



ROANOKE COUNTY

FINANCE & MANAGEMENT SERVICES DEPARTMENT PURCHASING DIVISION

INVITATION FOR BID

IFB # 2023-067

Glenvar Middle School Gym Air Conditioning Improvements

**OPENING DATE: February 24, 2023
OPENING TIME: 2:00 P.M.**

The Invitation to Bid and related documents may be obtained during normal business hours from the Purchasing Division, at the Roanoke County Administration Building, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018. This document may be viewed and/or downloaded from the County of Roanoke Purchasing Division's website at <https://www.roanokecountyva.gov/bids.aspx>. If you have any problems accessing the documents, you may contact Purchasing at (540) 772-2061.

A **mandatory** pre-bid conference will be held at 10:00 AM on February 16, 2023 at Glenvar Middle School, 4555 Malus Drive, Salem VA 24153. Vendors who wish to submit a bid for this work are required to attend this meeting.

**THIS PUBLIC BODY DOES NOT DISCRIMINATE
AGAINST FAITH-BASED ORGANIZATIONS**

DATE of IFB: February 8, 2023

INVITATION FOR BID (IFB)

IFB No. 2023-067

Issue Date: February 8, 2023

Title: Glenvar Middle School Gym Air Conditioning Improvements

Issued By: **County of Roanoke**
Roanoke County Administration Building
Purchasing Division
5204 Bernard Drive, SW, Suite 300-F
Roanoke, VA 24018-0798
Phone (540) 772-2061
Email: KHoyt@roanokecountyva.gov

Sealed Bids will be received on or before 2:00 P.M., February 24, 2023 for furnishing the services and/or items described herein. The time of receipt shall be determined by the time clock stamp in the Purchasing office.

All questions must be submitted *in writing* before 5:00 p.m., **February 17, 2023**. Questions should be emailed to KHoyt@roanokecountyva.gov. If necessary, an addendum will be issued and posted to the County website on the Current Bids/RFP Requests tab at <https://www.roanokecountyva.gov/bids.aspx>.

If proposals are hand delivered or mailed, send directly to the Purchasing Division at the address listed above. If the Roanoke County Administration Building is closed for business at the time scheduled for the proposal opening, the sealed proposal will be accepted and opened on the next business day of the County, at the originally scheduled hour.

THIS PUBLIC BODY DOES NOT DISCRIMINATE AGAINST FAITH-BASED ORGANIZATIONS.

The County reserves the right to cancel this IFB and/or reject any or all proposals and to waive any informalities in any proposal.

This section is to be completed by the Offeror and this page must be returned with the bid. In compliance with this Invitation For Bid and subject to all terms and conditions imposed herein, which are hereby incorporated herein by reference, the undersigned offers and agrees to furnish the services and/or items requested in this solicitation if the undersigned is selected as the successful Bidder. No Bid may be withdrawn within a period of sixty (60) days after Bid opening except for clerical errors, as set forth in part (1) of Section 2.2-4330(B), Virginia Code, 1950, as amended. Notices of bid withdrawal must be submitted in writing to the Purchasing Division.

My signature certifies that the bid as submitted complies with all requirements specified in this Invitation for Bid ("IFB"). If this Bid is accepted by the County, to provide the services and/or items in accordance with this Invitation for Bid and to execute a Contract/Purchase Order substantially similar to the attached Contract/Purchase Order Terms and Conditions for such services and/or items. My signature also certifies that by submitting a bid in response to this IFB, the Bidder represents that in the preparation and submission of this bid, the Bidder did not, either directly or indirectly, enter into any combination or arrangement with any person or business entity, or enter into any agreement, participate in any collusion, or otherwise take any action in the restraining of free, competitive bidding in violation of the Sherman Act (15 U.S.C. Section 1) or Sections 59.1-9.1 through 59.1-9.17 or Sections 59.1-68.6 through 59.1-68.8 of the Code of Virginia.

I hereby certify that I am authorized to sign as a legal representative for the business entity submitting this bid.

Legal Name and Address of Firm:

Date:

By:

Name: _____ (Signature in Ink)

Zip: _____ Title: _____ (Please Print)
Phone: _____ FAX: _____
Email: _____ Business License# _____
Virginia State Corporation Commission Identification Number: _____

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COUNTY OF ROANOKE, VIRGINIA
INVITATION FOR BID NO. 2023-067
Glenvar Middle School Gym Air Conditioning

SECTION 1. PURPOSE

The purpose of this Invitation for Bid (IFB) is the procurement of a qualified contractor to provide work on the air conditioning in the Glenvar Middle School main and auxiliary gyms.

The County of Roanoke invites any qualified Bidder to respond to this IFB by submitting a Bid for such work, service, and/or items consistent with the terms and conditions herein set forth.

SECTION 2. BACKGROUND

Not used.

SECTION 3. SERVICES AND/OR ITEMS REQUIRED

A description and/or listing of the services and/or items that the Successful Bidder will be required to provide to the County under this IFB are those that are set forth below and/or referred to in any way in the sample contract, any terms and conditions, and/or any attachments referred to in this IFB. Each Bidder should carefully read and review all such documents.

The following are the services and/or items that the Successful Bidder shall provide to the County of Roanoke:

- A. Improvements to air conditioning systems in the Glenvar Middle School gyms, per the Project Plans provided as **Attachment F** to this IFB.
 - 1. Main gym:
 - i. add cooling coil to existing air handler
 - ii. Install outdoor chiller
 - 2. Aux. gym:
 - i. Replace existing RTUs with units to provide heating and cooling.
- B. Project Schedule:
 - 1. Contractor will be required to coordinate with RCPS Facilities and Operations, and with Glenvar Middle School, to schedule work. If during school hours, work must not interfere with athletics, testing, or other school events.
 - 2. Preferred work schedule is during the 2023 summer holidays: May 29, 2023 through August 11, 2023.

SECTION 4. REQUIRED QUALIFICATIONS FOR BIDDERS /OR NOT USED

Not used.

SECTION 5. TERM OF CONTRACT OR TIME OF PERFORMANCE OR NOT USED

- A. The Successful Bidder shall start the performance of any resultant Contract as fixed by a notice to proceed given by RCPS to the Successful Bidder and fully and completely perform the Contract within the 2023 calendar year, all in accordance with the Contract provisions.
- C. All terms and conditions shall remain in force for the term of the Contract and for any renewal period unless modified by mutual agreement of both parties. Prices shall not be increased during the initial term of the Contract. Prices for any renewal periods will be subject to the mutual agreement of both parties.

SECTION 6. PAYMENT FOR SERVICES

Payment(s) to the Successful Bidder shall be made in accordance with the provisions of the resultant Contract, subject to final approval by the County.

SECTION 7. GENERAL INSTRUCTIONS TO BIDDERS

- A. Bids, to be considered, must be received by the County of Roanoke Purchasing Division, at the Roanoke County Administration Building, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018, at or before 2:00 p.m., local time, on February 24, 2023, at which time all Bids received will be publicly opened and read. **Bids received after 2:00 p.m. will NOT be accepted or considered.** The time of receipt shall be determined by the time clock stamp in the Purchasing Office, or if it is not working, such time shall be determined by the Purchasing official who is to open the bids.

Each Bid, **one (1) original, marked as such** and **one (1) copy, marked as such**, must be appropriately signed by an authorized representative of the Offeror, and must be submitted in a **SEALED** envelope or package. A removable media storage device containing two (2) digital copies of the proposal, one as submitted, and one **redacted to remove all confidential and proprietary material**, must be included in the proposal packet.

The notation “**GMS GYM AC**”, **IFB No. 2023-067**, Bidder’s name, and the specified opening time and date must be clearly marked on the front of that sealed envelope or package.

FAXED OR E-MAILED BIDS ARE NOT ACCEPTABLE.

The Invitation for Bid and related documents may be obtained during normal business hours from the Purchasing Division, at the Roanoke County Administration Building, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018. This document may be viewed and/or downloaded from the County of Roanoke Purchasing Division’s website at <https://www.roanokecountyva.gov/bids.aspx>.

If you have any problems accessing the documents, you may contact Purchasing at (540) 772-2061.

If proposals are hand delivered or mailed, send directly to the Purchasing Division at the address listed above. If the Roanoke County Administration Building is closed for business at the time scheduled for the Bid opening, the sealed bid will be accepted and opened on the next business day of the County, at the originally scheduled hour.

All questions must be submitted *in writing* before 5:00 P.M. on February 17, 2023. If necessary, an addendum will be issued and posted to the County website on the Current Bids/RFP Requests tab at <https://www.roanokecountyva.gov/bids.aspx>.

A **mandatory** pre-bid conference will be held at 10:00 AM on February 16, 2023, at Glenvar Middle School (4555 Malus Drive, Salem VA 24153. Vendors must attend this mandatory meeting in order for their bid submission to be accepted.

- B. If you download this IFB from the County website and intend to submit a proposal, you should notify Purchasing that you have done so. However, each Bidder is solely responsible for ensuring that such Bidder has the current, complete version of the IFB documents, including any addenda, before submitting a bid. Receipt by the bidder of such addendum should be acknowledged on the Bid Form and/or addendum. The County Purchasing Division or its designee will issue Addenda that will be posted to the County website on the Current Bid Opportunities tab at <https://www.roanokecountyva.gov/bids.aspx>.

C. **IMPORTANT NOTICE - ADDENDUMS AND NOTICES OF AWARD**

Vendors may visit <http://roanokecountyva.gov/list.aspx> to sign up to receive emails or text message notices about bids, proposals, addendums, bid tabulation and awards. Vendors can sign up to receive notification in selected commodity/service categories. It is the vendor's responsibility to keep information current in the system in order to receive the notifications. The sign up only requires an email address and/or a cell phone number for receiving text messages (if your phone is capable) and your choice of categories.

Although '**Notify Me**' will be the only way to receive automatic notification, all BIDS/RFP Information will continue to be posted on our website, and can be picked up at the Purchasing Division, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018. Phone # (540) 772-2061.

The County is not responsible for any IFB obtained from any source other than the County. Contact Kate Hoyt, by phone at 540-283-8149, or by email at KHoyt@roanokecountyva.gov.

- D. Payment terms and delivery date(s) must be shown on the submitted Bid, if applicable.
- E. All Bids are to be submitted in accordance with all terms, conditions, rules, regulations, requirements and specifications identified in and by this IFB.

- F. Bids are to be on the Form as provided herein **OR** as **otherwise specified** in this IFB. If a Bid Form is provided, **no changes are to be made to the Bid Form**. Any changes to Bid amounts must be initialed.
- G. All Bids shall be signed by a person on behalf of the responding Bidder who is appropriately authorized to do so. The printed name of that authorized person should be shown as well. Any Bid submitted should be in the complete legal name of the Bidder responding. No Bid will be considered from any Bidder not properly licensed as may be required by law.
- H. Except in cases of emergency, all bids for construction contracts shall be accompanied by a bid bond from a surety company selected by the bidder, which is legally authorized to do business in Virginia.
1. A bid, payment or performance bond for contracts for goods or services other than construction may be required if provided in the Invitation for Bid.
 2. The amount of the bid bond shall not exceed five percent (5%) of the total amount of the bid.
 3. In lieu of a bid bond, a bidder may furnish a certified check or cash escrow in the face amount required for the bond.
 4. Upon award of any public construction contract exceeding \$100,000 awarded to any prime contractor, such contractor shall furnish:
 - a. Performance bond in the sum of the contract amount.
 - b. Payment bond in the sum of the contract amount.
 5. Performance and/or payment bonds may be required for construction contracts below \$100,000 at the discretion of the County.
 6. In cases of emergency performance bonds/payment bonds are required within ten (10) calendar days of notice to proceed or project commencement.
- I. Bids that have been appropriately opened cannot be changed, adjusted, corrected or modified in any way other than complete withdrawal. The County's procedures for withdrawal of bids (whether construction or other than construction) is that set forth in Code of Virginia, §2.2-4330(A)&(B)(1), which allows withdrawal of a Bid due to an error such as an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a Bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the Bid. Withdrawal must be requested within two days of the Bid opening by delivering to the County original work papers, documents, and materials used in preparation of the Bid.
- J. All Bids, appropriately received, will be evaluated by considering the requirements set forth in the IFB, the quality, workmanship, economy of operation, suitability for intended purpose, delivery, payment terms and price of product or service being requested in this Bid.
- K. Bids are to be submitted on the type, brand, make, and/or kind of product and/or service requested or its approved equal, to be solely determined by the County, unless otherwise specified. Should a Bid be for a product and/or service as an equal, the name, make, model and type of that which is being Bid must be clearly stated. The Bid must also be accompanied by descriptive literature of the product or service Bid to allow for

evaluation. Failure to provide this information may result in the Bid being considered non-responsive and may not be considered.

It is not the intent of the specifications to be proprietary, nor to exclude any manufacturer or dealer. Deviations will be given consideration if they are considered to be suitable and acceptable for comparison. Any deviations must be submitted, in writing, with your bid. Deviations discovered after bid award or material receipt, not stated in your bid, shall be grounds for disqualification and nullification of order. It is the responsibility of the Offeror to prove that the deviation is equal to the product/service specified. The County of Roanoke will make the final determination as to whether the product is equivalent.

- L. If an award is made for the item(s) and/or services requested, a notice of award will be made which will be posted for public review on the County of Roanoke Purchasing Division's website under Current Bid Opportunities at <https://www.roanokecountyva.gov/bids.aspx> or you may contact Purchasing directly at (540) 772-2061 to request a copy of the award notification.

Upon completion of the Contract, payment will be made only to the Successful Bidder at the address as shown on the Contract. If the remittance address is other than the address on the Bid, it must be clearly noted and explained in the Bid. Contract/Purchase Order(s) will be paid only when the items and/or services have been supplied to and approved by the County.

- M. All items, identified in this IFB, are to be quoted and provided **F.O.B. DESTINATION-INSIDE DELIVERY**, unless otherwise stated in this IFB. All furniture items, if any, are to be put together and set in place.
- N. The County reserves the right to cancel this IFB or reject any or all Bids, to waive any informalities in any Bid and to purchase any whole or part of the items and/ or services listed in the IFB.
- O. Each Bidder is to notify in writing the Purchasing Division if any of Bidder's owners, officers, employees, or agents, or their immediate family members, is currently or has been in the past year, an employee of the County of Roanoke or has any responsibility or authority with the County that might affect the procurement transaction or any claim resulting therefrom. If so, please provide the Purchasing Division with the complete name and address of each such person and their connection to the County of Roanoke. Each Bidder is advised that the Ethics in Public Contracting and Conflicts of Interests Act of the Code of Virginia, as set forth in this IFB, apply to this IFB. Such information should be provided in writing before the Bid opening date or may also be provided with the Bid response.
- P. **The attention of each Bidder is directed to VA Code Sections 54.1-1100 et seq. which requires certain licenses for contractors, tradesmen and others. Each Bidder is required to determine which license, if any, it is required to have under such sections. Each Bidder shall so state on the Bid Form, or in its response, if no Bid Form is provided, whether it has a VA license under such sections and, if so, the type of license and/or license number. Failure to include this information may result in the Bid being rejected as non-responsive.**

Q. **Bid Submittals shall include:**

1. **Pages 2-3, Invitation for Bid Signature Page**
2. **Attachment A: Bid Form** (pricing shall include all labor, material, delivery costs, overhead and profit.)
3. **Required Attachments: B, C, D.**
4. **Signed copies of any Addenda issued.**

Failure to do so may result in the Bid being determined as non-responsive.

Questions or concerns may be addressed by contacting Kate Hoyt by phone at 540-283-8149, or by email at KHoyt@roanokecountyva.gov.

- R. Ethics in Public Contracting. The provisions, requirements, and prohibitions as contained in Sections 2.2-4367 through 2.2-4377, of the Virginia Code, pertaining to bidders, offerors, contractors, and subcontractors are applicable to this IFB.
- S. Conflict of Interests Act. The provisions, requirements, and prohibitions as contained in Sections 2.2-3100, et seq., of the Virginia Code are applicable to this IFB.
- T. The procurement provisions of the Virginia Public Procurement Act as well as the County Procurement Manual, apply to this RFP, unless specifically modified herein. The County's Procurement Manual can be reviewed on the County's electronic procurement website.
- U. The County may request clarification from any of the Bidders after review of the Bids received.
- V. The County is not liable for any costs incurred by any Bidder in connection with this IFB or any response by any Bidder to this IFB. The expenses incurred by a Bidder in the preparation, submission, and presentation of the Bid are the sole responsibility of the Bidder and may not be charged to the County.
- W. General and/or technical questions regarding the Scope of Services and/or items required, or procurement questions under this IFB may be directed in writing to Kate Hoyt, Buyer, by email at KHoyt@roanokecountyva.gov.
- X. Each Bidder is required to state if it has ever been debarred, fined, had a contract terminated, or found not be a responsible bidder or Offer or by any federal, state, or local government and/or private entity. If so, please give the details of each such matter and include this information with Bidder's response.
- Y. **Data on Convictions for Certain Crimes and Child Abuse and Neglect Certification of Contractor:** The Consultant certifies that none of the persons who will provide services requiring direct contact with students on school property during school hours or during school-sponsored activities has been convicted of any of the following felony or misdemeanor offenses: felony sex or violence offenses, other felony offenses or misdemeanor sex offenses within the past ten years.

The Consultant further understands and acknowledges (1) that if he makes a materially false statement regarding any of the above offenses, he will be guilty of a Class 1 misdemeanor and may forfeit profits derived from the contract. Further, the Consultant

understands and acknowledges that before any person is permitted to provide such services subsequent to this certification, he must complete a new certification regarding such person in a form satisfactory to Roanoke County and the Roanoke County School Board. **Data and Convictions information will be requested before the County of Roanoke/Schools enters into a contract when required.**

- Z. Each Bidder who is a stock or Nonstock Corporation, Limited Liability Company, business trust, or a limited partnership or other business entity shall be authorized to transact business in the Commonwealth of Virginia as a domestic or foreign business entity if required by law. Each such Bidder shall include in its bid response the Identification Number issued to it by the Virginia State Corporation Commission (SCC) and should list its business entity name as it is listed with the SCC. Any Bidder that is not required to be authorized to transact business in the Commonwealth as a domestic or foreign business entity as required by law shall include in its bid response a statement describing why the Bidder is not required to be so authorized. (See Va. Code Section 2.2-4311.2).
- AA. Unless participating in a pending solicitation, vendors/prospective vendors may visit County departments without advance approval of the Purchasing Division to make sales calls, drop off literature, or conduct demonstrations. Advance appointments must be confirmed with the Director or their designee for the department to be visited.

Direct contact with any County employee without the permission of the Purchasing Division, on the subject of this solicitation, is strictly forbidden.

During an active solicitation all communications (email, phone, text, letter) must be conducted through the Purchasing Division. Purchasing staff will coordinate responses to any inquiries, as necessary. If any vendor involved in a pending solicitation or bid violates this communication protocol, any submittals from the vendor may be rejected/disqualified at the discretion of the Purchasing Division.

SECTION 8. MISCELLANEOUS

- A. Ownership of all data, materials, and documentation originated and prepared for the County pursuant to the IFB shall belong exclusively to the County and be subject to public inspection in accordance with the *Virginia Freedom of Information Act*. The trade secrets or proprietary information submitted by the Bidder shall not be subject to public disclosure under the *Freedom of Information Act*, unless otherwise required by law or a court. **However, the Bidder must invoke the protection of Section 2.2-4342(F) of the Code of Virginia, in writing, either before or at the time the data or other material is submitted.** The written notice must SPECIFICALLY identify the data or materials to be protected and state the reason why protection is necessary. The proprietary or trade secret material submitted must be identified by some distinct method such as highlighting or underlining and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information. The classification of an entire proposal document, line item prices, and/or total proposal prices as proprietary, or trade secrets, is NOT ACCEPTABLE and may result in REJECTION of the Bid.
- B. All Bidders shall be solely responsible for making sure that they have the most current and complete version of this IFB and all addenda that may have been issued for this IFB and that such Bidder has examined all such documents and data. Any interpretation,

correction, or change of the IFB will be made by an addendum. Interpretations, corrections or changes of this IFB made in any other manner will not be binding and Bidders must not rely upon such interpretations, corrections, or changes. The County Purchasing Division or its designee will issue Addenda that will be posted to the County website on the Current Bid Opportunities tab at <https://www.roanokecountyva.gov/bids.aspx>.

- C. No Bidder shall confer on any public employee having official responsibility for a purchasing transaction any payment, loan, subscription, advance, deposit or money, service, or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value is exchanged.
- D. The County may make investigations to determine the ability of the Bidder to perform the work and/or provide the services and/or items as described in this IFB. The County of Roanoke reserves the right to reject any Bid if the Bidder fails to satisfy the County of Roanoke that it is qualified to carry out the obligations and requirements requested in this IFB.
- E. The Successful Bidder must comply with the nondiscrimination provisions of Virginia Code Section 2.2-4311, which are incorporated herein by reference.
- F. The Successful Bidder must comply with the drug-free workplace provisions of Virginia Code Section 2.2-4312, which are incorporated herein by reference.
- G. It is the policy of the County of Roanoke to maximize participation whenever possible by minority and women owned business enterprises in all aspects of County contracting opportunities.
- H. The Successful Bidder shall comply with all applicable County, State, and Federal laws, codes, provisions, and regulations. The successful Bidder shall not during the performance of any resultant contract knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.
- I. Providers of any outside services and/or items shall be subject to the same conditions and requirements as the Successful Bidder in regards to law, code, or regulation compliance. The County reserves the right of approval for any subcontract work, including the costs thereof.
- J. Funding agency requirements dictate Contractor compliance with the Davis-Bacon Act and related concerning wage rates and other provisions. It is the responsibility of the Contractor to meet these requirements.

SECTION 9. EVALUATION FOR LOWEST RESPONSIVE AND RESPONSIBLE BIDDER

To determine the lowest responsive and responsible Bidder with respect to this Bid, the following factors, among such others as will protect and preserve the interest of the County may be considered:

- A. Total extended Bid price as set forth on the Bid Form;
- B. The specified terms and discounts, if any, of the Bid;

- C. The ability, capacity and skill of the Bidder to perform the Contract and/or provide the services and/or items required;
- D. Whether the Bidder can perform the Contract and/or perform the services and/or provide the items promptly, or within the time specified, without delay or interference;
- E. The character, integrity, reputation, judgment, experience and efficiency of the Bidder;
- F. The quality of performance on previous contracts or services;
- G. The previous and existing compliance by the Bidder with laws and ordinances relating to other contracts, purchase orders, items and/or services provided by Bidder in other matters;
- H. The equipment and facilities available to the Bidder to perform the Contract and/or provide the services and/or items requested in the IFB;
- I. The sufficiency of the financial resources and ability of the Bidder to perform the Contract and/or provide the services and/or items requested in the IFB;
- J. The quality, availability, and adaptability of the supplies, materials, equipment and/or services the Bidder can provide for the particular use and/or work requested in the IFB; and
- K. The ability of the Bidder to provide future maintenance, parts, and service for the items requested in the IFB.

SECTION 10. CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE

Successful Bidder, and any of its subcontractors, shall, at its sole expense, obtain and maintain during the life of the resulting Contract the insurance policies and/or bonds required. Any required insurance policies and/or bonds shall be effective prior to the beginning of any work or other performance by Successful Bidder, or any of its subcontractors, under any resultant Contract. All such insurance shall be primary and noncontributory to any insurance or self-insurance the County may have. The policies and coverages required are those as may be referred to in the sample contract attached to this IFB, but shall include workers' compensation coverage regardless of the number of employees, unless otherwise approved by the County's Risk Manager.

SECTION 11. NEGOTIATIONS WITH LOWEST RESPONSIVE AND RESPONSIBLE BIDDER

If the bid by the lowest responsive and responsible bidder exceeds available funds, the County reserves the right to negotiate with the apparent lowest responsible bidder pursuant to County Code Chapter 17 (Ord. No. 3350, S2-30,12-14-82). State Code 2.2.4318. The conditions and procedures under which such negotiation may be undertaken are that the appropriate County officials shall determine that the lowest responsive and responsible bid exceeds available funds and notify such bidder in writing of its desire to negotiate. Thereafter, negotiations with the apparent low bidder may be held to obtain a Contract within available funds involving discussions

of reduction of quantity, quality, or other cost saving mechanisms. Any such negotiated Contract shall be subject to final approval of the County, in the sole discretion of the County.

SECTION 12. BID AWARD

If an award of a Contract is made, it will be awarded to the lowest responsive and responsible bidder. If an award of a contract is made, notification of such award will be posted for public review on the County of Roanoke Purchasing Division's website under Current Bid Opportunities at <https://www.roanokecountyva.gov/bids.aspx> or you may contact Purchasing directly at (540) 772-2061 to request a copy of the award notification.

SECTION 13. FAITH BASED ORGANIZATIONS

Pursuant to Virginia Code Section 2.2-4343.1, be advised that the County does not discriminate against faith-based organizations.

SECTION 14. HOLD HARMLESS AND INDEMNITY

Successful Bidder shall indemnify and hold harmless the County and its officers, agents, and employees against any and all liability, losses, damages, claims, causes of action, suits of any nature, costs, and expenses, including reasonable attorney's fees, resulting from or arising out of Successful Bidder's or its employees, agents, or subcontractors actions, activities, or omissions, negligent or otherwise, on or near County's property or arising in any way out of or resulting from any of the work or items to be provided under the Contract, and this includes, without limitation, any fines or penalties, violations of federal, state, or local laws or regulations, personal injury, wrongful death, or property damage claims or suits. Successful Bidder agrees to and shall protect, indemnify, and hold harmless all the parties referred to above from any and all demands for fees, claims, suits, actions, causes of action, settlement or judgments based on the alleged or actual infringement or violation of any copyright, trademark, patent, invention, article, arrangement, or other apparatus that may be used in the performance of the Contract.

SECTION 15. PROTESTS

Any Bidder who wishes to protest or object to any award made or other decisions Pursuant to this IFB may do so only in accordance with the provisions of Sections 2.2-4357, 4358, 4359, 4360, 4363, and 4364 of the Code of Virginia, and only if such is provided for in such Code section. Any such protest or objection must be in writing signed by a representative of the entity making the protest or objection and contain the information required by the applicable Code Sections set forth above. Such writing must be delivered to the County Manager within the required time period.

SECTION 16. COOPERATIVE PROCUREMENT

Not used.

SECTION 17. INFORMATION ON CONTRACT/PURCHASE ORDER TO BE AWARDED

The **Sample Contract** marked as **Attachment E** to IFB No. 2023-067 contains terms and conditions that the County will include in any Contract that may be awarded, but such terms and conditions may be added to, deleted, or modified as may be agreed to between the County and the Successful Bidder. However, if a Bidder has any objections to any of the terms or conditions set forth in the Sample or any changes or additions thereto that the Bidder wants to discuss before submitting a bid, the Bidder should set forth such objections, changes, or additions in written correspondence to the Purchasing Division at least five (5) days before the bid opening date for this IFB. Otherwise, submission of a bid by a Bidder will obligate such Bidder, if it is the Successful Bidder, to enter into a Contract containing the same or substantially similar terms and conditions as contained in such Attachment, and to comply with such terms and conditions. Also, such terms and conditions, together with the requirements of this IFB, shall be deemed to be a part of any resultant Contract/Purchase Order that may be issued by the County to the Successful Bidder.

END.

IFB # 2023-067
ATTACHMENT A: Bid Form/ Specifications

County of Roanoke
Purchasing Division
5204 Bernard Drive, SW, Suite 300-F
Roanoke, VA 24018-0798

The County reserves the right to add, delete, or adjust quantities as deemed necessary by the County.

Bids containing any conditions, omissions, unexplained erasures, alterations or items not called for in the bid, or irregularities of any kind, may be rejected by the County as being nonresponsive. No changes are to be made to the Bid Form. Any changes to a Bid Amount must be initialed by the person signing the Bid Form.

I/We hereby propose to furnish and provide air conditioning in the GMS gyms, in accordance with the enclosed general terms, conditions and specifications contained in IFB No. 2023-067. The Bid Form must be completed in blue or black ink. Discrepancies in the multiplication of units of work and the unit prices will be resolved in favor of the correct multiplication of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. My/Our prices are as follows:

PRICES QUOTED SHALL BE FOB DESTINATION. Freight charges shall be included in the bid price.

Total turnkey project cost: _____
(per Attachment F: Project Plans)

Estimated project completion date: _____

___ (initial) I/We can furnish and deliver all items prior to December 31, 2023.

Payment terms are: net 30. If Bidder offers a cash discount for prompt payment, it will only be considered in determining the lowest responsible Bidder if the Bidder allows at least twenty (20) days for the prompt payment after the goods or services are received or after the invoice is rendered, whichever is later.

To aid in the evaluation of bids, bidders must submit the original Bid Form and one copy of the Bid Form, Attachments, and detailed specification sheets, if applicable. If you fail to do so, your bid may be considered non-responsive and rejected.

Have you complied with this requirement? ___ Yes / ___ No.

Indicate whether your business _____ IS or _____ IS NOT located in Roanoke County. If it is, please include a copy of your Roanoke County business license with your bid.

I/We acknowledge the receipt of:

Addendum No. _____ Dated _____.

Addendum No. _____ Dated _____.

Addendum No. _____ Dated _____.

Addendum No. _____ Dated _____.

ATTACHMENT B: Virginia State Corporation Commission (SCC) Registration Information

The attention of each Bidder is directed to VA Code sections 54.1-1100, et seq. which requires certain licenses for contractors, tradesmen, and others. Each Bidder is required to determine which license, if any, it is required to have under such sections. Complete the following:

Bidder ___ does have or ___ does not have a Virginia Contractor's License. (Check appropriate block)

If Bidder has a Virginia Contractor's License, circle the class Bidder has and list the number.

Licensed "Class A", "Class B", or "Class C" Virginia Contractor Number: _____

If Bidder has another type of Virginia License, please list the type and number:

Type of license: _____ and number: _____.

Bidder is a ___ resident or ___ nonresident of Virginia. (Check appropriate blank.) See VA Code Sections 54.1-1100, et seq.

