



CITY OF EVERETT
548 Broadway Mechanical Repairs
ADDENDUM NO. 1

Date Issued: September 29, 2026

Project: # MUN-27-41 548 Broadway Mechanical Repairs

NOTICE TO ALL BIDDERS

This Addendum is issued to amend the bid documents for 548 Broadway Mechanical Repairs.

A. General: NONE

B. Changes to Specifications:

1. Item: Add Section 22 0000 to the specifications as attached to this addenda
2. Item: Section 000110 under Division 23 – delete the words “Section 230000 Heating/Ventilating / Air Conditioning (HVAC)” and add the words “Not Used, Specifications are fully contained within the drawings”
3. Item: Section 01 1400 section 3.2 paragraph A - revise 6:00 PM to read 9:00 PM
4. Item: Section 00 7343 Wage Rate Requirements – add the following:
Attachment 1 – Federal Debarment Certification
Attachment 2 - BYRD Anti-Lobbying Amendment Cert
Attachment 3 - Contract Provisions for Contracts Utilizing Fed. Funding
Attachment 4 - Davis Bacon Form_wh347
5. Item: Section 000110 – add section as follows
Section 01 6402 – Owner Furnished Requirements
Appendix – Carrier 48K – 60 Ton Horizontal Cut Sheets
Appendix – 26-1498 – PO for Mechanical Units
6. Item: Section 000115 – add drawing as follows
E-300** Electrical Enlarged Plans

C. Changes to the Drawings:

1. The following drawings are included in the Addendum

FP-001	Fire Protection Legend
FP-002	Fire Protection Specifications
FP-100	Fire Protection Basement New Work Plan
P-001*	Plumbing Legend
P-002*	Plumbing Specifications
P-100*	Plumbing Basement New Work Plan
M-001	Mechanical Legend
M-002	Mechanical Specifications
M-100	Mechanical Basement Demolition Plan
M-200	Mechanical Basement New Work Plan
M-201	Mechanical First Floor New Work Plan
M-202	Mechanical Second Floor New Work Plan
M-203	Mechanical Third Floor New Work Plan
M-204	Mechanical Attic New Work Plan
M-300	Mechanical Details
M-301	Mechanical Details
M-400	Mechanical Schedules

E-001**	Electrical Legend
E-002**	Electrical Specifications
E-003**	Electrical Specifications & Notes
E-100**	Electrical Basement Demolition Plan
E-200**	Electrical Basement Power Plan
E-201**	Electrical First Floor Power Plan
E-300**	Electrical Enlarged Plans
E-400**	Electrical Riser Diagram & Schedules
E-500**	Electrical Details

D. Bidder Questions:

1. Question: What time is the site visit on 9/30 and is it Mandatory?
Answer: 3:00 PM at rear parking lot off Linden Street. Parking available first come basis.
2. Question: Is the HVAC spec section listed? I cannot find it in the project manual. Please let me know If I am missing something:
Answer: The Specifications for HVAC are fully contained within the drawings
3. Question: Who is the current FA and Fire Protection Vendor for the 548 Broadway
Answer: Encore – contact Bryan Seifert – 781-741-0623
4. Question: The specifications state, "It is the intent of the project to have the HVAC contractor act as Prime, they are to be certified by DCAMM as a general contractor, in this document Prime and General Contractor shall refer to the HVAC contractor acting as a general contractor." Please confirm that a DCAMM certification as HVAC Prime is acceptable.
Answer: The General Contractor must be DCAMM Prime-Certified in HVAC

This Addendum modifies and becomes part of the original bid documents.

Kiara M. Freeman
Chief Procurement Officer
City of Everett

END OF ADDENDUM #1

FEDERAL DEBARMENT CERTIFICATION FORM

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion Lower Tier Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension (1986) and Executive Order 12689, Debarment and Suspension (1989) at 2 C.F.R. Part 180.

(BEFORE COMPLETING CERTIFICATION, READ THE INSTRUCTIONS ON THE WHICH ARE AN INTEGRAL PART OF THE CERTIFICATION)

- (1) The prospective recipient of Federal assistance funds certifies, by Response, that it is in compliance with the requirements of 2 C.F.R. Part 180 and that neither it, its principals, nor its subcontractors are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective recipient of Federal assistance funds is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this Response.

ATTESTATION

By signing this report, I certify to the best of my knowledge and belief that the foregoing is true, complete, and accurate. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Sections 3729-3730 and 3801-3812).

Company Name

Name and Title of Authorized Representative

Signature

Date

FEDERAL DEBARMENT CERTIFICATION FORM (CONTINUED)

Instructions for Certification

1. By signing and submitting this Response, the prospective recipient of Federal assistance funds is providing the certification as set out below.
2. The certification in this class is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective recipient of Federal assistance funds knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Department of Labor (DOL) may pursue available remedies, including suspension and/or debarment.
3. The prospective recipient of Federal assistance funds shall provide immediate written notice to the person to which this Response is submitted if at any time the prospective recipient of Federal assistance funds learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The prospective recipient of Federal assistance funds agrees by submitting this Response that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the DOL.
5. The prospective recipient of Federal assistance funds further agrees by submitting this Response that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

BYRD ANTI-LOBBYING AMENDMENT

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING – REQUIRED FOR CONTRACTS OVER \$100,000

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date

2CFR200 Appendix II Contract Provisions FOR CONTRACTS UTILIZING FEDERAL FUNDING

The work to be completed pursuant to this RFP is funded in whole or in part by American Rescue Plan Act (ARPA) State and Local Fiscal Recovery Funds (SLFRF) under Federal Assistance Listing Number (ALN) 21.027. The following terms will become a part of each solicitation (Bid/RFP) package. The Federal Government is not a party to the contract and is not subject to any obligations or liabilities to the City of Everett, Company, or any other party pertaining to any matter resulting from the contract.

INDEX

1. Remedies for Breach of Contractual Agreement; Sanctions and Penalties.
2. Termination for Cause and Convenience.
3. Clean Air Act.
4. Debarment and Suspension (Executive Orders 12549 and 12689).
5. Procurement of recovered materials (2 C.F.R. § 200.323).
6. Prohibition on certain telecommunications and video surveillance services or equipment (2 C.F.R. § 200.216).
7. Domestic preferences for procurements (2 C.F.R. § 200.322).
8. Equal Employment Opportunity Clause.
9. Davis-Bacon Act.
10. Contract Work Hours and Safety Standards.
11. Byrd Anti-Lobbying Amendment (31 U.S.C. 1352).
12. Rights to inventions made under a contract or agreement.

1. REMEDIES FOR BREACH OF CONTRACTUAL AGREEMENT; SANCTIONS AND PENALTIES

APPLICABILITY: This provision shall apply in the event that the Contract or Purchase Order exceeds the Simplified Acquisition Threshold.
See 2 CFR § 200 App. II(A).

It is hereby understood and mutually agreed, by and between the Company and the City, that the date of beginning and the time for completion of the work to be done hereunder are material conditions of the Contract; and it is further mutually understood and agreed that the work embraced in this Contract shall be commenced on a date to be specified in the "Notice to Proceed".

The Company agrees that said work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Company and the City, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

If the said Company shall neglect, fail or refuse to complete the work within the time herein specified, or any extension thereof granted by the City, then the Company does hereby agree, as a partial consideration for the awarding of this Contract, to pay the City the amount specified in the Contract, not as a penalty but as liquidated damages for such Breach of Contract as hereinafter set forth, for each and every calendar day the Company shall be in default after the time stipulated in the Contract for completing the work.

The said amount of liquidated damages is fixed and agreed upon by and between the Company and the City because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the City would sustain in such event and said amount shall be retained from time to time by the City from current periodic estimates.

It is further agreed that time is of the essence of each and every portion of this Contract and of any specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract as additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract. Provided, that the Company shall not be charged with liquidated damages or any excess cost when the City determines that the Company is without fault and the Company's reasons for the time extensions are acceptable to the City; provided further, that the Company shall not be charged with liquidated damages or an excess cost when the delay in completion of the work is due to:

- (a) Any preference, priority or allocation order duly issued by the government;
- (b) Unforeseeable cause beyond the control and without fault of negligence of the Company, including, but not restricted to, acts of God or the public enemy, acts of the City, acts of another Company in the performance of a contract with the City, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and severe weather; or
- (c) Any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article.

PROVIDED FURTHER, that the Company shall within ten (10) days from the beginning of such delay, unless the City shall grant a further period of time prior to the date of final settlement of the Contract, notify the City, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the Company within a reasonable time of its decision in the matter. The amount of liquidated damages for this project shall be Five Hundred Dollars (\$500.00) per consecutive calendar day.

2. TERMINATION FOR CAUSE AND CONVENIENCE

APPLICABILITY: This provision shall apply in the event that the Contract or Purchase Order exceeds \$10,000.00. See 2 CFR 200 App. II(B).

Where the Contract exceeds \$10,000.00, the City may terminate this Contract by providing the Company with ten (10) days' written notice specifying the reasons for termination, as outlined below:

- (a) Violation of any of the provisions of this Contract by the Company or any of their subcontractors;
- (b) A determination by the City that the Company has engaged in fraud, waste, mismanagement,
- (c) misuse of funds, or criminal activity with any funds provided by this Contract; or
- (d) Failure of the Company, for any reason, to fulfill in a timely and proper manner their obligations under this Contract, including compliance with applicable Federal, State and/or local law or regulations, and such procedures or guidelines as may be established.

If the City determines that a continuation of work on the project would endanger the life, health or safety of those working or living at or near the project site, or that immediate action is necessary to protect public funds and/or property, the City may suspend work or terminate this agreement by providing notice to the Company in the form of a telegram, mailgram, hand-carried letter, or other appropriate written means.

In addition, notwithstanding anything to the contrary in the Contract, the City may also terminate this Contract for its conveniences, including due to the lack of sufficient funds to complete the work. In such event, the City shall provide written notice of termination to the Company, and the Company shall thereupon cease all work other than work that is required to make the work and surrounding property safe, and the City shall pay the Company for all work performed in accordance with the terms of the Contract up to the date of the Contract, provided the Company shall not be entitled to any termination (or similar) damages or other costs and expenses that may be associated with a termination for convenience.

3. CLEAN AIR ACT

APPLICABILITY: This provision shall apply in the event that the Contract or any subgrant thereunder is a sum in excess of \$150,000.00.
See 2 CFR § 200 App. II(G)

Company shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401–7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251–1387). Company further acknowledges and understands that Company shall be required to report any violations of said acts to the Federal awarding agency and the Regional Office of the Environmental Protection Agency.

4. DEBARMENT AND SUSPENSION (EXECUTIVE ORDERS 12549 AND 12689)

APPLICABILITY: This provision shall apply to all Contracts.

Company certifies that neither Company nor any employer or subcontractor is a party listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

5. PROCUREMENT OF RECOVERED MATERIALS (2 C.F.R. § 200.323)

APPLICABILITY: This provision shall all apply to all Contracts.
See 2 CFR § 200 App. II(J); 2 CFR § 200.323.

Company acknowledges and understands that, in performing the work specified under this contract, Company shall be required to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

6. PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT (2 C.F.R. § 200.216)

APPLICABILITY: This provision shall all apply to all Contracts.
See 2 CFR § 200 App. II(K); 2 CFR § 200.216.

Company certifies that it shall not procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, Company covenants not to procure, obtain, use, or use systems that incorporate: video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities); or Telecommunications or video surveillance services provided by such entities or using such equipment; or Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

7. DOMESTIC PREFERENCES FOR PROCUREMENTS (2 C.F.R. § 200.322)

APPLICABILITY: This provision shall all apply to all Contracts.
See 2 CFR § 200 App. II(L); 2 CFR § 200.322.

(a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

(b) For purposes of this section:

- (1) “Produced in the United States” means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- (2) “Manufactured products” means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

8. EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

APPLICABILITY: This provision shall apply in the event that the Contract meets the definition of “federally assisted construction contract” as set forth at 41 CFR § 60–§1.3, where not otherwise provided under 41 CFR Part 60. See 2 CFR § 200 App. II(C). All contracts that meet the definition of “federally assisted construction contract” set forth at 41 CFR § 60–1.3.

During the performance of this Contract, the Company agrees as follows:

- (a) The Company will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Company will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Company agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- (b) The Company will, in all solicitations or advertisements for employees placed by or on behalf of the Company, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

- (c) The Company will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Company's legal duty to furnish information.
- (d) The Company will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Company's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (e) The Company will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (f) The Company will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (g) In the event of the Company's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Company may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (h) The Company will include the portion of the sentence immediately preceding paragraph (a) and the provisions of paragraphs (a) through (h) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Company will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

9. DAVIS-BACON ACT

APPLICABILITY: This provision shall apply to all prime construction contracts in excess of \$2,000.00. See 2 CFR § 200 App. II(D). **For projects in which the only Federal funds used are ARPA State and Local Fiscal Recovery Funds, the below certification only need be provided if the total project value is \$10,000,000.00 or more.**

DAVIS-BACON PREVAILING WAGE

The Company acknowledges that the decision to award this Contract is conditioned upon Company's acceptance of the wage determination, and upon continuing compliance with the Davis-Bacon Act (40 U.S.C. 3141–3144, and 3146–3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). Pursuant to the Davis-Bacon Act, Company's must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in the Secretary of Labor's wage determinations, incorporated into this Contract. Company further acknowledges and understands that Company shall be required to pay wages not less than once a week.

DAVIS-BACON PREVAILING WAGE CERTIFICATION

Company certifies that Company and all subcontractors shall provide certified payroll affidavits verifying compliance with G.L. c.149 §§ 26–27H, the federal Davis Bacon Act, and other related acts.

In the event of any inconsistency between the Davis-Bacon Wage Rates and any prevailing wage rates published by the Commonwealth of Pennsylvania and applicable to this Contract, the higher of the two wages shall apply.

Signature of Company's authorized official

Date: _____

Name (printed)

Title (printed)

10. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

APPLICABILITY: This provision shall apply in the event that the contract is awarded for a sum exceeding \$100,000.00 and involves the employment of mechanics or laborers.

Where the Contract: (1) is awarded for a sum exceeding \$100,000; and (2) will involve the employment of mechanics or laborers, the Company shall comply with the Contract Work Hours and Safety Standards Act, 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5).

Pursuant to 40 U.S.C. 3702 of the Contract Work Hours and Safety Standards Act, Company shall be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 shall apply construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

11. BYRD ANTI-LOBBYING; COPELAND “ANTI-KICKBACK” ACT (40 U.S.C. § 3145)

APPLICABILITY: This provision shall all apply to all Contracts. In the event that the Contract is for a sum exceeding \$100,000.00, the Company shall also certify and file the Byrd Anti-Lobbying Amendment Certification.

BYRD ANTI-LOBBYING AMENDMENT

Company certifies that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352.

Company further understands and acknowledges that it shall disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures shall be forwarded from tier to tier up to the non-Federal award.

COPELAND “ANTI-KICKBACK” ACT

Company acknowledges and understands that the awarding of this contract is conditioned upon Company’s compliance with the Federal Copeland “Anti-Kickback” Act (40 U.S.C. § 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each Company or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

BYRD ANTI-LOBBYING AMENDMENT:
REQUIRED CERTIFICATION FOR AWARDS EXCEEDING \$100,000

The undersigned certifies, to the best of their knowledge and belief, that:

No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.¹

The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all Companies shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Bidder certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the bidding party understands and agrees that the provisions of 31 U.S.C. Ch. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Company's authorized official

Date: _____

Name (printed)

Title (printed)

¹ Standard Form-LLL available at <https://www.grants.gov/web/grants/forms/post-award-reporting-forms.html>.

12. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

APPLICABILITY: This provision shall apply in the event that the Contract is funded by a Federal award meeting the definition of “funding agreement” under 37 CFR § 401.2(a). A “funding agreement” is “any contract, grant, or cooperative agreement entered into between any Federal agency... and any Company for the performance of experimental, developmental, or research work funded in whole or in part by the Federal government.”

In the event that this Contract is funded by a Federal award meeting the definition of “funding agreement” under 37 C.F.R. § 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 C.F.R. Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

ATTACHMENT

DAVIS-BACON

WAGE RATES

U.S. Department of Labor

Wage and Hour Division

Davis-Bacon and Related Acts Weekly Certified Payroll Form

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Unless otherwise noted, the information requested is specific to the named project below.

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.



Rev. January 2025

OMB No.: 1235-0008

Expires: 01/31/2028

☐ SUBMISSION OF FINAL DBRA CERTIFIED PAYROLL FORM☐ PRIME CONTRACTOR☐ SUBCONTRACTOR

PROJECT NAME				PROJECT NO. or CONTRACT NO.			CERTIFIED PAYROLL NO.		PRIME CONTRACTOR'S/SUBCONTRACTOR'S BUSINESS NAME																
PROJECT LOCATION				WAGE DETERMINATION NO.			WEEK ENDING DATE		PRIME CONTRACTOR'S/SUBCONTRACTOR'S BUSINESS ADDRESS																
(1A)	(1B)	(1C)	(1D)	(1E)	(2)	(3)	(4)							(5)	(6A)	(6B)	(6C)	(7A)	(7B)	(8)				(9)	
WORKER ENTRY NO.	WORKER LAST NAME	WORKER FIRST NAME	WORKER MIDDLE INITIAL	WORKER IDENTIFYING NO.	(J) JOURNEYWORKER (RA) REGISTERD APPRENTICE	LABOR CLASSIFICATION	ST = STRAIGHT TIME OT = OVERTIME	(TOP) DAYS OF WORK WEEK (BOTTOM) DATES							TOTAL HOURS WORKED FOR WEEK	HOURLY WAGE RATE PAID FOR ST AND OT	TOTAL FRINGE BENEFIT CREDIT	PAYMENT IN LIEU OF FRINGE BENEFITS	GROSS AMT EARNED	GROSS AMT EARNED FOR ALL WORK	DEDUCTIONS FOR ALL WORK				NET PAY TO WORKER FOR ALL WORK
								HOURS WORKED EACH DAY													TAX WITH- HOLDINGS	FICA	OTHER (MUST SPECIFY, SEE INSTRUCTIONS)	TOTAL DEDUCTIONS	
							ST																		
							OT																		
							ST																		
							OT																		
							ST																		
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While use of Form WH-347 itself is optional, covered contractors and subcontractors performing work on Federal or federally assisted construction contracts are required by the DBRA regulations and the contract clauses to submit payroll information on a weekly basis. The Copeland Act (40 U.S.C. § 3145) requires contractors and subcontractors performing work on Federal or federally financed construction contracts to, on a weekly basis, "furnish a statement on the wages paid each employee during the prior week." U.S. Department of Labor (DOL) Regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors and subcontractors to submit weekly certified payrolls to the appropriate Federal agency if the agency is a party to the contract (or, if the agency is not such a party, to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to the Federal agency). Each certified payroll must be accompanied by a signed "Statement of Compliance" (e.g., page 2 of the WH-347 or another document with identical wording) indicating that the certified payrolls are accurate and complete, and that each laborer or mechanic has been paid not less than the required Davis-Bacon prevailing wage rate(s) (including any fringe benefits) for the work performed. DOL and contracting agencies receiving this information review the information to determine whether workers have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210 (over)

PROJECT NAME			PROJECT NO. or CONTRACT NO.			PAYROLL NO.			PRIME CONTRACTOR'S/SUBCONTRACTOR'S BUSINESS NAME				
PROJECT LOCATION						WEEK ENDING DATE			CERTIFYING OFFICIAL'S NAME AND TITLE				
I paid or supervised the payment of the laborers or mechanics working on the above project during the stated time period. I certify the following:													
☐ The payroll information submitted with this statement is correct and complete for the above project during the above period, and the wage and fringe benefit rates paid to the workers, including credit taken for the reasonably anticipated costs of a bona fide fringe benefit plan, fund or program, are not less than the applicable wage and fringe benefits rates for the classification(s) of work actually performed, as specified in the wage determination(s) incorporated into the contract.													
☐ All regular payrolls and all other basic records that the contractor is required to maintain for this payroll period are complete and accurate and will be made available upon request from the agency or the Department of Labor.													
☐ The classifications reported for each laborer or mechanic are the classification(s) of work that each worker actually performed.													
☐ Any workers paid as apprentices during the above period are duly registered in a bona fide apprenticeship program registered with the Office of Apprenticeship, Employment and Training Administration, United States Department of Labor ("OA"), or a State Apprenticeship Agency ("SAA") recognized by Department of Labor. I have verified the registered apprenticeship program information provided below as accurate and applicable to any apprentices identified on page 1 of this form.													
APPRENTICESHIP PROGRAM NAME						REGISTERED		NAME OF LABOR CLASSIFICATION					
						☐ OA ☐ SAA							
						☐ OA ☐ SAA							
						☐ OA ☐ SAA							
☐ Fringe benefits have been paid in cash and/or to bona fide fringe benefit plans, funds, or programs. Where the contractor is claiming an hourly credit for their contributions to or reasonably anticipated costs of a bona fide fringe benefit plan, fund, or program, provide plan information and the hourly credit claimed for each worker listed on the previous page of this form.													
HOURLY CREDIT FOR FRINGE BENEFITS													
If an amount is listed in (6B) on the first page of this certified payroll form, enter the hourly credit claimed under each plan name, type and number for each worker and check whether the plan is funded or unfunded.													
NAME OF WORKER	FB NAME		FB NAME		FB NAME		FB NAME		FB NAME		FB NAME		TOTAL HOURLY CREDIT
	FB TYPE		FB TYPE		FB TYPE		FB TYPE		FB TYPE		FB TYPE		
	PLAN NO.		PLAN NO.		PLAN NO.		PLAN NO.		PLAN NO.		PLAN NO.		
	☐ Funded ☐ Unfunded		☐ Funded ☐ Unfunded		☐ Funded ☐ Unfunded		☐ Funded ☐ Unfunded		☐ Funded ☐ Unfunded		☐ Funded ☐ Unfunded		
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	Hourly Credit	\$	\$
☐ All workers on the project have been paid the full weekly wages earned, and no rebates or deductions have been or will be made either directly or indirectly, other than permissible deductions as defined in 29 CFR part 3.													
ADDITIONAL REMARKS													
SIGNATURE OF CERTIFYING OFFICIAL						DATE		TELEPHONE NUMBER			EMAIL ADDRESS		
								(____) ____ -____					
THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION (SEE SECTION 1001 OF TITLE 18 AND SECTION 3729 OF TITLE 31 OF THE UNITED STATES CODE), AS WELL AS DEBARMENT FROM FUTURE FEDERAL AND FEDERALLY-ASSISTED CONTRACTS. INFORMATION REPORTED IN CERTIFIED PAYROLLS MAY BE SUBJECT TO DISCLOSURE IN RESPONSE TO A FREEDOM OF INFORMATION ACT REQUEST.													

