MORE THAN ARCHITECTS

ADDENDUM

NO. 3

TO THE DRAWINGS AND THE PROJECT MANUAL

PROJECT NAME: Humble ISD Creekwood and Riverwood Middle School Additions and Renovations

CLIENT NAME: Humble ISD

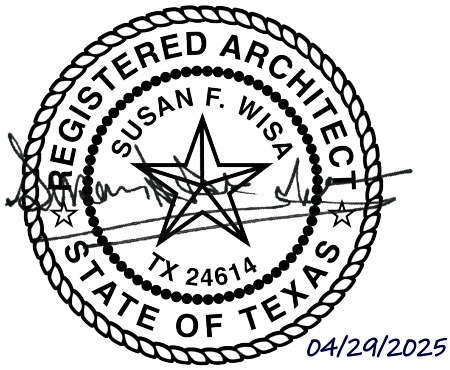
LOCATION: Humble, Texas

PROJECT NUMBER: 1821-13-01, 1821-13-02

PROPOSAL DATE: Thursday, May 8th, 2025, 2:00 PM

ADDENDUM DATE: Tuesday, April 29th, 2025

For additional information regarding this project, contact Ross Morgan at 800.687.1229.



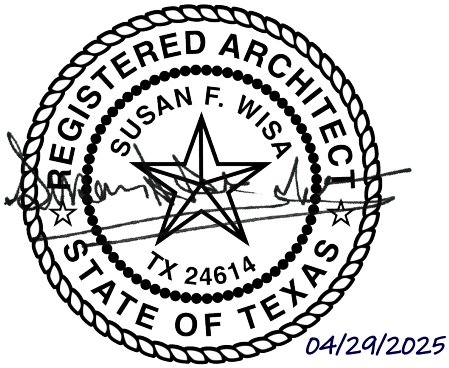
THIS ADDENDUM INCLUDES:

Civil Items	0 Pages
Landscape Items	0 Pages
Structural Items	0 Pages
Architectural Items	2 Pages
Foodservice Items	0 Pages
Plumbing Items	0 Pages
Mechanical Items	1 Pages
Electrical Items	1 Pages
Technology Items	0 Pages

AND ALL ATTACHED REVISED DRAWING REFERENCES IN THE ADDENDUM

Huckabee

Project Name: Humble ISD Creekwood and Riverwood Middle School Additions and Renovations
Client: Humble ISD
Humble, Texas
Project Number: 1821-13-01, 1821-13-02



ARCHITECTURAL ITEMS FOR ADDENDUM NO. 3

NOTICE TO PROPOSERS:

A. This Addendum shall be considered part of the contract documents for the above-mentioned project as though it had been issued at the same time and incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original contract documents, this Addendum shall govern and take precedence.
B. Proposers are hereby notified that they shall make any necessary adjustments in their estimate on account of this Addendum. It will be construed that each Proposer's proposal is submitted with full knowledge of all modifications and supplemental data specified therein. Acknowledge receipt of this addendum in the space provided on the proposal form. Failure to do so may subject Proposer to disqualification.

REFERENCE IS MADE TO THE DRAWINGS AND THE PROJECT MANUAL AS NOTED:

PROJECT MANUAL:

AD No 1, Arch. Item 1: To the Project Manual, "00 2116 – INSTRUCTIONS TO PROPOSERS."
- Replace this section with the attached in it's entirety.

AD No 1, Arch. Item 2: To the Project Manual, "00 4335 – PROPOSAL FORM – SCHEDULE AND SUB-CONTRACTORS."
- Replace this section with the attached in it's entirety.

AD No 1, Arch. Item 3: To the Project Manual, "00 4393 – PROPOSAL SUBMITTAL CHECKLIST."
- Replace this section with the attached in it's entirety.

AD No 1, Arch. Item 4: To the Project Manual, "01 2300 - ALTERNATES."
- Replace this section with the attached in it's entirety.

DRAWINGS:

AD No 1, Arch. Item 5: To the Drawings, Sheet "G5.01 – SCHEDULE OF MATERIALS AND COLORS" - CREEKWOOD
- Wall Finishes section revised.

AD No 1, Arch. Item 6: To the Drawings, Sheet "A4.11 – FINISH PLAN – SECTION A,F" - CREEKWOOD
- Note revised in Lobby A132 to clarify graphics.
- Removed legend regarding alternates.

AD No 1, Arch. Item 7: To the Drawings, Sheet "A4.15 – FINISH PLAN – SECTION E" - CREEKWOOD
- Note added to plan South wall of GYM E101 regarding graphics.
- Note added to plan North wall of CORRIDOR E100 regarding graphics.

AD No 1, Arch. Item 8: To the Drawings, Sheet "A4.18 – INTERIOR ELEVATIONS" - CREEKWOOD

- 7/A4.18 – Dimensions and notes added/revised to clarify graphics scope.
- 9/A4.18 – Dimensions and notes added/revised to clarify graphics scope.

AD No 1, Arch. Item 9: To the Drawings, Sheet "A4.11 – FINISH PLAN – SECTION A,F" - RIVERWOOD

- Note revised in Lobby A132 to clarify graphics.
- Removed legend regarding alternates.

AD No 1, Arch. Item 10: To the Drawings, Sheet "A4.15 – FINISH PLAN – SECTION E" - RIVERWOOD

- Note added to plan South wall of GYM E101 regarding graphics.
- Note added to plan North wall of CORRIDOR E100 regarding graphics.

AD No 1, Arch. Item 11: To the Drawings, Sheet "A4.18 – INTERIOR ELEVATIONS" - RIVERWOOD

- 7/A4.18 – Dimensions and notes added/revised to clarify graphics scope.
- 9/A4.18 – Dimensions and notes added/revised to clarify graphics scope.

AD No 1, Arch. Item 12: To the Drawings, Sheet "R1.00 – GENERAL INFORMATION" - RIVERWOOD

- 1/R1.00 – Detail regarding fall protection at skylights replaced with Roof Plaque detail.

ATTACHMENTS:

AD No 1, Arch. Item 13: See attached "CMS Ext. Vapor Barrier (NESHAP) 3603 W. Lake Houston Pkwy. Specs.pdf" to clarify Abatement Scope of Work.

QUESTIONS RECEIVED:

1) On Sheet R1.00/Detail 1 shows a skylight with fall protection. Please confirm the skylights scope of work per this detail. The specs only show specifications about the tubular daylighting devices.
Response: See included revised R1.00. Detail has been removed.

2) Do we have to install the fire sprinkler system only on the new extension? Or on the existing building as well?
Response: The entire building is to receive a sprinkler system.

3) Please provide the Abatement survey report.
Response: Reports were attached to Addendum 2.

END OF ARCHITECTURAL ADDENDUM

Salas O'Brien

10930 W. Sam Houston Pkwy N | Suite 900
Houston, Texas 77064
281.664.1900 | www.salasobrien.com

April 29, 2025

Project: Humble ISD- Creekwood MS and Riverwood MS Renovations and Additions

Prepared by: Salas O'Brien Engineers
10930 W. Sam Houston Parkway N., Suite 900
Houston, Texas 77064

SOBE Project No.: 2022-05088

04/29/2025

PART A CHANGES TO PRIOR ADDENDUM

1. None

PART B CHANGES TO THE PROJECT MANUAL

1. None

PART C CHANGES TO THE DRAWINGS

Creekwood MS

1. M6.11 – MECHANICAL SCHEDULES
   a. Revise air handling unit schedule.
   b. Revise CHILLED & HOT WATER FAN/COIL UNIT schedule.
   c. Replace sheet in its entirety.
2. E3.11 – ELECTRICAL POWER FLOOR PLAN – SECTION A
   a. Add 120v branch circuitry to AHU-3, OAFCU-1, and FCU-9 for air purification.
   b. Replace sheet in its entirety.
3. E3.12 – ELECTRICAL POWER FLOOR PLAN – SECTION B
   a. Add 120v branch circuitry to RMAHU-1, RMUA-1, FCU-6, FCU-7, FCU-8 for air purification.
   b. Add keyed notes 4 and 5.
   c. Replace sheet in its entirety.
4. E3.13 – ELECTRICAL POWER FLOOR PLAN – SECTION C
   a. Add 120v branch circuitry to FCU-5 for air purification.
   b. Add keyed notes 6 and 7.
   c. Replace sheet in its entirety.
5. E3.14 – ELECTRICAL POWER FLOOR PLAN – SECTION D
   a. Add 120v branch circuitry to FCU-1, FCU-2. FCU-3 for air purification.
   b. Add keyed notes 2 and 3.
   c. Replace sheet in its entirety.
6. E6.11 – ELECTRICAL PANEL SCHEDULES
   a. Panel LE, add branch circuit 23.
   b. Replace sheet in its entirety.
7. E6.12 – ELECTRICAL PANEL SCHEDULES
   a. Panel LC3, add branch circuit 19.
   b. Replace sheet in its entirety.

Riverwood MS

1. M6.11 – MECHANICAL SCHEDULES

a. Revise air handling unit schedule.
b. Replace sheet in its entirety.

2. E3.11 – ELECTRICAL POWER FLOOR PLAN – SECTION A
   a. Add circuit LE-16 to AHU-3 for air purification.
   b. Replace sheet in its entirety.
3. E3.12 – ELECTRICAL POWER FLOOR PLAN – SECTION B
   a. Add 120v branch circuitry to RMAHU-1, RMUA-1 for air purification.
   b. Replace sheet in its entirety.
4. E6.11 – ELECTRICAL PANEL SCHEDULES
   a. Panel LC3, add branch circuit 18.

PART D **RE-ISSUED DRAWING SHEET** (30”X42”)

Creekwood MS

1. M6.11 – MECHANICAL SCHEDULES
2. E3.11 – ELECTRICAL POWER FLOOR PLAN – SECTION A
3. E3.12 – ELECTRICAL POWER FLOOR PLAN – SECTION B
4. E3.13 – ELECTRICAL POWER FLOOR PLAN – SECTION C
5. E3.14 – ELECTRICAL POWER FLOOR PLAN – SECTION D
6. E6.11 – ELECTRICAL PANEL SCHEDULES
7. E6.12 – ELECTRICAL PANEL SCHEDULES

Riverwood MS

1. M6.11 – MECHANICAL SCHEDULES
2. E3.11 – ELECTRICAL POWER FLOOR PLAN – SECTION A
3. E3.12 – ELECTRICAL POWER FLOOR PLAN – SECTION B
4. E6.11 – ELECTRICAL PANEL SCHEDULES

PART E **NEW DRAWINGS SHEETS** (30”X42”)

1. None

PART G **QUESTIONS/CLARIFICATIONS**

1. None

PART H. **ATTACHMENTS**

1. None

END OF ADDENDUM 3

SECTION 00 2116
INSTRUCTIONS TO PROPOSERS

INSTRUCTIONS TO PROPOSERS - CSP# 2025-07

1.01 RECEIPT AND OPENING OF PROPOSALS

A. Competitive sealed proposals will be received from qualified Proposers in care of Dr. Roger Brown, Superintendent of Schools, Humble ISD, Humble, Texas. The Proposal responses shall be received via Humble ISD's online bidding system in two parts follows: Base Bid of the Proposal shall be received until 2:00PM, THURSDAY, MAY 8, 2025 and Alternates of the Proposal shall be received until 3:00PM, THURSDAY, MAY 8, 2025. All proposals must be submitted via the District's online bidding system, before the scheduled time and date for proposal opening. Proposers are to have all forms, required attachments, and all required lines completed and the **SUBMIT RESPONSE** button completed prior to 3:00PM, THURSDAY, MAY 1, 2025, or the system will shut them out and no response will be submitted. Please plan ahead. Proposal responses will be opened and read aloud for the furnishing of all labor, materials, equipment, and performing all work required for Creekwood and Riverwood Middle School Additions and Renovations for Humble ISD, Humble, Texas, and in compliance with Project Manual, drawings, and other contract documents as prepared by Huckabee.

B. The primary purposes of the evaluation process will be to:
   1. Gather information for the Owner's evaluation procedure.
   2. Enable the Owner and/or Architect to evaluate the Offeror's qualifications.

C. After review of Proposals and Contractor's qualifications evaluation the Owner will make his decision and each Offeror will be notified once board approval has been obtained.

D. In arriving at his opinion concerning the Offeror's qualifications, the Architect will use the same criteria that the Owner will use in determination of the successful Offeror as detailed hereinafter.

E. **There will be a Pre-Proposal Meeting held at 2:00 pm, Tuesday, April 15, 2025 15, 2025 , at Humble ISD Maintenance Department, 1703 Wilson Road, Building B, Humble, Texas 77396. Attendance is highly recommended.**
   1. Campus tours will occur immediately following the Pre-Proposal Meeting.

F. The Bid Opening Meeting will be held at 3:00 pm, Thursday, May 1, 2025 at Humble ISD Maintenance Department, 1703 Wilson Road, Building B, Humble, Texas 77396 or via zoom. Attendance is not required.
   1. ZOOM Meeting Information:
      a. https://humbleisd.zoom.us/j/88446091519pwd=2DAVMNutMNt0wvL4RBHwTNMdYJIzvm.
         1) Meeting ID: 884 4609 1519
         2) Passcode: 087361

1.02 PREPARATION OF PROPOSAL

A. The A305 Document must be accompanied by a listing of the Offeror's projects of similar size and scope during the past five (5) years. The listing shall include the project name, address, building area, contract sum, contract date, contract completion date(s), substantial completion date(s), Owner representative's name, telephone number, e-mail address and the names of the Contractor's project staff assigned to the project. In addition, the General Contractor shall include in this submission the following information regarding the Contractor's Proposed Project Team:
   1. Name of the Proposed Project Executive.
   2. Name of the Proposed Project Manager.
   3. Names of Proposed Assistant Project Managers or Project Engineers.
   4. Name of Proposed Project Superintendent.

5. Name of Proposed Assistant Project Superintendent.
6. Name of Proposed Field Engineer.
7. Names of any proposed project support staff.

B. The General Contractor shall include a resume of qualifications for each of the project personnel proposed.

C. In addition, include a written summary describing the roles each person will have on the project team and what percentage of time each person will dedicate to this project on a weekly basis. In addition, the contractor shall indicate where each staff member will office (onsite or main office).

D. **A pdf copy of the A305 should be uploaded with Offeror's proposal on District's online proposal system.**

E. The Proposer shall complete Proposal Form 00 4200 on Line Items tab through Districts' bidding system. The Proposer's CSP response shall be completed online and will consist of the following:
1. Section 00 4200 - responses on Line item.
2. Cashier's check, Certified check or District acceptable Bid Bond for no less than five (5%) percent of the largest possible total for response submitted - uploaded to Response Attachment tab Section 00 4214.10.
3. Acknowledgement of any Addendum issued (on Attributes tab).
4. Construction Schedule - Section 00 4335
5. Provide Subcontractor's List - Section 00 4335

F. The successful Proposer will be required to enter into a contract with the Humble ISD and to furnish a Performance and Payment Bond of approved form through an approved bonding company duly authorized to do business in the State of Texas, and currently listed in the Department of Treasury Federal Register, in the amount of not less than 100% of the contract price, conditioned upon the performance of the contract. Performance and Payment Bonds shall be in full compliance with Texas Government Code Chapter 2253. AIA Bonds (AIA Document A312) do not comply. Bonding Companies using “Reinsuring Insurance Companies” to expand the Bonding Companies Bonding Limits will not be acceptable unless also approved by the Owner.

1.03 WAGE RATES

A. Attention is called to the fact that the Contractor must comply with all Federal, State and Local labor laws, including Chapter 2258 Texas Government Code Title 10, which requires that the Contractor pay not less than the following prevailing wage rates and rates for legal holidays and overtime, which have been ascertained by the awarding body and listed in Section 00 7343 - Wage Rate Requirements.

1.04 DISCLOSURE OF INTERESTED PARTIES

A. Please download the Instructions for Form 1295, execute and upload the completed Form 1295 on the Response Attachments tab of the online bidding system.

B. Failure to upload completed Form 1295 will disable the SUBMIT RESPONSE button. It is Humble ISD requirement to have this form with each CSP response.

1.05 PROPOSAL GUIDELINES

A. Attention is called to the fact that the Owner is exempt from the payment of the State Sales Tax normally levied against material costs. The contract sum, as identified by the Proposal, shall not include any allowance for the payment of State Sales Tax on materials required to complete the work. The successful Proposer, upon award of the contract, will be furnished with a permit number, which will enable him to purchase the required materials without payment of such taxes.

B. The Project Manual and Drawings may be examined, without charge, via Electronic Documents (PDF Files) downloaded at www.huckabee-inc.com.

C. The Architect will supply Project Manual and Drawings to various plan rooms where it appears to be in the Owner's interest to do so.

D. All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, and the Supplementary General Conditions included in the Project Manual are applicable to the Instructions to Proposers.

E. Contract Documents include the Advertisement or Invitation for Proposal, Instructions to Proposers, the Proposal Form, and the proposed contract documents (drawings and project manual), including any addenda issued prior to receipt of competitive sealed proposals.

F. Certain references to Owner’s Documents will be obsolete due to the new online bidding procedure of submission of proposal and forms through Humble ISD’s online bidding system. Offerors intending to submit proposals for this project should visit the website for Humble ISD at http://humbleisd.ionwave.net/Login.aspx to register and access all of the Owner’s required forms, certifications and enter Base Proposal, Alternates Proposal, Unit Pricing and other required items.

G. Addenda are written or graphic instruments issued prior to the execution of the contract which modify or interpret the proposal documents, including drawings and project manual, by additions, deletions, clarifications or corrections and should be acknowledged by the Proposer on the Proposal form. Addenda will become part of the contract documents when the construction contract is executed. All project ADDENDA will be issued through the Districts' online bidding system. Interested proposers should be registered in order to receive these Addenda. It is Proposers' responsibility to check the project for Addenda issued and review the Questions tab for the project. NO ADDENDA WILL BE MAILED OR FAXED TO ANY PLANHOLDER.

H. Each Proposer, by making a competitive sealed proposal, represents that he has carefully studied, compared, and understands the contract documents including any and all addenda items.

I. Each Proposer, by making a competitive sealed proposal, represents that he has familiarized himself with and understands the local conditions under which work is to be performed, including prevailing subsurface conditions.

J. All Competitive Sealed Proposal (CSP) responses must be sumitted with all other required material in accordance with the Instructions to Proposers - 00 2116. When the proposal contains multiple "Bid Items", it shall be understood that the Owner may award each Proposal Item separately, or in any combination that the Owner chooses.

K. A proposal is invalid if it has not been deposited at the designated location prior to the time and date for receipt of proposals indicated in the Advertisement or Invitation for Proposal or prior to any extension thereof issued to the Proposers.

L. Unless otherwise provided in any supplement to the Instruction to Proposers, no Proposer shall modify, withdraw or cancel his proposal or any part thereof for sixty (60) days after the time designated for the receipt of proposals in the Advertisement or Invitation for Proposal.

M. Each Proposer represents that his competitive sealed proposal is based upon the material and equipment described in the contract documents.

N. Each Proposer shall carefully study and compare the proposal documents, and shall make request for interpretation or correction of any ambiguity, inconsistency or error therein which he may discover. All questions and are to be asked in IonWave "Questions" tab by 3:00 pm, April 21, 2025. Any interpretation or correction will be issued in a written addendum by the Architect and distributed via the Districts' online bidding system to registered/invited General Contractors. Only a written interpretation or correction by an addendum shall be binding. No Proposer shall rely upon any interpretation or correction given by any other method.

O. No substitution will be considered unless written request has been submitted to the Architect for approval at least seven (7) days prior to the date for receipt of proposals. Each such request shall include a complete description of the proposed substitute, the name of the material or equipment for which it is to be substituted, drawings, cuts, performance and test data and any other data or information necessary for a complete evaluation.

P. If the Architect approves any proposed substitution, such approval will be set forth in a written Addendum issued by Architect and distributed via the Districts' online bidding system to registered/invited General Contractors.

Q. Should the particular equipment, which any bidder proposes to install, require other space conditions other than those shown on the drawings, he shall arrange for such space with the Architect before submitting a bid. Should changes become necessary because of failure to comply with this requirement, the contractor shall be fully responsible for making such changes. The contractor shall be required to submit working drawings of all equipment, which varies from the drawings and the project manual, and any interference must be eliminated before work proceeds.

R. The Proposer acknowledges the right of the Owner to reject any or all proposals and to waive any informality or irregularity in any proposal received. In addition, the Proposer recognizes the right of the Owner to reject a proposal if the Proposer failed to furnish any required bid security or to submit the data required by the contract documents, or if the proposal is in any way incomplete or irregular.

S. By submitting a proposal, each proposer agrees to waive any claim it has or may have against the Owner, the Architect/Engineer, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any proposal; waiver of any requirements under the Bid Documents; or the Contract Documents; acceptance or rejection of any proposals; and award of the Contract.

T. In case of ambiguity or lack of clearness in stating the price in the Proposal, the Owner reserves the right to adopt the price written in words or to reject the Proposal.

PROPOSAL EVALUATION PROCESS AND PROCEDURES

2.01 COMPETITIVE SEALED PROPOSAL EVALUATION AND RANKING PROCEDURES

A. The following procedures shall be used to evaluate and recommend a construction contractor for selection by the School District through the use of Competitive Sealed Proposals, as authorized in Texas Government Code 2269.

2.02 PROPOSAL EVALUATION COMMITTEE

A. For each construction project utilizing the Competitive Sealed Proposal method of procurement, the School Board shall convene a Proposal Evaluation Committee (Committee) may be comprised from of the following individuals:
   1. School Board Members
   2. School Administration
   3. District’s Financial Officer or Consultant
   4. Staff
   5. Project Architect
   6. Project Engineer

7. Program Manager

2.03 PROPOSAL EVALUATION COMMITTEE FUNCTION

A. The Committee shall perform an evaluation of all submitted Proposals and shall recommend an order of selection ranking of all Proposers to the School Board. The following procedures shall be used by the Committee in the evaluation process:

1. Proposals are to include the information requested in this of this Request in the sequence and format prescribed. In addition to and separate from the requested information, offerors submitting proposals may provide supplementary materials further describing their capabilities and experience.
2. Following the deadline for receipt, the District's staff will receive, publicly open, and read aloud the names of the offerors and, if any are required to be stated, all prices stated in the proposals. The District's staff will recommend that the District select a construction contractor from the respondents to this Request for Proposals or reject all proposals.
3. The recommended ranking shall be based on the data furnished by the offerors in response to the request for CSPs. The following is a list of criteria and weight for each criterion. Unless modified by addendum prior to opening of the proposals, the following listing of criteria and weight of criteria shall be utilized by the District pursuant to Texas Government Code Chapter 2269, Subchapter D:

Evaluation Criteria	Max Score: 100 points	All Criteria Scores
1. Extent of the firm's experience in the construction/renovation of educational facilities of comparable size and complexity in the greater Houston area construction market. Location/Page #_____	15 points	
2. Whether the team personnel proposed have the appropriate experience and capabilities for the project. Also provide the proposed team's current commitments. Location/Page #_____	10points	
3. Whether the firm has demonstrated the capability to meet project schedules and budgets. Provide the following project information for the last 5 years: original contractual completion date, original contract amount and final contract amount. Location/Page #_____	10 points	
4. How long the firm has been in business, and whether the firm's organizational structure, licensing and financial information indicate that the firm is capable of successfully completing this project. Location/Page #_____	10points	
5. The firm's responsiveness and completeness regarding the Request for Qualifications submittal. Location/Page #_____	5 points	
6. The firm's safety and drug abuse programs, and history of safety performance. Location/Page #_____	3 points	
7. Whether the firm has previously worked for the District, and whether the work was satisfactory to the District. Location/Page #_____	2 points	
8. Responses from the firm's references. Do not enter score on this sheet. Score will be inserted on summary sheet. Location/Page #_____	5 points	

9. Price. Location/Page #_____	40 points	
Grand Total Score:	**100**	

4. All responses in the proposal may be used to help the District select a contractor based on these criteria. The District reserves the right to verify the accuracy and completeness of all response by utilizing any information available to the District without regard to whether such information appears in the proposal. See Selectoion Criteria and Contrator Information Sheet attached following this document.

2.04 COMPETITIVE SEALED PROPOSALS PREPARATION AND SUBMISSION

A. PREPARATION
1. The Proposal shall be based on conditions at the project site, the project Drawings and Specifications and any addenda issued.
2. A Proposal showing omissions, alterations, conditions, or carrying riders or other qualifiers, which modifies the Proposal, may at the Owner's discretion, be rejected as irregular.

B. SUBMISSION
1. If the Proposer chooses to issue a "No Response" (Enter "0" in the Online System) to a question on the Proposal, an explanation of this action is required. Failure to provide an adequate explanation may be viewed by the Owner as an incomplete response and may subject the entire Proposal to rejection or at a minimum a score of zero (0) will be given for that category.
2. Only one Proposal may be submitted by each Proposer.
3. Proposals not submitted prior to published or amended Response date/time will not be accepted by the Districts' online bidding system. Responders will be locked out of their response and their response will be incomplete.
4. A Proposer will receive no compensation or reimbursement of expenses incurred in of the preparation of a Competitive Sealed Proposal submission.
5. The Owner reserves the right to reject any or all Proposals, and waive any and/or all formalities.

2.05 PUBLIC INFORMATION AND NOTICE OF CONFIDENTIALITY

A. The Owner considers all Proposal information, documentation and supporting materials submitted in response to this Proposal request to be non-confidential and/or non-proprietary in nature, and therefore, shall be subject to the public disclosure under the Texas Public Information Act (Texas Government Code, Sec. 552.001, et seq.) after the award of the contract. See ATTRIBUTES Tab in Districts' online bidding system.

B. The Proposer must identify and designate those portions of their technical Proposal that contains trade secrets or other proprietary data. If the Proposal includes such data, the Proposer shall. See ATTRIBUTES Tab in Districts' online bidding system.
1. Mark the cover sheet of the Technical Proposal with the following phrase: "This Proposal includes data that shall not be disclosed outside the School District and the A/E design team and shall not be duplicated, used or disclosed in whole or in part for any purpose other than to evaluate the Proposal."
2. Mark each sheet and the specific data on that sheet that the Proposer wishes to restrict with the following phrase: "Use or disclosure of the specifically marked data is subject to the restrictions regarding confidentiality cited on the cover sheet of this Proposal."

2.06 OWNERSHIP OF COMPETITIVE SEALED PROPOSAL

A. Submitted Proposals, documentation and supporting material shall become the property of the Owner.

2.07 SITE INVESTIGATION

A. It is the responsibility of each Proposer to examine the project site, existing improvements and adjacent property and be familiar with existing conditions before submission of Proposal.

