)	ZONE AIR DISTRIBUTION EFFECTIVENESS	ZONE MIN. O.A. REQUIRED (CFM)	DESIGN O.A. (CFM)	DESIGN E.A. (CFM)
100	ENTRY	109	CORRIDOR	0.06	7	0	0	0	6.54	0.80	8	8	
101	STORAGE	11	N/A	0.00	0	0	0	0	0.00	0.80	0	0	
102A	CORRIDOR	179	CORRIDOR	0.06	11	0	0	0	10.74	0.80	13	13	
102B	CORRIDOR	253	CORRIDOR	0.06	15	0	0	0	15.18	0.80	19	19	
102C	CORRIDOR	178	CORRIDOR	0.06	11	0	0	0	10.68	0.80	13	13	
103	OFFICE	154	OFFICE SPACE	0.06	9	1	5	5	14.24	0.80	18	18	
104	WORK AREA	718	OFFICE SPACE	0.06	43	4	5	20	63.08	0.80	79	79	
104A	ELECTRIC	45	N/A	0.00	0	0	0	0	0.00	0.80	0	0	
105	SERVICE ENTRY	130	CORRIDOR	0.06	8	0	0	0	7.80	0.80	10	10	
105B	BOILER ROOM	63	N/A	0.00	0	0	0	0	0.00	0.80	0	0	
106	STORAGE	272	STORAGE	0.06	16	1	5	5	21.32	0.80	27	27	
107	TESTING	535	OFFICE SPACE	0.06	32	3	5	15	47.10	0.80	59	59	
108	TELEPHONE/ FIBER OPTICS	73	TELEPHONE CLOSET	0.00	0	0	0	0	0.00	0.80	0	0	
109	COMPUTER ROOM	1054	COMPUTER LAB	0.06	63	4	5	20	83.24	0.80	104	104	
110	WOMEN'S WC	57	TOILET	0.00	0	0	0	0	0.00	0.80	0	100	100
111	MEN'S WC	60	TOILET	0.00	0	0	0	0	0.00	0.80	0	150	150
112	COFFEE	64	COFFEE STATIONS	0.06	4	2	5	10	13.84	0.80	17	17	
113	CLA	429	OFFICE SPACE	0.06	26	2	5	10	35.74	0.80	45	45	
114	OFFICE AREA	249	OFFICE SPACE	0.06	15	1	5	5	19.94	0.80	25	25	
114A	OFFICE AREA	138	OFFICE SPACE	0.06	8	1	5	5	13.28	0.80	17	17	
115	TECH AREA	550	OFFICE SPACE	0.06	33	3	5	15	48.00	0.80	60	60	
STOR	STORAGE	33	N/A	0.00	0	0	0	0	0.00	0.80	0	0	
113A	COMM.	199	TELEPHONE CLOSET	0.00	0	0	0	0	0.00	0.80	0	0	
200	HALLWAY	132	CORRIDOR	0.06	8	0	0	0	7.92	0.80	10	10	
201	MEN'S WC	55	TOILET	0.00	0	0	0	0	0.00	0.80	0	100	100
202	CUSTODIAN	29	CUSTODIAN	1.00	29	0	0	0	29.00	0.80	36	29	29
203	STORAGE	82	STORAGE	0.06	5	0	5	0	4.92	0.80	6	6	
204	WORK AREA	1243	OFFICE SPACE	0.06	75	6	5	30	104.58	0.80	131	131	
204A	OFFICE	161	OFFICE SPACE	0.06	10	1	5	5	14.66	0.80	18	35	
205	KITCHEN	211	KITCHENS (COOKING)	0.12	25	4	8	30	55.32	0.80	69	69	
206	WOMEN'S WC	44	TOILET	0.00	0	0	0	0	0.00	0.80	0	100	100
207	WORK AREA	1674	OFFICE SPACE	0.06	100	8	5	40	140.44	0.80	176	176	
207A	OFFICE	243	OFFICE SPACE	0.06	15	1	5	5	19.58	0.80	24	24	
207B	OFFICE	181	OFFICE SPACE	0.06	11	1	5	5	15.86	0.80	20	20	
207C	OFFICE	166	OFFICE SPACE	0.06	10	1	5	5	14.96	0.80	19	19	
207D	OFFICE	180	OFFICE SPACE	0.06	11	1	5	5	15.80	0.80	20	20	
207E	OFFICE	136	OFFICE SPACE	0.06	8	1	5	5	13.16	0.80	16	16	

[illegible]

10

WALL-MOUNTED OUTDOOR AIR CONDITIONING UNIT SCHEDULE																										(BARD AS STANDARD)	
TAG	AREA SERVED	SUPPLY CFM	MINIMUM OUTSIDE AIR (CFM)	ELECTRIC HEATING COIL				DX COOLING COIL							SUPPLY FAN DATA			FILTER (TYPE)	ELECTRICAL DATA V - Ph - Hz	MCA	MOP	DIMENSIONS (D x W x H) (In.)	APPROX. WEIGHT (Lbs)	MODEL	MANUFACTURER	NOTES	
				NOMINAL SIZE (KW)	EAT (°F)	LAT (°F)	HEAT OUTPUT (MBH)	COOLING TMBH	COOLING SMBH	EADB (°F)	EAWB (°F)	LADB (°F)	LAWB (°F)	OAT (°F)	EER	E.S.P. (In H ₂ O)	M.H.P.										VFD
WPAC-1, 2, 3	COMPUTER ROOM 109	1900	55	15	70	88.3	38.3	71.3	50.5	80	67	56	55	95	10	0.5	3/4	YES	PLEATED MERV 13	208 - 3 - 60	54	60	25.5 x 42 x 93	599	W72AC-B15ZNXXXX	BARD	SEE NOTE(S) BELOW
NOTES: 1. PROVIDE HINGED ACCESS DOORS. 2. SUPPLY FANS SHALL BE ECM TYPE. 3. ALL MOTORS SHALL BE PREMIUM EFFICIENCY TYPE. 4. UNIT SHALL BE PROVIDED WITH SINGLE POINT POWER CONNECTION. 5. ALL NEW WPAC's TO BE PROVIDED WITH NEW DDC CONTROLS BY MANUFACTURER. ATC CONTRACTOR TO TIE INTO THE NEW BMS. 7. REFER TO ELECTRICAL PLANS FOR DETAILS ON EQUIPMENT POWER. 8. ELECTRICAL CONTRACTOR TO PROVIDE DUCT SMOKE DETECTORS IN RETURN AIR DUCT MAINS FOR ALL WPAC's. 9. INTERLOCK ALL WPAC's WITH FIRE ALARM SYSTEM. WPAC's TO BE SHUT DOWN WHEN FIRE ALARM SYSTEM INITIATES. 10. CONDENSATE SHALL BE GRAVITY DRAINED TO THE EXTERIOR. 11. ALL UNITS SHALL BE PROVIDED WITH ENTHALPY ECONOMIZER VENTILATION OPTION. 12. PROVIDE ONE (1) LEAD/LAG MANUFACTURER CONTROLLER FOR THE THREE (3) UNITS. TWO (2) UNITS SHALL RUN AT A TIME AND ONE (1) UNIT WILL BE IN STANDBY. BASIS OF DESIGN IS BARD MC5300-BC. PROVIDE AND INSTALL ONE (1) ADDITIONAL TEMPERATURE SENSOR AND CONNECT TO CONTROL PANEL																											

11



NY Certificate of Authorization	
Eng'r. No.	0016867
Date	2/3/23
Checked	TW
Drawn	SS
<div style="display: flex; justify-content: space-between;"> <div> <p>Vlad Potiyevsky, R.A.</p> <p>REGISTERED ARCHITECT</p> </div> <div> <p>Title _____</p> <p>Licenses No. 030220-1 Exp. 06/30/24</p> </div> </div>	

Revisions:

1	BID ADD. 2 12/01/23
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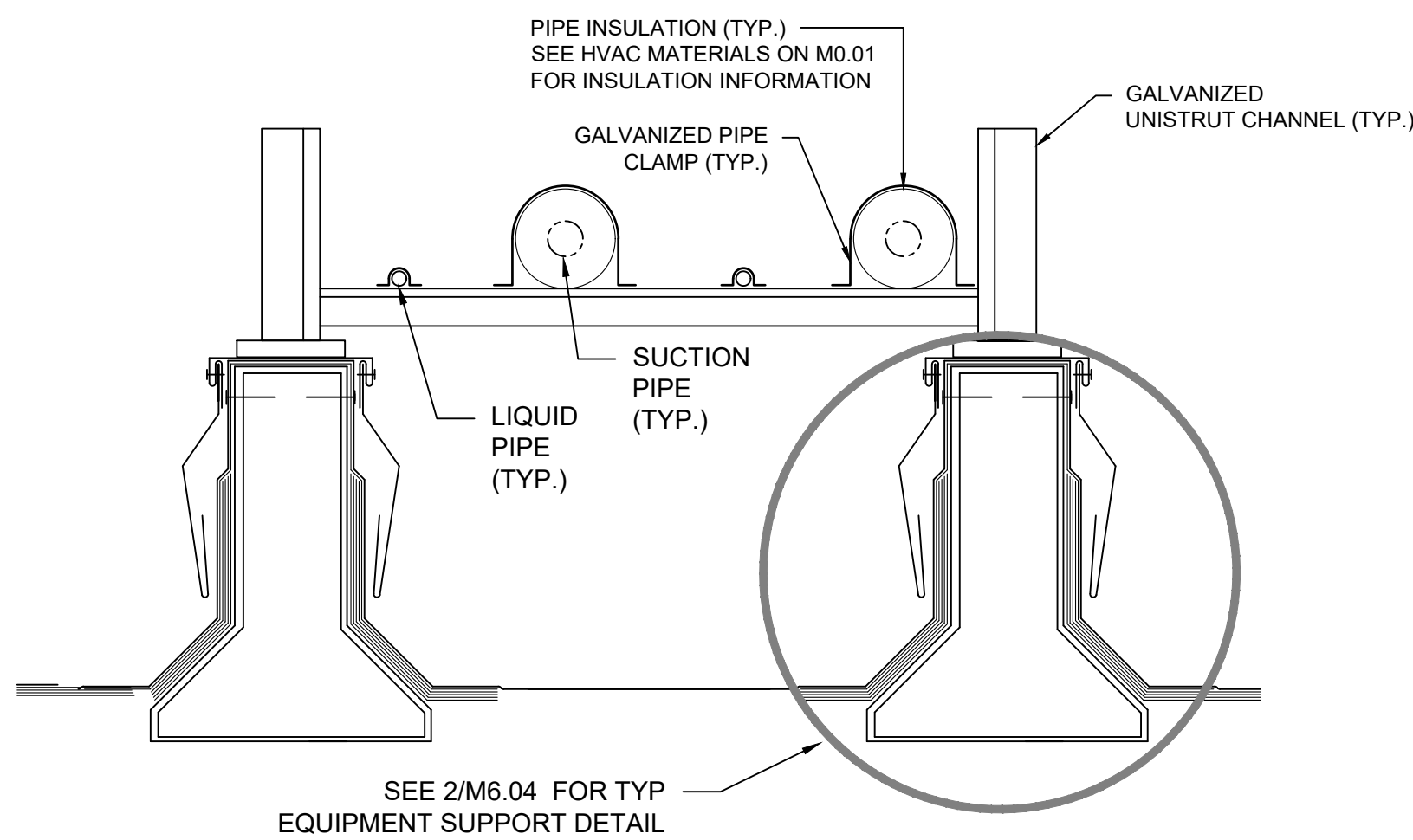
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ASSOCIATES

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Planning,
Architecture,
Surveying LLP

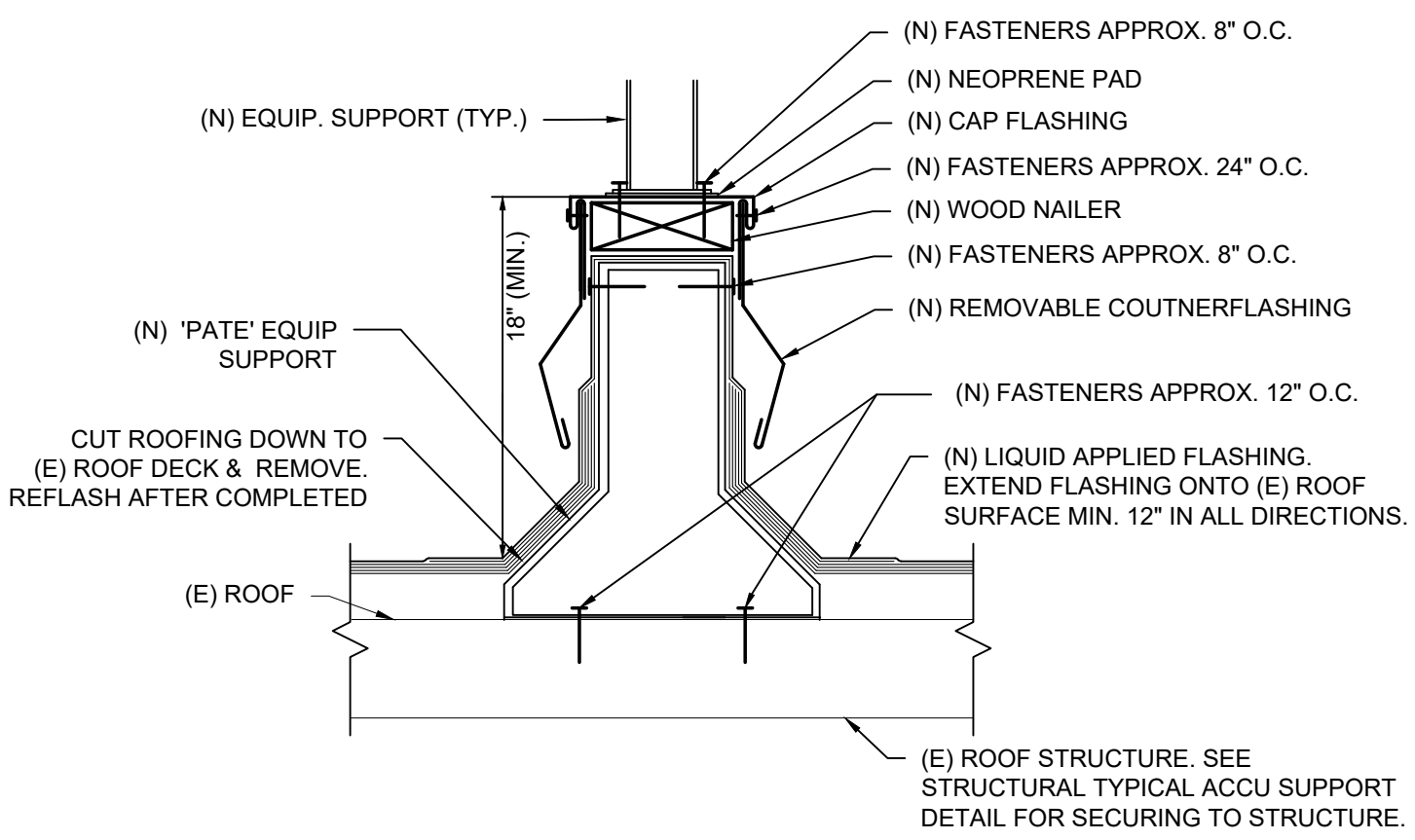
232 Main Street, Goshen, New York 10924 | t. 845-515-0350 | f. 845-615-0351

MECHANICAL SCHEDULES	CAPITAL PROJECTS ULSTER COUNTY BOCES NEW PALTZ CAMPUS ULSTER COUNTY, NEW YORK
JOB NO. 4.1342.24	
FILE NO. 4134224M602	
M6.02	