The attention of each Bidder is directed to Virginia Code Section 2.2-4311.2 which requires a bidder organized or authorized to transact business in the Commonwealth of Virginia pursuant to Title 13.1 or Title 50 of the Code of Virginia, as amended, or as otherwise required by law, shall include in its bid the Identification Number issued to such bidder by the Virginia State Corporation Commission (SCC). Furthermore, any bidder that is not required to be authorized to transact business in the Commonwealth of Virginia as a domestic or foreign business entity under Title 13.1 or Title 50 or as otherwise required by law shall include in its bid a statement describing why the bidder is not required to be so authorized. Please complete the following by checking the appropriate line that applies and providing the requested information:

- A. _____ Bidder is a Virginia business entity organized and authorized to transact business in Virginia by the SCC and such bidder's/offeree's Identification Number issued to it by the SCC is: _____.
- B. _____ Bidder is an out-of-state (foreign) business entity that is authorized to transact business in Virginia by the SCC and such bidder's Identification Number issued to it by the SCC is: _____.
- C. _____ Bidder does not have an Identification Number issued to it by the SCC and such bidder is not required to be authorized to transact business in Virginia by the SCC for the following reason(s):

Please attach additional sheets of paper if you need more space to explain why such bidder is not required to be authorized to transact business in Virginia.

Signature page required with submittal of bid

IFB # 2023-067
ATTACHMENT C: Direct Contact with Students Form

Name of Bidder: _____

Pursuant to Va. Code § [22.1-296.1](#), as a condition of awarding a contract for the provision of services that require the contractor, his employees or subcontractors to have **direct contact with students** on school property during regular school hours or during school-sponsored activities, the school board shall require the contractor to provide certification that all persons who will provide such services have not been convicted of a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child.

Any person making a materially false statement regarding any such offense shall be guilty of a Class 1 misdemeanor and, upon conviction, the fact of such conviction shall be grounds for the revocation of the contract to provide such services and, when relevant, the revocation of any license required to provide such services.

I further understand and acknowledge (1) that if I make a materially false statement regarding any of the above offenses, I will be guilty of a Class 1 misdemeanor and (2) that before any person is permitted to provide such services subsequent to this certification, I must complete a new certification regarding such person.

As part of this submission, I certify that the employees of, or subcontractors to, the above mentioned contractor that will be providing services that require direct contact with students to the School Board under the resulting contract will have not been convicted of a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child. Furthermore, I understand that the duty to certify is ongoing and extends to future employees and employees of subcontractors for the duration of the contract.

Signature of Authorized Representative

Printed Name of Authorized Representative

*Printed Name of Vendor
(If different than Representative)*

Date

ATTACHMENT D: Notice of Proprietary Information Form

Confidentiality References Protection in Accordance with the Code of Virginia, Section 2.2-4342

Section Title	Page #	Reason(s) for Withholding from Disclosure

INSTRUCTIONS: Identify the data or other materials to be protected and state the reasons by using the codes listed below. Indicate the specific words, figures, or paragraphs that constitute trade secrets or proprietary materials. The classification of an entire bid or proposal document, line item prices, and/or total bid or proposal prices as proprietary or trade secret is not acceptable and will result in rejection of the bid or proposal.

- A) This page contains information relating to "trade secrets", and "proprietary information" including processes. Operations, style of work, or apparatus. Identify confidential statistical data. Amount or source of any income...of any person (or) partnership. See Virginia Public Procurement Act. Section 2.2-4342. Unauthorized disclosure of such information would violate the Trade Secrets Act 18 U.S.C. 1905.
- B) This page contains proprietary information including confidential, commercial or financial information, which was provided to the Government on a voluntary basis and is of the type that would not customarily release to the public. See Virginia Public Procurement Act, Section 2.2-4342; 5 U.S.C. 552 (b) (4); 12 C.F.R. 309.5(c) (4).
- C) This page contains proprietary information including confidential, commercial or financial information. The disclosure of such information would cause substantial harm to competitive position and impair the Government's ability to obtain necessary information from contractors in the future. 5 U.S.C. See Virginia Public Procurement Act. Section 2.2-4342; 552 (b) (4)12 C.F.R. 309.5(c) (4).

ATTACHMENT E: Sample Contract Terms or Conditions



**COUNTY OF ROANOKE, VIRGINIA
SAMPLE CONTRACT BETWEEN COUNTY OF ROANOKE AND

FOR GLENVAR MIDDLE SCHOOL AIR CONDITIONING**

This Contract # 2023-067 is dated February 8, 2023, between the County of Roanoke, Virginia, hereinafter referred to as the “County” or “Owner”, and

(legal name and address of contractor)

hereinafter referred to as the “Contractor.”

WITNESSETH:

WHEREAS, Contractor has been awarded this nonexclusive Contract by the County for furnishing all equipment, materials, goods, labor, and services necessary for air conditioning improvements at Glenvar Middle School, and associated work in accordance with this Contract and the documents referred to herein, all such items or services also being referred to hereinafter as the Work or Project.

NOW, THEREFORE, THE COUNTY AND THE CONTRACTOR AGREE AS FOLLOWS:

SECTION 1. WORK TO BE PERFORMED AND DOCUMENTS.

For and in consideration of the money hereinafter specified to be paid by the County to the Contractor for the Work provided for in this Contract to be performed by the Contractor, the Contractor hereby covenants and agrees with the County to fully perform the services, provide any materials called for to construct, and complete the Work called for by this Contract in a good and workmanlike manner in accordance with this Contract and the documents referred to herein in order to fully and properly complete this Contract within the time stipulated, time being made of the essence for this Contract. It is also agreed by the parties hereto that the documents to this Contract consist of this Contract and the following documents listed below (Contract Documents), all of which are and constitute a part of this Contract as if attached hereto or set out in full herein, viz:

1. Insurance Requirements (Exhibit 1).
2. Scope of Work/Fee Schedule (Exhibit 2).
3. Bid Form Completed by Contractor and dated _____ (Exhibit 3). (To be provided after selection of Successful Bidder.)
4. Invitation for Bid No. 2023-067, which is incorporated herein by reference.

The parties agree that if there are any differences between the provisions of the above referenced documents, the provisions of the County documents and this Contract will control over any Contractor supplied documents or information.

SECTION 2. CONTRACT AMOUNT.

The County agrees to pay the Contractor for the Contractor's complete and satisfactory performance of the Work, in the manner and at the time set out in this Contract, but the total amount for all such requests will not exceed \$_____, as provided for in this Contract and that this Contract amount may be increased or decreased by additions and/or reductions in the Work as may be authorized and approved by the County, and the Contract amount may be decreased by the County's assessment of any damages against the Contractor, as may be provided for in this Contractor or by law, and the County retains the right of setoff as to any amounts of money the Contractor may owe the County. However, Contractor further acknowledges and agrees that any request for Contractor to perform Work under this Contract is in the sole discretion of the County and that there is no guarantee of any minimum amount of Work that may be requested by the County and that no Work may be requested.

SECTION 3. TERM OF CONTRACT.

All terms and conditions shall remain in force for the term of this Contract and for any renewal period unless modified by mutual agreement of both parties. Prices shall not be increased during the initial term of this Contract.

SECTION 4. TIME OF PERFORMANCE.

The Contractor shall commence the Work to be performed under this Contract on such date as is established and fixed for such commencement by written notice (which may be initially given verbally in an emergency situation) to proceed given by the County representative to the Contractor, and the Contractor covenants and agrees to fully construct, perform, and complete the Work and/or provide the goods called for by this Contract established by such notice. The Contractor further agrees that the Work shall be started promptly upon receipt of such notice and shall be prosecuted regularly, diligently, and uninterruptedly at a rate of progress that will ensure full completion thereof in the shortest length of time consistent with the Contract Documents and that Contractor will cooperate and coordinate with the other County contractors or employees doing other work or using the area where Contractor is working.

SECTION 5. PAYMENT.

- A. The County and Contractor agree that the County will only pay the Contractor for time actually spent and materials actually provided on the Project requested and accepted by the County. Invoices for services rendered and accepted shall be submitted by Contractor directly to the payment address of the requesting County department/division. Payment of such invoices shall be the responsibility of the department/division.
- B. The County agrees to pay Contractor for the Contractor's complete and satisfactory performance of the Work, in the manner and at the time set out in this Contract. The County retains the right to setoff as to any amounts of money Contractor may owe the County. A written progress report may be requested by the County to accompany payment request and, if so, such progress report shall detail the work completed. Also, sufficient

documentation of all costs, expenses, materials supplies, and/or hours worked may be requested by the County and, if so, may be required prior to the processing of any such request for payment. Payment will only be made for work actually performed, services actually supplied, and/or materials or goods furnished to the County, all of which need to be approved and accepted by the County prior to such payment, unless otherwise provided for in the Contract documents. Once a payment request has been received the County, the County will process such payment request. If there are any objections or problems with the payment request, the County will notify the Contractor of such matters. If the payment request is approved and accepted by the County, payment will be made by the County to the Contractor not more than 30 days after such request has been approved.

- C. The services the Contractor may be requested to provide the County are those items set forth in Exhibit 2 (Scope of Work) and/or Exhibit 3 (Bid Form), which list of services may be amended by the mutual agreement of the parties. The prices to be paid to the Contractor for such services provided to and accepted by the County under the provisions of this Contract shall be the current price(s) as set forth in Exhibit 3 (Bid Form). Unless otherwise stated in this Contract, the price(s) shall include all applicable charges such as pick up, delivery, printing, packaging, shipping, and other charges.

SECTION 6. SALES TAX EXEMPTION.

The County is exempt from payment of State Sales and Use Tax on all tangible personal property purchased or leased for the County's use or consumption. The Virginia Sales and Use Tax Certificate of Exemption number is 217-074292-9.

SECTION 7. FREE ON BOARD, RISK OF LOSS, AND TITLE.

All prices include F.O.B Destination, inside delivery, unless otherwise noted in this Contract. The risk of loss from any casualty, regardless of cause, shall be on the Contractor until the items have been delivered to County personnel making the request and accepted by the County. The risk of loss shall also be on the Contractor during the return of any items to the Contractor. Title to the items shall pass to the County upon receipt and acceptance of such items by the County.

SECTION 8. INSPECTION.

The County shall have a reasonable time after receipt of items and before payment to inspect all items for conformity to this Contract. If all or some of the items delivered to the County do not fully conform to the provisions hereof, the County shall have the right to reject and return such nonconforming items, at the sole cost of the Contractor.

SECTION 9. WARRANTY OF MATERIAL AND WORKMANSHIP.

Contractor agrees that all items provided to the County will be new, or if an item is refurbished or remanufactured, such item will meet the industry standards for such item and the item shall be clearly labeled as refurbished or remanufactured, and that all such items include such warranties as may be provided by Virginia law together with any warranties provided by the manufacturer of the item. Contractor shall use reasonable commercial efforts to assist the County in processing warranty claims against a manufacturer. Contractor also agrees that the services provided under this Contract shall be completed in a professional, good and workmanlike manner, with the degree of skill and care that is required by like contractors in Virginia. Further, Contractor warrants that

such services shall be completed in accordance with the applicable requirements of this Contract and shall be correct and appropriate for the purposes contemplated in this Contract. Contractor agrees that Contractor shall repair or replace, at Contractor's sole expense, and to the satisfaction of the County, any items, material, equipment, or part of the item that is found by the County to be defective or not in accordance with the terms of this Contract.

- A. The Contractor warrants that, unless otherwise specified, all material and equipment incorporated in the Work under the Contract shall be new, in first class condition, and in accordance with the Contract Documents. The Contractor further warrants that all workmanship shall be of the highest quality and in accordance with the Contract Documents and shall be performed by persons qualified at their respective trades.
- B. Work not conforming to these warranties shall be considered defective.
- C. These warranties of material and workmanship are separate and independent from and in addition to any of the Contractor's other guarantees or obligations in this Contract or that may arise by law.
- D. The Design-Builder agrees to assign to Roanoke County at the time of final completion of the Work all manufacturer's warranties relating to equipment, materials, and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties. If necessary as a matter of law, the Design-Builder may retain the right to enforce directly any such manufacturers' warranties during the one-year period following the date of Substantial Completion.

SECTION 10. PAYMENTS TO OTHERS BY CONTRACTOR.

The Contractor agrees that Contractor will comply with the requirements of Section 2.2-4354 of the Virginia Code regarding Contractor's payment to other entities and the Contractor will take one of the two actions permitted therein within 7 days after receipt of amounts paid to Contractor by the County. Contractor further agrees that the Contractor shall indemnify and hold the County harmless for any lawful claims resulting from the failure of the Contractor to make prompt payments to all persons supplying the Contractor equipment, labor, tools, or material in connection with the work provided for in the Contract. In the event of such claims, the County may, in the County's sole discretion, after providing written notice to the Contractor, withhold from any payment request or final payment the unpaid sum of money deemed sufficient to pay all appropriate claims and associated costs in connection with the Contract and make such payment, if the County determines it to be appropriate to do so.

SECTION 11. HOLD HARMLESS AND INDEMNIFY.

Contractor shall indemnify and hold harmless the County and its officers, agents, and employees against any and all liability, losses, damages, claims, causes of action, suits of any nature, costs, and expenses, including reasonable attorney's fees, resulting from or arising out of Contractor's or its employees, agents, or subcontractors actions, activities, or omissions, negligent or otherwise, on or near County's property or arising in any way out of or resulting from any of the work or items to be provided under this Contract, and this includes, without limitation, any fines or penalties, violations of federal, state, or local laws or regulations, personal injury, wrongful death,

or property damage claims or suits. Contractor agrees to and shall protect, indemnify, and hold harmless all the parties referred to above from any and all demands for fees, claims, suits, actions, causes of action, settlement or judgments based on the alleged or actual infringement or violation of any copyright, trademark, patent, invention, article, arrangement, or other apparatus that may be used in the performance of this Contract.

SECTION 12. COMPLIANCE WITH LAWS AND REGULATIONS, PERMITS, AND IMMIGRATION LAW.

- A. **Regulations:** The Contractor shall fully comply with all local, state, and federal ordinances, laws, and regulations, including without limitation all applicable building and fire code sections of the Occupational Safety and Health Act (OSHA), and the Virginia Uniform Statewide Building Code, and obtain all required licenses and permits, including business license, building permits, and pay all charges and expenses connected therewith. Contractor further agrees that Contractor does not, and shall not during the performance of this Contract; knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.
- B. **Davis-Bacon Act:** Funding agency requirements dictate Contractor compliance with the Davis-Bacon Act and related concerning wage rates and other provisions. It is the responsibility of the Contractor to meet these requirements.
- C. **Permits and Licenses:** The Contractor shall, at its sole cost, obtain all required permits and license from the appropriate authorities, including the County of Roanoke. This includes, but is not limited to, all permits for any excavations in any public right-of-way. No delay or extension of time or any claim for additional compensation of any type shall be granted for failure to obtain any required permits.
- D. **Litter:** In accordance with the Virginia Anti-Litter Law, receptacles sufficient to contain employees' litter and construction wastes capable of being spread by wind or water shall be located on the construction site. The number and size of receptacles required shall be determined by the Contractor.
- E. **Asbestos License:** The Contractor, if not licensed as an asbestos abatement contractor or a Roofing, Flooring, and Siding (RFS) contractor in accordance with Section 54.1-514, of the Code of Virginia, shall have all asbestos related work performed by subcontractors who are duly licensed as asbestos contractors or RFS contractors as appropriate for the work required.

SECTION 13. INDEPENDENT CONTRACTOR.

The relationship between Contractor and the County is a contractual relationship. It is not intended in any way to create a legal agency or employment relationship. Contractor shall, at all times, maintain its status as an independent contractor and both parties acknowledge that neither is an agent, partner or employee of the other for any purpose. Contractor shall be responsible for causing all required insurance, workers' compensation (regardless of number of employees) and unemployment insurance to be provided for all of its employees and subcontractors. Contractor will be responsible for all actions of any of its subcontractors, and that they are properly licensed.

SECTION 14. REPORTS, RECORDS, AND AUDIT.

Contractor agrees to maintain all books, records, electronic data, and other documents relating to this Contract for a period of five (5) years after the end of each fiscal year included in this Contract. The County, its authorized employees, agents, representatives, and/or state auditors shall have full access to and the right to request, examine, copy, and/or audit any such materials during the term of the Contract and such retention period, upon prior written notice to Contractor. This includes the County's right to audit and/or examine any of the Contractor's documents and/or data as the County deems appropriate to protect the County's interests.

SECTION 15. INSURANCE REQUIREMENTS.

Contractor and any of its subcontractors involved in this Contract shall maintain the insurance coverage's set forth in Exhibit 1 to this Contract and provide the proof of such insurance coverage as called for in Exhibit 1, including workers' compensation coverage regardless of the number of Contractor's employees. Such insurance coverage shall be obtained at the Contractor's sole expense and maintained during the life of the Contract and shall be effective prior to the beginning of any work or other performance by the Contractor under this Contract. Additional insured endorsements, if required, must be received by the County within 30 days of the execution of this Contract or as otherwise required by the County's Risk Manager.

SECTION 16. DEFAULT.

If Contractor fails or refuses to perform any of the terms of this Contract, including poor services, work or materials, the County may, by written notice to Contractor, terminate this Contract in whole or in part. In addition to any right to terminate, the County may enforce any remedy available at law or in equity in connection with such default, and Contractor shall be liable for any damages to the County resulting from Contractor's default. The County further reserves the right to immediately obtain such work or services from other entities in the event of Contractor's default.

SECTION 17. NONWAIVER.

Contractor agrees that the County's waiver or failure to enforce or require performance of any term or condition of this Contract or the County's waiver of any particular breach of this Contract by the Contractor extends to that instance only. Such waiver or failure is not and shall not be a waiver of any of the terms or conditions of this Contract or a waiver of any other breaches of the Contract by the Contractor and does not bar the County from requiring the Contractor to comply with all the terms and conditions of the Contract and does not bar the County from asserting any and all rights and/or remedies it has or might have against the Contractor under this Contract or by law.

SECTION 18. FORUM SELECTION AND CHOICE OF LAW.

This Contract shall be governed by, and construed in accordance with, the laws of the Commonwealth of Virginia, without application of Virginia's conflict of law provisions. Venue for any litigation, suits, and claims arising from or connected with this Contract shall only be proper in the Roanoke County Circuit Court, or in the Roanoke County General District Court if the amount in controversy is within the jurisdictional limit of such court, and all parties to this Contract voluntarily submit themselves to the jurisdiction and venue of such courts, regardless of the actual location of such parties. The provisions of this Contract shall not be construed in favor

of or against either party, but shall be construed according to their fair meaning as if both parties jointly prepared this Contract.

SECTION 19. SEVERABILITY.

If any provision of this Contract, or the application of any provision hereof to a particular entity or circumstance, shall be held to be invalid or unenforceable by a court of competent jurisdiction, the remaining provisions of this Contract shall not be affected and all other terms and conditions of this Contract shall be valid and enforceable to the fullest extent permitted by law.

SECTION 20. NONDISCRIMINATION.

A. During the performance of this Contract, Contractor agrees as follows:

- i. Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- ii. Contractor in all solicitations or advertisements for employees placed by or on behalf of Contractor will state that Contractor is an equal opportunity employer.
- iii. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

B. Contractor will include the provisions of the foregoing Section A (i, ii, and iii) in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

SECTION 21. DRUG-FREE WORKPLACE.

A. During the performance of this Contract, Contractor agrees to (i) provide a drug-free workplace for Contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

B. For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

SECTION 22. FAITH BASED ORGANIZATIONS.

Pursuant to Virginia Code Section 2.2-4343.1, be advised that the County does not discriminate against faith-based organizations.

SECTION 23. DATA ON CONVICTIONS FOR CERTAIN CRIMES

The Contractor certifies that none of the persons who will provide services requiring direct contact with students on school property during school hours or during school-sponsored activities has been convicted of any of the following felony or misdemeanor offenses: felony sex or violence offenses; other felony offenses or misdemeanor sex offenses within the past ten years.

The Contractor further understands and acknowledges (1) that if he or his agents make a materially false statement regarding any of the above offenses, he will be guilty of a Class 1 misdemeanor and may forfeit profits derived from the contract. Further, the Contractor understands and acknowledges that before any person is permitted to provide such services subsequent to this certification, he must complete a new certification regarding such person in a form satisfactory to Roanoke County and the Roanoke County School Board. Data and Conviction information will be requested before the County of Roanoke/Schools enters into a contract / when required.

SECTION 24. ASSIGNMENT.

Contractor may not assign or transfer this Contract in whole or in part except with the prior written consent of the County. If consent to assign is given, no such assignment shall in any way release or relieve the Contractor from any of the covenants or undertakings contained in this Contract and the Contractor shall remain liable for the Contract during the entire term thereof.

SECTION 25. CONTRACTUAL DISPUTES.

Contractual claims, whether for money or for other relief, including any disputes as to change orders or extra work, shall be submitted, in writing, no later than sixty (60) calendar days after final payment or payment designated as a final payment; however, written notice of the Contractor's intention to file such claim must be given at the time of the occurrence or beginning of the work upon which the claim is based. Such notice is a condition precedent to the assertion of any such claim by the Contractor. A written decision upon any such claims will be made by the Board of Supervisors or its designee (hereafter "BOS"). The Contractor may not institute legal action prior to receipt of the County's decision on the claim unless the BOS fails to render such decision within ninety (90) calendar days from submittal of its claim. The decision of the BOS shall be final and conclusive unless the Contractor within six (6) months of the date of the final decision on a claim or from expiration of the 90 day time limit, whichever occurs first, initiates legal action as provided in Section 2.2-4364 of the Code of Virginia. Failure of the County to render a decision within said ninety (90) calendar days shall not result in the Contractor being awarded the relief claimed nor shall it result in any other relief or penalty. The sole result of the County's failure to render a decision within said ninety (90) calendar days shall be Contractor's right to immediately institute legal action. No administrative appeals procedure pursuant to Section 2.2-4365 of the Code of Virginia has been established for contractual claims under this Contract.

SECTION 26. SUCCESSORS AND ASSIGNS.

The terms, conditions, provisions, and undertakings of this Contract shall be binding upon and inure to the benefit of each of the parties hereto and their respective successors and assigns.

SECTION 27. HEADINGS.

The captions and headings in this Contract are for convenience and reference purposes only and shall not affect in any way the meaning and interpretation of this Contract.

SECTION 28. COUNTERPART COPIES.

This Contract may be executed in any number of counterpart copies, each of which shall be deemed an original, but all of which together shall constitute a single instrument.

SECTION 29. AUTHORITY TO SIGN.

The persons who have executed this Contract represent and warrant that they are duly authorized to execute this Contract on behalf of the party for whom they are signing.

SECTION 30. NOTICES.

All notices must be given in writing and shall be deemed valid if sent by certified mail, return receipt requested, or by a nationally recognized overnight courier, with a receipt, addressed as follows (or any other address that the party to be notified may have designated to the sender by like notice):

To RCPS:	Roanoke County Public Schools Facilities and Operations 5937 Cove Road Roanoke, VA 24019 @rcps.us
Copy to:	County of Roanoke Purchasing Division Attn: Kate Hoyt 5204 Bernard Drive, SW, Suite 300-F Roanoke, Virginia 24018 KHoyt@roanokecountyva.gov
If to Contractor:	_____ Attn: _____, President/CEO _____ _____
Email Address:	_____
Phone:	_____

Notices shall be deemed to be effective one day after sending if sent by overnight courier or three (3) days after sending it by certified mail, return receipt requested.

SECTION 31. PROTECTING PERSONS AND PROPERTY.

- A. **Protection on Site:** The Contractor expressly undertakes both directly and through its Subcontractor(s), to take every reasonable precaution at all times for the protection of all persons and property which may come on the jobsite or be affected by the Contractor's operation in connection with the Work.

- B. **Safety and Health Precautions:** The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety and health precautions and programs in connection with the Work, including but not limited to provision of appropriate sanitation facilities, if applicable.
- C. **Protecting the Public:** The Contractor shall in all cases protect the public and the Work, during its execution, by posting and maintaining, at its expense, appropriate signs, barricades, barriers, lights, flagmen, and other safety devices in accordance with the current edition of the "Virginia Work Area Protection Manual".
- D. **Protecting the Work and Adjacent Property:** The Contractor shall continuously maintain adequate protection of all the Work from damage and shall protect the County's property from injury or loss arising in connection with this Contract. The Contractor shall adequately protect adjacent property to prevent any damage to it or loss of use and enjoyment by its owners. The Contractor shall provide and maintain all passageways, guard fences, lights, and other facilities for protection required by public authority, local conditions, any of the Contract Documents or erected for the fulfillment of its obligations for the protection of persons and property.
- E. **Emergencies:** In an emergency affecting the safety or life of persons or of the Work, or of the adjoining property, the Contractor, without special instruction or authorization from County, shall act, at Contractor's discretion, to prevent such threatened loss or injury. Also, should Contractor, to prevent threatened loss or injury, be instructed or authorized to act by County, Contractor shall so act immediately, without appeal.

SECTION 32. CONTRACT SUBJECT TO FUNDING.

This Contract is subject to funding and/or appropriations from federal, state, and/or local governments and/or agencies. If any such funding is not provided, withdrawn, or otherwise not made available for this Contract, the Contractor agrees that the County may terminate this Contract on seven (7) days written notice to Contractor, without any penalty or damages being incurred by the County. Contractor further agrees to comply with any applicable requirements of any grants and/or agreements providing such funding.

SECTION 33. SUSPENSION OR TERMINATION OF CONTRACT BY COUNTY.

The County, at any time, may order Contractor to immediately stop work on this Contract, and/or by seven days (7) written notice may terminate this Contract, with or without cause, in whole or in part, at any time. Upon receipt of such notice, the Contractor shall immediately discontinue all services affected (unless the notice directs otherwise), and deliver to the County all data (including electronic data), drawings, specifications, reports, project deliverables, estimates, summaries, and such other information and materials as may have been accumulated by the Contractor in performing this Contract whether completed or in process (unless otherwise directed by the notice).

- A. If the termination or stop work order is due to the failure of the Contractor to fulfill any of its Contract obligations, the County may take over the Work and prosecute the same to completion by contract or otherwise. In such case, the Contractor shall be liable to the

County for any damages allowed by law, and upon demand of County shall promptly pay the same to County.

- B. Should the Contract be terminated or work is stopped not due in any way to the fault of the Contractor, the Contractor shall only be entitled to compensation for services actually performed and materials actually supplied prior to notice of termination or to stop work and which are approved by the County and any applicable federal or state approving agency. No profit, overhead, or any other costs of any type are allowed after the date of such notice of termination or stop work order.
- C. The rights and remedies of the County provided in this Section are in addition to any other rights and remedies provided by law or under this Contract and County may pursue any and all such rights and remedies against Contractor as it deems appropriate.

SECTION 34. ETHICS IN PUBLIC CONTRACTING.

The provisions, requirements, and prohibitions as contained in Sections 2.2-4367 through 2.2-4377, of the Va. Code, pertaining to bidders, offerors, contractors, and subcontractors are applicable to this Contract.

SECTION 35. COMPLIANCE WITH STATE LAW; FOREIGN AND DOMESTIC BUSINESSES AUTHORIZED TO TRANSACT BUSINESS IN THE COMMONWEALTH OF VIRGINIA.

Contractor shall comply with the provisions of Virginia Code Section 2.2-4311.2, as amended, which provides that a contractor organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 or as otherwise required by law. Contractor shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the Contract. The County may void the Contract if the Contractor fails to remain in compliance with the provisions of this section.

SECTION 36. OWNERSHIP OF REPORTS AND DOCUMENTS.

Contractor agrees that all reports and any other documents (including electronic data) prepared for, obtained in connection with, and/or required to be produced in connection with this Contract shall be delivered by the Contractor to the County and all such items shall become the sole property of the County. The Contractor agrees that the County shall own all rights of any type in and to all such items, including but not limited to copyrights and trademarks, and the County may reproduce, copy, and use all such items as the County deems appropriate, without any restriction or limitation on their use and without any cost or charges to the County from Contractor. Contractor hereby transfers and assigns all such rights and items to the County. Contractor further agrees Contractor will take any action and execute any documents necessary to accomplish the provisions of this Section. The Contractor also warrants that Contractor has good title to all materials, equipment, documents, and supplies which it uses in the Work or for which it accepts payment in whole or in part.

SECTION 37. DEFINITIONS.

Whenever used in these General Conditions or in the Contract Documents, the following terms have the meanings indicated, which are applicable to both the singular and plural and the male and female gender thereof, and where applicable to any other legal entity such as a corporation, partnership, limited liability company, etc.

The section and paragraph headings are inserted for convenience only.

Architect, Engineer, Architect/Engineer or A/E: The term used to designate the Architect and/or the Engineer who contracts with the County to provide the Architectural and Engineering services for the project. The Architect/Engineer is a separate Contractor and is referred to herein as the Architect/Engineer or abbreviated as A/E. The term includes any associates or consultants employed by the firm to assist in providing the A/E services.

Bidder: The person, firm, corporation, or other entity interested in submitting a bid for the Work to be performed.

Change Order: A document issued by County on or after the effective date of the Contract which is agreed to by the Contractor and approved by the County, and which authorizes an addition, deletion, or revision in the Work, including any adjustment in the Contract Price and/or the Contract Time.

County or Owner: The County of Roanoke, Virginia, (Includes any Agency that is represented by Roanoke County and sometimes also referred to as Buyer) or its authorized representative.

County Code: Refers to the Code of the County of Roanoke, as amended.

County Designee: The County of Roanoke's authorized representative.

Board of Supervisors: The County Board of Supervisors or authorized representative.

Code of Virginia: Refers to the Code of Virginia (1950), as amended. (Sometimes referred to as Va. Code or Virginia Code.)

Contract Documents: These documents include, but are not limited to, the Project Manual, Invitation to Bid, the Instructions to Bidders, the Bid Form, the Contract, the Bonds or other Bid Security, the Escrow Agreement, the General Conditions, Supplementary General Conditions, Special Conditions, the Specifications, Addenda or Change Orders, the Plans and Drawings, any Supplemental Drawings, and any additional documents incorporated by reference in the above.

Contract: The written agreement between the parties concerning the performance of the Work and consisting of the Contract Documents.