B. After investigating the project site and comparing the Project Manual and Drawings with the existing conditions, the Proposer should immediately notify the A/E of any conditions for which requirements are not clear, or about which there is any question regarding the extent of the work involved.

C. Should the successful Proposer fail to make the required investigation and should a question arise after award of the contract as to the extent of the work involved in any particular case, after receiving recommendations from the A/E, the Owner will make the interpretation of the Contract Documents.

2.08 EVALUATION AND CONTRACT AWARD PROCESS

A. Proposals will be opened publicly to identify the names of the Proposer and their respective proposed contract amount. Other contents of the Proposals will be afforded security sufficient to preclude disclosure of the contents prior to award or rejection action.

B. Proposals will be evaluated by the Proposal Evaluation Committee as set forth in 2.02.A. The criteria for evaluation and selection of the successful Proposer for this award will include the factors listed in 2.03.A.4.

C. Within sixty (60) calendar days after opening the Proposals, the Owner will evaluate and rank each Proposal with respect to the published selection criteria described under Paragraph 2.03. After opening and ranking, an award may be made on the basis of the initially submitted Proposal, without discussion, clarification or modification, or the Owner may discuss with the selected Proposer any element of the Proposal. Other than the data read at the Proposal opening, the Owner shall not disclose any information derived from the Proposals submitted by competing firms in conducting such discussions. If the Owner determines that it is unable to reach a satisfactory agreement with the first ranked Proposer, the Owner will terminate discussions with that Proposer. The Owner will then proceed with negotiations with each successive Proposer as they appear in the order of ranking until an agreement is reached, or until the Owner has rejected all Proposals. After termination of discussions with any Proposer, Owner will not resume discussions with that Proposer.

D. The Owner reserves the right to accept or reject any or all alternates or to accept any combination of alternates considered advantageous to the Owner.

E. The award or rejection action regarding this Proposal is at the sole discretion of the Owner and the Owner makes no warranty regarding this Proposal that a contract will be awarded to any Proposer.

F. The Owner agrees that if the Contract is awarded, it will be awarded to the Proposer offering the best value to the Owner, based upon the published selection criteria, and upon its ranking evaluation. The Owner is not bound to accept the lowest priced Proposal if that Proposal is judged not to be the best value for the Owner, as determined by the Owner.

G. No work may begin without the receipt of District Purchase Order, no exceptions.

END OF SECTION

SECTION 00 4335
PROPOSAL FORM - SCHEDULE AND SUB-CONTRACTOR'S LIST

DATE _____

TO:

DR. ROGER BROWN, SUPERINTENDENT OF SCHOOLS, HUMBLE ISD, HUMBLE, TEXAS.

1.01 THE PROPOSAL RESPONSES SHALL BE RECEIVED VIA HUMBLE ISD'S ONLINE BIDDING SYSTEM UNTIL:

A. Base Bid of the Proposal shall be received until 2:00pm, Thursday, May 8, 2025

B. Alternates of the Proposal shall be received until 3:00pm, Thursday, May 8, 2025

1.02 KEY PROJECT PERSONNEL:

Given the scope and schedule of the project, identify all proposed personnel for this project including but not limited to the Project Manager, Estimator, and Superintendent who would work on the project. Provide a resume and references for each individual. Note current projects on which individual is working including the project name, location, contract amount, percent complete, and the completion date of those projects. Also note the length of tenure with your company (hire date) for each proposed individual. Provide an organizational chart for this project noting whether the individual is On Site or Off Site. This organizational chart shall become part of the Owner – Contractor Agreement AIA Document A101. Members of the proposed team, once approved, shall not be changed without prior written approval of the Owner.

1.03 CONSTRUCTION SCHEDULE:

The Proposer shall submit a schedule for this project. Schedule shall be submitted in Gantt Chart format.

State your organization's project plan or proposed approach to this project.

If selected, this proposed schedule shall become part of the Owner – Contractor Agreement AIA Document A101.

1.04 SUBCONTRACTORS:

Provide a list of all the major Subcontractors and Suppliers for each trade for this project on the form attached following this document.

You may provide a maximum of three (3) proposed Sub-contractors for each category. However, no additional Sub-contractors will be considered after submission of this list.

END OF SECTION

SECTION 00 4393
PROPOSAL SUBMITTAL CHECKLIST

THE FOLLOWING ITEMS ARE TO BE SUBMITTED TO HUMBLE ISD, AS DESCRIBED IN SECTION 00 2116 - INSTRUCTIONS TO PROPOSERS:

1.01 NOTE: ALL PROPOSALS MUST BE ELECTRONIC.

1.02 PROPOSAL FORM: PRE-QUALIFICATIONS

SUBMITTED TO HUMBLE ISD THROUGH THE DISTRICT'S ONLINE BIDDING SYSTEM

A. ( ) Contractor's References – minimum five (5) references including information as outlined in Section 00 4335.

B. ( ) Contractor's Qualification Statement AIA Document A305

1.03 PROPOSAL FORM, RESPONSES AND ATTACHMENTS:

SUBMITTED TO HUMBLE ISD THROUGH THE DISTRICT'S ONLINE BIDDING SYSTEM.

A. ( ) Proposal Form A.1 - Base Bid, **NO LATER THAN 2:00 P.M.**

B. ( ) Proposal Form A.2 - Alternates, **NO LATER THAN 3:00 P.M.**

C. Proposers are to have all forms, required attachments, and all required lines completed and the **SUBMIT RESPONSE** button completed prior to **3:00 PM. on THURSDAY, MAY 8, 2025**, or the system will shut them out and no response will be submitted. Please plan ahead.

END OF SECTION

SECTION 01 2300
ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of Alternates.

B. Procedures for pricing Alternates.

1.02 RELATED REQUIREMENTS

A. Document 00 2116 - Instructions to Proposers

1.03 PROCEDURES

A. Proposers are required to submit alternate proposals to add work or to deduct work from the base proposal as described below. Failure to submit alternate amounts in spaces provided on proposal form is basis for disqualification of proposal.

B. The successful proposer shall not modify, withdraw or cancel any of the alternate proposals or any part thereof for 45 days after date of receipt of proposals, unless specifically noted otherwise.

C. Contractor shall be responsible for any changes in the work affected by acceptance of these alternates. Include within the alternative proposal prices all costs, including materials, installations, and fees.

D. Claims for additional dollars resulting from changes caused by the alternates will not be allowed.

E. Refer to the drawings and project manual for items of work affected by alternates.

F. Alternates will be exercised at the option of the Owner.

G. Coordinate related work and modify surrounding work as required to complete the Work, including changes under each alternate, when acceptance is designated in the Owner - Contractor Agreement.

1.04 ACCEPTANCE OF ALTERNATES

A. Indicate variation of proposal price for alternates described below and list on the proposal form or any supplement to it, which requests a 'difference' in proposal price by adding to or deducting from the base proposal price or by indicating "No Charge".

B. Indicating "No Bid" as an alternate is unacceptable and is reason for rejection of the proposal.

C. Alternates quoted on Bid / Proposal Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

D. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.05 SCHEDULE OF ALTERNATES

A. See Section "00 4333-Proposal Form Part A.2 Alternates" for Schedule of Alternates.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

LOFLIN ENVIRONMENTAL SERVICES, INC.

PROJECT DESIGN FOR THE REMOVAL OF ASBESTOS CONTAINING MATERIALS

Creekwood Middle School
3603 W. Lake Houston Pkwy
"Exterior Gym Addition Wall, Band Hall Addition Wall & Exterior Window Areas"
Kingwood, Texas

Abatement of Asbestos Exterior Vapor Barrier Mastic

April 24, 2025

Prepared by:
Loflin Environmental Services, Inc.

James Murray, CIH, CSP
#10-5776
exp. September 24, 2025

PROJECT DESIGN
FOR
ASBESTOS REMOVAL

PART 1 - GENERAL

1. SCOPE: The work covered by this section includes furnishing all plans, labor, equipment, materials, and transportation necessary for the proper and safe removal, handling, and disposal of non-friable materials.

1.1 Remove asbestos-containing materials to include the following:
7,000 square feet of asbestos containing vapor barrier mastic with associated brick.
(Exterior/NESHAP)

2. TERMINOLOGY

2.1 Abatement - procedures to decrease or eliminate fiber release from precast, spray-on, trowel-applied asbestos-containing building materials. Includes encapsulation, enclosure, and removal.

2.2 Air Monitoring - the process of measuring the fiber content of a specific volume of air during a stated period of time.

2.3 Airlock - system for permitting ingress or egress of personnel without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least three feet apart.

2.4 Amended Water - water to which a surfactant has been added.

2.5 Asbestos - a general term used to describe several fibrous mineral silicates. Although there are many asbestos minerals, only six are of commercial importance. They are: Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite, and Tremolite. For the purposes of this Project the term "asbestos" is used interchangeable with "asbestos-containing sprayed material", "dust containing asbestos", and "friable insulating material containing asbestos".

2.6 Asbestos Control Area - an area where asbestos removal operations are performed and which is sealed and isolated by physical barriers to prevent the spread of asbestos contamination.

2.7 ANSI - American National Standards Institute.

2.8 ASTM - American Society for Testing and Materials.

2.9 Clean Room - an uncontaminated area or room which is part of the worker decontamination enclosure system, with provisions for storage of workers' street clothes and protective equipment. Also known as the "Change Room".

2.10 Critical Barrier - seal applied to openings connecting the abatement area with adjacent spaces that will not be included in the containment. Critical barriers shall not be exposed to the gross critical barriers include, but are not limited to: HVAC vents and diffusers ; doorways ; windows ; floor, wall, and ceiling penetrations; and air plenums.

2.11 Curtained Doorway - a device to allow ingress or egress from one room to another while minimizing air movement between the rooms. Typically constructed by placing three overlapping sheets of 6-mil plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edges of the outer sheets along one vertical edge of the second or middle sheet along the opposite vertical side of the doorway.

2.12 Decontamination Enclosure System - a series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers or of materials and equipment. An equipment decontamination system always contains at least three airlocks (rooms).

2.13 Encapsulation - the sealing of asbestos surfaces involving application of a material (encapsulant) that will envelop or coat the fiber matrix and eliminate fiber fallout and protect against contact damage.

2.14 Enclosure - procedures necessary to completely enclose material containing asbestos behind airtight, impermeable, permanent barriers.

2.15 EPA - United States Environmental Protection Agency.

2.16 Equipment Decontamination Enclosure System - a decontamination enclosure system for materials and equipment, typically consisting of a washroom, an airlock, and a holding area.

2.17 Equipment Room - a contaminated area or room which is part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment.

2.18 Fixed Object (Immovable Object) - a unit of equipment or furniture in the work area which cannot be removed from the work area.

2.19 CIH - Certified Industrial Hygienist

2.20 HEPA - High Efficiency Particulate Absolute (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in length.

2.21 HEPA - High Efficiency Particulate Air (HEPA) filtered vacuuming equipment with a UL 586 filter system capable of collecting and retaining asbestos fibers.

2.22 Holding Area - a chamber between the washroom and uncontaminated area in the equipment decontamination enclosure system. The holding area comprises an airlock.

2.23 Movable Object - a unit of equipment or furniture in the work area can be removed from the work area.

2.24 NESHAPS - National Emissions Standard for Hazardous Air Pollutants.

2.25 N.E.C. - National Electrical Code.

2.26 NIOSH - National Institute for Occupational Safety and Health.

2.27 OSHA - Occupational Safety and Health Administration.

2.28 Plastic Sheeting - plastic sheet material of specified thickness used for protection of walls, floors, etc., and used to seal openings into the work area.

2.29 Removal - the act of removing asbestos-containing or contaminated materials from the structure under properly controlled conditions to a suitable disposal site.

2.30 Shower Area - a room constituting an airlock, between the clean room and the equipment room in the worker decontamination enclosure system, with hot and cold or warm running water suitably arranged for complete showering during decontamination.

2.31 Surfactant - a chemical wetting agent added to water to improve penetrating ability, thus reducing the quantity of water required to saturate asbestos-containing materials.

2.32 Wet Cleaning - the process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with amended water, and by afterwards disposing or these cleaning tools asbestos-contaminated waste.

2.33 Washroom - a room between the work area and the holding area in the equipment decontamination enclosure system. The washroom comprises an airlock.

2.34 Work Area - area or areas of project which undergo abatement or are contaminated.

2.35 Worker Decontamination Enclosure System - a decontamination enclosure system for workers, typically consisting of a clean room, and airlock, a shower room, an airlock, and an equipment room.

3. QUALITY CRITERIA

3.2 Reference Standards, Codes and Standards

Acknowledge awareness and familiarity with the contents and requirements of the following regulations, codes, and standards, guidance documents, assume responsibility for the performance of the Work in strict compliance therewith and for every instance of failure to comply therewith. The current issue of document shall govern.

3.2.1 U.S. Environmental Protection Agency (EPA) Regulations for Asbestos (Code of Federal Regulations Title 40, Part 61, Subparts A and M: National Emissions Standards for Hazardous Air Pollutants (NESHAPS).

3.2.2 U.S. Environmental Protection Agency (EPA) Regulation Title 34, Part 231 Appendix C, Procedures for Containing and Removing Building Materials Containing Asbestos.

3.2.3 U.S. Environmental Protection Agency (EPA) 40 CFR 260-265: Resource Conversation and Recovery Act.

3.2.4 U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Regulations (Code of Federal Regulations Title 29, Part 1910, Section 1910.1001,1910.134,1910.1200,1910.20 and Part1926, Section 1926.1101).

3.2.5 U.S. Department of Education, Office of Elementary and Secondary Education (Code of Federal Regulations Title 34, Parts 230 and 231), Federal Register, vol. 46, No. 11, January 16, 1981.

3.2.6 U.S. Environmental Protection Agency (EPA) Office of Pesticide and Toxic Substances Guidance Document, "Guidance for Controlling Friable Asbestos- Containing Materials in Buildings", EPA 560 / 5-85-024, June 1985.

3.2.7 Texas Department of State Health Services' "Asbestos Health Protection Rules" and any other state, county, and city codes and ordinances as applicable. Make available for review at the site one copy of EPA, OSHA, and applicable state, county, and City Regulations governing the Work.

3.2.8 40 CFR 763 Asbestos Hazard Emergency Response Act (AHERA).

4. TEST REPORTS

NOT USED

5. SUBMITTALS

NOT USED

6. PRODUCT HANDLING

NOT USED

7. WORKER SAFETY AND PROTECTION

7.1 Worker Training. The Contractor shall ensure that all of his employees have received training required by OSHA Standard 1926.1101 (k) (3) and applicable state regulations and that training records are on file in his office and available for review and are maintained for one year beyond the last date of employment.

7.2 Worker Physical Examinations. Contractor shall provide medical examinations for all employees in accordance with OSHA standards 1910.134 (b) and 1926.1101 (m) and applicable state regulations. The Contractor shall ensure that all employee results are on file in his office and available for review.

7.3 The Contractor shall further ensure that employee examination results, for each employee utilized on this project, indicate that the employee is physically capable to perform the work and wear the respiratory protection required.

7.4 Worker Protection and Decontamination. The contractor shall take all safety measures and precautions required to protect his employees and building occupants in accordance with OSHA 29 CFR, Part 1926.1101, and EPA, 40 CFR, Part 61, Subpart M, and applicable state regulations. The Contractor shall provide his employees a worker decontamination enclosure system in accordance with OSHA, 20 CFR, Part 1926.58, and specified herein.

8. BUILDING PROTECTION

NOT USED

9. WORKSITE CONDITIONS

NOT USED

10. PERSONNEL PROTECTION

10.1 Prior to commencement of work, all workers shall be instructed by the Contractor, and shall be knowledgeable in the appropriate procedures for personnel protection and asbestos removal.

10.2 Contractor acknowledges and agrees that he is solely responsible for enforcing worker protection requirements at least equal to those specified in this Section.

10.3 Contractor shall provide workers with personally issued and marked respiratory equipment approved by NIOSH and in compliance with OSHA Standards for the type of work being performed.

10.4 Where respirators with disposable filters are used, provide sufficient filters for replacement as necessary by the workers, or as required by applicable regulations.

10.5 Provide respiratory protection as needed from the time of the first operation involving preparation to remove asbestos-containing materials (including construction of airtight barriers/barricades and placing of plastic sheeting on walls) until acceptance of final air test results by Building Owner.

PART 2 - PRODUCTS

11. MATERIALS

11.1 Plastic sheeting - shall be of the thicknesses specified, in sizes to minimize the frequency of joints. Use of "spray-on poly" is not permitted.

11.2 Tape - Shall be glass fiber or other type capable of sealing joints of adjacent sheets of plastic and for attachment of plastic sheet on finished or unfinished surfaces under both dry and wet conditions.

11.3 Surfactant (wetting agent) - shall consist of mixture of "Dust-Set Amended Water Base" (Matheson Chemical Corporation), and water, mixed one part "Dust-Set Amended Water Base" to 19 parts water.

11.4 Sealant (encapsulant) - Shall be manufactured by reputable, established manufacturer of encapsulant/sealant asbestos-contaminated environments. It is the responsibility of the Contractor to determine compatibility of the sealant with the materials and conditions.

11.5 Impermeable Containers - Shall be suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site and shall be labeled in accordance with OSHA Regulation 29 CFR 1926.1101 (k) (2) (iii). Containers shall be both air and water tight.

11.6 Other Materials - Provide all other materials, such as lumber, nails, and hardware, which may be required to construct and dismantle the decontamination system and the barriers that isolate the work area.

12. TOOLS AND EQUIPMENT

Provide suitable tools for asbestos-containing material removal.

12.1 Water Sprayer - Utilize airless or other low pressure sprayer for amended water application.

12.2 Air Purifying Equipment (for internal recirculation in the work area) - Shall be High Efficiency Particulate Absolute (HEPA) Filtration Systems or Electronic Precipitators. Ensure that no internal air movement system or purification equipment exhausts contaminated air from inside the work area into uncontaminated areas.

12.3 Scaffolding - Shall be as required to accomplish the specified work and shall meet all applicable safety regulations.

12.4 Transportation - As required for loading, temporary storage, transit, and unloading of contaminated waste without exposure to persons or property. Use only enclosed or covered trucks to haul waste containers in route to the landfill.

13. RESPIRATORY PROTECTION

13.1 Types of Respirators. Contractor shall provide workers with and require the use of respirators approved by MSHA/NIOSH for asbestos in accordance with OSHA Standard 1926.1101 (h) (2). Disposable single use respirators are not acceptable.

13.2 Respirator Use. Respirators shall be worn at all times in the asbestos control area while the following activities are being performed. After asbestos has been removed and an area has passed visual inspection and final clearance air sampling, respirators no longer need to be worn in that area.

13.2.1 During area preparation when such activities may result in contact with asbestos.

13.2.2 During any material or equipment removal when asbestos may be disturbed.

13.2.3 In the asbestos control area after the area has been prepared, while asbestos removal and cleanup operations are being performed.

13.2.4 In the loading and asbestos control area while handling bags or sealed containers and while loading sealed containers onto the truck.

13.2.5 While unloading disposal containers at the landfill and placing them in the landfill.

14. PROTECTIVE CLOTHING

14.1 All personnel engaged in asbestos removal work shall wear approved protective clothing manufactured from TYVECK 1422 material, or other material of equivalent resistance to penetration by asbestos. A full body suit is recommended in lieu of a separate set of coveralls, head covers, and shoe covers. Disposable whole body clothing including head covers, gloves, and shoe coverings shall be provided to and worn by all personnel in the asbestos control area. If attached and/or boots are not included, these shall be provided separately. If elastic sleeve closures are not provided, sleeves shall be secured to duct tape to gloves.

14.2 Contaminated clothing shall be treated as asbestos-containing material and undergo the same disposal procedures.

14.3 All openings in clothing shall be taped to exclude penetration by asbestos fibers.

15. WARNING SIGNS AND LABELS

15.1 Signs. The Contractor shall post warning signs prior to asbestos removal in accordance with OSHA, 29 CFR, Part 1926.1101 (k) (l) (iii). The signs shall display the legend indicated below:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

15.2 Labels. The Contractor shall permanently affix warning labels to all products and bags/containers containing or contaminated with unencapsulated friable asbestos in accordance with OSHA Standard 1926.1101 (k) (2) (iii). Labels shall be printed in large bold letters on a contrasting background and contain the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

PART 3 - EXECUTION

16. PREPARATION

16.1 Coordinate sequence of work area preparation throughout the work site with Property Owner and other trades in order to properly segregate work areas from areas that must remain fully or partially operational or in which other construction is being performed.

16.2 Preparation of Work Area for Exterior Vapor Barrier Mastic Removal Areas

16.2.1 Erect asbestos barrier tape around the work areas to prevent untrained workers from entering the regulated area. Cover Wall Penetration Areas with one layer of six-mil thick polyethylene sheeting on the interior side of affected wall areas.

16.2.2 Place one layer of six-mil thick polyethylene sheeting on the floor directly beneath the affected areas.

17. REMOVAL OF ASBESTOS-CONTAINING MATERIAL

Remove and properly dispose of all asbestos-containing materials indicated to be removed as described in the procedures outlined in the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Asbestos Regulations (Code of Federal Regulations Title 29, Part 1926, Section 1926.1101 and as more stringently specified herein.

17.1.3 For Removal of Exterior Vapor Barrier Mastic on Wall and Window Penetration Areas, prepare work area as previously specified.

17.1.1 Initiate required personnel air monitoring in accordance with 29 CFR 1926.58 Appendix A. Provide results of personnel air monitoring to Consultant within 24 hours of completion of the testing. Post results of personnel air monitoring daily in a location approved by the Consultant for all personnel to see.

17.1.2 Thoroughly wet vapor barrier mastic and associated brick material during removal/clean-up process. Remove material in manageable sections and load into approved dumpster for disposal.

17.1.4 Collect all loose visible residual material and debris. Place all waste into appropriately labeled six-mil poly bags, double bag and place into dumpster.

18. CLEAN-UP AND CLEARANCE TESTING

18.1 Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris in work area.

18.2 All surfaces must be free from visible debris.

18.3 Contractor must notify Owner's representative at least four hours prior to clean-up inspection. After Owners representative determines level of cleanliness acceptable.

18.4 Standard of Cleaning for Final Clearance. Consider work areas and all other decontaminated and cleaned areas clean when:

18.4.1 Level of cleanliness has been approved by Owner's representative; and

18.4.2 Air testing performed by the Testing Laboratory indicates airborne fiber concentrations were less than 0.01 fibers per cubic centimeter of air (f/cc) during the work as determined using techniques derived from the NIOSH 7400 Method.

19. CLEAN-UP SEQUENCE

19.1 Remove all visible accumulations of asbestos-containing material and debris.

19.2 Wet clean and HEPA-vacuum all surfaces in the work area.

19.3 Clean all equipment (excluding that which will be needed for further cleaning phases) used in the work area and remove from work area via the equipment decontamination enclosure system.

19.4 Dispose of debris from removal operation, used cleaning materials, unsalvageable materials used for sturdy barriers, and any other remaining materials. Consider the materials to be contaminated, to be disposed of contaminated waste.

20. DISPOSAL OF CONTAMINATED WASTE

20.1 Collection of asbestos waste materials. For the purpose of this paragraph asbestos waste materials are all items not sealed with an asbestos encapsulant sealer at the jobsite. These waste materials shall be collected in properly labeled 6-mil polyethylene bags or other approved sealed impermeable containers. Double bagging is required. A fine spray of amended water or removal encapsulant shall be used to keep asbestos in the containers damp to minimize airborne asbestos dust.

20.2 Disposal of asbestos waste materials. Waste containers shall be hauled away by the Contractor as soon as there is a sufficient quantity for a dumpster load. Procedures for hauling and disposal shall comply with EPA 40, CFR, Part 61.38, and other applicable state, regional and local Government standards.

20.3 Ensure that there are no visible emissions to the outside air from site where materials and waste are deposited.

LOFLIN ENVIRONMENTAL SERVICES, INC.