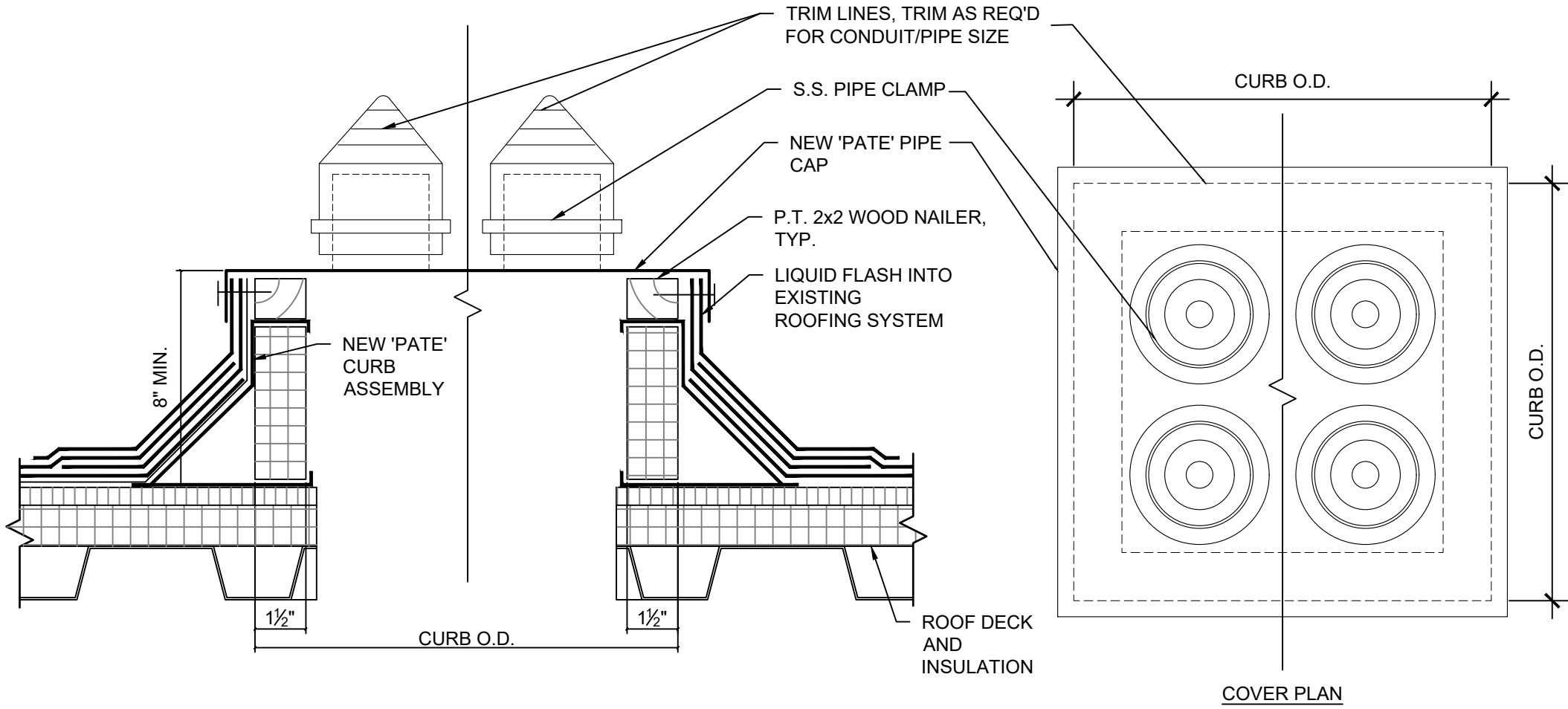
ADMIN. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS
NYSED PROJECT # 62-90-00-00-1-003-016



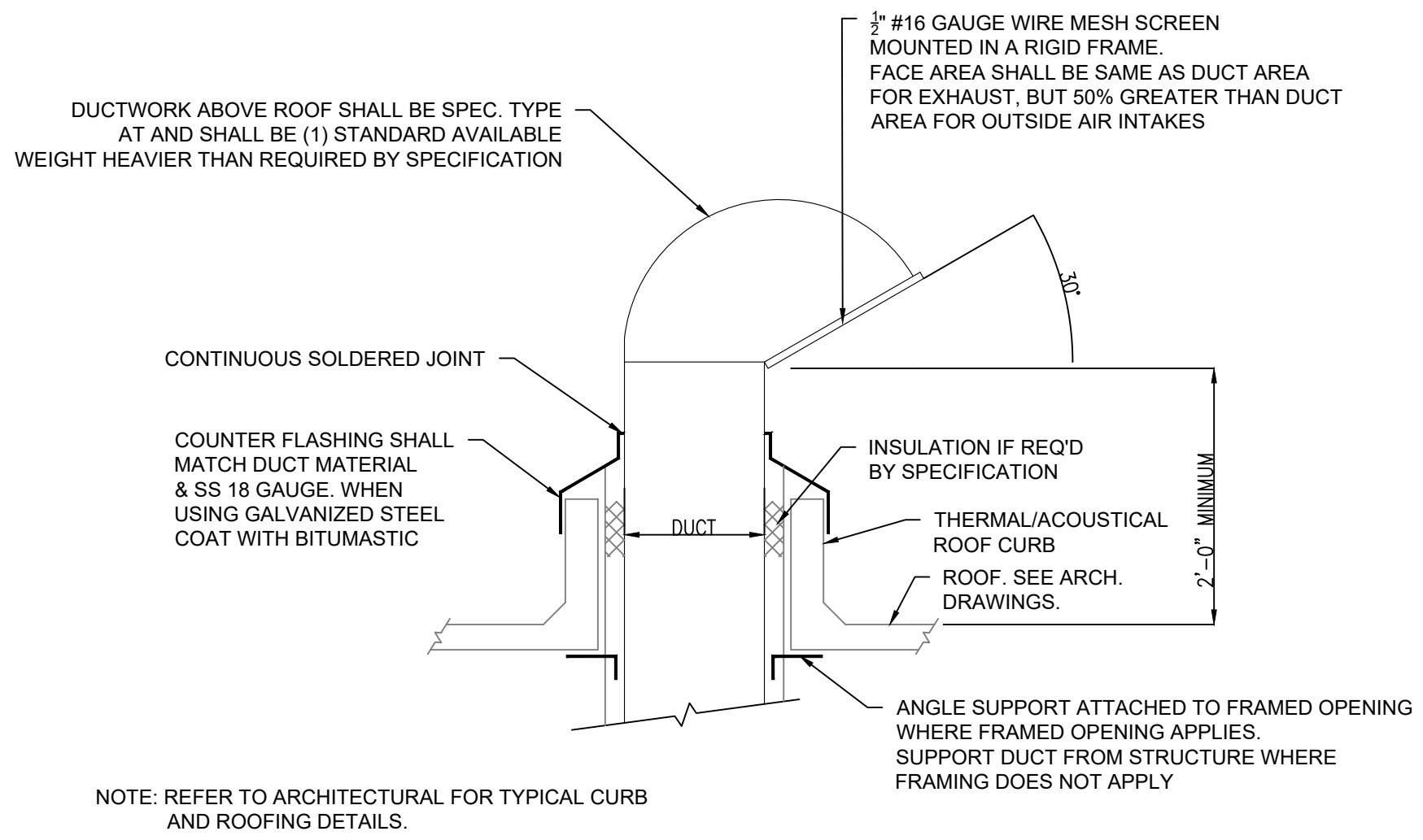
1 REFRIGERANT PIPING ROOF SUPPORT DETAIL
N.T.S



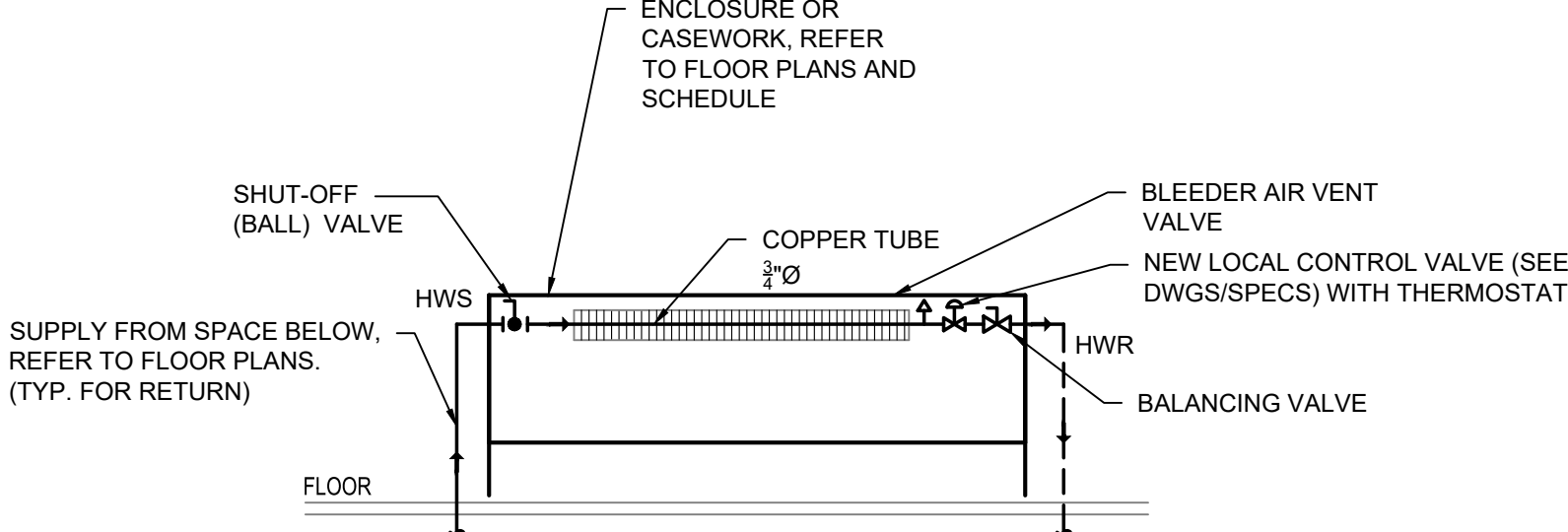
2 ROOF EQUIPMENT SUPPORT RAIL DETAIL
N.T.S



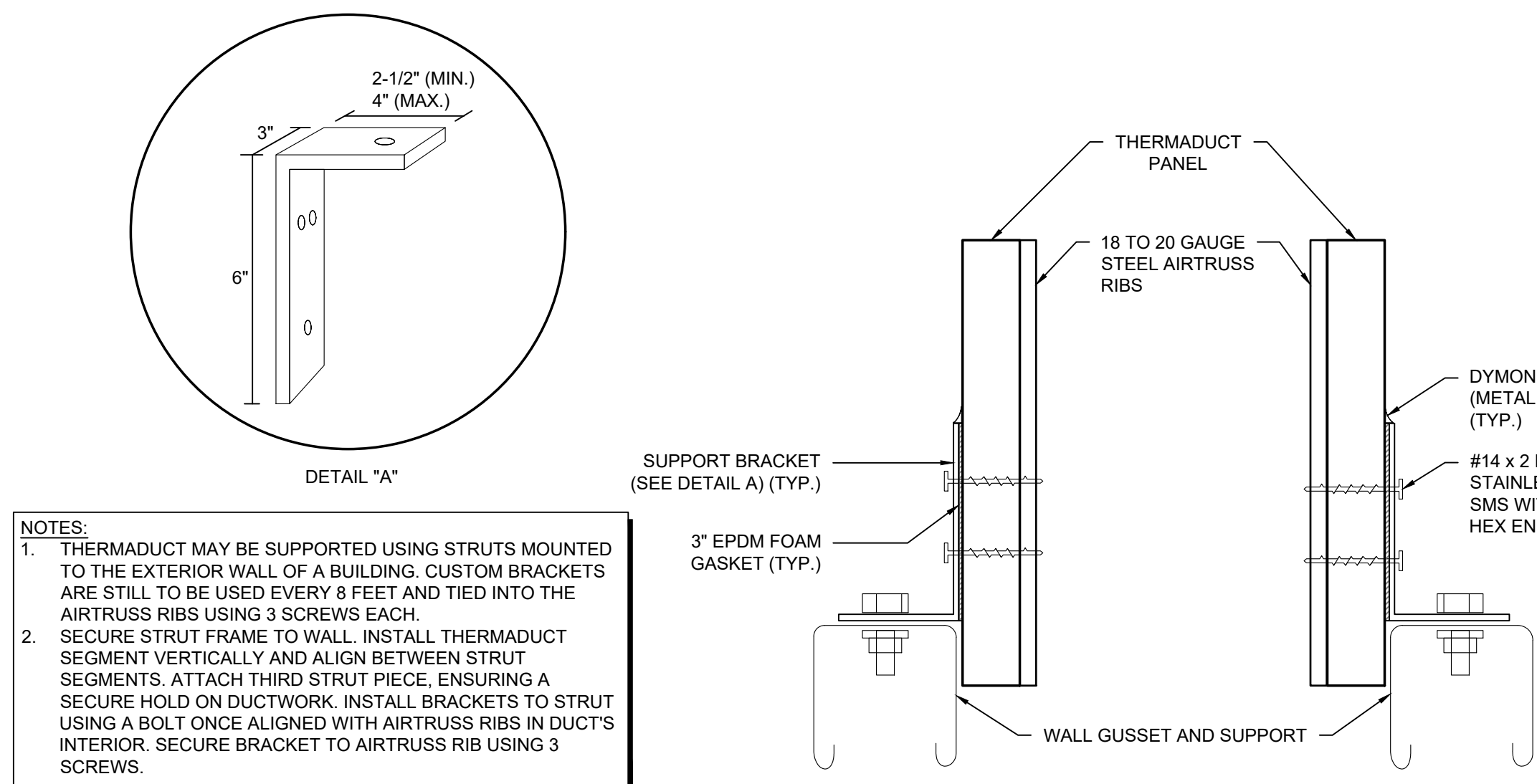
3 PIPE PORTAL DETAIL
N.T.S



4 GOOSENECK DETAIL
N.T.S

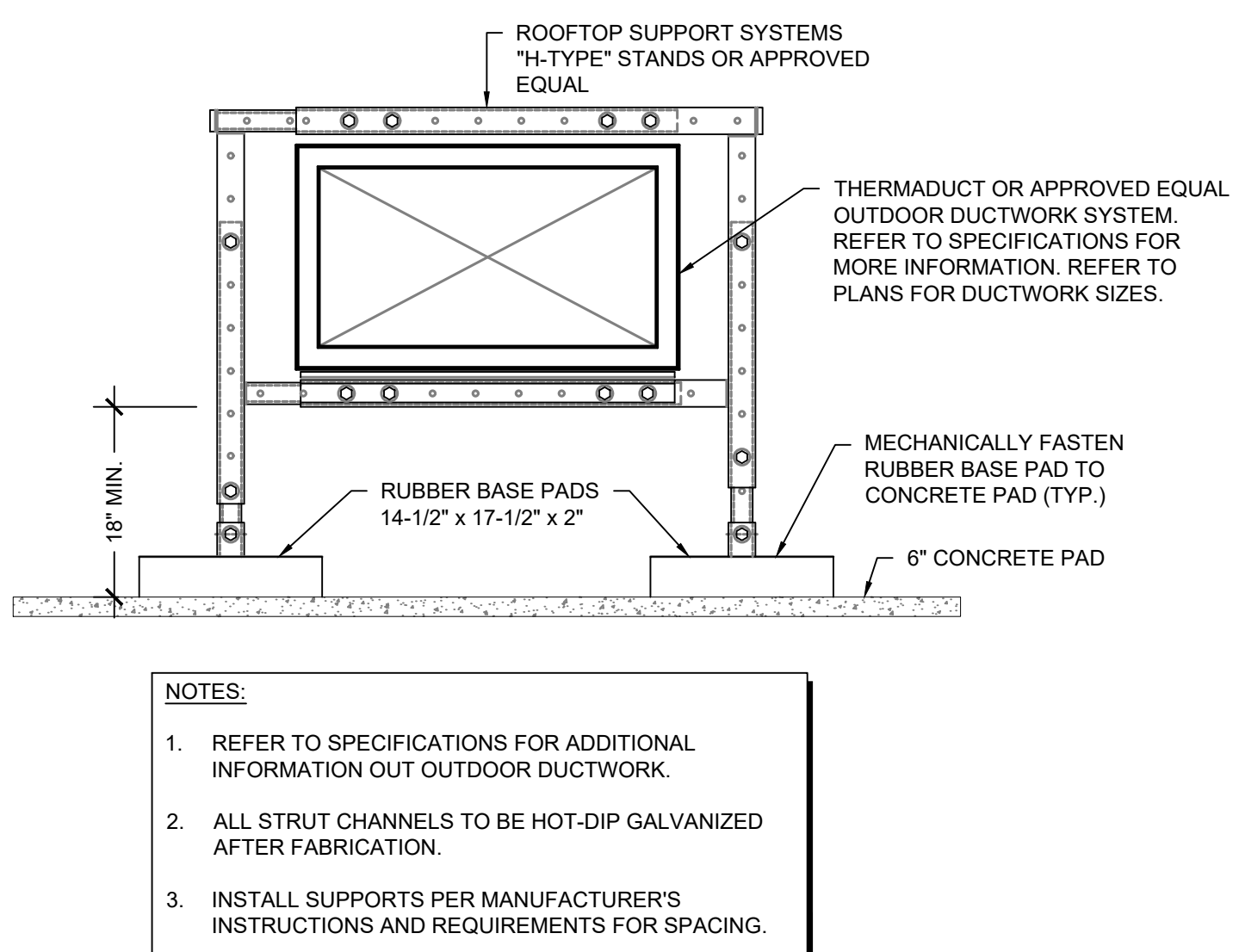


5 FIN-TUBBED RADIATOR PIPING DETAIL - SINGLE ELEMENT
N.T.S



NOTES:
1. THERMADUCT MAY BE SUPPORTED USING STRUTS MOUNTED TO THE EXTERIOR WALL OF A BUILDING. CUSTOM BRACKETS ARE STILL TO BE USED EVERY 8 FEET AND TIED INTO THE AIRTRUSS RIBS USING 3 SCREWS EACH.
2. SECURE STRUT FRAME TO WALL. INSTALL THERMADUCT SEGMENT VERTICALLY AND ALIGN BETWEEN STRUT SEGMENTS. ATTACH THIRD STRUT PIECE, ENSURING A SECURE HOLD ON DUCTWORK. INSTALL BRACKETS TO STRUT USING A BOLT ONCE ALIGNED WITH AIRTRUSS RIBS IN DUCT'S INTERIOR. SECURE BRACKET TO AIRTRUSS RIB USING 3 SCREWS.