Contractor: The person, firm, corporation, or other entity entering into a contractual agreement with the County to perform the Work.

Defect, Defective, or Deficient: An adjective or noun which when modifying or referring to the word Work refers to Work or any part thereof that is unsatisfactory, faulty, or does not conform to the Contract Documents, or does not meet the requirements of any inspections, standards, tests, or approvals referred to in the Contract Documents.

Document(s): This term includes, but is not limited to: writings, drawings, items on which words, symbols, or marks are recorded; electronic data of any type; videotapes, recordings, photographs and negatives, digital or otherwise; and any other form of data, writing, or information compilation, however recorded or stored, and regardless of physical form or characteristics.

Final Acceptance: The County's acceptance of the project from the Contractor upon confirmation from County and the Contractor that the project is apparently complete in accordance with the Contract requirements.

Notice: All written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with the Contract requirements. Any written notice by either party to the Contract shall be sufficiently given if delivered to or at the last known business address of the person, firm, or corporation constituting the party to the Contract, or to his, her, their, or its authorized agent, representative, or officer.

Notice to Proceed: A written notice given by the County at the County's discretion to the Contractor fixing the date on which the Contract time will commence for the Contractor to begin the Work in accordance with the requirements of the Contract Documents.

Project Inspector: One or more individuals employed by the County to inspect the Work and/or to act as Resident Inspector to the extent required by the County. The County shall notify the Contractor of the appointment of such Project Inspector(s).

Provide: Shall mean to furnish and install ready for its intended use.

Subcontractor: A person, firm, partnership, corporation, or other entity having a direct contract with the Contractor or with any other Subcontractor for the performance of the Work. It includes one who provides on-site labor, but does not include one who only furnishes or supplies material for the project.

Submittals: All drawings, diagrams, illustrations, brochures, schedules, samples, electronic data and other data required by the Contract Documents which are specifically prepared by or for the Contractor, Subcontractor, or Supplier, and submitted by the Contractor to illustrate the material, equipment, or layouts, or some other portion of the Work.

Substantial Completion: The date certified by County when construction is sufficiently complete, in accordance with the Contract Documents, so the County can occupy or utilize the Work or designated portion thereof for the purposes for which it is intended.

Successful Bidder: The bidder to whom the County makes an award.

Supplier: A manufacturer, fabricator, distributor, material man, or vendor who provides only material or supplies for the project, but does not provide on-site labor.

Work or Project: The entire completed construction or the various separately identifiable parts thereof as required by the Contract Documents. Work is the result of performing services, furnishing labor, and furnishing and incorporating material and equipment into the construction.

SECTION 38. INDEMNITY PROVISION.

- A. **Indemnity:** Contractor shall indemnify and hold harmless County and its officers, agents, and employees against any and all liability, losses, damages, claims, causes of action, suits of any nature, costs, and expenses, including reasonable attorney's fees, resulting from or arising out of Contractor's or its employees', agents', or subcontractors' actions, activities, or omissions, negligent or otherwise, on or near County's property or easement, or arising in any way out of or resulting from any of the work to be provided under this Contract. This provision includes, without limitation, any fines or penalties, violations of federal, state, or local laws or regulations, personal injury, wrongful death,

or property damage claims or suits, breach of contract claims, indemnity claims, and any other damages, losses, and/or claims of any type.

- B. **Hazardous Material:** While on County's property or easement and in its performance of this Contract, Contractor shall not transport, dispose of or release any hazardous substance, material, or waste, except as necessary in performance of its Work under this Contract and in any event Contractor shall comply with all federal, state, and local laws, rules, regulations, and ordinances controlling air, water, noise, solid wastes, and other pollution, and relating to the storage, transport, release, or disposal of hazardous material, substances or waste. Regardless of County's acquiescence, Contractor shall indemnify and hold County, its officers, agents, and employees harmless from all costs, claims, damages, causes of action, liabilities, fines or penalties, including reasonable attorney's fees, resulting from Contractor's violation of this paragraph and agrees to reimburse County for all costs and expenses incurred by County in eliminating or remedying such violations. Contractor also agrees to reimburse County and hold County, its officers, agents, and employees harmless from any and all costs, expenses, attorney's fees and all penalties or civil judgments obtained against the County as a result of Contractor's use or release of any hazardous substance or waste onto the ground, or into the water or air from or upon County's premises.
- C. **Patents:** The Contractor shall protect, indemnify, and hold harmless the County, its officers, agents and employees from any and all demands for fees, claims, suits, actions, causes of action, or judgments based on the alleged infringement or violation of any patent, invention, article, trademark, arrangement, or other apparatus that may be used in the performance of the Contract or the Work.

SECTION 39. EMPLOYMENT AND CONDUCT OF PERSONNEL.

- A. **Employee Qualifications:** Only skilled and reliable workers shall be employed for the Work. Should any person employed on the Work by the Contractor appear to County to be incompetent, unable to perform the Work, or disorderly, such person shall be removed from the Work immediately upon proper notice to the Contractor from County and such person shall not again be used for this Contract.
- B. **Superintendence:** The Contractor shall have a competent foreman or superintendent, subject to County's approval, which shall not be unreasonably withheld, on the jobsite at all times during the progress of the Work. The Contractor shall notify the County, in writing, of any proposed change in the foreman or superintendent including the reason therefore prior to making such change.
- C. **Drug-free Workplace:** During the performance of this Contract, the Contractor agrees to (i) provide a drug-free workplace for the Contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on

behalf of the Contractor that the Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order over \$5,000, so that the provisions will be binding upon each subcontractor or vendor.

- a. For the purpose of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the Contract.

The Contractor shall post a copy of the policy in a conspicuous place at the jobsite and assure that all Contractor, subcontractor, and supplier personnel entering the jobsite are informed of the policy.

SECTION 40. SUBCONTRACTORS.

- A. **Licensure:** The Contractor shall comply with Title 54.1, Chapter 11, of the Code of Virginia, with respect to licensure of itself and all subcontractors employed to work on the project. The Contractor represents that it has verified that all subcontractors hold all required state and local licenses, including State Contractor's license and County business license. The Contractor shall verify that any additional subcontractors employed to work on the project, subsequent to the initial verification, hold all required state and local licenses, including State Contractor's license and County business license. The Contractor is required to submit the Contractor's Certification as to Licensure of Subcontractors Form to County. This constitutes a material part of the Contractor's Contract with the County.
- B. **Change of Subcontractors:** Subcontractors shall not be changed without the written approval of County.
- C. **Responsibility for Subcontractors:** The Contractor shall not employ for the project any subcontractor that the County may, within a reasonable time, object to as unsuitable. The Contractor further agrees that it is as fully responsible to the County for the acts and omissions of its subcontractors, suppliers, and invitees on the jobsite and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by it.

SECTION 41. CONDITIONS AT SITE.

- A. **Existing Conditions:** The Contractor shall have visited the site prior to bidding and is responsible for having ascertained pertinent local conditions such as location, accessibility, and general character of the site, and the character and extent of existing improvements and work within or adjacent to the site. Claims as a result of failure to have done so will not be considered by the County and will be the sole responsibility of the Contractor.
- B. **Hidden Conditions:** If, in the performance of the Contract, hidden physical conditions of a building being modified are exposed revealing unusual or materially different conditions than those ordinarily encountered or inherent in work of this nature, or if

subsurface or latent conditions at the site are found which are materially different from those frequently present in the locality, from those indicated in the Contract Documents, or from those inherent in work of the character required by the Contract, the Contractor must report such conditions to County before the conditions are disturbed. Upon such notice, or upon his own observation of such conditions, County will make such changes in the Contract Documents as he finds necessary to conform to the different conditions. Any change in the cost of the Work or the time needed for completion must be requested pursuant to Section 19 of these General Conditions.

- C. **Suspected Hazardous Material:** If the Contractor, during the course of the project, observes the existence of any material which it suspects or knows to be hazardous to human health or the environment, the Contractor shall promptly notify County. County will provide the Contractor with instructions regarding the situation. The Contractor shall not perform any work involving the material or any work causing the material to be less accessible prior to receipt of special instructions from County.

SECTION 42. SURVEYS AND LAYOUT.

- A. **Surveying Services:** All necessary drawings showing the location of property lines, buildings, and other appropriate information shall be furnished to the Contractor through the drawings and specifications. The Contractor shall provide competent surveying and engineering services to verify the given information and to execute the Work in accordance with the Contract requirements and shall be responsible for the accuracy of Contractor's surveying and engineering services. The Contractor shall immediately notify County of any discrepancies and confirm such notice in writing within five (5) calendar days.
- B. **Survey Control:** Such general reference points and bench marks on the building site as will enable the Contractor to proceed with the Work will be established in the drawings and specifications. If the Contractor finds that any previously established reference points have been lost or destroyed, Contractor shall promptly notify County.
- C. **Damage to Survey Control:** The Contractor shall protect and preserve the established bench marks and monuments and shall make no changes in locations without written notice to and approval from County. Any of these which may be lost or destroyed or which require shifting because of necessary changes in grades or locations shall, subject to prior approval from County, be replaced and accurately located by the Contractor.

SECTION 43. DRAWINGS AND SPECIFICATIONS.

- A. **Drawings and Specifications:** The general character and scope of the Work are illustrated by the drawings and specifications. Where on any of the drawings a portion of the Work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to all other like portions of the Work. If the Contractor deems additional detail or information to be necessary, Contractor may request the same in writing from County. The Contractor shall carry out the Work in accordance with the drawings and specifications and any additional detail drawings and instructions as issued by County. However, Contractor shall immediately notify County of any discrepancies in such

drawings and/or specifications and confirm such notice in writing within five (5) calendar days.

- B. **Discrepancies in Drawings:** In case of difference between small and large scale drawings, the large scale drawings shall govern, unless otherwise directed in writing by County.
- C. **"Similar":** Where the word "similar" appears on the drawings, it shall be interpreted in its general sense and not as meaning identical, and all details shall be worked out in relation to their location and their connection with other parts of the Work.
- D. **Division of Specifications:** The specifications are divided into several parts for convenience only, since the entire specifications must be considered as a whole. The divisions of the specifications are not intended to control the Contractor in dividing the work among subcontractors or to limit the work performed by any trade. The Contractor shall be responsible for the coordination of the trades, subcontractors, and vendors engaged upon this Work.
- E. **Dimension Accuracy:** Measurements or dimensions shown on the drawings for site features, utilities, and structures shall be verified at the site by the Contractor. The location of underground utilities indicated on the plans is diagrammatic, plotted from available records and field survey information, and shall be considered approximate only, and the County makes no representations with regard to their accuracy. The Contractor shall not scale measurements or dimensions from the drawings. Where there are discrepancies, County shall be consulted. Where new work is to connect to, match with, or be provided for existing work, the Contractor shall verify the actual existing conditions and related dimensions prior to ordering or fabrication, so that such new work will properly fit with existing work.
- F. **As-Built Drawings:** The Contractor shall maintain at the site for the County one copy of all drawings, specifications, addenda, approved shop or setting drawings, change orders, field deviations, and other documents or modifications (referred to herein as "As-Built Drawings") in good order and marked to record all changes as they occur during construction. These shall be available to County, the Project Inspector, and the County's testing personnel. These "As-Built Drawings" shall be neatly and clearly marked in color during construction to record all variations from the drawings made during construction. The representation of such variations shall include such supplementary notes, symbols, legends, documents, and details as may be necessary to clearly show the as-built construction.
- G. **Record Drawings:** Upon completion of the Work and prior to Final Acceptance, the Contractor shall deliver to County, for preparation of the Record Drawings, one complete set of "As-Built Drawings" and documents referred to in Section 10.6.

SECTION 44. SCHEDULE OF THE WORK.

- A. **Scheduling:** The Contractor is responsible for the sequencing, scheduling, and coordinating of the Work, for monitoring the progress of the Work, and for taking appropriate action to keep the Work on schedule. The Contractor is responsible for coordinating Contractor's work on the Project with any other work being carried on by the County or by other County consultants or contractors at the site or for the Project. The Contractor shall prepare and submit to County a schedule for accomplishing the Work based upon the completion time stated in the Contract and submit such to County at the pre-construction conference. No progress payments will be made to the Contractor until after Contractor has submitted a schedule which is acceptable to County. All schedules under Section 11 shall be in both paper and electronic form unless otherwise directed by County.
- B. **Progress:** The Contractor shall review the progress of the Work not less than each month, but as often as necessary to properly manage the project and stay on schedule. The Contractor shall collect and preserve information on Change Orders, including extensions of time. The Contractor shall evaluate this information and update the schedule monthly to finish within the contractually allowed time. The Contractor shall submit the updated schedule with each progress payment request. The scheduled completion date shall be within the period of time allowed by the Contract for completion of construction, except as amended by any Change Orders.
- C. **Delay and Recovery Schedule:** Should there be any delay; County may require the Contractor to prepare, at no extra cost to the County, a plan of action and a recovery schedule for completing the Work by the contractual completion date.
- i. The plan of action and recovery schedule shall set forth how the Contractor intends to comply with the original schedule. The plan of action and recovery schedule, when required, shall be submitted and approved by County prior to Contractor's submission of the next monthly construction estimate. The County may withhold progress payments until such schedule is submitted and approved.

SECTION 45. CONSTRUCTION SUPERVISION.

The Contractor shall be solely responsible to supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract. The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The Contractor is solely responsible to the County that the finished Work complies with the Contract Documents. The Contractor shall be solely responsible for health and safety precautions and programs for its workers, and subcontractors, agents and assigns with the Work. No inspection by, knowledge on the part of, or acquiescence by the County, or any other entity whatever shall relieve the Contractor from its sole responsibility for compliance with the requirements of the Contract or responsibility for health and safety programs and precautions.

SECTION 46. STANDARDS FOR MATERIAL INSTALLATION AND WORKMANSHIP.

- A. Material and Equipment:** Unless otherwise specifically provided in this Contract, all equipment, material, and accessories incorporated in the Work are to be new and in first class condition. The Contractor shall furnish to County for approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the Work. Machinery, equipment, material, and articles installed or used without required approval may be subject to subsequent rejection by the County.
- B. Hazardous Substances:** Unless specifically approved by the County or required by the specifications, the Contractor shall not incorporate any material into the Work that contains asbestos or any material known by the Contractor to contain a substance known to be hazardous to health when the building and/or site is occupied by the County. If the Contractor becomes aware that a material required by the specifications contains asbestos or other hazardous substances, it shall notify the County and County immediately and shall take no further steps to acquire or install any such material without first obtaining County approval. (See also Sections 2.2 and 8.3 of these General Conditions.)
- C. Workmanship:** The workmanship shall be of the highest quality found in the building industry in every respect. All items of Work shall be done by workers skilled in the particular task to which they are assigned. In the acceptance or rejection of work, no allowance will be made for lack of skill on the part of workers. Poor or inferior workmanship (as determined by County, or other inspecting authorities) shall be removed and replaced to conform to the highest quality standards of the trades concerned, or otherwise corrected to the satisfaction of the County, or other inspecting authority, at the Contractor's sole expense.
- D. Instructions for Installation:** Under the various sections of the specifications, where specified items are supplied with the manufacturer's printed instructions, recommendations, or directions for installation, or where such instructions, recommendations, or directions are available, installation of the specified items shall be in strict accordance with the manufacturer's printed instructions unless those instructions contradict the drawings or specifications, in which case County will be notified by Contractor for an interpretation and decision.
- E. Installation Procedures Without Instructions:** Where neither the manufacturer's printed instructions are available for installation of specific items, nor are specific code or standards given by reference to govern the installation of specific items; and where there is doubt concerning the installation procedures to be followed or the quality of workmanship to be maintained in the installation of specific items, the Contractor shall consult County for approval of the installation procedures Contractor proposes to follow or the specific standards governing the quality of workmanship Contractor proposes to maintain during the installation of the items in question.

- F. **Codes and Standards:** Under the various sections of the specifications, where reference is made to specific codes or standards governing the installation of specified items, installation shall in all cases be in strict accordance with the referenced codes and standards. Where no reference is made to specific codes or standards, installation shall conform to the generally recognized applicable standards for first-class installation of the specific item to be installed. Contractors are expected to be proficient and skilled in their respective trades and knowledgeable of the National Fire Protection Association (NFPA), the current edition of the Virginia Uniform Statewide Building Code (USBC) and its referenced technical codes and standards, Occupational Safety and Health Act (OSHA) and other codes and standards applicable to installations and associated work by its trade and/or that are applicable to the Work.

SECTION 47. SUBMITTALS.

- A. **General:** The Contractor shall submit for the approval of County all documents and/or materials required by the solicitation or requested by County. All such submissions shall be made with such promptness as to cause no delay in this or any other part of the project, and to allow reasonable time for checking, correcting, resubmitting, and re-correcting. No part of the Work dealt with by a submittal shall be fabricated by the Contractor, save at Contractor's own risk, until such approval has been given. The Contractor shall maintain one (1) set of approved submittals at the jobsite at all times.
- B. **Format:** Submissions shall be made in such number of copies that two (2) approved copies may be retained by County. Each submission shall be accompanied by a letter of transmittal listing the contents of the submission and identifying each item by reference to specification section or drawings. All submittals shall be clearly labeled with the name of the project and other necessary information. Catalog plates and other similar material that cannot be so labeled conveniently, shall be bound in suitable covers bearing the identifying data.
- C. **Supporting Material:** Submissions shall be accompanied by all required certifications and other such supporting material and documents, and shall be submitted in such sequence or in such groups that all related items may be checked together. When submittals cannot be checked because the submission is not complete, or because submittals on related items have not been received, then such submittals will be returned without action or will be held, not checked, until the material which was lacking is received.
- D. **Coordination:** Contractor shall review and coordinate with all other related or affected work before they are submitted for approval, and shall bear the Contractor's certification that it has checked and approved them as complying with the information given in the Contract Documents. Submittals made without such certification and coordination will be returned to the Contractor without action, and will not be considered a formal submission. The Contractor shall be responsible for checking all dimensions and coordinating all material and trades to ensure that the material proposed will fit in the space available and be compatible with other material provided.

- E. **Variations:** If the submissions show variations from the Contract Documents because of standard shop practice or other reasons, the Contractor shall make specific mention of such variation in Contractor's letter of transmittal so that, if acceptable, suitable action may be taken for proper adjustment; otherwise the Contractor will not be relieved of the responsibility for executing the Work in accordance with the Contract Documents even though such submittals have been approved.
- F. **"Or Equal":** The drawings and/or specifications may indicate that County designed or detailed a portion of the plans around a particular product (most commonly a piece of equipment). Should a different product be proposed by the Contractor and accepted, all modifications, rerouting, relocations, and variations required for proper installation and coordination to comply with the design concept and requirements of the Contract Documents shall be the sole responsibility of the Contractor and shall be made at no extra cost to the County. This naming of a particular product, around which the plans were designed or detailed, is not intended to preclude the use of other products or favor the product named when a "brand name or equal" specification has been used. (See also Section 10 of Instructions to Bidders.) Rather it is only intended to acknowledge the reality that in many instances County must design around the dimensions and characteristics of a particular product.
- G. **Review by County:** County will review and respond to the submittals within a reasonable time. Checking and/or approval of submittals will be for general conformance with the design concept of the project and compliance with the information given in the Contract Documents, and will not include verification of quantities, detailed dimensions, nor adjustments of dimensions to actual field conditions. Approval shall not be construed as permitting any departure from Contract requirements, authorizing any increase in price or time for completion or relieving the Contractor of the responsibility for any error in details, dimensions, or otherwise that may exist.
- H. The Work shall be in accordance with approved submittals.

SECTION 48. INSPECTION AND INDEPENDENT TESTING.

- A. **Inspection and Testing:** All material and workmanship shall be subject to inspection, examination, and testing by County at any and all times during manufacture and/or construction. County shall have authority to reject defective material and workmanship and require its correction. Rejected workmanship shall be corrected to the satisfaction of the County, and rejected material shall be replaced with proper material that is satisfactory to the County, without charge therefore, and the Contractor shall promptly segregate and remove the rejected material from the premises. If the Contractor fails to proceed at once with replacement of rejected material and/or the correction of defective workmanship, the County may, by contract or otherwise, replace such material and/or correct such workmanship and charge the cost to the Contractor, and/or may terminate the right of the Contractor to proceed as provided in Sections 26 or 27 of these General Conditions, the Contractor and surety being liable for any damage to the same extent as provided for in those Sections.

B. Payment for Inspection, Testing, and Certification:

- i. Jobsite inspections, tests conducted on site, or tests of material gathered on site which the Contract requires to be performed by independent testing entities shall be contracted and paid for by the County. The Contractor shall promptly furnish, without additional charge, all reasonable facilities, labor, and material necessary for making such tests. Except as provided in Section 15.3 below, whenever such examination and testing finds defective material, equipment, or workmanship, the Contractor shall reimburse the County for the cost of reexamination and retesting.
- ii. Although conducted by independent testing entities, the County will not contract and pay for tests or certifications of material, manufactured products or assemblies which the Contract, codes, standards, etc. require to be tested and/or certified for compliance with industry standards by entities such as Underwriters Laboratories, Factory Mutual or ASTM. If there are any fees to be paid for such tests and certifications, they shall be paid by the Contractor.
- iii. The Contractor shall also pay for all inspections, tests, and certifications which the Contract specifically requires it to perform or pay, together with any inspections and tests which it chooses to perform for its own quality control purposes.

C. Examination of Completed Work: Should it be considered necessary or advisable by County at any time before final acceptance of the entire Work to examine any part of the Work already completed, by removing or tearing out portions of the Work, the Contractor shall on request promptly furnish all necessary facilities, labor, and material to expose the Work to be tested to the extent required. If such Work is found to be defective in any respect, due to the fault of the Contractor or its Subcontractors, Contractor shall pay for all the expenses of uncovering the Work, of examination and testing, and of satisfactory reconstruction. If, however, such Work is found to meet the requirements of the Contract, the actual cost of the Contractor's labor and material necessarily involved in uncovering the Work, the cost of examination and testing and Contractor's cost of material and labor necessary for replacement shall be paid to the Contractor and it shall, in addition, if completion of the Work has been delayed thereby, be granted a suitable extension of time.

D. Suspension of Work: The County may suspend the Work when in its judgment the drawings and specifications are not being followed. Any such suspension shall be issued in writing and continued only until the matter in question is resolved to the satisfaction of the County. The cost of any such Work stoppage shall be borne by the Contractor unless it is later determined that no fault existed in the Contractor's Work.

E. Project Inspector: Failure of the Project Inspector to note or require correction of improper or defective work does not relieve the Contractor from its responsibility to correct such improper or defective work. The Project Inspector has no authority to and shall not:

- i. Enter into the area of responsibility of the Contractor's superintendent;

- ii. Issue directions relative to any aspect of construction means, methods, techniques, sequences or procedures, or in regard to safety precautions and programs in connection with the Work;
- iii. Authorize or suggest that the County occupy the project, in whole or in part; or
- iv. Issue a certificate for payment.

SECTION 49. USE OF PREMISES AND REMOVAL OF DEBRIS

Jobsite Coordination: The Contractor shall perform the Contract in such a manner as not to interrupt or interfere with the operation of any existing activity on the premises or with the work of any other contractor.

Storage of Material: The Contractor shall store apparatus, material, supplies, and equipment in such orderly fashion at the site of the Work as will not unduly interfere with the progress of its Work or the work of any other contractor.

Jobsite Appearance: The Contractor expressly undertakes, either directly or through its Subcontractor(s), to clean up frequently all refuse, rubbish, scrap material, and debris caused by his operations, to the end that at all times the jobsite shall present a neat, orderly, and workmanlike appearance. No such refuse, rubbish, scrap material, and debris shall be left within the completed Work nor buried on the building site, but shall be properly protected and removed from the site and properly disposed of in a licensed landfill or otherwise as required by law.

Final Cleaning: The Contractor expressly undertakes, either directly or through its Subcontractor(s), before final payment, to remove all surplus material, false work, temporary structures, including foundations thereof, and debris of every nature resulting from its operations and to put the site in a neat, orderly condition, to thoroughly clean and leave reasonably dust free all finished surfaces including all equipment, piping, etc., on the interior of all buildings included in the Contract; and to thoroughly clean all glass installed under the Contract including the removal of all paint and mortar splatter and other defacements. If a Contractor fails to clean up at the completion of the Work, the County may do so and charge for costs thereof to the Contractor in accordance with these General Conditions.

Erosion Control: During and at completion of the Work, the Contractor shall prevent site soil erosion, the runoff of silt and/or debris carried by water from the site, and the blowing of dust or debris off the site in accordance with the applicable requirements and standards of the Virginia Erosion and Sediment Control Handbook, latest edition, and of the Contract Documents.

SECTION 50. DAMAGES TO THE WORK AREA

A. **Damage to the Work:** The Contractor shall have charge of and be solely responsible for the entire Work and be liable for all damages to the Work including, but not limited to any of the damages hereafter mentioned, and to any property in the vicinity of the Work, until its completion and acceptance by County.

- i. Where the work involves alterations, renovations, or modifications to any existing building, the Contractor shall familiarize itself with the structural condition of such building before proceeding with any work. It shall be the Contractor's responsibility to take all necessary safeguards to protect and maintain all parts of

- the building in a safe condition at all times during the process of construction and to protect from damage those portions of the building that are to remain.
- ii. Under no condition shall any load be placed on any part of a building, whether new or existing, in excess of the load the structure will safely support, and no structural member(s) shall be cut or altered without the written consent of County.
 - iii. The Contractor shall conduct all operations in such a manner as to avoid damage to existing work and surfaces within any existing building that are to remain. Any and all damaged work and surfaces shall be repaired, replaced, or restored to their original condition at the time when this work was started, and the expense of such work shall be borne by the Contractor.
- B. **Damage to Utilities:** The respective Utility Company shall be given a minimum of forty-eight (48) hours' notice prior to any adjustment of utilities, and the Contractor shall comply with the provisions of the Virginia Underground Utilities Damage Prevention Act, Section 56-265.14 et seq., of the Code of Virginia.
- a. Damages that may occur to the utilities during the Work shall be the sole responsibility of the Contractor.
- C. **Relocation of Utilities:** Should any utilities require adjustment during the Work, it shall be the Contractor's responsibility to have such utilities relocated as a part of the Work and to contact and cooperate with the respective Utility Company in performance of such operations.
- D. **Damage to Other Work and Existing Structures:** The Contractor shall take into account all other work which shall be done by other parties on the jobsite, either now known or which may become necessary during the progress of the Work, and shall be responsible for any damage done to the other work. Damage to concrete curbs, gutters, sidewalks, or any existing facility that may occur during the construction shall be repaired or replaced by the Contractor, at its sole expense, as directed by and to the satisfaction of County.
- E. **Weather Damage:** Damage with respect to the Work caused by the weather shall be the responsibility of the Contractor.
- F. **Blasting:** Any damage that may occur due to blasting shall be the sole responsibility of the Contractor.

SECTION 51. CHANGES IN THE WORK

- A. **Changes in Drawings and Specifications:** The County reserves the right to make such changes in the drawings and specifications and in the character of the Work as may be necessary or desirable to ensure completion in the most satisfactory manner, provided such changes do not materially alter the original plans and specifications or change the general nature of the Work as a whole. Such changes shall not be considered as waiving or invalidating any condition or provision of the Contract and Bonds. Such changes shall be issued in writing, by County to Contractor.

- B. Changes in Quantities:** The County reserves the right to make changes in the quantities of the Work, as may be considered necessary or desirable and such changes shall not be considered as waiving or invalidating any conditions or provisions of the Contract or Bonds. The Contractor shall perform the Work as altered, whether increased or decreased, and no allowances shall be made for anticipated profits. Payment to the Contractor for the changes in the quantities of work shall be made only for the actual quantities of work performed and material furnished at the unit prices set forth in the Contract, except as provided below.
- i. When the quantity of work to be done or of material to be furnished under any item of the Contract is more than 125 percent of the quantity stated in the Contract, either party to the Contract, upon demand, shall be entitled to negotiate for revised consideration on the portion of work above 125 percent of the quantity stated in the Contract.
 - ii. When the quantity of work to be done or of material to be furnished under any item of the Contract is less than 75 percent of the quantity stated in the Contract, then either party to the Contract, upon demand, shall be entitled to negotiate for revised consideration on the Work performed.
 - iii. Any consideration after that as set forth above shall be paid for as is hereinafter provided under Section 19.7. The foregoing notwithstanding, the quantity of work to be done or of material to be furnished under any item of the Contract, or the total original Contract shall not be increased more than 25 percent or reduced by more than 25 percent without the written consent of the Contractor and County.
- C. Changes in the Work:** No change with respect to the Work, except in an emergency situation threatening life or property, shall be made by the Contractor without the prior written approval of the County. The Contractor shall deliver any request for a change in the Work, Contract price, and/or completion time in writing to County within ten (10) calendar days of the occurrence requiring the change. The Contractor shall be required to certify the cause of the change order and, if appropriate, length of time involved. Payment for such changes approved by County shall be as set forth in Section 19.7. This written request is a condition precedent to the consideration of any such request by the County.
- D. Delays:**
- i. In the event a delay is caused by the County, any other separate contractor employed by the County, or any party for whom the Contractor deems the County responsible, or the agents and employees of any of them, the Contractor shall inform the County immediately at the time of the occurrence by the fastest means available and shall give written notice within a reasonable time, not to exceed ten (10) calendar days. The Contractor's notice to County shall specify the nature of the delay claimed by the Contractor, the cause of the delay, and the impact of the delay on the Contractor's work schedule to the fullest extent possible. The County will, within a reasonable time, not to exceed ten (10) calendar days, respond to the Contractor's notice with a resolution, remedy, or direction to alleviate the delay or with a notice rejecting the claim for delay alleged to be caused by the County or parties for whom the County is responsible. If the delay is not then resolved, the

Contractor may then submit a request for change order in accordance with Sections 19.3 and 19.5. In the event of other delays, the Contractor shall give the County written notice within ten (10) calendar days of the occurrence causing the delay.