This letter serves to authorize the following individuals to act as agents for Loflin Environmental Services by performing post abatement visual observations and final clearance testing on the project listed below:

Matt Songster, Michael Hendrix, Edgar Cazares, Chris Songster, Alfonso Drummond, Francis Gonzalez, Abiola Ajayi, Tony Davis, Chris Zanelli, Humberto Lopez, Adebayo Adesina, Oluwaseun Adeya, Theophilus Ojie, Johnson Abiodun Olukotun

Creekwood Middle School
3603 W. Lake Houston Pkwy.
Kingwood, Texas

04/24/25

James Murray, CIH, CSP
Vice President
DSHS #10-5776

DIVISION 3 - CONCRETE

CONCRETE FINISHING

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
COS	CONCRETE, SEALED			CLEAR						

DIVISION 4 - MASONRY

UNIT MASONRY

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
BRK01	BRICK UNIT MASONRY	ACME BRICK COMPANY		FLASH MANGANESE VELOUR	UTILITY				FIELD BRICK	CHRIS PELTON CPELTON@BRICK.COM 832.948.3312
BRK02	BRICK UNIT MASONRY	ACME BRICK COMPANY		AMERICANA	UTILITY				ACCENT BRICK	CHRIS PELTON CPELTON@BRICK.COM 832.948.3312

STONE

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
NS01	NATURAL STONE	ACME BRICK COMPANY		LUEDERS BUFF						CHRIS PELTON CPELTON@BRICK.COM 832.948.3312
INS01	NATURAL STONE	ACME BRICK COMPANY	THINSET STONE	LUEDERS BUFF					DISPLAY CASE SURROUNDS AT BAND HALL LOBBY	CHRIS PELTON CPELTON@BRICK.COM 832.948.3312

DIVISION 5 - METALS

METAL FABRICATIONS

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
	METAL RAILINGS & HANDRAILS			PNT02					@ MECHANICAL PLATFORM	

DIVISION 6 - WOOD-PLASTICS

FIBERGLASS REINFORCED PANELING

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
FRP01	FIBERGLASS REINFORCED PANELING	PANOLAM SURFACE SYSTEMS		SILVER FRP					AT MOP SINKS REF DETAIL ON A9 SHEETS FOR EXTENTS	

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

ROOFING AND SIDING PANELS

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
MP01	METAL SOFFITS	PAC CLAD	PVDF WOOD GRAIN SERIES	COPPER						

FLASHING AND SHEET METAL

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
	DOWNSPOUTS			MATCH PAC CLAD SLATE GRAY						
	GUTTERS			MATCH PAC CLAD SLATE GRAY						
	METAL FLASHING, COPING, & TRIM			MATCH PAC CLAD SLATE GRAY						

DIVISION 8 - OPENINGS

DOORS AND FRAMES

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
	ALUMINUM DOORS & FRAMES			CLEAR ANODIZED ALUM						
	ALUMINUM WINDOWS			CLEAR ANODIZED ALUM						
	COILING DOORS & GRILLES			PAINT TO MATCH CLEAR ANODIZED ALUM FRAMES						
HM	HOLLOW METAL DOORS & FRAMES			PAINT TO MATCH CLEAR ANODIZED ALUM FRAMES						
	LOUVERS			CLEAR ANODIZED ALUM						
SC	SOLID CORE DOORS	WILSONART		PINNACLE WALNUT 7992		38 FINE VELVET TEXTURE FINISH				
	VISBLE DOOR HARDWARE			CLEAR ANODIZED ALUM						

DIVISION 9 - FINISHES

TILING

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
BTP01	BASE, TILE, PORCEAIN	DALTILE	DELEGATE	LIGHT GREY DL26	6"x12"	MATTE		RESTROOM WALL BASE		
	GROUT	MAPEI		TIMBERWOLF 104						
TC01	TILE, CERAMIC	DALTILE	COLOR WHEEL LINEAR	ARTIC WHITE RECTANGLE 0190	6"x18"	GLOSSY	STACK BOND	CULINARY WALLS		
TM01	TILE, MOSAIC	DALTILE	DELEGATE	OFF WHITE DL25	RANDOM LINEAR	MATTE		RESTROOM ACCENT		
	GROUT	MAPEI		ALABASTER 01						
TM02	TILE, MOSAIC	DALTILE	DELEGATE	LIGHT GREY DL26	RANDOM LINEAR	MATTE		RESTROOM ACCENT		
	GROUT	MAPEI		TIMBERWOLF 104						
TP01	TILE, PORCELAIN	CROSSVILLE	BASALT	SILICA	12"x24"	UNPOLISHED	STACK BOND	CORRIDOR WALLS		
	GROUT	MAPEI		BISCUIT 14						
TP02	TILE, PORCELAIN	CROSSVILLE	BASALT	MAFIC	12"x24"	UNPOLISHED	STACK BOND	CORRIDOR WALLS		
	GROUT	MAPEI		GRAY 09						
TP03	TILE, PORCELAIN	DALTILE	DELEGATE	OFF WHITE DL25	12"X24"	MATTE	STACK BOND	RESTROOM WALLS		
	GROUT	MAPEI		ALABASTER 01						
TP04	TILE, PORCELAIN	DALTILE	DELEGATE	LIGHT GREY DL26	12"X24"	MATTE	STACK BOND	RESTROOM FLOORS		
	GROUT	MAPEI		TIMBERWOLF 104						
TP05	TILE, PORCELAIN	DALTILE	SADDLE BROOK	FARMHOUSE				BAND HALL LOBBY, BAND HALL & ATHLETIC CORRIDOR FLOOR		
GROUT	GROUT	MAPEI		MOCHA 42						
TQ01	TILE, QUARRY	DALTILE		TBD						

CEILINGS

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
L1	ACOUSTICAL CEILING TILE	CERTAINTEED		WHITE, U.N.O.	24"x24"					
L4	ACOUSTICAL CEILING TILE	CERTAINTEED		WHITE, U.N.O.	24"x24"			CULINARY		
L6	ACOUSTICAL CEILING TILE	CERTAINTEED		WHITE, U.N.O.				BAND HALL		

WOOD FLOORING

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
WMP								DANCE & GYM FLOORS	SEE FINISH PLAN FOR ADDITIONAL INFORMATION	

RESILIENT FLOORING

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
BR01	BASE, RUBBER	TARKETT	WALL BASE - RUBBER	CANYON	4" HIGH					

CARPETING

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
CPT01	CARPET, SHEET	TARKETT	TUNDRA FLOWER	NEW FRONTIER				OFFICES		

WALL FINISHES

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
CDW01	CUSTOM DIGITAL WALLCOVERING	MDC DIGITAL WALLCOVERINGS	SUBSTRATE TO BE SUEDE					GYM LOBBY	REFER TO DWGS FOR LOCATIONS; REQUEST ARTWORK FROM ARCHITECT	

ACOUSTIC TREATMENT

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
AP01	ACOUSTICAL PANELS	DESIGNTEX	GAMUT	MIST						
AP02	ACOUSTICAL PANELS	DESIGNTEX	GAMUT	PEBBLE						
AP03	ACOUSTICAL PANELS	DESIGNTEX	LOUNGE	MALLARD 3162-504						

PAINTING AND COATING

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
PNT01	PAINT	SHERWIN WILLIAMS		SHOJI WHITE 7042		EGGSHELL				
PNT02	PAINT	SHERWIN WILLIAMS		FELTED WOOL 9171		EGGSHELL				
PNT03	PAINT	SHERWIN WILLIAMS		GREENBELT 6927		EGGSHELL				
PNT04	PAINT	SHERWIN WILLIAMS		URBANE BRONZE 7048		EGGSHELL				
PNT05	PAINT	SHERWIN WILLIAMS		IRON ORE 7069				EXPOSED CEILING IN BAND HALL AND DANCE		

DIVISION 10 - SPECIALTIES

INFORMATION SPECIALTIES

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
	DISPLAY CASES	THE TABLET AND TICKET CO.	900DC	CLEAR ANODIZED						
	DISPLAY CASE TACKABLE SURFACE	CLARIDGE	CLARIDGE CORK	SMOKE 1111						
	EXTERIOR SIGNAGE			COLOR TO BE SELECTED FROM MFR FULL RANGE OF COLOR OPTION BY SUBMITTAL						
	INTERIOR SIGNAGE			COLOR TO BE SELECTED FROM MFR FULL RANGE OF COLOR OPTION BY SUBMITTAL						
	BACKGROUND			COLOR TO BE SELECTED FROM MFR FULL RANGE OF COLOR OPTION BY SUBMITTAL						
	ACCENT STRIPE			COLOR TO BE SELECTED FROM MFR FULL RANGE OF COLOR OPTION BY SUBMITTAL						
	LETTERS			COLOR TO BE SELECTED FROM MFR FULL RANGE OF COLOR OPTION BY SUBMITTAL						
MB	MARKER BOARD FRAMES			CLEAR ANODIZED						
TB	TACKBOARD FRAMES			CLEAR ANODIZED						
	TACK BOARD CORK	CLARIDGE	CLARIDGE CORK	SMOKE 1111						

INTERIOR SPECIALTIES

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
	CUBICLE CURTAIN	MAHARAM	SEMBLANCE	PLANK 283730-001						
	TOILET PARTITIONS	ASI		MOCHA 9212						

EXTERIOR SPECIALTIES

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALLATION	LOCATION	NOTES	CONTACT
	PRE-MANUFACTURED CANOPIES			MATCH PAC CLAD SLATE GRAY						

ATHLETIC EQUIPMENT

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALL/PATTERN	LOCATION	NOTES	CONTACT
	SCOREBOARDS			COLOR TO BE SELECTED FROM MFR FULL RANGE OF COLOR OPTION BY SUBMITTAL						

	WALL PADDING	PORTER	CLASS A	GRAY						

DIVISION 12 - FURNISHINGS

WINDOW TREATMENTS

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALL/PATTERN	LOCATION	NOTES	CONTACT
	SHADES	MECHOSHADE	3% OPEN	COLOR TO BE SELECTED FROM MFR FULL RANGE OF COLOR OPTION BY SUBMITTAL						

ARCHITECTURAL CASEWORK

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALL/PATTERN	LOCATION	NOTES	CONTACT
PL01	PLASTIC LAMINATE	WILSONART		PINNACLE WALNUT 7992		38 FINE VELVET TEXTURE FINISH				

MULTIPLE SEATING

KEY	TYPE	MANUFACTURER	MODEL/SERIES	COLOR/NUMBER	SIZE	FINISH	INSTALL/PATTERN	LOCATION	NOTES	CONTACT
	TELESCOPING BLEACHERS	HUSSEY SEATING		COLOR TO BE SELECTED FROM MFR FULL RANGE OF COLOR OPTION BY SUBMITTAL						

Revision / 1 — Date 4/29/25 — ADDENDUM 03

Project:
CREEKWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
FOR
HUMBLE ISD
KINGWOOD, TX

REGISTERED ARCHITECT — SUSAN F. WISATT — TX 24614 — STATE OF TEXAS
04/2/2025

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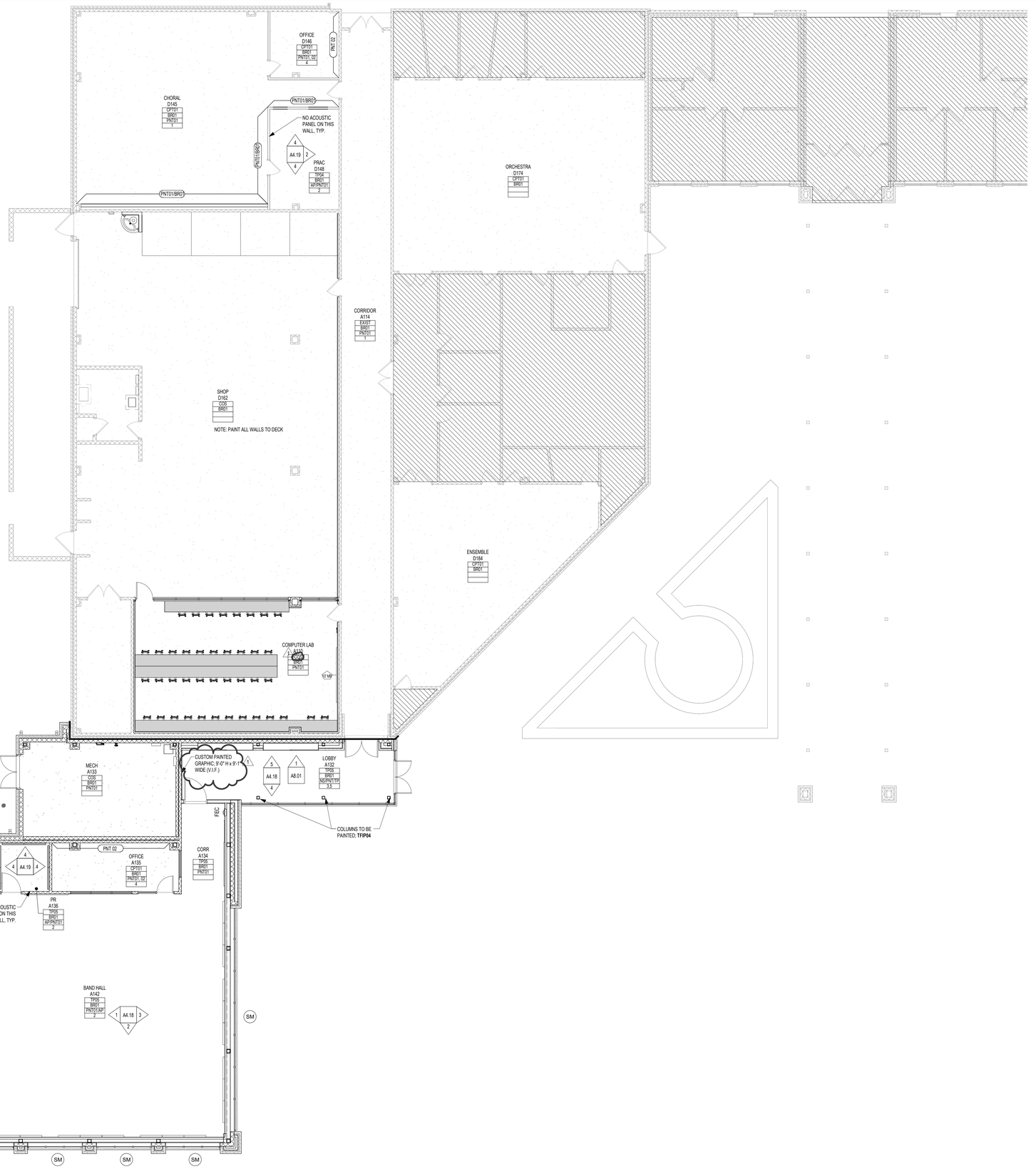
SCHEDULE OF MATERIALS AND COLORS

Job No. 1821-13-01
Drawn By: Author
Date: 04.02.2025
Sheet No. 100% QC G5.01

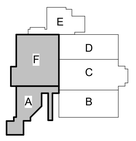
4/29/2025 10:37:42 AM
Autodesk Docs://HUMBLE ISD - CREEKWOOD & RIVERWOOD MS ADD RENOVATIONS/1821-13-01_CREEKWOOD MS ADDITION & RENOVATIONS - V23.rvt



PLAN N

TRUE N

1 FINISH PLAN - SECTION A
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S

FINISH PLAN LEGEND

APPLIES TO SECTION PLANS

A1.1 — ELEVATION REFERENCE

1 / A1.1 — CALLOUT REFERENCE

SIM / 1 / A101 — WALL SECTION REFERENCE

B — B - HORIZONTAL BLINDS; C - CURTAIN HUNG BY SUSPENDED TRACK; SMB - MOTORIZED SHADES - BLACKOUT; SB - WINDOW SHADES - BLACKOUT; SM - MOTORIZED SHADES; $ - WINDOW SHADES

FLOOR INSTALLATION DIRECTION

FLOOR TRANSITION

FINISH — WALL FINISH TAG

NOT IN SCOPE

FINISH REMARKS

NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE.

1. REFER TO PLAN FOR EXTENTS OF PAINT AND RUBBER BASE.
2. REFER TO INTERIOR ELEVATIONS FOR EXTENTS OF ACOUSTIC PANEL.
3. REFER TO SHEET G5.01/G5.02 AND INTERIOR ELEVATIONS FOR EXTENTS OF CUSTOM DIGITAL WALLCOVERING.
4. REFER TO FINISH PLAN FOR LOCATION OF ACCENT WALL PAINTED, **PNT02.**
5. REFER TO FINISH PLAN FOR EXTENTS OF **NS01, TP01, PNT01, AND PNT04.**
6. REFER TO INTERIOR ELEVATIONS FOR EXTENT OF **BTP, TP,** AND **TM** IN RESTROOMS.

FINISH PLAN GENERAL NOTES

A. ALL DIMENSIONS SHOW ON FINISH FLOOR PLAN DRAWINGS ARE FROM FACE OF FINISH, U.N.O.

B. PROVIDE **WT** AND **TZ** FLOOR FINISHES, AS DEFINED ABOVE, IN LOCATIONS INDICATED ON PLANS.

C. PROVIDE **TZ** AND **TZP** ON STAIR TREADS AND RISERS, AS DEFINED ABOVE, IN LOCATIONS INDICATED ON PLANS.

D. PROVIDE **BR4** AT **WT** FLOOR FINISH AND **BTZP** AT **TZ** FLOOR FINISH, AS DEFINED ABOVE, IN LOCATIONS INDICATED ON PLANS.

E. PROVIDE **PNT** AND **TC** (WAINSCOT) WALL FINISHES AS DEFINED ABOVE AND DETAILED ON INTERIOR ELEVATIONS.

F. PROVIDE **PNT** AND **TC** (WAINSCOT) WALL FINISHES AS DEFINED ABOVE AND DETAILED ON INTERIOR ELEVATIONS.

G. PROVIDE **BM** AND/OR **FB**, **PNT** AND **CFB** WALL FINISHES AS DEFINED ABOVE AND DETAILED ON INTERIOR ELEVATIONS.

H. PROVIDE 3/8" MIN SEALANT JOINT WHERE FULL HT TILE MEETS GYP CLG (MATCH CLG COLOR) OR LAY-IN GRID (WHITE)

I. PROVIDE SEALANT JT'S @ INSIDE CORNERS OF TILED WALLS

J. VERIFY EXACT FLOOR TILE PATTERN FOR ALL TOILET ROOMS. COORDINATE WITH ARCHITECT.

ALL SCHEDULED WALL FINISH DIRECTIONS ARE DIRECTIONS PER PLAN NORTH OF THE FINISH PLANS, NOT TRUE NORTH OF THE PROJECT SITE

REFER TO G5.01 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

CLASSROOM 025 — ROOM NAME / ROOM NUMBER

TYP FLOOR FINISH — LVT01
WALL BASE FINISH — BR01
TYP WALL FINISH — PNT01
REMARKS — 1

*REMARKS NUMBERS COORDINATED WITH FINISH REMARKS LEGEND LOCATED ON ALL FINISH FLOOR PLAN SHEETS

REFER TO PROJECT SPECIFICATIONS SECTION 01 6210 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

XY — MATERIAL TYPE; ## — FINISH COLOR AND MATERIAL SIZE AS NOTED IN SPEC. SECTION 01 6210

FINISH KEY

ACMU - ACHITECTURAL CONCRETE MASONRY UNIT

AL - ALUMINUM

AP - ACOUSTICAL PANELS

BP - BASE, PORCELAIN TILE

BRES - BASE, RESINOUS INTEGRAL

BRK - BRICK

BR - BASE, RUBBER

BRV - BASE, RUBBER VENTED

BTC - BASE, TILE, CERAMIC

BTZ - BASE, TERRAZZO PRECAST

BWD - BASE, WOOD

CCPS - CERAMIC CLADDING PANEL SYSTEM

CDAP - CUSTOM DIGITALLY PRINTED ACOUSTIC PANEL

CDW - CUSTOM DIGITAL WALLCOVERINGS

COP - CONCRETE POLISHED

COS - CONCRETE SEALED

CPT - CARPET, SHEET

CS - CAST STONE

CSM - CONCRETE STONE MASONRY

CT - CARPET, TILED

CWF - CUSTOM WINDOW FILM

EBWS - EPOXY BASED WALL SYSTEM

EPNT - EPOXY PAINT

FRP - FIBERGLASS REINFORCED PLASTIC PANEL SYSTEM

GFRC - GLASS FIBER REINFORCED CONCRETE

GRF - GROUND FACE CMU (BURNISHED)

LVT - LUXURY VINYL TILE

MB - MARKER BOARD

MCM - METAL COMPOSITE MATERIAL

MP - METAL WALL PANEL

MS - METAL SOFFIT

NB - NO BASE

NS - NATURAL STONE

PL - PLASTIC LAMINATE

PLP - PLASTIC LAMINATE PANEL SYSTEM

PNT - PAINT

QTZ - QUARTZ SURFACING

RAFF - RESILIENT ATHLETIC FLUID FLOORING

RAFP - RESILIENT ATHLETIC FLOORING POLYURETHANE

RAFS - RUBBER FLOORING SHEET

RAFV - RESILIENT ATHLETIC FLOORING VINYL

RES - RESINOUS FLOORING

RT - RUBBER TILE

RTR - RUBBER TREADS AND RISERS

SPEC - SPECIAL FINISHES, REF. ROOM FINISH SCHEDULE & INTERIOR ELEVATIONS

SPF - SPLIT-FACE CONCRETE MASONRY UNIT

SSM - SOLID SURFACE MATERIAL

SVT - SOLID VINYL TILE

TB - TACK BOARD

TC - TILE, CERAMIC

TP - TILE, PORCELAIN

TQ - TILE, QUARRY

TS - TACKABLE SURFACE

TZ - TERRAZZO

TZP - TERRAZZO, PRECAST STAIR TREADS AND RISERS

TZT - TERRAZZO TILE

UP - UPHOLSTERY

VCT - TILE, VINYL COMPOSITION

VSF - VINYL SHEET FLOORING

WMP - WOOD (MAPLE) STRIP AND PLANK FLOORING

WMS - MASONITE WOOD FLOORING

WOM - WALK-OFF MAT

WOT - WALK-OFF TILE

(NOT ALL ABBREVIATIONS MAY BE USED)

Revision /	Date	
1	4/29/25	ADDENDUM 03

Project:
CREEKWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
FOR
HUMBLE ISD
KINGWOOD, TX

REGISTERED ARCHITECT — SUSAN F. WISA — 24614 — STATE OF TEXAS
04/24/2025

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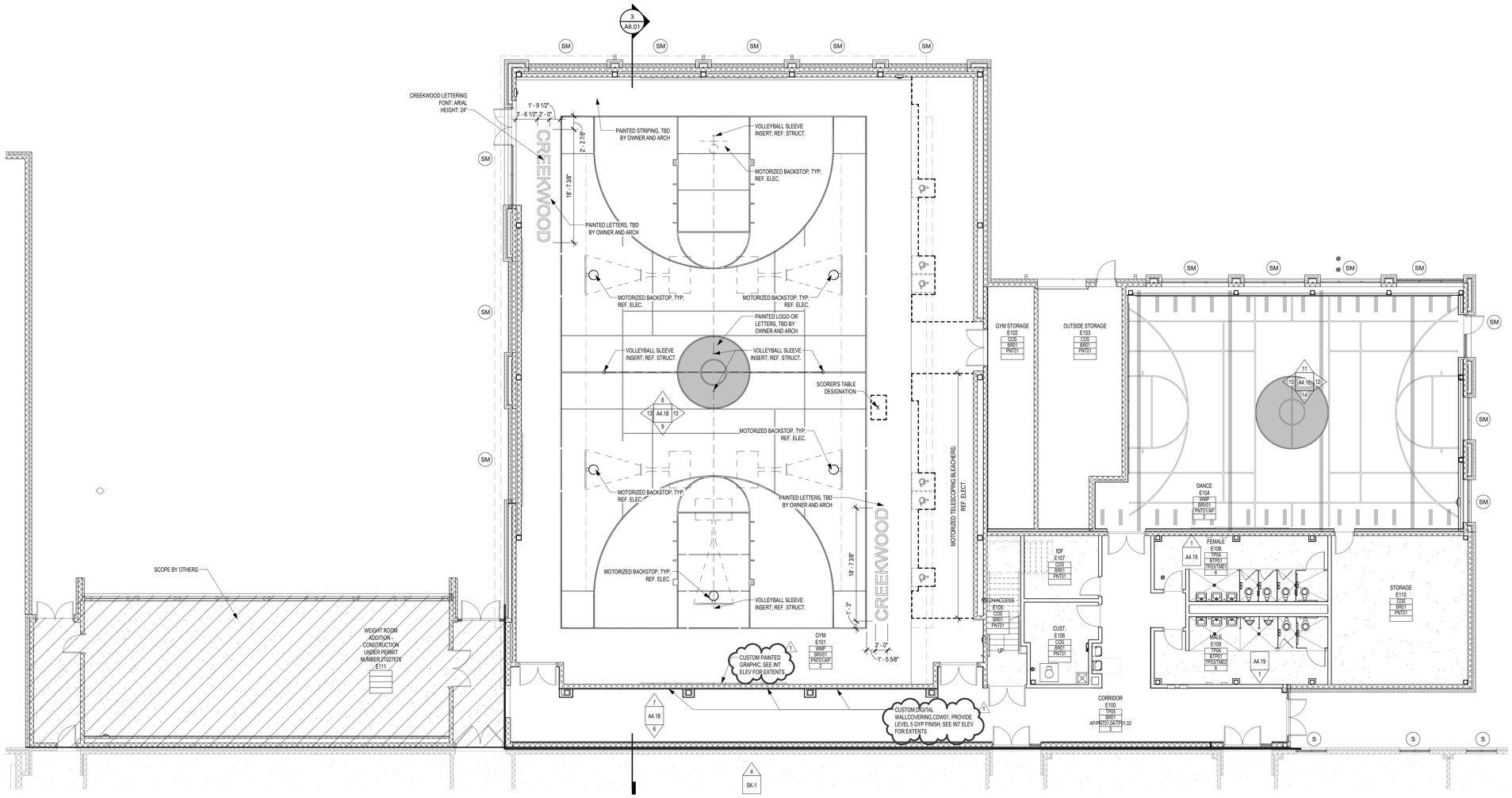
FINISH PLAN - SECTION A, F

Job No.	Sheet No.
1821-13-01	100% QC
Drawn By: CS	A4.11
Date: 04.02.2025	



THE ROOM FINISH LEGEND HAS BEEN OMITTED FROM THIS SHEET DUE TO SPACE LIMITATIONS. REFER TO OTHER FINISH PLAN SHEETS FOR FULL ROOM FINISH SCHEDULE, SPECIAL FINISH NOTES AND DEFAULT FINISHES.

ROOM FINISH LEGEND

A1.1 1 — ELEVATION REFERENCE

1 / A1.1 — CALLOUT REFERENCE

SIM — 1 / A101 — WALL SECTION REFERENCE

B — B - HORIZONTAL BLINDS; C - CURTAIN HUNG BY SUSPENDED TRACK; SMB - MOTORIZED SHADES - BLACKOUT; SB - WINDOW SHADES - BLACKOUT; SM - MOTORIZED SHADES; S - WINDOW SHADES

FLOOR INSTALLATION DIRECTION

FLOOR TRANSITION

FINISH — WALL FINISH TAG

NOT IN SCOPE

FINISH PLAN LEGEND

APPLIES TO SECTION PLANS

NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE.

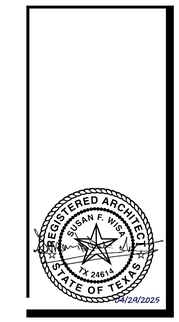
1. REFER TO PLAN FOR EXTENTS OF PAINT AND RUBBER BASE.
2. REFER TO INTERIOR ELEVATIONS FOR EXTENTS OF ACOUSTIC PANEL.
3. REFER TO SHEET G5.01/G5.02 AND INTERIOR ELEVATIONS FOR EXTENTS OF CUSTOM DIGITAL WALLCOVERING.
4. REFER TO FINISH PLAN FOR LOCATION OF ACCENT WALL PAINTED, **PNT02.**
5. REFER TO FINISH PLAN FOR EXTENTS OF **NS01, TP01, PNT01, AND PNT04.**
6. REFER TO INTERIOR ELEVATIONS FOR EXTENT OF **BTP, TP,** AND **TM** IN RESTROOMS.