SECTION 22 0000.FSB
PLUMBING WORK
(Filed Sub-Bid)

1.01 DESCRIPTION

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections with DIVISION 1 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

B. Time, Manner, and Requirements for Submitting Trade-Bids:

1. Trade Contractor Bids for work under this Section shall be for the complete work and shall be filed in a sealed envelope with the Awarding Authority at a time and place as stipulated in the "NOTICE TO CONTRACTORS".

The following shall appear on the upper left hand corner of the envelope.

NAME OF TRADE CONTRACT BIDDER: _____
TRADE CONTRACTOR BID FOR SECTION: _____

2. Every Trade Contractor bidder must be certified by the Division of Capital Asset Management for the dollar amount of their bid. Trade bids will be valid only when accompanied by a Certificate of Eligibility and an Update Statement.
3. Each Trade Contractor bid submitted for work under this Section shall be on forms furnished by the Awarding Authority as required by Section 44F of Chapter 149 of the General Laws, as amended. Sub-bid forms are attached to this document.
4. Trade bids filed with the Awarding Authority shall be accompanied by a BID BOND or CASH or CERTIFIED CHECK or a TREASURER'S or CASHIER'S CHECK issued by a responsible bank or trust company payable to the Town of Hopkinton in the amount of 5 percent of the bid. A Trade Contractor bid accompanied by any other form of bid deposit than those specified will be rejected.

C. Carefully examine all the Contract Documents for requirements which affect the work of this Section. The exact scope of this Section cannot be determined without a thorough review of all specification sections and other Contract Documents.

D. Where referred to, Standard Specifications, Recommendations of Technical Societies, and/or Manufacturer's Associations, plus Codes of Federal, State, and Local Agencies shall include all amendments current as of date of issue of these specifications.

E. Sub-Sub-Bid Requirements:

1. Sub-sub bids are required for this Section. Sub-Bidders shall include the appropriate information for the list of sub sub-bid Class of Work noted below in this paragraph.

NONE

2. If the Filed Sub-Bidder customarily performs the above Work with its own workforce, the Sub-Bidder should list its own name and trade and leave the dollar amount blank.
3. If the Filed Sub-Bidder does not customarily perform the Classes of Work with its own workforce, the Sub-Bidder should list the name of the contractor performing the work, the trade and insert a dollar amount.

1.2 GENERAL REQUIREMENTS

- A. Sub-bids shall be submitted in accordance with the provisions of Mass General Laws (Ter. Ed.) Chapter 149, Sections 44A-44I, inclusive as amended. The time and place of submission of sub-bids shall be as set forth in the INSTRUCTIONS TO BIDDERS
- B. Each sub-bid filed with the Awarding Authority must be accompanied by BID BOND, or CASH or CERTIFIED CHECK or a TREASURER'S CHECK or CASHIERS'S CHECK issued by a responsible bank or trust company, payable to the Town of Hopkinton in the amount of five percent (5%) of the bid amount. A sub-bid accompanied by any other form of bid deposit will be rejected.
- C. Each sub-bid, submitted for the work of this Section, shall be on a form furnished by the Awarding Authority, as required by Section 44F of Chapter 149, as amended.
- D. Reference Drawings: Refer to the List of Drawings bound in the front of this specification.
- E. The following specifications sections shall be part of this file sub-bid section:

DIVISION 22 – PLUMBING
Section 22 0000 Plumbing FSB

- F. The Work of this Section is shown on drawings:

P-001	Plumbing Legend
P-002	Plumbing Specifications
P-100	Plumbing Basement New Work Plan

- G. The Trade contractor's attention is directed to the General Conditions. This Trade contractor shall be responsible for obtaining and paying for all permits and inspections required to complete all Work described in this section.

PART 2 MATERIALS

- A. Refer to specification sections and drawings

PART 3 EXECUTION

- A. Refer to specification sections and drawings

END OF SECTION

Section 01 6402 Owner Furnished Requirements

Part 1 - General

- 1.0 RELATED DOCUMENTS: This section is only a portion of the Contract Documents. All of the Contract Documents, including Conditions of the Contract and Division 1 General Requirements, apply to this section. This section applies to all specification sections and work of the Contract.
- 1.1 SECTION INCLUDES: General requirements for "Owner Furnished, Contractor Installed" items.
- A. Summary: The City of Everett (Owner), will be purchasing (3) 60 Ton Carrier Temporary Packaged Units for use at the Old Everett High School – the units will be delivered to the site.
- B. Contractor's Responsibilities for Owner Furnished, Contractor Installed Items:
1. Progress Schedule: Due to the nature of the Purchsed items the owner will notify the contractor of the expected delivery data and the Contractor shall schedule the work around the delivery.
 2. Minimum Notice To Owner: If the Contractor foresees a change in the schedule that requires the delivery ate to be adjusted the owner will be given a minimum of 7 days notice.
 3. Rough In Information: Obtain directly from vendors to Owner.
 4. Coordination: Coordinate all rough in, blocking, and related work for Owner furnished items.
 5. Receiving: Receive, unload, handle, store on site, and move to installation locations. The streets around the school may need to be closed during the delivery period, the contractor shall coordinate with the City Police, Fire, DPW and any other departments in support of the delivery, any details, fire watches, or other costs associated with the unloading of the unit shall be carried in the bid.
 6. Inspection: inspect items upon receiving and report any visible damage to the vendor and the City in writing with 24 hours.
 7. Defective, Missing Items: Immediately notify Owner and deliverer in writing.
 8. Damage and Loss By Contractor: Pay for all remedial work, but not defective and missing items originally itemized by Contractor upon receiving.
 9. Manufacturer's Requirements: Comply with manufacturer's instructions and recommendations.
 10. Assembly: Fully assemble. Comply with manufacturer's recommendations.
 11. Installation: Comply with manufacturer's recommendations and Contract specifications.
 12. Anchorage: Securely anchor items, but not items intended to be free standing and loose.
 - a. Install one fastener for each factory provided fastener hole.
 - b. Conceal fasteners to the greatest extent practical.
 13. Fasteners: Furnish all fasteners not supplied by manufacturer.
 - a. Provide fasteners appropriate for each application.
 - b. Provide corrosion resistant fasteners when subject to moisture.
 - c. Do not use drywall installation screws.
 - d. When visible, provide fasteners finished to match item attached with fastener.
 14. Accessories: Fully install all accessories.
 15. Utility Connections: Fully connect and make operational.
 16. Testing: Test and confirm proper operation and function.
 17. Adjusting: Adjust for optimum operation.
 18. Touch Up: Touch up and repair minor damage to eliminate evidence of repair.
 19. Owner's Manuals, Spare Parts: Package, label, and deliver to Owner.
- C. Owner's Responsibilities for Owner Furnished, Contractor Installed Items:
1. Require vendors to furnish Contractor with rough in and coordination information.
 2. Make deliveries by date requested by Contractor.
 3. Do not deliver too early. Provide temporary off site storage until Contractor's delivery date.

Everett Task 5 Stabilization Projects

Everett, MA

Perkins Eastman Project No. 109700.03

September 15, 2026

Bid Package

4. Notify Contractor at least 24 hours in advance of deliveries.
 5. Make deliveries during Contractor's normal work hours.
 6. Correct all defective and missing items at the earliest possible time.
- D. Appendix
1. TG Gallagher Pre-purchase agreement
 2. Carrier Unit Cut Sheets – 7 pages

End of Section

Stephen Michener
Senior Project Manager
Leftfield
101 Federal St
Boston, MA 02110

RE: 548 Broadway Old Everett High Temporary Equipment Pre-Purchase

In accordance with your request, we have prepared the following proposal for the above-mentioned project.

Scope of Work:

- TG Gallagher will furnish and supply (3) 60 Ton temporary Carrier Packaged Units for the use at the old Everett High School. (Including thermostat and 24" tall curbs for each unit.)
- Provide equipment and labor to receive, off load, and deliver the (3) Packaged unit to the site at 548 Broadway, Everett MA (Units to be offloaded by others at the site).
- Equipment has a warranty of 18 months from ship date or 1- year from start-up.
- Please refer to performance sheets sent for equipment information.

Qualifications:

- We exclude the following: Overtime for deliveries, equipment and installation warranty to be carried and turned over to installing contractor, any mechanical work regarding installation is excluded.
- Equipment capacity and specs based on TGG provided submittal not the information provided by others, approved submittal to be provided before release.
- Storage of equipment for 60 days is included.
- All work will be done between hours of 6:00AM – 2:00PM, Monday through Friday.
- This proposal is subject to material escalation cost if not accepted within 30 days.
- TG Gallagher is an approved TRD-01 Contractor and DCAMM Certified.

If I can be of further assistance, or if additional information is required, please do not hesitate to contact me.

Sincerely,

Chris Evers
Vice President



Unit Report

Submitted by: Ian Christenson

Project Name:
26090034 548 Broadway Everett
Tag Name:
AHU-1 - Horizontal - High Efficiency

Tag Name: AHU-1 - Horizontal - High Efficiency



Shipping Dimensions		
Unit Length	ft and in	26' 0"
Unit Width	ft and in	7' 10"
Unit Height	ft and in	6' 7"
Unit Operating Weight	lb	7333
Unit Shipping Weight	lb	7383
***As-built weight tolerance is +/- 5%. See certified drawings unit dimensions.		
**Weights and dimensions do not include accessories, or special order options.		

Outdoor Air	
OA Intake	Ultra-Low Leak Economizer

Control Configuration	
Control System	Carrier SmartVu
Control Interface	7" Touchscreen
Network Communication	CCN, BACnet MS/TP, BACnet IP

Unit Parameters	
Unit Size	060 (60 Tons)
Unit Voltage	V-Ph-Hz 460-3-60
Supply/Return	Horizontal / Horizontal
Configuration	SAV
Heating Capacity	High Heat - 975 MBH Input
Heat Option	2 Stage Gas Heat
Heat Type	Gas Heat
Indoor Fan Motor HP	40 HP
Unit Efficiency	High

Condenser and Evaporator Coil	
Cond. Coil Fin Coating	E-Coated MCHX Cond, Al/Cu Evap

Pre-Evaporator and Outdoor Air Filters	
Pre-Evaporator Filter Type	2" MERV 8
Pre-Evaporator Filter (Quantity...Size)	16...20" x 24" x 2"
Outdoor Air Mesh Filter (Quantity...Size)	12...16" x 25" x 2", 6...20" x 25" x 2"

Factory Installed Options	
Application Type	Staged Air Volume
Terminal Block	Selected
Pre-Filter Status Switch, Access Door Retainer	Selected
Stainless Steel Drain Pan	Selected
Low Ambient Cooling	Selected
Low Sound	Selected
40 HP Indoor Fan Motor with VFD	Selected



Unit Report

Submitted by: Ian Christenson

Project Name:
26090034 548 Broadway Everett
Tag Name:
AHU-1 - Horizontal - High Efficiency

Ordering Information		
Part Number	Description	Quantity
48K4BS60-6C6A0B0C1	Rooftop Unit	3
	Base Unit	
	High Heat - 975 MBH Input	
	Pre-Filter Status Switch, Access Door Retainer	
	Ultra-Low Leak Economizer	
	2" MERV 8	
	E-Coated MCHX Cond, Al/Cu Evap	
	Stainless Steel Drain Pan	
	Low Ambient Cooling	
	Low Sound Package	
	40 HP Indoor Fan Motor with VFD	

Accessories		
Accessory Part #	Description	Quantity
33ZCT59SPT	Space Temp. with Override, Set Point Adjust, and LCD Display	3



Unit Report

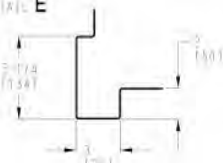
Submitted by: Ian Christenson

Project Name:
26090034 548 Broadway Everett
Tag Name:
AHU-1 - Horizontal - High Efficiency

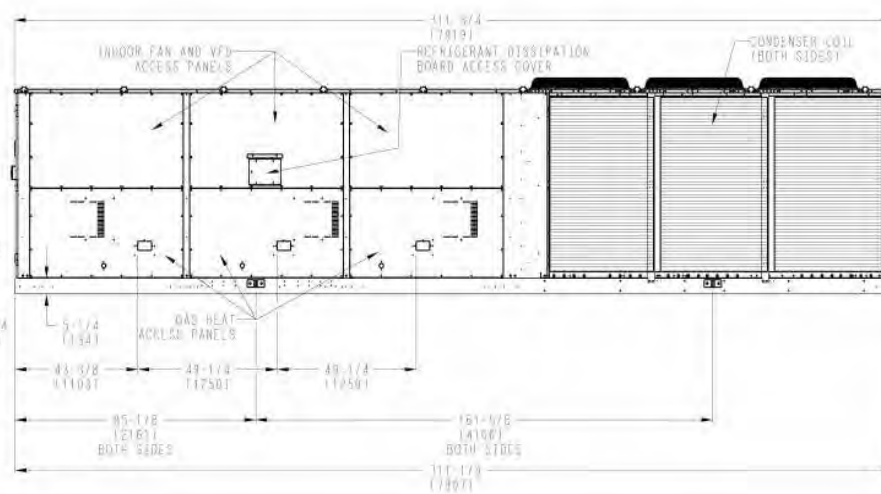
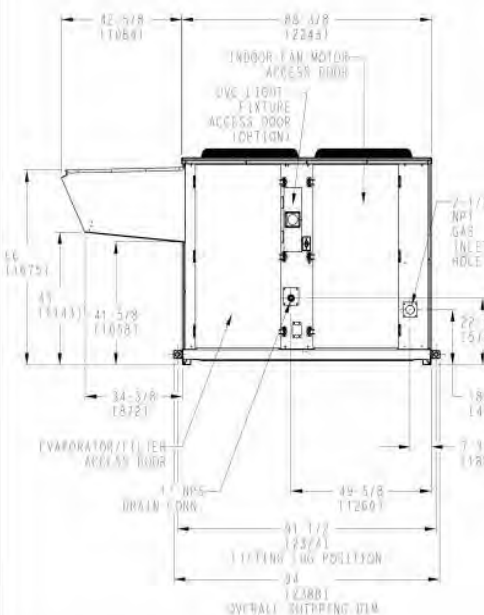
Warranty Information		
Warranty		
First year - Parts only (standard)		
Compressor Unit Years 2-5 Parts Only		

Startups		
Startup Part #	Description	Quantity
4850K-STC1	Start-up, First Unit Cooling	1
4850K-STH1	Start-up, First Unit Heating	1

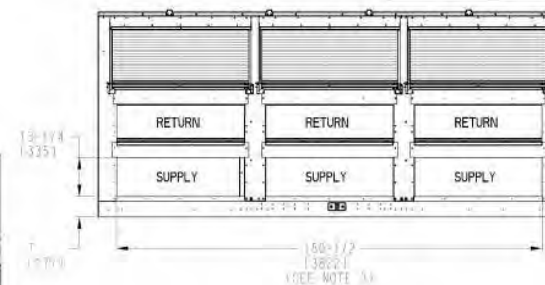
1 DIMENSIONS ARE IN INCHES, DIMENSIONS IN PARENTHESIS ARE IN MILLIMETERS
2 UNIT CLEARANCES (FROM EDGE OF UNIT)
TOP DO NOT RESTRICT CONDENSER FANS
CONDENSER SIDE - 4'-0" (1219)
ECONOMIZER SIDE - 6'-0" (1829)
HAT SIDE - 4'-0" (1219)
EVAPORATOR/FILTER ACCESS IND.
- EVAPORATOR REMOVAL: 15'-0" (4572)
- FILTER REPLACEMENT: 6'-0" (1829)
SEE PRODUCT DATA FOR MULTIPLE UNIT SPACING
3 DUCTWORK CONNECTS TO SIDE OF UNIT. CONNECT
ALL SUPPLY OPENINGS WITH A SINGLE DUCT
CONNECT ALL RETURN OPENINGS WITH A SINGLE DUCT
4 REFUSE TO SUBMITTAL OR PRODUCT DATA UNIT WEIGHTS 9-1446
5 OUTDOOR AIR HOODS SHIP ON TOP OF UNIT FOR
(1448)
FIELD INSTALLATION
6 ACCESSORY EXHAUST/RELIEF SYSTEMS MUST BE
DUCT MOUNTED WITH HORIZONTAL RETURN
7 CONDENSATE DRAINAGE WHEN UNIT IS SLAB MOUNTED



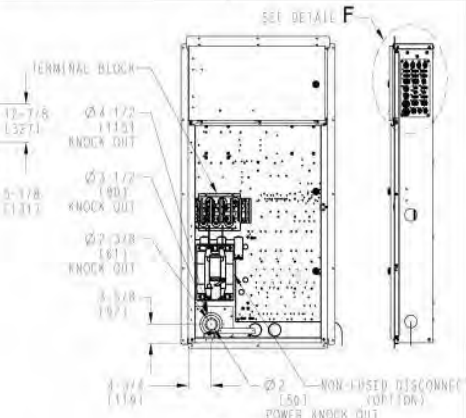
BASE RAIL PROFILE



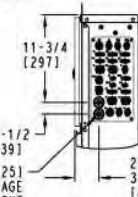
HORIZONTAL SUPPLY & RETURN



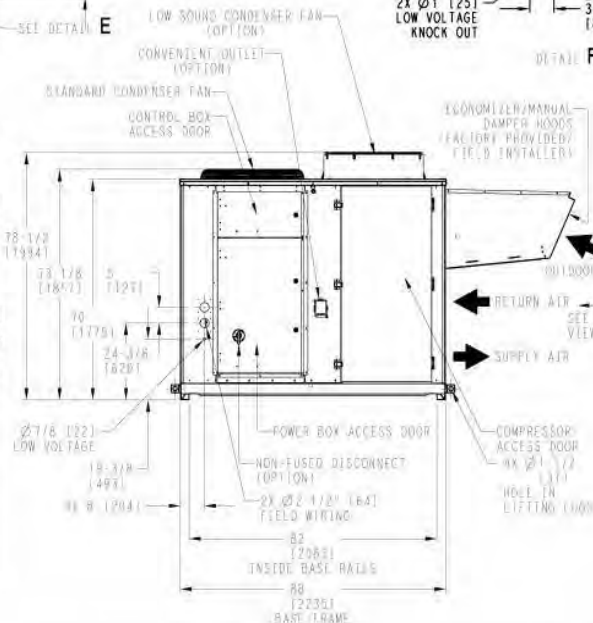
VIEW D-D



CONTROL BOX



DL(A) **E**



ITC CLASSIFICATION	SHEET	DATE	SUPP/CHGDS	48A: 112L-60	48VAM: 06064	REV
U.S. ECON. FARG99	2 OF 2	9/13/99	B			E



Performance Report

Submitted by: Ian Christenson

Project Name:
26090034 548 Broadway Everett

Tag Name:
AHU-1 - Horizontal - High Efficiency

Project Name: 26090034 548 Broadway Everett

Tag Name: AHU-1 - Horizontal - High Efficiency

Shipping Dimensions		
Unit Length	ft and in	26' 0"
Unit Width	ft and in	7' 10"
Unit Height	ft and in	6' 7"
Unit Operating Weight	lb	7333
Unit Shipping Weight	lb	7383

*** As-built weight tolerance is +/- 5%. See certified drawings unit dimensions.
** Weights and dimensions do not include accessories, or special order options.