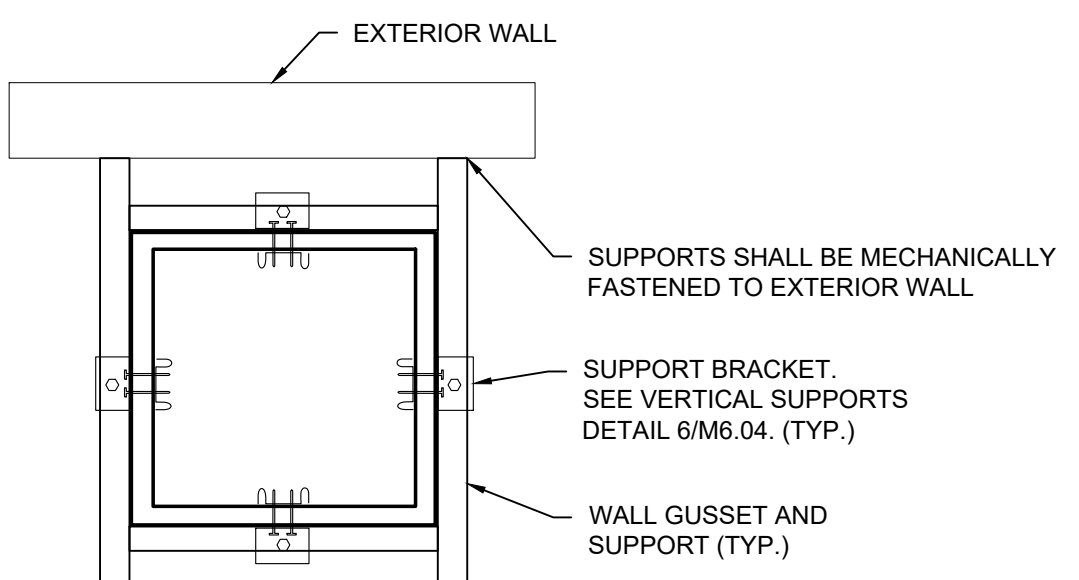
6 EXTERIOR DUCTWORK VERTICAL SUPPORTS DETAIL
N.T.S



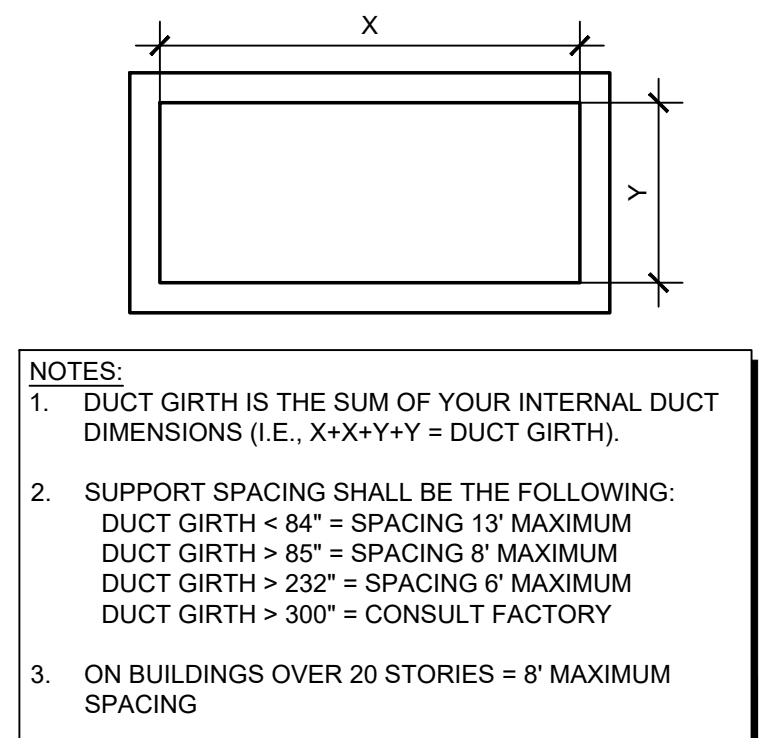
NOTES:
1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION OUT OUTDOOR DUCTWORK.
2. ALL STRUT CHANNELS TO BE HOT-DIP GALVANIZED AFTER FABRICATION.
3. INSTALL SUPPORTS PER MANUFACTURER'S INSTRUCTIONS AND REQUIREMENTS FOR SPACING.

7 ON-GRADE EXTERIOR DUCTWORK SUPPORTS DETAIL
N.T.S

NOTES:
1. WHEN MOUNTING SUPPORTS TO THE WALL, IT IS IMPORTANT TO LEAVE ROOM FOR THE PROPER APPLICATION OF THE 4-BOLT COVERING SYSTEM AND SEALANT. DEPENDING ON THE SIZE OF THE DUCTWORK YOU ARE INSTALLING, A MINIMUM OF 8" MUST BE OBSERVED. IF YOU ARE INSTALLING LARGER DUCTWORK, YOU MAY BE REQUIRED TO LEAVE MORE SPACE BETWEEN THE BUILDING AND DUCT FOR PROPER SEALANT APPLICATION.
2. SUPPORTS FOR VERTICAL APPLICATIONS SHOULD BE SPACED IN THE SAME FREQUENCY AS THE DUCT'S HORIZONTAL SECTIONS.
3. THE LOWEST VERTICAL ELBOW SHOULD ALWAYS BE SUPPORTED UNDERNEATH AND EMPLOY C CHANNELS OR CORNER ANGLES WHERE APPLICABLE. SUPPORT FREQUENCY SHALL CONTINUE FROM THIS POINT.
4. MINIMUM AMOUNT OF BRACKETS SHALL BE AS FOLLOWS:
DUCT GIRTH < 48" = 2 BRACKETS
DUCT GIRTH > 48"-160" = 4 BRACKETS
DUCT GIRTH > 160"-240" = 6 BRACKETS
DUCT GIRTH > 240"-360" = 8 BRACKETS



8 EXTERIOR DUCTWORK VERTICAL SUPPORTS INSTALLATION DETAIL
N.T.S



NOTES:
1. DUCT GIRTH IS THE SUM OF YOUR INTERNAL DUCT DIMENSIONS (I.E., X+X+Y+Y = DUCT GIRTH).
2. SUPPORT SPACING SHALL BE THE FOLLOWING:
DUCT GIRTH < 84" = SPACING 13' MAXIMUM
DUCT GIRTH > 84" = SPACING 8' MAXIMUM
DUCT GIRTH > 232" = SPACING 6' MAXIMUM
DUCT GIRTH > 300" = CONSULT FACTORY
3. ON BUILDINGS OVER 20 STORIES = 8' MAXIMUM SPACING

EXTERIOR DUCTWORK GIRTH CALCULATION DETAIL
N.T.S

NY Certificate of Authorization
Eng'r. No. 0018867
Date 2/3/23
Checked TW
Drawn JD
Vlad Potyevsky, R.A.
License No. 030220-1 | Exp. 06/30/24
Title REGISTERED ARCHITECT

Revisions:
1 B10 ADD. 2 12/01/23

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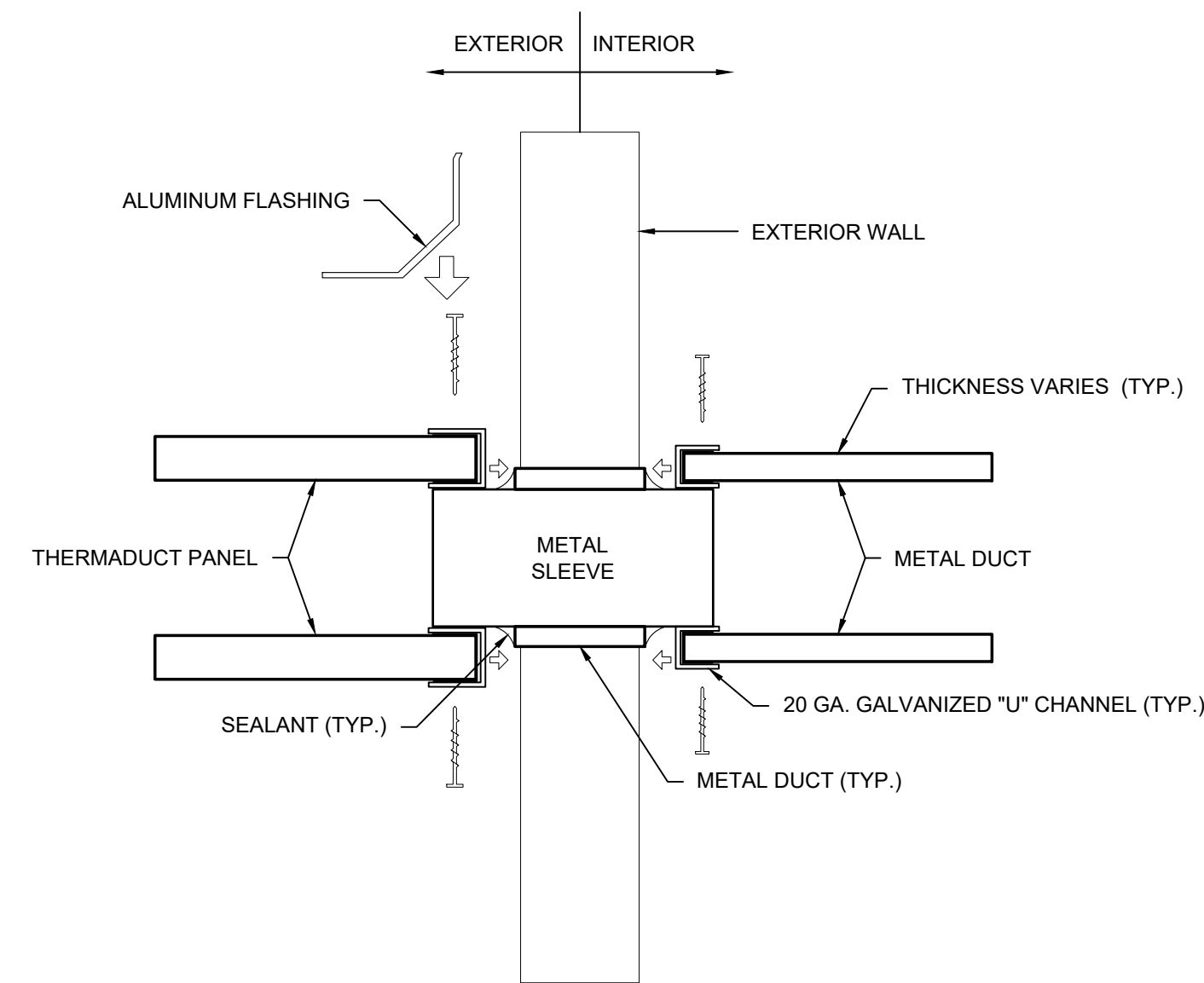
Engineering, Planning, Architecture, Surveying LLP
LAN ASSOCIATES
252 Main Street, Goshen, New York 10924 | L 845-615-0350 | F 845-615-0351

MECHANICAL DETAILS
CAPITAL PROJECTS
ULSTER COUNTY BOCES
NEW PALTZ CAMPUS
ULSTER COUNTY, NEW YORK

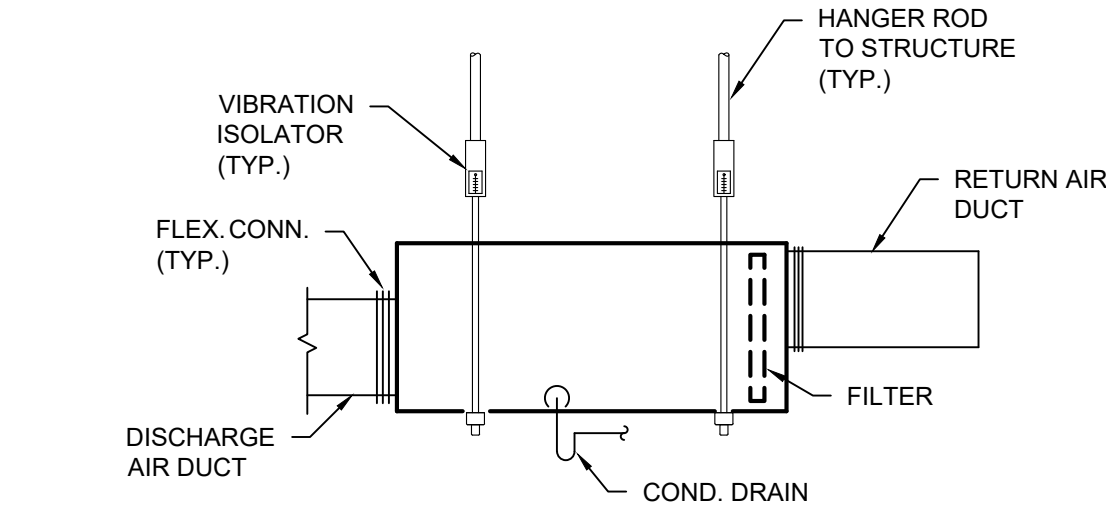
Job No. 4.1342.24
File No. 4134224M603

M6.04

ADMIN. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS
NYSED PROJECT # 62-90-00-00-1-003-016

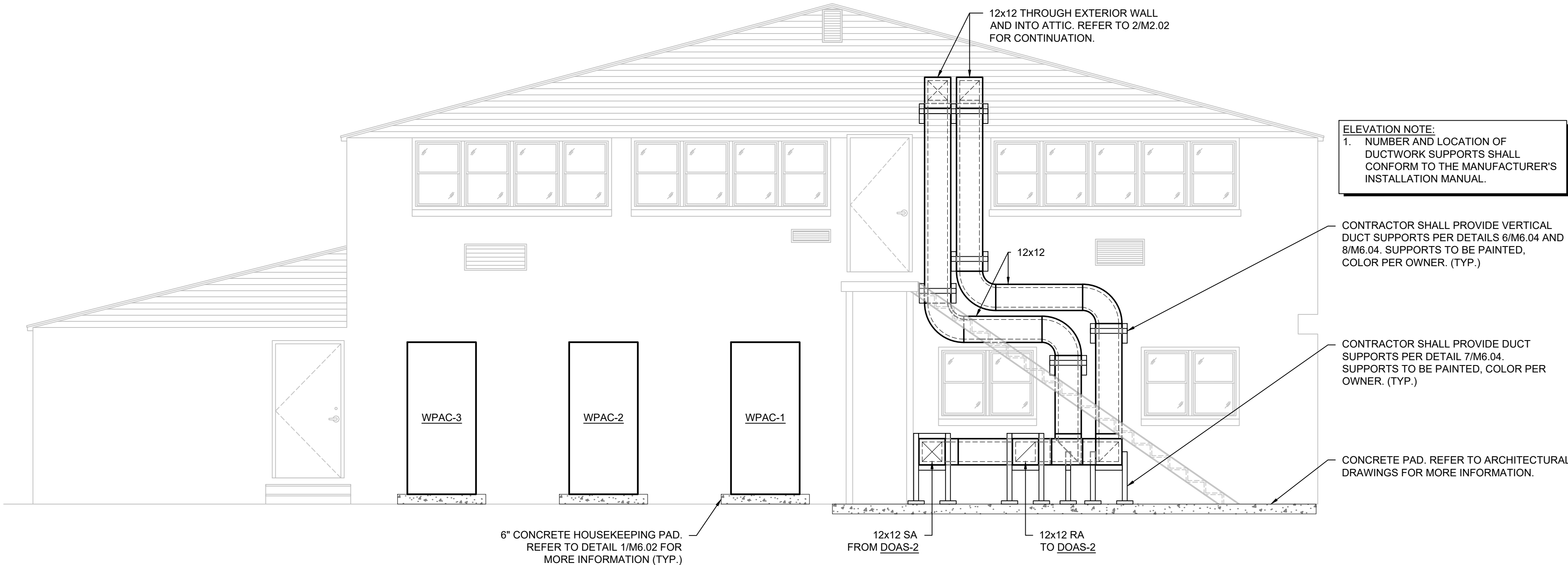


NOTE:
1. CONNECTING TO INTERIOR DUCT, ESPECIALLY THOSE WITH A DIFFERENT THICKNESS THAN THE THERMADUCT SEGMENT, REQUIRES A METAL SLEEVE TO CONNECT TO THE INTERIOR DUCT. RUN A #14 SCREW THROUGH THE METAL "U FLANGE" TO CONNECT TO METAL SLEEVE AND COVER THE EXTERIOR CONNECTION WITH AN ALUMINUM FLASHING.



1 EXTERIOR DUCTWORK THROUGH WALL DETAIL
N.T.S

2 SUSPENDED HEAT PUMP UNIT DETAIL
N.T.S



ELEVATION NOTE:
1. NUMBER AND LOCATION OF DUCTWORK SUPPORTS SHALL CONFORM TO THE MANUFACTURER'S INSTALLATION MANUAL.

CONTRACTOR SHALL PROVIDE VERTICAL DUCT SUPPORTS PER DETAILS 6/M6.04 AND 8/M6.04. SUPPORTS TO BE PAINTED, COLOR PER OWNER. (TYP.)

CONTRACTOR SHALL PROVIDE DUCT SUPPORTS PER DETAIL 7/M6.04. SUPPORTS TO BE PAINTED, COLOR PER OWNER. (TYP.)