FINISH REMARKS

Revision /	Date	
1	4/29/25	ADDENDUM 03

Project:

CREEKWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
FOR
HUMBLE ISD
KINGWOOD, TX



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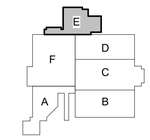
FINISH PLAN - SECTION E

Job No.	Sheet No.
1821-13-01	100% QC A4.15
Drawn By: CS	
Date: 04.02.2025	



KEY PLAN - 1ST FLOOR
N.T.S

PLAN N TRUE

1 FINISH PLAN - SECTION E
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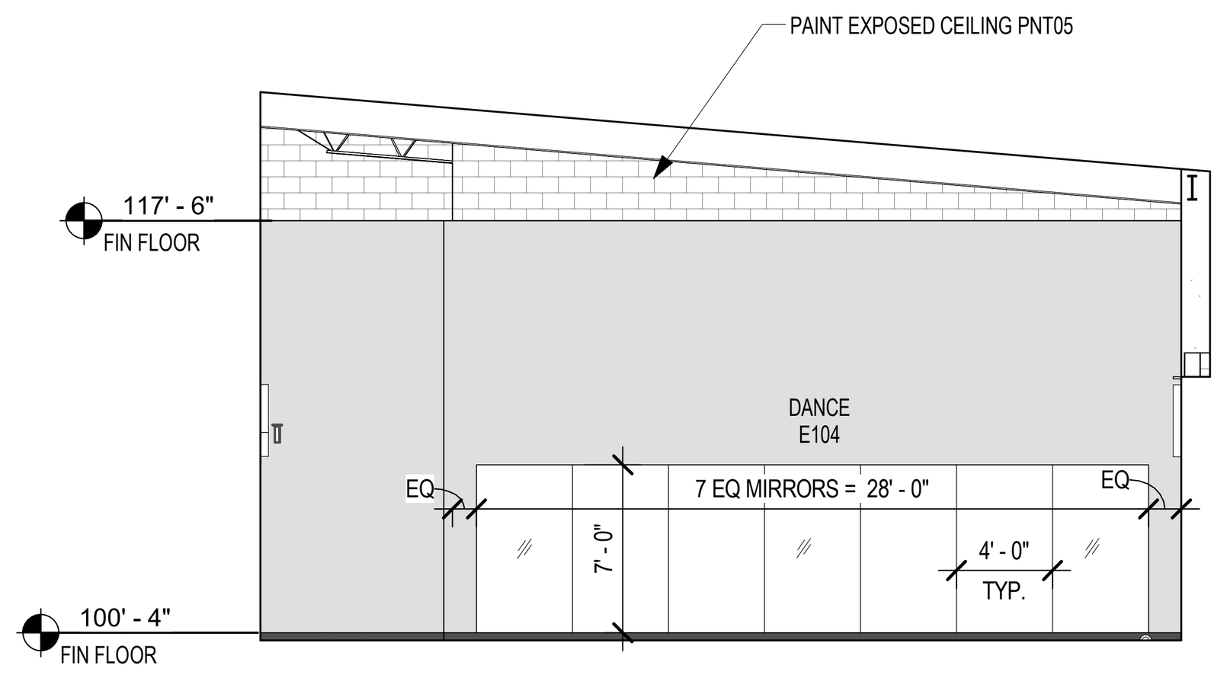

15 INT ELEVATION - DANCE
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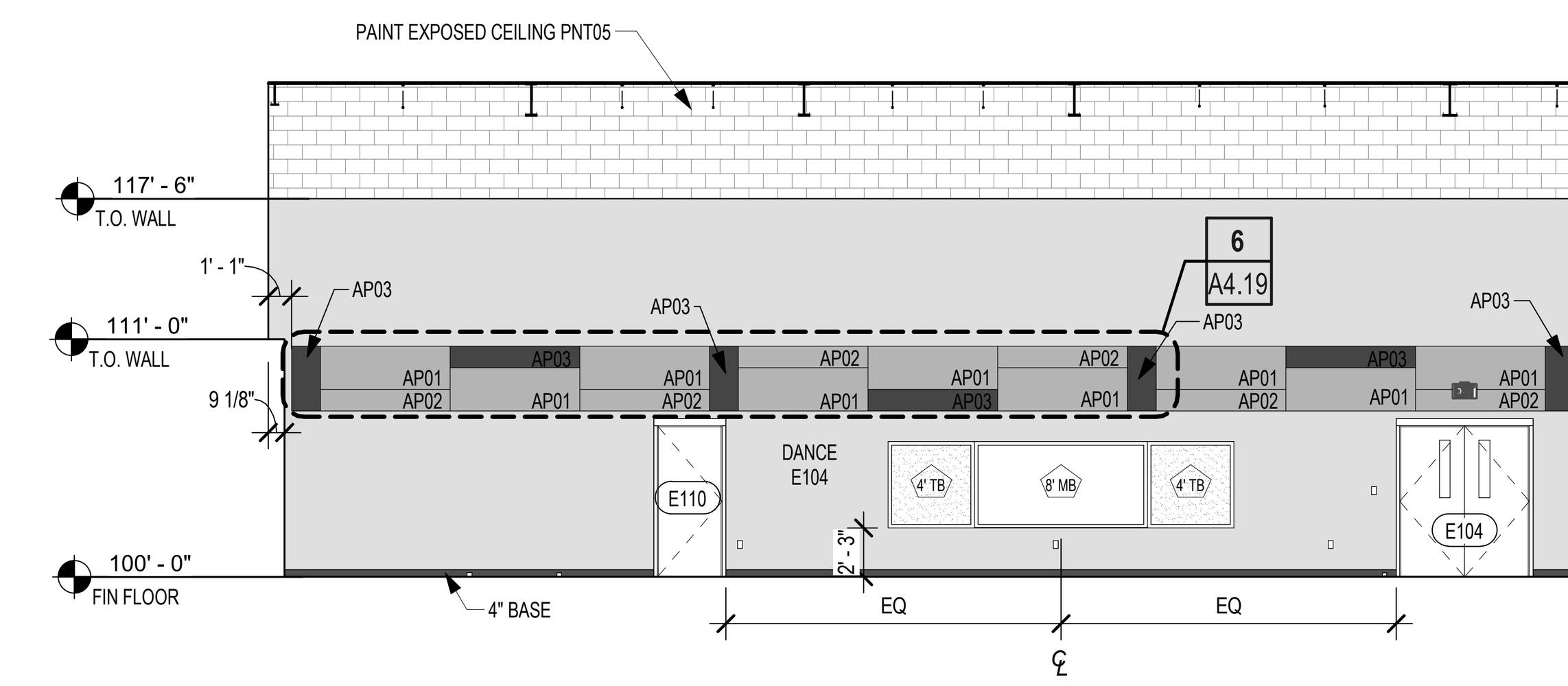

14 INT ELEVATION - DANCE
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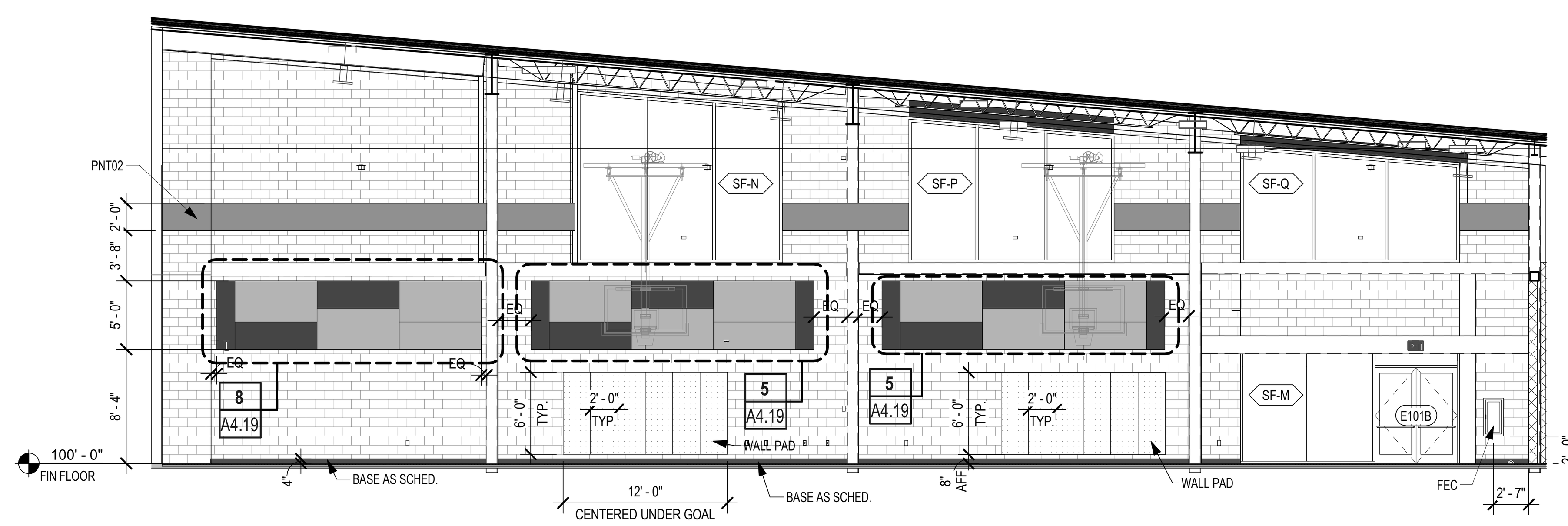
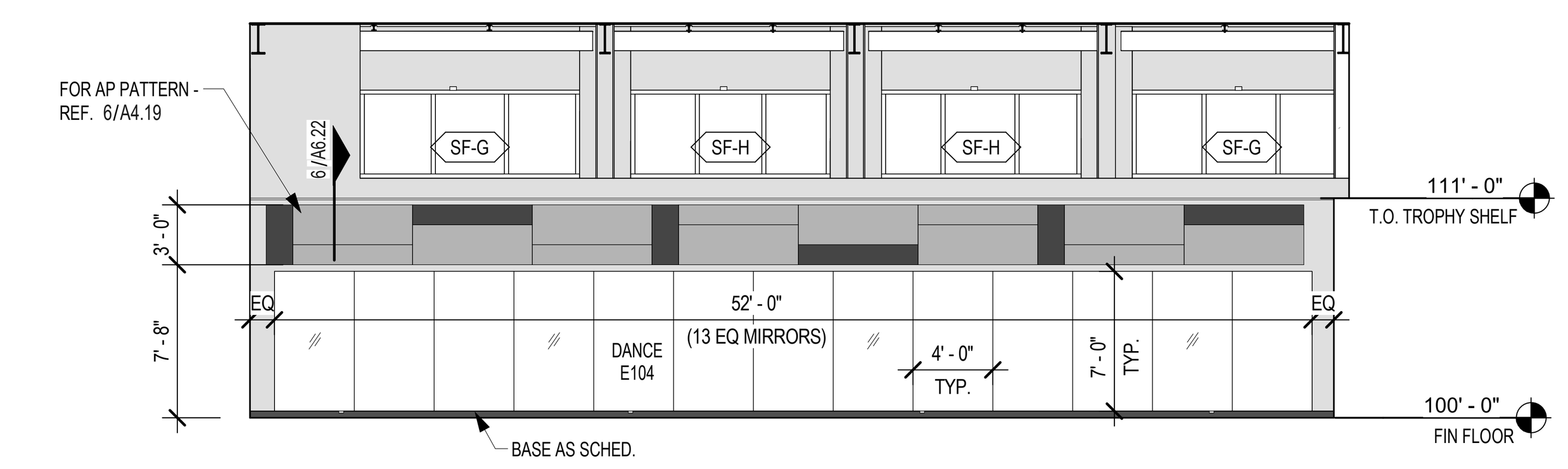


13 INTERIOR ELEVATION - GYMNASIUM
1/8" = 1'-0"

12 INT ELEVATION - DANCE
1/8" = 1'-0"



11 INT ELEVATION - DANCE
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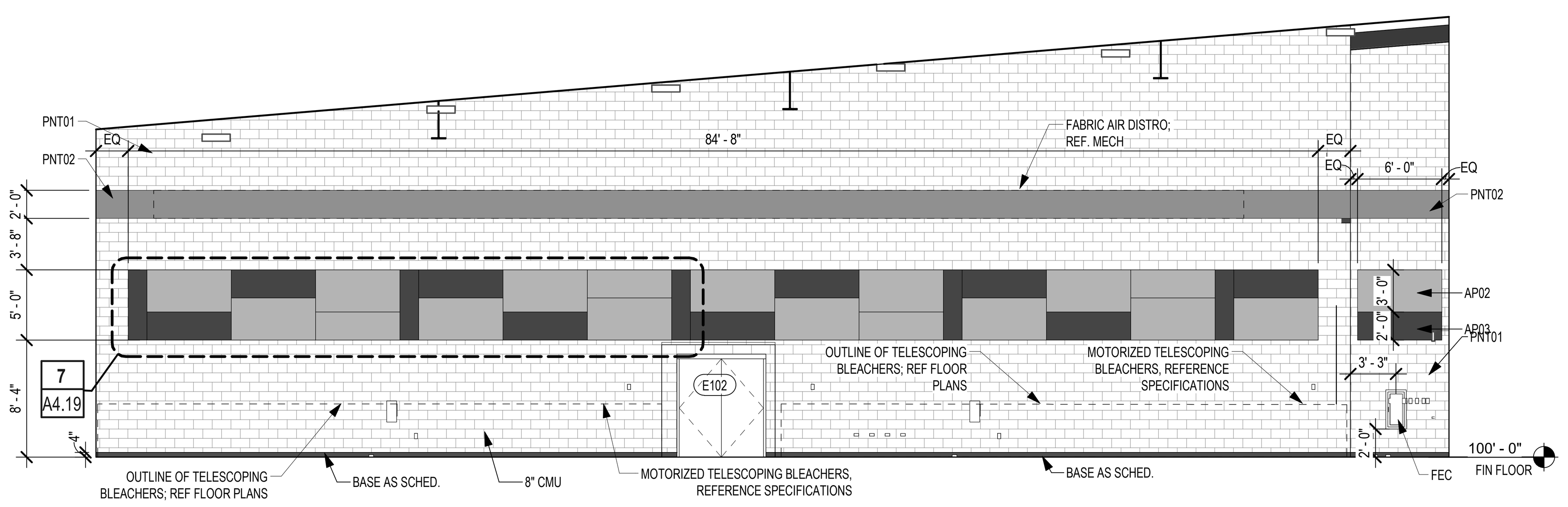
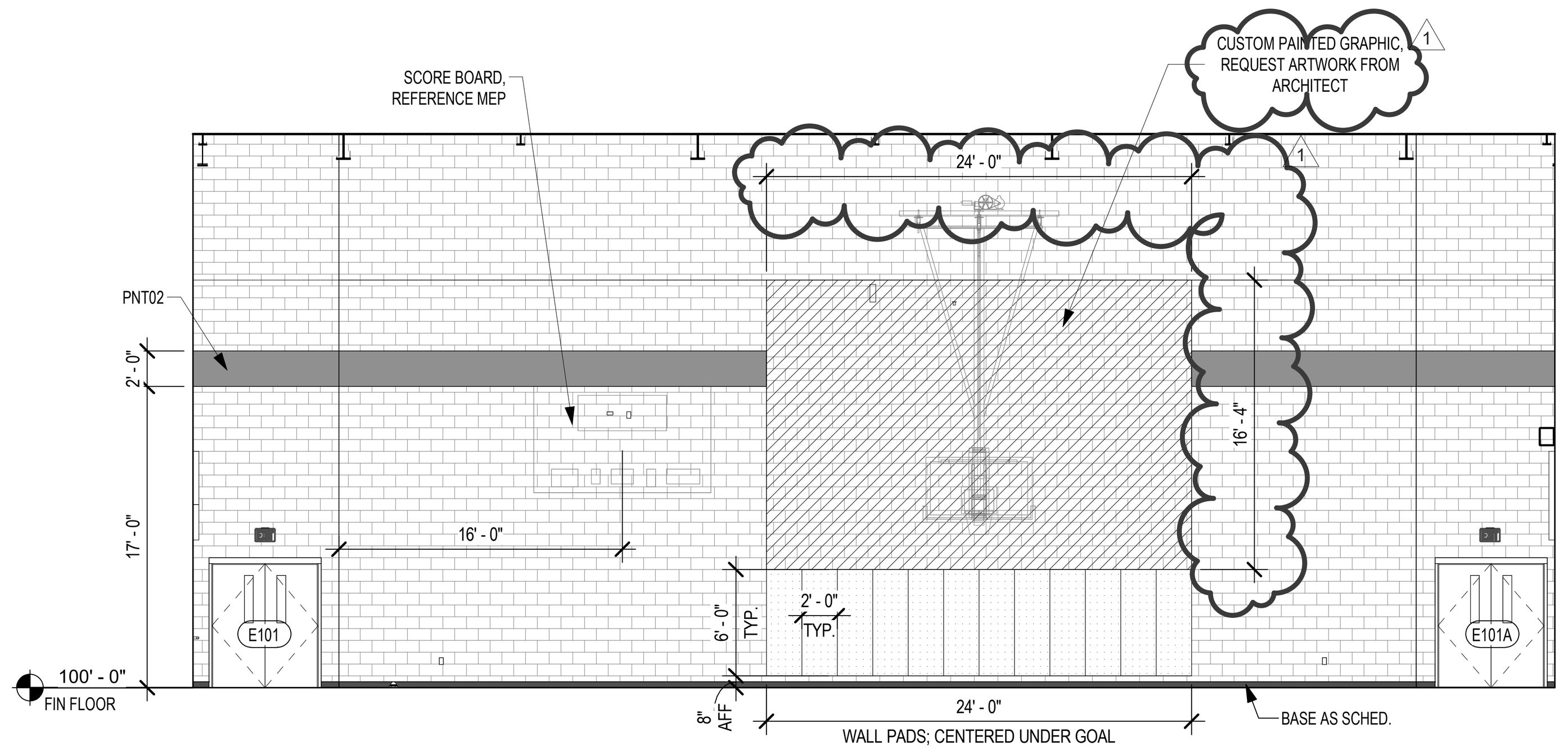
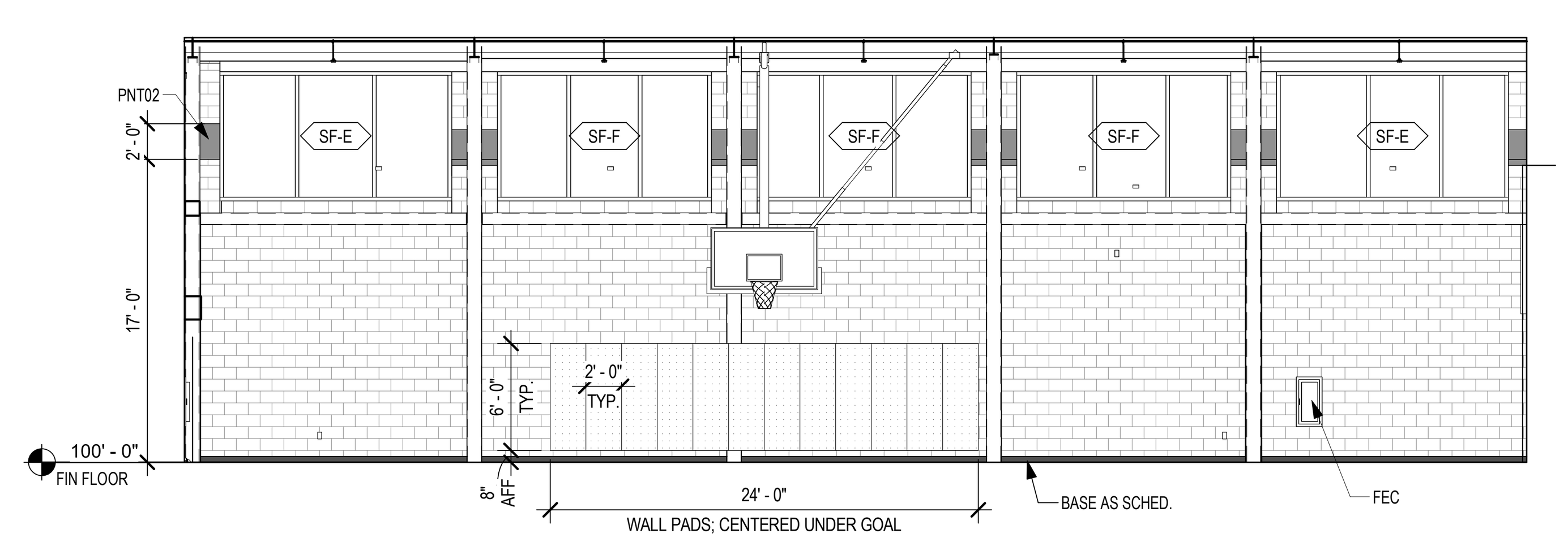


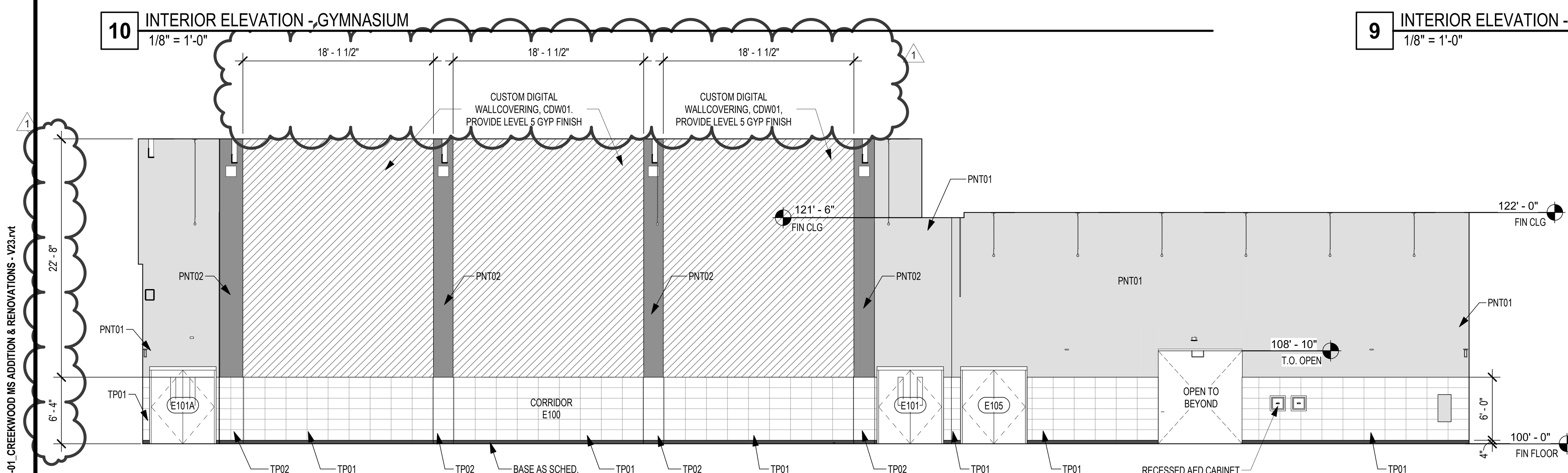
10 INTERIOR ELEVATION - GYMNASIUM
1/8" = 1'-0"



9 INTERIOR ELEVATION - GYMNASIUM
1/8" = 1'-0"



8 INTERIOR ELEVATION - GYMNASIUM
1/8" = 1'-0"



7 INTERIOR ELEVATION - CORRIDOR
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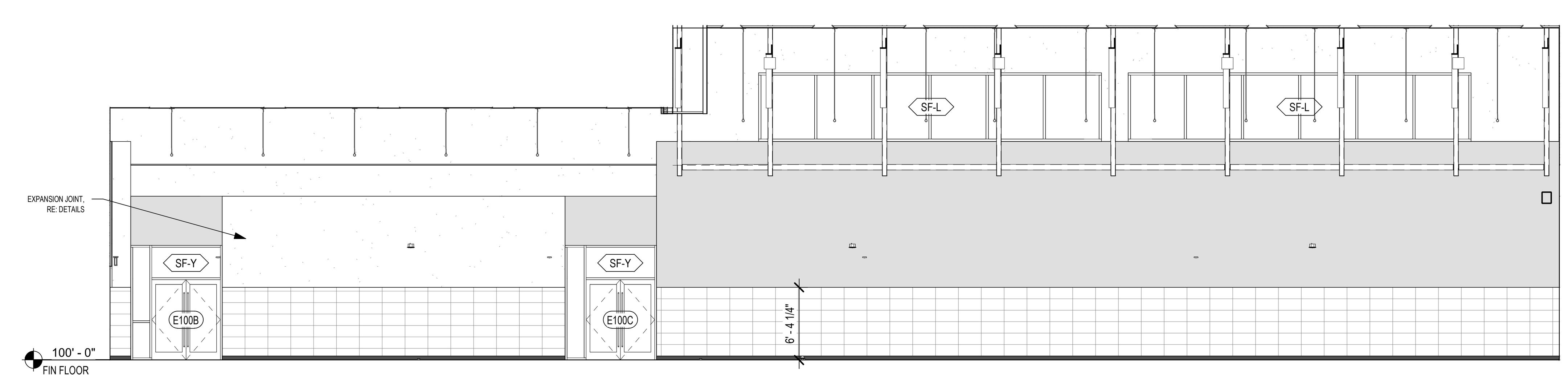
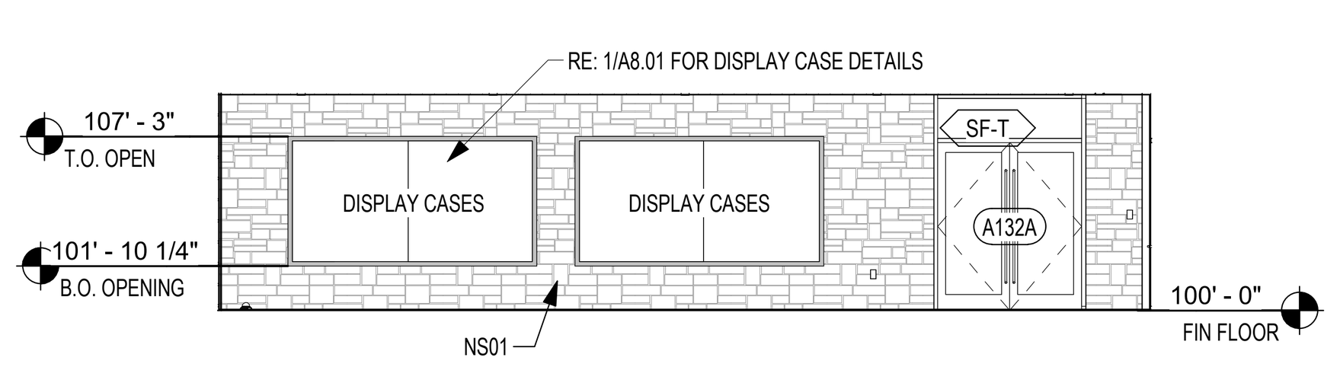
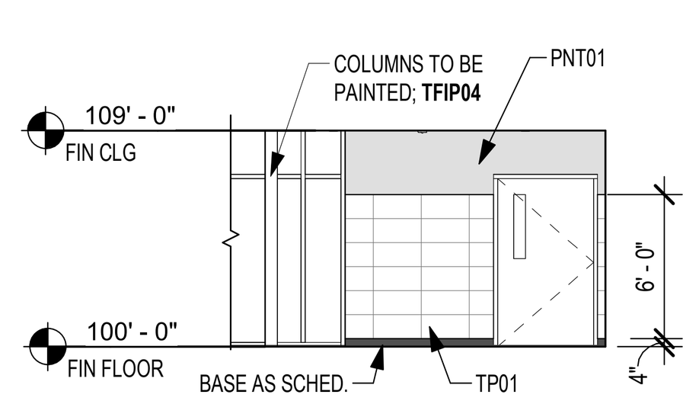