Performance Information		
Part Number	48K4BS60-GC6A0B0C1	
Unit Refrigerant	R454B	
EER	9.8	
IEER	14.8	
Heat Type	Gas Heat	
Supply/Return	Horizontal / Horizontal	
Application Type	Staged Air Volume	
Voltage	460-3-60	
Cooling Airflow	CFM	24000.0
Altitude	ft	0
Condenser Entering Air Temperature	F	95.0
Evaporator Entering Air Temperature Dry Bulb	F	78.2
Evaporator Entering Air Temperature Wet Bulb	F	64.8
Evaporator Entering Air Enthalpy	BTU/lb	29.74
Evaporator Leaving Air Temperature Dry Bulb	°F	56.7
Evaporator Leaving Air Temperature Wet Bulb	°F	55.3
Evaporator Leaving Air Enthalpy	BTU/lb	23.37
Gross Cooling Capacity	MBH	687.69
Gross Sensible Cooling Capacity	MBH	557.9
Compressor Power	kW	69.03
Coil Bypass Factor	0.090	
Refrigerant Charge, Circuit A	28	
Refrigerant Charge, Circuit B	27.5	
Minimum Conditioned Space Area	SQFT	836
Minimum Dissipation Airflow	CFM	753

Gas Heating Data		
Heating Airflow	CFM	24000.0
Heating Entering Air Temperature	F	70.0
Heating Control	2 Stage Gas Heat	
Gas Input (min)	MBH	731.0
Gas Input (max)	MBH	975.0
Gas Output (min)	MBH	592.1
Gas Output (max)	MBH	789.8
Heating Leaving Air Temperature	°F	100.5
Steady State Efficiency	%	81.00
Temperature Rise	°F	30.5

Electrical Data		
Voltage Range	414 - 506	
Power Supply MCA	165	
Power Supply MOCP (Fuse or HACR)	200	
Minimum Non-Fused Disconnect Amperage	174	
Unit Capacity	None	
SCCR Rating	10kA	
Control Load	2.4	
Compressor 1 (Qty / RLA / LRA)	2 / 16 / 140	
Compressor 2 (Qty / RLA / LRA)	2 / 24 / 182	
Outdoor Fan Drive	LOW	
Outdoor Fan [Qty / FLA/MOC (ea)]	6 / 2.8	
Indoor Fan Motor Type	None	
Indoor Fan Motor HP	40	
Indoor Fan Motor [Qty / Hp(ea) / MOC(ea)]	1 / 40 / 52.3	
Exhaust/Return Fan	None	
Electrical Convenience Outlet	None	

Supply Fan Information		
Supply Airflow	CFM	24000.0
Duct Static Pressure	in wg	2.00
Total External Static Pressure	in wg	2.00
Supply Fan Speed	RPM	1187
Supply Fan Power	BHP	35.86

Field supplied and installed sheave package may be required



Performance Report

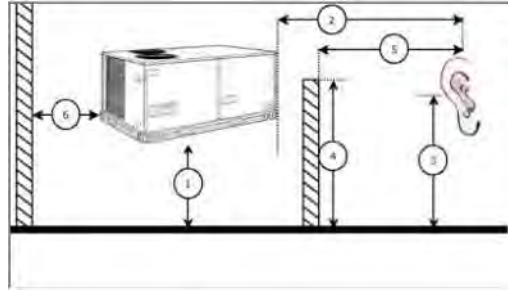
Submitted by: Ian Christenson

Project Name:
26090034 548 Broadway Everett

Tag Name:
AHU-1 - Horizontal - High Efficiency

Acoustic Information

Frequencies	Hz	63	125	250	500	1000	2000	4000	8000
Outdoor	Lw	61.33	73.01	79.9	85.04	87.92	83.11	77.65	72.76



Advanced Acoustics Parameters

Unit height above ground	ft	30.0
Horizontal distance from unit to receiver	ft	50.0
Receiver height above ground	ft	5.7

Detailed Acoustic Information

Octave Band Center Freq.	Hz	63	125	250	500	1000	2000	4000	8000	Overall
A	Lw	61.33	73.01	79.90	85.04	87.92	83.11	77.65	72.76	91.27
B	LwA	35.13	56.91	71.30	81.84	87.92	84.31	78.65	71.66	90.58
C	Lp	29.85	41.53	48.42	53.56	56.44	51.63	46.17	41.28	59.79
D	LpA	3.651	25.43	39.82	50.36	56.44	52.83	47.17	40.18	59.10

Legend

- A - Sound Power Levels at Unit's Acoustic Center
- B - A-Weighted Sound Power Levels at Unit's Acoustic Center
- C - Sound Pressure Levels at Specific Distance from Unit
- D - A-Weighted Sound Pressure Levels at Specific Distance from Unit



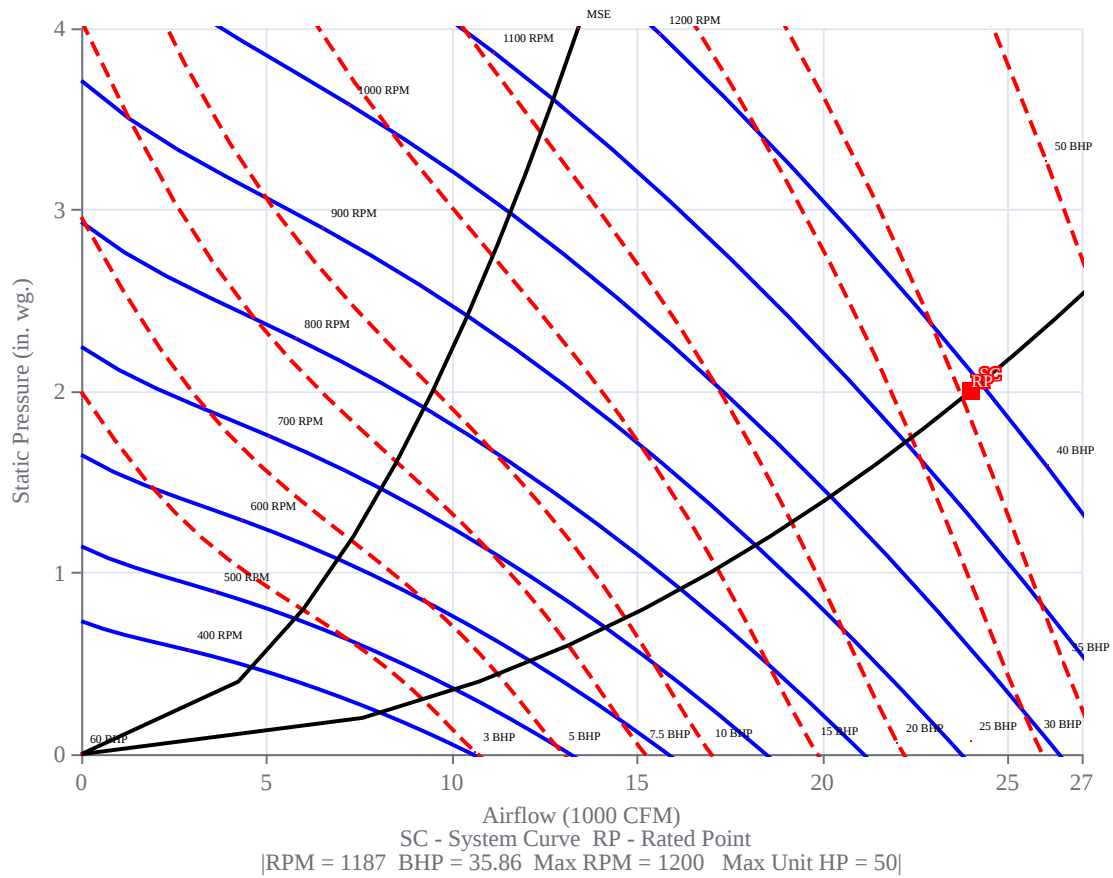
Performance Report

Submitted by: Ian Christenson

Project Name:
26090034 548 Broadway Everett

Tag Name:
AHU-1 - Horizontal - High Efficiency

Supply System Curve



OPTIONS:

MATERIAL: 14 ga. GAL STEEL

INSULATED PANELS (WHERE REQUIRED)

1X4 WOOD NAILER (UNDER TOP FLANGE)

DIMENSIONED AND TOLERENCED PER ANSI Y14.5M-1982

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
01	INITIAL DRAWING	11/29/16	BDR

RETURN

SUPPLY

2X AI CROSS DROPPED 2"

5 3/16"

29 3/16"

44 13/16"

68 13/16"

171 1/8"

172"

AI CROSS

240 5/16"

AI CROSS

308 5/8" O.D.

305 1/8" I.D.

309 1/8" (SHIPPING DIM)

81 1/4" O.D.

77 3/4" I.D.

24"

81 3/4" (SHIPPING DIM)

CURB SHOWN IS CDI STANDARD CONFIGURATION CDI RESERVES THE RIGHT TO CHANGE LAYOUT WITHOUT NOTIFICATION. IF CURB IS NEEDED IN A DIFFERENT CONFIGURATION CDI MUST BE NOTIFIED PRIOR TO PLACING AN ORDER.

*VERIFY EXISTING CURB OD

*VERIFY SUPPLY AND RETURN OPENINGS

*NOTE ANY CHANGES

*CALL WITH ANY QUESTIONS

*FAX BACK IF DRAWING IS OK AS IS

DIMENSIONS ARE AS FOLLOWS:
1.00 in
[25.40 mm]

3RD ANGLE PROJECTION

CURB WEIGHT (LBS.)

434.10

UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE:
.X ± 0.05
.XX ± 0.03
.XXX ± 0.01

Ø, .XX ± 0.007
°S ± 1/2°

APPROVALS

DRAWN: bkummer

CHECKED:

DATE

Tuesday, April 7, 2026 1:16:47 PM

TITLE:

2-0024-4040

FILE NAME:
2-0024-4040

ECO #:

DRAWING NO.:

SCALE: 1:45

REV:
01

SHEET: 4 OF 7

17560 TYLER ST NW

ELK RIVER, MN 55330

(763)391-7790

(763)391-7851

S:\CURBS_CURB_ADAPTERS\2-XXXX-XXXX_PITCHED_STRAIGHT_KD\STANDARD STRAIGHT-PITCHED\4000\2-0024-4040\



Product Specification

EDGE® Pro Programmable Commercial Thermostat

Part Numbers 33CS2PPRH-03 and 33CS2PP2S-03



Carrier's Edge® Pro commercial programmable thermostats offer:

- sleek design with simplified two-wire installation
- 2-stage heat/2-stage cool with one stage auxiliary heat (air conditioning, heat pump, and water source heat pump units)
- humidity control capability (with 33CS2PPRH-03 thermostat only) integrates with Humidi-MiZer® dehumidification system
- Hybrid Heat® dual fuel system compatible (33CS2PP2S-03)
- proportional integral control of heating and cooling stages
- compressor lockout in emergency heat mode for heat pumps
- auxiliary heat lockout sensing for heat pumps (requires outdoor air sensor)
- remote sensing and averaging with occupancy override
- keypad lockout security with passcode protection
- heating and cooling set points with up to 6 hours of occupancy override
- 7-day, 5/2-day, or 1-day programmable or non-programmable
- 4 or 2 periods per day selectable
- UV light and filter service reminder
- random start, smart recovery
- dry contact enables economizer control

Features/Benefits

Carrier's flexible 7-day, 5/2-day, or 1-day commercial programmable thermostats offer quality and reliability.

The wall-mounted, low-voltage thermostat maintains room temperature by controlling the operation of an HVAC (heating, cooling and ventilation) system. Separate heating and cooling set points and auto-changeover capability allow occupied and unoccupied programming for energy savings.

→ Specifications



The thermostat allows up to 4 time/temperature settings to be programmed in 24-hour intervals with daylight savings adjustment. The thermostat stores schedules for 7 independent days and batteries are not required. In the event of power interruption, the internal memory stores comfort schedules for an unlimited time. The clock will continue to run for 24 hours.

Expanded backlit display includes English/metric unit selection and features mode and equipment status, occupancy, time of day, and outdoor-air temperature. In hospitality mode, the display will show user set point in place of actual temperature.

The Edge® Pro commercial programmable thermostat is capable of constant fan operation for 24 hours during continuous occupancy. During this time, the thermostat can be programmed and set points can be adjusted using occupied and unoccupied schedules. Additionally, the thermostat is capable of displaying outside or supply-air temperature using the remote sensor input.

Physical characteristics

Dimensions (L x W x D):

Single piece installation: 5.2-in. (132.08 mm) x 5.2-in. (132.08 mm) x 1.3-in. (32.02 mm)

Two-piece installation:

Display: 5.2-in. (132.08 mm) x 5.2-in. (132.08 mm) x 0.9-in. (22.86 mm)

Control module: 5.2-in. (132.08 mm) x 5.2-in. (132.08 mm) x 1.0-in. (25.4 mm)

Appearance: plastic material; silver metallic color; smooth cover

Weight: approx. $\frac{3}{4}$ lb (single piece installation) or $\frac{1}{2}$ lb (display only of two-piece installation)

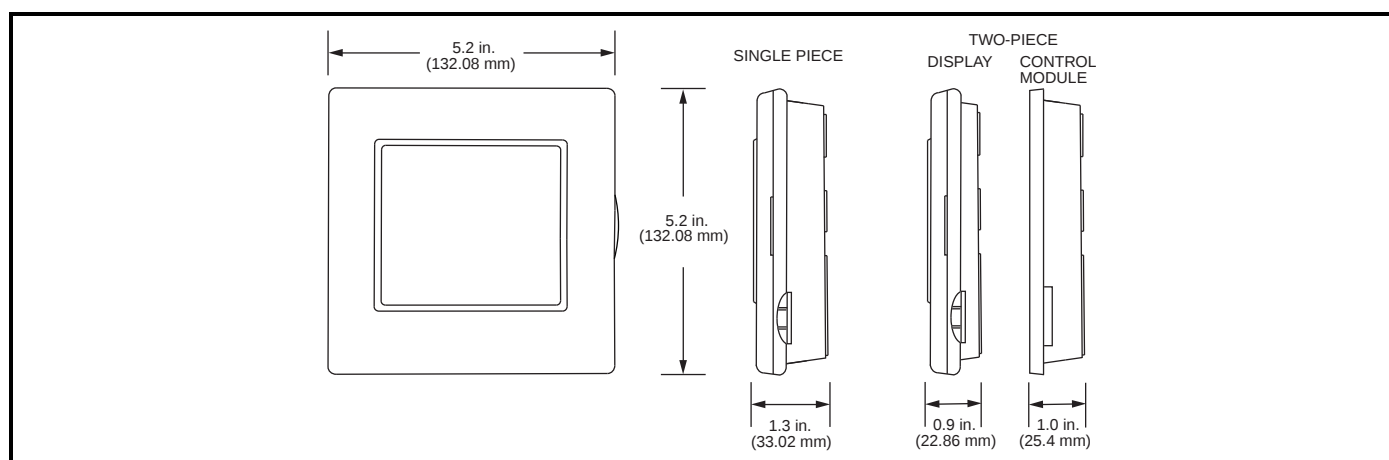
Lead-free design

Power requirement

24 vac 50/60 Hz at 3 va RC/RH compatible

No batteries are required

Dimensions



Environmental requirements

Temperature (display module):

Operating: 32 to 104 F (0° to 40 C)

Storage: -40 to 158 F (-40 to 70 C)

Temperature (control module):

Operating: -4 to 158 F (-20 to 70 C)

Storage: -40 to 158 F (-40 to 70 C)

Humidity: 0 to 95% RH (relative humidity), non-condensing

For indoor installations only

Agency approvals

FCC Part 15, Subpart J compliant

Electrical characteristics

Inputs: 24 vac, 50/60 Hz, 3 va

Outputs:

Minimum Load = 1000 ohms

Maximum Load = 2.0 A, 50% pf (power factor)

Inductive

Nominal Load Capacity = 1.5 Amps

Temperature control

The thermostat uses proportional integral calculation to determine the number of stages required for heating or cooling to provide accurate temperature control.

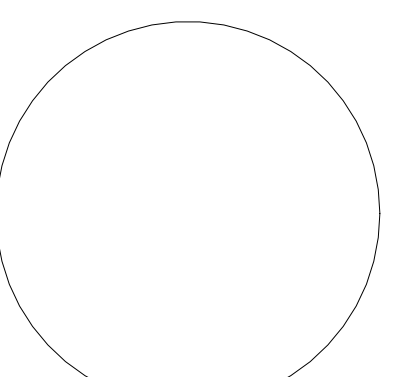
Accessories

Remote space sensor with occupancy override button (33ZCT55SPT)

Outdoor temperature sensor (33ZCSENOAT)

Supply/return air sensor (33ZCSSENSAT)





Issue Date

#	Date	Description

1 FIRE PROTECTION BASEMENT NEW WORK PLAN
SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION

PROJECT

**OLD EVERETT HIGH SCHOOL -
TASK 5**

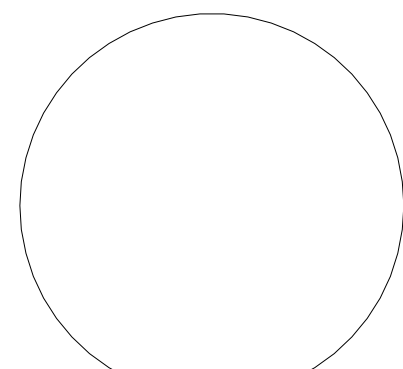
548 Broadway, Everett, MA 02149

CLIENT

CITY OF EVERETT, MA

CONSULTANTS

REGISTRATION



Issue Date

KEYPLAN

ISSUE / REVISION

#	Date	Addendum	Description
1	9/28/2026	Addendum 1	

PROJECT NUMBER

BEMS26

SHEET TITLE

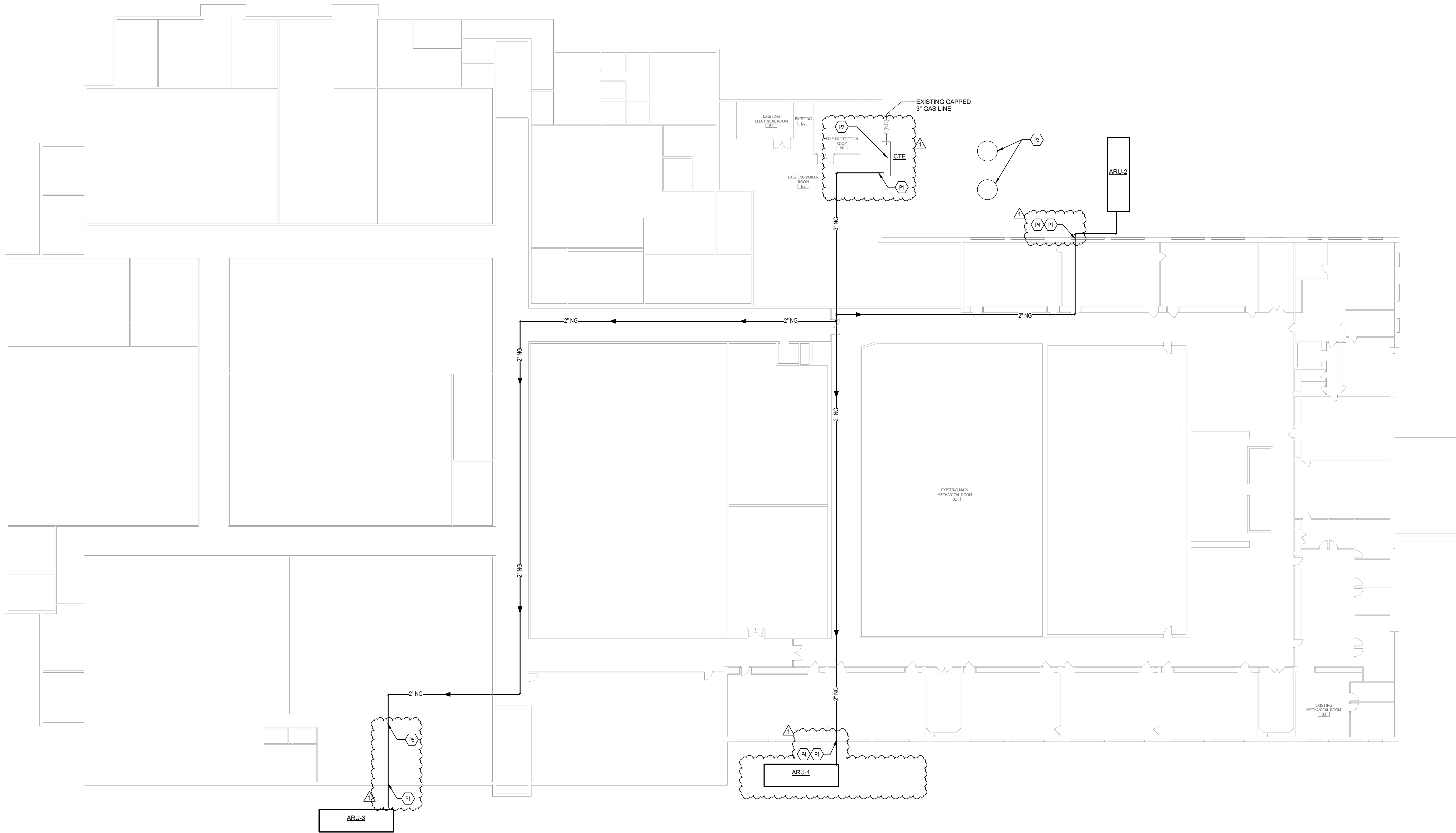
**PLUMBING BASEMENT NEW
WORK PLAN**

SHEET NUMBER

P-100

TAGGED NOTES

P1	ALL NATURAL GAS PIPING PASSING THROUGH EXTERIOR WALLS SHALL BE PROTECTED FROM CORROSION AND SEALED TO PREVENT WATER, INSECTS, AND RODENTS FROM PASSING THROUGH. SEALING COMPOUND SHALL BE COMPATIBLE WITH GAS PIPING MATERIALS. PROVIDE CORE TWO PIPE SIZES ABOVE THE NOMINAL PIPE DIAMETER FOR NATURAL GAS PIPE AND SLEEVE.
P2	CONFIRM EXISTING GAS SERVICE HAS CAPACITY TO PROVIDE ADEQUATE FLOW AND PRESSURE TO NEW EQUIPMENT. PROVIDE PRELIMINARY GAS LOADS AND PRESSURE REQUIREMENTS TO GAS UTILITY TO CONFIRM EXISTING SERVICE MAIN, GAS METER, AND PRESSURE REGULATING VALVE ARE COMPATIBLE WITH NEW PROJECT REQUIREMENTS.
P3	EXISTING OIL TANK MANHOLE. PROTECT DURING CONSTRUCTION. CONTRACTOR TO VERIFY EXACT EXTENTS OF EXISTING UNDERGROUND OIL TANKS IN APPROXIMATE LOCATION. COORDINATE ALL FINDINGS WITH A/E TEAM PRIOR TO START OF WORK.
P4	PIPE ROUTED THROUGH EXISTING WINDOW PENETRATION. INFILL REMAINING GAPS AND FLASH/SEAL WATER TIGHT.
P5	COORDINATE PIPE ROUTING WITH OVERHEAD GARAGE BAY DOOR. NEW EXTERIOR WALL PENETRATION REQUIRED. NEW PENETRATION TO BE COORDINATED WITH GARAGE BAY DOOR OPENING. INFILL GAPS AND FLASH/SEAL WATER TIGHT.