CONCRETE PAD. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.

3 WEST WALL EXTERIOR DUCTWORK ELEVATION
1/4" = 1'-0"

NY Certificate of Authorization	
Eng'r. No.	0018867
Date	2/3/23
Checked	TW
Drawn	JD
Vlad Potyevsky, R.A. REGISTERED ARCHITECT License No. 030220-1 EXP. 06/30/24	

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1	BID ADD. 2 12/01/23

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Engineering,
Planning,
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Surveying LLP

LAN ASSOCIATES
252 Main Street, Goshen, New York 10924 | t. 845-615-0350 | f. 845-615-0351

MECHANICAL DETAILS & ELEVATION

CAPITAL PROJECTS
ULSTER COUNTY BOCES
NEW PALTZ CAMPUS
ULSTER COUNTY, NEW YORK

Job No. 4.1342.24
File No. 4134224M603

M6.05

ADMIN. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS
NYSSED PROJECT # 62-90-00-00-1-003-016

Trane Equipment Proposal

Admin. BLDG.**ONLY** . @ NEW PALTZ CAMPUS



Turnkey Proposal For:

Jonah Schenker Ed.D.
Superintendent of schools

Local Trane Office:

Trane U.S. Inc.
301 Old Niskayuna Road, Suite 1
Latham, NY 12110

Local Trane Representative:

Lauren Hayes
Account Manager
Cell: (518) 410-9375

Co-op Contract Number: 3341

Date: November 8, 2023

The below equipment proposal only includes equipment in the ADMIN area .

PROPRIETARY AND CONFIDENTIAL PROPERTY OF Trane U.S. Inc.
DISTRIBUTION TO OTHER THAN THE NAMED RECIPIENT IS PROHIBITED

Prepared For: All Bidders

Date: November 09, 2023

Job Name:

Ulster County BOCES Admin Bldg

Proposal Number: C1-63327-2727-1

Payment Terms: Net 30 Days

Delivery Terms:

Freight Allowed and Prepaid - F.O.B. Factory

Trane U.S. Inc. is pleased to provide the following proposal for your review and approval.

Tag Data - VRF Accessory (Qty: 1)

Item	Tag(s)	Qty	Description
A1	VRF Accessory	1	VRF Accessory (JV_ACC)

Product Data:

2 CMY-R301S-G
 2 CMY-R302S-G1
 12 TLP-18FAU
 30 BV38BBSI
 30 BV58BBSI
 4 SGN-1
 8 SGN-3
 8 SHN-1
 4 QSSB48M-24

Tag Data - VRF Branch Controller (Qty: 1)

Item	Tag(s)	Qty	Description
B1	VRF Branch Co	1	VRF Branch Controller (JV_BCU)

Product Data:

1 Accessory 6 Branch Single BC
 1 Accessory 8 Branch Single BC
 2 Accessory 8 Branch Main BC
 1st Year Labor Warranty

Tag Data - VRF Controls (Qty: 1)

Item	Tag(s)	Qty	Description
C1	VRF Controls	1	VRF Controls (JV_CTRL)

Product Data:

1 TE-200A (Field Installed)
 23 TAC-YT53CRAU-J (Field Installed)
 1 LIC-BACNET MASTER
 1st Year Labor Warranty

Tag Data - VRF Indoor Unit (Qty: 23)

Item	Qty	Description	Model Number
D1	6	Ceiling Concealed Ducted	TPEFYP036MA144A
D2	2	Concealed Vertical Air	TPVFYP048AM141A
D3	4	4-Way Ceiling Cassette	TPLFYP008FM140A
D4	3	Ceiling Concealed Ducted	TPEFYP024MA144A

D5	7	4-Way Ceiling Cassette	TPLFYP012FM140A
D6	1	4-Way Ceiling Cassette	TPLFYP018FM140A

Product Data:

1st Year Labor Warranty

Tag Data - VRF Outdoor Unit (Qty: 4)

Item	Tag(s)	Qty	Description	Model Number
E1	ODU-B1, ODU-E1	2	VRF Outdoor Unit (JV_ODU)	TURYE1203AN40AN
E2	ODU-C1, ODU-D1	2	VRF Outdoor Unit (JV_ODU)	TURYE0963AN40AN

Product Data:

1st Year Labor Warranty

Startup & Owner Training

Not Included (VRF System): Installation, rigging/receiving, electrical/control wiring, smoke detectors, refrigeration tees, secondary drain pans, secondary condensate overflow sensors, external condensate pumps (indoor units have built-in condensate lift mechanism), disconnects, refrigerant piping specialties, hangers, refrigerant piping, insulation, isolation valves, additional refrigerant, humidity sensors, wind-restraints, external vibration isolation, spare parts, service labor, installation labor, airflow measurement stations, any items not listed.

Note:

- **Pricing and selection for VRF indoor units based on floor plan drawings. Drawings are inconsistent with the schedule.**

Tag Data - DOAS-1 Valent (Qty: 1)

Tag(s)	Qty	Description	Model Number
DOAS-1	1	Packaged RTU DOAS w/ Energy Recovery	VXE-112-41D-15I-J-J1

Product Data:

Hinged Access Doors
 VFDs on supply fans
 Premium efficiency motors
 Single Point Power w/ Disconnect & Convenience Outlet
 Microprocessor controls w/ BACnet/MSTP
 Hot Gas Reheat
 Programmable Tstat
 Double Wall Cabinet
 14" Insulated, wind-rated roof curb w/ hold down clips
 1st Year Labor Warranty

Not Included: Installation, rigging/receiving, smoke detectors, perforated inner wall on fan section, elastomeric vibration isolation (neoprene gasketing between DOAS-1 and roof curb to be provided by contractor), any items not listed.

Proposal Clarifications and exclusions

- Proposal above does not include rigging and receiving of equipment. Ulster BOCES is responsible for receiving and receiving equipment.
- Proposal above does not include storage of equipment
- Proposal does not include extended warranties
- Proposal does not include spare filters
- All above listed equipment is shipping without controls.
- Proposal does not include any wiring or integration for controls
- All installation of equipment provided by others
- All valves, piping, external vibration isolation , Drain pans, not included
- Factory start up and Owner training provided by others
- Please refer to above scope for additional exclusions per product type
- Dx condensing units roof rails no included
- Please refer to above for warranties included

Total Net Price (*Excluding Sales Tax*) \$

Tax Status: Taxable <input type="checkbox"/> Exempt <input type="checkbox"/>	IF EXEMPT PLEASE SUBMIT COMPLETED TAX EXEMPTION CERTIFICATE WITH YOUR SIGNED PROPOSAL OR WITH YOUR PURCHASING DOCUMENTS, KEEP YOUR ORIGINAL ON FILE IN THE OFFICE. YOU WILL BE CHARGED TAX IF A VALID EXEMPTION CERTIFICATE IS NOT ON FILE BEFORE EQUIPMENT, PARTS OR SERVICES ARE PROVIDED. SEE WWW.TAXSITES.COM/STATE-LINKS.HTML FOR TAX FORMS.
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Trane U.S. Inc.

301 Old Niskayuna Road, Suite 1
 Latham, NY 12110

This proposal is subject to your acceptance of the attached Trane terms and conditions.

Ductless Warranty/Start-Up/Project Management

- A. Field Project Manager Site Supervision by Trane Service Department.
 - 1. Pre-construction meeting with Trane Field Project Manager/Ductless Technical Specialist required to review site conditions and installation requirements.
 - 2. Installing Contractor must provide updated piping layout required to complete the Diamond System Builder design file.
 - 3. Owner-Training by Trane Service Department is not included unless otherwise noted.
- B. VRF Start-Up Assistance by Trane Service Department
 - 1. Trane will provide Ductless Technical Specialist to support Installing Contractor's start-up efforts.
 - 2. Installing Contractor must contact Trane Service Department to schedule VRF Assisted Start-Up no less than 2 weeks before requested start-up date.
 - 3. Installing Contractor must verify system installations meet Trane-Mitsubishi requirements including but not limited to service clearances, pressure tests, vacuum tests, electrical power to units, wiring/piping connections, and refrigerant charge prior to start-up.
 - 4. No installation labor will be completed by Trane personnel unless otherwise noted.
 - 5. City Multi and M&P-Series Service/Maintenance Tools not included unless otherwise noted.
 - 6. No start-up assistance included on M&P-Series Mini-Splits unless otherwise noted.
 - 7. Any additional labor required from Trane to complete start-up procedure will be billed separately.
- C. Warranty
 - 1. VRF Standard Warranty is 1 year parts, 7 year compressor from the time of startup. VRF Extended 10-Year Parts/Compressor Warranty will be applied if the following requirements are met:
 - a. Installing Contractor completes a certified Trane-Mitsubishi 3-day City-Multi Installation/Service Course.
 - b. The system is designed by a certified Diamond Designer using Diamond System Builder™
 - c. The contractor submits a complete and approved MEUS Extended Warranty Process Report from the start-up/commissioning tool.
(See Trane-Mitsubishi Warranty Policy for details.)
 - 2. M&P Series Standard Warranty is 5 year parts, 7 year compressor from the time of startup. M&P Series Extended 10-Year Parts/Compressor Warranty will be applied if the project is registered within 90 days of installation. See M-Series and P-Series Limited Warranty Policies for details.
 - 3. No labor warranty is included here unless otherwise noted. Please contact your Trane Account Manager for availability.

Supplementary Guidelines

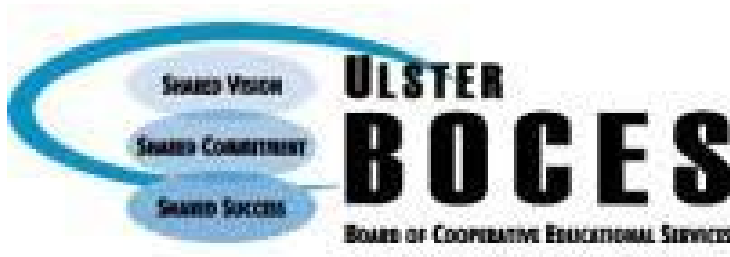
- A. Purchasing Contractor and/or Consulting Engineer must validate unit voltages, model numbers, quantities, required accessories, and unit configurations prior to order.
 - B. Consulting Engineer/Architect and Installing Contractor must approve equipment submittals and system design prior to order, including but not limited to all local code compliances, system application (heat pump vs. heat recovery), service clearances, load analysis, unit configuration, and installation requirements.
 - C. Insulation is required on all condensate piping and refrigerant piping including liquid lines, low pressure gas lines, and high-pressure gas lines.
 - D. All M-Net Control Wiring must be 16AWG, 2-conductor, stranded, shielded cable (MA controllers allow 22-16AWG wire)
 - E. All BC-Controllers must have condensate drain line installed.
- Additional units/accessories not included in the above scope will be at an additional cost.

"Company" shall mean Trane U.S. Inc. for sales in the United States and Trane Canada ULC for sales in Canada.

Waiver of Sovereign Immunity: Customer, on behalf of itself and/or its authorized representative(s), hereby waives its sovereign immunity, to the fullest extent permitted by law, to any organized corporate entity of tomorrow, for itself and for its agents, successors, and assigns: (1) hereby provides this limited waiver of its sovereign immunity as to any damages, claims, lawsuit, or cause of action (herein "Action") brought against Customer by Company and arising or alleged to arise out of the furnishing by Company of any product or service under this Agreement, whether such Action is based in contract, tort, strict liability, civil liability or any other legal theory; (2) agrees that jurisdiction and venue for any such Action shall be proper and valid (a) if Customer is in the U.S., in any state or United States court located in the state in which Company is performing this Agreement or (b) if Customer is in Canada, in the superior court of the province or territory in which the work was performed; (3) expressly consents to such Action, and waives any objection to jurisdiction or venue; (4) waives any requirement of exhaustion of tribal court or administrative remedies for any Action arising out of or related to this Agreement; and (5) expressly acknowledges and agrees that Company is not subject to the jurisdiction of Customer's tribal court or any similar tribal forum, that Customer will not bring any action against Company in tribal court, and that Customer will not avail itself of any ruling or direction of the tribal court permitting or directing it to suspend its payment or other obligations under this Agreement. The individual signing on behalf of Customer warrants and represents that such individual is duly authorized to provide this waiver and enter into this Agreement and that this Agreement constitutes the valid and legally binding obligation of Customer, enforceable in accordance with its terms.

Trane Equipment Proposal

MRIC BLDG.ONLY . @ NEW PALTZ CAMPUS



Turnkey Proposal For:

Jonah Schenker Ed.D.
Superintendent of schools

Local Trane Office:

Trane U.S. Inc.
301 Old Niskayuna Road, Suite 1
Latham, NY 12110

Local Trane Representative:

Lauren Hayes
Account Manager
Cell: (518) 410-9375

Co-op Contract Number: 3341

Date: November 20 , 2023

PROPRIETARY AND CONFIDENTIAL PROPERTY OF Trane U.S. Inc.
DISTRIBUTION TO OTHER THAN THE NAMED RECIPIENT IS PROHIBITED

Prepared For: Ulster County BOCES
Job Name: Ulster County BOCES MHRIC Bldg
Delivery Terms: Freight Allowed and Prepaid - F.O.B. Factory

Date: November 20, 2023
Proposal Number: C1-63327-2773-1
Payment Terms: Net 30 Days

Trane U.S. Inc. is pleased to provide the following proposal for your review and approval.

Tag Data - DOAS-2 Horizon (Qty: 1)

Tag(s)	Qty	Description	Model Number
DOAS-2	1	Packaged HP DOAS w/ Energy Recovery	OABE036D3

Product Data:

Hinged Access Doors
 Single Point Power w/ Disconnect & Convenience Outlet
 Microprocessor controls w/ BACnet/MSTP
 Hot Gas Reheat
 Double Wall Cabinet

Not Included: Installation, rigging/receiving, curb, smoke detectors, perforated inner wall on fan section, external vibration isolation, any items not listed.

Tag Data – Energy Recovery Ventilator (Qty: 3)

Tag(s)	Qty	Description	Model Number
ERV-1	1	RenewAire ERV	SL-75
ERV-2	1	RenewAire ERV	EV Premium M
ERV-3	1	RenewAire ERV	EV450JIN

Product Data:

3 kW Electric Duct Heater
 Non-fused disconnect

Not Included: Installation, rigging/receiving, motorized dampers, microprocessor controller, BACnet, filters, any items not listed.

Tag Data - VRF Accessory (Qty: 1)

Tag(s)	Qty	Description
VRF Accessory	1	VRF Accessory (JV_ACC)

Product Data:

1 X87-721
 15 TMP-16BMUW
 1 CMY-R301S-G
 1 PMP-16BMUW
 2 QSMS2402M
 12 BV38BBSI
 12 BV58BBSI
 1 SGN-1

2 SGN-3
 2 SHN-1
 1 QSSB48M-24
 7 CMY-Y62-G-E

Tag Data - VRF Branch Controller (Qty: 1)

Tag(s)	Qty	Description	Model Number
VRF Branch Co	1	12 Branch Single BC	TCMBG1012SJ11N4

Product Data:

1st Year Labor Warranty

Tag Data - VRF Controls (Qty: 1)

Tag(s)	Qty	Description
VRF Controls	1	VRF Controls (JV_CTRL)

Product Data:

18 TAC-YT53CRAU-J (Field Installed)
 1 LIC-BACNET MASTER
 1 TE-200A
 1st Year Labor Warranty

Tag Data - VRF Indoor Unit (Qty: 18)

Tag(s)	Qty	Description	Model Number
IDU-F1	5	1-Way Ceiling-recessed Cassette	TPMFYP012BM140F
IDU-F3	11	1-Way Ceiling-recessed Cassette	TPMFYP008BM140F
IDU-G4	1	Ceiling Concealed Ducted	TPEFYP012MA144A
IDU-H5	1	Wall-mount Unit	TPKFYP008LM140A

Product Data:

1st Year Labor Warranty

Tag Data - VRF Outdoor Unit (Qty: 1)

Tag(s)	Qty	Description	Model Number
ACCU-5	1	VRF Outdoor Unit (JV_ODU)	TURYE0963AN40AN

Product Data:

1st Year Labor Warranty

Tag Data - VRF ODU - Single phase (Qty: 2)

Tag(s)	Qty	Description	Model Number
ACCU-6. 7	2	VRF ODU - Single phase (JV_S)	NTXMSH48A182BA

Product Data:

1st Year Labor Warranty

Not Included (VRF System): Installation, rigging/receiving, electrical/control wiring, smoke detectors, refrigeration tees, secondary drain pans, secondary condensate overflow sensors, external condensate pumps (indoor units have built-in condensate lift mechanism), disconnects, refrigerant piping specialties, hangers, refrigerant piping, insulation, isolation valves, additional refrigerant, humidity sensors, wind-restraints, external vibration isolation, spare parts, service labor, installation labor, airflow measurement stations, any items not listed.

Note:

- Pricing and selection for VRF indoor units based on floor plan drawings. Drawings are inconsistent with the schedule.