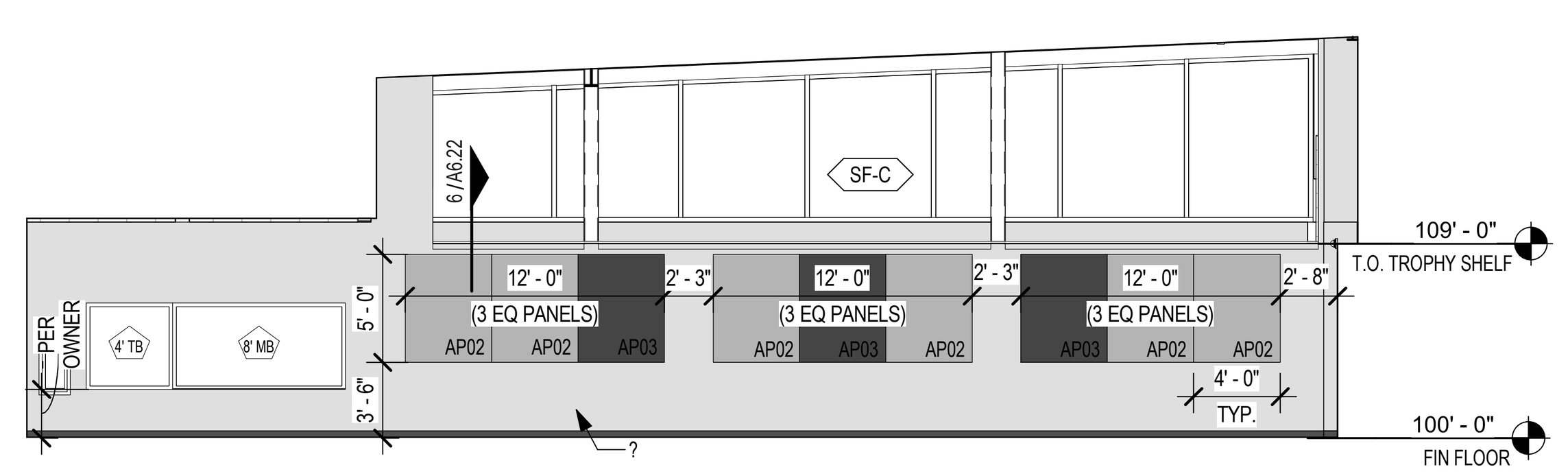
6 INTERIOR ELEVATION - CORRIDOR
1/8" = 1'-0"



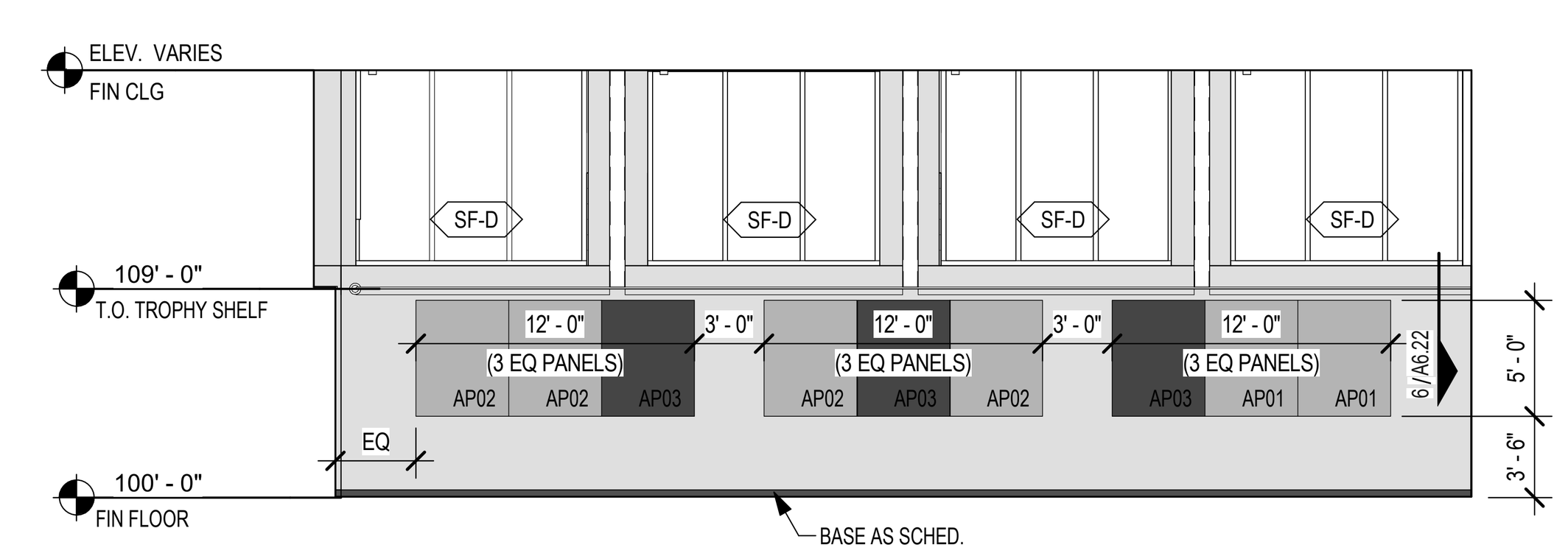
5 INTERIOR ELEVATION - LOBBY A132
1/8" = 1'-0"



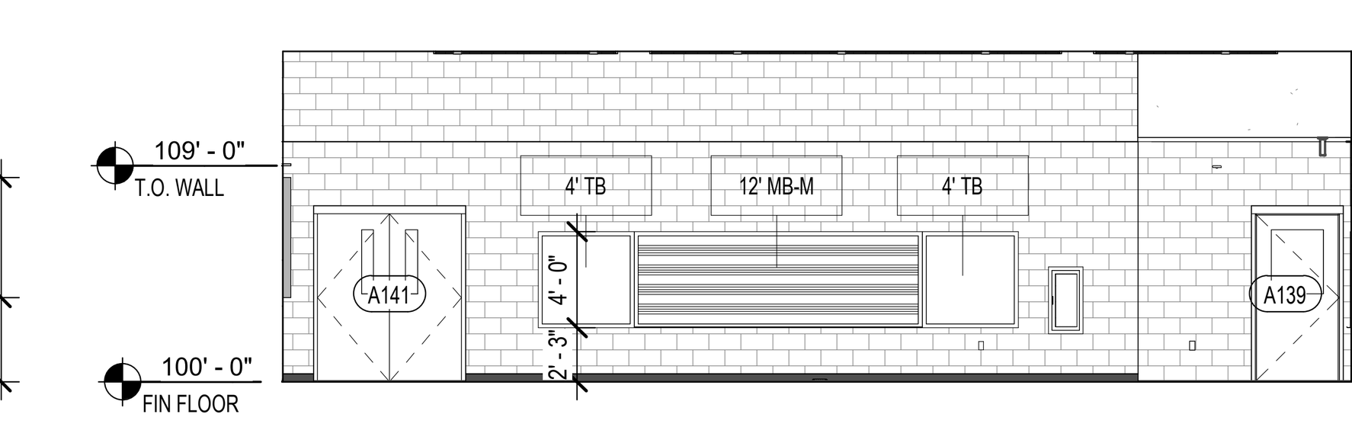
4 INT ELEVATION - LOBBY A132
1/8" = 1'-0"



3 INTERIOR ELEVATION - BAND HALL
1/8" = 1'-0"



2 INTERIOR ELEVATION - BAND HALL
1/8" = 1'-0"



1 INTERIOR ELEVATION - BAND HALL
1/8" = 1'-0"

Revision / 1 | Date 4/29/25 | ADDENDUM 03

Project: CREEKWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
FOR
HUMBLE ISD
KINGWOOD, TX

REGISTERED ARCHITECT SUSAN F. WISA 24614 STATE OF TEXAS 04/29/2025

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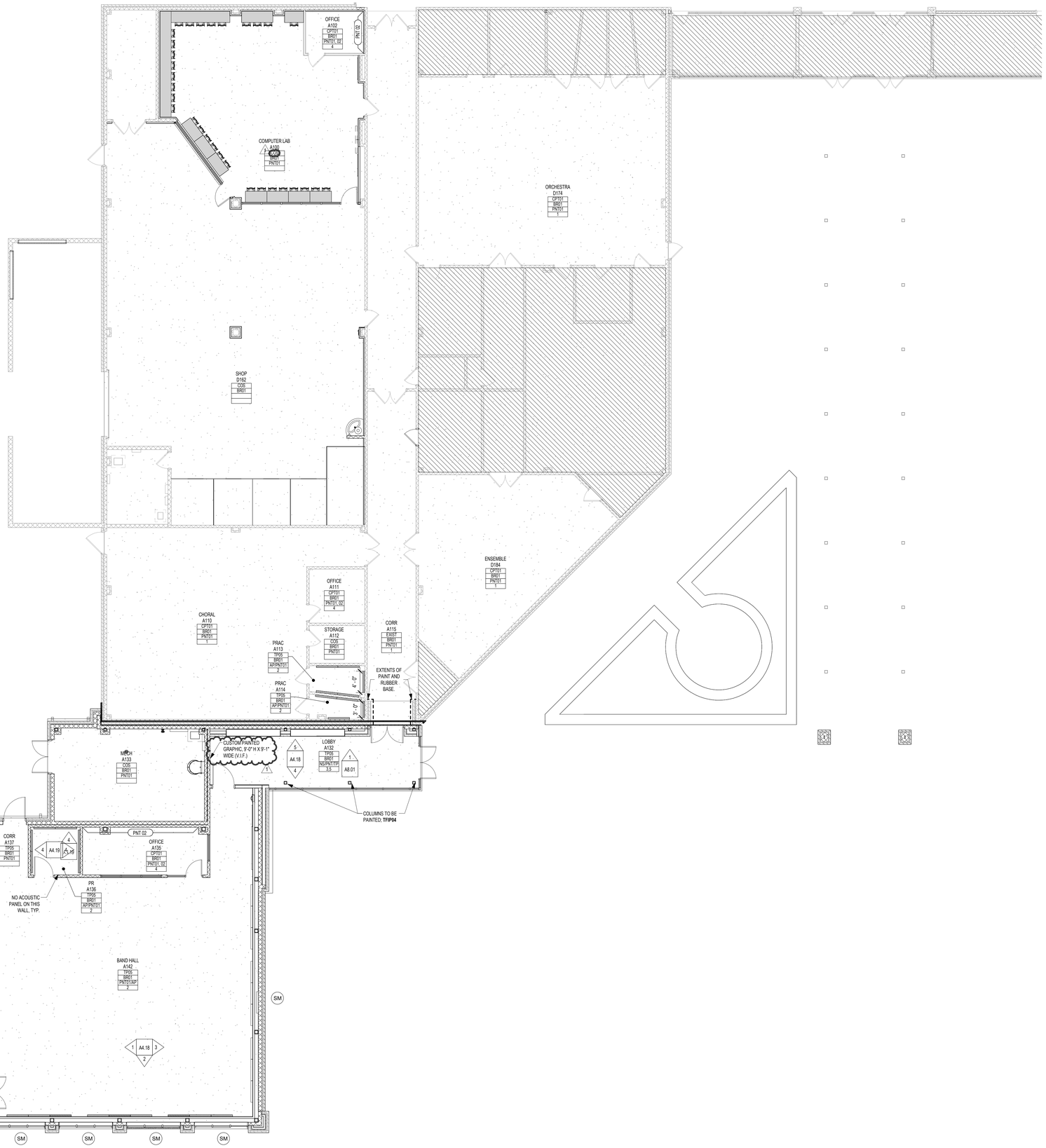
INTERIOR ELEVATIONS

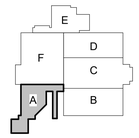
Job No. 1821-13-01
Drawn By: CS, MR
Date: 04.02.2025
Sheet No. 100% QC
A4.18

4/29/2025 1:03:56 PM
Autodesk Docs://HUMBLE ISD - CREEKWOOD & RIVERWOOD MS ADD RENO/1821-13-01_CREEKWOOD MS ADDITION & RENOVATIONS - V23.rvt



1 FINISH PLAN - SECTION A
1/8" = 1'-0"

PLAN NORTH
TRUE NORTH



KEY PLAN - 1ST FLOOR
N.T.S

A1.1 ELEVATION REFERENCE

1 / A1.1 CALLOUT REFERENCE

SIM 1 / A101 WALL SECTION REFERENCE

B
B - HORIZONTAL BLINDS
C - CURTAIN HUNG BY SUSPENDED TRACK
SMB - MOTORIZED SHADES - BLACKOUT
SB - WINDOW SHADES - BLACKOUT
SM - MOTORIZED SHADES
S - WINDOW SHADES

FLOOR INSTALLATION DIRECTION

FLOOR TRANSITION

FINISH WALL FINISH TAG

NOT IN SCOPE

FINISH PLAN LEGEND
APPLIES TO SECTION PLANS

NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE.

1. REFER TO PLAN FOR EXTENTS OF PAINT AND RUBBER BASE.
2. REFER TO INTERIOR ELEVATIONS FOR EXTENTS OF ACOUSTIC PANEL.
3. REFER TO SHEET G5.01/G5.02 AND INTERIOR ELEVATIONS FOR EXTENTS OF CUSTOM DIGITAL WALLCOVERING.
4. REFER TO FINISH PLAN FOR LOCATION OF ACCENT WALL PAINTED, **PNT02.**
5. REFER TO FINISH PLAN FOR EXTENTS OF **NS01, TP01, PNT01, AND PNT04.**
6. REFER TO INTERIOR ELEVATIONS FOR EXTENT OF **BTP, TP,** AND **TM** IN RESTROOMS.

FINISH REMARKS

A. ALL DIMENSIONS SHOW ON FINISH FLOOR PLAN DRAWINGS ARE FROM FACE OF FINISH, U.N.O.

B. PROVIDE **WT** AND **TZ** FLOOR FINISHES, AS DEFINED ABOVE, IN LOCATIONS INDICATED ON PLANS.

C. PROVIDE **TZ** AND **TZP** ON STAIR TREADS AND RISERS, AS DEFINED ABOVE, IN LOCATIONS INDICATED ON PLANS.

D. PROVIDE **BR4** AT **WT** FLOOR FINISH AND **BTZP** AT **TZ** FLOOR FINISH, AS DEFINED ABOVE, IN LOCATIONS INDICATED ON PLANS.

E. PROVIDE **PNT** AND **TC** (WAINSCOT) WALL FINISHES AS DEFINED ABOVE AND DETAILED ON INTERIOR ELEVATIONS.

F. PROVIDE **PNT** AND **TC** (WAINSCOT) WALL FINISHES AS DEFINED ABOVE AND DETAILED ON INTERIOR ELEVATIONS.

G. PROVIDE **BM** AND/OR **FB**, **PNT** AND **CFB** WALL FINISHES AS DEFINED ABOVE AND DETAILED ON INTERIOR ELEVATIONS.

H. PROVIDE 3/8" MIN SEALANT JOINT WHERE FULL HT TILE MEETS GYP CLG (MATCH CLG COLOR) OR LAY-IN GRID (WHITE)

I. PROVIDE SEALANT JTS @ INSIDE CORNERS OF TILED WALLS

J. VERIFY EXACT FLOOR TILE PATTERN FOR ALL TOILET ROOMS. COORDINATE WITH ARCHITECT.

FINISH PLAN GENERAL NOTES

ALL SCHEDULED WALL FINISH DIRECTIONS ARE DIRECTIONS PER PLAN NORTH OF THE FINISH PLANS, NOT TRUE NORTH OF THE PROJECT SITE

REFER TO G5.01 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

CLASSROOM ← ROOM NAME
025 ← ROOM NUMBER

TYP FLOOR FINISH	LVT01
WALL BASE FINISH	BR01
TYP WALL FINISH	PNT01
REMARKS	1

*REMARKS NUMBERS COORDINATED WITH FINISH REMARKS LEGEND LOCATED ON ALL FINISH FLOOR PLAN SHEETS

REFER TO PROJECT SPECIFICATIONS SECTION 01 6210 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

XY ##
XY: MATERIAL TYPE
##: FINISH COLOR AND MATERIAL SIZE AS NOTED IN SPEC. SECTION 01 6210

ACMU - ARCHITECTURAL CONCRETE MASONRY UNIT

AL - ALUMINUM

AP - ACOUSTICAL PANELS

BP - BASE, PORCELAIN TILE

BRES - BASE, RESINOUS INTEGRAL

BRK - BRICK

BR - BASE, RUBBER

BRV - BASE, RUBBER VENTED

BTC - BASE, TILE, CERAMIC

BTZ - BASE, TERRAZZO PRECAST

BWD - BASE, WOOD

CCPS - CERAMIC CLADDING PANEL SYSTEM

CDAP - CUSTOM DIGITALLY PRINTED ACOUSTIC PANEL

CDW - CUSTOM DIGITAL WALLCOVERINGS

COP - CONCRETE POLISHED

COS - CONCRETE SEALED

CPT - CARPET, SHEET

CS - CAST STONE

CSM - CONCRETE STONE MASONRY

CT - CARPET, TILED

CWF - CUSTOM WINDOW FILM

EBWS - EPOXY BASED WALL SYSTEM

EPNT - EPOXY PAINT

FRP - FIBERGLASS REINFORCED PLASTIC PANEL SYSTEM

GFRC - GLASS FIBER REINFORCED CONCRETE

GRF - GROUND FACE CMU (BURNISHED)

LVT - LUXURY VINYL TILE

MB - MARKER BOARD

MCM - METAL COMPOSITE MATERIAL

MP - METAL WALL PANEL

MS - METAL SOFFIT

NB - NO BASE

NS - NATURAL STONE

PL - PLASTIC LAMINATE

PLP - PLASTIC LAMINATE PANEL SYSTEM

PNT - PAINT

QTZ - QUARTZ SURFACING

RAFF - RESILIENT ATHLETIC FLUID FLOORING

RAFP - RESILIENT ATHLETIC FLOORING POLYURETHANE

RAFS - RUBBER FLOORING SHEET

RAFV - RESILIENT ATHLETIC FLOORING VINYL

RES - RESINOUS FLOORING

RT - RUBBER TILE

RTR - RUBBER TREADS AND RISERS

SPEC - SPECIAL FINISHES, REF. ROOM FINISH SCHEDULE & INTERIOR ELEVATIONS

SPF - SPLIT-FACE CONCRETE MASONRY UNIT

SSM - SOLID SURFACE MATERIAL

SVT - SOLID VINYL TILE

TB - TACK BOARD

TC - TILE, CERAMIC

TP - TILE, PORCELAIN

TQ - TILE, QUARRY

TS - TACKABLE SURFACE

TZ - TERRAZZO

TZP - TERRAZZO, PRECAST STAIR TREADS AND RISERS

TZT - TERRAZZO TILE

UP - UPHOLSTERY

VCT - TILE, VINYL COMPOSITION

VSF - VINYL SHEET FLOORING

WMP - WOOD (MAPLE) STRIP AND PLANK FLOORING

WMS - MASONITE WOOD FLOORING

WOM - WALK-OFF MAT

WOT - WALK-OFF TILE

(NOT ALL ABBREVIATIONS MAY BE USED)

FINISH KEY

Revision /	Date
1	4/29/2025

Addendum 3

Project:
RIVERWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
2910 HIGH VALLEY DR, HUMBLE, TX 77345
FOR
HUMBLE ISD
KINGWOOD, TX

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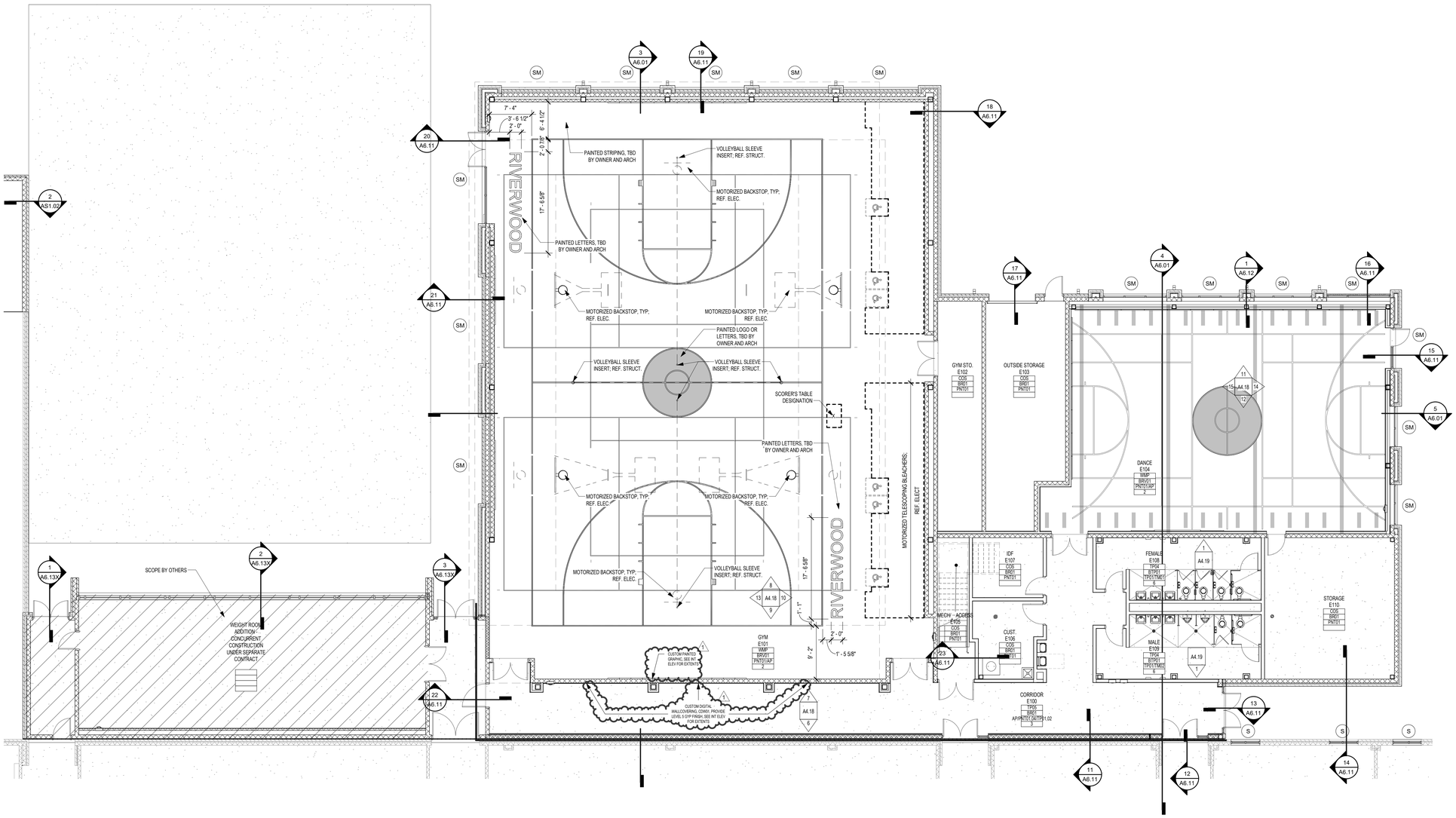
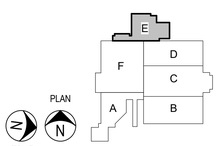
FINISH PLAN - SECTION A, F

PACKAGE	VOLUME
Job No. 1821-13-02	Sheet No. 100% QC A4.11
Drawn By: MK	
Date: 01.22.2025	



1 FINISH PLAN - SECTION E
1/8" = 1'-0"



PLAN NORTH / TRUE NORTH

KEY PLAN - 1ST FLOOR
N.T.S

ROOM FINISH LEGEND

THE ROOM FINISH LEGEND HAS BEEN OMITTED FROM THIS SHEET DUE TO SPACE LIMITATIONS. REFER TO OTHER FINISH PLAN SHEETS FOR FULL ROOM FINISH SCHEDULE, SPECIAL FINISH NOTES AND DEFAULT FINISHES.

FINISH PLAN LEGEND

APPLIES TO SECTION PLANS

- A1.1 — ELEVATION REFERENCE
- 1 / A1.1 — CALLOUT REFERENCE
- 1 / A101 SIM — WALL SECTION REFERENCE
- B
  - B - HORIZONTAL BLINDS
  - C - CURTAIN HUNG BY SUSPENDED TRACK
  - SMB - MOTORIZED SHADES - BLACKOUT
  - SB - WINDOW SHADES - BLACKOUT
  - SM - MOTORIZED SHADES
  - S - WINDOW SHADES
- FLOOR INSTALLATION DIRECTION
- FLOOR TRANSITION
- FINISH — WALL FINISH TAG
- NOT IN SCOPE

FINISH REMARKS

NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE.

1. REFER TO PLAN FOR EXTENTS OF PAINT AND RUBBER BASE.
2. REFER TO INTERIOR ELEVATIONS FOR EXTENTS OF ACOUSTIC PANEL.
3. REFER TO SHEET G5.01/G5.02 AND INTERIOR ELEVATIONS FOR EXTENTS OF CUSTOM DIGITAL WALLCOVERING.
4. REFER TO FINISH PLAN FOR LOCATION OF ACCENT WALL PAINTED, **PNT02**.
5. REFER TO FINISH PLAN FOR EXTENTS OF **NS01, TP01, PNT01, AND PNT04**.
6. REFER TO INTERIOR ELEVATIONS FOR EXTENT OF **BTP, TP,** AND **TM** IN RESTROOMS.