1 PLUMBING BASEMENT NEW WORK PLAN

SCALE: 1/16" = 1'-0"

PROJECT

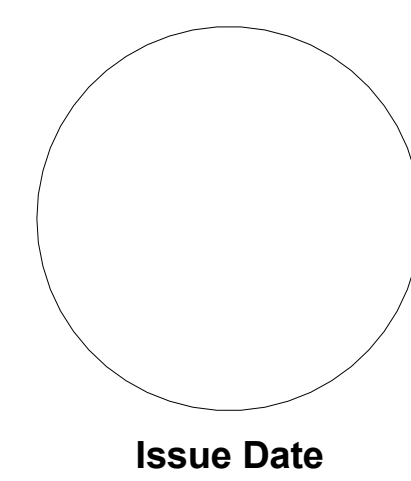
**OLD EVERETT HIGH SCHOOL -
TASK 5**

548 Broadway, Everett, MA 02149

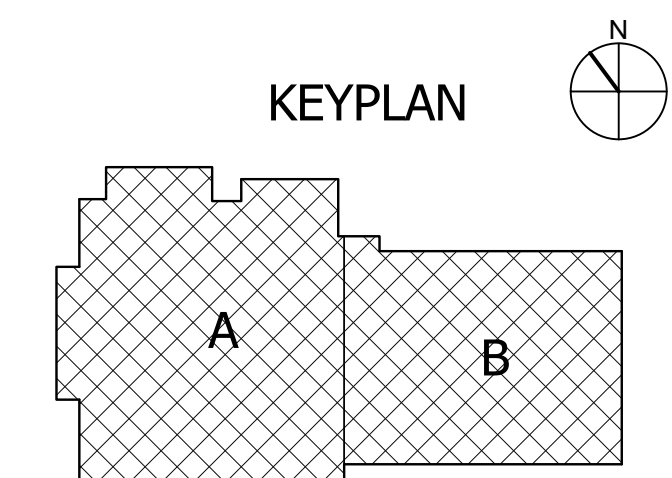
CLIENT
CITY OF EVERETT, MA

CONSULTANTS

REGISTRATION



KEYPLAN



ISSUE / REVISION

#	Date	Description

PROJECT NUMBER	
BEMS26	

SHEET TITLE

**MECHANICAL BASEMENT
DEMOLITION PLAN**

SHEET NUMBER

M-100

1 MECHANICAL BASEMENT DEMOLITION PLAN
SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION

**OLD EVERETT HIGH SCHOOL -
TASK 5**

48 Broadway, Everett, MA 02149

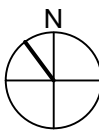
CITY OF EVERETT, MA

CONSULTANTS

REGISTRATION



KEYPLAN



ISSUE / REVISION

[illegible]

EMS26

MECHANICAL FIRST FLOOR NEW WORK PLAN

M-201

TAGGED NOTES



EXISTING DUCTWORK IN FILLED
REGIONS TO REMAIN AND BE REUSED
TO SERVE CLASSROOMS (TYP.).

108x42 E(RA)UP/DN

32x54 E(OA)UP/DN

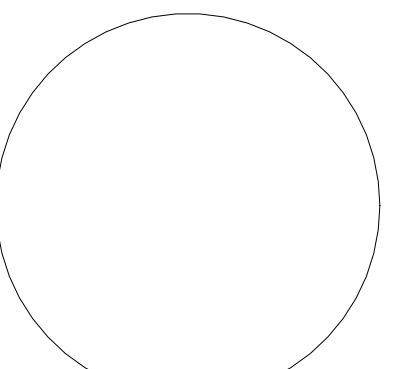
46x36 SA UP/DN-

—64x36 RA UP/DN

MECHANICAL FIRST FLOOR NEW WORK PLAN

SCALE: 1/16" = 1'-0"

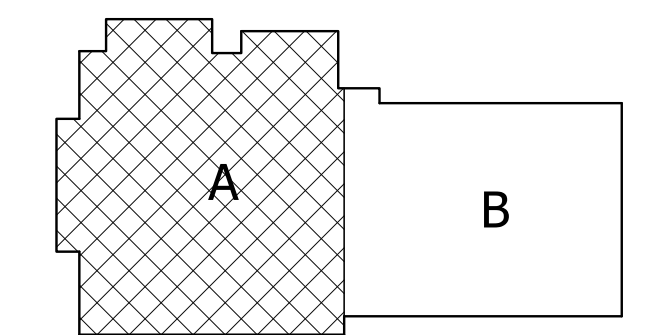
Autodesk Docs/OM Everett HS - Task 5 Bandaid/BIMS26_MEP_25.rvt



Issue Date

KEYPLAN

KEYPLAN



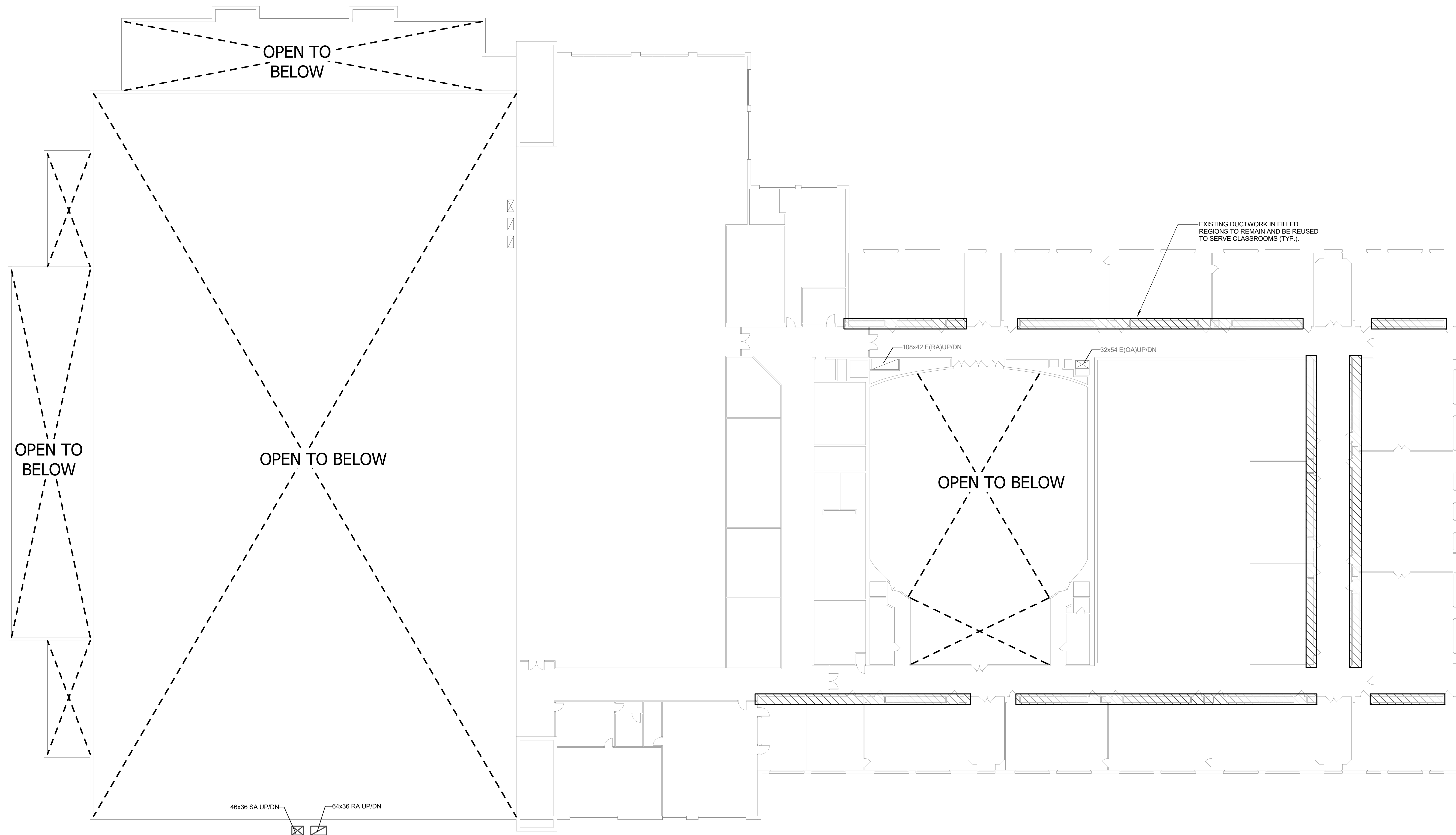
ISSUE / REVISION

#	Date	Description

BEMS26

MECHANICAL SECOND FLOOR
NEW WORK PLAN

M-202



1 MECHANICAL SECOND FLOOR NEW WORK PLAN
SCALE: 1/16" = 1'-0"

FILENAME: \\autodesk\docs\QAD Everett HS - Task 5 Bandaid\BIMS26_MLP_25.rvt
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NOT FOR CONSTRUCTION

PROJECT

**OLD EVERETT HIGH SCHOOL -
TASK 5**

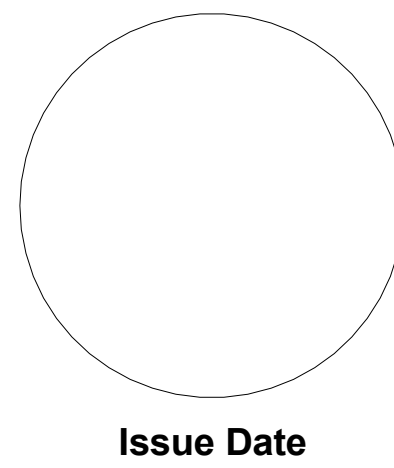
548 Broadway, Everett, MA 02149

CLIENT

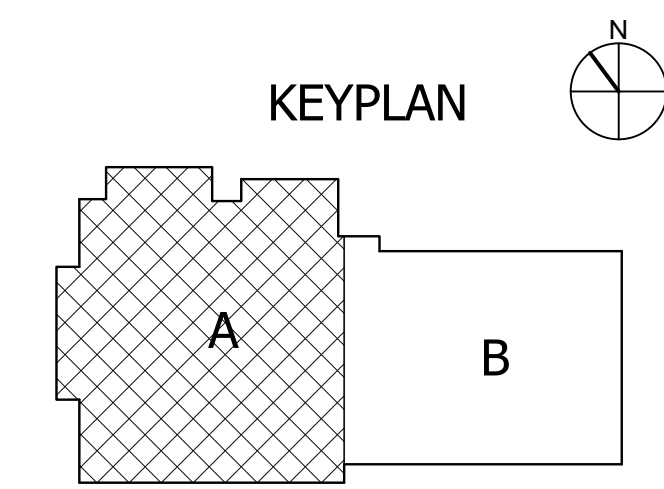
CITY OF EVERETT, MA

CONSULTANTS

REGISTRATION



KEYPLAN



ISSUE / REVISION

#	Date	Addendum	Description
1	9/28/2026	Addendum 1	

PROJECT NUMBER

BEMS26

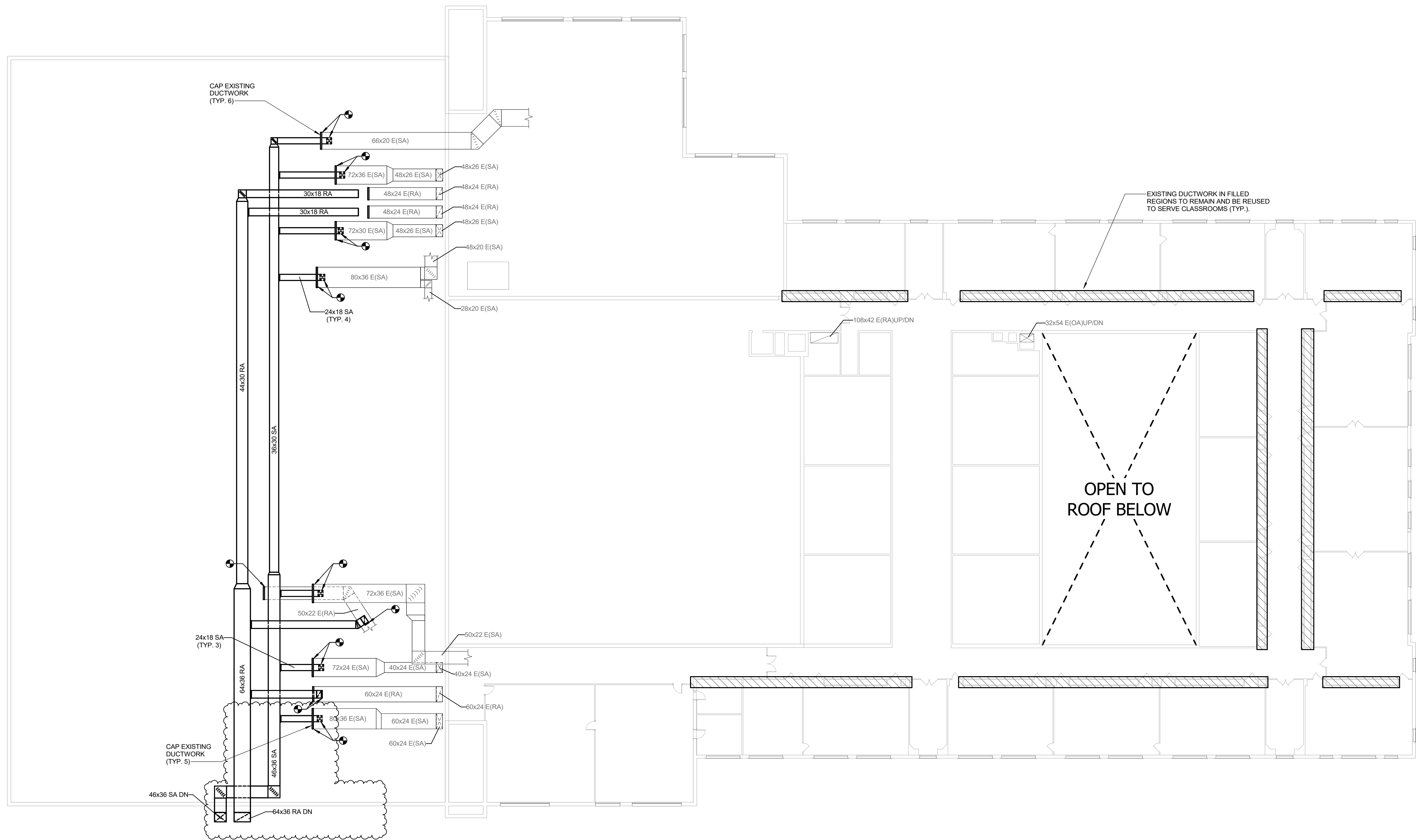
SHEET TITLE

**MECHANICAL THIRD FLOOR NEW
WORK PLAN**

SHEET NUMBER

M-203

NOT FOR CONSTRUCTION



1 MECHANICAL THIRD FLOOR NEW WORK PLAN
SCALE: 1/16" = 1'-0"

**OLD EVERETT HIGH SCHOOL -
TASK 5**

CLIENT

CONSULTANTS

KEYPLAN

[illegible]

BEMS26

MECHANICAL ATTIC NEW WORK
PLAN

M-204



SCALE: 1/16" = 1'-0"

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 OF TIME: 9/28/2025 4:25:11 PM



PROJECT

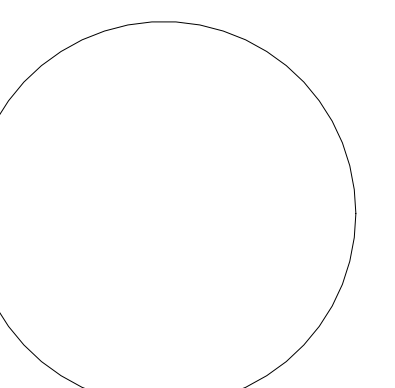
**OLD EVERETT HIGH SCHOOL -
TASK 5**

CLIENT

CITY OF EVERETT, MA

CONSULTANTS

REGISTRATION



Issue Date

KEYPLAN

ISSUE / REVISION

[illegible]