Proposal Clarifications and exclusions

- Proposal above does not include rigging and receiving of equipment. Ulster BOCES is responsible for receiving and receiving equipment.
- **Proposal does not include Fintube radiation or Bard units on schedule**
- Proposal above does not include storage of equipment
- Proposal does not include extended warranties
- Proposal does not include spare filters
- All above listed equipment is shipping without controls.
- Proposal does not include any wiring or integration for controls
- All installation of equipment provided by others
- All valves, piping, external vibration isolation , Drain pans, not included
- Factory start up and Owner training provided by others
- Please refer to above scope for additional exclusions per product type
- Dx condensing units roof rails no included
- Please refer to above for warranties included
- Controls proposal separate from attached

T,otal Net Price (*Excluding Sales Tax*)

Tax Status: Taxable <input type="checkbox"/> Exempt <input type="checkbox"/>	IF EXEMPT PLEASE SUBMIT COMPLETED TAX EXEMPTION CERTIFICATE WITH YOUR SIGNED PROPOSAL OR WITH YOUR PURCHASING DOCUMENTS. KEEP YOUR ORIGINAL ON FILE IN THE OFFICE. YOU WILL BE CHARGED TAX IF A VALID EXEMPTION CERTIFICATE IS NOT ON FILE BEFORE EQUIPMENT, PARTS OR SERVICES ARE PROVIDED. SEE WWW.TAXSITES.COM/STATE-LINKS.HTML FOR TAX FORMS.
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Trane U.S. Inc.

301 Old Niskayuna Road, Suite 1
 Latham, NY 12110

This proposal is subject to your acceptance of the attached Trane terms and conditions.

TERMS AND CONDITIONS - COMMERCIAL EQUIPMENT

"Company" shall mean Trane U.S. Inc. for sales in the United States and Trane Canada ULC for sales in Canada.

1. Acceptance. These terms and conditions are an integral part of Company's offer and form the basis of any agreement (the "Agreement") resulting from Company's proposal (the "Proposal") for the sale of the described commercial equipment and any ancillary services. COMPANY'S TERMS AND CONDITIONS AND EQUIPMENT PRICES ARE SUBJECT TO PERIODIC CHANGE OR AMENDMENT. The Proposal is subject to acceptance in writing by the party to whom this Proposal is made or an authorized agent ("Customer") delivered to Company within 15 days from the date of the Proposal. Prices in the Proposal are subject to change at any time upon notice to Customer. If Customer accepts the Proposal by placing an order, without the addition of any other terms and conditions of sale or any other modification, Customer's order shall be deemed acceptance of the Proposal subject to Company's terms and conditions. If Customer's order is expressly conditioned upon Company's acceptance or assent to terms and/or conditions other than those expressed herein, return of such order by Company with Company's terms and conditions attached or referenced serves as Company's notice of objection to Customer's terms and as Company's counteroffer to provide Equipment in accordance with the Proposal and the Company's terms and conditions. If Customer does not reject or object in writing to Company within 10 days, Company's counteroffer will be deemed accepted. Notwithstanding anything to the contrary herein, Customer's acceptance of the Equipment will in any event constitute an acceptance by Customer of Company's terms and conditions. This Agreement is subject to credit approval by Company. Upon disapproval of credit, Company may delay or suspend performance or, at its option, renegotiate prices and/or terms and conditions with Customer. If Company and Customer are unable to agree on such revisions, this Agreement shall be cancelled without any liability.

2. Connected Services. Connected Services are available for the Equipment. Connected Services are defined as "Connected Services Terms", available at <https://www.trane.com/TraneConnectedServicesTerms>, as updated from time to time, are incorporated herein by reference and shall apply to the extent that Company provides Customer with Connected Services as defined in the Connected Services Terms.

3. Title and Risk of Loss. All Equipment sales with destinations to Canada or the U.S. shall be made as follows: FOB Company's U.S. manufacturing facility or warehouse (full freight allowed). Title and risk of loss or damage to Equipment will pass to Customer upon tender of delivery of such to carrier at Company's U.S. manufacturing facility or warehouse.

4. Pricing and Taxes. Within forty-five (45) days following Customer acceptance of the Proposal without addition of any other terms and conditions of sale or any modification, Customer shall provide notification of release for immediate production at Company's factory. Prices for Equipment are subject to change at any time prior to shipment to reflect any cost increases related to the manufacture, supply, and shipping of Equipment. This includes, but is not limited to, cost increases in raw materials, supplier components, labor, utilities, freight, logistics, wages and benefits, regulatory compliance, or any other event beyond Company's control. If shipment is delayed due to Customer's actions, Company may also charge Customer with storage fees. If a release is not received within 6 months following order acceptance, Company reserves the right to cancel any order. Customer shall be entitled to equitable adjustments in the contract price to reflect any future cost increases as set forth above and will provide notice to Customer prior to the date for which the increased price shall be in effect for resalable quantities of equipment. In no event will prices be decreased. The price of Equipment includes all taxes, duties, and charges, including but not limited to, sales, use, excise, value added, gross receipts or other like taxes or assessments. Such amounts will be itemized separately to Customer, who will make prompt payment to Company. Company will accept valid exemption documentation for such taxes and assessments from Customer, if applicable. All prices include packaging in accordance with Company's standard procedures. Charges for special packaging, crating or packing are the responsibility of Customer.

5. Delivery and Delays. Delivery dates are approximate and not guaranteed. Company will use commercially reasonable efforts to deliver the Equipment on or before the estimated delivery date, will notify Customer if the estimated delivery dates cannot be honored, and will deliver the Equipment and services as soon as practicable thereafter. In no event will Company be liable for any damages or expenses caused by delays in delivery.

6. Performance. Company shall be obligated to furnish only the Equipment described in the Proposal and in submittal data (if such data is issued in connection with the order). Company may rely on the acceptance of the Proposal and submittal data as acceptance of the suitability of the Equipment for the particular project or location. Unless specifically stated in the Proposal, compliance with any local building codes or other laws or regulations relating to specifications or the location, use or operation of the Equipment is the sole responsibility of Customer. If Equipment is terminated, Company will not fully comply with the provisions of this Agreement and Equipment is rejected by Customer. Company will have the right to cure within a reasonable time after notice thereof by substituting a conforming lender whether or not the time for performance has passed.

7. Force Majeure. Company's duty to perform under this Agreement and the Equipment prices are contingent upon the non-occurrence of an Event of Force Majeure. If the Company shall be unable to carry out any material obligation under this Agreement due to an Event of Force Majeure, this Agreement shall at Company's election (i) remain in effect but Company's obligations shall be suspended until the uncontrollable event terminates or (ii) be terminated upon 10 days' notice to Customer, in which event Customer shall pay Company for all parts of the Work furnished to the date of termination. An "Event of Force Majeure" shall mean any cause or event beyond the control of Company. Without limiting the foregoing, "Event of Force Majeure" includes: acts of God; acts of terrorism, war or the public enemy; flood; earthquake; tornado; storm; fire; civil disobedience; pandemic insurrections; riots; labor/labour disputes; labour/labour or material shortages; sabotage; restraint by court order or public authority (whether valid or invalid); and action or non-action by or inability to obtain or keep in force the necessary governmental authorizations, permits, licenses, certificates or approvals if not caused by Company; and the requirements of any applicable government in any manner that diverts either the material or the finished product to the direct or indirect use of the military.

8. Limited Warranty. Company warrants the Equipment manufactured by Company for a period of the lesser of 12 months from initial start-up or 18 months from date of shipment, whichever is less, against failure due to defects in material and manufacture and that it has the capacities and ratings set forth in Company's catalogs and bulletins ("Warranty"). **Equipment manufactured by Company that includes required start-up and sold in North America will not be warranted by Company unless Company performs the Equipment startup.** Exclusions from this Warranty include damage or failure arising from: wear and tear; corrosion, erosion, deterioration; modifications made by others to the Equipment; repairs or alterations by a party other than Company that adversely affects the stability or reliability of the Equipment; vandalism; neglect; accident; adverse weather or environmental conditions; abuse or improper use; improper installation; commissioning by a party other than Company; unusual physical or electrical or mechanical stress; operation with any accessory, equipment or part not specifically approved by Company; refrigerant not supplied by Company; and/or lack of proper maintenance as recommended by Company. Company shall not be obligated to pay for the cost of lost refrigerant or lost product. Company's obligations and liabilities under this Warranty are limited to furnishing replacement equipment or parts, at its option. FCA (Incoterms 2000) factory or warehouse (i.e. factory or warehouse for US domestic purposes) at Company-designated shipping point. Freight allowed to Company's warranty agents' stock locations for all non-refrigerated equipment. Freight not allowed for refrigerated equipment (which have been returned by Customer to Company). Returns must have prior written approval by Company and are subject to restocking charge where applicable. Equipment, material and/or parts that are not manufactured by Company (Third-Party Product(s)) are not warranted by Company and have such warranties as may be extended by the respective manufacturer. **CUSTOMER UNDERSTANDS THAT COMPANY IS NOT THE MANUFACTURER OF ANY THIRD-PARTY PRODUCT(S) AND ANY WARRANTIES, CLAIMS, STATEMENTS, REPRESENTATIONS, OR SPECIFICATIONS ARE THOSE OF THE THIRD-PARTY MANUFACTURER, NOT COMPANY AND CUSTOMER IS NOT RELYING ON ANY WARRANTIES, CLAIMS, STATEMENTS, REPRESENTATIONS, OR SPECIFICATIONS REGARDING THE THIRD-PARTY PRODUCT THAT MAY BE PROVIDED BY COMPANY OR ITS AFFILIATES, WHETHER ORAL OR WRITTEN. COMPANY MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. ADDITIONALLY, COMPANY MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING PREVENTING, ELIMINATING, REDUCING OR INHIBITING ANY MOLD, FUNGUS, BACTERIA, VIRUS, MICROBIAL GROWTH, OR ANY OTHER CONTAMINANTS (INCLUDING COVID-19 OR ANY SIMILAR VIRUS) (COLLECTIVELY, "CONTAMINANTS"); WHETHER INVOLVING OR IN CONNECTION WITH EQUIPMENT, ANY COMPONENT THEREOF, SERVICES OR OTHERWISE IN ANY EVENT SHALL COMPANY HAVE ANY LIABILITY FOR THE PREVENTION, ELIMINATION, REDUCTION OR INHIBITION OF THE GROWTH OR SPREAD OF SUCH CONTAMINANTS INVOLVING OR IN CONNECTION WITH ANY EQUIPMENT, THIRD-PARTY PRODUCT, OR ANY COMPONENT THEREOF, SERVICES OR OTHERWISE AND CUSTOMER HEREBY SPECIFICALLY ACKNOWLEDGES AND AGREES THERETO.** No warranty liability whatsoever shall attach to Company until Customer's complete order has been paid in full and Company's liability under this Warranty shall be limited to the purchase price of the Equipment shown to be defective. Additional warranty protection is available on an extra-cost basis and must be in writing and agreed to by an authorized signatory of the Company. **EXCEPT FOR COMPANY'S WARRANTY EXPRESSLY SET FORTH HEREIN, COMPANY DOES NOT MAKE, AND HEREBY EXPRESSLY DISCLAIMS, ANY WARRANTIES, EXPRESS OR IMPLIED CONCERNING ITS PRODUCTS, EQUIPMENT OR SERVICES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF DESIGN, MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR OTHERS THAT ARE ALLEGED TO ARISE FROM COURSE OF DEALING OR TRADE.**

9. Indemnity. To the fullest extent permitted by law, Company and Customer shall indemnify, defend and hold harmless each other from and among all claims, actions, costs, expenses, damages and liabilities, including reasonable attorneys' fees, resulting from death or bodily injury or damage to real or personal property, to the extent caused by the negligence or misconduct of their respective employees or other authorized agents in connection with their activities within the scope of this Agreement. Neither party shall indemnify the other damages, expenses or liabilities to the extent attributable to the acts or omissions of the other party. If the parties are both at fault, the obligation to indemnify shall be proportional to their relative fault. The duty to indemnify will continue in full force and effect, notwithstanding the expiration or early termination hereof, with respect to any claims based on facts or conditions that occurred prior to expiration or termination.

10. Insurance. Upon request, Company will furnish evidence of its standard insurance coverage. If Customer has requested to be named as an additional insured under Company's insurance policy, Company will do so but only subject to Company's manuscript additional insured endorsement under its primary Commercial General Liability policies. In no event does Company waive any rights of subrogation.

11. Customer Breach. Each of the following events or conditions shall constitute a breach by Customer and shall give Company the right, without an election of remedies, to terminate this Agreement, require payment prior to shipping, or suspend performance by delivery of written notice: (1) Any failure by Customer to pay amounts when due; (2) any general assignment by Customer for the benefit of its creditors, or if Customer becomes bankrupt or insolvent or takes the benefit of any statute for bankrupt or insolvent debtors, or makes or proposes to make any proposal or arrangement with creditors, or if any steps are taken for the winding up or other termination of Customer or the liquidation of its assets, or if a trustee, receiver, or similar person is appointed over any of the assets or interests of Customer; (3) Any revocation or termination of this Agreement by Customer for any reason, or if the parties agree to any modification or amendment to this Agreement, or if the parties agree to any modification or amendment to this Agreement. Customer shall be liable to the Company for all Equipment furnished and all damages sustained by Company (including lost profit and overhead).

12. Limitation of Liability. NOTWITHSTANDING ANYTHING TO THE CONTRARY, IN NO EVENT SHALL COMPANY BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT CONSEQUENTIAL, PUNITIVE, EXEMPLARY DAMAGES (INCLUDING WITHOUT LIMITATION REFRIGERANT LOSS, BUSINESS INTERRUPTION, LOST DATA, LOST REVENUE, LOST PROFITS), OR CONTAMINANTS LIABILITIES, EVEN IF A PARTY HAS BEEN ADVISED OF SUCH POSSIBLE DAMAGES OR IF SAME WERE REASONABLY FORESEEABLE AND REGARDLESS OF WHETHER THE CAUSE OF ACTION IS FRAMED IN CONTRACT, NEGLIGENCE, ANY OTHER TORT, WARRANTY, STRICT LIABILITY, OR PRODUCT LIABILITY. In no event will Company's liability in connection with the provision of products or services or otherwise under this Agreement exceed the entire amount paid to Company by Customer under this Agreement.

13. CONTAMINANTS LIABILITY

The transmission of COVID-19 may occur in a variety of ways and circumstances. Many of the aspects of which are currently not known. HVAC systems, products, services and other offerings have not been tested for their effectiveness in reducing the spread of COVID-19, including through air in closed environments. **IN NO EVENT WILL COMPANY BE LIABLE UNDER THIS AGREEMENT OR OTHERWISE FOR ANY INDEMNIFICATION, ACTION, OR CLAIM, WHETHER BASED ON WARRANTY, CONTRACT, TORT OR OTHERWISE, FOR ANY BODILY INJURY (INCLUDING DEATH), DAMAGE TO PROPERTY, OR ANY OTHER LIABILITIES, DAMAGES OR COSTS RELATED TO CONTAMINANTS (INCLUDING THE SPREAD, TRANSMISSION, MITIGATION, ELIMINATION, OR CONTAMINATION THEREOF) (COLLECTIVELY, "CONTAMINANTS LIABILITIES") AND CUSTOMER HEREBY EXPRESSLY RELEASES COMPANY FROM ANY SUCH CONTAMINANTS LIABILITIES.**

14. Nuclear Liability. In the event that the Equipment sold hereunder is to be used in a nuclear facility, Customer will, prior to such use, arrange for insurance or governmental indemnity protecting Company against all liability and hereby releases and agrees to indemnify Company and its suppliers for any nuclear damage, including loss of use, in any manner arising out of a nuclear incident, whether alleged to be due, in whole or in part to the negligence or otherwise of Company or its suppliers.

15. Intellectual Property; Patent Indemnity. Company retains all ownership, license and other rights to all patents, trademarks, copyrights, trade secrets and other intellectual property rights related to the Equipment, and, except for the right to use the Equipment sold, Customer obtains no rights to use any such intellectual property. Company agrees to defend any suit or proceeding brought against Customer so far as such suit or proceeding is solely based upon a claim that the use of the Equipment provided by Company constitutes infringement of the United States of America, provided that the claim is properly notified in writing and given priority of same. Company will, at its option, procure for Customer the right to use said Equipment, or modify it so that it becomes non-infringing, or replace same with non-infringing Equipment, or to remove said Equipment and to refund the purchase price. The foregoing will not be construed to include any Agreement by Company to accept any liability whatsoever in respect to patents for inventions including more than the Equipment furnished hereunder, or in respect of patents for methods and processes to be carried out with the aid of said Equipment. The provision of Equipment by Company does not convey any license, by implication, estoppel, or otherwise, under patent claims covering combinations of said Equipment with other devices or elements. The foregoing states the entire liability of Company with regard to patent infringement. Notwithstanding the provisions of this paragraph, Customer will hold Company harmless against any expense or loss resulting from infringement of patents or trademarks arising from compliance with Customer's designs or specifications or instructions.

16. Cancellation. Equipment is specially manufactured in response to orders. An order placed with and accepted by Company cannot be delayed, canceled, suspended, or extended except with Company's written consent and upon written terms accepted by Company that will reimburse Company for and indemnify Company against loss and provide Company with a reasonable profit for its materials, time, labor, services, use of facilities and otherwise. Customer will be obligated to accept any Equipment shipped, tendered for delivery or delivered to Company pursuant to the order, and to accept the same without delay, cancellation, suspension or extension of the order, and to accept the same without delay, cancellation, suspension or extension of the order, and to accept the same without delay, cancellation, suspension or extension of the order. For purposes of this paragraph, acceptance occurs by any waiver of inspection, use or possession of Equipment, payment of the invoice, or any indication of exclusive control exercised by Customer.