- ii. No extension of time or compensation shall be allowed for a delay if the Contractor failed to give notice in the manner and within the time prescribed in Subsection 19.4 (a). Furthermore, no extension of time shall be given or additional compensation allowed for any delay unless a claim is made in writing to the County, within ten (10) calendar days of the occurrence causing the delay. The claim shall state the cause of the delay, the number of days of extension requested, and any compensation requested by the Contractor. The Contractor shall report the resumption of work to the County not less than ten (10) calendar days after work resumes. Failure to give notice of either the inception or the termination of the cause of delay or failure to present a claim for extension of time and/or monetary compensation within the times prescribed are conditions precedent to the assertion of any such claims by Contractor and shall constitute a waiver by Contractor of any such claims for compensation or extension based upon that cause.
- iii. Requests for compensation for delays must be substantiated by itemized data and records clearly showing that the work delayed was progressing according to the approved schedule and that the costs are directly attributable to the delay in the Work claimed. The Contractor shall provide written schedules demonstrating how the Work being delayed affects the approved schedule.
- iv. No extension of time, additional compensation, or change in the Contract price shall be allowed for any delays caused in whole or in part by the Contractor, any subcontractors, or any supplier. (For unavoidable justified delays, see Section 19.9 of these General Conditions.)

E. **Change Orders:** All change orders must indicate that the Contract Time for Completion is not changed or is either increased or decreased by a specific number of days. Any change or requested change in the Contract price shall also be included in the change order. The Contractor must provide written justification for an extension of the Time for Completion to County and to the County. The written justification must demonstrate an anticipated actual increase in the time required to complete the Work beyond that allowed by the Contract as adjusted by prior change orders or amendments to the Contract, not just an increase or decrease in the time needed to complete some portion of the total Work. When a Critical Path Method (CPM) schedule is required by the Contract, or is used for the convenience of the Contractor, no increase to the Time for Completion shall be allowed unless, and then only to the extent that, the additional or changed Work increases the length of the critical path. Approved increases in time required to complete the Work shall be added to the Time for Completion. Decreases in time as a result of the change order shall be demonstrated by a decrease in the critical path of the work if CPM scheduling is properly used and updated by the Contractor. If not, the County shall determine the appropriate decrease by the best means possible. Approved decreases in the time needed to complete the Work shall be deducted from the Contract completion date. The change to time or Contract price allowed by each change order shall include all time

and monetary impacts of the change, whether the change order is considered alone or with all other changes during the course of the project. Failure to include a change to time and/or Contract price in a change order shall waive any claims the Contractor may have for any change to the time and/or Contract price unless the parties mutually agree in writing to postpone a determination of the change to time and price resulting from the change order. Such a determination may be postponed not more than forty-five (45) calendar days to give the Contractor an opportunity to demonstrate a change in the time and/or price needed to complete the Work. However, the Contractor shall continue with the Work as may be directed by County and shall not stop work on the Project unless directed to do so by County.

- F. **Extra Work:** The County reserves the right to make alterations or changes in the Work as the Work progresses. When any work is necessary to the proper completion of the project which was not provided for in the Contract, the Contractor shall do such work, but only when and as ordered in writing by County. Payment for such extra work shall be made as hereinafter provided in Section 19.7.
- G. **Payment Methods for Extra Work:** The extra work done by the Contractor as authorized and approved by County shall be paid for in the manner hereinafter described; and the compensation thus provided shall be accepted by the Contractor as payment in full for all labor, material, tools, equipment, incidentals, all superintendents' and timekeepers' services, all insurance, bonds, and all other reasonable overhead expenses incurred in the performance of the extra work. Payment for extra work may be made by one of the following methods, as agreed on in writing by County and the Contractor before said extra work is commenced, subject to all other conditions of the Contract:
- i. Unit prices; or
 - ii. Lump sum price; or
 - iii. The cost of change in work plus ten percent (10%) of allowable costs. Allowable costs for purposes of this paragraph shall only include labor, material, sales tax, the rental of power tools and equipment actually used, or a reasonable price for the use of power tools and equipment owned by the Contractor based upon their life expectancy and purchase price, utilities, pro rata charges for foremen, and all payroll charges such as employer's FICA contribution, Public Liability and Workers' Compensation Insurance, but only if all such costs are incurred as the direct result of the changes in the Work. The change in cost for labor and material bonds and for performance bonds relative to the value of the extra work shall be allowable cost but shall not be marked up. If any subcontractor at any tier does all or part of the Work, the subcontractor's markup on that Work shall be fixed at fifteen percent (15%) of the allowable cost as defined herein.
- H. **Disputed Claims for Extra Work:** If one of the payment methods set forth in Section 19.7 is not agreed on by County, the County may retain either an independent contractor to perform such extra work or use its own forces to perform such extra work and the Contractor shall cooperate fully with the independent contractor or County in its performance of the extra work. However, County may also direct Contractor to perform

such extra work and any dispute will be handled as set forth in Section 31 of these General Conditions.

- I. **Change in Contract Time or Contract Price:** The Contractor may request an extension of time or change in the Contract price should the Work be obstructed or delayed by any justified unavoidable delays not caused in whole or in part by the Contractor, any subcontractor, or suppliers. However, delays caused by weather conditions will not be considered justified unavoidable delays unless they are caused by unusual weather as set forth in Section 4.2 of the Instructions to Bidders, in which case only an extension of time may be considered by County, but no additional compensation will be allowed for unusual weather. Furthermore, Contractor agrees that for any delays not caused by the County or any delays beyond the control of the County, no additional compensation will be due the Contractor and no change in the Contract price will be allowed by the County, only an extension of the Contract time will be considered by the County. The Contractor shall deliver requests for changes in the Contract price and/or completion time in writing to County within ten (10) calendar days of the occurrence requiring the change. Approved changes that alter the time of the Contract shall extend the completion time by a period equivalent to the certified time lost by such occurrence. No change in Contract price and/or completion time shall be allowed if the above notice has not been properly given, such notice being a condition precedent to any such request by the Contractor. However, the Contractor shall continue with the Work as may be directed by County and shall not stop work on the Project unless directed to do so by County.

SECTION 52. PAYMENT FOR WORK

- A. **Monthly Construction Estimates:** Monthly construction estimates shall be submitted to County, no more than once every thirty (30) calendar days.
- B. **Preparing Progress Payment Requests:** In preparing construction estimates, the Contractor may request a progress payment based on the actual percentage of work completed during the preceding month. The estimate shall contain a breakdown of the total Contract amount; to include a separate breakdown of all approved change orders, into principal items of construction, showing the estimated quantity, unit price, and total for each item. In preparing progress payment requests, the material delivered on the site and preparatory work done may be taken into consideration, if properly documented, or as may be required by County so that quantities can be verified. In addition to material delivered on the site, material such as large pieces of equipment and items purchased specifically for the project, but stored off the site, may be considered for payment, provided prior written approval is given by County.
- C. **Progress Payments:** The County will make a progress payment to the Contractor on the basis of a duly certified and approved progress payment request for the work performed under the Contract. In the event that the County disagrees with the monthly construction progress payment request submitted by the Contractor, or in the event the As-Built Drawings are not being kept current, the County may withhold all or a portion of the progress payment until such dispute is resolved to the satisfaction of the County. If there are any objections or problems with the progress payment request, the County will notify

the Contractor of such matters. If the progress payment request is approved by the County, payment will be made by the County to the Contractor not more than thirty (30) calendar days after such request has been approved. However, if there is an objection or problem with a progress payment request, the Contractor shall continue with the Work as may be directed by County and shall not stop work on the Project unless directed to do so by County. Any such disputes shall be handled as set forth in Section 31 of these General Conditions.

- D. **Retainage:** To ensure proper performance of the Contract, the County shall retain, unless stipulated otherwise, five percent (5%) of each progress payment until Final Acceptance of all work covered by the Contract. The Contractor may request that such retainage be paid into an escrow account on certain Contracts, pursuant to Section 2.2-4334 of the Code of Virginia. (See also Sections 6.2 and 14.6 of Instructions to Bidders.)
- E. **Ownership of Material and Work:** All material and work covered by progress payments shall become the property of the County. This provision shall not relieve the Contractor from the responsibility for all material and to maintain all completed work and to repair all damaged work. The Contractor shall not deem a progress payment as a waiver to complete the terms of the Contract or shift the risk of loss from the Contractor to the County. The Contractor warrants that Contractor has good title to all material, equipment, and supplies which Contractor uses in the Work or for which Contractor accepts payment in whole or in part.
- F. **Payments to Others by Contractor:** The Contractor agrees that Contractor will comply with the requirements of Section 2.2-4354 of the Code of Virginia regarding Contractor's payment to other entities and that Contractor will take one of the two actions permitted therein within seven (7) calendar days after receipt of amounts paid to Contractor by the County. The Contractor agrees that Contractor shall indemnify and hold the County, its governing body, officers, agents, and employees harmless for any lawful claims resulting from failure of the Contractor to make prompt payments to all persons supplying him equipment, labor, tools, or material in prosecution and completion of the Work provided for in the Contract. In the event of such claims, the County may, after providing written notice to the Contractor, withhold from any progress and/or final payment the unpaid sum of money deemed sufficient to pay all lawful claims and associated costs in connection with the Contract.
- G. **Final Payment:** Within thirty (30) calendar days after the Final Acceptance of the Work, the County shall pay the Contractor the Final Payment, less all prior payments, damages, setoffs, liquidated damages, any amounts withheld from retainage, or any other amounts Contractor may owe the County for any reason whatever.
- H. **Payment and Acceptance:** No payment, final or otherwise, nor partial or entire use, occupancy, or acceptances of the Work by the County shall be an acceptance of any work or material not in accordance with the Contract, nor shall the same relieve the Contractor of any responsibility for any faulty material or workmanship or operate to release the

Contractor or its surety from any obligation under the Contract or the Performance Bond or the Labor and Material Payment Bond.

- I. **Right to Audit:** The Contractor agrees that the County, and any approving Federal or State Agency or any of their duly authorized representatives, shall have access to any books, documents, papers, records, schedules and electronic data of the Contractor which are pertinent to this Project for the purpose of making an audit, examinations, excerpts, copies or transcriptions and that Contractor will provide copies of such items to County upon County's request, at no cost to County.

SECTION 53. LIQUIDATED DAMAGES

If liquidated damages are provided by the Contract, the following provisions shall apply:

- i. Subject to the provisions of the General Conditions granted for extension of time allowed for completion of the Work, if the Work is not substantially completed by the date required in the Contract, the Contractor shall owe to the County, not as a penalty but as step one liquidated damages, the sum stated in the Contract for step one liquidated damages for each and every calendar day of delay in substantial completion.
- ii. Once the Work is substantially complete, the accrual of step one liquidated damages shall stop and the Contractor shall have thirty (30) calendar days in which to achieve Final Acceptance of the Work.
- iii. If Final Acceptance of the Work is not achieved by the thirtieth (30th) calendar day after substantial completion, and if any extension of time is not granted by the County, the Contractor shall owe to the County, not as a penalty but as step two liquidated damages, the sum stated in the Contract as step two liquidated damages for each and every calendar day of delay in Final Acceptance. All such liquidated damages set forth in this Section are in addition to any other damages the County may be entitled to recover from the Contractor.

SECTION 54. INSPECTION FOR SUBSTANTIAL COMPLETION AND FINAL ACCEPTANCE

- A. **Substantial Completion:** The Contractor shall notify the County, in writing, that the Work will be ready for inspection to determine if it is substantially complete and ready for testing on or after a certain date, which date shall be stated in the notice. The notice shall be given at least ten (10) calendar days in advance of said date and shall be forwarded through County. Inspection and testing shall take place at a time mutually agreeable to the Contractor and County. The inspection shall determine if substantial completion has been accomplished. If so, County will issue a Certificate of Substantial Completion and attach a written list of unfinished Work and defective Work, commonly referred to as a "punch list", which must be finished and corrected to obtain Final Acceptance.
- B. **Request for Final Acceptance:** The Contractor shall notify County, in writing, that the Work will be ready for final inspection and testing on or after a certain date, which date shall be stated in the notice. That inspection and any necessary testing shall be conducted in the same manner as the inspection for substantial completion. When the Work is

finally and totally complete, including the elimination of all known deficiencies, the Work shall be finally accepted by the County and final payment shall be made in accordance with Section 20.7 of these General Conditions.

- C. **Final Inspection:** County will conduct the final inspection, and may elect to have other persons of its choosing also participate in the inspection. If re-inspection is required, the Contractor shall reimburse the County for all costs of re-inspection or, at the County's option, the costs may be deducted from payments due to the Contractor.
- D. **As-Built Drawings:** No Contract retainage will be released prior to receipt of all approved As-Built Drawings.
- E. **Final Acceptance:** Upon successful completion of the final inspection and all Work required by the Contract, including but not limited to the delivery of the following documents and items; As-Built drawings, operation and maintenance manuals, written warranties, Certificate of Substantial Completion, Affidavit of Payment of Claims, and MBE/WBE/SB/VB Usage Status Form, County will furnish a written Certificate of Final Acceptance of the Work to the Contractor. County may accept the Work for occupancy or use while asserting claims against the Contractor, disputing the amount of compensation due to the Contractor, disputing the quality of the Work, its completion, or its compliance with the Contract Documents, and the like.
- F. **Release By Contractor:** The acceptance by the Contractor of the final payment or a payment designated as such shall be and does operate as a release by the Contractor of all claims by the Contractor against County and of all other liability of the County to the Contractor whatever, including liability for all things done or furnished in connection with the Work or the Contract.

SECTION 55. GUARANTEE OF WORK

- A. **Two Year Warranty:** The Contractor does warrant and guarantee the Work against defects or deficiencies in the Work and in all material, equipment, and workmanship for a period of two (2) years from the date of Final Acceptance.
- B. **Defective Work:** The Contractor agrees it shall repair or replace, at Contractor's sole expense, and to the satisfaction of County, any work, material, equipment, or part that is found, by County, to be defective.
- C. **Repairs:** If, within any guarantee period, defects are noticed by County which require repairs or changes in connection with the guaranteed work, those repairs or changes being in the determination of County rendered necessary as the result of the use of material, equipment, or workmanship which is defective, inferior, or not in accordance with the terms of the Contract, then the Contractor shall, promptly upon receipt of notice from County, such notice being given not more than four weeks after the expiration of any such guarantee period, and without any expense to the County:
 - i. Place in satisfactory condition all guaranteed work and correct all defects therein; and

- ii. Make good all damage to the structure, site, equipment, or contents thereof, which in the determination of County is the result of the use of material, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract; and
- iii. Make good any work or material or the equipment and contents of structures or the site disturbed in fulfilling any such guarantee.

- D. **Warranty Extension:** In any case, where in fulfilling the requirements of the Contract or any guarantee embraced in or required thereby, the Contractor disturbs, damages or repairs any work guaranteed under the Contract, Contractor shall restore such work to a condition satisfactory to County and guarantee such restored work to the same extent and for a like additional period of time as it was originally guaranteed under this Contract.
- E. The Design-Builder agrees to assign to Roanoke County at the time of final completion of the Work all manufacturer's warranties relating to equipment, materials, and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties. If necessary as a matter of law, the Design-Builder may retain the right to enforce directly any such manufacturers' warranties during the one-year period following the date of Substantial Completion.
- F. **Correction of Defects:** If the Contractor, after notice, fails to proceed promptly, but in no event longer than thirty (30) calendar days after such notice, unless otherwise agreed to by County, to comply with the terms of the guarantee and/or correct the Work, the County may have the defects corrected by its own forces or another contractor and the Contractor and its surety shall be liable for all costs and expenses incurred in doing so.
- G. Nothing contained in this section shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents or the law of Virginia, including liability for defective work.

SECTION 56. STOP WORK ORDER

In the event that conditions exist such that no work can or should continue, other than the routine closing of the site, the Contractor may submit to County a request to stop work or County on its own may issue a Stop Work Order. County designee will, if he/she approves the request or issues the order himself/herself, deliver a written "Stop Work Order" to the Contractor stipulating the effective date and the Contract time remaining. The Work, other than the routine closing of the site, and Contract time shall not again be started until a written "Resume Work Order" is received by the Contractor from County. When the Work is stopped at the request of the Contractor and through no fault of the Contractor, the Contractor may only recover from the County payment for the cost of the Work actually performed, together with reasonable overhead and profit thereon up to that time, but profit shall be recovered only to the extent that the Contractor can demonstrate that it would have had profit on the entire Contract if it had completed the Work. The Contractor may not receive profit or any other type of compensation for parts of the Work not performed, including, but not limited to, home office overhead or any other such costs. The Contractor may also recover the actual cost of physically closing down the jobsite, but no other costs of the Stop Work Order. The County may offset any claims it may

have against the Contractor against the amounts due to the Contractor. In no event shall the Stop Work Order to the Contractor relieve in any way the obligations of the Contractor's surety on its payment and performance bonds. When work is stopped by County due to any fault of the Contractor, the Contractor may not recover any of the above costs or items or any other costs, profits, expenses, or damages of any type.

SECTION 57. TERMINATION OF CONTRACT FOR CAUSE

- A. **Termination for Cause:** If the Contractor should be adjudged a bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, the County may terminate the Contract. If the Contractor should refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper material, or if it should fail to make prompt payment to subcontractors or suppliers of material or labor, or disregard laws, ordinances, or the written instructions of County, or otherwise fails to comply with any of the terms or provisions of this Contract including, but not limited to, poor services, deficient work or material, the County may terminate this Contract. In no event shall termination for cause terminate the obligations of the Contractor's surety on its payment and performance bonds.
- B. **Possession of Work:** Upon termination of the Contract, the County may take possession of the premises and of all material, tools, and appliances thereon and finish the Work by whatever method the County may deem expedient. In such case the Contractor shall not be entitled to receive any further payment of any type. If the expense of finishing the Work, including compensation for additional managerial and administrative services, shall exceed the unpaid balance of the Contract price, the Contractor shall pay the difference to the County, together with any other cost or expenses of terminating the Contract and having it completed by others, together with any and all other damages County may be entitled to from the Contractor.

SECTION 58. TERMINATION FOR CONVENIENCE OF COUNTY

- A. **Termination for Convenience:** The County, at its discretion, may terminate this Contract at any time without cause, in whole or in part, upon giving the Contractor 7 days written notice of such termination. Upon such termination, the Contractor shall immediately cease work and remove from the jobsite all of its labor forces, equipment, and material as County elect not to purchase or to assume in the manner hereinafter provided. Upon such termination, the Contractor shall take such steps as County may require assigning to the County the Contractor's interest in all subcontracts and purchase orders designated by County. After all such steps have been taken to County's satisfaction; the Contractor shall receive as full compensation for termination and assignment only the following:
- i. All amounts then otherwise due under the terms of this Contract for actual work performed and approved by County; and
 - ii. Reasonable compensation for the actual cost of demobilization incurred by the Contractor as a direct result of such termination. The Contractor shall not be entitled to any compensation for lost profits or for any other type of contractual compensation or damage, other than those provided by the preceding sentence,

including any on site or home office overhead. Upon payment of the foregoing, County shall have no further liabilities or obligations to Contractor of any nature.

B. **Termination Effect on Surety:** In no event shall termination for the convenience of the County terminate the obligation of the Contractor's surety on its payment and performance bonds.

SECTION 59. PRECONSTRUCTION CONFERENCE

If required, County shall notify the Contractor as to the location, date, and time of a preconstruction conference to confirm procedures for processing construction estimates for payment and related submissions and to discuss other matters pertaining to scheduling and execution of the Work.

SECTION 60. PROJECT SIGN(S)

The Contractor shall supply, erect, and maintain Project Sign(s) in accordance with the County of Roanoke Standard Detail. The sign(s) shall be located as directed by County. The Contractor shall not display any other signs or advertisements.

SECTION 61. ENTIRE CONTRACT.

This Contract, including any attachments, exhibits, and referenced documents, constitutes the complete understanding between the parties. This Contract may be modified only by written agreement properly executed by the parties.

THIS AGREEMENT may be modified in writing by mutual agreement of both parties.

IN WITNESS WHEREOF, the parties hereto have signed this Contract by their authorized representatives.

(Full Legal Name of Consultant)

By_____

Printed Name and Title

Roanoke County Board of Supervisors

By_____

Printed Name and Title

Approved as to execution:

County Attorney/Assistant County Attorney

**CONTRACT 2023-067
BETWEEN COUNTY OF ROANOKE AND [VENDOR NAME]
FOR GMS AIR CONDITIONING IMPROVEMENTS**

EXHIBIT 1: SAMPLE CONTRACTOR'S INSURANCE AND BOND REQUIREMENTS

REFERENCE: IFB # 2023-067

INSURANCE REQUIREMENTS SECTION

The Contractor shall comply with the insurance requirements set forth in the Contract, including the items set forth below:

- A. Neither the Contractor nor any subcontractor shall commence work under this Contract until the Contractor has obtained and provided proof of the required insurance coverages to the County, and such proof has been approved by the County. The Contractor confirms to the County that all subcontractors have provided Contractor with proof of such insurance, or will do so prior to commencing any work under this Contract.
- B. Contractor, including all subcontractors, shall, at its and/or their sole expense, obtain and maintain during the life of this Contract the insurance policies and/or coverages required by this section. The County and its officers, employees, agents, assigns, and volunteers shall be added as an additional insured to the general liability and automobile coverages of any such policies and such insurance coverages shall be primary and noncontributory to any insurance and/or self-insurance such additional insureds may have. The Contractor shall immediately notify in writing the County of any changes, modifications, and/or termination of any insurance coverages and/or policies required by this Contract. The Contractor shall provide to the County with the signed Contract an Acord certificate of insurance which states in the description of operations section one of the two paragraphs below:
 - 1. The County and its officers, employees, agents, assigns, and volunteers are additional insureds as coverage under this policy includes ISO endorsement CG 20 33 which provides that the insured status of such entities is automatic if required by a contract or a written agreement. (If additional insured status is automatic under a different coverage form, Contractor must attach a copy of the coverage form to its certificate. Any required insurance policies shall be effective prior to the beginning of any work or other performance by Contractor and any subcontractors under this Contract).

OR

- 2. ISO endorsement CG 20 10 will be issued, prior to the beginning of any work or other performance by Contractor under this Contract, to the County and its officers, employees, agents, assigns, and volunteers naming them as an additional insured under the general liability coverage. (A copy of the binder confirming the issuance

must be attached to the certificate. Any required insurance policies shall be effective prior to the beginning of any work or other performance by Contractor and any subcontractors under this Contract).

However, if B (1) or (2) cannot be provided, the County's Risk Manager, in such Manager's sole discretion, may approve such other certificate of insurance or insurance document(s) that the Risk Manager deems acceptable. The County of Roanoke shall also be named as the Certificate Holder.

C. The following insurance coverages and limits are required in order to provide services or materials to Roanoke County general government agencies and the Roanoke County Public Schools. These limits may be adjusted depending on the type of service or materials being provided and the exposure to risk.

The Successful Offeror shall carry Liability Insurance in the amount specified below, including contractual liability assumed by the Successful Offeror, and shall deliver a Certificate of Insurance from carriers acceptable to the owner specifying such limits. The Certificate shall show the County of Roanoke and Roanoke County Public Schools, their supervisory boards and members thereof, officers, agents, employees and volunteers as an additional insureds on the Commercial General Liability, Automobile Liability and Excess/Umbrella Liability coverage. The additional insured status shall be endorsed to the coverage with the provision that this coverage "is primary to all other coverage the County of Roanoke and/or Roanoke County Public Schools may possess." A Certificate of Insurance evidencing the additional insured status must be presented to the County of Roanoke and/or Roanoke County Public Schools along with a copy of the Endorsement prior to work or services beginning.

The coverage shall be provided by a carrier(s) rated "Excellent" by A.M. Best. In addition, the insurer shall agree to give the County 30 days' notice of its decision to cancel coverage.

1. Workers' Compensation

Statutory Virginia Limits

Employers' Liability Insurance

- \$100,000 for each Accident by employee
- \$100,000 for each Disease by employee
- \$500,000 policy limit by Disease

2. Commercial General Liability - Combined Single Limit

- \$2,000,000 each occurrence including contractual liability for specified agreement
- \$5,000,000 General Aggregate (other than Products/Completed Operations)
- \$2,000,000 General Liability-Products/Completed Operations
- \$1,000,000 Personal and Advertising injury
- \$ 100,000 Fire Damage Legal Liability

Coverage must include Broad Form property damage and (XCU) Explosion, Collapse and Underground Coverage

3. **Business Automobile Liability** – including owned, non-owned and hired car coverage
 - Combined Single Limit - \$1,000,000 each accident
4. **Additional Insurance Requirements**

Additional specific insurance coverage minimum requirements to be provided by Contractor may include the following as detailed in the Supplemental General Conditions:

 - a. **Builders Risk:** At the discretion of the County, the Contractor, at its cost, shall obtain and maintain in the names of the County and the Contractor "all-risk" builders risk insurance (if approved by the County) upon the entire structure or structures on which the Work of this Contract is to be done and upon all material in or adjacent thereto or those that are "off-site" but which are intended for use thereon, to one hundred percent (100%) of the completed value thereof.
 - b. **Property Coverage:** Installation Floater (and Rigger's Form, if applicable) will be required for the installation of contents or equipment; coverage will begin with supplier and continue until equipment/contents have been fully installed. Floater will be valued for the replacement cost value of equipment/contents including all costs. The Contractor shall provide coverage for portions of the work stored off-site after written approval of the County at the value established in the approval and for portions of the work in transit.
 - c. **Special Hazards:** In the event special hazards are evident in the work contemplated, or if required by the Contract Documents, the Contractor shall obtain and maintain during the life of the Contract a rider to the policy or policies required, in an amount not less than \$2,000,000. Should any unexpected special hazards be encountered during the performance of this Contract that could not have been reasonably foreseen, the Contractor shall, prior to performing any work involving the special hazard, immediately obtain this insurance as instructed by the County. In the event the special hazard requiring the additional coverage was not a part of the original bid, the expense of such insurance shall be reimbursed to the Contractor by the County, otherwise the Contractor shall assume full responsibility for the purchase with no charge back to the County.
 - d. **Deductible:** Deductible/self-insured retention amounts shall be reduced or eliminated upon written request from County. The insurer's cost of defense (and appeal), including attorney's fees, shall not be included within the coverages provided but shall remain the insurer's responsibility.
 - e. **Term:** Insurance shall remain in effect until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective work.
 - f. **Limit of Liability:** Nothing contained in these insurance requirements is to be construed as limiting the liability of Contractor or Contractor's insurance carriers. County does not in any way represent that the coverage's or the limits of insurance specified is sufficient or adequate to protect Contractor's interests or

liabilities, but are merely minimums. The obligation of the Contractor to purchase insurance herein shall not in any way limit the obligation of the Contractor in any event and/or in the event that the County should suffer an injury or loss in excess of the amount recoverable through insurance.

- i. Contractual Liability covers the following indemnity agreement: "The Successful Offeror agrees to indemnify, defend and hold harmless the County of Roanoke and Roanoke County Public Schools, their supervisory boards and members thereof, officers, agents, employees and volunteers from any claims, damages, suits, actions, liabilities and costs of any kind or nature, including attorneys' fees, arising from or caused by the provision of any services, the failure to provide any services or the use of any services or materials furnished (or made available) by the Successful Offeror, provided that such liability is not attributable to the County or School Division's sole negligence."

D. Contracts of \$100,000 or More: The following minimum insurance requirements apply in addition to the above requirements:

1. Limits of Liability: For the Commercial General Liability policy:
 - a. \$1,000,000 each occurrence including contractual liability for specified agreement occurrence
 - b. \$2,000,000 General Aggregate (other than Products/Completed Operations)
 - c. \$2,000,000 General Liability-Products/Completed Operations
 - d. \$1,000,000 Personal and Advertising injury
 - e. \$ 100,000 Fire Damage Legal LiabilityCoverage must include Broad Form property damage and (XCU) Explosion, Collapse and Underground Coverage.

Coverage is to be written on an "occurrence" and "per project" basis and such coverage shall include:

2. Umbrella Liability Insurance:

This coverage shall be written for minimum limit of:

 - a. \$5,000,000 each occurrence for Personal and Bodily Injury and Property Damage

This Policy shall apply in excess and follow form of employer's liability, commercial general liability, and auto liability. The intent of this insurance specification is to provide the coverage required and the limits expected for each type of coverage. With regard to the Business Automobile Liability and Commercial General Liability, the total amount of coverage can be accomplished through any combination of primary and excess/umbrella insurance. However, the total insurance protection provided for Commercial General Liability or for Business Automobile Liability, either individually or in combination with the Excess/Umbrella Liability, must total \$5,000,000 per occurrence. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded the County of Roanoke and Roanoke County Public Schools. This policy shall be endorsed to be primary with respect to the additional insured.

E. **Contracts Less Than \$100,000:** The following minimum insurance limits apply unless specified otherwise in the Supplemental General Conditions:

1. Limits of Liability: For the Commercial General Liability policy:
 - a. \$1,000,000 each occurrence including contractual liability for specified agreement occurrence
 - b. \$1,000,000 General Aggregate (other than Products/Completed Operations)
 - c. \$1,000,000 General Liability-Products/Completed Operations
 - d. \$1,000,000 Personal and Advertising injury
 - e. \$ 100,000 Fire Damage Legal Liability

Coverage must include Broad Form property damage and (XCU) Explosion, Collapse and Underground Coverage.

F. **Proof of Insurance Coverage:** The policies of insurance required by Sections 4.1, 4.2, or 4.3 shall be provided by a carrier(s) rated "Excellent" by A.M Best, licensed to do business in Virginia and maintained for the life of the Contract by the Contractor. Other insurance requirements include the following:

1. The Contractor shall furnish the County with the required certificates of insurance showing the insurer, type of insurance, policy number, policy term, deductible, and the amount insured for property coverage's and the limits for liability coverage's.
2. The Contractor shall notify County and Risk Manager in writing within thirty (30) consecutive calendar days if any of the insurance coverage's or policies are cancelled or materially altered and Contractor shall immediately replace such policies and provide documentation of such to County and Risk Manager.
3. The required insurance policies and coverages, excluding those for Workers' Compensation and Professional Liability, shall name the County of Roanoke, its governing body, officers, agents, volunteers and employees as additional insured and the certificate of insurance shall show if the policies provide such coverage. Waiver of subrogation is required with respect to any policy of workers' compensation and employers' liability insurance required under this Section. The certificate of insurance shall show if the policies provide such waiver. Additional insured and waiver endorsements shall be received by the County's Risk Manager from the insurer with the certificate of insurance unless the County's Risk Manager agrees to another process. The County's Risk Manager may approve other documentation of such insurance coverages.
4. Insurance coverage shall be in a form and with an insurance company approved by the County which approval shall not be unreasonably withheld. Any insurance company providing coverage under this Contract shall be authorized to do business in the Commonwealth of Virginia.
5. The classification code numbers appearing on the Commercial General Liability coverage parts shall not exclude the symbols "X-C-U".
6. The certificate holders on the Accord form Certificates of Insurance shall be:
Roanoke County School Board
5937 Cove Road,
Roanoke, VA 24019

Attn: Purchasing Dept.