Revision /	Date	
1	4/29/202	Addendum 3
5		

Project:
RIVERWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
2910 HIGH VALLEY DR, HUMBLE, TX 77345
FOR
HUMBLE ISD
KINGWOOD, TX

REGISTERED ARCHITECT — SUSAN F. WISH — TX 24614 — STATE OF TEXAS
04/24/2025

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FINISH PLAN - SECTION E

PACKAGE	VOLUME
Job No. 1821-13-02	Sheet No. 100% QC A4.15
Drawn By: MK	
Date: 01.22.2025	

4/29/2025 2:28:42 PM
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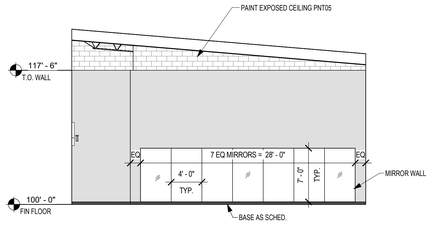
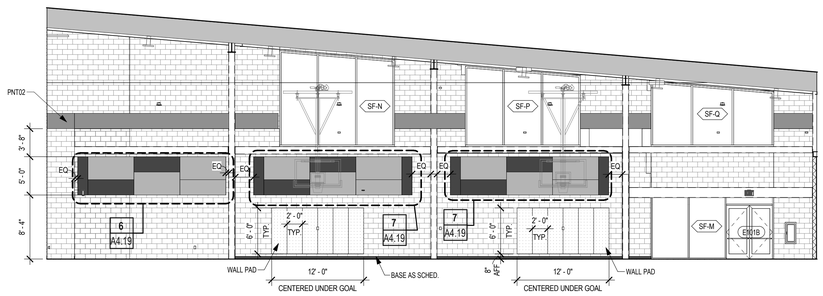


15 INT ELEVATION - DANCE
1/8" = 1'-0"

14 INT ELEVATION - DANCE
1/8" = 1'-0"



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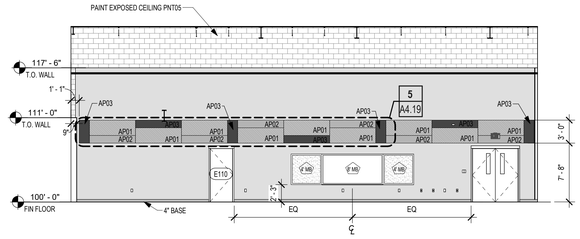

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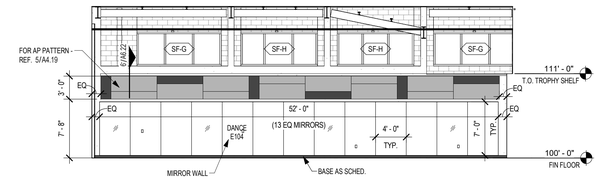

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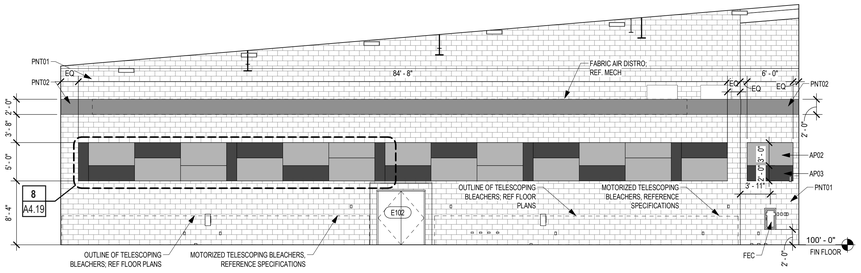
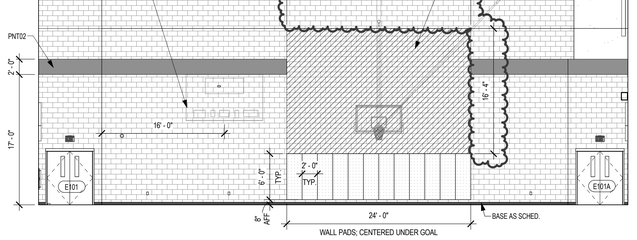
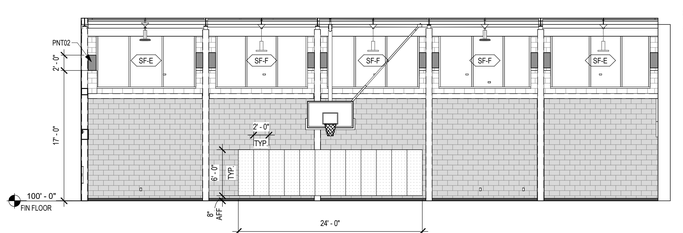


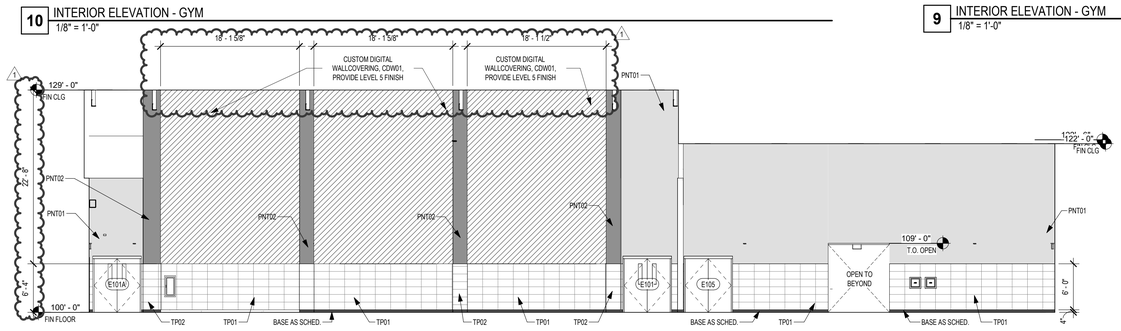
10 INTERIOR ELEVATION - GYM
1/8" = 1'-0"



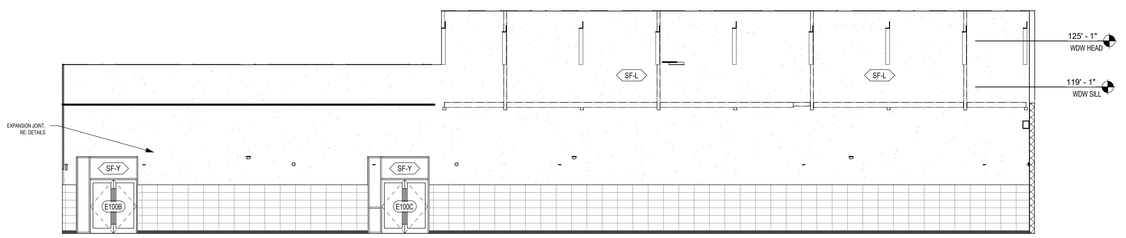
9 INTERIOR ELEVATION - GYM
1/8" = 1'-0"



8 INTERIOR ELEVATION - GYM
1/8" = 1'-0"



7 INT ELEV - CORRIDOR
1/8" = 1'-0"



6 INT ELEV - CORRIDOR
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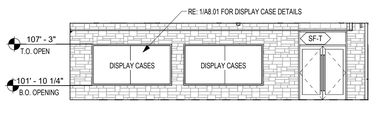
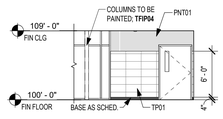
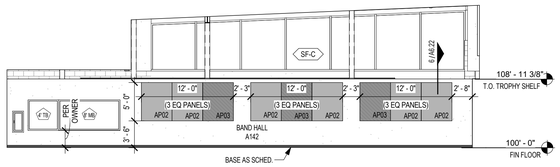


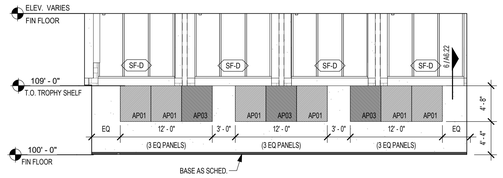
5 INTERIOR ELEVATION - LOBBY A132
1/8" = 1'-0"



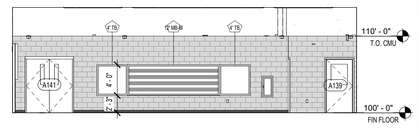
4 INT ELEVATION - LOBBY A132
1/8" = 1'-0"



3 INTERIOR ELEVATION - BAND HALL
1/8" = 1'-0"



2 INTERIOR ELEVATION - BAND HALL
1/8" = 1'-0"



1 INTERIOR ELEVATION - BAND HALL
1/8" = 1'-0"

Revision /	Date
1	4/29/202
5	Addendum 3

Project:
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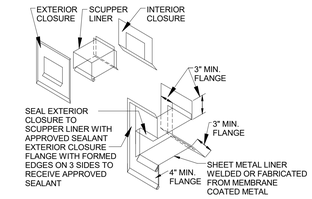
INTERIOR ELEVATIONS

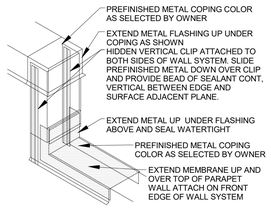
PACKAGE	VOLUME
Job No. 1821-13-02	Sheet No. 100% QC A4.18
Drawn By: Author	
Date: 01.22.2025	

GENERAL ROOF NOTES:

A. PROVIDE ALL REQUIRED UTILITY / STRUCTURAL COMPONENTS AND/OR CONNECTIONS FOR THE FUNCTIONAL USE OF ALL CONTRACTOR SUPPLIED EQUIPMENT OR APPLIANCES, REGARDLESS OF ANY OMISSIONS OR INCONSISTENCIES ENCOUNTERED IN THE CONSTRUCTION DOCUMENTS.
B. THE WORD 'PROVIDE' SHALL MEAN 'FURNISH AND INSTALL' COMPLETE AND READY TO USE.
C. IF DISCREPANCIES APPEAR BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE HIGHER QUALITY, QUANTITY, AND PRICE SHALL SUPERSEDE.
D. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL BECOME FAMILIAR WITH THE PROJECT AND THE ON-SITE / OFF-SITE CONDITIONS PRIOR TO BIDDING OR COMMENCING WORK.
E. PROVIDE METAL END CLOSURE ON EXPANSION JOINTS WHERE THEY OCCUR AT THE EDGE OF THE ROOF.
F. ROOF SLOPES SHOWN ON DRAWINGS ARE GENERAL AND CONCEPTUAL ONLY. TAPER INSULATION IS SHOWN CONCEPTUALLY AND FOR INTENT ONLY; NOT TO SCALE AND SHOWN AS GRAPHIC REPRESENTATION ONLY TO SHOW SLOPE. INTENT IS TO PROVIDE POSITIVE DRAINAGE TO ALL ROOF DRAINS, SCUPPERS, AND GUTTERS. VERIFY INSULATION AND TAPER IN SHOP DRAWINGS AS REQUIRED TO MAINTAIN SLOPE PRIOR TO INSTALLATION. REFER TO STRUCTURAL (IF APPLIES) FOR EXACT TOS/BOD ELEVATIONS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
G. PROVIDE TAPERED INSULATION CRICKETS (1/2"/FT. MIN. SLOPE) AT HIGH SIDE OF ALL MECHANICAL UNITS, SMOKE VENTS, ROOF HATCHES, AND OTHER MISC. ROOF PENETRATIONS, TO SHED WATER AROUND AND TO ENSURE POSITIVE ROOF DRAINAGE.
H. PROVIDE ADDITIONAL MANUFACTURER'S WALK PADS AS PROTECTION AT "SERVICE SIDE" OF ALL MECHANICAL EQUIPMENT - FIELD VERIFY LOCATIONS. AS WELL AS PROTECTION AT "ACCESS SIDE" OF ALL ROOF HATCHES AND ROOF ACCESS LADDERS - FIELD VERIFY LOCATIONS, AND AT DOWNSPOUT LOCATIONS.
I. ALL WOOD BLOCKING AT ROOF EDGES ARE TO BE FABRICATED FROM CONT. 2X6 FR-WD BOARDS. PROVIDE LARGER 2X FR-WD AS REQUIRED PER DIMENSIONED DETAILS OR AS FIELD CONDITIONS DICTATE. ALL COPING TO BE SLOPED TOWARD THE INTERIOR.
J. ALL EXPOSED FLASHING, COPING (IF APPLICABLE), AND THEIR ACCESSORIES SHALL BE AS SPECIFIED. PAINT ALL METAL FLASHING THAT IS NOT PREFINISHED (TYPICAL) AND VISIBLE FROM THE GROUND.
K. HEIGHT OF ALL NAILERS SHALL BE FLUSH WITH NEW INSULATION THICKNESS.
L. ALL THROUGH WALL FLASHING SYSTEMS TO ACCOMMODATE 8" MINIMUM FLASHING HEIGHT FROM FINISHED ROOF SURFACE. PROVIDE END DAMS AS CONDITIONS ALLOW. ALL FLASHING TO HAVE 4" LAP MINIMUM AND OR STEP.
M. ALL PITCH PANS SHALL BE DOUBLE SOLDERED STAINLESS STEEL AND RECEIVE EITHER MECHANICALLY ATTACHED GOOSENECKS OR METAL BONNETS. METAL BONNETS SHALL BE SECURED WITH CLAMPING RING AND SEALANT. SPECIAL CARE GIVEN TO WASH ALL METAL PRIOR TO INSTALLATION.
N. ALL INFIELD EXPANSION JOINTS SHALL HAVE LOW SLOPED STANDING SEAM JOINTS AND SHALL BE CHAMFERED AT TERMINATION AT ROOF EDGE TO MEET PROFILE OF PERIMETER.
O. ANY CRACKS OR VOIDS IN RISE WALLS ABOVE COUNTER FLASHING SHALL BE REPAIRED WITH COMPATIBLE SEALANT.
P. ALL VERTICAL MEMBRANE FLASHING SHALL BE MECHANICALLY FASTENED AND INSTALLED WITH NEW METAL COUNTER FLASHING UTILIZING A CONTINUOUS CLEAT. SLIDE METAL COVER PLATE DOWN OVER VERTICAL CLEAT AND SEAL.
Q. PROVIDE NEW CONCRETE SPLASH BLOCKS ON ROOF ELEVATION ON TOP OF A WALK PAD WHERE DOWNSPOUTS OCCUR.
R. ALL PIPES AND CONDUIT SHALL RECEIVE PIPE SUPPORTS AND RELATED SHIMS AND SHALL BE PLACED ON AN ADDITIONAL ADHERED ROOF MEMBRANE UNDER SPECIFIED WALK PAD PRIOR TO SURFACE APPLICATION. SUPPORTS TO OCCUR AT 10'-0" O.C. AND WITHIN 2'-0" OF ALL SLOPES, TEES AND CORNERS. ALL PIPES TO BE PAINTED PER BUILDING CODE REQUIREMENTS.
S. ALL METAL FLASHING SHALL EXTEND BEYOND ROOF EDGE MIN. 8" WHERE FLASHING ABUTS VERTICAL WALL SURFACE AS DETAILED. ALL FLASHING SHALL BE INSTALLED IN SHINGLE FASHION.
T. AT ALL LOCATIONS WHERE CONVERGENCE OF MULTIPLE PLANES OF ROOFING TO WALL OCCUR, FIELD FABRICATE THERMOPLASTIC BOOT TO BE INSTALLED OVER NEW ROOFING, COMPLETELY OVERLYING THE TRANSITIONS OF ALL ROOF TO WALL ELEVATIONS, INSIDE AND OUTSIDE 90 DEGREE CORNERS, ETC. PRIOR TO METAL INSTALLATION.
U. ALL EQUIPMENT CURBS TO BE RAISED AS NECESSARY TO MAINTAIN 10" MINIMUM HEIGHT ABOVE FINISHED ROOF SURFACE.
V. MECHANICAL, ELECTRICAL, AND PLUMBING ROOF EQUIPMENT SHOWN ON THIS PLAN IS FOR GENERAL ARCHITECTURAL INFORMATION ONLY. REFER TO MEP DOCUMENTS (IF APPLIES) FOR ROOFTOP EQUIPMENT NOT SHOWN, AND FOR ADDITIONAL REQUIREMENTS AND COORDINATION.
W. FLASHING AND STRIPPING MATERIALS, BASE PLY SHEETS, MEMBRANES, INSULATION, AND ACCESSORIES SHOULD BE AS RECOMMENDED BY THE ROOFING SYSTEM MANUFACTURER FOR INTENDED USE AND COMPATIBILITY WITH THE MEMBRANE ROOFING SYSTEM.
X. WHERE WOOD BLOCKING EXCEEDS 6" IN VERTICAL THICKNESS AT TAPERED INSULATION, PROVIDE STEM WALL CONSTRUCTED OF 6" GALVANIZED COLD FORMED METAL FRAMING AT 16" O.C. WITH CONT. TRACK AT TOP AND BOTTOM AND WITH 3/4" FR-EXT GRADE PLYWOOD AT EACH SIDE, TOP TO SLOPE WITH TAPERED INSULATION.
Y. REFER TO MEP DOCUMENTS (IF APPLIES) FOR PIPE SUPPORT LOCATIONS, TYPE, AND DETAILS. PAD SHALL BE MIN 2" WIDER THAN SUPPORT IN ALL DIRECTIONS.
Z. PROVIDE STEP FLASHING AND COVER PLATE AT SLOPED ROOF HIGH/LOW CONDITIONS.
AA. GUTTERS SHALL BE PREFINISHED GALVANIZED STEEL, SIZE PER DRAWINGS, UNO, PROVIDE PREFINISHED 1/4"x1 1/2" GALVANIZED STEEL BENT PLATE BRACKETS AND PREFINISHED 1" GALVANIZED STEEL SPACERS AT 36" O.C. MAX, STAGGER WITH EACH OTHER AT 18" O.C.
BB. PROVIDE PREFINISHED GUTTER EXPANSION JOINTS 30'-0" O.C. MAX.
CC. DOWNSPOUTS SHALL BE 5"x6" PREFINISHED GALVANIZED STEEL UNO WHERE LOCATED ON ROOF PLAN. PROVIDE PREFINISHED 2" GALVANIZED STEEL HANGERS AT 36" O.C. COORDINATE LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.
DD. PROVIDE CAST IRON BOOT (TYPICAL) AT ALL DOWNSPOUTS THAT ARE TO GRADE, CONNECT TO STORM SEWER.
EE. PROVIDE SPLASH BLOCKS AT ALL ROOF LEADER NOZZLES THAT SPILL ONTO GROUND.
FF. VERIFY ELEVATION OF ROOF DRAIN RELATIVE TO OVERFLOW SCUPPER PRIOR TO INSTALLATION OF SCUPPERS.
GG. LOCATE SCUPPERS AS INDICATED ON ELEVATIONS, EITHER CENTERED OVER WINDOWS/OPENINGS, OR CENTERED BETWEEN WINDOWS/OPENINGS, UNO. ADJUST PLACEMENT TO MEET MASONRY COURSING MODULES.



15 SCUPPER SHEET METAL
NOT TO SCALE



14 COPING END CAP
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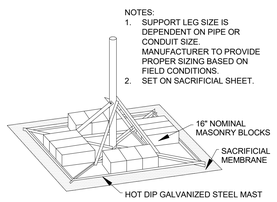

13 ANTENNA SUPPORT
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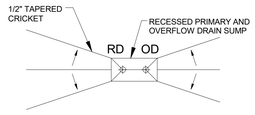
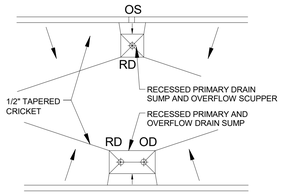
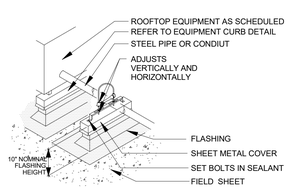


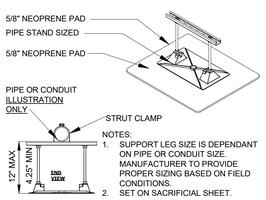
12 TAPERED SADDLES
NOT TO SCALE



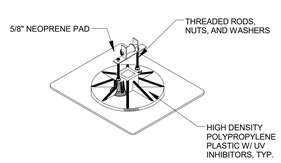
11 TAPERED CRICKET
NOT TO SCALE



10 PIPE STAND
NOT TO SCALE

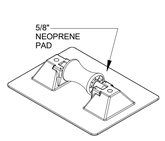


9 LARGE PIPE - PIPE STAND
NOT TO SCALE



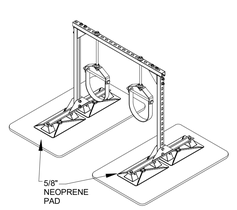
ROLLER AND SUPPORT LEG SIZE IS DEPENDENT ON PIPE OR CONDUIT SIZE. MANUFACTURER TO PROVIDE PROPER SIZING BASED ON FIELD CONDITIONS.

8 ROLLER PIPE SUPPORT
NOT TO SCALE



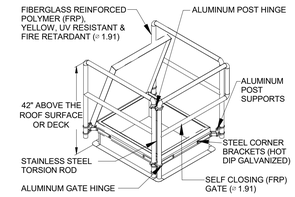
ROLLER AND SUPPORT LEG SIZE IS DEPENDENT ON PIPE OR CONDUIT SIZE. MANUFACTURER TO PROVIDE PROPER SIZING BASED ON FIELD CONDITIONS.

7 ROLLER PIPE SUPPORT
NOT TO SCALE

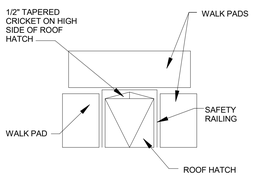


6 PIPE HANGER
NOT TO SCALE

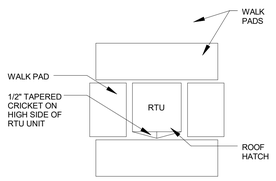
1 ROOF PLAQUE
NOT TO SCALE



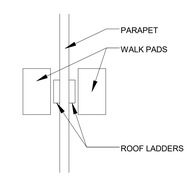
5 ROOF HATCH SAFETY RAILING
NOT TO SCALE



4 ROOF HATCH WALK PAD LAYOUT
NOT TO SCALE



3 ROOF TOP UNIT - WALK PAD LAYOUT
NOT TO SCALE



2 ROOF TO ROOF LADDER WITH WALK PADS
NOT TO SCALE

CH CHILLER LINE
G GAS LINE
SST SPLASH PAN / SUPPORT PAD
RPH ROOF PENETRATION HOUSING
GUY WIRE
ANTENNA
SOIL / PLUMBING VENT
FLANGE MOUNTED EQUIPMENT
EDP ELECTRICAL DISTRIBUTION PANEL
HS HOT STACK
CURB MOUNTED VENT
RTU ROOF TOP UNIT
CURB MOUNTED EQUIPMENT
MISC. EQUIP. ON EQUIP. CURBS
RD PRIMARY ROOF DRAIN
OD OVERFLOW ROOF DRAIN
RD OD PRIMARY AND OVERFLOW ROOF DRAIN
DS/SB DOWNSPOUT/ SPLASHBLOCK
EJ EXPANSION JOINT
ME/G METAL EDGE W/GUTTER
ME METAL EDGE
RW RISE WALL
RME RAISED METAL EDGE
RW/EJ RISE WALL W/EXPANSION JOINT
CD CONDENSATE LINE
TEL / FO TELE / FIBER OPTICS
E ELECTRIC LINE
A ANCHOR STANCHION
V VENT STACK
W WATER HYDRANT
E ELECTRIC DISCONNECT PEDESTAL
SECURITY CAMERA
PITCH PAN
PROCESS VENT STACK
FLANGE MOUNTED VENT
SATELLITE DISH
MISC. EQUIPMENT
ROOF HATCH
SC THROUGH WALL SCUPPER
OS OVERFLOW SCUPPER
SC EDGE SCUPPER
DS/CH DOWNSPOUT/ COLLECTOR HEAD
DS DOWNSPOUT
ROOF ACCESS LADDER
P PARAPET
P/EJ EXPANSION JOINT AT PARAPET
SLOPE DIRECTION
SL SKYLIGHT

ROOF LEGEND

LOW SLOPE ROOF SYSTEM
NOT IN CONTRACT

Revision /	Date	
5	04/29/25	Addendum 03

RIVERWOOD MIDDLE SCHOOL ADDITION & RENOVATION
FOR
HUMBLE ISD
2910 High Valley Dr, Humble, TX 77345

Proje

REGISTERED PROFESSIONAL ENGINEER
PAUL E. RINGER
16711
STATE OF TEXAS
04/01/2025

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GENERAL INFORMATION

PACKAGE	VOLUME
Job No. 1821-13-02	Sheet No. R1.00
Drawn By: BG,RM	
Date: 04/01/2025	

4/28/2025 4:41:45 PM
Autodesk Docs://HUMBLE ISD - CREEKWOOD & RIVERWOOD MS ADD RENO/ROOF_RIVERWOOD MS ADDITION & RENOVATIONS_v23.rvt

CULINARY LAB AIR BALANCE CALCULATION TABLE

MARK	EXHAUST AIR CFM	OUTSIDE AIR CFM	MAKE-UP AIR CFM	
KEF-1	1,500	-	-	
KEF-2	2,100	-	-	
KEF-3	2,100	-	-	
KEF-4	2,100	-	-	
RMAHU-1	-	780	-	
RMAU-1	-	-	7,020	
TOTALS	-7,800	780	7,020	
			NET AIRFLOW	0

FAN

MARK	LOCATION NAME	LOCATION NUMBER	SUPPLY CFM	EXT. STATIC PRESSURE (IN. W.C.)	MAX. RPM	HORSE POWER	CURRENT CHARAC. V	P	F	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	DRIVE TYPE	MANUFACTURER	MODEL NUMBER	REMARKS
KEF-1	CULINARY	B112	1500	1.00	1,290	0.5	120	1	60	-	HOOD-1	ROOF MOUNTED	DIRECT	COOK	VCR	1,2,3,4,7
KEF-2	CULINARY	B112	2100	1.00	1,369	1	120	1	60	-	HOOD-2	ROOF MOUNTED	DIRECT	COOK	VCR	1,2,3,4,7
KEF-3	CULINARY	B112	2100	1.00	1,369	1	120	1	60	-	HOOD-3	ROOF MOUNTED	DIRECT	COOK	VCR	1,2,3,4,7
KEF-4	CULINARY	B112	2100	1.00	1,369	1	120	1	60	-	HOOD-4	ROOF MOUNTED	DIRECT	COOK	VCR	1,2,3,4,7
EF-1	COMPUTERS	C149	125	0.50	1,550	0.13	120	1	60	-	AHU-16	ROOF MOUNTED	BELT	COOK	ACED	1,2,4
EF-2	MECHANICAL PLATFORM	G100	725	0.75	2,160	0.3	120	1	60	-	AHU-2	INLINE	BELT	COOK	SQN	1,2,4,6
SF-3	MECH	A133	1400	0.50	1,103	0.34	480	3	60	-	AHU-3	INLINE	BELT	COOK	SQND	1,2,4,5,6

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH ROOF CURB AND BIRD SCREEN.
3. PROVIDE WITH EC CONTROL MOTOR
4. PROVIDE WITH MOTORIZED DAMPER.
5. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
6. SUSPEND FAN FROM STRUCTURE WITH FOUR THREADED RODS AND UNISTRUT.
7. PROVIDE WITH CLEANOUT PORT, VENTED CURB EXTENSION TO MEET NFPA 96, DRAIN CONNECTION, GREASE TRAP AND HINGE KIT.