17. Invoicing and Payment. Unless otherwise agreed to in writing by Company, equipment shall be invoiced to Customer upon tender of delivery thereof to the carrier. Customer shall pay Company's invoices within net 30 days of shipment date. Company reserves the right to add to any account outstanding for more than 30 days a service charge equal to the lesser of the maximum allowable legal interest rate or 1.5% of the principal amount due at the end of each month. Customer shall pay all costs (including attorneys' fees) incurred by Company in attempting to collect amounts due and otherwise enforcing these terms and conditions. If requested, Company will provide appropriate lien waivers upon receipt of payment. Company may at any time decline to ship, make delivery or perform work except upon receipt of cash payment, letter of credit, or security, or upon other terms and conditions satisfactory to Company. Customer agrees that, unless Customer makes payment in advance, Company will have a purchase money security interest in all Equipment sold by Company. If Customer fails to make payment in advance, Company agrees to assign to the United States of America, its agents, successors, assigns, and assigns all of its rights in the Personal Property Security Act in Canada. Customer shall keep the Equipment free of all taxes and encumbrances, shall not remove the Equipment from its original installation point and shall not assign or transfer any interest in the Equipment until all payments due Company have been made. The purchase money security interest granted herein attaches upon Company's acceptance of Customer's order and on receipt of the Equipment described in the accepted Proposal but prior to its installation. The parties have no agreement to postpone the time for attachment unless specifically noted in writing on the accepted order. Customer will have no rights of set off against any amounts, which become payable to Company under this Agreement or otherwise.

18. Claims. Company will consider claims for concealed shortages in shipments or rejections due to failure to conform to an order only if such claims or rejections are made in writing within 15 days of delivery and are accompanied by the packing list and, if applicable, the reasons in detail why the Equipment does not conform to Customer's order. Upon receiving authorization and shipping instructions from authorized personnel of Company, Customer may return rejected Equipment, transportation charges prepaid, for replacement. Company may charge Customer any costs resulting from the testing, handling, and disposition of any Equipment returned by Customer which are not found by Company to be nonconforming. All Equipment damaged during shipment and all claims relating thereto must be made with the freight carrier in the amount of the purchase price of the Equipment. Claims for Equipment damaged during shipment are not covered under the warranty provision stated herein.

19. Export Laws. The obligation of Company to supply Equipment under this Agreement is subject to the ability of Company to supply such goods consistent with applicable laws and regulations of the United States and other governments. Company reserves the right to refuse to enter into or perform any order, and to cancel any order under this Agreement if Company in its sole discretion determines that performance of the transaction to which such order relates would violate any such applicable law or regulation. Customer will pay all handling and other similar costs from Company's factories including the costs of freight, insurance, export clearances, import duties and taxes. Customer will be "exporter of record" with respect to any export from the United States of America and will perform all compliance and logistics functions in connection therewith and will also comply with all applicable laws, rules and regulations. Customer understands that Company and/or the Equipment are subject to laws and regulations of the United States of America which may require licensing or authorization for and/or prohibit export, re-export or diversion of Company's Equipment to certain countries, and agrees it will not knowingly assist or participate in any such diversion or other violation of applicable United States of America laws and regulations. Customer agrees to hold harmless and indemnify Company for any damages resulting to Customer or Company from a breach of this paragraph by Customer.

20. General. Except as provided below, to the maximum extent provided by law, this Agreement is made and shall be interpreted and enforced in accordance with the laws of the state of New York for Equipment shipped to a U.S. location and the laws of the province to which Equipment is shipped within Canada, without regard to its conflict of law principles that might otherwise call for the application of a different state's or province's law, and not including the United Nations Convention on Contracts for the International Sale of Goods. Any action or suit arising out of or related to this Agreement must be commenced within one year after the cause of action has accrued. To the extent the Equipment is being used at a site owned and/or operated by any agency of the Federal Government, determination of any substantive issue of law shall be according to the Federal common law of Government contracts as enunciated and applied by Federal judicial bodies and boards of contract appeals of the Federal Government. This Agreement contains all of the agreements, representations and understandings of the parties and supersedes all previous understandings, commitments or agreements, oral or written, related to the subject matter hereof. This Agreement may not be amended, modified or terminated except by a writing signed by the parties hereto. No documents shall be incorporated herein by reference except to the extent Company is a signatory thereon. If any term or condition of this Agreement is invalid, illegal or incapable of being enforced by any rule of law, all other terms and conditions of this Agreement will nevertheless remain in full force and effect as long as the economic or legal substance of the transaction contemplated hereby is not affected in a manner adverse to any party hereto. Customer may not assign, transfer, or convey this Agreement, or any part thereof, or its right, title or interest herein, without the written consent of the Company. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of Customer's permitted successors and assigns. This Agreement may be executed in several counterparts, each of which when executed shall be deemed to be an original, but all together shall constitute but one and the same Agreement. A fully executed facsimile copy hereof or the several counterparts shall suffice as an original.

21. Equal Employment Opportunity/Affirmative Action Clause. Company is a federal contractor that complies fully with Executive Order 11246, as amended, and the applicable regulations contained in 41 C.F.R. Parts 60-1 through 60-60, 29 U.S.C. Section 793 and the applicable regulations contained in 41 C.F.R. Part 60-741; and 38 U.S.C. Section 4212 and the applicable regulations contained in 41 C.F.R. Part 60-250 Executive Order 13496 and Section 29 CFR 471, appendix A to subpart A, regarding the notice of employee rights in the United States and with Canadian Charter of Rights and Freedoms Schedule B to the Canada Act 1982 (U.K.) 1982, c. 11 and applicable Provincial Human Rights Codes and employment law in Canada.

22. U.S. Government Work.

The following provision applies only to direct sales by Company to the US Government. The Parties acknowledge that Equipment ordered and delivered under this Agreement are Commercial Items as defined under Part 12 of the Federal Acquisition Regulation (FAR). Therefore, Company agrees to be bound only by those Federal contracting clauses that apply to "commercial" supplies and that are contained in FAR 52.212-5(e)(1).

The following provision applies only to indirect sales by Company to the US Government. As a Commercial Item Subcontractor, Company accepts only the following mandatory flow down provisions: 52.219-8; 52.222-26; 52.222-35; 52.222-36; 52.222-39; 52.247-64. If the sale of the Equipment is in connection with a U.S. Government contract, Customer certifies that it has provided and will provide current, accurate, and complete information, representations and certifications to all government officials, including but not limited to the contracting officer and officials of the Small Business Administration, on all matters related to the prime contract, including but not limited to all aspects of its ownership, eligibility, and performance. Anything herein notwithstanding, Company will have no obligations to Customer unless and until Customer provides Company with a true, correct and complete executed copy of the prime contract. Upon request, Customer will provide copies to Company of all requested written communications with any government official related to the prime contract prior to or concurrent with the execution thereof, including but not limited to any communications related to Customer's ownership, eligibility or performance of the prime contract. Customer will obtain written authorization and approval from Company prior to providing any government official any information about Company's performance of the work that is the subject of the Proposal or this Agreement, other than the Proposal or this Agreement.

23. Limited Waiver of Sovereign Immunity. If Customer is an Indian tribe (in the U.S.) or a Native Nation or Band Council (in Canada), the Customer, in its capacity as a government, governmental entity, a fully organized corporate entity or otherwise, for itself and for its agents, successors, and assigns: (1) hereby provides this limited waiver of its sovereign immunity, as to the extent of the damages, claims, lawsuits, or causes of action (hereby the "Action") against Customer, for any and all claims or causes of action that may arise out of the furnishing by Company of any product or service under this Agreement, whether such Action is based in contract, tort, strict liability, civil liability or any other legal theory; (2) agrees that jurisdiction and venue for any such Action shall be proper and valid (a) if Customer is in the U.S., in any state or United States court located in the state in which Company is performing this Agreement or (b) if Customer is in Canada, in the superior court of the province or territory in which the work was performed; (3) expressly consents to such Action, and waives any objection to jurisdiction or venue; (4) waives any requirement of exhaustion of tribal court or administrative remedies for any Action arising out of or related to this Agreement; and (5) expressly acknowledges and agrees that Company is not subject to the jurisdiction of Customer's tribal court or any similar tribal forum, that Customer will not bring any action against Company in tribal court, and that Customer will not avail itself of any ruling or direction of the tribal court permitting or directing it to suspend its payment or other obligations under this Agreement. The individual signing on behalf of Customer warrants and represents that such individual is duly authorized to provide this waiver and enter into this Agreement and that this Agreement constitutes the valid and legally binding obligation of Customer, enforceable in accordance with its terms.

SECURITY ADDENDUM

This Addendum shall be applicable to the sale, installation and use of Trane equipment and the sale and provision of Trane services. "Trane" shall mean Trane U.S. Inc. for sales and services in the United States, or Trane Canada ULC for sales and services in Canada.

1. **Definitions.** All terms used in this Addendum shall have the meaning specified in the Agreement unless otherwise defined herein. For the purposes of this Addendum, the following terms are defined as follows:

"Customer Data" means Customer account information as related to the Services only and does not include HVAC Machine Data or personal data. Trane does not require, nor shall Customer provide personal data to Trane under the Agreement. Such data is not required for Trane to provide its Equipment and/or Services to the Customer.

"Equipment" shall have the meaning set forth in the Agreement.

"HVAC Machine Data" means data generated and collected from the product or furnished service without manual entry. HVAC Machine Data is data relating to the physical measurements and operating conditions of a HVAC system, such as but not limited to, temperatures, humidity, pressure, HVAC equipment status. HVAC Machine Data does not include Personal Data and, for the purposes of this agreement, the names of users of Trane's controls products or hosted applications shall not be Personal Data, if any such user chooses to use his/her name(s) in the created accounts within the controls product (e.g., firstname.lastname@address.com). HVAC Machine Data may be used by Trane: (a) to provide better support services and/or products to users of its products and services; (b) to assess compliance with Trane terms and conditions; (c) for statistical or other analysis of the collective characteristics and behaviors of product and services users; (d) to backup user and other data or information and/or provide remote support and/or restoration; (e) to provide or undertake: engineering analysis; failure analysis; warranty analysis; energy analysis; predictive analysis; service analysis; product usage analysis; and/or other desirable analysis, including, but not limited to, histories or trends of any of the foregoing; and (f) to otherwise understand and respond to the needs of users of the product or furnished service. "Personal Data" means data and/or information that is owned or controlled by Customer, and that names or identifies, or is about a natural person, such as: (i) data that is explicitly defined as a regulated category of data under any data privacy laws applicable to Customer; (ii) non-public personal information ("NPI") or personal information ("PI"), such as national identification number, passport number, social security number, social insurance number, or driver's license number; (iii) health or medical information, such as insurance information, medical prognosis, diagnosis information, or genetic information; (iv) financial information, such as a policy number, credit card number, and/or bank account number; (v) personally identifying technical information (whether transmitted or stored in cookies, devices, or otherwise), such as IP address, MAC address, device identifier, International Mobile Equipment Identifier ("IMEI"), or advertising identifier; (vi) biometric information; and/or (vii) sensitive personal data, such as, race, religion, marital status, disability, gender, sexual orientation, geolocation, or mother's maiden name.

"Security Incident" shall refer to (i) a compromise of any network, system, application or data in which Customer Data has been accessed or acquired by an unauthorized third party; (ii) any situation where Trane reasonably suspects that such compromise may have occurred; or (iii) any actual or reasonably suspected unauthorized or illegal Processing, loss, use, disclosure or acquisition of or access to any Customer Data.

"Services" shall have the meaning set forth in the Agreement.

2. **HVAC Machine Data; Access to Customer Extranet and Third Party Systems.** If Customer grants Trane access to HVAC Machine Data via web portals or other non-public websites or extranet services on Customer's or a third party's website or system (each, an "Extranet"), Trane will comply with the following:
- Accounts.** Trane will ensure that Trane's personnel use only the Extranet account(s) designated by Customer and will require Trane personnel to keep their access credentials confidential.
 - Systems.** Trane will access the Extranet only through computing or processing systems or applications running operating systems managed by Trane that include: (i) system network firewalls; (ii) centralized patch management; (iii) operating system appropriate anti-malware software; and (iv) for portable devices, full disk encryption.
 - Restrictions.** Unless otherwise approved by Customer in writing, Trane will not download, mirror or permanently store any HVAC Machine Data from any Extranet on any medium, including any machines, devices or servers.
 - Account Termination.** Vendor will terminate the account of each of Trane's personnel in accordance with Trane's standard practices after any specific Trane personnel who has been authorized to access any Extranet (1) no longer needs access to HVAC Machine Data or (2) no longer qualifies as Trane personnel (e.g., the individual leaves Trane's employment).
 - Third Party Systems.** Trane will provide Customer prior notice before it uses any third party system that stores or may otherwise have access to HVAC Machine Data, unless (1) the data is encrypted and (2) the third party system will not have access to the decryption key or unencrypted "plain text" versions of the HVAC Machine Data.
3. **Customer Data; Confidentiality.** Trane shall keep confidential, and shall not access or use any Customer Data and information that is marked confidential or by its nature is considered confidential ("Customer Confidential Information") other than for the purpose of providing the Equipment and Services, and will disclose Customer Confidential Information only: (i) to Trane's employees and agents who have a need to know to perform the Services, (ii) as expressly permitted or instructed by Customer, or (iii) to the minimum extent required to comply with applicable law, provided that Trane (1) provides Customer with prompt written notice prior to any such disclosure, and (2) reasonably cooperate with Customer to limit or prevent such disclosure.

4. Customer Data; Compliance with Laws. Trane agrees to comply with laws, regulations governmental requirements and industry standards and practices relating to the Trane's processing of Customer Confidential Information (collectively, "**Laws**").
5. Customer Data; Information Security Management. Trane agrees to establish and maintain an information security and privacy program, consistent with applicable HVAC equipment industry practices that complies with this Addendum and applicable Laws ("**Information Security Program**"). The Information Security Program shall include appropriate physical, technical and administrative safeguards, including any safeguards and controls agreed by the Parties in writing, sufficient to protect Customer systems, and Customer's Confidential Information from unauthorized access, destruction, use, modification or disclosure. The Information Security Program shall include appropriate, ongoing training and awareness programs designed to ensure that Trane's employees and agents, and others acting on Trane's, behalf are aware of and comply with the Information Security Program's policies, procedures, and protocols.
6. Monitoring. Trane shall monitor and, at regular intervals consistent with HVAC equipment industry practices, test and evaluate the effectiveness of its Information Security Program. Trane shall evaluate and promptly adjust its Information Security Program in light of the results of the testing and monitoring, any material changes to its operations or business arrangements, or any other facts or circumstances that Trane knows or reasonably should know may have a material impact on the security of Customer Confidential Information, Customer systems and Customer property.
7. Audits. Customer acknowledges and agrees that the Trane SOC2 audit report will be used to satisfy any and all audit/inspection requests/requirements by or on behalf of Customer. Trane will make its SOC2 audit report available to Customer upon request and with a signed nondisclosure agreement.
8. Information Security Contact. Trane's information security contact is Local Sales Office.
9. Security Incident Management. Trane shall notify Customer after the confirmation of a Security Incident that affects Customer Confidential Information, Customer systems and Customer property. The written notice shall summarize the nature and scope of the Security Incident and the corrective action already taken or planned.
10. Threat and Vulnerability Management. Trane regularly performs vulnerability scans and addresses detected vulnerabilities on a risk basis. Periodically, Trane engages third-parties to perform network vulnerability assessments and penetration testing. Vulnerabilities will be reported in accordance with Trane's cybersecurity vulnerability reported process. Trane periodically provides security updates and software upgrades.
11. Security Training and Awareness. New employees are required to complete security training as part of the new hire process and receive annual and targeted training (as needed and appropriate to their role) thereafter to help maintain compliance with Security Policies, as well as other corporate policies, such as the Trane Code of Conduct. This includes requiring Trane employees to annually re-acknowledge the Code of Conduct and other Trane policies as appropriate. Trane conducts periodic security awareness campaigns to educate personnel about their responsibilities and provide guidance to create and maintain a secure workplace.
12. Secure Disposal Policies. and procedures regarding the disposal of tangible and intangible property containing Customer Confidential Information so that wherever possible, Customer Confidential Information cannot be practicably read or reconstructed.
13. Logical Access Controls. Trane employs internal monitoring and logging technology to help detect and prevent unauthorized access attempts to Trane's corporate networks and production systems. Trane's monitoring includes a review of changes affecting systems' handling authentication, authorization, and auditing, and privileged access to Trane production systems. Trane uses the principle of "least privilege" (meaning access denied unless specifically granted) for access to customer data.
14. Contingency Planning/Disaster Recovery. Trane will implement policies and procedures required to respond to an emergency or other occurrence (i.e. fire, vandalism, system failure, natural disaster) that could damage Customer Data or any system that contains Customer Data. Procedures include the following
 - (i) data backups; and
 - (ii) formal disaster recovery plan. Such disaster recovery plan is tested at least annually.
15. Return of Customer Data. If Trane is responsible for storing or receiving Customer Data, Trane shall, at Customer's sole discretion, deliver Customer Data to Customer in its preferred format within a commercially reasonable period of time following the expiration or earlier termination of the Agreement or, such earlier time as Customer requests, securely destroy or render unreadable or undecipherable each and every original and copy in every media of all Customer's Data in Trane's possession, custody or control no later than [90 days] after receipt of Customer's written instructions directing Trane to delete the Customer Data.