- G. Compliance by the Contractor with the foregoing requirements as to carrying insurance shall not relieve the Contractor of their liabilities provisions of the Contract
- H. Contractual Liability covers the following indemnity agreement: "The Successful Offeror agrees to indemnify, defend and hold harmless the County of Roanoke and Roanoke County Public Schools, their supervisory boards and members thereof, officers, agents, employees and volunteers from any claims, damages, suits, actions, liabilities and costs of any kind or nature, including attorneys' fees, arising from or caused by the provision of any services, the failure to provide any services or the use of any services or materials furnished (or made available) by the Successful Offeror, provided that such liability is not attributable to the County or School Division's sole negligence."
- I. The continued maintenance of the insurance policies and coverages required by the Agreement is a continuing obligation, and the lapse and/or termination of any such policies or coverages without approved replacement policies and/or coverages being obtained shall be grounds for termination of the Consultant/Contractor for default.
- J. Nothing contained in the insurance requirements is to be construed as limiting the liability of the Consultant/Contractor, and/or its subcontractors, or their insurance carriers. The County does not in any way represent that the coverages or the limits of insurance specified are sufficient or adequate to protect the Consultant/Contractor's interest or liabilities, but are merely minimums. The obligation of the Consultant/Contractor, and its subcontractors, to purchase insurance shall not in any way limit the obligations of the Consultant/Contractor in the event that the County or any of those named above should suffer any injury or loss in excess of the amount actually recoverable through insurance.
- K. The classification code numbers appearing on the Commercial General Liability coverage parts shall not exclude the symbols "X-C-U".
- L. The intent of this insurance specification is to provide the coverage required and the limits expected for each type of coverage. With regard to the Business Automobile Liability and Commercial General Liability, the total amount of coverage can be accomplished through any combination of primary and excess/umbrella insurance. However, the total insurance protection provided for Commercial General Liability or for Business Automobile Liability, either individually or in combination with the Excess/Umbrella Liability, must total \$1,000,000 per occurrence. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded the County of Roanoke and Roanoke County Public Schools. This policy shall be endorsed to be primary with respect to the additional insured.
- M. The certificate holders on the Accord form Certificates of Insurance shall be:

Roanoke County School Board
5937 Cove Road,

Roanoke, VA 24019
Attn: Purchasing Dept.

N. Claims Made Policies

If the liability insurance has been issued on a "claims made" basis, the Successful Offeror must either:

1. Agree to provide certificates of insurance evidencing the above coverage for a period of three (3) years after final payment under the Agreement for General Liability policies. This certificate shall evidence a "retroactive date" no later than the beginning of the Offeror's work; or
2. Purchase the extended reporting period endorsement for the policies and provide certificates of insurance and a copy of the endorsement.

BOND REQUIREMENTS SECTION

The Contractor shall comply with the bond requirements set forth in the Contract, including the items set forth below:

- A. Except in cases of emergency, all bids for construction contracts shall be accompanied by a bid bond from a surety company selected by the bidder, which is legally authorized to do business in Virginia.
1. A bid, payment or performance bond for contracts for goods or services other than construction may be required if provided in the Invitation for Bid.
 2. The amount of the bid bond shall not exceed five percent (5%) of the total amount of the bid.
 3. In lieu of a bid bond, a bidder may furnish a certified check or cash escrow in the face amount required for the bond.
 4. Upon award of any public construction contract exceeding \$100,000 awarded to any prime contractor, such contractor shall furnish:
 - a. Performance bond in the sum of the contract amount.
 - b. Payment bond in the sum of the contract amount.
 5. Performance and/or payment bonds may be required for construction contracts below \$100,000 at the discretion of the County.
 6. In cases of emergency performance bonds/payment bonds are required within ten (10) calendar days of notice to proceed/project commencement.

END

**CONTRACT 2023-067
BETWEEN COUNTY OF ROANOKE AND VENDOR NAME
FOR GMS AIR CONDITIONING IMPROVEMENTS**

EXHIBIT 2: SCOPE OF WORK/FEE SCHEDULE

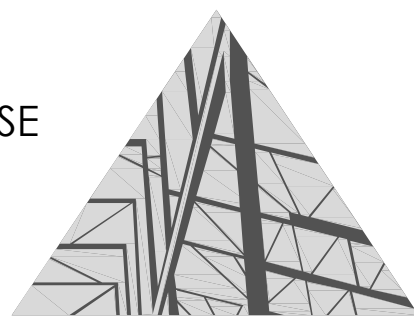
REFERENCE: IFB# 2023-067

The services, work, and/or items that the Contractor shall provide in a timely and proper manner in accordance with the Contract include, but are not necessarily limited to, the following:

Improvements to air conditioning systems in Glenvar Middle School gyms, per the Project Plans provided by Spectrum Design, dated January 3, 2023 and provided as Attachment F to IFB 2023-067.

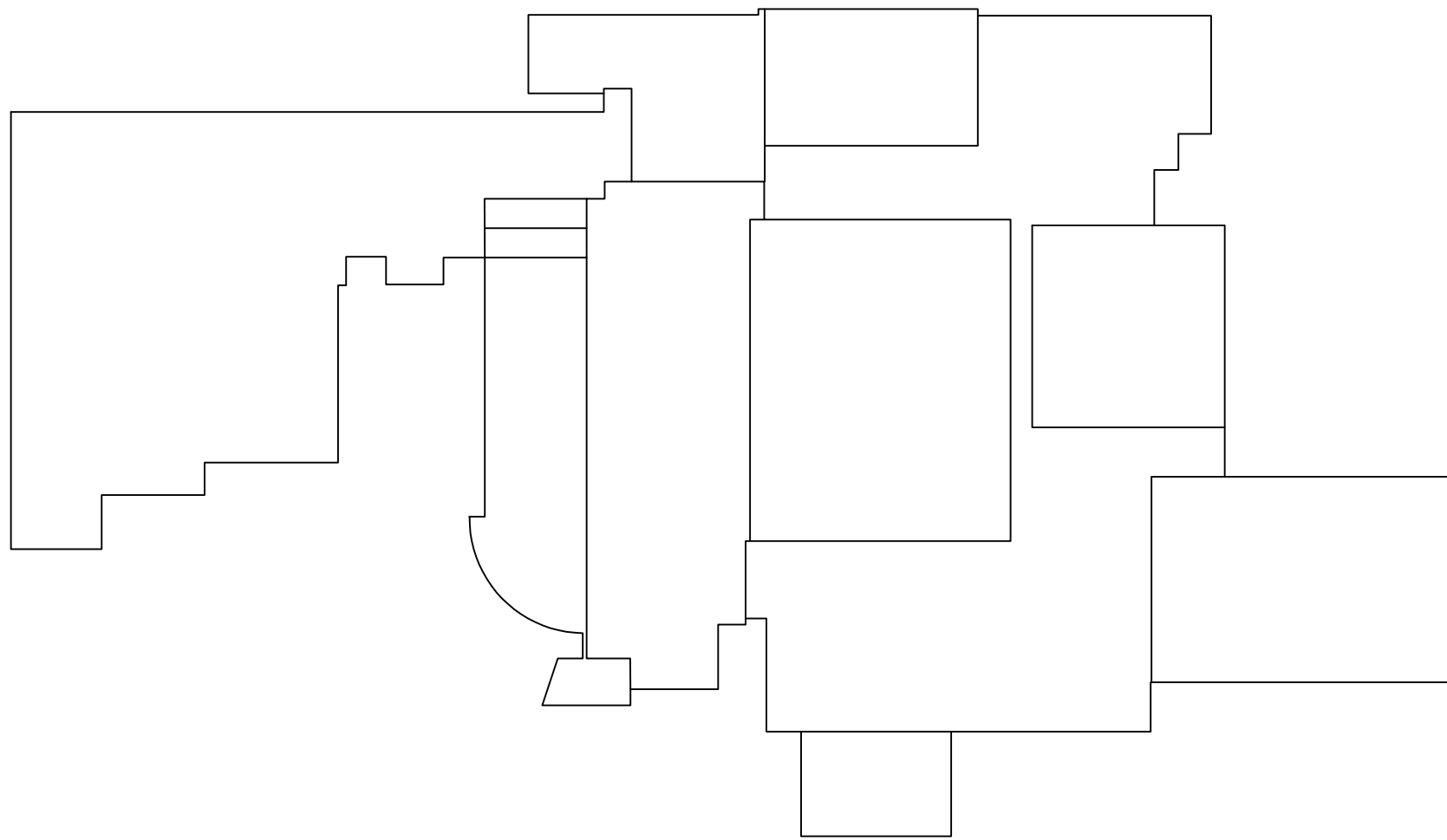
IFB # 2023-067
ATTACHMENT F: Project Plans

The following construction documents, provided by Spectrum Design and dated January 3, 2023, shall determine the scope and specifications of the Work outlined in this IFB 2023-067.



GLENVAR MIDDLE SCHOOL ROANOKE COUNTY SCHOOLS GYM-AIR CONDITIONING

STATE PROJECT OR IFB #:
0000-0000000000



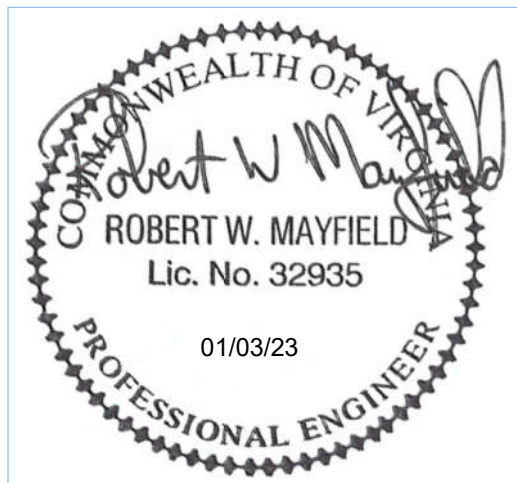
GLENVAR MIDDLE SCHOOL
4555 MALUS DRIVE
SALEM, VA 24153



SPECTRUM PROJECT NUMBER:
22094

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

PROJECT DATE:
01.03.2023

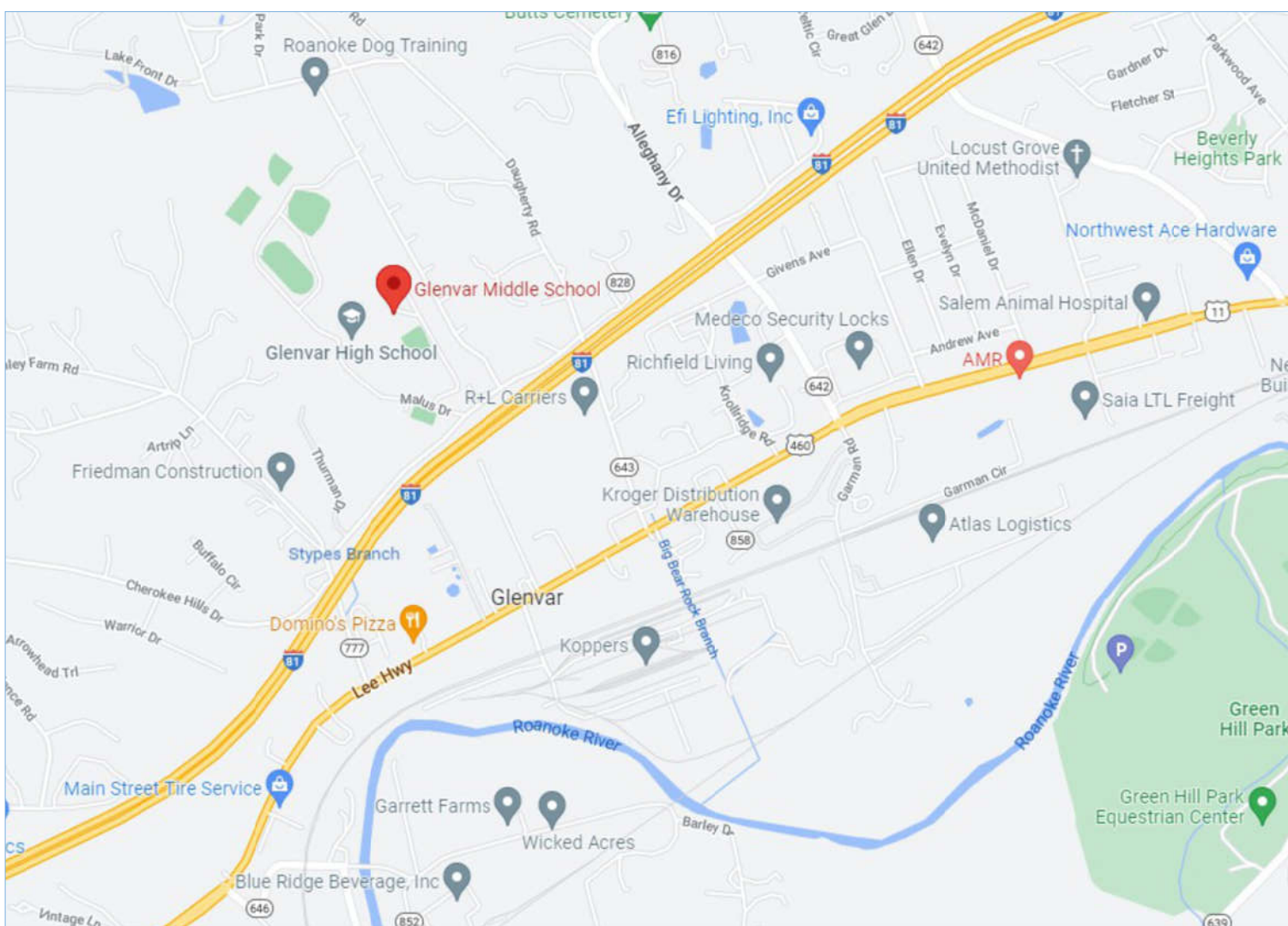


INDEX OF DRAWINGS:

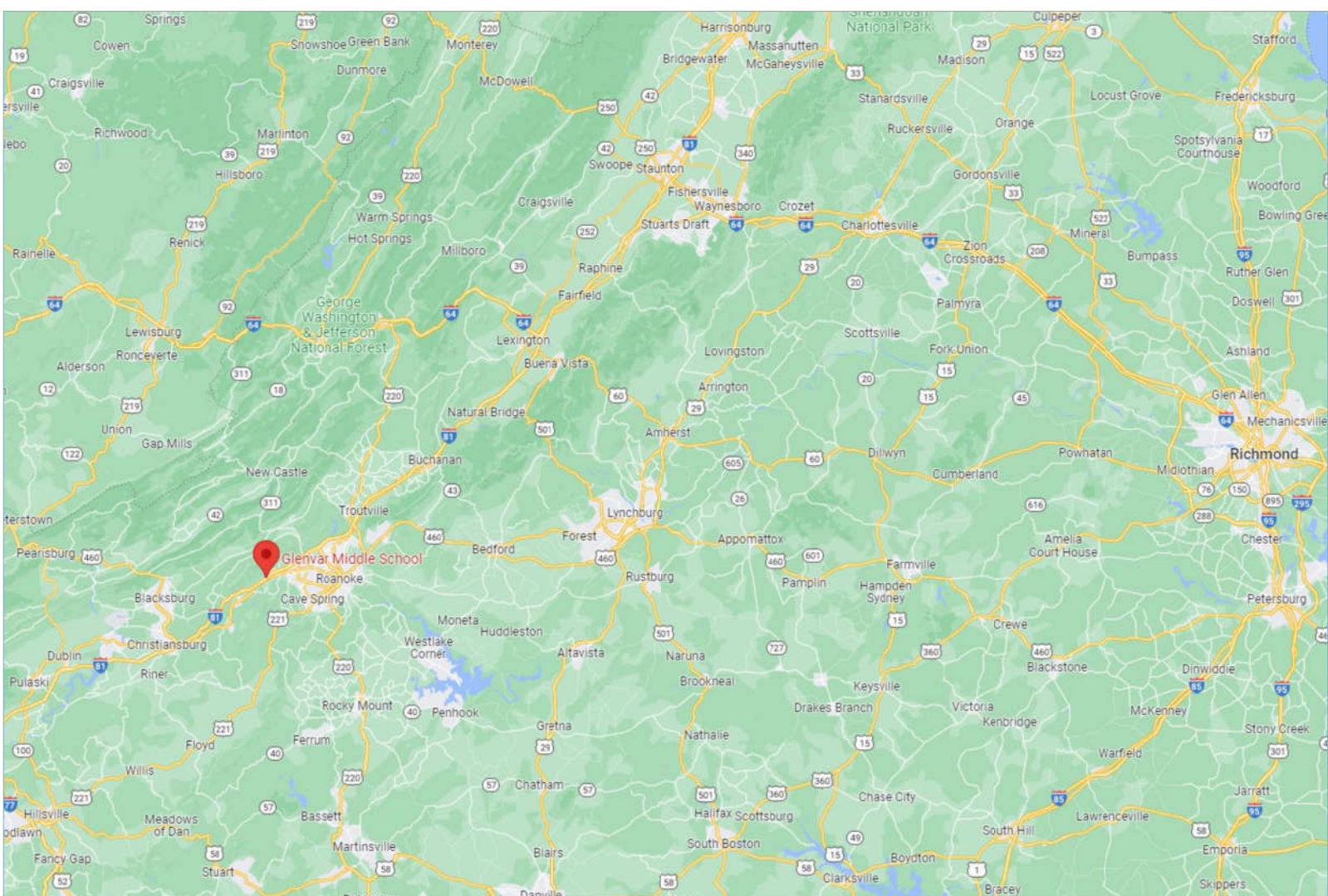
- G001 COVER SHEET
- MECHANICAL**
- M001 GENERAL NOTES & LEGEND
- M100 MECHANICAL AERIAL EXISTING ROOF PLAN
- M101 MECHANICAL AUXILIARY GYM UPGRADES
- M102 MECHANICAL MAIN GYM NEW DX COOLING
- M501 MECHANICAL DETAILS
- M701 MECHANICAL CONTROLS
- M702 MECHANICAL CONTROLS

ELECTRICAL

- E001 ELECTRICAL POWER PLAN



SCHOOL LOCATION MAP



VICINITY MAP

GENERAL NOTES

- THE PLANS ARE, TO A GREAT EXTENT, DIAGRAMMATIC IN NATURE. DRAWING SCALES SHOULD BE VERIFIED FROM DIMENSIONS ON ARCHITECTURAL PLANS. THE INFORMATION PRESENTED IS AS EXACT AS COULD BE SECURED. THE CONTRACTOR SHALL OBTAIN EXACT LOCATION, MEASUREMENTS LEVELS, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THE WORK TO THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING A BID TO REVIEW THE CONDITIONS AT THE SITE AND INFORM THEMSELVES OF ALL DETAILS.
- ALL WORK SHALL COMPLY WITH FEDERAL, STATE (INCLUDING VIRGINIA UNIFORM STATEWIDE BUILDING CODE) AND LOCAL REGULATIONS. CONTRACTOR SHALL FOLLOW INDUSTRY STANDARDS WITH REGARDS TO SAFETY ACCORDING TO AUTHORITY HAVING JURISDICTION.
- CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS AND ARRANGE FOR INSPECTIONS BY AUTHORITY HAVING JURISDICTION.
- CONTRACTOR SHALL COORDINATE WORK WITH OWNER, INCLUDING TIME AND LOCATION OF WORK, LOW NOISE TIMES AND AREAS, AS WELL AS INTERRUPTIONS IN POWER AND WATER SERVICE. CONTRACTOR SHALL COORDINATE WITH OWNER THE USE OF WATER, TOILETS, UTILITIES, ETC. BY THE CONTRACTOR AND HIS EMPLOYEES.
- CONTRACTOR SHALL PROVIDE COMPLETE AND FUNCTIONING HVAC SYSTEMS. MAJOR ITEMS ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL PROVIDE ALL APURTENANCES AND INCIDENTAL ITEMS REQUIRED TO PROVIDE A FULLY FUNCTIONING SYSTEM. ANY OBSERVED FAULTS OR AMBIGUITY IN THIS PLAN SET SHALL BE CALLED TO THE ATTENTION OF THE OWNER IMMEDIATELY, SO THAT THE MATTER MAY BE RESOLVED PRIOR TO SUBMISSION OF BIDS.
- THE WORK SHOWN ON THESE PLANS ARE BASED ON PREVIOUSLY PREPARED BASE BUILDING DRAWINGS. WHERE EXISTING FIELD CONDITIONS ARE DIFFERENT THAN SHOWN, THE CONTRACTOR SHALL ADVISE THE ENGINEER OF DISCREPANCIES WHICH WILL AFFECT THE PROPOSED WORK PRIOR TO BEGINNING THE WORK. THE BASE BUILDING DRAWINGS AND SPECIFICATIONS SHALL GOVERN THE CONSTRUCTION OF THE TENANT SPACE.
- CONTRACTOR SHALL THOROUGHLY CLEAN HIS WORK AREA DAILY.
- CONTRACTOR SHALL COORDINATE THE INSTALLATION OF HVAC WORK WITH EXISTING CONDITIONS AND THE WORK OF OTHER TRADES. MINOR DEVIATIONS FROM THE PLANS MAY BE MADE TO AVOID MINOR CONFLICTS. WHEN MAJOR CONFLICTS ARE APPARENT, THE ARCHITECT SHALL BE ADVISED IMMEDIATELY, AND AFFECTED WORK SHALL NOT BE INSTALLED UNTIL THE CONFLICT HAS BEEN RESOLVED.
- CONDENSATE DRAINS SHALL BE TYPE L COPPER. CONDENSATE DRAIN SHALL BE INSTALLED WITH A SLOPE OF 1/4 INCH PER LINEAR FOOT. CONDENSATE DRAINS SHALL BE TRAPPED AT EACH UNIT. CONDENSATE DRAINS SHALL BE A MINIMUM OF 1 INCH DIAMETER AND SHALL OTHERWISE BE OF THE SAME SIZE AS THE UNIT CONNECTION, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- PROVIDE DIELECTRIC UNIONS WHERE CONNECTIONS ARE MADE BETWEEN DISSIMILAR METALS.
- HVAC CONTROLS SHALL BE PROVIDED TO MEET PERFORMANCE REQUIREMENTS AND SEQUENCE OF OPERATIONS. ALL HVAC CONTROLS SHALL INTERFACE WITH THE BUILDING'S EXISTING BUILDING AUTOMATION SYSTEM (BAS).
- PROVIDE MOTOR STARTERS, ELECTRICAL DISCONNECTS, TRANSFORMERS, CONTROL WIRING, SENSORS, ACTUATORS, LOGIC CONTROLLERS AND ALL ACCESSORIES NECESSARY FOR AUTOMATIC OPERATION OF MECHANICAL EQUIPMENT.
- PROVIDE WALL MOUNTED SENSORS AT 48 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. COORDINATE LOCATION OF WALL MOUNTED SENSORS WITH WALL SWITCHES.
- COORDINATE THE LOCATION OF DRAINS, SENSORS, THERMOSTATS, GAS OUTLETS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK THAT IS NOT PROPERLY COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.
- CONTRACTOR SHALL EXERCISE CARE IN THE COURSE OF WORK SO AS TO ENSURE THAT EXISTING UTILITY SERVICE IS NOT ACCIDENTALLY INTERRUPTED. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH.
- ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES
- COORDINATE ALL WORK WITH PROJECT PHASING REQUIREMENTS.
- LOCATIONS OF PIPING, DUCTS AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.
- ALL OFFSETS AND FITTINGS IN DUCTS AND PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS AND FITTINGS WHERE NECESSARY FOR A COMPLETE FUNCTIONAL SYSTEM.
- COORDINATE ALL HVAC WORK WITH ELECTRICAL, PLUMBING AND OTHER TRADES TO AVOID INTERFERENCE WITH PIPING, DUCTS, CONDUIT AND OTHER EQUIPMENT.

- INSTALL ALL PIPING DUCTWORK AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURERS' INSTALLATION INSTRUCTIONS. IF INSTRUCTIONS ARE IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE MANUFACTURER RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.
- BEFORE INSTALLATION, EQUIPMENT CONTRACTOR SHALL VERIFY THAT COILS CAN BE REMOVED WITHOUT INTERFERENCE AND THAT FILTERS CAN BE READILY REPLACED.
- SEAL ALL NEW DUCTWORK JOINTS WITH WATER-BASED SEALANT.
- ALL MOTOR DRIVEN EQUIPMENT (SUCH AS PUMPS AND FANS) SHALL BE INSTALLED WITH FLEXIBLE CONNECTIONS TO DUCTWORK, PIPING, CONDUIT, ETC., UNLESS OTHERWISE NOTED.
- WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH OTHER BUILDING SYSTEMS, CONTACT THE ENGINEER BEFORE INSTALLATION.
- ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE OWNER'S REPRESENTATIVE.
- CONTROL WIRING AND CONNECTIONS FOR EQUIPMENT SPECIFIED IN DIVISION 23 SHALL BE PROVIDED UNDER DIVISION 23, INCLUDING BUT NOT LIMITED TO LINE VOLTAGE POWER FOR ELECTRIC ACTUATORS, THERMOSTATS AND OTHER DEVICES. ALL CONNECTIONS FOR EQUIPMENT FURNISHED UNDER DIVISION 23, ALL POWER WIRING, AND ALL RELATED ELECTRIC SUPPLY AND DISCONNECTING EQUIPMENT AND WIRING SHALL BE PROVIDED UNDER DIVISION 26. LINE VOLTAGE FIELD WIRING FOR EQUIPMENT FURNISHED UNDER DIVISION 23 SHALL BE ACCOMPLISHED UNDER THE SUPERVISION OF THE DIVISION 23 SUBCONTRACTOR. CONTROL WIRING SHALL BE CONCEALED ABOVE CEILING OR WITHIN WALL CONSTRUCTION WHERE POSSIBLE; OTHERWISE, CONTROL WIRING SHALL BE INSTALLED IN RACEWAY AS SPECIFIED IN ELECTRICAL WORK.
- DEMOLITION: CONTRACTOR SHALL REMOVE EXISTING HEATING, VENTILATION, AND AIR CONDITIONING EQUIPMENT, DUCTWORK, PIPING, AND CONTROLS AS INDICATED. EXISTING EQUIPMENT AND SYSTEMS SHALL REMAIN IN OPERATION DURING CONSTRUCTION WHERE REQUIRED TO ACCOMMODATE CONSTRUCTION WORK PHASES.
- COORDINATE SCHEDULE FOR DEMOLITION WORK AND FOR NEW WORK WITH OWNER PRIOR TO PERFORMING WORK.
- DEMOLITION: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL DEMOLISHED EQUIPMENT AND MATERIALS. AT THE OWNER'S REQUEST, ANY DEMOLISHED EQUIPMENT SHALL BE TURNED OVER TO THE OWNER.

MECHANICAL SUMMARY OF WORK – AUXILIARY GYM (AC-AG1, AC-AG2)

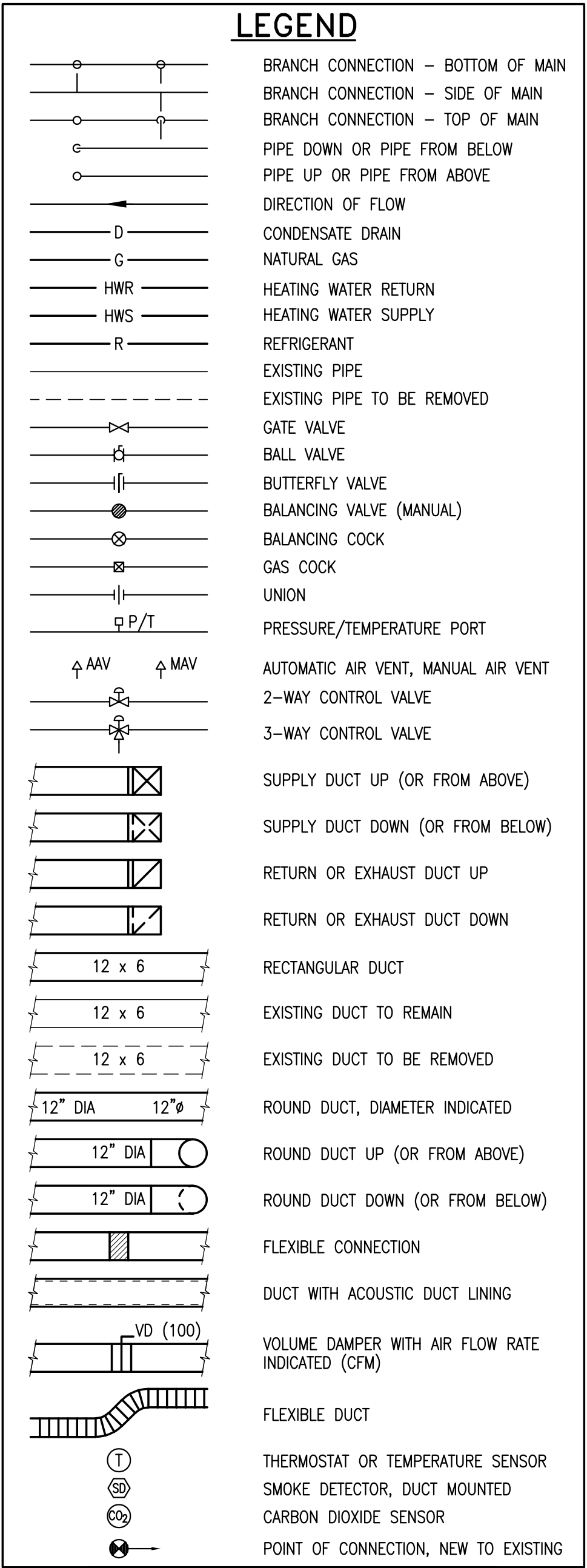
- DEMOLISH TWO EXISTING GAS FIRED HEATING AND VENTILATION (H&V) ROOFTOP UNITS. RE-USE NATURAL GAS PIPING FOR NEW WORK.
- PROVIDE TWO NEW PACKAGED ROOFTOP HEAT PUMP UNITS WITH DX COOLING AND NATURAL GAS HEATING IN THE SAME LOCATION AS EXISTING. PROVIDE NEW ROOF CURB ADAPTORS.
 - PROVIDE NEW PACKAGED ROOFTOP UNITS WITH DDC CONTROLLERS FOR BACNET MS/TP COMMUNICATIONS TO EXISTING BUILDING DDC SYSTEM.
 - COORDINATE NEW RTUs WITH ELECTRICAL POWER AND DDC CONTROLS.
- RE-CONNECT NEW UNITS TO EXISTING DUCTWORK AND TO EXISTING NATURAL GAS.
- PROVIDE ONE NEW CO2 SENSOR FOR DEMAND CONTROL VENTILATION. LOCATE ON WALL NEXT TO EXISTING WALL TEMPERATURE SENSOR. PROVIDE WITH PROTECTIVE WIRE CAGE.
- PROVIDE BIPOLAR IONIZATION MODULES FOR EACH NEW PACKAGED RTU.
- RE-USE ALL EXISTING DUCTWORK.
- PROVIDE AN ALLOWANCE FOR NEW DDC/BAS COMMUNICATIONS FOR THE SYSTEM WIDE HEAD END TO COMMUNICATE AND CONTROL THE NEW UNITS VIA THE EXISTING BUILDING DDC SYSTEM.
- COORDINATE WITH ELECTRICAL FOR NEW ELECTRICAL POWER TO PACKAGED ROOFTOP UNITS.
- COORDINATE WITH STRUCTURAL FOR MODIFICATIONS TO STEEL FRAMING BELOW ROOF OF AUXILIARY GYM.
- PROVIDE TESTING, ADJUSTING AND BALANCING FOR HVAC WORK.