PROJECT NUMBER

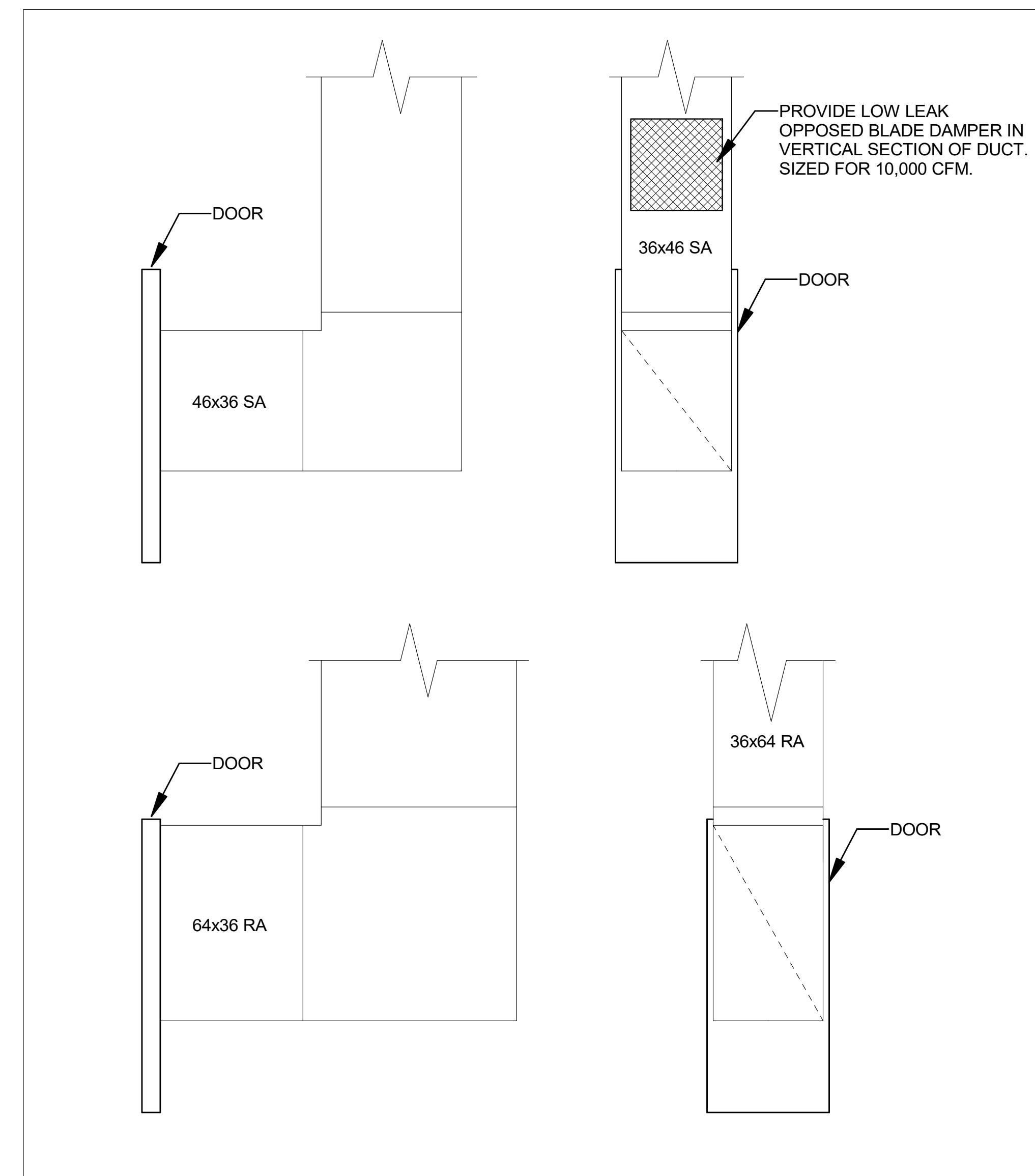
BEMS26

SHEET TITLE

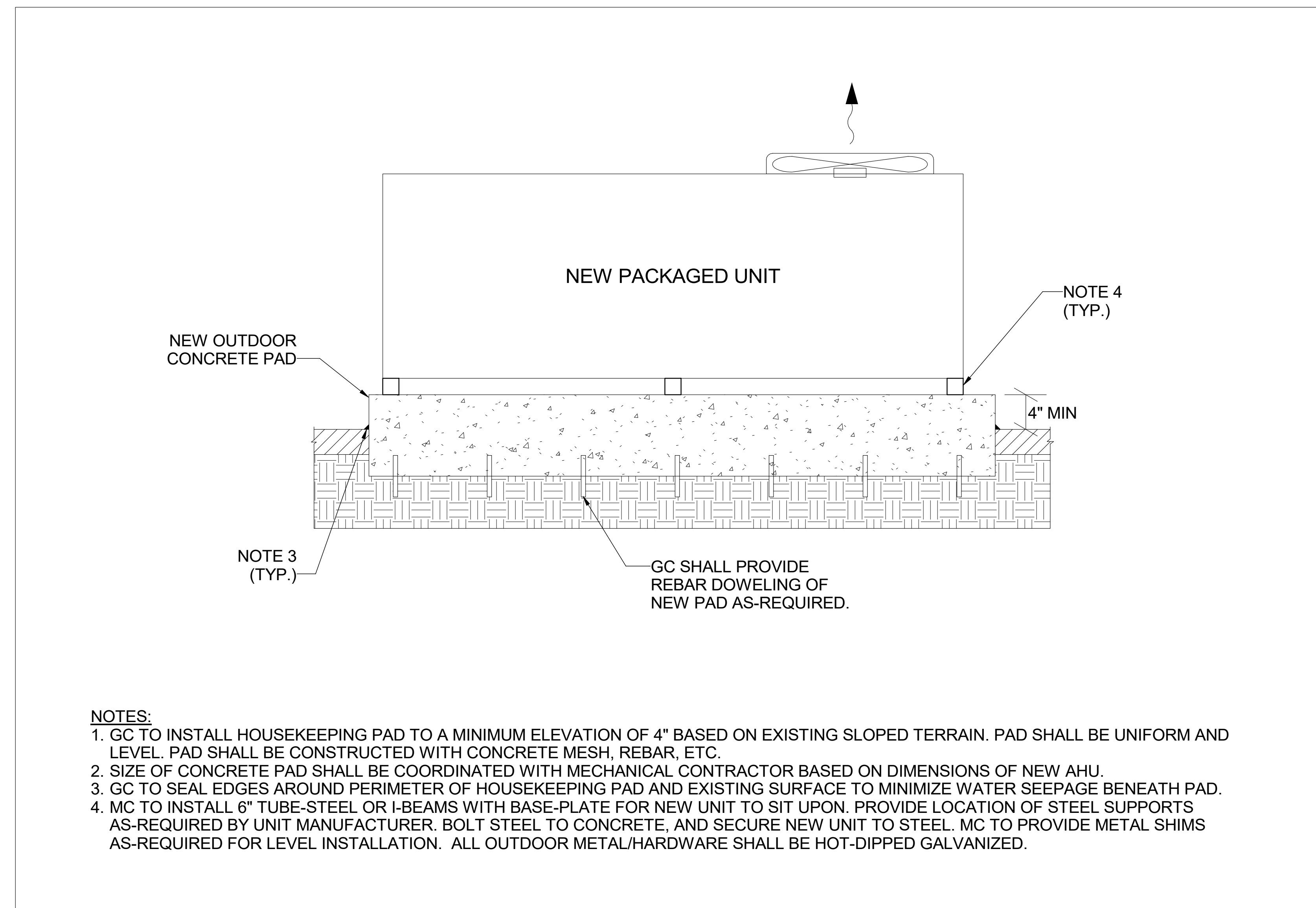
MECHANICAL DETAILS

SHEET NUMBER

M-300



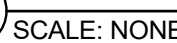
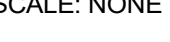
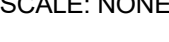
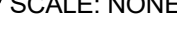
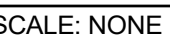
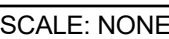
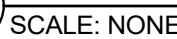
1 DUCTWORK THROUGH DOORWAY DETAIL
SCALE: NONE

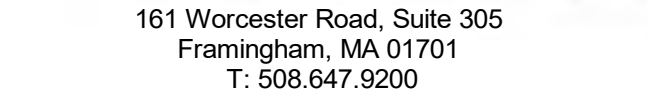


2 ARU INSTALLED ON GRADE DETAIL
SCALE: NONE

FILENAME: Autodesktop Docs\KODI\Everett HS - Task 5 Bandwidth\BEMS26_MEP_25.rvt
 AT TIME: 9/28/2025 4:25:11 PM

NOT FOR CONSTRUCTION





OLD EVERETT HIGH SCHOOL - TASK 5

CONSULTANTS

UNIT NO.	SERVICE	LOCATION	SUPPLY FAN							EVAPORATOR COIL							INDIRECT GAS-FIRED HEATER					ELECTRICAL SERVICE		OPERATING WEIGHT (LBS)	
			TOTAL CFM	MIN O.A. CFM	STATIC PRESS. (IN. W.G.)		FAN RPM	MOTOR BHP	MOTOR HP	TOTAL MBH	SENSIBLE MBH	REFRIG. TYPE	AIR DATA					INPUT MBH (MIN)	INPUT MBH (MAX)	OUTPUT MBH (MIN)	OUTPUT MBH (MAX)	GAS PRESS. (IN. W.G.)	MCA		V/Ø/Hz
					TOTAL	EXT.							EAT (°F)		LAT (°F)		P.D. (IN. W.G.)								
													DB	WB	DB	WB									

GAS-ELECTRIC AIR HANDLING UNIT SCHEDULE CONT.

REMARKS:

-



KEYPLAN

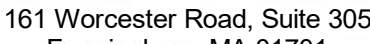
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BEMS26

MECHANICAL SCHEDULES

M-400

NOT FOR CONSTRUCTION



161 Worcester Road, Suite 305
Framingham, MA 01701

161 Worcester Road, Suite 305
Framingham, MA 01701

OLD EVERETT HIGH SCHOOL
TASK 5

548 Broadway, Everett, MA 02149

CITY OF EVERETT, MA

Issue Date

#	Date	Description
---	------	-------------

PROJECT NUMBER

SHEET TITLE

NOTES

E-003

ELECTRICAL GENERAL NOTES

- EACH CONTRACTOR, PROSESSOR, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICT WITH ALL ELECTRICAL CODES, STANDARDS, AND REGULATIONS THAT APPLY TO THIS CONTRACT.
2. ADDITIONAL ELECTRICAL REQUIREMENTS MAY BE SHOWN ON PLANS FROM OTHER DISCIPLINES IN THIS SET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL PLANS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT REQUIREMENTS.
3. WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL LOCAL, STATE, AND NATIONAL CODES, INCLUDING BUT NOT LIMITED TO N.E.C. (NATIONAL ELECTRICAL CODE), BUILDING CODES, AND ANY OTHER CODES THAT APPLY TO THIS CONTRACT FROM CITY, COUNTY, LOCAL, STATE, AND FEDERAL, MUNICIPAL, UTILITY COMPANY, OSHA, ETC.
4. CONTRACTOR SHALL FOLLOW ALL ELECTRICAL, MECHANICAL, AND PLUMBING STANDARDS IN LATEST ADOPTED CODES AND ALL APPLICABLE BUILDING CODES, WITH ALL AMENDMENTS AS ADOPTED BY THE CURRENT LEGISLATION. REFER TO ELECTRICAL AND STRUCTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. SIGNATURE OF ALL CONTRACTORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM.
6. WHERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, DETAILS, OR SPECIFICATIONS, THE MORE STRINGENT SHALL PREVAIL.
7. DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITINGS NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
9. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES, NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE NATIONAL ELECTRICAL SAFETY CODE, AND ALL OTHER CODES, STANDARDS, AND REGULATIONS THAT APPLY TO THIS CONTRACT OR DEPARTMENTS HAVING JURISDICTION, IF ANY CONFLICTS OR DISCREPANCIES OCCUR ARE THE MOST STRINGENT SHALL APPLY.
10. NATURAL LIGHTS FOR WALL MOUNTED DEVICES INDICATED ABOVE FINISHED FLOOR ARE TO CENTER OF DEVICE UNTO. MOUNTING HEIGHTS TO CEILING SUSPENDED DEVICES ARE TO BOTTOM OF DEVICE UNTO. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEER FOR CLARIFICATION. COORDINATE WITH ALL OTHER BUILDING SYSTEMS AND EXTERIOR ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF THESE DOCUMENTS, AS APPLICABLE.
11. DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONS TO CENTER OF DEVICE UNTO.
12. REFER TO ARCHITECTURAL WALL ELEVATIONS (WHERE GIVEN) FOR HEIGHTS AND MOUNTING RELATIONSHIP OF OUTLETS AND FURNITURE, CASEWORK, AND/OR EQUIPMENT. ADDITIONAL OUTLETS MAY BE SHOWN ON PLANS, BUT SHALL BE IN CONFLICT WITH THE BUILDING CODES, STANDARDS, AND REGULATIONS THAT APPLY TO THIS CONTRACT OR DEPARTMENTS HAVING JURISDICTION, AS INDICATED ON PLAN, SHALL BE LOCATED BY DIMENSIONS FURNISHED BY THE ARCHITECT, UNLESS OTHERWISE SHOWN ON PLANS. IF IN DOUBT, CONTACT THE ENGINEER FOR CLARIFICATION.
13. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER IMMEDIATELY IN WRITING.
14. THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR WHOEVER HOLDS THE PRIME CONTRACT(S) FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF ALL WORK. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME. ANY DELAYS OR CHANGES IN THE PART OF ANY SUBCONTRACTOR SHALL BE RESOLVED BY THE PARTY WHO ENGAGED THEM ON THIS PROJECT.
15. THE PURPOSE AND INTENT OF ALL OF THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE AND DETAILED SET OF REQUIREMENTS FOR THE CONSTRUCTION OF THE PROJECT.
16. ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. FINAL DETERMINATION OF WORKMANLIKE MANNER SHALL BE THE RESPONSIBILITY OF THE ENGINEER.
17. ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS DOCUMENTED BY THE ENGINEER, UNLESS LONGER WARRANTY PERIODS ARE REQUIRED FOR EQUIPMENT OR MATERIALS.
18. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEER FOR CLARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK.
19. EXPOSED ELECTRICAL, MECHANICAL, AND PLUMBING WORK SHALL BE PROTECTED FROM ADJACENT SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL BE PRIMED AND FINISHED SO AS TO COMPLEMENT ADJACENT SURFACE, UNLESS OTHERWISE NOTED. COORDINATE WORK AND COLORS WITH ARCHITECT.
20. COORDINATE ALL ELECTRICAL, MECHANICAL, AND PLUMBING WORK WITH ALL OTHER BUILDING SYSTEMS. MAKE SUCH PENETRATION IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING MANUFACTURER AND ARCHITECT.
21. ELEVATIONS OF ALL ELECTRICAL, MECHANICAL, AND PLUMBING WORK SHALL BE INSTALLED ON CENTER OR 2" DIMENSION OF 2'X4" TILE AND ON CENTERLINE OR A QUARTER POINT ON 4" DIMENSION.
22. PROVIDE DETAILED SHOP DRAWINGS TO ENGINEER PRIOR TO PURCHASING OR INSTALLING ANY EQUIPMENT OR MATERIALS. ELEVATIONS OF ALL ELECTRICAL, MECHANICAL, AND PLUMBING WORK SHALL BE INSTALLED ON CENTER OR 2" DIMENSION OF 2'X4" TILE AND ON CENTERLINE OR A QUARTER POINT ON 4" DIMENSION.
23. THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT, ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVOLUTION, WHETHER APPROVED BY THE ENGINEER OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
24. ALL ELECTRICAL, MECHANICAL, AND PLUMBING WORK SHALL BE INSTALLED IN A MANNER THAT WILL NOT VOID OR DIMINISH THE MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.
25. DO NOT REMOVE OR DESTROY ANY FLOOR TUBS OR OTHER FLUSH-MOUNTED EQUIPMENT IN WALLS THAT HAVE A FIRE RATING. NO INSTALLATION SHALL DIMINISH OR VOID FIRE RESISTIVE RATINGS IN ANYWAY.
26. COORDINATE THE LOCATION OF DRAINS, ELECTRICAL, OUTLETS, GAS OUTLETS, ETC. WITH ALL CASEWORK, EQUIPMENT, AND MATERIALS. ALL ELECTRICAL, MECHANICAL, AND PLUMBING WORK SHALL BE INSTALLED IN A MANNER THAT WILL NOT VOID OR DIMINISH THE MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.
27. ALL OFFICIALS, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSER'S DISCRETION.
28. INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING OR CONDENSATION OF LIQUIDS OR VAPORS TO OCCUR.
29. ALL WIRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTIPAIR, SHALL BE INSTALLED CONTINUOUS INsofar AS POSSIBLE FROM TERMINAL POINT TO TERMINAL POINT. ALL WIRING SHALL BE INSTALLED IN A MANNER THAT WILL NOT VOID OR DIMINISH THE MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.
30. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, DIRECTLY FROM THE BUILDING STRUCTURE OR FROM ANOTHER SUPPORTING STRUCTURE. ALL SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.
31. WHERE BACKBOXES ARE LOCATED IN THE SAME VERTICAL CHANNEL/STUD SPACE ON OPPOSITE SIDES OF THE SAME WALL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A MEANS TO ELIMINATE SOUND TRANSMISSION FROM ROOM TO ROOM.
32. JUNCTION BOXES LOCATED ABOVE ACCESSIBLE CEINGS SHALL BE LOCATED NO MORE THAN 36" ABOVE CEILING. ALL ELECTRICAL, MECHANICAL, AND PLUMBING WORK WITH A PERMANENT MARKER OR IN ACCORDANCE WITH SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
33. ABRASING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM ADJACENT UNITS BY USING VIBRATION ISOLATION, NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE IMMEDIATELY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTORS' EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION OR ACCESSIBILITY SHALL BE THAT OF THE ENGINEER.
34. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
35. ALL ITEMS HAVE KEYS/LOCKS/OPERATORS SHALL BE KEYS/LOCKS/OPERATORS. ALL KEYS/LOCKS/OPERATORS SHALL MATCH THE KEYS/LOCKS/OPERATORS OF THE SAME TYPE AND MAKE. ALL KEYS/LOCKS/OPERATORS SHALL BE KEYS/LOCKS/OPERATORS. ALL KEYS/LOCKS/OPERATORS SHALL MATCH THE KEYS/LOCKS/OPERATORS OF THE SAME TYPE AND MAKE.
36. NOISE WORK, INCLUDING CONSTRUCTION NOISEBARRIERS, WORK, EQUIPMENT, ETC. SHALL BE PERFORMED AFTER HOURS OR ON WEEKENDS. COORDINATE EXACT SCHEDULING WITH FACILITY PRIOR TO CONSTRUCTION.
37. ALL ELECTRICAL, MECHANICAL, AND PLUMBING WORK SHALL BE INSTALLED IN A MANNER THAT WILL NOT VOID OR DIMINISH THE MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.
38. CUTTING AND PATCHING SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S STANDARDS FOR SUCH WORK.
39. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES, CASH CONTRIBUTIONS OR OTHER COSTS INCURRED BY THE UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (ELECTRIC, TELEPHONE, TELEVISION, DATA, ETC.)
40. ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT NO DAMAGE IS DONE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
41. ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODES, NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE NATIONAL ELECTRICAL SAFETY CODE, AND ALL OTHER CODES, STANDARDS, AND REGULATIONS THAT APPLY TO THIS CONTRACT OR DEPARTMENTS HAVING JURISDICTION, IF ANY CONFLICTS OR DISCREPANCIES OCCUR ARE THE MOST STRINGENT SHALL APPLY.
42. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
43. THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED TWO WEEKS IN ADVANCE, IN WRITING. IF THE UTILITY COMPANY REQUIRES A LONGER NOTIFICATION PERIOD, SO PROVIDE.
44. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
45. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
46. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
47. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
48. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
49. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
50. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
51. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
52. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
53. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT,

ELECTRICAL DEMOLITION NOTES

1. DOTTED LINES INDICATE ITEMS FOR REMOVAL (UON) AND GRAY SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
2. REMOVE EXISTING ELECTRICAL PANELS TO BE RELOCATED, REMOVE, PROTECT, AND REINSTALL IN NEW LOCATION INDICATED ON NEW WORK PLANS. INTERCEPT AND EXTEND ALL EXISTING CABLEING TO NEW LOCATIONS AND RELOCATE TO NEW LOCATIONS.
3. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO EXIST. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE SAME CIRCUIT SHALL REMAIN IN PLACE. THE "UPSTREAM" OR "DOWNSTREAM" "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS PROVIDED THEY ARE NOT DAMAGED.
4. LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE NOT GUARANTEED TO BE CORRECT. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS. CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED AT ALL LOCATIONS. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE TO HIS SATISFACTION THAT THEY MAY COMPLETE ALL WORK REQUIRED FOR THIS PROJECT.
5. REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC. BEING REMOVED (BACK TO SOURCE). REMOVE ALL EXISTING ELECTRICAL PANELS TO BE RELOCATED TO REPAIR ANY EXISTING WALLS, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND REPAIR TO RECEIVE NEW DEVICES). REMOVE AND PATCH ALL EXISTING ELECTRICAL PANELS TO BE REMOVED.
6. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER.
7. COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THE PROJECT.
8. PROVIDE TEMPORARY EMERGENCY EXIT LIGHTS AT CONSTRUCTION BARRIERS AS REQUIRED.
9. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS / CEILINGS AS REQUIRED WHERE DEVICES ARE BEING REMOVED OR INSTALLED.
10. UNUSED/ABANDONED CONDUITS DISCOVERED ABOVE ACCESSIBLE CEILINGS SHALL BE REMOVED IN ACCORDANCE WITH NEC.
11. EXISTING ELECTRICAL SYSTEMS IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED TO PERMIT INSTALLATION OF DEVICES AND EQUIPMENT AS REQUIRED.
12. CONTRACTOR SHALL SEAL ALL EXISTING AND NEW PENETRATIONS OF BUILDING ENVELOPE (EXTERIOR WALLS, ROOF, ETC.) WATER-TIGHT AND WEATHER-PROOF BY PATCHING AND REPAIRING ALL EXISTING PENETRATIONS RESTORED BY A LICENSED ROOFING CONTRACTOR BASED ON WRITTEN INSTRUCTIONS AND DETAILS FROM ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE BUILDING ENVELOPE. MATERIALS AND ENGINEERING PLANS AND SPECIFICATIONS FOR FURTHER REPAIRS AND REPAIRS.
13. ALL ELECTRICAL PANELS AFFECTED BY THIS CONTRACTOR'S WORK SHALL BE PROVIDED WITH NEW TYPE -WRITTEN PANEL DIRECTORIES AND INSERT SLEEVES. PANEL DIRECTORIES SHALL NOT USE ROOM NAME OR NUMBER FROM PROJECT. THE CONTRACTOR SHALL PROVIDE THE PANELS DETAILED AND COORDINATED WITH OWNER'S SUITE NUMBERS, FINAL PANEL SCHEDULE, AND PANEL SCHEDULE. THE CONTRACTOR SHALL USE THE DESIGNATIONS, ETC., USED IN THE PANELS SHALL BE IN OFF POSITION.