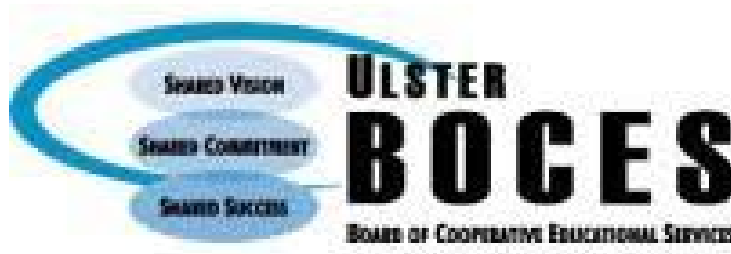
Background checks Trane shall take reasonable steps to ensure the reliability of its employees or other personnel having access to the Customer Data, including the conducting of appropriate background and/or verification checks in accordance with Trane policies.

16. DISCLAIMER OF WARRANTIES. EXCEPT FOR ANY APPLICABLE WARRANTIES IN THE AGREEMENT, THE SERVICES ARE PROVIDED "AS IS", WITH ALL FAULTS, AND THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, ACCURACY AND EFFORT AS TO SUCH SERVICES SHALL BE WITH CUSTOMER. TRANE DISCLAIMS ANY AND ALL OTHER EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES WITH RESPECT TO THE SERVICES AND THE SERVICES PROVIDED HEREUNDER, INCLUDING ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR THAT THE SERVICES WILL OPERATE ERROR-FREE OR UNINTERRUPTED OR RETURN/RESPONSE TO INQUIRIES WITHIN ANY SPECIFIC PERIOD OF TIME:



Trane Controls Proposal

Admin. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS



Turnkey Proposal For:

Jonah Schenker Ed.D.
Superintendent of schools

Local Trane Office:

Trane U.S. Inc.
301 Old Niskayuna Road, Suite 1
Latham, NY 12110

Local Trane Representative:

Lauren Hayes
Account Manager
Cell: (518) 410-9375

Co-op Contract Number: 3341

Date: November 8, 2023



Prepared For:
Jonah Schenker Ed.D.

Date:
November 8 2023

Job Name:
Admin. BLDG. & MHRIC BLDG. @ NEW PALTZ CAMPUS

Delivery Terms:
Freight Allowed and Prepaid – F.O.B Factory

Payment Terms:
Net 30

Co-op Contract Number: 3341

Proposal Expiration Date:
30 Days

Scope of Work

This “Scope of Work” will be executed based on Trane’s scope of work proposed herein, which is a clarification of the plans and specifications, and adheres to Trane’s “Standard Contract Terms and Conditions” only; any other document and/or contract will not bind and/or supersede this condition. This proposal has been written to display the scopes of work outlined in the contract documents.

This proposal has been developed from the following documentation:

- Plans and specification developed by LAN Associates Dated 2/3/2023
- Project SED No. 62-90-00-00-1-003-016
- Drawings M0.01,M1.01,M1.03,M2.01,M2.03, M1.02,M2.02,M2.04,M2.05,M6.01,M6.02,M6.03
- Specification Division 23 Only

General Requirements:

- This proposal is based on the premise that includes all work indicated on all drawings
- Project Management (project manager)
- Installation of new Trane Tracer SC system for integration into the VRF AE200
- Installation of new Trane Ensemble server , this is included here to tie in future IS and CTEC work to the same front end
- Operator work monitor included per specifications
- BMS system includes the following
 - Floor Plan Graphics
 - Tech Start Up and Programming
 - As built Drawings
 - Controls Engineering
 - 16 Hour of BMS training
- The following devices will be tied to the new Trane Tracer SC system
 - (2) Existing Electric base board shown on M2.01
 - UC400 Controller
 - Relay (on/off command)
 - (1) DOAS-1 (substituted for Trane Valent unit) Roof Mounted
 - UC600 Controller
 - **Interlock wiring to AC-1,3**
 - Start/Stop Status on Supply fan

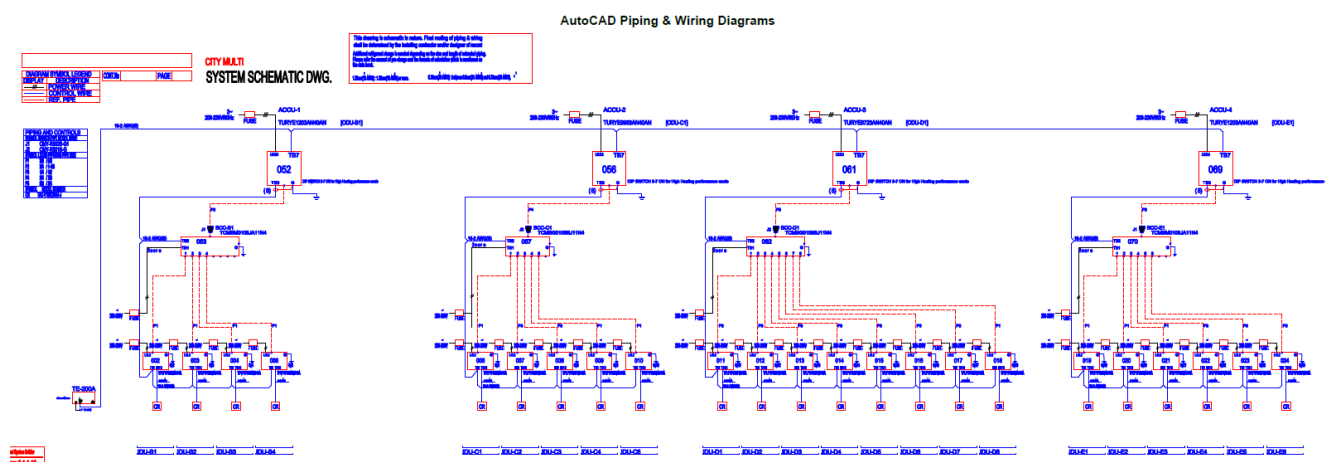


- Discharge air temperature
 - Dirty filter switch
 - Outside air damper actuator
 - Humidity sensor -duct
 - Zone temperature sensor
 - Low limit sensor
- (4) Exhaust fans
 - Uc400 controller
 - Damper status (damper provided by others)
 - Fan start /stop / status
 - Damper open close relay
 - (3) Energy recovery ventilators
 - UC600 Controller
 - Discharge air temperature
 - Control relay
 - Current sensor
 - Intake and exhaust dampers
 - (28) Fintube radiation
 - UC600 Controllers
 - Space temperature
 - Hot water control valve (Installed by Mechanical Contractor)
 - (1) Existing Boiler control
 - UC600 controller
 - Differential pressure sensor
 - Integration to Boiler control panel
 - Start/stop status of P-1
 - Supply Hot water temperature sensor(using existing well taps)
 - Return Hot water temperature sensor(using existing well taps)
 - (3) Split systems
 - Monitoring only
 - UC600 Controller
 - Space temperature
 - Interlock wiring
 - Leak detection
 - (4) existing Split systems
 - Monitoring only
 - Space temperature
 -
 - (1) DOAS-2 indoor unit (**Scope may change due to changing design around unit**)
 - UC600 Controller
 - **Interlock wiring to outdoor unit**
 - Start/Stop Status on Supply fan
 - Discharge air temperature
 - Dirty filter switch
 - Outside air damper actuator
 - Humidity sensor -duct
 - Zone temperature sensor
 - Low limit sensor
 -



- VRF controls and low voltage wiring tied to AE200 and wired to SC controller via Bacnet IP. **WIRING DIAGRAM DIFFERS FROM DESIGN DUE TO TRANE SUBSTITUTION.**

Wiring detail below in Blue:



Proposal Notes/ Clarifications

- **Trane has included a performance bond in below pricing .**
- All work to be performed during normal business hours (7am to 3:30pm, M-F, non-holidays)
- Equipment Order Release and Services rendered are dependent on receipt of PO/Subcontract and credit approval. Project substantial completion date dependent on equipment availability.
- TRANE shall provide, and comply with all safety related to their work, and shall submit and adhere to their own site-specific safety plan with all required insurances prior to performing work.
- If discovered, any asbestos or hazardous material and/or abatement work shall be performed as a change order to this contract. Should asbestos abatement work be required, TRANE will compress their work to meet the schedule. Pricing for schedule compression can be included in the change order request.
- **Drawings indicate leak detection at every indoor unit, this is not included in the base price and per conversations with the construction team is included as an add price below. To tie in this leak detection it would require additional controllers and wiring as the point does not come standard on the indoor vrf cassette .**
- Proposal includes Trane's standard insurances inclusive of our subcontractors
- Trades completing work outside of Trane's scope of work must provide unobstructed access to the site. Equipment Order Release and Services rendered are dependent on receipt of PO/Subcontract and credit approval.



- Temporary heating and cooling is not included in proposal
- Protection of existing surfaces is not included ,
- Proposal includes low voltage controls wiring only . No power wiring is included in proposal
- Proposal and pricing assume Trane Mitsubishi VRF indicated above
- DOAS-2 modifications will cause there to be potential Changes to price that will be discussed after design is finalized.
- Trane will provide control valves to installing mechanical contractors. Trane does not have the cost to provide installation of control valves.
- Any existing equipment is thought to be in good working order. Any issues with the existing equipment is not included in this proposal and will be highlighted to construction team as a change order .

Exclusions

- "Premium Time" or Price Contingency
- Glycol
- Shutdown , Drain down, Refilling existing system
- Porto Johns
- Ceiling removal or replacement
- Roof work
- Waterproofing or protection
- Storage
- Permit fees
- Overtime
- Fire alarm actuators
- Any work associated with firealarm is excluded
- Cut , patch, painting
- Any carpentry, masonry, structural steel and painting
- Refurbishment, insulation and balancing of existing equipment
- Painting
- Video Taping
- Provisions for temporary heating and/or cooling.
- Temporary facilities such as power, water, and lighting are excluded
- Winter conditions are excluded (i.e. frost removal, temporary enclosures, temporary heat, concrete additives, snow removal, sanding, etc.)
- Establishing, watering, mowing, or fertilizing lawn areas are excluded
- Any exterior or interior signage is excluded
- Jobsite trailers
- Dumpsters
- Any water or air balancing
- Any work associated with boiler plant
- Cleaning or final cleaning
- Liquidated Damages
- Textura fees
- Police fees, road closures, additional site protection/lighting required by authorities having jurisdiction.
- Utility service upgrade fees
- Applicable sales tax or use tax is excluded
- Dust mitigation of any kind.
- Design Services are not included
- Fire Alarm integration , testing, protection, smoke detectors wiring ect.
- Pressure / leak testing of any existing piping.
- Material testing (concrete, compaction, etc.) or special inspections.



Pricing and Acceptance

Jonah Schenker Ed.D.
Superintendent of schools Ulster BOCES

Price

Total Net Price\$
Add Price for lead detection on AC units\$

Financial items not included

- Bid Bond
- Guarantee of any energy, operational, or other savings

Respectfully submitted,
Lauren Hayes
Account Manager
Trane U.S. Inc.
(518) 410-9375



ACCEPTANCE

This proposal is subject to Customer’s acceptance of the attached Trane Terms and Conditions (Installation).

We value the confidence you have placed in Trane and look forward to working with you.

Submitted By: Lauren Hayes	Cell: (518) 410-9375 Proposal Date: November 8, 2023
CUSTOMER ACCEPTANCE Ulster BOCES	TRANE ACCEPTANCE Trane U.S. Inc.
Authorized Representative	Authorized Representative
Printed Name	Printed Name
Title	Title
Purchase Order	Signature Date
Acceptance Date:	License Number:



TERMS AND CONDITIONS – COMMERCIAL INSTALLATION

"Company" shall mean Trane U.S. Inc..

1. Acceptance; Agreement. These terms and conditions are an integral part of Company's offer and form the basis of any agreement (the "Agreement") resulting from Company's proposal (the "Proposal") for the commercial goods and/or services described (the "Work"). **COMPANY'S TERMS AND CONDITIONS ARE SUBJECT TO PERIODIC CHANGE OR AMENDMENT.** The Proposal is subject to acceptance in writing by the party to whom this offer is made or an authorized agent ("Customer") delivered to Company within 30 days from the date of the Proposal. If Customer accepts the Proposal by placing an order, without the addition of any other terms and conditions of sale or any other modification, Customer's order shall be deemed acceptance of the Proposal subject to Company's terms and conditions. If Customer's order is expressly conditioned upon Company's acceptance or assent to terms and/or conditions other than those expressed herein, return of such order by Company with Company's terms and conditions attached or referenced serves as Company's notice of objection to Customer's terms and as Company's counter-offer to provide Work in accordance with the Proposal and the Company terms and conditions. If Customer does not reject or object in writing to Company within 10 days, Company's counter-offer will be deemed accepted. Customer's acceptance of the Work by Company will in any event constitute an acceptance by Customer of Company's terms and conditions. This Agreement is subject to credit approval by Company. Upon disapproval of credit, Company may delay or suspend performance or, at its option, renegotiate prices and/or terms and conditions with Customer. If Company and Customer are unable to agree on such revisions, this Agreement shall be cancelled without any liability, other than Customer's obligation to pay for Work rendered by Company to the date of cancellation.

2. Pricing and Taxes. Unless otherwise noted, the price in the Proposal includes standard ground transportation and, if required by law, all sales, consumer, use and similar taxes legally enacted as of the date hereof for equipment and material installed by Company. Tax exemption is contingent upon Customer furnishing appropriate certificates evidencing Customer's tax exempt status. Company shall charge Customer additional costs for bonds agreed to be provided. Equipment sold on an uninstalled basis and any taxable labor/labour do not include sales tax and taxes will be added. Following acceptance without addition of any other terms and condition of sale or any other modification by Customer, the prices stated are firm provided that notification of release for immediate production and shipment is received at the factory not later than 3 months from order receipt. If such release is received later than 3 months from order receipt date, prices will be increased a straight 1% (not compounded) for each one-month period (or part thereof) beyond the 3 month firm price period up to the date of receipt of such release. If such release is not received within 6 months after date of order receipt, the prices are subject to renegotiation, or at Company's option, the order will be cancelled. Any delay in shipment caused by Customer's actions will subject prices to increase equal to the percentage increase in list prices during that period of delay and Company may charge Customer with incurred storage fees.

3. Exclusions from Work. Company's obligation is limited to the Work as defined and does not include any modifications to the Work site under the Americans With Disabilities Act or any other law or building code(s). In no event shall Company be required to perform work Company reasonably believes is outside of the defined Work without a written change order signed by Customer and Company.

4. Performance. Company shall perform the Work in accordance with industry standards generally applicable in the area under similar circumstances as of the time Company performs the Work. Company may refuse to perform any Work where working conditions could endanger property or put at risk the safety of persons. Unless otherwise agreed to by Customer and Company, at Customer's expense and before the Work begins, Customer will provide any necessary access platforms, catwalks to safely perform the Work in compliance with OSHA or state industrial safety regulations.

5. Payment. Customer shall pay Company's invoices within net 30 days of invoice date. Company may invoice Customer for all equipment or material furnished, whether delivered to the installation site or to an off-site storage facility and for all Work performed on-site or off-site. No retention shall be withheld from any payments except as expressly agreed in writing by Company, in which case retention shall be reduced per the contract documents and released no later than the date of substantial completion. Under no circumstances shall any retention be withheld for the equipment portion of the order. If payment is not received as required, Company may suspend performance and the time for completion shall be extended for a reasonable period of time not less than the period of suspension. Customer shall be liable to Company for all reasonable shutdown, standby and start-up costs as a result of the suspension. Company reserves the right to add to any account outstanding for more than 30 days a service charge equal to 1.5% of the principal amount due at the end of each month. Customer shall pay all costs (including attorneys' fees) incurred by Company in attempting to collect amounts due and otherwise enforcing these terms and conditions. If requested, Company will provide appropriate lien waivers upon receipt of payment. Customer agrees that, unless Customer makes payment in advance, Company will have a purchase money security interest in all equipment from Company to secure payment in full of all amounts due Company and its order for the equipment, together with these terms and conditions, form a security agreement. Customer shall keep the equipment free of all taxes and encumbrances, shall not remove the equipment from its original installation point and shall not assign or transfer any interest in the equipment until all payments due Company have been made.

6. Time for Completion. Except to the extent otherwise expressly agreed in writing signed by an authorized representative of Company, all dates provided by Company or its representatives for commencement, progress or completion are estimates only. While Company shall use commercially reasonable efforts to meet such estimated dates, Company shall not be responsible for any damages for its failure to do so.