AIR HANDLING UNIT

MARK	FAN SUPPLY AIR CFM	FAN OUTSIDE AIR CFM	FAN EXT. STATIC PRESSURE (IN. W.C)	FAN HORSE POWER	CURRENT CHARAC. V	PH	F	COOLING AIR TEMPERATURE (°F) ENTERING DRY BULB	ENTERING WET BULB	LEAVING DRY BULB	LEAVING WET BULB	COOLING WATER ENTERING TEMP (°F)	GPM	PRESSURE DROP (FT.)	HEATING ENTERING AIR TEMPERATURE (°F)	MIN. HEATING CAPACITY	HEATING WATER ENTERING TEMP. (°F)	GPM	PRESSURE DROP (FT.)	PIPE SIZE TO COIL (IN.) CHILLED WATER	HOT WATER	REMARKS
AHU-1	9,555	2,460	1.50	10.0	480	3	60	75.0	62.5	53.8	53.0	45	34.9	15.0	66.1	298,231	180.0	15.1	10.0	2"	1 1/2"	1,3,4,5,7,10,12,13,16,17
AHU-2	4,600	910	1.50	5.0	480	3	60	75.0	62.5	53.8	53.0	45	16.8	15.0	66.0	144,072	180.0	7.3	10.0	1 1/2"	1 1/4"	1,3,4,5,7,10,12,13,16,17
AHU-3	4,785	1,400	1.50	5.0	480	3	60	75.0	62.5	53.8	53.0	45	17.5	15.0	65.6	151,933	180.0	7.7	10.0	1 1/2"	1 1/4"	1,3,4,5,7,10,12,13,16,17
AHU-3A	1,400	1,400						98.0	80.0	53.5	53.0	45	18.0	15.0	27.0	65,016	180.0	3.3	10.0	1 1/2"	3/4"	2,3,4,7,10,11,13,14,15,16,17
OAU-1	3,370	3,370	1.50	5.0	480	3	60	98.0	80.0	53.5	53.0	45	43.4	15.0	27.0	156,503	180.0	7.9	10.0	2 1/2"	1 1/4"	2,3,4,5,7,10,11,13,16,17

6

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. VELOCITY NOT TO EXCEED 500 FPM ON COOLING COIL.
2. VELOCITY NOT TO EXCEED 450 FPM ON COOLING COIL.
3. PROVIDE HORIZONTAL UNIT.
4. PROVIDE CONSTANT VOLUME UNIT.
5. PROVIDE FRONT DISCHARGE.
6. PROVIDE TOP DISCHARGE.
7. PROVIDE TWO-WAY COOLING CONTROL VALVES.
8. PROVIDE THREE-WAY COOLING CONTROL VALVES.
9. PROVIDE TWO-WAY HEATING CONTROL VALVES.
10. PROVIDE THREE-WAY HEATING CONTROL VALVES.
11. PROVIDE HOT WATER COIL IN PRE-HEAT POSITION.
12. PROVIDE HOT WATER COIL IN REHEAT POSITION.
13. PROVIDE UNIT WITH ANGLED FILTER SECITON.
14. UNIT INDICATED SHALL BE STACKED OAU FURNISHED WITH ASSOCIATED AHU (LISTED ABOVE). UNIT INCLUDES ANGLED FILTER MIXING BOX, PREHEAT COIL, ACCESS SPACE, COOLING COIL AND DISCHARGE PLENUM. UNIT DOES NOT HAVE FAN SECTION. SPLIT DEHUMIDIFICATION UNIT SHALL DELIVER OUTSIDE AIR TO MIXING BOX SECTION OF MAIN AIR HANDLER UNIT UPSTREAM OF COIL.
15. SPLIT DEHUMIDIFICATION UNIT TO BE MOUNTED ON TOP OF ASSSOCIATED AHU.
16. PROVIDE UNIT WITH VARIABLE FREQUENCY DRIVE.
17. PROVIDE WITH AIR PURIFICATION SYSTEM. REFER TO SPECIFICATIONS. 6

CHILLED & HOT WATER FAN/COIL UNIT

MARK	FAN SUPPLY AIR CFM	FAN OUTSIDE AIR CFM	FAN EXT.STATIC PRESSURE (IN. W.C.)	FAN HORSE POWER	CURRENT V	P	F	COOLING AIR TEMPERATURE (°F) ENTERING DRY BULB	ENTERING WET BULB	MIN. TOTAL CAPACITY (BTUH)	MIN. SENSIBLE CAPACITY (BTHU)	COOLING WATER ENTERING TEMP(°F)	GPM	PRESSURE DROP (FT.)	HEATING ENTERING AIR TEMPERATURE (°F)	MIN. CAPACITY (BTUH)	HEATING WATER ENTERING TEMP.(°F)	GPM	PRESSURE DROP (FT.)	PIPE SIZE TO COIL (IN.) CHILLED WATER	HOT WATER	REMARKS
FCU-1	900	0	0.80	1.0	277	1	60	75.0	62.5	22,297	19,634	45	3	15.0	72.0	22,356	180	1.1	10.0	3/4"	3/4"	1,2,3,4,5,6,7,8,9,10,11
FCU-2	900	120	0.80	1.0	277	1	60	78.0	65.2	30,354	22,521	45	4	15.0	65.5	28,674	180	1.4	10.0	1"	3/4"	1,2,3,4,5,6,7,8,9,10,11
FCU-3	900	0	0.80	1.0	277	1	60	75.0	62.5	22,297	19,634	45	3	15.0	72.0	22,356	180	1.1	10.0	3/4"	3/4"	1,2,3,4,5,6,7,8,9,10,11
FCU-4	470	100	0.80	0.5	277	1	60	76.9	64.3	14,422	11,218	45	2	15.0	67.8	13,802	180	0.7	10.0	3/4"	3/4"	1,2,3,4,5,6,7,8,9,10,11
FCU-5	910	135	0.80	1.0	277	1	60	78.3	65.5	31,627	23,096	45	4	15.0	64.8	29,681	180	1.5	10.0	1"	3/4"	1,2,3,4,5,6,7,8,9,10,11
FCU-6	900	0	0.80	1.0	277	1	60	75.0	62.5	22,297	19,634	45	3	15.0	72.0	22,356	180	1.1	10.0	3/4"	3/4"	1,2,3,4,5,6,7,8,9,10,11
FCU-7	900	0	0.80	1.0	277	1	60	75.0	62.5	22,297	19,634	45	3	15.0	72.0	22,356	180	1.1	10.0	3/4"	3/4"	1,2,3,4,5,6,7,8,9,10,11
FCU-8	1,055	0	0.80	1.0	277	1	60	75.0	62.5	26,136	23,016	45	3	15.0	72.0	26,206	180	1.3	10.0	1"	3/4"	1,2,3,4,5,6,7,8,9,10,11
FCU-9	2,280	550	0.80	2.5	277	1	60	82.6	69.0	113,857	70,917	45	15	15.0	55.9	96,280	180	4.8	10.0	1 1/2"	1"	1,2,3,4,5,6,7,8,9,10,11
OAFCU-1	550	550	0.80	0.8	277	1	60	98.0	80.0	52,970	12,780	45	9	15.0	27.0	25,660	180	2.6	10.0	1 1/4"	3/4"	1,2,3,4,5,6,7,8,9,10,11

6

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. VELOCITY NOT TO EXCEED 500 FPM ON COOLING COIL.
2. PROVIDE HORIZONTAL UNIT.
3. PROVIDE CONSTANT VOLUME UNIT.
4. PROVIDE HOT WATER COIL IN REHEAT POSITION.
5. PROVIDE WITH LOW VELOCITY ANGLED FILTER SECTION.
6. PROVIDE WITH FLOAT SWITCH AUTOMATIC SHUT OFF.
7. SUSPEND UNIT WITH FOUR THREADED HANGER RODS ATTACHED TO TWO UNISTRUT RUNNERS SECURED TO STRUCTURE. PROVIDE SPRING ISOLATION
8. REFER TO MANUFACTURER FOR MORE DETAILS.
9. PROVIDE 2-WAY COOLING CONTROL VALVES.
10. PROVIDE 2-WAY HYDRONIC HOT WATER CONTROL VALVES.
11. PROVIDE WITH AIR PURIFICATION SYSTEM. REFER TO SPECIFICATIONS.

6

ROOF MOUNTED AIR HANDLING UNIT

MARK	FAN SUPPLY AIR CFM	FAN OUTSIDE AIR CFM	FAN EXT. STATIC PRESSURE (IN. W.C)	FAN HORSE POWER	CURRENT CHARAC. V	PH	F	COOLING AIR TEMPERATURE (°F) ENTERING DRY BULB	ENTERING WET BULB	LEAVING DRY BULB	LEAVING WET BULB	COOLING WATER ENTERING TEMP (°F)	GPM	PRESSURE DROP (PSI)	HEATING ENTERING AIR TEMPERATURE (°F)	MIN. HEATING CAPACITY	HEATING WATER ENTERING TEMP. (°F)	GPM	PRESSURE DROP (PSI)	PIPE SIZE TO COIL (IN.) CHILLED WATER	HOT WATER	REMARKS
RMAHU-1	4,220	1,060	1.50	5.0	480	3	60	80.6	67.4	54.6	53.8	45	23.7	15.0	67.7	124,422	180.0	6.3	10.0	2"	1"	1,3,4,6,7,8,10,11,12,13,14,16
RMUA-1	7,020	7,020	1.50	7.5	480	3	60	98.0	80.0	75.0	62.5	45	64.9	15.0	67.7	206,978	180.0	10.4	10.0	3"	1 1/4"	2,3,5,6,7,8,9,11,12,15,13,16

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. VELOCITY NOT TO EXCEED 500 FPM ON COOLING COIL.
2. VELOCITY NOT TO EXCEED 450 FPM ON COOLING COIL.
3. PROVIDE HORIZONTAL UNIT.
4. PROVIDE CONSTANT VOLUME UNIT.
5. RMUA-1 SHALL BE INTERLOCKED WITH HOOD FIRE SUPPRESSION SUCH THAT RMAU-1 IS DEACTIVATED UPON DETECTION OF FIRE BELOW HOOD.
6. PROVIDE UNIT WITH AIR PURIFICATION SYSTEM. REFER TO SPECIFICATIONS.
7. PROVIDE TWO-WAY COOLING CONTROL VALVES.
8. PROVIDE THREE-WAY HEATING CONTROL VALVES.
9. PROVIDE HOT WATER COIL IN PRE-HEAT POSITION.
10. PROVIDE HOT WATER COIL IN RE-HEAT POSITION.
11. PROVIDE UNIT WITH BOTTOM DISCHARGE.
12. PROVIDE UNIT WITH PENTHOUSE SECTION TO ENCLOSE PIPING AND CONTROL VALVES.
13. PROVIDE UNIT WITH ANGLED FILTER SECTION.
14. PROVIDE TWO-WAY HEATING CONTROL VALVES.
15. PROVIDE WITH SINGLE ZONE VARIABLE VOLUME UNIT.
16. PROVIDE UNIT WITH VARIABLE FREQUENCY DRIVE.

GRILLE

MARK	SERVICE	TYPE	DAMPER	CONSTRUCTION MATERIAL	FINISH COLOR	MANUFACTURER	MODEL NUMBER	DESCRIPTION
A	SUPPLY AIR	DIFFUSER	-	STEEL	-	TITUS	OMNI	EXPOSED T-BAR CEILING FRAME STYLE WITH 24"X24" OR 12"X12" FACE.
B	RETURN AIR	GRILLE	-	STEEL	-	TITUS	PAR	EXPOSED T-BAR CEILING FRAME STYLE WITH 24"X24" OR 12"X12" FACE. (1,2).
C	SUPPLY AIR	GRILLE	-	STEEL	-	TITUS	300RL	DOUBLE DEFLECTION SIDEWALL GRILLE WITH HORIZONTAL FRONT BARS. SURFACE MOUNTED
D	RETURN AIR	GRILLE	-	STEEL	-	TITUS	350RL	DOUBLE DEFLECTION SIDEWALL GRILLE WITH HORIZONTAL FRONT BARS. SURFACE MOUNTED (1)
E	EXHAUST AIR	GRILLE	-	STEEL	-	TITUS	350RL	DOUBLE DEFLECTION SIDEWALL GRILLE WITH HORIZONTAL FRONT BARS. SURFACE MOUNTED (1)
F	SUPPLY AIR	DIFFUSER	-	STEEL	-	TITUS	PAS	EXPOSED T-BAR CEILING FRAME STYLE WITH 24"X24" FACE. (1)
G	EXHAUST AIR	GRILLE	-	STEEL	-	TITUS	PAR	EXPOSED T-BAR CEILING FRAME STYLE WITH A 24"X24" OR 12"X12" FACE. PERFORATED FACE.

GENERAL NOTES:
1. DAMPERS NOTED AS U.L. SHALLBE A 'U.L.' CLASSIFIED CEILING RADIATION DAMPER WITH THERMAL BLANKET.
2. COORDINATE FINAL AIR DEVICE LOCATION AND FINISH COLOR WITH ARCHITECT.

REMARKS:
1. COORDINATE FINAL AIR DEVICE LOCATION AND FIINISH COLOR WITH ARCHITECT.
2. PROVIDE WITH RETURN AIR BOOT WHEN USED FOR PLENUM RETURN.

VARIABLE VOLUME TERMINAL BOX

MARK	MAXIMUM CFM	MINIMUM CFM	INLET DIAMETER SIZE (IN.)	HOT WATER COIL GPM	HOT WATER COIL CONNECTING PIPE SIZE	REMARKS
VAV-K1	1,350	360	12			-
VAV-K2	1,890	480	14			-
VAV-K3	1,890	480	14			-
VAV-K4	1,890	480	14			-
VAV-O1-1	910	360	10			1
VAV-O1-2	2,460	630	16			1

GENERAL NOTES:
1. MAXIMUM STATIC PRESSURE DROP OF AIR THROUGH THE TERMINAL BOX SHALL BE 0.2" ESP.
2. MAXIMUM VELOCITY THROUGH DUCT INLET SHALL BE 2,000 FPM.
3. MAXIMUM STATIC PRESSURE DROP THROUGH HEATER COIL SHALL BE 0.25" ESP.
4. MAXIMUM STATIC PRESSURE DROP OF WATER THROUGH HEATER COIL SHALL BE 10' W.G.
5. BTUH REQUIRED FOR HOT WATER HEATING IS HEATING GPM MULTIPLIED BY 10,000.
6. SUSPEND UNIT WITH FOUR THREADED HANGER RODS ATTACHED TO TWO UNISTRUT RUNNERS SECURED TO STRUCTURE. REFER TO MANUFACTURER FOR MORE DETAILS.
7. UNITS TO BE MOUNTED BETWEEN BEAMS AND 18" MAXIMUM ABOVE CEILING. AVOID MOUNTING OVER LIGHTS WHEREVER POSSIBLE.
8. REFER TO PIPING AT HOT WATER COIL DETAILS. PROVIDE WITH 2-WAY CONTROL VALVE UNLESS OTHERWISE SCHEDULED.

REMARKS:
1. PROVIDE WITH DCV.

PUMP

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MOTOR HORSE POWER	MAX. RPM	CURRENT CHARAC. V	P	F	MANUFACTURER	MODEL NUMBER	REMARKS
HWP-1	HEATING HOT WATER	VERTICAL INLINE	97	120.00	15.0	1800	480	3	60	ARMSTRONG	4300	1,2,3,5
HWP-2	HEATING HOT WATER	VERTICAL INLINE	97	120.00	15.0	1800	480	3	60	ARMSTRONG	4300	1,2,3,5
HWP-3	HEATING HOT WATER	INLINE CIRCULATOR	97	380.61	1.5	1800	460	3	60	ARMSTRONG	4300	3,4
HWP-4	HEATING HOT WATER	INLINE CIRCULATOR	97	380.61	1.5	1800	460	3	60	ARMSTRONG	4300	3,4
PCHWP-1	PRIMARY CHILLED WATER	HORIZONTAL END SUCTION	345	50.00	7.5	1800	480	3	60	PATTERSON	4030	1,2,3,5,6
P-9	SECONDARY CHIILED WATER	VERTICAL INLINE	440	140.00	30.0	1800	480	3	60	ARMSTRONG	4300	1,2,3,5
P-10	SECONDARY CHIILED WATER	VERTICAL INLINE	440	140.00	30.0	1800	480	3	60	ARMSTRONG	4300	1,2,3,5

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
2. PROVIDE SUCTION DIFFUSER AT PUMP INLET.
3. PROVIDE PUMP WITH GUAGE TAPPING AND SUCTION DIFFUSER.
4. PUMP SHALL BE PROVIDED BY BOILER MANUFACTURER.
5. PROVIDE PUMP WITH BACK PULL OUT.
6. PUMP SHALL BE FURNISHED BY OWNER INSTALLED BY CONTRACTOR.

BOILER - FORCED AIR

MARK	TYPE	MINIMUM GAS INPUT (BTUH)	MINIMUM HEAT OUTPUT (BTUH)	PRESSURE DROP (FT.H20)	GPM	FLUE SIZE	ELECTRICAL BLOWER HORSEPOWER (WATT)	CURRENT CHARAC. V	P	F	MANUFACTURER	MODEL NUMBER	REMARKS
B-1	CONDENSING	2000000.0 Btu/h	1928000.0 Btu/h	10.0	97.4	10	890	208	1	60	PATTERSON-KELLEY	SC 2000	1,2,3
B-2	CONDENSING	2000000.0 Btu/h	1928000.0 Btu/h	10.0	97.4	10	890	208	1	60	PATTERSON-KELLEY	SC 2000	1,2,3

GENERAL NOTES:
1. PROVIDE 8 OUNCE GAS PRESSURE TO BOILER.
2. MAINTAIN MINIMUM CLEARANCE AROUND A BOILER OF 24 INCHES PER TEXAS BOILER LAW. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH CIRCULATING PUMP, SIZED BY BOILER MANUFACTURER TO ENSURE CONSTANT FLOW THROUGH BOILER. PUMP TO BE SHIPPED LOOSE. POWER BY ELECTRICAL CONTRACTOR BUT CONTROLLED BY BOILER. CONTRACTOR TO WIRE FROM BOILER PUMP CONTROL CIRCUIT TO PUMP STARTER RELAY.
2. PROVIDE SEALED COMBUSTION BOILER.

RELIEF VENT & O.A. INTAKE

MARK	CFM	MAX. S.P. (IN.WC.)	MIN. THROAT AREA	COOK MODEL NUMBER	SERVES	REMARKS
OAI-1	320	0.10	1.00	GR	FCU-5	1,2
OAI-2	465	0.10	1.00	GR	FCU-2, FCU-4	1,2

REMARKS:
1. PROVIDE WITH ROOF CURB.
2. PROVIDE WITH BIRD SCREEN.

DUCTLESS MINI-SPLIT - OUTDOOR UNIT

MARK	MIN. TOTAL CAPACITY (BTUH)	OUTDOOR AIR TEMP (°F)	MINIMUM EER/ SEER	CURRENT CHARAC. V	PH	F	RELATED UNIT MARK	REMARKS
DMSCU-1	17,100	95	-/15.2	208	1	60	DMS-1	1,2,3

GENERAL NOTES:
1. MINIMUM RECOMMENDED CLEARANCE AROUND ROOFTOP UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE FOR CONDENSER AIR FLOW AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH LOW AMBIENT CONTROL DOWN TO 20 DEG F.
2. PROVIDE WITH DISCONNECT SWITCH.
3. REFRIGERANT LINES TO BE SIZED TO MANUFACTURER'S REQUIREMENTS.

DUCT ATTENUATORS

MARK	CFM	DUCT DIMENSIONS WIDTH	DUCT DIMENSIONS HEIGHT	SERVE	DUCT VELOCITY (FPM)	LENGTH	MANUFACTURUER	MODEL	REMARKS
SA-1	4,785	40	18	AHU-3	957	36"	IAC ACOUSTICS1	LFL	1

GENERAL NOTES:

1. MAXIMUM STATIC PRESSURE DROP OF AIR THROUGH THE SILENCERS SHALL NOT EXCEED 0.35" W.G. ESP
2. PROVIDE WITH GALVANIZED, LOCKFORMED CASING CONSTRUCTED TO SMACNA STANDARDS. AIRTIGHT CONSTRUCTION SHALL BE ACHIEVED BY USE OF A DUCT-SEALING COMPOUND SUPPLIED AND INSTALLED BY THE CONTRACTOR AT THE JOBSITE.
3. PROVIDE WITH 2" SLIP CONNECTION AT EACH END.
4. PROVIDE WITH GALVANIZED NOSE AT INLET.
5. PROVIDE WITH GALVANIZED GAP PLATES BETWEEN SPLITTERS TO ENSURE CLOSE DIMENSIONAL TOLERANCES AT AIR PASSAGES.
6. PROVIDE WITH PERFORATED GALVANIZED SPLITTERS COMPLETE WITH PERFORATED DIFFUSER TAIL SECTIONS.
7. SPLITTERS FILLED WITH ACOUSTIC GRADE GLASS FIBER UNDER MINIMUM 15% COMPRESSION.
8. SILENCERS SHALL BE LOCATED AS CLOSE TO NOISE GENERATING EQUIPMENT AS POSSIBLE WITH 5 EQUIVALENT DUCT DIAMETERS OF STRAIGHT, UNOBSTRUCTED DUCTWORK ON INLET AND DISCHARGE SIDE OF SILENCER.
9. SILENCERS SHALL NOT FAIL STRUCTURALLY WHEN SUBJECTED TO A DIFFERENTIAL AIR PRESSURE OF 8" W.G.
10. SILENCER INLET AND OUTLET CONNECTION DIMENSIONS MUST BE EQUAL TO THE DUCT SIZES SHOWN ON THE DRAWINGS

REMARKS:

1. STRAIGHT DUCT SILENCER TYPE TO BE USED.

DUCTLESS MINI-SPLIT - INDOOR UNIT

MARK	FAN SUPPLY AIR CFM	FAN OUTSIDE AIR CFM	FAN EXT.STATIC PRESSURE (IN. W.C.)	FAN HORSE POWER	CURRENT CHARAC. V	PH	F	COOLING AIR TEMPERATURE (°F) ENTERING DRY BULB	ENTERING WET BULB	MIN. TOTAL CAPACITY (BTUH)	MIN. SENS. CAPACITY (BTUH)	MINIMUM EER/ SEER	NUMBER OF STAGES	REMARKS
DMS-1	370	0	0.10	40.0	208	1	60	75.0	62.5	17,100	13,680	-/15.2	1	1,2,3,4,5

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. UNIT TO BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. CONTROLLED BY PROGRAMMABLE WIRED THERMOSTAT.
3. REFRIGERANT LINES TO BE SIZED PER MANUFACTURER'S REQUIREMENTS.
4. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT.
5. PROVIDE INTEGRAL MINI SPLIT CONDENSATE PUMP KIT ASP-MA-UNI MINI AQUA BY ASPEN PUMPS OR EQUAL. CONDENSATE PUMP SHALL BE INSTALLED INSIDE HIG WALL UNIT. REFER TO MANUFACTURER INSTALLATION INSTRUCTIONS.

PACKAGED AIR COOLED CHILLER - OWNER FURNISHEDCONTRACTOR INSTALLED

MARK	ACTUAL CAPACITY (TONS)	LEAVING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	AMBIENT AIR TEMP. (°F)	CURRENT CHARAC. V	P	F	MANUFACTURER	MODEL	MOCP	MCA	REMARKS
(E)ACC-1	143	45	345	20.0	95 °F	480	3	60	CARRIER	30RB	400	320	1,2,3,4,5

GENERAL NOTES:
1. MAXIMUM FOULING FACTOR FOR THE EVAPORATOR IS 0.0001
2. MAINTAIN MINIMUM CLEARANCES REQUIRED BY CHILLER MANUFACTURER FOR PROPER AIRFLOW TO FANS AND UNIT. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON EQUIPMENT FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH LOW AMBIENT HEAD PRESSURE CONTROL.
2. PROVIDE WITH INTEGRAL MAIN ELECTRICAL DISCONNECT SWITCH.
3. PROVIDE WITH INSULATION ON ALL SUCTION LINES.
4. PROVIDE HIGH EFFICIENCY CHILLER. (MIN. OF -- EER)
5. PROVIDE WITH POLYMER CONDENSER FANS AND COMPRESSOR BLANKETS.