MECHANICAL SUMMARY OF WORK – AHU-3 SERVING MAIN GYM

- MODIFY EXISTING MODULAR AIR HANDLING UNIT AHU-3 (LOCATED IN 2ND FLOOR MECHANICAL ROOM) BY ADDING A DX COOLING COIL AND DRAIN PAN (WITH CONDENSATE DRAIN).
- PROVIDE NEW INVERTER DUTY RATED SUPPLY FAN MOTOR AND A VARIABLE FREQUENCY DRIVE (VFD) SO THAT AHU-3 CAN OPERATE AS SINGLE ZONE VAV.
 - NOTE THAT EXISTING AHU-3 IS HEATING ONLY, CONSTANT VOLUME.
- PROVIDE NEW AIR COOLED CONDENSING UNIT ON ROOF, WITH REFRIGERANT PIPING, POWER AND CONTROLS, TO SERVE NEW DX COIL.
 - SEAL ROOF SO AS TO BE WATERTIGHT WHERE PIPING, POWER AND CONTROLS PENETRATE ROOF.
- PROVIDE NEW CO2 SENSOR FOR DEMAND CONTROL VENTILATION. LOCATE ON WALL NEXT TO EXISTING WALL TEMPERATURE SENSOR. PROVIDE WITH PROTECTIVE WIRE CAGE.
- PROVIDE BIPOLAR IONIZATION MODULE IN EXISTING AHU-3.
- RE-USE ALL EXISTING DUCTWORK.
- PROVIDE AN ALLOWANCE FOR BAS COMMUNICATIONS FOR THE EXISTING DDC SYSTEM TO COMMUNICATE AND CONTROL THE NEW DX COOLING SYSTEM AND THE NEW VARIABLE FREQUENCY DRIVE.
- COORDINATE WITH ELECTRICAL FOR NEW ELECTRICAL POWER TO AIR COOLED CONDENSING UNIT ON ROOF AND FOR NEW FAN VARIABLE SPEED DRIVE.
- COORDINATE WITH STRUCTURAL FOR MODIFICATIONS TO STEEL FRAMING FOR SUPPORT OF NEW CONDENSING UNIT.
- PROVIDE TESTING, ADJUSTING AND BALANCING FOR HVAC WORK. RE-BALANCE AHU-3.

TESTING ADJUSTING AND BALANCING (TAB) REQUIREMENTS

- TAB IS LIMITED TO WORK IMMEDIATELY ASSOCIATED WITH (1) THE NEW PACKAGED ROOFTOP UNITS RTU-AG1 AND RTU-AG2; AND (2) THE NEW DX COOLING AND NEW VFD FOR EXISTING AHU-3.
 - BALANCING OF EXISTING DUCTWORK OR DIFFUSERS IS EXCLUDED FROM SCOPE OF WORK.
- FOR NEW RTU-AG1 AND RTU-AG2 SERVING AUXILIARY GYM:
 - BALANCE AND MEASURE SUPPLY AND OUTSIDE AIRFLOW PER RTU SCHEDULE.
 - MEASURE COIL AND GAS BURNER PERFORMANCE.
 - TAKE MEASUREMENTS FOR CFM AIRFLOW AT 100%, 75%, 50% AND 35% OF VFD SPEED AND RECORD FAN PERFORMANCE (CFM, AMP DRAW WITH CORRESPONDING HORSEPOWER), RECORD INFORMATION AND RELEVANT OBSERVATIONS FOR TAB REPORT.
 - THIS INFORMATION IS INTENDED TO BE USED FOR SINGLE ZONE VAV RESET OF FAN SPEED.
 - SET FAN TO OPERATE AT DESIGN SUPPLY CFM.
- PRE-CONSTRUCTION TAB FOR EXISTING AHU-3 SERVING MAIN GYM:
 - MEASURE PERFORMANCE OF EXISTING AHU-3 FOR SUPPLY AIR FAN AND MOTOR. INCLUDE ELECTRICAL VOLTS AND AMPS AND BRAKE HORSEPOWER. MEASURE AND RECORD CFM AND STATIC PRESSURE BETWEEN THE INLET AND OUTLET OF THE AIR HANDLING UNIT.
 - SUBMIT PRE-CONSTRUCTION TAB REPORT TO ENGINEER FOR APPROVAL PRIOR TO ORDERING NEW FAN MOTOR AND VFD.
 - EXISTING AHU-3 IS 7800 CFM SUPPLY AIR, OUTSIDE AIR CFM IS UNKNOWN. EXISTING FAN IS 10 HP.
- POST-CONSTRUCTION TAB FOR EXISTING AHU-3 SERVING MAIN GYM
 - AHU-3 NEW SUPPLY SHALL BE 7500 CFM FOR HEATING AND 5500 CFM FOR COOLING. DESIGN OUTSIDE AIR SHALL BE 2500 CFM.
 - NEW FAN MOTOR SHALL BE 10 HP. NEW MOTOR SHALL BE CONTROLLED BY VFD.
 - AFTER NEW DX COIL HAS BEEN INSTALLED ALONG WITH NEW VFD AND NEW FAN MOTOR, CONTRACTOR SHALL BALANCE AND MEASURE SUPPLY AND OUTSIDE AIRFLOW.
 - MEASURE NEW DX COIL PERFORMANCE.
 - NOTE THAT AIRSIDE PRESSURE DROP WILL INCREASE WITH NEW DX COIL SO THAT NEW AIRFLOW MAY BE LESS THAN EXISTING AIRFLOW.
 - MEASURE NEW CONDENSING UNIT PERFORMANCE (ACCU-1).
 - TAKE MEASUREMENTS FOR CFM AIRFLOW AT 100%, 75%, 50% AND 35% OF VFD SPEED AND RECORD FAN PERFORMANCE (CFM, AMP DRAW WITH CORRESPONDING HORSEPOWER), RECORD INFORMATION AND RELEVANT OBSERVATIONS FOR TAB REPORT.
 - THIS INFORMATION IS INTENDED TO BE USED FOR SINGLE ZONE VAV RESET OF FAN SPEED.
 - SET FAN TO OPERATE AT DESIGN SUPPLY CFM.
 - PROVIDE TYPICAL MEASUREMENTS AND ADJUSTMENTS FOR PACKAGED ROOFTOP UNITS AND FOR CONDENSING UNIT AND THERMOSTATIC MIXING VALVE. SUBMIT WITH TAB REPORT.

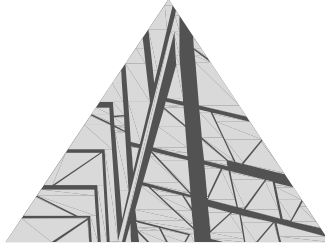


ABBREVIATIONS

BTU	BRITISH THERMAL UNIT
BG	BOTTOM GRILLE
BR	BOTTOM REGISTER
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
COP	COEFFICIENT OF PERFORMANCE
CR	CEILING REGISTER
DB	DRY BULB TEMPERATURE
DIA, Ø	DIAMETER
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
EWT	ENTERING WATER TEMPERATURE
EXT	EXTERNAL
FPM	FEET PER MINUTE
FT	FEET
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
IN	INCH, INCHES
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MH	MOUNTING HEIGHT
MIN	MINIMUM
OA	OUTSIDE AIR
PD	PRESSURE DROP
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SP	STATIC PRESSURE
TEMP	TEMPERATURE
TG	TOP GRILLE
TR	TOP REGISTER
TYP	TYPICAL
VO	VOLUME DAMPER
UL	UNDERWRITERS LABORATORY
WB	WET BULB TEMPERATURE
WC, WG	WATER COLUMN

SPECTRUM DESIGN
architects | engineers

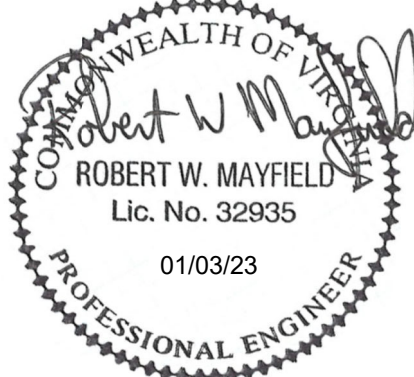
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ROANOKE COUNTY
SCHOOLS - GYM AIR
CONDITIONING

GLENVAR MIDDLE SCHOOL
4555 MALUS DRIVE
SALEM, VIRGINIA 24153

STATE PROJECT NO.: **PC #000-00000-000**
Spectrum Design Project No.: **22094**



PROJ. MGR.: **RWM** CHECKED BY: **RWM** DRAWN BY: **TLP**

SHEET ISSUE DATE:
01.03.2023

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SHEET REVISIONS:

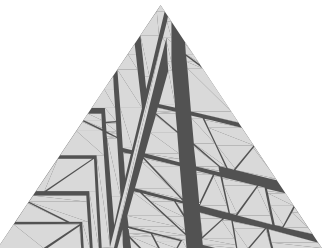
KEY PLAN:

SHEET NAME:

GENERAL NOTES
& LEGEND

SHEET NUMBER:

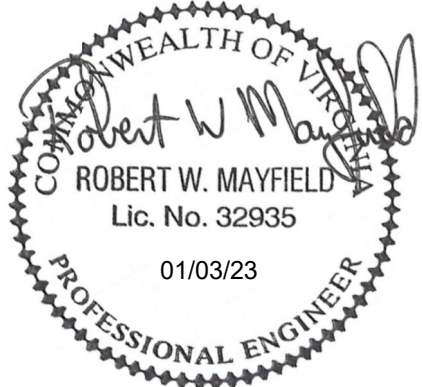
M001



ROANOKE COUNTY
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CONDITIONING

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SHEET REVISIONS:

KEY PLAN:

 MECHANICAL AERIAL EXISTING ROOF PLAN
NORTH

SHEET NAME:
MECHANICAL
AERIAL
EXISTING
ROOF PLAN
SHEET NUMBER:
M100

GENERAL NOTES

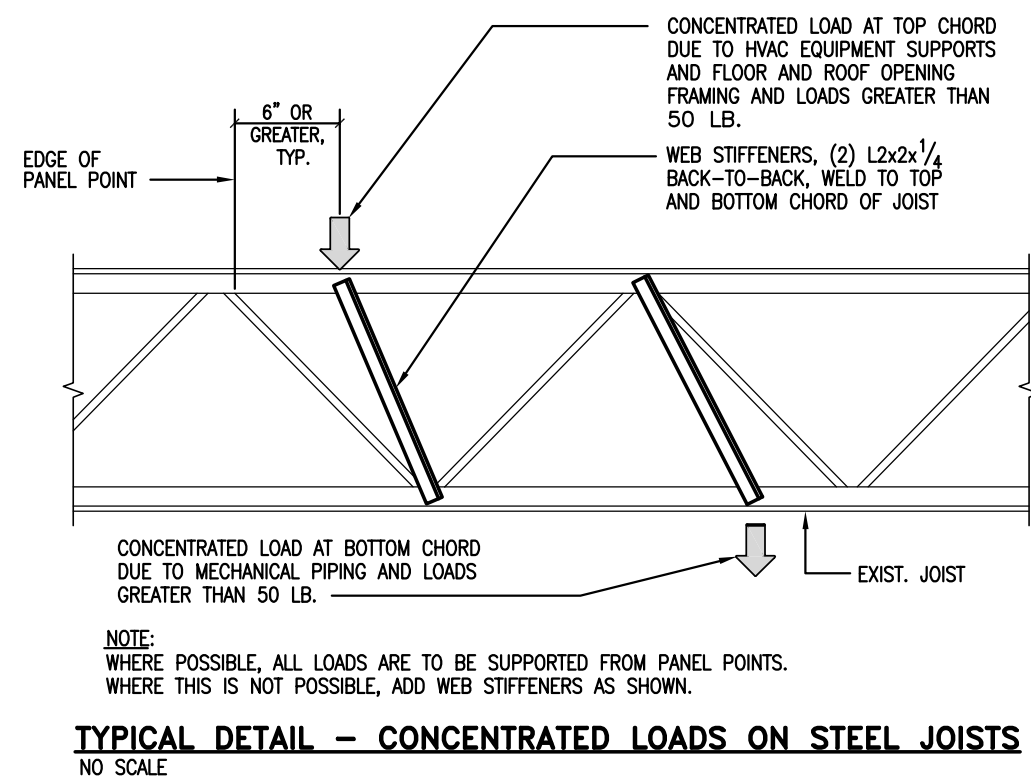
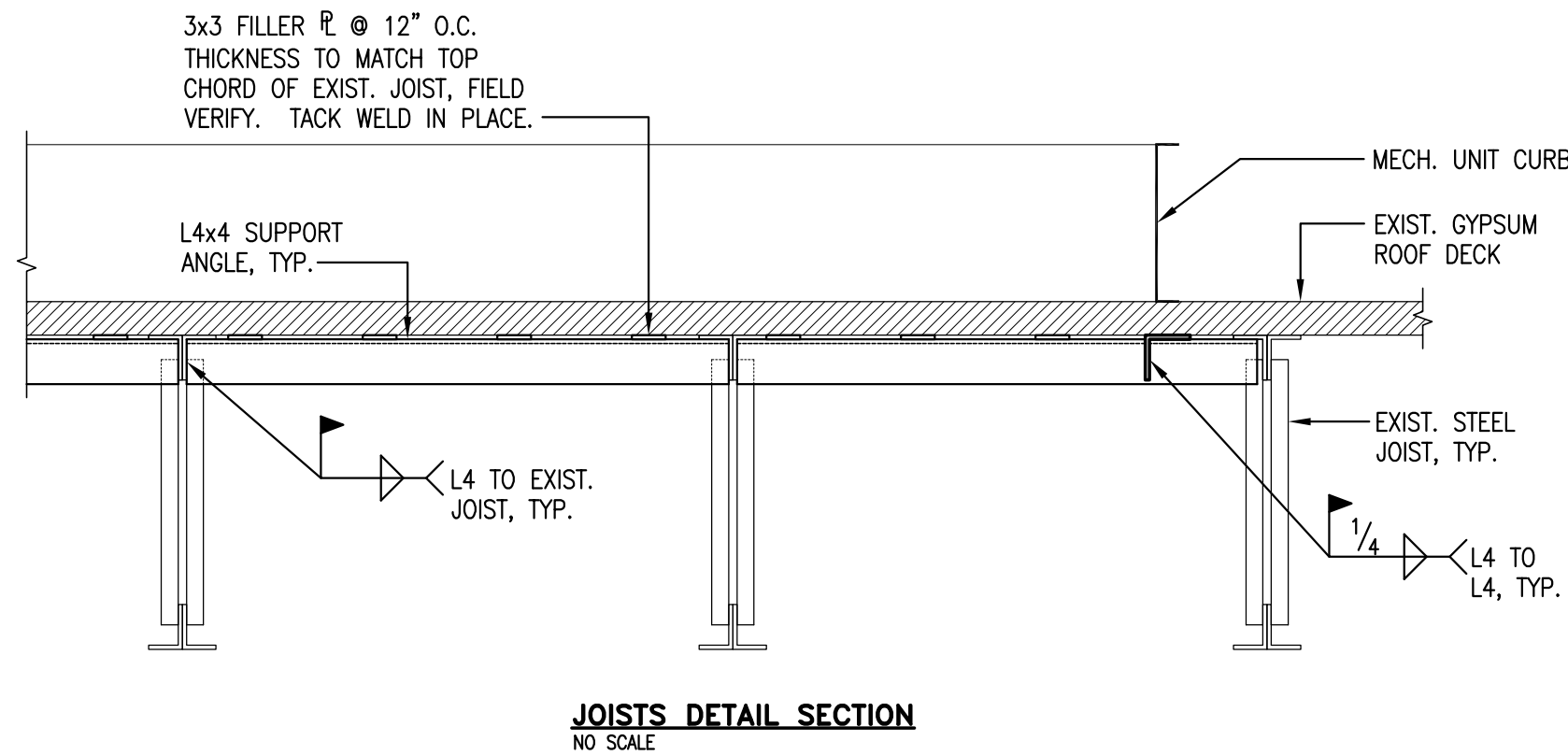
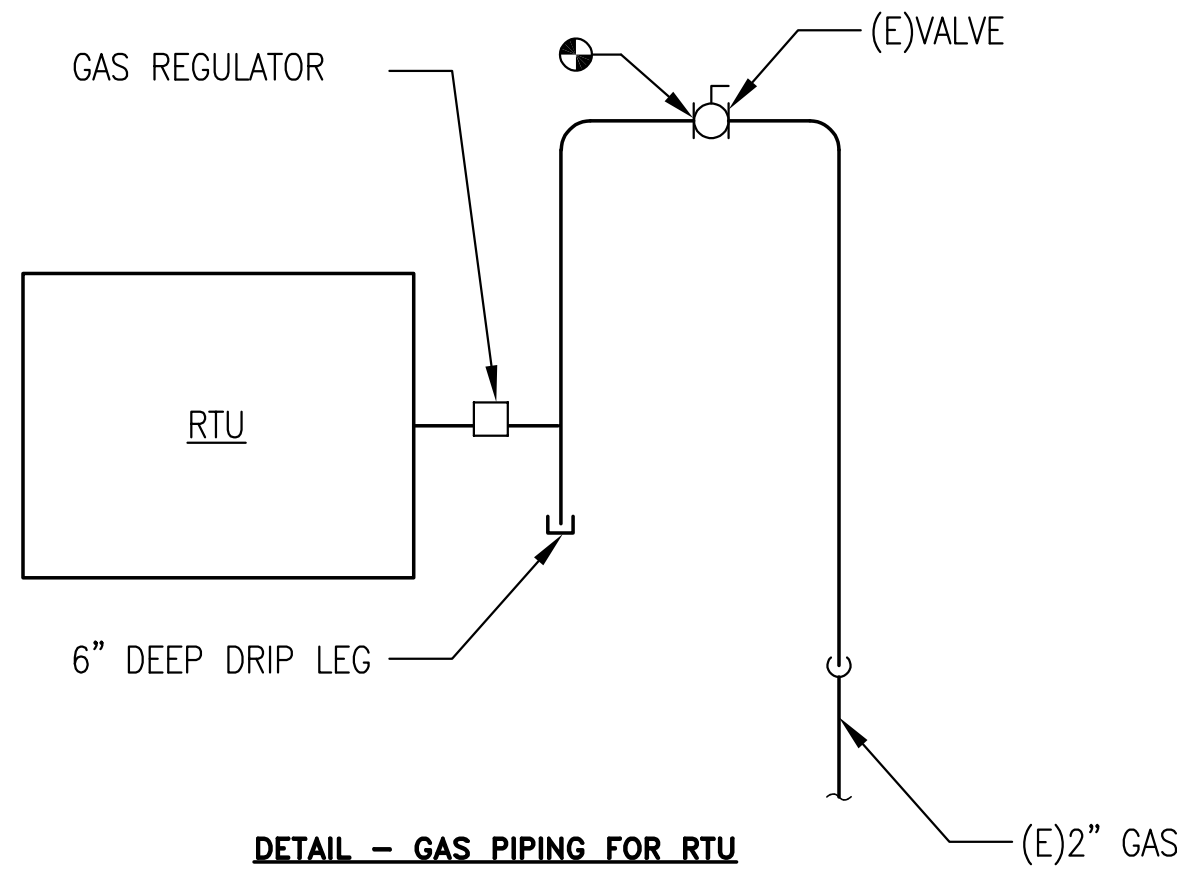
1. THE CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS AND EXISTING CONDITIONS PRIOR TO COMMENCING ANY DEMOLITION, OR PURCHASE, FABRICATION, AND INSTALLATION OF NEW EQUIPMENT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INTERFACING THE CONTROLS REQUIRED FOR THE NEW EQUIPMENT WITH THE EXISTING CONTROL SYSTEMS AND BUILDING AUTOMATION SYSTEM.
3. PATCH, REPAIR, OR INFILL ALL VOIDS OR DAMAGED SUBSTRATES WITH MATERIALS TO MATCH THAT OF ADJACENT CONSTRUCTION.
4. AT LOCATIONS OF REPAIRS, PAINT TO MATCH ADJACENT SURFACES.
5. PROVIDE APPROPRIATE SEALANTS AT ALL JOINTS AND PENETRATIONS.
6. ANY PENETRATIONS OF THE ROOF ARE TO BE REPAIRED BY A SUBCONTRACTOR AUTHORIZED BY THE ROOFING MANUFACTURER TO MAINTAIN EXISTING WARRANTIES.

PACKAGED DX / GAS HEAT ROOFTOP UNIT SCHEDULE			
AIR HANDLING UNIT TAG	RTU-AG1	RTU-AG2	
AREA SERVED	AUXILIARY GYM	AUXILIARY GYM	
TYPE	SINGLE ZONE VAV	SINGLE ZONE VAV	
DUCT INLET/OUTLET CONFIGURATION	DOWNFLOW	DOWNFLOW	
BIPOLAR IONIZATION	YES	YES	
SUPPLY FAN			
TOTAL AIR, CFM	2500	2500	
MINIMUM OUTDOOR AIR, CFM	0	0	
MINIMUM DESIGN OUTDOOR AIR, CFM	950	950	
MIN SUPPLY CFM	1500	1500	
EXTERNAL SP, INWG	1.0	1.0	
FAN BHP	0.9	0.9	
FAN MOTOR, HP	4	4	
FILTER	MERV 8, MERV 13	MERV 8, MERV 13	
VARIABLE FREQUENCY DRIVE / ECM	YES	YES	
ECONOMIZER	YES, DRY BULB	YES, DRY BULB	
BAROMETRIC RELIEF	YES	YES	
RETURN FAN	NONE	NONE	
RELIEF/EXHAUST FAN COOLING	NONE	NONE	
NOMINAL TONS	7.5	7.5	
TOTAL COOLING, MBH	92	92	
SENSIBLE COOLING, MBH	68	68	
EER	19.8	19.8	
ENTERING AIR TEMP, DEGREES F, DB/WB	80 / 67	80 / 67	
LEAVING AIR TEMP, DEG F, DB/WB	55 / 55	55 / 55	
HOT GAS REHEAT	YES	YES	
REHEAT, MBH	40	40	
REHEAT, LAT	70	61	
NATURAL GAS HEATING			
MBH INPUT	200	200	
MBH OUTPUT	160	160	
ENTERING AIR TEMP, DEGREES F, DB	60	60	
LEAVING AIR TEMP, DEG F, DB (FULL CFM)	119	119	
STAGES	5:1 MODULATING	5:1 MODULATING	
ELECTRICAL			
UNIT VOLTAGE/PHASE	480/3	480/3	
UNIT MCA	17	17	
UNIT MOP	20	20	
GFCI FACTORY OUTLET, 120V, 15A	YES	YES	
APPROXIMATE DIMENSIONS, FEET (L X W X H)	7.6 x 8.0 x 4.8	7.6 x 8.0 x 4.8	
APPROXIMATE WEIGHT, LBS	2200	2200	
ROOF CURB	CURB ADAPTOR	CURB ADAPTOR	
MODEL NUMBER	REBEL DPS007A	REBEL DPS007A	

NOTES

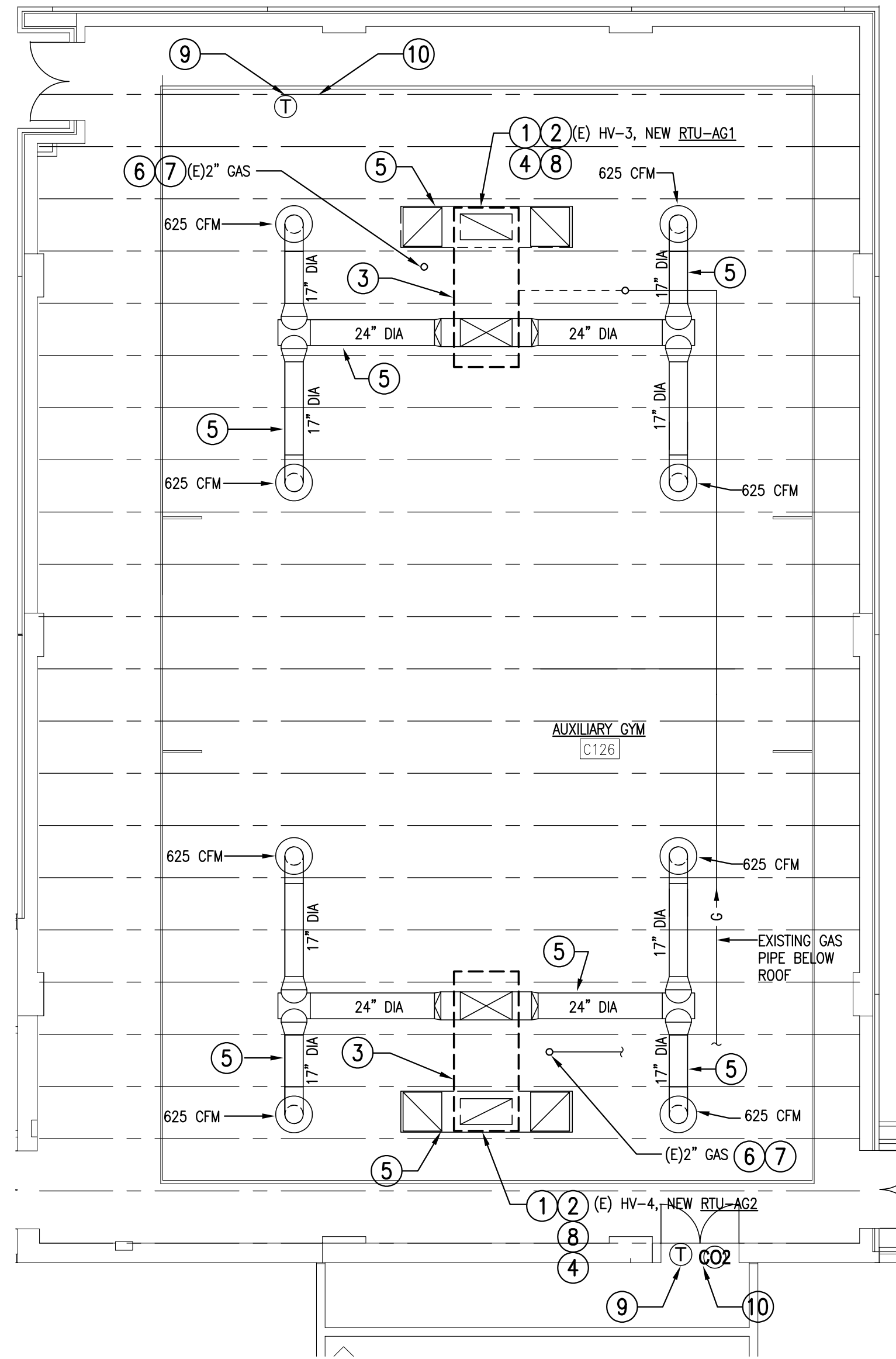
1. MODEL NUMBERS LISTED ARE DAIKIN.
2. PROVIDE EACH RTU WITH MANUFACTURER'S VARIABLE SPEED INVERTER TYPE SCROLL COMPRESSOR.
3. PROVIDE FIVE YEAR WARRANTY FOR ENTIRE UNIT (INCLUDING GAS BURNER AND COMPRESSORS), INCLUDING PARTS, LABOR AND REFRIGERANT.
4. FILTERS: MERV 8 PRE-FILTERS AND MERV-13 FINAL FILTERS.
5. GAS BURNER HEAT EXCHANGER SHALL BE STAINLESS STEEL.
6. PROVIDE MANUFACTURER'S SPRING VIBRATION ISOLATORS FOR SUPPLY FAN.
7. DX COOLING REFRIGERANT TYPE SHALL BE R410A.
8. UNIT SHALL BE CONTROLLED BY FACOTRY INSTALLED INTERNAL DDC MICROPROCESSOR CONTROLLER THAT SHALL COMMUNICATE TO THE BAS VIA BACNET MS/TP PROTOCOL.
9. PROVIDE ALL SENSORS AS REQUIRED TO FULFILL SEQUENCE OF OPERATIONS. FACTORY MOUNT UNIT CONTROLLER.
10. UNITS SHALL BE FACTORY PAINTED. EXTERIOR CABINET SHALL BE ZINC-COATED GALVANIZED STEEL AND FINISHED WITH WEATHER-RESISTANT BAKED ENAMEL. UNITS SURFACE SHALL MEET ASTM B45 672 HOUR SALT SPRAY TEST.
11. PROVIDE EACH UNIT WITH THE FOLLOWING OPTIONS:
 - A. NON-FUSED DISCONNECT SWITCH.
 - B. PROVIDE EACH UNIT WITH GFCI OUTLET, POWERED BY FACTORY BUILT-IN TRANSFORMER.
 - C. EACH UNIT SHALL UTILIZE BASE UTILITY ACCESS, WITH HINGED ACCESS DOORS.
 - D. CONDENSATE OVERFLOW SHUTOFF SWITCH LOCATED INSIDE OF DRAIN PAN.
 - E. DIRTY FILTER SWITCH THAT ALARMS BAS.
 - F. LOW LEAKAGE OUTSIDE AIR AND RELIEF AIR DAMPERS.
 - G. STAINLESS STEEL DRAIN PAN.
12. PROVIDE WITH CURB ADAPTOR TO MATCH EXISTING ROOF CURB.
13. DOUBLE WALL CONSTRUCTION WITH MINIMUM R-7 FOAM INSULATION AND GALVANIZED STEEL LINER.
14. PROVIDE WITH CO2 SENSOR FOR DEMAND CONTROL VENTILATION OPERATION OF OUTSIDE AIR DAMPERS.
15. PROVIDE WITH THERMAL DISPERSION TYPE OUTSIDE AIR MEASURING STATION (EQUAL TO EBTON GOLD).
16. FACTORY INSTALLED CONTROL SENSORS SHALL INCLUDE:
 - A. DUCT HIGH LIMIT SWITCH.
 - B. SUPPLY AIR LEAVING COIL TEMPERATURE SENSOR.
 - C. RETURN AIR DRY BULB AND WET BULB TEMPERATURE SENSOR.
 - D. DISCHARGE AIR TEMPERATURE SENSOR.
 - E. OUTSIDE AIR DRY BULB AND WET BULB TEMPERATURE SENSOR.
 - F. INDOOR WALL MOUNTED TEMPERATURE HUMIDITY AND CO2 SENSOR.