7. Access. Company and its subcontractors shall be provided access to the Work site during regular business hours, or such other hours as may be requested by Company and acceptable to the Work site' owner or tenant for the performance of the Work, including sufficient areas for staging, mobilization, and storage. Company's access to correct any emergency condition shall not be restricted. Customer grants to Company the right to remotely connect (via phone modem, internet or other agreed upon means) to Customer's building automation system (BAS) and/or HVAC equipment to view, extract, or otherwise collect and retain data from the BAS, HVAC equipment, or other building systems, and to diagnose and remotely make repairs at Customer's request.

8. Completion. Notwithstanding any other term or condition herein, when Company informs Customer that the Work has been completed, Customer shall inspect the Work in the presence of Company's representative, and Customer shall either (a) accept the Work in its entirety in writing, or (b) accept the Work in part and specifically identify, in writing, any exception items. Customer agrees to re-inspect any and all excepted items as soon as Company informs Customer that all such excepted items have been completed. The initial acceptance inspection shall take place within ten (10) days from the date when Company informs Customer that the Work has been completed. Any subsequent re-inspection of excepted items shall take place within five (5) days from the date when Company informs Customer that the excepted items have been completed. Customer's failure to cooperate and complete any of said inspections within the required time limits shall constitute complete acceptance of the Work as of ten (10) days from date when Company informs Customer that the Work, or the excepted items, if applicable, has/have been completed.

9. Permits and Governmental Fees. Company shall secure (with Customer's assistance) and pay for building and other permits and governmental fees, licenses, and inspections necessary for proper performance and completion of the Work which are legally required when bids from Company's subcontractors are received, negotiations thereon concluded, or the effective date of a relevant Change Order, whichever is later. Customer is responsible for necessary approvals, easements, assessments and charges for construction, use or occupancy of permanent structures or for permanent changes to existing facilities. If the cost of such permits, fees, licenses and inspections are not included in the Proposal, Company will invoice Customer for such costs.

10. Utilities During Construction. Customer shall provide without charge to Company all water, heat, and utilities required for performance of the Work.

11. Concealed or Unknown Conditions. In the performance of the Work, if Company encounters conditions at the Work site that are (i) subsurface or otherwise concealed physical conditions that differ materially from those indicated on drawings expressly incorporated herein or (ii) unknown physical conditions of an unusual nature that differ materially from those conditions ordinarily found to exist and generally recognized as inherent in construction activities of the type and character as the Work, Company shall notify Customer of such conditions promptly, prior to significantly disturbing same. If such conditions differ materially and cause an increase in Company's cost of, or time required for, performance of any part of the Work, Company shall be entitled to, and Customer shall consent by Change Order to, an equitable adjustment in the Contract Price, contract time, or both.

12. Pre-Existing Conditions. Company is not liable for any claims, damages, losses, or expenses, arising from or related to conditions that existed in, on, or upon the Work site before the Commencement Date of this Agreement ("Pre-Existing Conditions"), including, without limitation, damages, losses, or expenses involving Pre-Existing Conditions of building envelope issues, mechanical issues, plumbing issues, and/or indoor air quality issues involving mold/mould and/or



fungi. Company also is not liable for any claims, damages, losses, or expenses, arising from or related to work done by or services provided by individuals or entities that are not employed by or hired by Company.

13. Asbestos and Hazardous Materials. Company's Work and other services in connection with this Agreement expressly excludes any identification, abatement, cleanup, control, disposal, removal or other work connected with asbestos, polychlorinated biphenyl ("PCB"), or other hazardous materials (hereinafter, collectively, "Hazardous Materials"). Customer warrants and represents that, except as set forth in a writing signed by Company, there are no Hazardous Materials on the Work site that will in any way affect Company's Work and Customer has disclosed to Company the existence and location of any Hazardous Materials in all areas within which Company will be performing the Work. Should Company become aware of or suspect the presence of Hazardous Materials, Company may immediately stop work in the affected area and shall notify Customer. Customer will be exclusively responsible for taking any and all action necessary to correct the condition in accordance with all applicable laws and regulations. Customer shall be exclusively responsible for and, to the fullest extent permitted by law, shall indemnify and hold harmless Company (including its employees, agents and subcontractors) from and against any loss, claim, liability, fees, penalties, injury (including death) or liability of any nature, and the payment thereof arising out of or relating to any Hazardous Materials on or about the Work site, not brought onto the Work site by Company. Company shall be required to resume performance of the Work in the affected area only in the absence of Hazardous Materials or when the affected area has been rendered harmless. In no event shall Company be obligated to transport or handle Hazardous Materials, provide any notices to any governmental agency, or examine the Work site for the presence of Hazardous Materials.

14. Force Majeure. Company's duty to perform under this Agreement is contingent upon the non-occurrence of an Event of Force Majeure. If Company shall be unable to carry out any material obligation under this Agreement due to an Event of Force Majeure, this Agreement shall at Company's election (i) remain in effect but Company's obligations shall be suspended until the uncontrollable event terminates or (ii) be terminated upon 10 days notice to Customer, in which event Customer shall pay Company for all parts of the Work furnished to the date of termination. An "Event of Force Majeure" shall mean any cause or event beyond the control of Company. Without limiting the foregoing, "Event of Force Majeure" includes: acts of God; acts of terrorism, war or the public enemy; flood; earthquake; tornado; storm; fire; civil disobedience; pandemic insurrections; riots; labor/labour disputes; labor/labour or material shortages; sabotage; restraint by court order or public authority (whether valid or invalid), and action or non-action by or inability to obtain or keep in force the necessary governmental authorizations, permits, licenses, certificates or approvals if not caused by Company; and the requirements of any applicable government in any manner that diverts either the material or the finished product to the direct or indirect benefit of the government.

15. Customer's Breach. Each of the following events or conditions shall constitute a breach by Customer and shall give Company the right, without an election of remedies, to terminate this Agreement or suspend performance by delivery of written notice: (1) Any failure by Customer to pay amounts when due; or (2) any general assignment by Customer for the benefit of its creditors, or if Customer becomes bankrupt or insolvent or takes the benefit of any statute for bankrupt or insolvent debtors, or makes or proposes to make any proposal or arrangement with creditors, or if any steps are taken for the winding up or other termination of Customer or the liquidation of its assets, or if a trustee, receiver, or similar person is appointed over any of the assets or interests of Customer; (3) Any representation or warranty furnished by Customer in this Agreement is false or misleading in any material respect when made; or (4) Any failure by Customer to perform or comply with any material provision of this Agreement. Customer shall be liable to Company for all Work furnished to date and all damages sustained by Company (including lost profit and overhead).

16. Indemnity. To the fullest extent permitted by law, Company and Customer shall indemnify, defend and hold harmless each other from any and all claims, actions, costs, expenses, damages and liabilities, including reasonable attorneys' fees, resulting from death or bodily injury or damage to real or tangible personal property, to the extent caused by the negligence or misconduct of their respective employees or other authorized agents in connection with their activities within the scope of this Agreement. Neither party shall indemnify the other against claims, damages, expenses or liabilities to the extent attributable to the acts or omissions of the other party. If the parties are both at fault, the obligation to indemnify shall be proportional to their relative fault. The duty to indemnify will continue in full force and effect, notwithstanding the expiration or early termination hereof, with respect to any claims based on facts or conditions that occurred prior to expiration or termination.

17. Limitation of Liability. NOTWITHSTANDING ANYTHING TO THE CONTRARY, IN NO EVENT SHALL COMPANY BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT CONSEQUENTIAL, OR PUNITIVE OR EXEMPLARY DAMAGES (INCLUDING WITHOUT LIMITATION BUSINESS INTERRUPTION, LOST DATA, LOST REVENUE, LOST PROFITS, LOST DOLLAR SAVINGS, OR LOST ENERGY USE SAVINGS, EVEN IF A PARTY HAS BEEN ADVISED OF SUCH POSSIBLE DAMAGES OR IF SAME WERE REASONABLY FORESEEABLE AND REGARDLESS OF WHETHER THE CAUSE OF ACTION IS FRAMED IN CONTRACT, NEGLIGENCE, ANY OTHER TORT, WARRANTY, STRICT LIABILITY, OR PRODUCT LIABILITY). In no event will Company's liability in connection with the provision of products or services or otherwise under this Agreement exceed the entire amount paid to Company by Customer under this Agreement.

18. Patent Indemnity. Company shall protect and indemnify Customer from and against all claims, damages, judgments and loss arising from infringement or alleged infringement of any United States patent by any of the goods manufactured by Company and delivered hereunder, provided that in the event of suit or threat of suit for patent infringement, Company shall promptly be notified and given full opportunity to negotiate a settlement. Company does not warrant against infringement by reason of Customer's design of the articles or the use thereof in combination with other materials or in the operation of any process. In the event of litigation, Customer agrees to reasonably cooperate with Company. In connection with any proceeding under the provisions of this Section, all parties concerned shall be entitled to be represented by counsel at their own expense.

19. Limited Warranty. Company warrants for a period of 12 months from the date of substantial completion ("Warranty Period") commercial equipment manufactured and installed by Company against failure due to defects in material and manufacture and that the labor/labour furnished is warranted to have been properly performed (the "Limited Warranty"). Trane equipment sold on an uninstalled basis is warranted in accordance with Company's standard warranty for supplied equipment. **Product manufactured by Company that includes required startup and is sold in North America will not be warranted by Company unless Company performs the product start-up.** Substantial completion shall be the earlier of the date that the Work is sufficiently complete so that the Work can be utilized for its intended use or the date that Customer receives beneficial use of the Work. If such defect is discovered within the Warranty Period, Company will correct the defect or furnish replacement equipment (or, at its option, parts therefor) and, if said equipment was installed pursuant hereto, labor/labour associated with the replacement of parts or equipment not conforming to this Limited Warranty. Defects must be reported to Company within the Warranty Period. Exclusions from this Limited Warranty include damage or failure arising from: wear and tear; corrosion, erosion, deterioration; Customer's failure to follow the Company-provided maintenance plan; refrigerant not supplied by Trane; and modifications made by others to Company's equipment. Company shall not be obligated to pay for the cost of lost refrigerant. Notwithstanding the foregoing, all warranties provided herein terminate upon termination or cancellation of this Agreement. No warranty liability whatsoever shall attach to Company until the Work has been paid for in full and then said liability shall be limited to the lesser of Company's cost to correct the defective Work and/or the purchase price of the equipment shown to be defective. Equipment, material and/or parts that are not manufactured by Company are not warranted by Company and have such warranties as may be extended by the respective manufacturer. **THE WARRANTY AND LIABILITY SET FORTH IN THIS AGREEMENT ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESS OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND/OR OTHERS ARISING FROM COURSE OF DEALING OR TRADE. COMPANY MAKES NO REPRESENTATION OR WARRANTY EXPRESS OR IMPLIED REGARDING PREVENTION BY THE WORK, OR ANY COMPONENT THEREOF, OF MOLD/MOULD, FUNGUS, BACTERIA, MICROBIAL GROWTH, OR ANY OTHER CONTAMINATES. COMPANY SPECIFICALLY DISCLAIMS ANY LIABILITY IF THE WORK OR ANY COMPONENT THEREOF IS USED TO PREVENT OR INHIBIT THE GROWTH OF SUCH MATERIALS.**

20. Insurance. Company agrees to maintain the following insurance while the Work is being performed with limits not less than shown below and will, upon request from Customer, provide a Certificate of evidencing the following coverage:

Commercial General Liability	\$2,000,000 per occurrence
Automobile Liability	\$2,000,000 CSL
Workers Compensation	Statutory Limits



If Customer has requested to be named as an additional insured under Company's insurance policy, Company will do so but only subject to Company's manuscript additional insured endorsement under its primary Commercial General Liability policies. In no event does Company waive its right of subrogation.

21. Commencement of Statutory Limitation Period. Except as to warranty claims, as may be applicable, any applicable statutes of limitation for acts or failures to act shall commence to run, and any alleged cause of action stemming therefrom shall be deemed to have accrued, in any and all events not later than the last date that Company or its subcontractors physically performed work on the project site.

22. General. Except as provided below, to the maximum extent provided by law, this Agreement is made and shall be interpreted and enforced in accordance with the laws of the state or province in which the Work is performed, without regard to choice of law principles which might otherwise call for the application of a different state's or province's law. Any dispute arising under or relating to this Agreement that is not disposed of by agreement shall be decided by litigation in a court of competent jurisdiction located in the state or province in which the Work is performed. Any action or suit arising out of or related to this Agreement must be commenced within one year after the cause of action has accrued. To the extent the Work site is owned and/or operated by any agency of the Federal Government, determination of any substantive issue of law shall be according to the Federal common law of Government contracts as enunciated and applied by Federal judicial bodies and boards of contract appeals of the Federal Government. This Agreement contains all of the agreements, representations and understandings of the parties and supersedes all previous understandings, commitments or agreements, oral or written, related to the subject matter hereof. This Agreement may not be amended, modified or terminated except by a writing signed by the parties hereto. No documents shall be incorporated herein by reference except to the extent Company is a signatory thereon. If any term or condition of this Agreement is invalid, illegal or incapable of being enforced by any rule of law, all other terms and conditions of this Agreement will nevertheless remain in full force and effect as long as the economic or legal substance of the transaction contemplated hereby is not affected in a manner adverse to any party hereto. Customer may not assign, transfer, or convey this Agreement, or any part hereof, or its right, title or interest herein, without the written consent of the Company. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of Customer's permitted successors and assigns. This Agreement may be executed in several counterparts, each of which when executed shall be deemed to be an original, but all together shall constitute but one and the same Agreement. A fully executed facsimile copy hereof or the several counterparts shall suffice as an original.

23. Equal Employment Opportunity/Affirmative Action Clause. Company is a federal contractor that complies fully with Executive Order 11246, as amended, and the applicable regulations contained in 41 C.F.R. Parts 60-1 through 60-60, 29 U.S.C. Section 793 and the applicable regulations contained in 41 C.F.R. Part 60-741; and 38 U.S.C. Section 4212 and the applicable regulations contained in 41 C.F.R. Part 60-250 Executive Order 13496 and Section 29 CFR 471, appendix A to subpart A, regarding the notice of employee rights in the United States and with Canadian Charter of Rights and Freedoms Schedule B to the Canada Act 1982 (U.K.) 1982, c. 11 and applicable Provincial Human Rights Codes and employment law in Canada.

24. U.S. Government Work.

The following provision applies only to direct sales by Company to the US Government. The Parties acknowledge that all items or services ordered and delivered under this Agreement are Commercial Items as defined under Part 12 of the Federal Acquisition Regulation (FAR). In particular, Company agrees to be bound only by those Federal contracting clauses that apply to "commercial" suppliers and that are contained in FAR 52.212-5(e)(1). Company complies with 52.219-8 or 52.219-9 in its service and installation contracting business.

The following provision applies only to indirect sales by Company to the US Government. As a Commercial Item Subcontractor, Company accepts only the following mandatory flow down provisions: 52.219-8; 52.222-26; 52.222-35; 52.222-36; 52.222-39; 52.247-64. If the Work is in connection with a U.S. Government contract, Customer certifies that it has provided and will provide current, accurate, and complete information, representations and certifications to all government officials, including but not limited to the contracting officer and officials of the Small Business Administration, on all matters related to the prime contract, including but not limited to all aspects of its ownership, eligibility, and performance. Anything herein notwithstanding, Company will have no obligations to Customer unless and until Customer provides Company with a true, correct and complete executed copy of the prime contract. Upon request, Customer will provide copies to Company of all requested written communications with any government official related to the prime contract prior to or concurrent with the execution thereof, including but not limited to any communications related to Customer's ownership, eligibility or performance of the prime contract. Customer will obtain written authorization and approval from Company prior to providing any government official any information about Company's performance of the work that is the subject of the Proposal or this Agreement, other than the Proposal or this Agreement.

25. Limited Waiver of Sovereign Immunity. If Customer is an Indian tribe (in the U.S.) or a First Nation or Band Council (in Canada), Customer, whether acting in its capacity as a government, governmental entity, a duly organized corporate entity or otherwise, for itself and for its agents, successors, and assigns: (1) hereby provides this limited waiver of its sovereign immunity as to any damages, claims, lawsuit, or cause of action (herein "Action") brought against Customer by Company and arising or alleged to arise out of the furnishing by Company of any product or service under this Agreement, whether such Action is based in contract, tort, strict liability, civil liability or any other legal theory; (2) agrees that jurisdiction and venue for any such Action shall be proper and valid (a) if Customer is in the U.S., in any state or United States court located in the state in which Company is performing this Agreement or (b) if Customer is in Canada, in the superior court of the province or territory in which the work was performed; (3) expressly consents to such Action, and waives any objection to jurisdiction or venue; (4) waives any requirement of exhaustion of tribal court or administrative remedies for any Action arising out of or related to this Agreement; and (5) expressly acknowledges and agrees that Company is not subject to the jurisdiction of Customer's tribal court or any similar tribal forum, that Customer will not bring any action against Company in tribal court, and that Customer will not avail itself of any ruling or direction of the tribal court permitting or directing it to suspend its payment or other obligations under this Agreement. The individual signing on behalf of Customer warrants and represents that such individual is duly authorized to provide this waiver and enter into this Agreement and that this Agreement constitutes the valid and legally binding obligation of Customer, enforceable in accordance with its terms.

1-26.251-10(0315)
Supersedes 1-26.251-10(0614)