7. CONDUIT OPENINGS AND SWITCHES SHALL BE MADE WITH A HOLE SAW OR SHALL BE PUNCHED ALL UNUSED OPENINGS SHALL BE PLUGGED OR CAPPED.
8. ALL DISCONNECT SWITCHES SHALL BE LABELED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATION.
9. ALL DISCONNECT SWITCHES SHALL BE THOROUGHLY CLEANED PRIOR TO FINAL ACCEPTANCE BY OWNER.
- 3.19 BOXES - JUNCTION, PULL AND OUTLET
- A. GENERAL INSTALLATION REQUIREMENTS
1. ALL BOXES SHALL BE ERECTED, RIGIDLY SUPPORTED AND SECURELY FASTENED IN PLACE, IN SUCH A MANNER THAT PLUMB, LEVEL, AND TRUE FINISHED LINES AND SURFACES WILL RESULT IN THE FINISHED WORK.
2. THE PLACEMENT OF ALL BOXES SHALL NOT INTERFERE WITH HVAC, PLUMBING OR SPRINKLER PIPING WORK.
3. LOCATE ALL CEILING OUTLETS WITH DUE CONSIDERATION TO CLEARANCE FROM VENTILATING DUCTS AND PIPING.
4. THE LOCATION OF OUTLETS SHOWN ON THE DRAWINGS IS DIAGRAMMATIC ONLY. COORDINATE THE EXACT LOCATION OF OUTLETS WITH ARCHITECTURAL DETAILS, EQUIPMENT CONNECTION REQUIREMENTS, AND ELECTRICAL CODES. THE OWNERS REPRESENTATIVE MAY ALTER THE LOCATING OF OUTLETS SHOWN WITHIN A 6'-0" RADIUS PRIOR TO INSTALLATION.
5. PROTECT ALL OUTLET BOXES FROM ENTRY OF FOREIGN MATERIALS.
6. INDEPENDENTLY SUPPORT ALL BOXES. NO PARTS OF THE WEIGHT OR STRESS OR EQUIPO SHALL BE BORNE BY CONDUITS TERMINATING THEREIN.
7. ALL BOXES SHALL BE RIGIDLY MOUNTED TO CONSTRUCTION AND SHALL BE EQUIPPED WITH SUITABLE SCREW FASTENED COVERS. UNUSED OR KNOCKOUTS IN ALL BOXES SHALL BE PLUGGED WITH SUITABLE BLANKING DEVICES. ALL BOXES INSTALLED THAT DO NOT HAVE EQUIPMENT MOUNTED ON THEM SHALL BE PROVIDED WITH BLANK COVERS.
- B. INSTALLATION OF PULL AND JUNCTION BOXES
1. THE CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES FOR ALL FEEDERS AS REQUIRED BY NEC. PULL BOXES SHALL BE CODE GAUGE STEEL PLATES FASTENED TO ANGLE IRON FRAMES WITH REMOVABLE COVERS. COVERS SHALL BE SECURED WITH BRASS MACHINE SCREWS.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL JUNCTION BOXES FOR FEEDERS AND BRANCH CIRCUITS AS REQUIRED. BOXES SHALL BE SIZED IN ACCORDANCE WITH NEC. JUNCTION BOXES SHALL BE CODE GAUGE STEEL WITH REMOVABLE COVERS. COVERS SHALL BE SECURED WITH BRASS MACHINE SCREWS.
3. SUITABLE PULL BOXES SHALL BE INSTALLED IN CONVENIENT INTERMEDIATE LOCATIONS IN ALL CONDUIT RUNS IN EXCESS OF 150 LINEAR FEET AND RUNS REQUIRING MORE THAN (3) 90° BENDS.
4. LOCATE PULL BOXES AND JUNCTION BOXES ABOVE REMOVABLE CEILINGS OR IN ELECTRICAL ROOMS, UTILITY ROOMS, STORAGE OR OTHER AREAS.
5. PULL BOXES SHALL BE INSTALLED IN A RIGID AND SATISFACTORY MANNER BY USE OF SHEET METAL SCREWS OR WOOD BOLTS AND EXPANSION SHIELD ON CONCRETE OR BRICK. TOGGLE BOLTS ON HOLLOW MASONRY UNITS. AND MACHINE SCREWS OR WELDED THREADED STUDS ON STEEL WORK.
- C. INSTALLATION OF OUTLET BOXES
1. LOCATION OF ALL WALL OUTLETS, SWITCHES, ETC. SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO ROUGHING IN. REFER TO DETAILS AND WALL ELEVATIONS ON DRAWINGS.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL OUTLET BOXES FOR ALL WIRING DEVICES AS SHOWN ON THE DRAWINGS.
3. THRU-THE-WALL OUTLET BOXES SHALL NOT BE PERMITTED.
4. WHENEVER OUTLET BOXES OF ANY SYSTEM ARE INSTALLED IN BRICK, TILE, AND ALL TYPES OF CONSTRUCTION BLOCKS AT OUTLETS, EXPOSED MORTAR SHALL NOT BE PERMITTED ABOVE DEVICE PLATES.
- (A) THE CONTRACTOR IS RESPONSIBLE FOR CUTTING OPENINGS IN BRICK, TILE, AND ALL TYPES OF CONSTRUCTION BLOCKS AT OUTLETS. EXPOSED MORTAR SHALL NOT BE PERMITTED ABOVE DEVICE PLATE.
5. LOCATION OF OUTLETS SHOWN ON THE DRAWINGS ARE APPROXIMATE: THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR.
6. ALL BOXES SHALL BE RIGIDLY MOUNTED TO CONSTRUCTION AND SHALL BE EQUIPPED WITH SUITABLE SCREW FASTENED COVERS. UNUSED OR KNOCKOUTS IN ALL BOXES SHALL BE PLUGGED WITH SUITABLE BLANKING DEVICES. ALL BOXES INSTALLED THAT DO NOT HAVE EQUIPMENT MOUNTED ON THEM SHALL BE PROVIDED WITH BLANK COVERS.
7. PROVIDE PERMANENT BARRIERS IN COMMON BOXES TO LIMIT VOLTAGE BETWEEN ADJACENT SWITCHES TO 300V OR LESS.
8. OUTLET BOXES SERVING PENDANT MOUNTED FIXTURES INSTALLED IN STRUCTURAL SLABS SHALL BE INSTALLED IN BOTTOM OF RB SECTION OF STRUCTURAL ASSEMBLY UNLESS OTHERWISE INDICATED.
9. THE HEIGHT OF OUTLETS AND DEVICES SHALL BE OBTAINED FROM THE ENGINEER. ALL MOUNTING HEIGHTS TO BE IN ACCORDANCE WITH ADA AND NFPA GUIDELINES.
10. COORDINATE HEIGHT OF OUTLETS WITH DRAWINGS AND EQUIPMENT INSTALLATIONS. DRAWINGS AND PROPERLY LOCATE HEIGHT OF ALL OUTLETS.
11. PLUG ALL UNUSED OPENINGS. USE THREADED PLUGS FOR CAST BOXES AND SNAP IN METAL PLUGS FOR STEEL METAL BOXES.
12. COMMON BOXES USED WITH INSTALLATION WITH SWITCHES AND RECEPTABLES AND LOW VOLTAGE DEVICES SHALL INCLUDE BARRIERS BETWEEN THE DEVICES AND THE SWITCHES OR RECEPTABLES.
- D. CLEANING
1. ALL PULL, JUNCTION, AND OUTLET BOXES SHALL BE THOROUGHLY CLEANED PRIOR TO INSTALLATION OF CONDUCTORS AND/OR WIRING DEVICES.
- E. IDENTIFICATION
1. ALL BOXES SHALL BE PERMANENTLY MARKED WITH CIRCUIT NUMBER(S) AND VOLTAGE.
- 3.10 WIRING DEVICES AND DEVICE PLATES
- A. INSTALLATION
1. INSTALL IN BOXES APPROVED FOR THE PURPOSE.
2. UTILIZE SCREW TERMINALS. DO NOT UTILIZE "PUSH-IN" TYPE SCREW TERMINALS.
3. RECEPTABLES INSTALLED VERTICALLY SHALL BE ORIENTED WITH THE GROUND PIN POSITION UP. RECEPTABLES INSTALLED HORIZONTALLY SHALL BE ORIENTED WITH THE NEUTRAL POSITION UP.
4. PROVIDE LABELLING FOR ALL NEW EQUIPMENT INDICATING SOURCE AND CIRCUIT NUMBER.
5. PROVIDE LABELLING FOR ALL EXISTING EQUIPMENT BEING MAINTAINED AND REFEED INDICATING SOURCE AND PANEL NUMBER.
- 3.11 CONDUITS
- A. UTILIZE ELECTRICAL METALLIC TUBING EXPOSED IN FINISHED AREAS AND MECHANICAL ROOMS. FOR ALL FEEDERS, ABOVE HUNG CEILINGS AND IN OTHER LOCATIONS NOT LISTED AS DAMP, WET, OR SUBJECT TO PHYSICAL ABUSE.
- B. MAKE CONNECTIONS TO MOTORS AND EQUIPMENT WITH PVC JACKETED FLEXIBLE METALLIC CONDUIT AND LIQUID-TIGHT CONNECTORS.
- C. ALL CONDUIT RUNS IN MECHANICAL ROOMS UP TO 8'-0" AFF) AND EXTERIOR CONDUIT RUNS SHALL BE GALVANIZED STEEL CONDUIT (GRSC).
- D. FOR EXPOSED RUNS IN AREAS SUBJECT TO WEATHER, ATTACHE SURFACE MOUNTED CONDUIT WITH CLAMPS. UTILIZE GALVANIZED STEEL STRAPS AND STAYLESS STEEL HARDWARE FOR ALL EXPOSED WORK IN DAMP LOCATIONS. ALLOW 1/4" MIN CLEARANCE AT ALL SUPPORTS FOR EXPANSION AND DEFLECTION.
- 3.12 HANGERS AND SUPPORTS
- A. RACEWAYS SHALL BE SECURELY FASTENED TO THE STRUCTURE, WITH SUPPORT MECHANISMS SPACED AS DICTATED BY THE NEC OR AS SPECIFIED BELOW, WHICHEVER IS MORE STRINGENT:
1. 1/2" THRU 1": 8'-0"
2. 1 1/4" THRU 1 1/2": 6'-0"
3. 2" THRU 4": 10'-0"
4. FLEXIBLE METAL CONDUIT: 4'-0"
5. WIREWAYS: 5'-0"
- B. SUPPORT EMT CONDUITS WITHIN 3'-0" OF EVERY JUNCTION BOX, PULLBOX OR TERMINATION. SUPPORT FLEXIBLE CONDUIT WITHIN 12" ON EACH SIDE OF EVERY OUTLET BOX OR FITTING.
- C. SUPPORT CONDUITS BY PIPE STRAPS, WALL BRACKETS, HANGERS OR CEILING TRAPEZE. DO NOT USE CONDUITS OR PIPE STRAPS TO STEEL STRUCTURES UNLESS SPECIFICALLY INDICATED.
- D. FASTENERS ATTACHED TO CONCRETE SHALL BE VIBRATION AND SHOCK RESISTANT.
- 3.13 PANELBOARDS
- A. INSTALLATION
1. PANELBOARDS SHALL BE INSTALLED IN LOCATIONS AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE MOUNTED SUCH THAT THE HANDLE OF THE HIGHEST CIRCUIT BREAKER DOES NOT EXCEED 6'-6" ABOVE FINISHED FLOOR. PANELBOARD CABINETS SHALL BE INSTALLED SURFACE MOUNTED AS INDICATED BY TRIM TYPE AS SHOWN ON THE DRAWINGS. TRIM TYPE AS SHOWN ON THE DRAWING. NO PIPING, DUCTWORK, OR OTHER MECHANICAL EQUIPMENT SHALL BE ALLOWED TO PASS THROUGH THE AREA EXTENDING FROM THE FLOOR TO THE STRUCTURAL CALLING WITH THE WIDTH EQUAL TO WIDTH OF THE PANEL PLUS 6" ON EITHER SIDE OF PANEL.
2. SURFACE MOUNTED PANELBOARDS SHALL BE MOUNTED INDEPENDENT OF THE WALL AND CONNECTING RACEWAYS. FURNISH STEEL CHANNEL SUPPORTS MOUNTED ON THE WALL AND EACH THE PANEL DEPENDENT TO THIS SUPPORT. CONDUIT AND PULL BOX SHALL BE EMPTY AT TIME OF COMPLETION.
3. PANELBOARD DOORS SHALL CONTAIN HOLDERS FOR DIRECTORY CARDS WITH PLASTIC PROTECTOR. PANELBOARD DIRECTORY CARDS SHALL BE TYPEWRITTEN TO INDICATE AREAS AND/OR DEVICES SERVED BY EACH CIRCUIT. DIRECTORY CARDS SHALL BE EDITED AND MAINTAINED DURING THE COURSE OF CONSTRUCTION TO KEEP AN ACCURATE UP TO DATE RECORD OF EACH FEEDER OR BRANCH CIRCUIT.
4. PANELBOARDS SHALL BE INSTALLED WITH CLEAR WORK SPACE AS REQUIRED BY NEC.
5. PANELBOARDS IN FINISHED AREAS, INSTALLED RECESSED IN WALLS, SHALL BE PRIME COATED ONLY, FOR FINISH PAINTING BY OTHERS.
6. PANELBOARDS LOCATED IN SPACES SUBJECT TO STORAGE SHALL HAVE THE CLEAR WORKING SPACE PER NFPA 70, "ELECTRIC ACCESS" NOT FOR STORAGE. SHALL BE PERMANENTLY MARKED ON THE FRONT AND WALL, ABOUT THE PANEL. PANELBOARDS SHALL NOT BE LOCATED IN EGRESS CORRIDORS.
7. PROVIDE PAPERETTE NAMEPLATES WITH LABELING ON ALL ELECTRICAL EQUIPMENT. NAMEPLATES SHALL BE SECURED TO PANELBOARDS AND EQUIPMENT BY MEANS OF SELF TAPPING SCREWS OR NUTS. BLACK BACKGROUND WITH WHITE LETTERS, 1" X 3" WITH 38" HIGH LETTERS ON 1/16" THICK PLATE. READ FOR ALL NORMAL POWER SYSTEMS "1 X 3" WITH 38" LETTERS ON 1/16" THICK PLATE. REFL ON WHITE FOR LIFE SAFETY, EMERGENCY, AND FIRE ALARM CONNECTED EQUIPMENT.
- B. CLEANING
1. ALL PANELBOARDS SHALL BE COMPLETELY CLEANED PRIOR TO ENERGIZING.
2. CLEANING SHALL CONSIST OF VACUUMING ALL BUSES, ENCLOSURES (INSIDE AND OUT), ETC. AFTER VACUUMING IS COMPLETE, ALL EQUIPMENT SHALL BE WIPE DOW. IF EQUIPMENT IS OILY OR CONTAINS MOISTURE, IT SHALL BE THOROUGHLY DRIED BEFORE ENERGIZING.
- C. TESTS
1. REFER TO PART 4 TESTING OF ELECTRICAL EQUIPMENT FOR TESTING REQUIREMENTS.

- 3.15 FUSES
- A. GENERAL
 - 1. FUSES SHALL NOT BE INSTALLED UNTIL EQUIPMENT IS READY TO BE ENERGIZED.
 - 2. FINAL TESTINGS AND INSPECTIONS SHALL BE MADE PRIOR TO ENERGIZING OF EQUIPMENT.
 - B. INSPECTION
 - 1. THE PROPER FUSE RATING SHALL BE DETERMINED FROM THE EQUIPMENT MANUFACTURER'S RECOMMENDATION FOR ALL EQUIPMENT REQUIRED TO BE PROTECTED WITH FUSES.
 - 2. THE PROPER SIZE SWITCH WITH FUSE HOLDERS SHALL MATCH THE FUSE APPLICATION.
- 3.16 GROUNDING
- A. THE REQUIRED EQUIPMENT GROUNDING CONDUCTORS AND STRAPS SHALL BE SIZED IN COMPLIANCE WITH NEC TABLE 250-112.
 - B. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE PROVIDED WITH INSULATION EQUIVALENT TO THE INSULATION ON THE ASSOCIATED PHASE CONDUCTORS AND COLOR CODED AS DESCRIBED IN SYSTEMS IDENTIFICATION.
 - C. FLEXIBLE METALLIC CONDUIT EQUIPMENT CONNECTIONS SHALL BE PROVIDED WITH SUITABLE GROUNDING TERMINALS AT EACH END OF THE FLEXIBLE CONDUIT.
 - D. EACH ELECTRICAL APPLIANCE FITTING SHALL BE PROVIDED WITH A BONDING JUMPER.
 - E. CONTINUITY BETWEEN ALL METALLIC AND NON-METALLIC RACEWAYS, WIREWAYS AND EQUIPMENT SHALL BE MAINTAINED.
 - F. ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH A SEPARATE GROUNDING CONDUCTOR.
- 3.16 ELECTRICAL IDENTIFICATION
- A. DEMOLITION
 - 1. REMOVE LABELS AND/OR MODIFY DOCUMENTY ASSOCIATED WITH THE CIRCUIT BEING DEMOLISHED AT THE SOURCE AND REPLACE WITH A LABEL IDENTIFYING IT AS A "SPARE".
 - 2. LIGHTING AND RECEPTACLE OUTLET BOXES AND JUNCTION BOXES.
 - 3. BOXES SHALL BE IDENTIFIED WITH THE PANEL AND CIRCUIT DESIGNATION.
 - B. NEW WORK
 - 1. PROVIDE LABELS FOR DEVICE PLATES ON ALL LIGHT SWITCHES AND RECEPTACLES, LABEL PANEL INDICATE PANEL FED FROM AND BRANCH CIRCUIT NUMBER.
 - 2. PROVIDE LABELS FOR DISCONNECT SWITCHES AND VFDs. LABELS SHALL INDICATE PANEL FED FROM AND BRANCH CIRCUIT NUMBER.
 - C. TERMINAL BLOCKS
 - 1. TERMINAL BLOCKS FOR DISCONNECT IDENTIFICATION NUMBERS SHALL BE NUMBERED BY THE CONTRACTOR WITH DESIGNATIONS SHOWN ON THE WIRING DIAGRAM USING NAMEPLATES. TERMINAL BLOCK NAMEPLATES SHALL BE INSTALLED AT THE TOP OF VERTICALLY MOUNTED TERMINAL BLOCKS AND AT THE END OF HORIZONTALLY MOUNTED TERMINAL BLOCKS. TERMINAL BLOCK MARKING STRIPS SHALL BE FILLED OUT BY THE CONTRACTOR USING PERMANENT INK AND SHALL INDICATE THE INDIVIDUAL TERMINAL POINT DESIGNATIONS SHOWN ON THE WIRING DIAGRAMS.
- 3.17 AS-BUILT DRAWINGS
- A. A COMPLETE SET OF AS-BUILT DRAWINGS IN ELECTRONIC FORMAT (AUTOCAD) FOR THE PROJECT SHALL BE DELIVERED TO THE ENGINEER FOR APPROVAL AND ALL DEVIATIONS NOTED BY THE ENGINEER SHALL BE CORRECTED BY THE CONTRACTOR AND RETURNED TO THE ENGINEER FOR FURTHER DELIVERY TO THE OWNER.

PART 4 TESTING OF ELECTRICAL EQUIPMENT

- ## PERFORMANCE
- A. NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO SCHEDULED PERFORMANCE OF TEST.
- B. PERFORM ALL TESTS IN ACCORDANCE WITH NETA STANDARDS.
- ### 4.2 TEST PROCEDURES
- A. MOLDED CASE CIRCUIT BREAKERS
1. VISUAL AND MECHANICAL INSPECTION
 - (A) INSPECT COVER AND CASE, AND CHECK FOR BROKEN OR LOOSE TERMINALS.
 - (B) CHECK FOR PROPER MOUNTING, CONDUCTOR SIZE AND FEEDER DESIGNATION.
 - (C) OPERATE BREAKER TO CHECK OPERATION.
 - (D) INSPECT CONNECTIONS FOR PROPER TORQUE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
2. ELECTRICAL TESTS
- (A) PERFORM A CONTACT-RESISTANCE TEST
 - (B) PERFORM AN INSULATION-RESISTANCE TEST AT 1000 VOLTS DC FROM POLE-TO-POLE AND FROM EACH POLE-TO-GROUND WITH BREAKER CLOSED AND ACROSS OPEN CONTACTS OF EACH PHASE.
 - (C) PERFORM ADJUSTMENTS FOR FINAL SETTINGS IN ACCORDANCE WITH COORDINATION STUDY.
 - (D) PERFORM LONG-TERM DELAY TIME-CURRENT CHARACTERISTIC TESTS BY PASSING 300 PERCENT RATED PRIMARY CURRENT THROUGH EACH POLE SEPARATELY UNLESS SERIES TESTING IS REQUIRED TO DEFEAT GROUND FAULT FUNCTIONS.
 - (E) DETERMINE SHORT-TIME PICKUP AND DELAY BY PRIMARY CURRENT INJECTION
 - (F) DETERMINE INSTANTANEOUS PICKUP CURRENT BY PRIMARY INJECTION.
3. ELECTRICAL TESTS
- (A) PERFORM RESISTANCE MEASUREMENTS THROUGH ALL BOLTED CONNECTIONS WITH LOW-RESISTANCE CHARTER.
 - (B) PERFORM INSULATION-RESISTANCE TESTS: WINDING-TO-WINDING AND WINDING-TO-GROUND PER NETA RECOMMENDATIONS.
 - (C) PERFORM TURN-RATIO TESTS AT ALL TAP POSITIONS.
 - (D) PERFORM POWER-FACTOR/DISSIPATION FACTOR TEST ON WINDINGS AND BUSINGS PER MANUFACTURER RECOMMENDATIONS.
 - (E) MEASURE RESISTANCE OF EACH HIGH-VOLTAGE WINDING AND LOW-VOLTAGE WINDING IN EACH LOAD TAP-CHANGER POSITION.
- B. CONDUCTORS (600V AND LESS)
1. VISUAL AND MECHANICAL INSPECTION
 - (A) INSPECT FOR PHYSICAL DAMAGE AND PROPER CONNECTION IN ACCORDANCE WITH SINGLE-LINE DIAGRAM.
 - (B) CABLE CONNECTIONS SHALL BE TORQUE TESTED TO MANUFACTURER'S RECOMMENDED VALUES.
 - (C) VERIFY CABLE COLOR CODING WITH APPLICABLE SPECIFICATIONS AND THE NEC.
2. ELECTRICAL TESTS (ALL FEEDERS 100 AMPS AND LARGER)
- (A) PERFORM INSULATION-RESISTANCE TEST ON EACH CONDUCTOR WITH RESPECT TO GROUND AND ADJACENT CONDUCTORS. TEST DURATION SHALL BE A MINIMUM OF 1 MINUTE.
 - (B) PERFORM RESISTANCE MEASUREMENTS THROUGH ALL BOLTED CONNECTIONS WITH LOW-RESISTANCE OHMMETER.
 - (C) PERFORM CONTINUITY TEST TO INSURE CORRECT CABLE CONNECTION

- (A) VERIFY GROUND SYSTEM IS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
- (B) INSPECT GROUND SYSTEM FOR ADEQUATE TERMINATION AT ALL DEVICES.
2. ELECTRICAL TESTS
- (A) PERFORM FALL OF POTENTIAL TEST PER IEEE 81, SECTION 9.04 ON THE MAIN GROUNDING ELECTRODE OR SYSTEM
- (B) PERFORM THE 2-POINT METHOD TEST PER IEEE 81, SECTION 9.03 TO DETERMINE THE GROUND RESISTANCE THROUGH THE MAIN GROUNDING SYSTEM AND ALL MAJOR ELECTRICAL EQUIPMENT FRAMES, SYSTEM NEUTRAL AND/OR DERIVED NEUTRAL POINTS, AND VALUES
3. TEST RESULTS
- (A) THE MAIN GROUND ELECTRODE SYSTEM RESISTANCE TO GROUND SHALL BE NO GREATER THAN 5 OHMS. PROVIDE ADDITIONAL GROUND RODS REQUIRED TO ACHIEVE 5 OHMS RESISTANCE VALUE.
- (B) INVESTIGATE POINT-TO-POINT RESISTANCE VALUES WHICH EXCEED 5 OHMS.
- (C) THE CONTRACTOR SHALL CORRECT OR REPLACE ANY NOMINAL CURRENT CARRYING CONDUCTOR WHICH IS DEFECTIVE OR GROUNDED, AND HE SHALL ALSO CORRECT ALL OTHER TROUBLES ENCOUNTERED BY THESE TESTS. ALL DEFECTS WHETHER THROUGH FAULTY WORKMANSHIP OR MATERIAL FURNISHED SHALL BE CORRECTED UNDER THIS SECTION AT THE CONTRACTOR'S EXPENSE.