NOTE: REFER TO SHEET M702 FOR CONTROLS RELATED TO NEW PACKAGED ROOFTOP UNITS.



SHEET NOTES

1. DEMOLISH HEATING AND COOLING UNIT (H&V) ON ROOF. PROVIDE NEW PACKAGED RTU IN SAME LOCATION. RE-USE ASSOCIATED GAS PIPING AND CONTROLS. RE-USE EXISTING DUCTWORK BENEATH ROOF.
2. PROVIDE ROOF CURB ADAPTOR FOR NEW RTU. EXTEND GAS PIPING, POWER WIRING/CONDUIT AND CONTROL WIRING/CONDUIT AND CONNECT TO NEW UNIT.
3. REFER TO STRUCTURAL DETAILS (THIS SHEET) FOR ADDITIONAL SUPPORT FOR ROOF CURB. PROVIDE STRUCTURAL BRACING AS INDICATED IN THE STRUCTURAL DETAILS (THIS SHEET).
4. PROVIDE CONDENSATE DRAIN, WITH P-TRAP, AND ROUTE TO NEAREST ROOF DRAIN.
5. EXISTING DUCTWORK IN AUXILIARY GYM TO REMAIN FOR USE WITH NEW PACKAGED ROOFTOP UNIT.
6. RE-USE EXISTING MAIN NATURAL GAS PIPING. DEMOLISH PIPING DOWNSTREAM OF EXISTING SHUT-OFF VALVE ABOVE ROOF. PROVIDE NEW PIPING FROM EXISTING VALVE TO RTU. REFER TO DETAIL.
7. UPON COMPLETION OF INSTALLATION, ALL NEW AND EXISTING NATURAL GAS PIPING ON ROOF SHALL BE PAINTED YELLOW.
8. NOTE: EXISTING H&V IS SIZED FOR 300 MBH GAS INPUT AT 7 TO 14 INWG. 460V / 3 PH, 20 MCA, WITH 5 HP SUPPLY FAN MOTOR CONNECTED TO 460V/277V PANEL 1HB (NAMEPLATE STATES 208/3 BUT BREAKER IS 460 V).
9. PROVIDE NEW WALL MOUNTED TEMPERATURE SENSOR FOR CONTROL OF NEW RTU.
10. PROVIDE NEW WALL MOUNTED CO2 SENSOR FOR DEMAND CONTROL VENTILATION CONTROL OF NEW RTU.

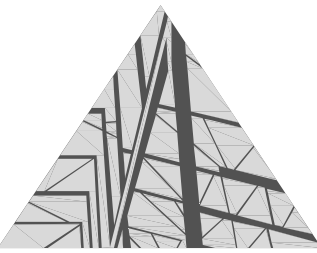


PARTIAL FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

SPECTRUM DESIGN
architects | engineers

Plaza Suite 1
10 Church Avenue, SE
Roanoke, VA 24011
540.342.6001
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ROANOKE COUNTY
SCHOOLS - GYM AIR
CONDITIONING

GLENVAR MIDDLE SCHOOL
4555 MALUS DRIVE
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STATE PROJECT NO.: PC #000-00000-000
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CHECKED BY: RWM
DRAWN BY: TLP

SHEET ISSUE DATE:
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PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SHEET REVISIONS:

KEY PLAN:

SHEET NAME:

MECHANICAL
AUXILIARY GYM
HVAC UPGRADES

SHEET NUMBER:

M101

GENERAL NOTES

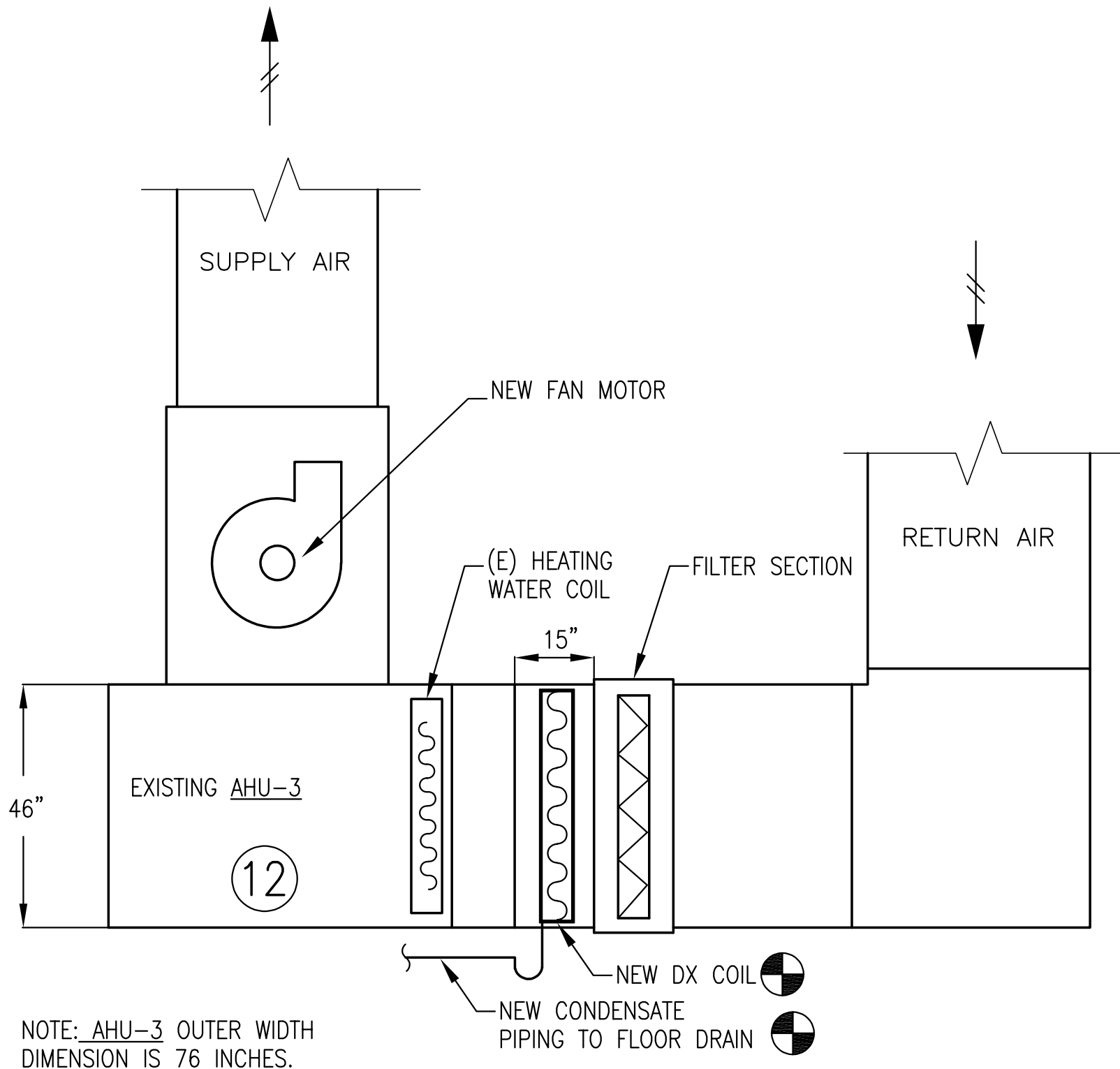
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3. PATCH, REPAIR, OR INFILL ALL VOIDS OR DAMAGED SUBSTRATES WITH MATERIALS TO MATCH THAT OF ADJACENT CONSTRUCTION.
4. AT LOCATIONS OF REPAIRS, PAINT TO MATCH ADJACENT SURFACES.
5. PROVIDE APPROPRIATE SEALANTS AT ALL JOINTS AND PENETRATIONS.
6. ANY PENETRATIONS OF THE ROOF ARE TO BE REPAIRED BY A SUBCONTRACTOR AUTHORIZED BY THE ROOFING MANUFACTURER TO MAINTAIN EXISTING WARRANTIES.

AIR COOLED CONDENSING UNIT FOR DX COIL SERVING AHU-3 (MAIN GYM)											
TAG	COOLING MBH	# OF CIRCUITS	IEER	DIMENSIONS			WEIGHT	ELECTRICAL			MODEL
				L, IN	W, IN	HT, IN		LBS	V / PH	MCA	
ACCU-1	284	2	13.6	99	58	56	1850	460 / 3	48	60	RCS02SD

- NOTES
1. MODEL NUMBER BASED ON DAIKIN.
 2. REFRIGERANT TYPE SHALL BE R410A.
 3. UNIT SHALL HAVE MINIMUM OF TWO SCROLL COMPRESSORS, WITH AT LEAST ONE VARIABLE SPEED COMPRESSOR OPERATING ON INVERTER DUTY DRIVE.
 4. PROVIDE WITH FACTORY INSTALLED UNIT MOUNTED DISCONNECT.
 5. PROVIDE CONDENSER SECTION WITH HAIL GUARDS.
 6. WARRANTY SHALL BE MINIMUM OF FIVE YEARS FOR ALL PARTS.
 7. PROVIDE WITH MANUFACTURER'S SPRING VIBRATION ISOLATION KIT.

DX COOLING COIL FOR AHU-3 (MAIN GYM)																		
TAG	CFM	ROWS	FPI	FIN HT, IN	FIN LENGTH, IN	OVERALL HEIGHT, IN	OVERALL LENGTH, IN	DEPTH, IN	# OF CIRCUITS	TYPE	TUBE DIA, IN	TUBE	FINS	APD, INWG	TOTAL MBH	SENSIBLE MBH	WEIGHT, LBS	MODEL
DX-1	5500	6	9	39	60	42	71	10	2	INTERLACED	0.625	COPPER	ALUMINUM	0.42	284	163	350	5EJ0908B

- NOTES
1. MODEL NUMBER BASED ON DAIKIN.
 2. AIRFLOW SHALL BE HORIZONTAL THROUGH COIL.
 3. PROVIDE WITH STAINLESS STEEL DRAIN PAN.
 4. COIL DEPTH IS BASED ON FRONT FACE OF COIL TO BACK (DISCHARGE PART OF COIL).
 5. PROVIDE WITH MINIMUM ONE YEAR WARRANTY.
 6. PROVIDE WITH THERMOSTATIC EXPANSION VALVE.
 7. COOLING CAPACITY BASED ON 8000 CFM EAT OF 82 / 66 AND LAT OF 54 / 53 DEG F DBT / WBT.
 8. AIR PRESSURE DROP BASED ON COOLING DESIGN CFM, NOT MAX HEATING CFM.



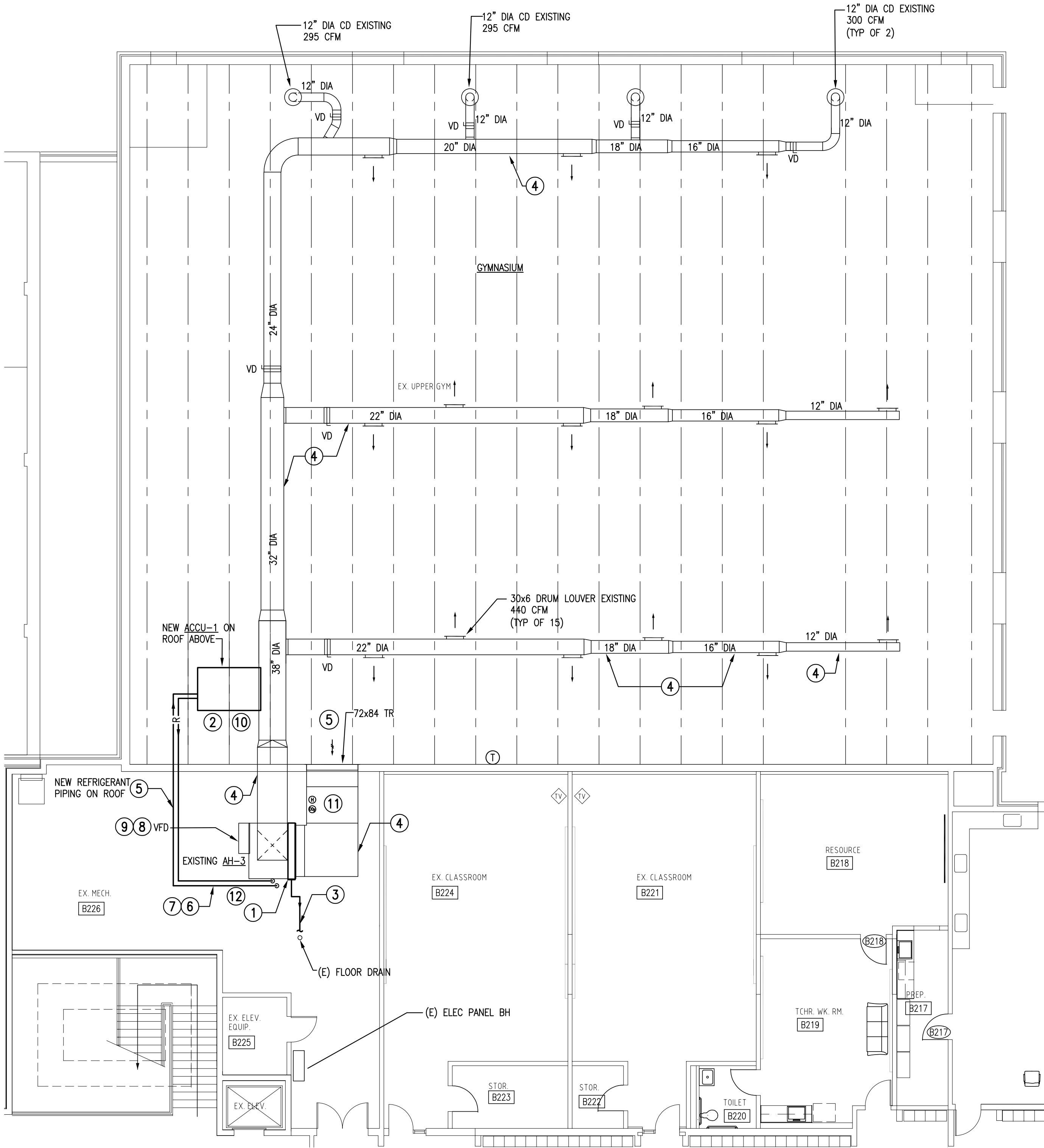
EXISTING AHU-3 SECTION VIEW, WITH NEW DX COIL
NTS

NOTE: REFER TO SHEET M701 FOR CONTROLS RELATED TO UPGRADED OPERATION OF AHU-3 AND NEW CONDENSING UNIT.

NOTE: REFER TO SHEET M501 FOR STRUCTURAL DETAILS RELATED TO SUPPORT OF NEW AIR COOLED CONDENSING UNIT.

SHEET NOTES

1. PROVIDE NEW DX COIL AND CONDENSATE DRAIN PAN IN EXISTING AHU-3.
2. PROVIDE NEW CONDENSING UNIT ON ROOF ON FABRICATED STEEL FRAME PER STRUCTURAL DETAILS (THIS SHEET) AND PROVIDE REFRIGERANT TUBING TO NEW DX COOLING COIL MOUNTED IN AHU-3. REFRIGERANT PIPING SIZE SHALL BE PER MANUFACTURER'S RECOMMENDATIONS FOR THE CONDENSING UNIT SIZE AND LOCATION RELATIVE TO THE NEW DX COIL.
3. PROVIDE NEW CONDENSATE DRAIN PIPING FROM NEW DRAIN PAN TO FLOOR DRAIN. PROVIDE NEW CONDENSATE OVERFLOW SWITCH TO DISABLE UNIT AND ALARM BAS.
4. EXISTING TO REMAIN.
5. PROVIDE ROOFTOP PIPING SUPPORTS FOR REFRIGERANT PIPING, EQUAL TO DURABLOK DBE SERIES ELEVATED, WITH ZINC COATED THREADED ROD AND COPPER COATED SUPPORTS.
6. PROVIDE WATERPROOF "DOGHOUSE" TO CREATE WATERPROOF PENETRATION ON ROOF.
7. COORDINATE EXACT ROUTING OF REFRIGERANT PIPING WITH FIELD CONDITIONS.
8. PROVIDE NEW VFD ON STEEL SUPPORT RACK ANCHORED TO FLOOR. VFD SHALL CONTROL NEW 10 HP FAN MOTOR, POWER FROM EXISTING PANEL BH, CIRCUITS 22, 24, 26; PANEL LOCATED IN MECH ROOM.
9. DEMOLISH 10 HP FAN MOTOR. PROVIDE NEW INVERTER DUTY RATED 10 HP FAN MOTOR FOR EXISTING AHU-3.
10. PROVIDE PRE-MANUFACTURED ADJUSTABLE METAL EQUIPMENT STAND WITH OVERSIZED SUPPORT FEET ADN CONSTRUCTED OF POWDER-COATED GALVANIZED STEEL WITH ZINC HARDWARE, SIMILAR TO DIVERSITECH MODELS QSTD3000 OR QSMS1200.
11. PROVIDE NEW HUMIDITY SENSOR AND NEW CARBON DIOXIDE (CO2) SENSOR IN EXISTING RETURN AIR DUCTWORK.
12. PROVIDE NEW BIPOLAR IONIZATION MODULE. PROVIDE ELECTRICAL POWER FROM EXISTING CONTROLS TRANSFORMER.

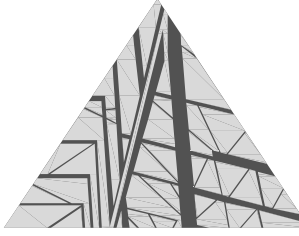


MECHANICAL SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

SPECTRUM DESIGN
architects | engineers

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10 Church Avenue, SE
Roanoke, VA 24011
540.342.6001

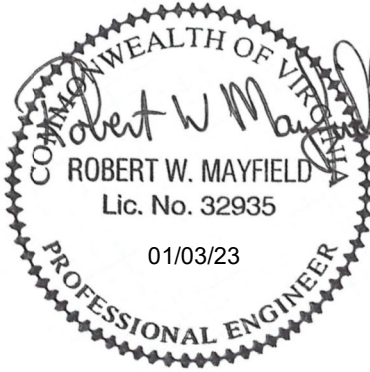
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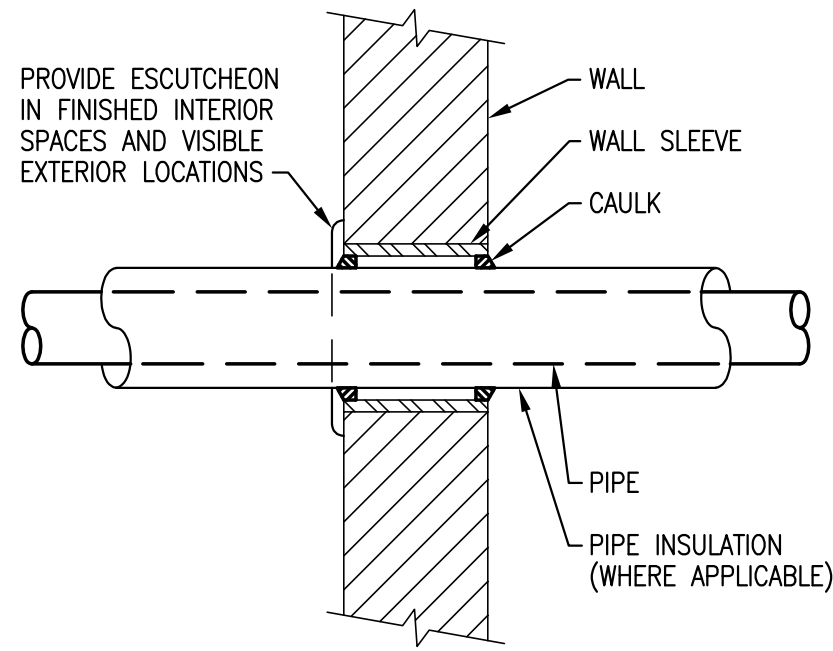


SHEET NAME:
MECHANICAL
MAIN GYM
NEW DX COOLING

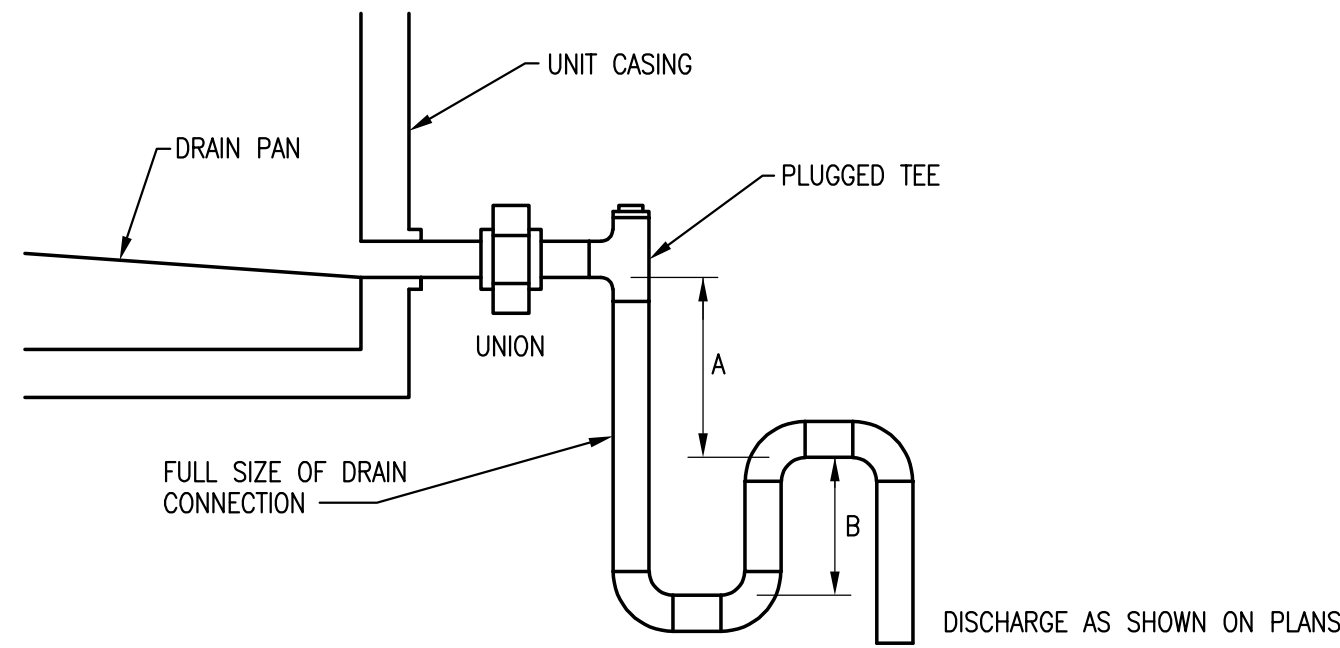
SHEET NUMBER:

M102

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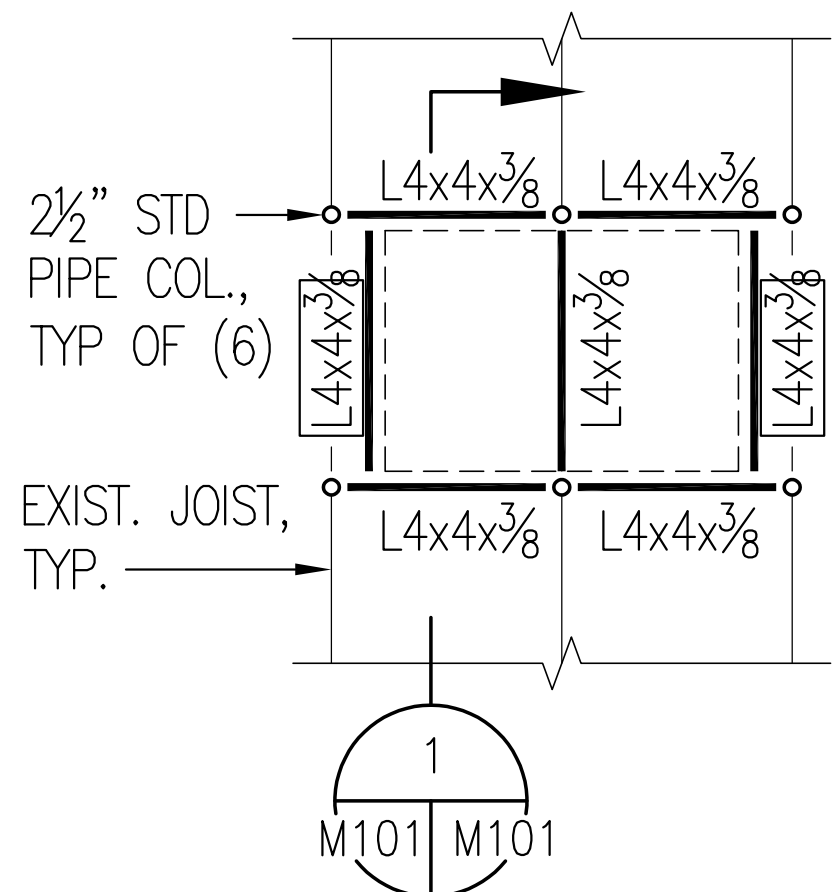
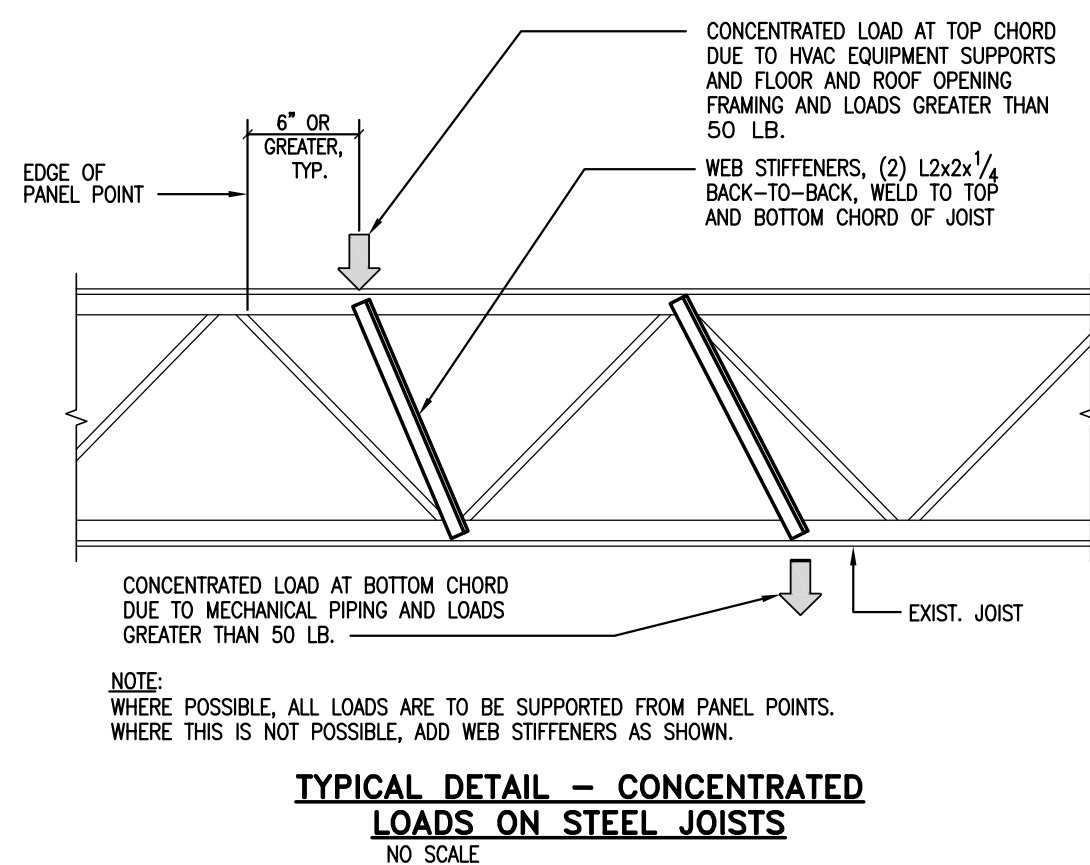
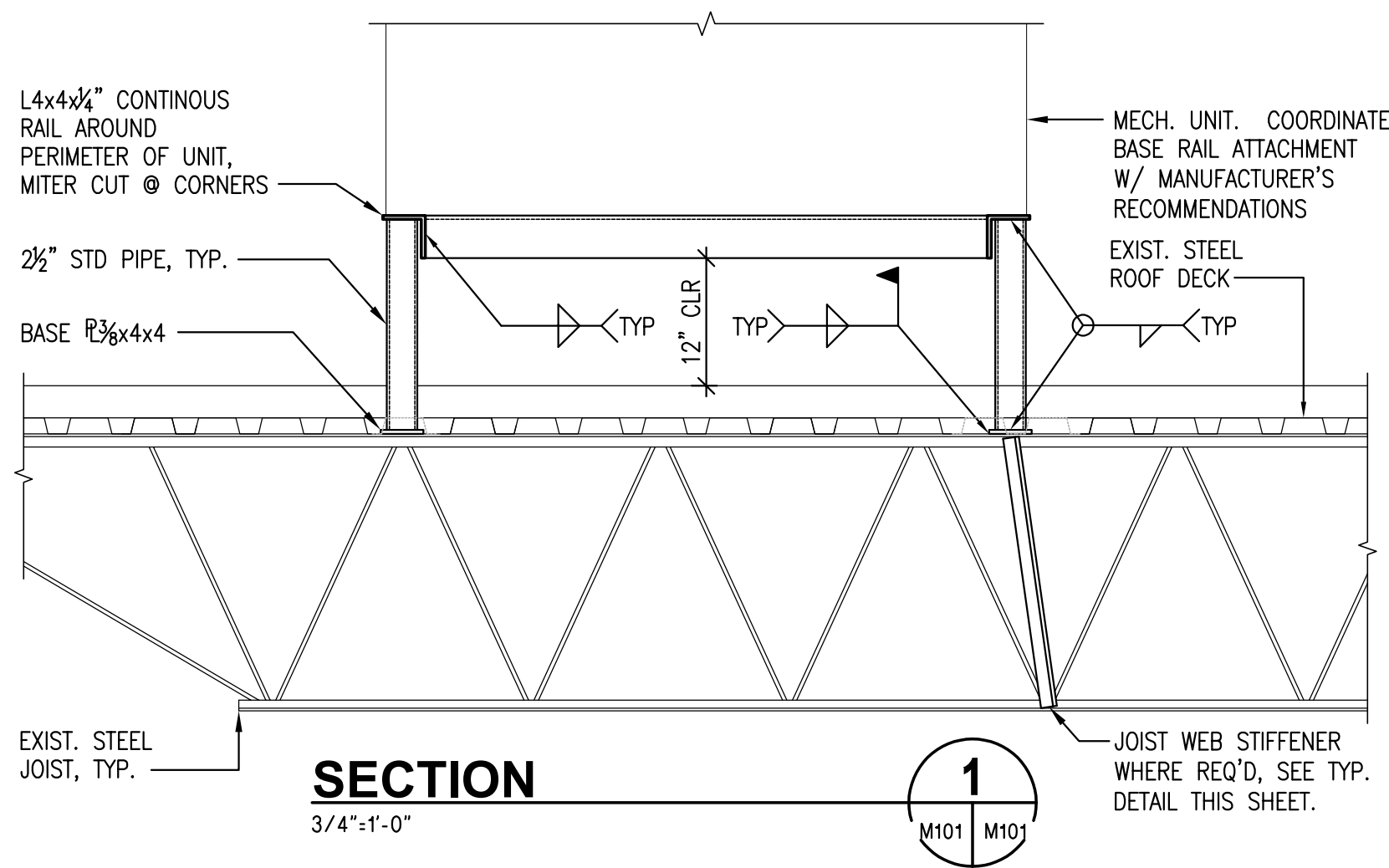