PART 5 POWER SYSTEM STUDIES

5. PROVISIONS INCLUDED
- A. EXAMINE ALL DRAWINGS AND ALL OTHER SECTIONS OF THESE SPECIFICATIONS FOR REQUIREMENTS WHICH AFFECT WORK UNDER THIS SECTION WHETHER OR NOT SUCH WORK IS SPECIALLY MENTIONED IN THE SECTION.
- B. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING OR AFFECTED BY WORK OF THIS SECTION. COOPERATE WITH SUCH TRADES TO ENSURE THE STEADY PROGRESS OF ALL WORK UNDER THE CONTRACT.
- 5.2. SCOPE OF WORK
- A. SHORT CIRCUIT, COORDINATION AND ARC FLASH STUDIES SHALL BE PERFORMED BY THE CONTRACTOR. THE STUDIES SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO RECEIVING FINAL APPROVAL OF THE DISTRIBUTION EQUIPMENT SHOP DRAWINGS AND/OR PRIOR TO RELEASE OF EQUIPMENT FOR MANUFACTURE. IF FORMAL COMPLETION OF THE STUDIES MAY CAUSE DELAY IN EQUIPMENT MANUFACTURE, THE ENGINEER MAY BE OBTAINABLE FOR A PRELIMINARY SUBMITTAL OF SUFFICIENT STUDY DATA TO ENSURE THAT THE SELECTION OF DEVICE RATINGS AND CHARACTERISTICS WILL BE SATISFACTORY.
- B. THE STUDIES SHALL INCLUDE ALL NEW PORTIONS OF THE ELECTRICAL DISTRIBUTION SYSTEM AS FOLLOWS:
1. PANEL MDP AND PANEL MMH.
2. A SAMPLE OF THE LARGEST AND THE SMALLEST BRANCH CIRCUIT IN EACH PANELBOARD SHALL BE INCLUDED.
- C. WHERE THE NEW DISTRIBUTION SYSTEM CONNECTS TO EXISTING DISTRIBUTION, THE STUDIES SHALL INCLUDE THE EXISTING SERVICE TRANSFORMER AND THE EXISTING SECONDARY MAIN CIRCUIT BREAKER(S).
- D. THE STUDY SHALL BE PERFORMED AND SEALED BY A REGISTERED PROFESSIONAL ELECTRICAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS. THIS FIRM SHALL BE LICENSED IN FIELD CALIBRATION, SETTINGS AND TESTING OF PROTECTIVE DEVICES. THIS FIRM SHALL HAVE BEEN REGULARLY ENGAGED IN SUCH SERVICES FOR A MINIMUM OF TEN (10) YEARS.
- E. THE CONTRACTOR SHALL COORDINATE AND PROVIDE THE REQUIRED DATA FOR PREPARATION OF THE STUDIES TO THE ENGINEER PERFORMING THE STUDIES. THE CONTRACTOR SHALL OBTAIN THE REQUIRED DATA FROM THE FOLLOWING: THE SWITCHGEAR MANUFACTURER, PANELBOARD AND TRANSFORMER MANUFACTURER IMMEDIATELY AFTER AWARD OF THE CONTRACT.

- F. THE CONTRACTOR SHALL SUBMIT THE FINAL STUDY REPORT FOR REVIEW AND APPROVAL BY THE OWNERS ENGINEER.
- 5.3. STUDY REPORT
- A. THE RESULTS OF THE POWER SYSTEM STUDY SHALL BE SUMMARIZED IN A FINAL REPORT AND SHALL BE PERFORMED USING AFLUNT AND CAPTOR (80K SYSTEM ANALYSIS) SOFTWARE. THREE (3) SOFT COPIES OF THE COMPLETE DATA AND THE COMPLETE DATA ON DISKETTE SHALL BE SUBMITTED. THE DATA FILES SHALL BE CAPABLE OF BEING ACCESSSED AND MODIFIED BY THE OWNER AND BECOME THE PROPERTY OF THE OWNER.
- B. THE REPORT SHALL INCLUDE THE FOLLOWING SECTIONS:
1. DESCRIPTION, PURPOSE, BASIS AND SCOPE OF THE STUDY AND A SINGLE-LINE DIAGRAM OF THE PORTION OF THE POWER SYSTEM WHICH IS INCLUDED WITHIN THE SCOPE OF THE STUDY
 2. TABULATIONS OF CIRCUIT BREAKER, FUSE AND OTHER PROTECTIVE DEVICE RATINGS VERSUS CALCULATED SHORT CIRCUIT CURRENTS, AND COMMENTARY REGARDING SAME.
 3. PROTECTIVE DEVICE TIME VS. DUTY, COORDINATION CURVES, TABULATIONS OF RELAY AND CIRCUIT BREAKER TRIP SET POINTS, SELECTION AND COMMENTARY REGARDING SAME.
 4. FAULT CURRENT CALCULATIONS INCLUDING A DEFINITION OF TERMS AND GUIDE FOR INTERPRETATION OF COMPUTER PRINTOUT.
 5. ARC FLASH STUDY INDICATING THE INCIDENT ENERGY AT EACH PLACE OF EVALUATED EQUIPMENT. EQUIPMENT CALCULATED ABOVE CALCULUM SHALL BE PROVIDED WITH RECOMMENDATIONS TO REDUCE THE INCIDENT ENERGY.
- 5.4. REFERENCE STANDARDS
- A. APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND TRADE STANDARD PUBLICATIONS SHALL APPLY TO THE WORK OF THIS SECTION AND ARE HEREBY INCORPORATED INTO, AND MADE A PART OF, THE CONTRACT DOCUMENTS:
1. NEPA 70
 2. NEPA 70E
 3. IEEE: INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
- 5.5. SHORT CIRCUIT STUDY AND PROTECTIVE DEVICE EVALUATION STUDY
- A. THE SHORT CIRCUIT STUDY SHALL BE PERFORMED WITH THE AID OF A DIGITAL COMPUTER PROGRAM AND SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE IEEE AND ANSI STANDARDS.
- B. THE STUDY INPUT DATA SHALL INCLUDE THE SHORT CIRCUIT CONTRIBUTION, RESISTANCE AND REACTANCE COMPONENTS OF THE BRANCH IMPEDANCES, THE X/R RATIOS, BASE QUANTITIES SELECTED, AND OTHER SOURCE IMPEDANCES.
- C. SHORT CIRCUIT CLOSE AND LATCH UTILITY VALUES AND INTERRUPTING DUTY VALUES SHALL BE OBTAINED ON THE BASIS OF THE ASSUMED BUS AND SOURCE BUS AND THE SHORT CIRCUIT DISTRIBUTION PANELBOARD, PERTINENT BRANCH CIRCUIT PANEL AND OTHER SIGNIFICANT LOCATIONS THROUGH THE SYSTEM. THE SHORT CIRCUIT TABULATIONS SHALL INCLUDE THE INDIVIDUAL FAULT CONTRIBUTION OF EACH SOURCE, THE TOTAL FAULT CONTRIBUTION ON THE BUS, AS WELL AS THE INDIVIDUAL CONTRIBUTION FROM EACH CONNECTED BRANCH. SHALL BE LISTED WITH ITS RESPECTIVE X/R RATIO.
- D. A PROTECTIVE DEVICE EVALUATION STUDY SHALL BE PERFORMED TO DETERMINE THE ADEQUACY OF CIRCUIT BREAKERS AND FUSES BY TABULATING AND COMPARING THE SHORT CIRCUIT RATINGS OF THESE DEVICES WITH THE CALCULATED FAULT CURRENTS. APPROPRIATE MULTIPLYING FACTORS BASED ON SYSTEM X/R RATIOS AND PROTECTIVE DEVICE RATING FACTORS SHALL BE APPLIED. ANY PROBLEM AREAS OR INADEQUACIES IN THE EQUIPMENT DUE TO SHORT CIRCUIT CURRENTS SHALL BE PROMPTLY BROUGHT TO THE ENGINEERS ATTENTION.
- 5.6. PROTECTIVE DEVICE COORDINATION STUDY

- NECESSARY CALCULATIONS AND LOGIC DECISIONS REQUIRED TO SELECT OR TO CHECK THE PROPOSED LOW VOLTAGE PROTECTIVE DEVICES. THE STUDIES SHALL BE IN ACCORDANCE WITH THE RATIOS AND CHARACTERISTICS OF ASSOCIATED TRANSFORMERS AND THE LOW VOLTAGE BREAKER TRIP CHARACTERISTICS AND SETTINGS. THE STUDIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
- B. THE COORDINATION STUDY SHALL INCLUDE ALL LOW VOLTAGE CLASSES OF EQUIPMENT FROM THE BUILDING OR PLANT SERVICE PROTECTIVE DEVICES DOWN TO AND INCLUDING THE LARGEST RATED DEVICE IN THE LOW VOLTAGE MOTOR CONTROL CENTERS AND PANELBOARDS, THE PHASE TO PHASE AND OVERCURRENT PROTECTIVE DEVICES SHALL BE INCLUDED AS WELL AS SETTINGS OF OTHER ADJUSTABLE PROTECTIVE DEVICES.**
- C. THE TIME-CURRENT CHARACTERISTICS OF THE SPECIFIED PROTECTIVE DEVICES SHALL BE PROVIDED AS KEYS, TABLES, LEGENDS, AND COORDINATION CURVES. THE STUDY SHALL INCLUDE REPRESENTATIVE ONE-LINE DIAGRAM AND LEGENDS, SIGNIFICANT MOTOR STARTING CHARACTERISTICS, COMPLETE PARAMETERS OF TRANSFORMERS, COMPLETE OPERATING BANDS OF ALL LOW VOLTAGE CIRCUIT BREAKERS, AND COORDINATION CURVES. THE STUDY SHALL INDICATE THE TYPES OF PROTECTIVE DEVICES SELECTED, PROPOSED RELAY TAPS, TIME DELAY AND INSTANTANEOUS TRIP SETTINGS, TRANSFORMER MAGNETIZING INRUSH AND ANSI COORDINATION CURVES, AND THE COORDINATION CURVES OF ALL PROTECTIVE DEVICES. THE LIMITS AND SIGNIFICANT SYMMETRICAL AND ASYMMETRICAL FAULT CURRENTS, ALL RESTRICTIONS OF THE STUDY SHALL BE ADDED TO THE COORDINATION CURVES. THE COORDINATION CURVES CHARACTERISTIC CURVES SHALL BE MAINTAINED, THE COORDINATION PLOTS FOR PHASE AND GROUND PROTECTIVE DEVICES SHALL BE PROVIDED ON A SYSTEM BASIS, A SUFFICIENT NUMBER OF COORDINATION CURVES SHALL BE PROVIDED TO SHOW THE COORDINATION OF THE STUDY.**
- D. THE SELECTION AND SETTINGS OF THE PROTECTIVE DEVICES SHALL BE PROVIDED SEPARATELY IN A TABULATED FORM LISTING CIRCUIT IDENTIFICATION, IEEE DEVICE NUMBER, CURRENT TRANSFORMER RATIOS AND CONNECTION, MANUFACTURER AND TYPE, RANGE OF ADJUSTMENT, AND THE RECOMMENDED SETTINGS. THE COORDINATION CURVES SHALL BE PROVIDED FOR THE MEDIUM VOLTAGE FUSES WHERE APPLIED IN THE SYSTEM, ANY SPACES, PROGRAM AREAS, OR INADEQUACIES SHALL BE PROMPTLY BROUGHT TO THE ENGINEERS ATTENTION.**

- A. THE ARC-FLASH HAZARD ANALYSIS SHALL BE PERFORMED WITH THE AID OF COMPUTER SOFTWARE INTENDED FOR THIS PURPOSE IN ORDER TO CALCULATE ARC-FLASH INCIDENT ENERGY (HIT) LEVELS AND FLASH PROTECTION BOUNDARY DISTANCES.
- B. THE ARC-FLASH HAZARD ANALYSIS SHALL BE PERFORMED IN CONJUNCTION WITH A SHORT-CIRCUIT ANALYSIS AND A TIME-CURRENT COORDINATION ANALYSIS.
- C. RESULTS OF THE ANALYSIS SHALL BE SUBMITTED IN TABULAR FORM, AND SHALL INCLUDE DEVICE OR BUS NAME, BOLTED FAULT AND ARCING FAULT CURRENT LEVELS, FLASH PROTECTION BOUNDARY DISTANCES, PERSONAL-PROTECTIVE EQUIPMENT CLASSES AND AFE LEVELS.
- D. THE ANALYSIS SHALL BE PERFORMED UNDER WORST-CASE ARC-FLASH CONDITIONS, AND THE REPORT SHALL DESCRIBE WHEN APPLICABLE, HOW THESE CONDITIONS DIFFER FROM WORST-CASE BOLTED FAULT CONDITIONS.
- E. THE ARC-FLASH HAZARD ANALYSIS SHALL BE PERFORMED BY A REGISTERED PROFESSIONAL ENGINEER.
- F. THE ARC-FLASH HAZARD ANALYSIS SHALL BE PERFORMED IN COMPLIANCE WITH IEEE STANDARD 1584-2002, THE IEEE GUIDE FOR PERFORMING ARC-FLASH CALCULATIONS.
- G. THE ARC-FLASH HAZARD ANALYSIS SHALL INCLUDE RECOMMENDATIONS FOR REDUCING AFE LEVELS AND ENHANCING WORKER SAFETY.
- H. THE PROPOSED VENDOR SHALL DEMONSTRATE EXPERIENCE WITH ARC-FLASH HAZARD ANALYSIS, SUBMITTING NAMES OF AT LEAST TEN ACTUAL ARC-FLASH HAZARD ANALYSIS IT HAS PERFORMED IN THE PAST YEAR.

- I. THE PROPOSED VENDOR SHALL DEMONSTRATE CAPABILITIES IN PROVIDING EQUIPMENT, SERVICES, AND TRAINING TO REDUCE ARC-FLASH EXPOSURE AND TRAIN WORKERS IN ACCORDANCE WITH NFPA 70E AND OTHER APPLICABLE STANDARDS.
- J. THE PROPOSED VENDOR SHALL DEMONSTRATE EXPERIENCE IN PROVIDING EQUIPMENT LABELS IN COMPLIANCE WITH NEC-2002 SECTION 110 AND ANSI Z535.4 TO IDENTIFY AFE AND APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT CLASSES.

- EACH CONTRACTOR, PROSESSOR, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICT WITH ALL ELECTRICAL CODES, STANDARDS, AND REGULATIONS THAT APPLY TO THIS CONTRACT.
2. ADDITIONAL ELECTRICAL REQUIREMENTS MAY BE SHOWN ON PLANS FROM OTHER DISCIPLINES IN THIS SET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL PLANS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT REQUIREMENTS.
3. WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL LOCAL, STATE, AND NATIONAL CODES, INCLUDING BUT NOT LIMITED TO N.E.C. (NATIONAL ELECTRICAL CODE), BUILDING CODES, AND ANY OTHER CODES THAT APPLY TO THIS CONTRACT FROM CITY, COUNTY, LOCAL, STATE, AND FEDERAL, MUNICIPAL, UTILITY COMPANY, OSHA, ETC.
4. CONTRACTOR SHALL FOLLOW ALL ELECTRICAL, MECHANICAL, AND PLUMBING STANDARDS IN LATEST ADOPTED CODES AND ALL APPLICABLE BUILDING CODES, WITH ALL AMENDMENTS AS ADOPTED BY THE CURRENT LEGISLATION. REFER TO ELECTRICAL AND STRUCTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. SIGNATURES OF ALL CONTRACTORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM.
6. WHERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, DETAILS, OR SPECIFICATIONS, THE MORE STRINGENT SHALL PREVAIL.
7. DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNDERWRITERS, LABORATORIES OR OTHER APPROVED LISTING AGENCY APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
9. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES, NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE NATIONAL ELECTRICAL SAFETY CODE, AND ALL OTHER CODES, STANDARDS, AND REGULATIONS THAT APPLY TO THIS CONTRACT OR DEPARTMENTS HAVING JURISDICTION, IF ANY CONFLICTS OR DISCREPANCIES OCCUR ARE THE MOST STRINGENT SHALL APPLY.
10. ALL MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES INDICATED ABOVE FINISHED FLOOR ARE TO CENTER OF DEVICE UNLESS MOUNTING HEIGHTS TO CEILING SUSPENDED DEVICES ARE TO BOTTOM OF DEVICE UNLESS WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEER FOR CLARIFICATION. ALL MOUNTING HEIGHTS SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODES AND EXTERIOR ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF THESE DOCUMENTS, AS APPLICABLE.
11. DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONS TO CENTER OF DEVICE UNLESS OTHERWISE NOTED.
12. REFER TO ARCHITECTURAL WALL ELEVATIONS (WHEN GIVEN) FOR HEIGHTS AND MOUNTING RELATIONSHIP OF OUTLETS AND FURNITURE, CASEWORK, AND/OR EQUIPMENT. ADDITIONAL OUTLETS MAY BE SHOWN ON ELECTRICAL DRAWINGS, BUT SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODES, PLUMBING OR PEDESTAL TYPE FLOOR OUTLETS/BOXES, AS INDICATED ON PLAN, SHALL BE LOCATED BY DIMENSIONS PROVIDED BY THE ARCHITECT, UNLESS OTHERWISE SHOWN ON PLANS. IF IN DOUBT, CONTACT THE ENGINEER FOR CLARIFICATION.
13. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER IMMEDIATELY IN WRITING.
14. THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR WHOEVER HOLDS THE PRIME CONTRACT(S) FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF ALL WORK. ALL WORK SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR PART OF ANY SUBCONTRACTOR SHALL BE RESOLVED BY THE PARTY WHO ENGAGED THEM ON THIS PROJECT.
15. THE PURPOSE AND INTENT OF ALL OF THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE AND DETAILED SET OF REQUIREMENTS FOR THE CONSTRUCTION OF THE PROJECT.
16. ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. FINAL DETERMINATION OF WORKMANLIKE MANNER SHALL BE THE RESPONSIBILITY OF THE ENGINEER.
17. ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS DOCUMENTED BY THE ENGINEER, UNLESS LONGER WARRANTY PERIODS ARE REQUIRED FOR EQUIPMENT OR MATERIALS.
18. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEER FOR CLARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK.
19. EXPOSED ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE BY OTHER BUILDING SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL BE PRIMED AND FINISHED SO AS TO COMPLEMENT ADJACENT SURFACE, UNLESS OTHERWISE NOTED. COORDINATE WORK AND COLORS WITH ARCHITECT.
20. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODES, MAKE SUCH PENETRATION IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING MANUFACTURER AND ARCHITECT.
21. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODES, 2" DIMENSION OF 2X4" TILE AND ON CENTERLINE OR A QUARTER POINT ON A DIMENSION.
22. PROVIDE DETAILED SHOP DRAWINGS TO ENGINEER PRIOR TO PURCHASING OR INSTALLING ANY EQUIPMENT OR MATERIALS. ELEVATIONS SHALL BE PROVIDED FOR ALL EQUIPMENT AND MATERIALS. IT IS THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT, ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVOLUTION, WHETHER APPROVED BY THE ENGINEER OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
23. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODES, MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.
24. DO NOT REQUIRE TO REMOVE TUBS OR OTHER FLUSH-MOUNTED EQUIPMENT IN WALLS THAT HAVE A FIRE RATING. NO INSTALLATION SHALL DIMINISH OR VOID FIRE RESISTIVE RATINGS IN ANYWAY.
25. COORDINATE THE LOCATION OF DRAINS, ELECTRICAL, OUTLETS, GAS OUTLETS, ETC. WITH ALL CASEWORK, CASEWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODES, WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).
26. ALL OFFICIALS, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSER'S DISCRETION.
27. INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING OR CONDENSATION OF LIQUIDS OR VAPORS TO OCCUR.
28. ALL WIRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTIPAIR, SHALL BE INSTALLED CONTINUOUS INsofar AS POSSIBLE FROM TERMINAL POINT TO TERMINAL POINT. ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODES, (I.E. VAV BOXES), COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.
29. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, DIRECTLY FROM THE BUILDING STRUCTURE OR FROM ANOTHER SUPPORTING STRUCTURE. ALL SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.
30. WHERE BACKBOXES ARE LOCATED IN THE SAME VERTICAL CHANNEL/STUD SPACE ON OPPOSITE SIDES OF THE SAME WALL, PROVIDE A MINIMUM OF 1" AIR SPACE BETWEEN BACKBOXES TO ELIMINATE SOUND TRANSMISSION FROM ROOM TO ROOM.
31. JUNCTION BOXES LOCATED ABOVE ACCESSIBLE CEINGS SHALL BE LOCATED NO MORE THAN 36" ABOVE CEILING. JUNCTION BOXES LOCATED BELOW ACCESSIBLE CEINGS SHALL BE LOCATED NO MORE THAN 36" ABOVE CEILING.
32. ALL ELECTRICAL EQUIPMENT, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSER'S DISCRETION.
33. ALL VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM THE BUILDING STRUCTURE. ALL EQUIPMENT, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSER'S DISCRETION.
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PART 5 POWER SYSTEM STUDIES

5. PROVISIONS INCLUDED
- A. EXAMINE ALL DRAWINGS AND ALL OTHER SECTIONS OF THESE SPECIFICATIONS FOR REQUIREMENTS WHICH AFFECT WORK UNDER THIS SECTION WHETHER OR NOT SUCH WORK IS SPECIALLY MENTIONED IN THE SECTION.
- B. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING OR AFFECTED BY WORK OF THIS SECTION. COOPERATE WITH SUCH TRADES TO ENSURE THE STEADY PROGRESS OF ALL WORK UNDER THE CONTRACT.
- 5.2. SCOPE OF WORK
- A. SHORT CIRCUIT, COORDINATION AND ARC FLASH STUDIES SHALL BE PERFORMED BY THE CONTRACTOR. THE STUDY SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO RECEIVING FINAL APPROVAL OF THE DISTRIBUTION EQUIPMENT SHOP DRAWINGS AND/OR PRIOR TO RELEASE OF EQUIPMENT FOR MANUFACTURE. IF FORMAL COMPLETION OF THE STUDIES MAY CAUSE DELAY IN EQUIPMENT MANUFACTURE, THE ENGINEER MAY BE OBTAINABLE FOR A PRELIMINARY SUBMITTAL OF SUFFICIENT STUDY DATA TO ENSURE THAT THE SELECTION OF DEVICE RATINGS AND CHARACTERISTICS WILL BE SATISFACTORY.
- B. THE STUDIES SHALL INCLUDE ALL NEW PORTIONS OF THE ELECTRICAL DISTRIBUTION SYSTEM AS FOLLOWS:
1. PANEL MDP AND PANEL MMH.
2. A SAMPLE OF THE LARGEST AND THE SMALLEST BRANCH CIRCUIT IN EACH PANELBOARD SHALL BE INCLUDED.
- C. WHERE THE NEW DISTRIBUTION SYSTEM CONNECTS TO EXISTING DISTRIBUTION, THE STUDIES SHALL INCLUDE THE EXISTING SERVICE TRANSFORMER AND THE EXISTING SECONDARY MAIN CIRCUIT BREAKER(S).
- D. THE STUDY SHALL BE PERFORMED AND SEALED BY A REGISTERED PROFESSIONAL ELECTRICAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS. THIS FIRM SHALL BE LICENSED IN FIELD CALIBRATION, SETTINGS AND TESTING OF PROTECTIVE DEVICES. THIS FIRM SHALL HAVE BEEN REGULARLY ENGAGED IN SUCH SERVICES FOR A MINIMUM OF TEN (10) YEARS.
- E. THE CONTRACTOR SHALL COORDINATE AND PROVIDE THE REQUIRED DATA FOR PREPARATION OF THE STUDIES TO THE ENGINEER PERFORMING THE STUDIES. THE CONTRACTOR SHALL OBTAIN THE REQUIRED DATA FROM SUCH SOURCES AS THE SWITCHGEAR MANUFACTURER, PANELBOARD AND TRANSFORMER MANUFACTURER IMMEDIATELY AFTER AWARD OF THE CONTRACT.

CONSULTANTS



Issue Date

KEYPLAN



The keyplan shows two rectangular areas, A and B, separated by a vertical line. Area A is on the left and Area B is on the right. Both areas are filled with a cross-hatch pattern. A north arrow is located in the top right corner of the keyplan.

[illegible]

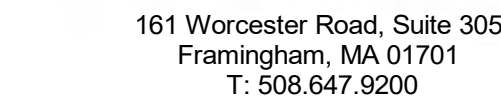
SHEET NUMBER _____

E-101

LINDEN ST.

1 ELECTRICAL FIRST FLOOR DEMOLITION PLAN
SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION



**OLD EVERETT HIGH SCHOOL -
TASK 5**

548 Broadway, Everett, MA 02149

CITY OF EVERETT, MA

CONSULTANTS

REGISTRATION



KEYPLAN



ISSUE / REVISION

1	9/28/2026	Addendum 1
#	Date	Description

PROJECT NUMBER

BEMS26

SHEET TITLE

ELECTRICAL BASEMENT POWER PLAN

SHEET NUMBER

E-200



SCALE: 1/16" = 1'-0"

**OLD EVERETT HIGH SCHOOL -
TASK 5**

48 Broadway, Everett, MA 02149

CLIENT

CITY OF EVERETT, MA

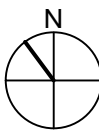
CONSULTANTS

REGISTRATION



KEYPLAN

KEYPLAN



ISSUE / REVISION

1	9/28/2026	Addendum 1
#	Date	Description

PROJECT NUMBER

EMS26

SHEET TITLE

ELECTRICAL FIRST FLOOR POWER PLAN

SHEET NUMBER

E-201

TAGGED NOTES

E4	APPROXIMATE LOCATION OF EXISTING UTILITY TRANSFORMER TO BE MODIFIED.
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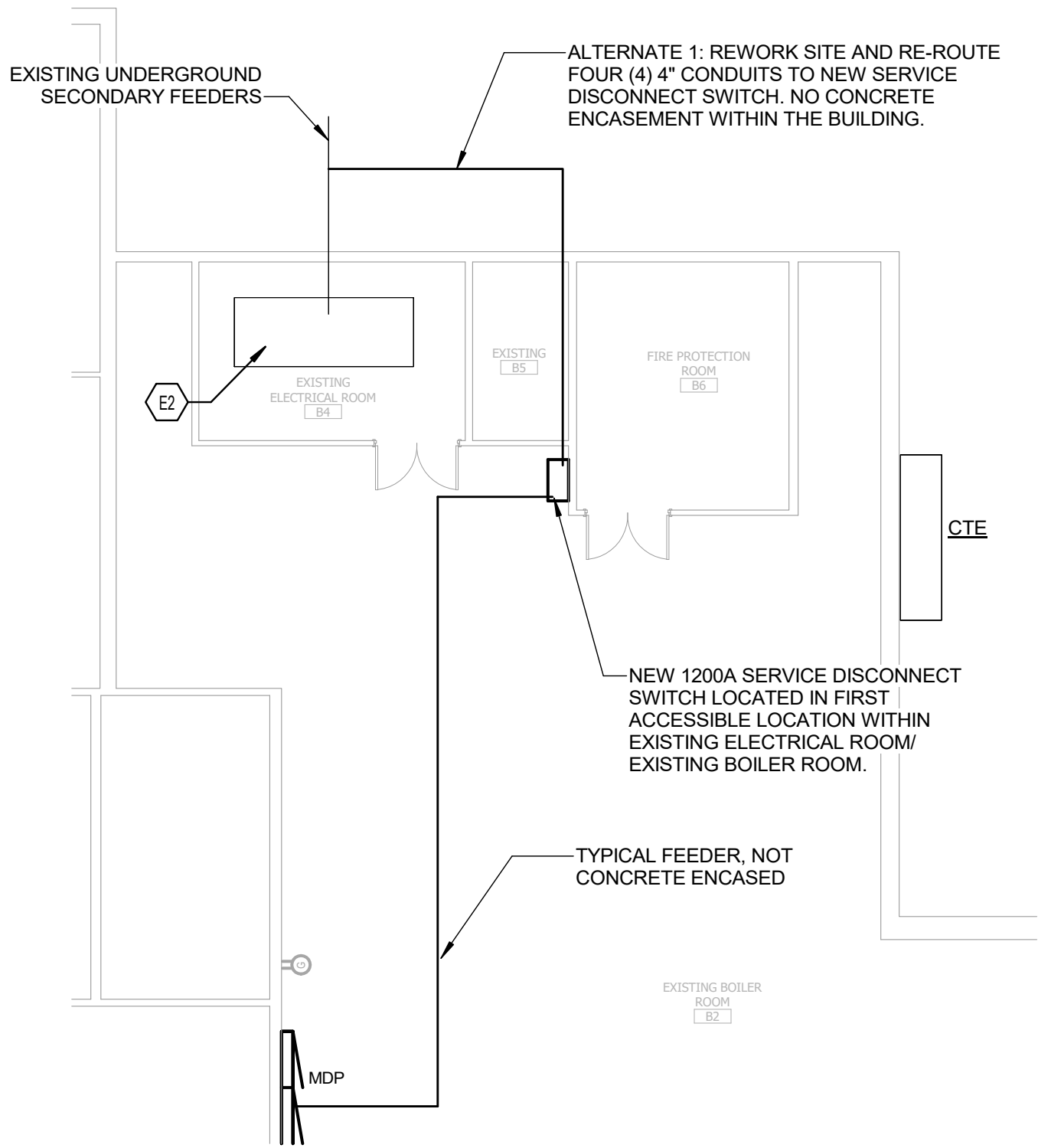
MAPLE AVE.

LINDEN ST.

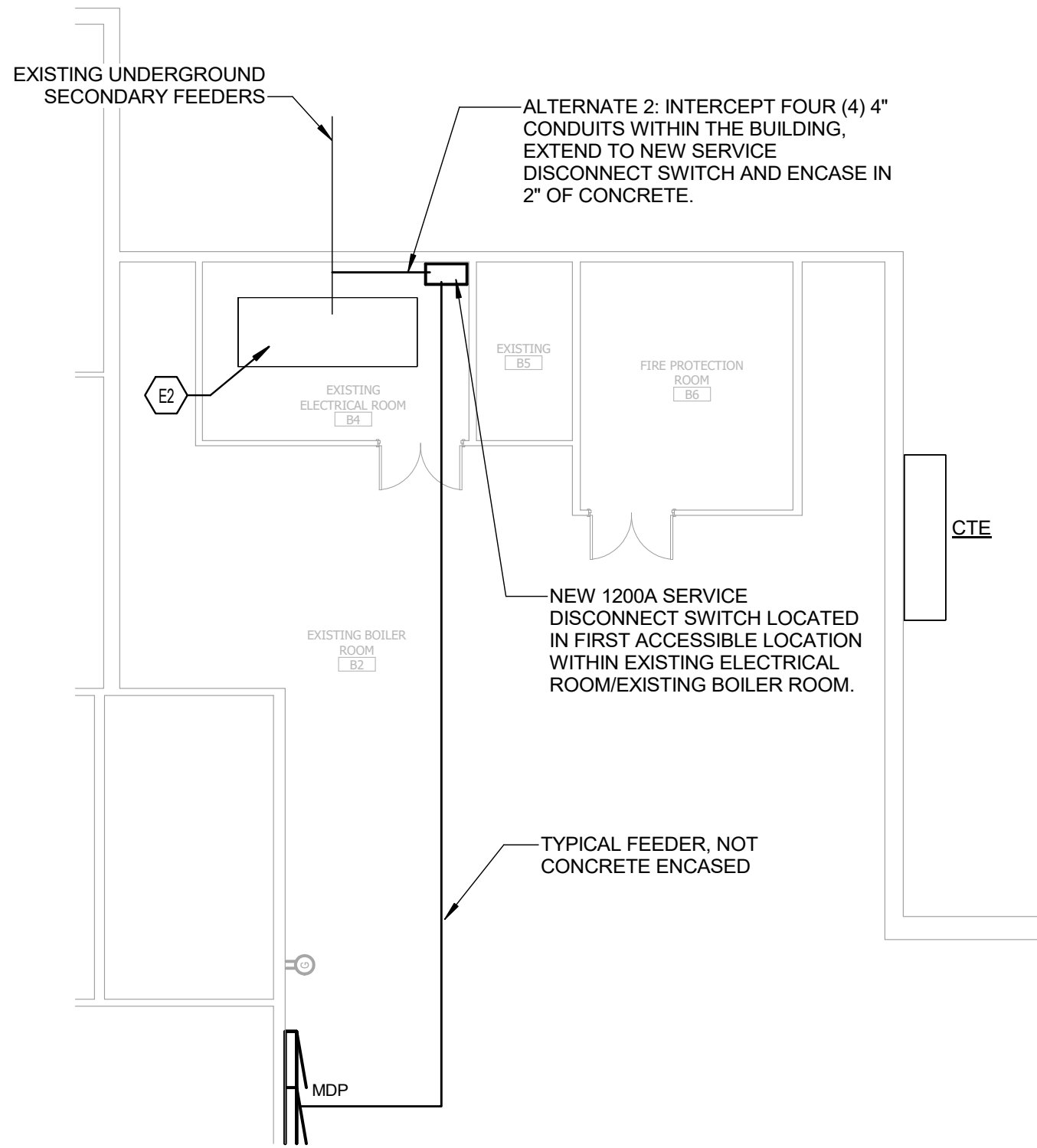
1 ELECTRICAL FIRST FLOOR POWER PLAN

SCALE: 1/16" = 1'-0"

\\nas01\apps\electrical\BMS26\BMS26_101.dwg
9/28/2026 10:00:00 AM
E-300



1 ALTERNATE 1: TRANSFORMER TO MDP CONDUIT
SCALE: 3/32" = 1'-0"



2 ALTERNATE 2: TRANSFORMER TO MDP CONDUIT
SCALE: 3/32" = 1'-0"

TAGGED NOTES

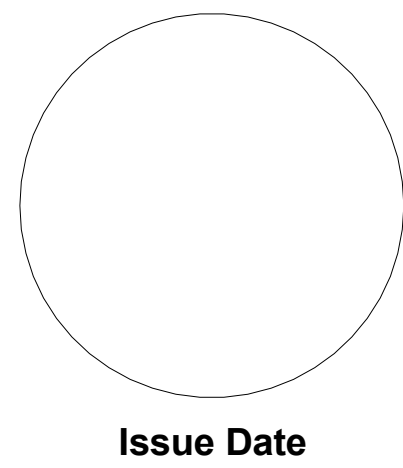
E2 APPROXIMATE LOCATION OF EXISTING 5,000A SWITCHBOARD.

PROJECT
OLD EVERETT HIGH SCHOOL - TASK 5
548 Broadway, Everett, MA 02149

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CITY OF EVERETT, MA

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KEYPLAN

ISSUE / REVISION

#	Date	Addendum	Description
1	9/28/2026	Addendum 1	

PROJECT NUMBER
BMS26

SHEET TITLE
ELECTRICAL ENLARGED PLANS

SHEET NUMBER
E-300

NOT FOR CONSTRUCTION

**OLD EVERETT HIGH SCHOOL -
TASK 5**

548 Broadway, Everett, MA 02149

CITY OF EVERETT, MA

CONSULTANTS

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KEYPLAN

ISSUE / REVISION

#	Date	Description
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PROJECT NUMBER

BEMS26

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER

E-500

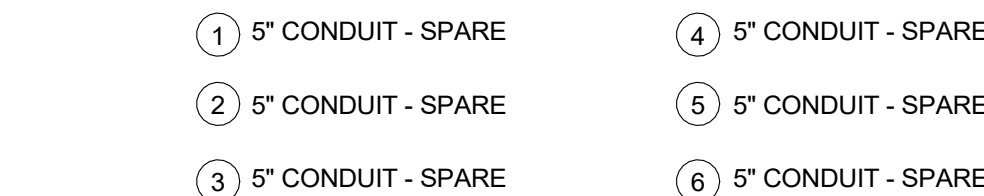


NOTES

1. BUS BAR ASSEMBLY SHALL BE EQUAL TO ERICO #TGB-A25L14P.
2. BOND PANELBOARD(S) WHICH SERVICES EQUIPMENT WITHIN ROOM.
3. CONDUCTORS ILLUSTRATED REPRESENT MINIMUM SIZES, CONDUCTORS SHALL BE INCREASED AS REQUIRED TO MATCH SOURCE PANELBOARDS' FEEDER GROUNDING CONDUCTOR SIZE.

TYPICAL GROUND BUS BAR INSTALLATION DETAIL

NTS

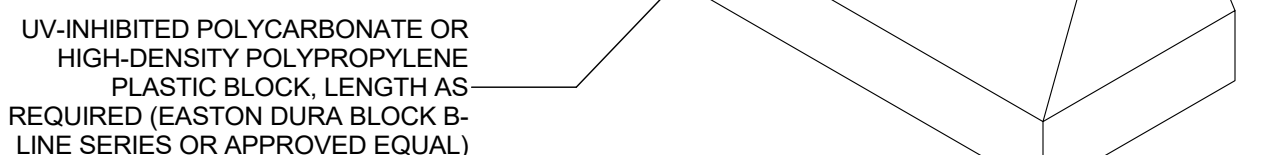


NOTE

1. STEEL REINFORCING RODS SHALL BE INTERFACED WITH BUILDING FOUNDATION AND MANHOLE WALLS TO MINIMIZE SHEARING

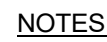
DUCTBANK SECTION "C3" (15KV CAMPUS LINE) DETAIL

P2.006 - ADV 21/21



ROOF CONDUIT SUPPORT DETAIL

93.009 - 93.012

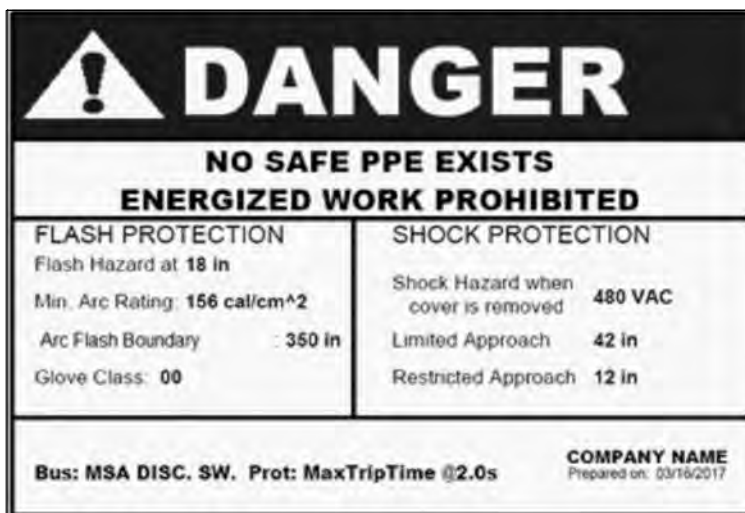


1. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. WITH CONDUCTORS LARGER THAN NO. 6AWG, WRAP TWO FULL TURNS OF 1" WIDE COLORED TAPE AT TWO LOCATIONS (MIN OF 12" APART).
3. SECURE NAMEPLATE TO SURFACES WITH (2) FLAT HEAD BRASS SCREWS.

10.004 - PSY 03775-

CONDUCTOR COLOR CODING NAMEPLATE

NTS



ARC FLASH LABEL NOTES:

1. ARC FLASH WARNING LABELS SHALL BE PROVIDED FOR EACH TRANSFORMER, DISCONNECT SWITCH AND SWITCHBOARD ETC. INCLUDED IN THIS WORK REFER TO SPECIFICATION COORDINATED POWER SYSTEM PROTECTION FOR FURTHER REQUIREMENTS.
2. LABELS SHALL BE 4INCH X 6INCH THERMAL TRANSFER TYPE OF HIGH ADHESIVE POLYESTER FOR EACH WORK LOCATION ANALYZED AND SHALL BE MACHINE PLETED WITH NO FIELD MARKING. THE LABELS ARE SHOWN AS EXAMPLE ONLY AND DO NOT REFLECT THE ACTUAL DATA FOR THIS PROJECT.
3. THE LABEL SHALL HAVE AN ORANGE HANGER WITH THE WORDING "WARNING: HIGH VOLTAGE & ARC FLASH HAZARD" OR RED HANGER WITH THE WORDING "DANGER" IF CAL/CM2/IS-40.

13.005 - PSN-3720/2

ARC FLASH LABELS

NTS



NOTE:

1. E.C. SHALL COORDINATE INSTALLATION AND ROUTING IN FIELD.
2. E.C. SHALL VERIFY EXACT LENGTH OF THREADED ROD IN FIELD WITH BUILDING CONDITIONS
3. E.C. SHALL PROVIDE CHANNEL HOLE UNISTRUT SIMILAR TO B-LINE TYPE SH WITH ALL NECESSARY NUTS, RODS, SCREWS, CLAMPS, BOLTS ETC. FOR A COMPLETE INSTALLATION.

93.004 - 931N-019-11920

CONDUIT RACK DETAIL

NTS



SERVICE ENTRANCE GROUNDING & BONDING DETAIL

NTS