DETAIL - WALL PENETRATION
NO SCALE



DRAW THROUGH UNITS (NEGATIVE CASING PRESSURE) A = 1 INCH PLUS MAXIMUM CASING STATIC PRESSURE B = A/2	BLOW THROUGH UNITS (POSITIVE CASING PRESSURE) A = 1 INCH MINIMUM B = 1 INCH PLUS MAXIMUM CASING STATIC PRESSURE
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DETAIL - CONDENSATE DRAIN
NO SCALE



MECHANICAL CONDENSING UNIT SUPPORT FRAMING

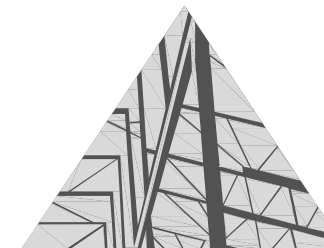
NO SCALE

STRUCTURAL NOTES:

- THE STRUCTURAL FRAMING HAS BEEN ANALYZED TO ACCOMMODATE THE MECHANICAL UNITS SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COORDINATE ALL DIMENSIONS RELATED TO THE MECHANICAL UNIT. ANY SUBSTITUTION OF HEAVIER MECHANICAL UNITS WILL REQUIRE ADDITIONAL ANALYSIS OF THE EXISTING STRUCTURE AT THE CONTRACTOR'S EXPENSE.
- ALL STRUCTURAL STEEL PLATES AND ANGLES TO BE ASTM A36, Fy=36 ksi.
- ALL WELDING SHALL BE IN STRICT ACCORDANCE TO AWS D1.1. ELECTRODES SHALL BE E70XX.
- ALL CONDENSING UNIT FRAME STEEL SHALL BE GALVANIZED PER ASTM A123 AFTER FABRICATION.

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ROANOKE COUNTY SCHOOLS - GYM AIR CONDITIONING

GLENVAR MIDDLE SCHOOL
4555 MALUS DRIVE
SALEM, VIRGINIA 24153

STATE PROJECT NO.: PC #000-00000-000
Spectrum Design Project No.: 22094



PROJ. MGR.: RWM
CHECKED BY: RWM
DRAWN BY: TLP

SHEET ISSUE DATE:
01.03.2023

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SHEET REVISIONS:

KEY PLAN:

SHEET NAME:

DETAILS

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M501

SINGLE ZONE PACKAGED RTU WITH GAS HEAT - SEQUENCE OF OPERATIONS (NEW RTI-AG1 - AG2 SERVING AUXILIARY GYM)

1. UNITS SHALL UTILIZE FACTORY CONTROLS TO CONTROL DX COMPRESSORS, GAS HEATING AND SUPPLY FAN.

IN GENERAL, FACTORY CONTROLS SHALL MAINTAIN COOLING SUPPLY AIR DISCHARGE TEMPERATURE BY MODULATING VARIABLE SPEED COMPRESSOR(S) AND VARIABLE SPEED CONDENSING FANS.

IN GENERAL, FACTORY CONTROLS SHALL MAINTAIN HEATING SUPPLY AIR DISCHARGE TEMPERATURE BY (1) UTILIZING HEAT PUMP HEATING AND THEN (2) NATURAL GAS MODULATING GAS BURNER.

IN GENERAL, UNITS SHALL OPERATE WITH OUTSIDE AIR DAMPER BEING CLOSED UNTIL ACTIVATED BY CO2 DEMAND CONTROL VENTILATION.
2. RTU SHALL BE CONTROLLED BY LOCAL STAND-ALONE FACTORY INSTALLED MICROPROCESSOR BASED DDC CONTROLLER THAT SHALL COMMUNICATE TO THE BAS. IF COMMUNICATION IS LOST BETWEEN THE LOCAL CONTROLLER AND THE BAS THEN BAS SHALL ALARM.
3. RTU SHALL BE PLACED IN VENTILATION UNOCCUPIED/OCCUPIED MODE BY BAS ACCORDING TO VENTILATION SCHEDULE AND AS DICTATED BY CO2 DEMAND CONTROL VENTILATION.
4. RTU SHALL BE PLACED IN TEMPERATURE UNOCCUPIED/OCCUPIED MODE BY BAS ACCORDING TO TEMPERATURE SETPOINT SCHEDULE.
5. DAMPERS

OUTSIDE AIR DAMPER AND RELIEF AIR DAMPER SHALL BE SPRING-LOADED NORMALLY CLOSED WITH LOW-LEAKAGE DAMPERS. DAMPERS SHALL BE MODULATING TYPE. RETURN AIR DAMPER SHALL BE NORMALLY OPEN.

OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL UTILIZE FULL RANGE DAMPER POSITION SENSORS.
6. FANS: SUPPLY FAN SHALL OPERATE VIA VFD BETWEEN MINIMUM AND MAXIMUM (MINIMUM SPEED AS DETERMINED VIA COMMISSIONING AND TAB, AND MAXIMUM SPEED BASED ON DESIGN SUPPLY AIR CFM).

SUPPLY FAN WILL USE FACTORY CONTROLS TO AUTOMATICALLY MODULATE SPEED BETWEEN MINIMUM AND MAXIMUM BASED ON THE DIFFERENCE OF SPACE TEMPERATURE SETPOINT AND MEASURED SPACE TEMPERATURE (THE GREATER THE DIFFERENCE THEN THE GREATER THE FAN SPEED).

MAXIMUM FAN SPEED: SPEED AS DETERMINED BY TAB TO MEET DESIGN SUPPLY AIR CFM.

MINIMUM FAN SPEED:

(1) HEATING: 65% OF MAXIMUM DESIGN SPEED (ADJUSTABLE, AND AS REQUIRED TO PREVENT THERMAL STRATIFICATION OF HEATING AIR DISTRIBUTION FROM DIFFUSERS).

(2) COOLING: 40% OF MAXIMUM DESIGN SPEED (ADJUSTABLE).
7. OCCUPIED VENTILATION MODE:

OCCUPIED VENTILATION MODE SHALL BE ACTIVATED BY OCCUPANCY SCHEDULE UNLESS OTHERWISE OVERRIDDEN BY MANUAL OCCUPANCY PUSH BUTTON.

SUPPLY FAN SHALL BE ENERGIZED AND OPERATE CONTINUOUSLY.

AFTER PROOF OF FAN OPERATION, OUTSIDE AIR DAMPER SHALL OPEN TO THE MINIMUM POSITION (ZERO CFM FOR AC-AG1 AND AC-AG2, ADJUSTABLE) AND THEN SHALL BE CONTROLLED BE CO2 DEMAND CONTROL VENTILATION.

DAMPER SHALL BE AT MINIMUM POSITION IF SPACE CO2 IS LESS THAN LOW LEVEL SETPOINT (800 PPM, ADJ).

DAMPER SHALL BE AT 100% DESIGN OA CFM IF SPACE CO2 IS GREATER THAN HIGH LEVEL SETPOINT (1400 PPM, ADJ).

DAMPER SHALL MODULATE IN A LINEAR FASHION BETWEEN THE TWO SETPOINTS. DAMPER SHALL RE-POSITION ITSELF ONLY ONCE IN ANY FIVE-MINUTE INTERVAL (ADJ).

8. UNOCCUPIED VENTILATION:

OUTSIDE AIR DAMPER AND RELIEF AIR DAMPER SHALL BE CLOSED. RETURN AIR DAMPER SHALL BE FULL OPEN. VENTILATION AIR SHALL BE ZERO.

9. OCCUPIED/UNOCCUPIED TEMPERATURE MODE

OCCUPIED MODE: UNITS MICROPROCESSOR CONTROLLER SHALL UTILIZE PID LOGIC TO DETERMINE SUPPLY AIR TEMPERATURE TO MAINTAIN SPACE TEMPERATURE TO SETPOINT.

IN COOLING MODE UNIT SHALL AUTOMATICALLY OPERATE DX COMPRESSORS AND HOT GAS REHEAT TO MAINTAIN SUPPLY AIR TEMPERATURE TO SETPOINT.

IN HEATING MODE, UNIT SHALL USE HEAT PUMP MODE OR NATURAL GAS BURNER TO MAINTAIN SUPPLY AIR TEMPERATURE TO SETPOINT.

UNOCCUPIED TEMPERATURE MODE: UNIT SHALL GENERALLY BE OFF. WITH RETURN AIR DAMPER FULL OPEN AND OUTSIDE AIR AND RETURN AIR DAMPERS FULL CLOSED. SUPPLY FAN AND COOLING/HEATING SECTION SHALL CYCLE ON TO MAINTAIN SPACE TO UNOCCUPIED TEMPERATURE SETPOINT.

OCCUPIED TEMPERATURE MODE: SUPPLY FAN SHALL OPERATE CONTINUOUSLY.

10. HEATING MODE: IF SUPPLY AIR TEMPERATURE IS LESS THAN CALCULATED SUPPLY AIR TEMPERATURE REQUIRED, THEN UNIT SHALL OPERATE IN HEATING MODE.

IN HEATING MODE UNIT SHALL

AMBIENT TEMPERATURE => 45 DEG F (ADJ): ACTIVATE HEAT PUMP OPERATION.

AMBIENT TEMPERATURE < 45 DEG F: MODULATE NATURAL GAS BURNER TO MAINTAIN SUPPLY AIR TEMPERATURE.

SETPOINT FOR SWITCHOVER BETWEEN HEAT PUMP AND GAS HEATING SHALL BE CONTROLLABLE BY GRAPHIC INTERFACE VIA BAS.

11. POWERED EXHAUST

NONE. EXHAUST IS BAROMETIC.

12. ECONOMIZER

IF (1) UNIT IS IN NORMAL OPERATION AND (2) ZONE CALLS FOR COOLING, AND IF (3) OUTSIDE AIR ENTHALPY IS LESS THAN RETURN AIR ENTHALPY, THEN UNIT SHALL OPERATE IN ECONOMIZER MODE. FACTORY CONTROLLER SHALL MODULATE OUTSIDE AIR DAMPER AND RETURN AIR DAMPER TO OPTIMIZE MIXED AIR ENTHALPY RELATIVE TO SUPPLY AIR TEMPERATURE SETPOINT.
13. OPTIMUM START AND MORNING WARM-UP / COOL DOWN MODE FOR UNOCCUPIED TEMPERATURE MODE:

BAS SHALL USE TREND DATA TO DETERMINE OPTIMUM START TIME TO ALLOW ZONE TO ACHIEVE OCCUPIED TEMPERATURE AT START OF OCCUPIED TEMPERATURE SCHEDULE.

SUPPLY FAN SHALL OPERATE WITH RETURN AIR DAMPER FULLY OPEN AND OUTSIDE AIR/RELIEF AIR DAMPERS FULLY CLOSED.

ASSOCIATED EXHAUST FAN SHALL BE OFF BECAUSE UNIT SHALL BE IN 100% RETURN AIR OPERATION DURING WARMUP/COOLDOWN.

UNIT CONTROLLER SHALL OPERATE HEATING/COOLING MODE SO THAT ZONE TEMPERATURE CHANGES FROM UNOCCUPIED SETPOINT TO OCCUPIED SETPOINT TEMPERATURE.

WHEN OCCUPIED TEMPERATURE REACHES SETPOINT THEN UNIT SHALL OPERATE IN OCCUPIED TEMPERATURE MODE.

14. DEHUMIDIFICATION OVERRIDE MODE

DURING UNOCCUPIED TEMPERATURE MODE, IF THE SPACE HUMIDITY RISES ABOVE SETPOINT (60% ADJ) THEN THE UNIT SHALL OPERATE IN COOLING MODE WITH MODULATING HOT GAS REHEAT (AND WITHOUT VENTILATION AIR) TO PROVIDE 50 DEG F SUPPLY AIR UNTIL SPACE RELATIVE HUMIDITY IS LESS THAN 55% (ADJ).

DURING OCCUPIED TEMPERATURE MODE, IF THE DEW POINT OF THE AMBIENT OUTDOOR AIR IS GREATER THAN THE DEHUMIDIFICATION SETPOINT (58 DEG F, ADJ) THEN THE UNIT SHALL AUTOMATICALLY OPERATE IN DEHUMIDIFICATION MODE WITH DX COOLING ENERGIZED ALONG WITH MODULATING HOT GAS REHEAT UNTIL THE OUTDOOR AIR DEWPOINT FALLS BELOW 56 DEG F.

15. SMOKE DETECTOR

NONE.

16. UNIT SENSORS AND DATA POINTS

OUTSIDE AIR TEMPERATURE AND WET BULB.

RETURN AIR TEMPERATURE AND WET BULB.

MIXED AIR TEMPERATURE AND WET BULB.

SUPPLY AIR TEMPERATURE AND WET BULB.

SUPPLY FAN VFD SPEED AND STATUS.

DEHUMIDICATION MODE IS ACTIVATED (VIA FACTORY CONTROLLER).

DIRTY FILTER SWITCH.

CONDENSATE OVERFLOW SWITCH.

17. SPACE SENSORS

RE-USE EXISTING DRY BULB TEMPERATURE SENSOR IN SPACE.

PROVIDE NEW HUMIDITY SENSOR IN SPACE.

PROVIDE NEW CO2 SENSOR (LOCATION AS INDICATED ON DRAWINGS).

18. SAFETIES AND ALARMS

BAS SHALL BE ALARMED IF SUPPLY AIR TEMPERATURE IS MORE THAN 5 DEG F FROM SETPOINT FOR MORE THAN 3 MINUTES (ADJ).

BAS SHALL BE ALARMED IF SPACE TEMPERATURE IS MORE THAN 3 DEG F FROM SETPOINT FOR MORE THAN 5 MINUTES (ADJ).

BAS SHALL BE ALARMED IF SPACE HUMIDITY LEVEL IS MORE THAN 5% RH ABOVE SETPOINT FOR MORE THAN 10 MINUTES (ADJ).

SUPPLY FAN FAILURE.

VFD FAILURE.

COMPRESSOR FAILURE.

REFRIGERANT CIRCUIT LOW PRESSURE.

REFRIGERANT CIRCUIT HIGH PRESSURE.

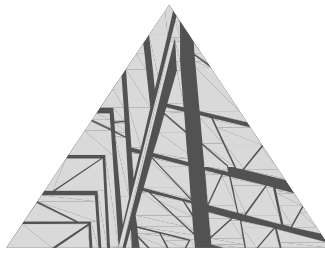
GAS BURNER FAILURE.

SUPPLY AIR HIGH TEMPERATURE ALARM.

DIRTY FILTER SWITCH.

CONDENSATE PAN OVERFLOW SWITCH.

GENERAL UNIT SYSTEM ALARM.
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- KEY PLAN:
- SHEET NAME:
MECH CONTROLS
- SHEET NUMBER:
M702
- A:\2024\123 Mech\Design\2024 M702.dwg, Plotted By: TLP, Date: 01/03/2023, 11:50am



ROANOKE COUNTY
SCHOOLS - GYM AIR
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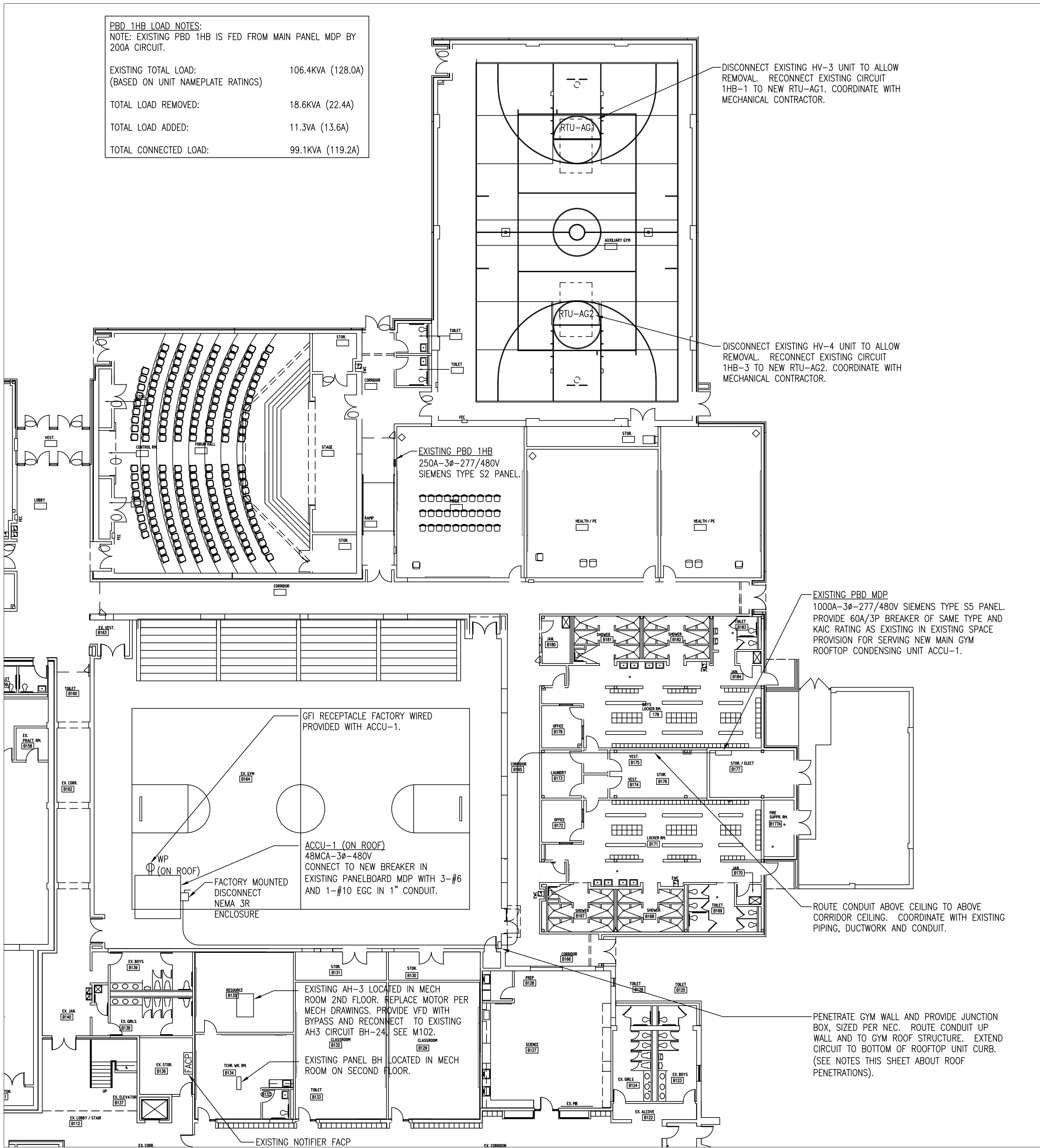
KEY PLAN:

SHEET NAME:

ELECTRICAL
POWER
PLAN

SHEET NUMBER:

E101



PARTIAL FIRST FLOOR POWER PLAN
SCALE: 1/16" = 1'-0"

ELECTRICAL NOTES AND SPECIFICATIONS

- INSTALLATION SHALL BE IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE, UNIFORM STATEWIDE BUILDING CODE, AND MANDATES OF THE LOCAL BUILDING OFFICIALS.
- THE GENERAL ARRANGEMENT AND LOCATIONS OF OUTLETS AND EQUIPMENT IS INDICATED BY THE DRAWINGS AND SHALL BE INSTALLED IN ACCORDANCE THEREWITH, WITH THE EXCEPTION OF SUCH CHANGES WHICH MAY BE NECESSARY TO COORDINATE WITH EXISTING CONDITIONS. ELECTRICAL SUBCONTRACTOR SHALL COORDINATE WORK WITH INSTALLATION OF OTHER SUBCONTRACTORS, WITH EXISTING CONDITIONS, AND WITH OWNER SUPPLIED EQUIPMENT AND FURNISHINGS.
- ELECTRICAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF POWER WIRING TO ALL HVAC EQUIPMENT. ELECTRICAL SUBCONTRACTOR SHALL REVIEW ALL HVAC DRAWINGS TO DETERMINE LOCATIONS OF EQUIPMENT. 120 VOLT CONTROL WIRING AND CONDUIT SHALL BE BY THE ELECTRICAL SUBCONTRACTOR. ALL WIRING AND CONDUIT ASSOCIATED WITH LOW VOLTAGE MECHANICAL CONTROLS (LESS THAN 100 VOLTS) SHALL BE BY THE MECHANICAL SUBCONTRACTOR UNLESS WORKED OUT OTHERWISE BY THE INDIVIDUAL TRADES. MECHANICAL CONTROLS WIRING SHALL BE IN CONDUIT AND SHALL BE INSTALLED PER NATIONAL ELECTRIC CODE, UNIFORM STATEWIDE BUILDING CODE, AND MANDATES OF THE LOCAL BUILDING OFFICIALS. PROVIDE 120V CONNECTION TO HVAC SYSTEM CONTROLS. CONNECT TO NEAREST AVAILABLE 120V CONVENIENCE RECEPTACLE CIRCUIT. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL TESTING THE ELECTRICAL SYSTEM FOR:
A. VOLTAGE AND TOTAL LOAD IN AMPS FOR EACH FEEDER CIRCUIT WITH #4 CONDUCTORS OR LARGER.
- SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW ON WIRING DEVICES, FIRE ALARM DEVICES, SAFETY SWITCHES, CIRCUIT BREAKERS AND THE LIKE PRIOR TO INSTALLATION. ONE COPY OF SUBMITTAL SHALL BE PROVIDED FOR EACH CONTRACTOR AND SUBCONTRACTOR PLUS THREE COPIES FOR ARCHITECT/ENGINEER AND OWNER.
- MAJOR ITEMS ARE SHOWN ON THE PROJECT PLANS. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL INCIDENTAL ITEMS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
- ELECTRICAL WORK SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AS TO SCHEDULING, DIMENSIONING AND LOCATION OF EQUIPMENT.
- ALL CONDUIT SYSTEMS, EQUIPMENT CASES, MOTOR FRAMES AND SYSTEM NEUTRAL CONDUCTORS SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE, ARTICLE 250.
- WIRE SHALL BE COPPER OF MINIMUM OF 12 GAUGE SIZE AND SHALL BE TYPE THW, THWN, THHN, RH OR RHW AND STRANDED IF NUMBER 8 AWG OR LARGER. WIRE SHALL BE RATED FOR 75 DEGREES MINIMUM. AND CONDUCTOR SIZES SHALL BE SELECTED BASED UPON 75 DEGREE WIRE. PROVIDE OVERSIZED WIRE FOR LONG CIRCUIT RUNS TO MAINTAIN VOLTAGE DROP WITHIN 3% AT FULL LOAD. EXAMPLE: FOR 20 AMP CIRCUIT WITH 13 AMP LOAD, PROVIDE #12 WIRE UP TO 70' LENGTH, PROVIDE #10 WIRE FROM 71 TO 115' LENGTH; PROVIDE #8 WIRE FROM 116 TO 185' LENGTH, AND PROVIDE #6 WIRE FOR BRANCH CIRCUITS OVER 185'.
- NOTE NOT USED

ELECTRIC SERVICE CALCULATIONS:

PER POWER CO., PEAK DEMAND WAS 323KW.
(ASSUMING 0.9 POWER FACTOR, LOAD IS 358.9KVA)

EXISTING LOAD (PER NEC 220.87) - 448.6KVA (539.8A)

ADDED CONNECTED LOAD - 50.2KVA 60.4A

TOTAL NEW LOAD - 491.5KVA (589.8A)

LEGEND

- Φ WP DUPLEX RECEPTACLE - WEATHERPROOF AND GROUND FAULT
[FACP] FIRE ALARM CONTROL PANEL
[SD] DUCT SMOKE DETECTOR
WIRERUN
□ SAFETY DISCONNECT SWITCH
E, EX EXISTING

PATCHING AND REPAIR GENERAL NOTES:

- EXISTING EQUIPMENT THAT WILL NO LONGER BE IN USE IS TO BE REMOVED IN ITS ENTIRETY.
- PATCH, REPAIR, OR INFILL ALL VOIDS OR DAMAGED SUBSTRATES WITH MATERIALS TO MATCH THAT OF ADJACENT CONSTRUCTION.
- AT LOCATIONS OF REPAIRS, PAINT TO MATCH ADJACENT SURFACES.
- PROVIDE APPROPRIATE SEALANTS AT ALL JOINTS AND PENETRATIONS.
- ANY PENETRATIONS OF THE ROOF ARE TO BE REPAIRED BY A SUB-CONTRACTOR AUTHORIZED BY THE ROOFING MANUFACTURER TO MAINTAIN EXISTING WARRANTIES.

GENERAL ELECTRICAL NOTES:

- COORDINATE ALL WORK WITH OWNER. NOTE THAT SOME WORK MAY BE REQUIRED TO BE PERFORMED DURING NIGHTS AND WEEKENDS.
- COORDINATE EXACT LOCATION OF ALL EQUIPMENT WITH MECHANICAL CONTRACTOR.
- COORDINATE PHASING AND REMOVAL OF EXISTING EQUIPMENT WITH MECHANICAL CONTRACTOR. ELECTRICALLY DISCONNECT ALL MECHANICAL EQUIPMENT THAT IS TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT, WIRE AND BOXES BACK TO SOURCE. DISCONNECT AND REMOVE EXISTING DUCT SMOKE DETECTOR(S). EXISTING FIRE ALARM CIRCUIT MAY BE REUSED WHERE FEASIBLE AND ACCEPTABLE PER LOCAL AUTHORITY HAVING JURISDICTION. DO NOT SPLICE FIRE ALARM CIRCUIT.
- CUT, PATCH, REPAIR AND PAINT ALL WALLS AFFECTED BY ROUTING OF CONDUITS.
- ROUTE NEW CIRCUITS ABOVE ACT CEILING IN CORRIDORS. REPLACE CEILING TILES DAMAGED BY ROUTING OF CONDUITS. COORDINATE ROUTE WITH EXISTING PIPING, DUCTWORK, CONDUIT, ETC.
- CONDUIT SHALL PENETRATE ROOF BELOW NEW ROOFTOP UNIT. ROOF PENETRATIONS OUTSIDE OF UNIT FOR CONDUIT ARE NOT ALLOWED. COORDINATE PENETRATION POINT WITH MECHANICAL CONTRACTOR. SEAL PENETRATION.