Revision /	Date	
1	02-16-24	City Comments 1
3	06-06-24	City Comments 3
6	04-29-25	Addendum 3

Project:

CREEKWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
FOR
HUMBLE ISD
KINGWOOD, TX

Bradley Kalmans

BRADLEY KALMANS
80219
04-29-2025

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MECHANICAL SCHEDULES

PACKAGE | VOLUME

Salas O'Brien

Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064
Salas O'Brien Registration: F-4111

Salas O'Brien Project Number: 2022-05088-00

Job No.: 1821-13-01
Drawn By: AA
Date: 04.01.2025
Sheet No. M6.11

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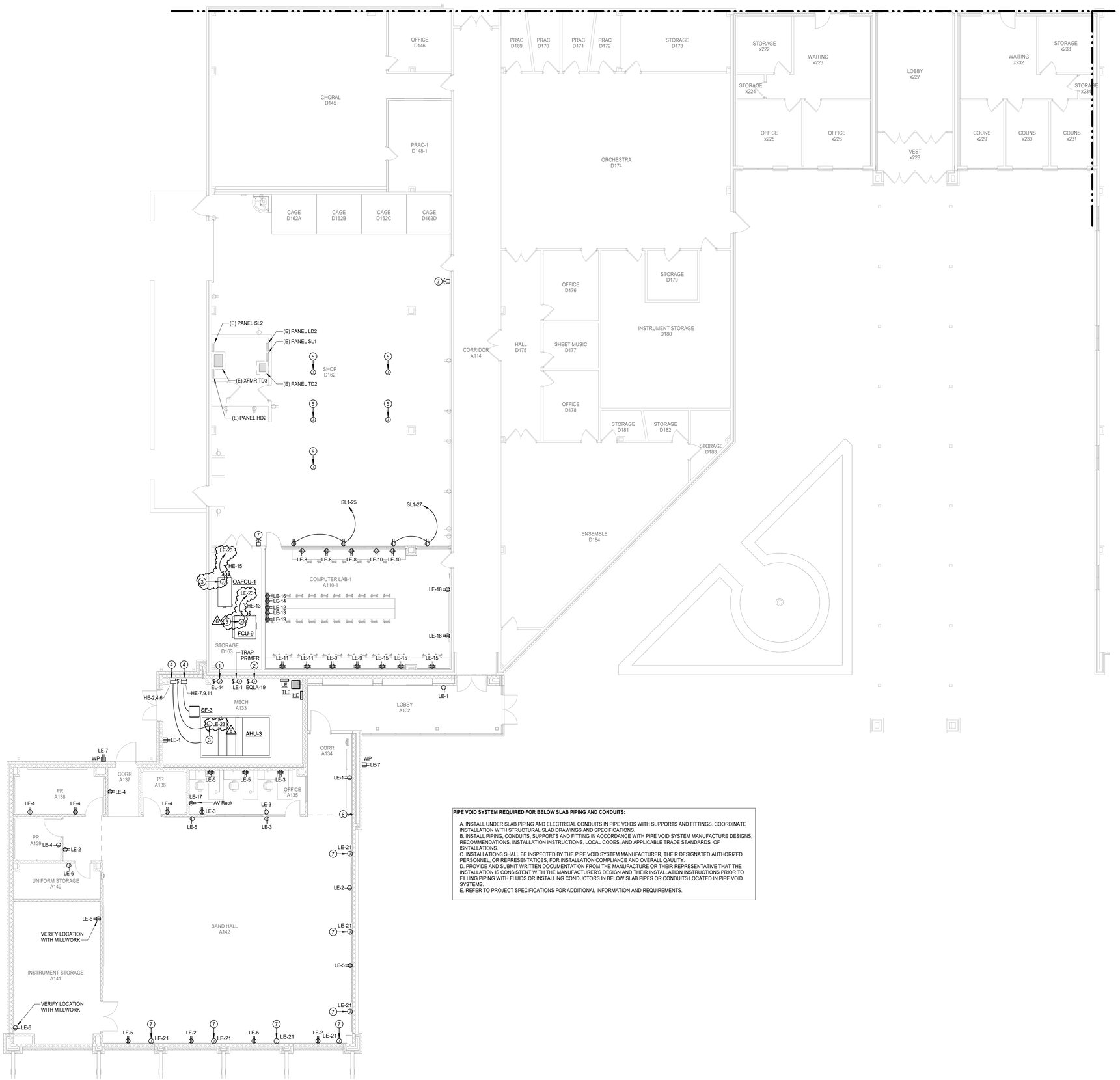

ELECTRICAL GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, SHALL REMAIN.
2. REFER TO TECHNOLOGY (T-SERIES) DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DIVISION 26 SCOPE OF WORK.
3. UNLESS NOTED OTHERWISE, REINSTALL ALL EXISTING LIGHT FIXTURES AND ALL CEILING MOUNTED ELECTRICAL IN NEW CEILINGS WHERE APPLICABLE. DEVICES INCLUDE BUT ARE NOT LIMITED TO: LIGHTS, EXIT SIGNS, OCCUPANCY SENSORS, ETC. REFER TO ARCHITECTURAL PLANS FOR AREAS THAT THE CEILING IS BEING REPLACED.

ELECTRICAL KEYED NOTES:

1. PROVIDE JUNCTION BOX AT +54"AFF FOR CONNECTION OF FIRE ALARM BOOSTER PANEL. VERIFY FINAL LOCATION WITH FIRE ALARM SHOP DRAWINGS AND MAKE FINAL CONNECTION.
2. PROVIDE JUNCTION BOX AT +54"AFF FOR CONNECTION OF BMCS PANEL. VERIFY FINAL LOCATION WITH BMCS SHOP DRAWINGS AND MAKE FINAL CONNECTION.
3. PROVIDE JUNCTION BOX FOR CONNECTION OF AIR PURIFICATION SYSTEM. COORDINATE EXACT LOCATION AND MAKE FINAL CONNECTION.
4. VARIABLE FREQUENCY DRIVE MOTOR CONTROLLER (VFD), PROVIDED BY DIVISION 23, INSTALLED BY DIVISION 26.
5. PROVIDE 120V ELECTRIC CORD REEL MOUNTED TO BOTTOM OF STRUCTURE WITH GFCI DOUBLE DUPLEX RECEPTACLE. VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. CONNECT TO EXISTING CORD REEL CIRCUIT PRESERVED DURING DEMOLTION. EXTEND CONDUIT/WIRE AND MAKE FINAL CONNECTION.
6. PROVIDE NEW EPO (EMERGENCY POWER OFF) FOR LOCAL PANEL SHUT OFF FOR SHOP EQUIPMENT. PROVIDE SWITCH WITH COVER AND KEY RESET. APPROVED MANUFACTURER: STI OR APPROVED EQUAL.
7. PROVIDE A JUNCTION BOX FOR CONNECTION OF MOTORIZED SHADES. COORDINATE LOCATION OF LOW VOLTAGE SHADE CONTROLS WITH ARCHITECT AND MAKE ALL FINAL CONNECTIONS.
8. MOTORIZED SHADE CONTROLLER PROVIDED WITH SHADES. VERIFY EXACT LOCATION WITH ARCHITECT.

ALL 15 AND 20 AMPERES, 125 AND 250-VOLT NONLOCKING-TYPE RECEPTACLES IN THE AREAS SPECIFIED IN 406.12(1) THROUGH (7) SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.

PIPE VOID SYSTEM REQUIRED FOR BELOW SLAB PIPING AND CONDUITS:

A. INSTALL UNDER SLAB PIPING AND ELECTRICAL CONDUITS IN PIPE VOIDS WITH SUPPORTS AND FITTINGS. COORDINATE INSTALLATION WITH STRUCTURAL SLAB DRAWINGS AND SPECIFICATIONS.
B. INSTALL PIPING, CONDUITS, SUPPORTS AND FITTING IN ACCORDANCE WITH PIPE VOID SYSTEM MANUFACTURE DESIGNS, RECOMMENDATIONS, INSTALLATION INSTRUCTIONS, LOCAL CODES, AND APPLICABLE TRADE STANDARDS OF ISNTALLATIONS.
C. INSTALLATIONS SHALL BE INSPECTED BY THE PIPE VOID SYSTEM MANUFACTURER, THEIR DESIGNATED AUTHORIZED PERSONNEL, OR REPRESENTATICES, FOR INSTALLATION COMPLIANCE AND OVERALL QAULITY.
D. PROVIDE AND SUBMIT WRITTEN DOCUMENTATION FROM THE MANUFACTURE OR THEIR REPRESENTATIVE THAT THE INSTALLATION IS CONSISTENT WITH THE MANUFACTURER'S DESIGN AND THEIR INSTALLATION INSTRUCTIONS PRIOR TO FILLING PIPING WITH FLUIDS OR INSTALLING CONDUCTORS IN BELOW SLAB PIPES OR CONDUITS LOCATED IN PIPE VOID SYSTEMS.
E. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

N

1 ELECTRICAL POWER FLOOR PLAN - CMS - SECTION A

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

Revision /	Date	
1	02-16-24	City Comments 1
6	04-29-25	Addendum 3

Project:
CREEKWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
FOR
HUMBLE ISD
KINGWOOD, TX

BRADLEY KALMANS
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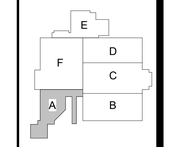
ENGINEER
04-29-2025



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ELECTRICAL POWER FLOOR PLAN - SECTION A

PACKAGE	VOLUME
Job No. 1821-13-01	Sheet No. E3.11
Drawn By: DES	
Date: 04.01.2025	

Salas O'Brien
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064
Salas O'Brien Registration: F-4111
Salas O'Brien Project Number: 2022-05088-00

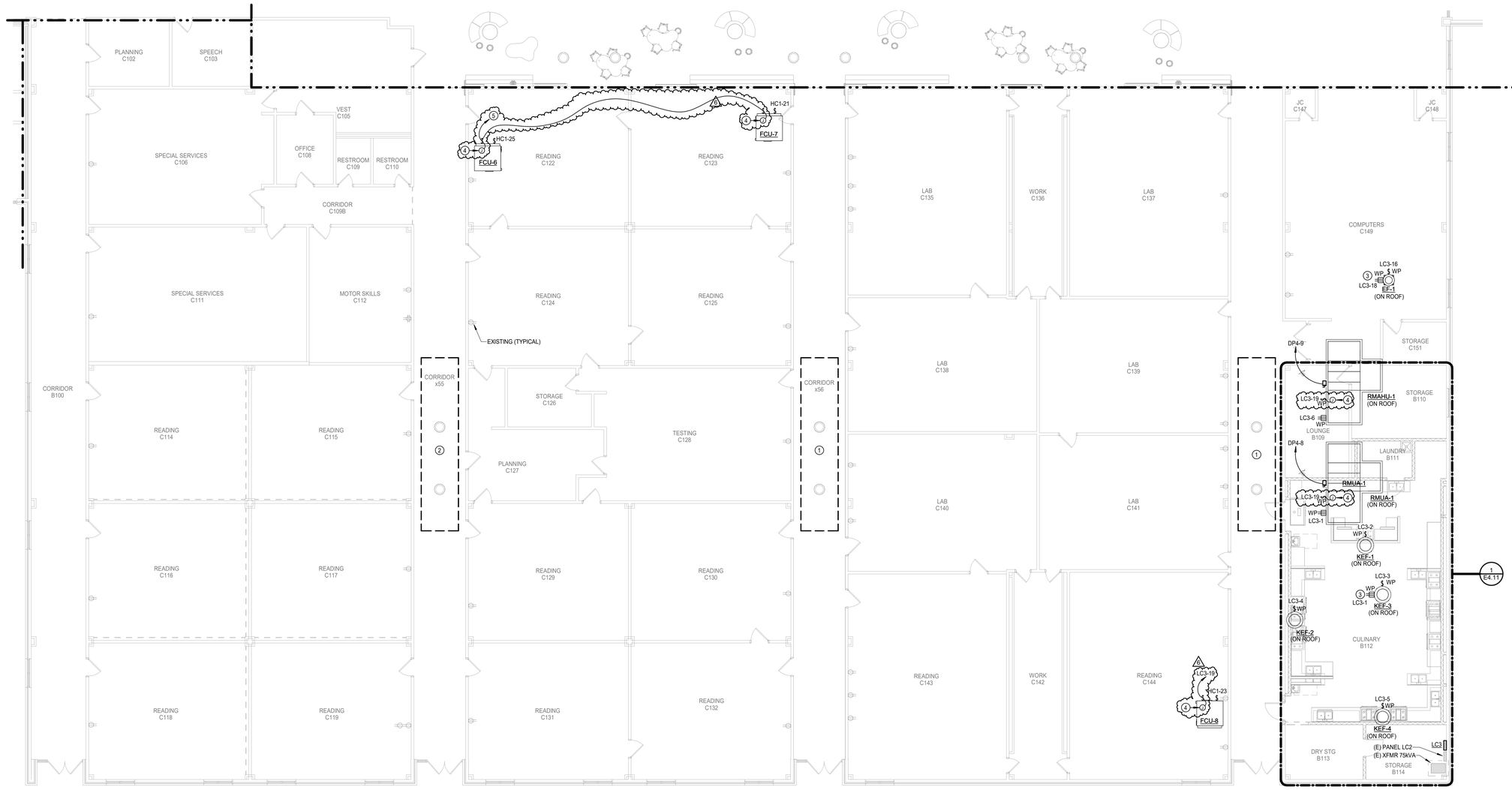
ALL 15 AND 20 AMPERES, 125 AND 250-VOLT NONLOCKING-TYPE RECEPTACLES IN THE AREAS SPECIFIED IN 406.12(1) THROUGH (7) SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.

ELECTRICAL GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, SHALL REMAIN.
2. REFER TO TECHNOLOGY (T-SERIES) DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DIVISION 26 SCOPE OF WORK.
3. UNLESS NOTED OTHERWISE, REINSTALL ALL EXISTING LIGHT FIXTURES AND ALL CEILING MOUNTED ELECTRICAL IN NEW CEILINGS WHERE APPLICABLE. DEVICES INCLUDE BUT ARE NOT LIMITED TO: LIGHTS, EXIT SIGNS, OCCUPANCY SENSORS, ETC. REFER TO ARCHITECTURAL PLANS FOR AREAS THAT THE CEILING IS BEING REPLACED.

ELECTRICAL KEYED NOTES:

1. INTERCEPT ALL EXISTING BRANCH CIRCUITS AND/OR FEEDERS IN THIS AREA AND RE-ROUTE AROUND NEW SKYLIGHT. EXTEND CONDUIT/WIRE AND RECONNECT TO EXISTING CIRCUITRY. TYPICAL FOR (3)3/4" CONDUITS. CONTRACTOR SHALL FIELD VERIFY EXISTING.
2. INTERCEPT ALL EXISTING BRANCH CIRCUITS AND/OR FEEDERS IN THIS AREA AND RE-ROUTE AROUND NEW SKYLIGHT. EXTEND CONDUIT/WIRE AND RECONNECT TO EXISTING CIRCUITRY. TYPICAL FOR (7)3/4" CONDUITS. CONTRACTOR SHALL FIELD VERIFY EXISTING.
3. PROVIDE (2)3/4" RIGID GALVANIZED CONDUITS PENETRATED THROUGH ROOF FOR RECEPTACLE WIRING AND SUPPORT PER NEC 314. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATIONS.
4. PROVIDE JUNCTION BOX FOR CONNECTION OF AIR PURIFICATION SYSTEM. COORDINATE EXACT LOCATION AND MAKE FINAL CONNECTION.
5. ROUTE 2#12, 1#12G,. 3/4"C. TO NEW 20A/1P CIRCUIT BREAKER IN PANEL LC1. FIELD VERIFY FOR SPACE AVAILABLE.



1 ELECTRICAL POWER FLOOR PLAN - CMS - SECTION B

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

Revision /	Date	
1	02-16-24	City Comments 1
6	04-29-25	Addendum 3

Project:

CREEKWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
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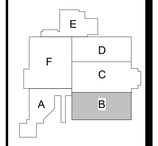

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ELECTRICAL POWER FLOOR PLAN - SECTION B

PACKAGE	VOLUME
Job No. 1821-13-01	Sheet No. E3.12
Drawn By: DES	
Date: 04.01.2025	

Salas O'Brien

Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064
Salas O'Brien Registration: F-4111

Salas O'Brien Project Number: 2022-05088-00

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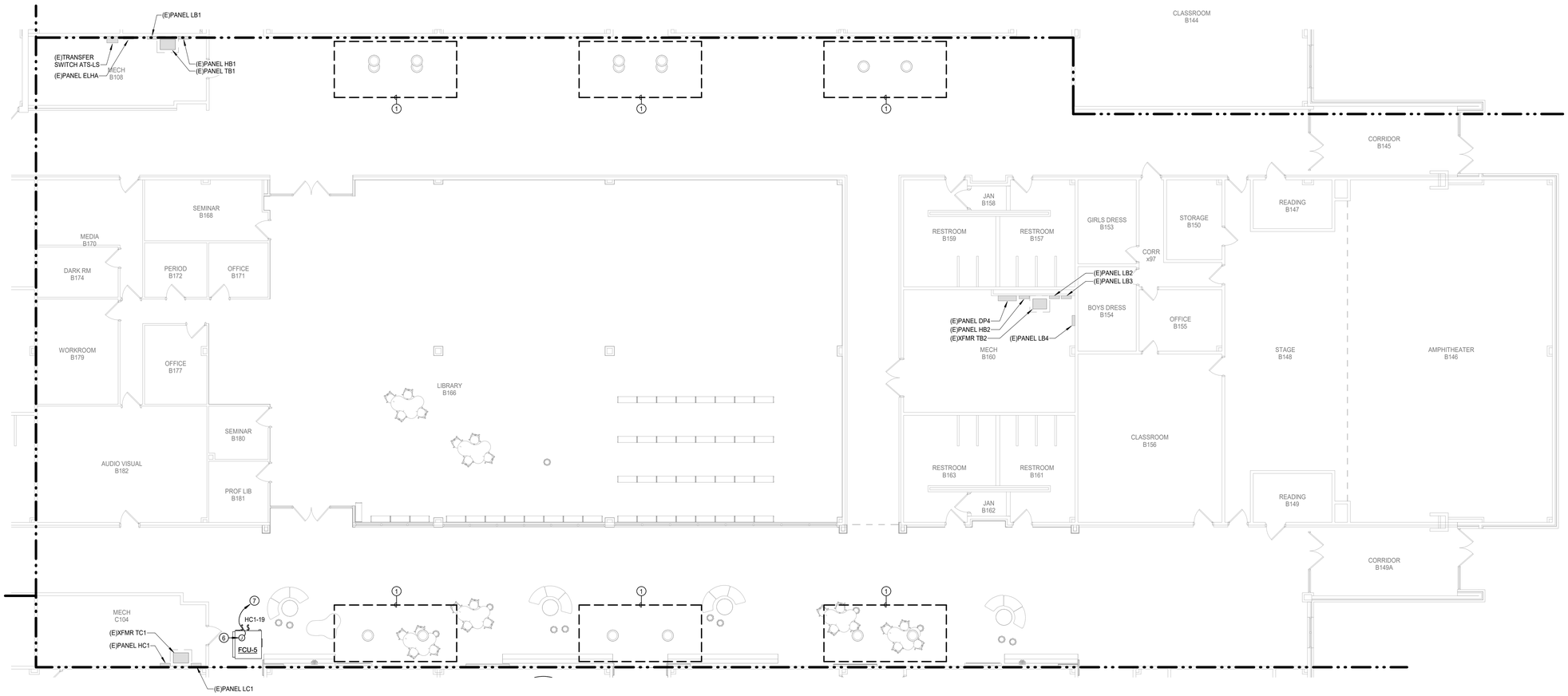
ALL 15 AND 20 AMPERES, 125 AND 250-VOLT NONLOCKING-TYPE RECEPTACLES IN THE AREAS SPECIFIED IN 406.12(1) THROUGH (7) SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.

ELECTRICAL GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, SHALL REMAIN.
2. REFER TO TECHNOLOGY (T-SERIES) DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DIVISION 26 SCOPE OF WORK.
3. UNLESS NOTED OTHERWISE, REINSTALL ALL EXISTING LIGHT FIXTURES AND ALL CEILING MOUNTED ELECTRICAL IN NEW CEILINGS WHERE APPLICABLE. DEVICES INCLUDE BUT ARE NOT LIMITED TO: LIGHTS, EXIT SIGNS, OCCUPANCY SENSORS, ETC. REFER TO ARCHITECTURAL PLANS FOR AREAS THAT THE CEILING IS BEING REPLACED.

ELECTRICAL KEYED NOTES:

1. CONTRACTOR SHALL INTERCEPT ALL EXISTING BRANCH CIRCUITS AND/OR FEEDERS IN THIS AREA AND RE-ROUTE AROUND NEW SKYLIGHT. CONTRACTOR TO EXTEND CONDUIT/WIRE AND RECONNECT TO EXISTING CIRCUITRY. TYPICAL FOR (5)3/4" CONDUITS. CONTRACTOR SHALL FIELD VERIFY EXISTING.
2. CONTRACTOR SHALL INTERCEPT ALL EXISTING BRANCH CIRCUITS AND/OR FEEDERS IN THIS AREA AND RE-ROUTE AROUND NEW SKYLIGHT. CONTRACTOR TO EXTEND CONDUIT/WIRE AND RECONNECT TO EXISTING CIRCUITRY. TYPICAL FOR (10)3/4" CONDUITS. CONTRACTOR SHALL FIELD VERIFY EXISTING.
3. CONTRACTOR SHALL INTERCEPT ALL EXISTING BRANCH CIRCUITS AND/OR FEEDERS IN THIS AREA AND RE-ROUTE AROUND NEW SKYLIGHT. CONTRACTOR TO EXTEND CONDUIT/WIRE AND RECONNECT TO EXISTING CIRCUITRY. TYPICAL FOR (7)3/4" CONDUITS. CONTRACTOR SHALL FIELD VERIFY EXISTING.
4. PROVIDE (2)3/4" RIGID GALVANIZED CONDUITS PENETRATED THROUGH ROOF FOR RECEPTACLE WIRING AND SUPPORT PER NEC 314. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATIONS.
5. PROVIDE (2)3/4" RIGID GALVANIZED CONDUITS PENETRATED THROUGH ROOF FOR RECEPTACLE WIRING AND SUPPORT PER NEC 314. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATIONS.
6. PROVIDE JUNCTION BOX FOR CONNECTION OF AIR PURIFICATION SYSTEM. COORDINATE EXACT LOCATION AND MAKE FINAL CONNECTION.
7. ROUTE 2#12, 1#12G, .3/4"C. TO NEW 20A/1P CIRCUIT BREAKER IN PANEL LC1. FIELD VERIFY FOR SPACE AVAILABLE.



N 1 **ELECTRICAL POWER FLOOR PLAN - CMS - SECTION C**
Scale: 1/8" = 1'-0"

Revision /	Date	
1	02-16-24	City Comments 1
6	04-29-25	Addendum 3

Project:
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3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
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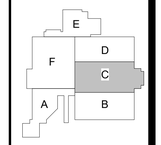
PROFESSIONAL ENGINEER
04-29-2025



KEY PLAN - 1ST FLOOR
N.T.S

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ELECTRICAL POWER FLOOR PLAN - SECTION C

PACKAGE	VOLUME
Job No. 1821-13-01	Sheet No. E3.13
Drawn By: Author	
Date: 04.01.2025	

Salas O'Brien
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX. 77064
Salas O'Brien Registration: F-4111
Salas O'Brien Project Number: 2022-05088-00

4/28/2025 5:52:31 PM
Autodesk Docs://HUMBLE ISD - CREEKWOOD & RIVERWOOD MS ADD RENOV/1821-13-01_02 CREEKWOOD & RIVERWOOD MS ADD & RENO_MEP7.rvt

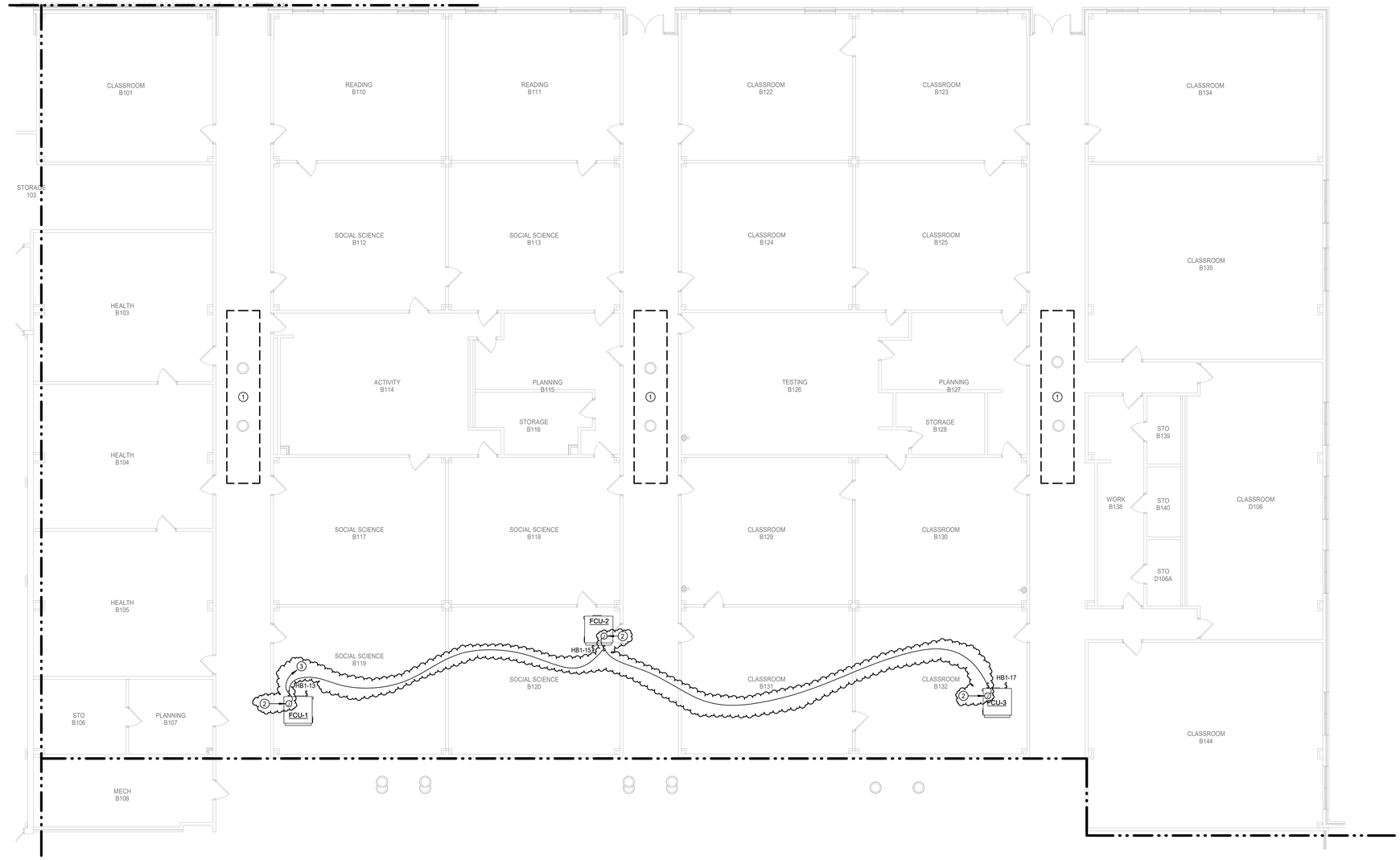
ALL 15 AND 20 AMPERES, 125 AND 250-VOLT NONLOCKING-TYPE RECEPTACLES IN THE AREAS SPECIFIED IN 406.12(1) THROUGH (7) SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.

ELECTRICAL GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, SHALL REMAIN.
2. REFER TO TECHNOLOGY (T-SERIES) DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DIVISION 26 SCOPE OF WORK.
3. UNLESS NOTED OTHERWISE, REINSTALL ALL EXISTING LIGHT FIXTURES AND ALL CEILING MOUNTED ELECTRICAL IN NEW CEILINGS WHERE APPLICABLE. DEVICES INCLUDE BUT ARE NOT LIMITED TO: LIGHTS, EXIT SIGNS, OCCUPANCY SENSORS, ETC. REFER TO ARCHITECTURAL PLANS FOR AREAS THAT THE CEILING IS BEING REPLACED.

ELECTRICAL KEYED NOTES:

1. CONTRACTOR SHALL INTERCEPT ALL EXISTING BRANCH CIRCUITS AND/OR FEEDERS IN THIS AREA AND RE-ROUTE AROUND NEW SKYLIGHT. CONTRACTOR TO EXTEND CONDUIT/WIRE AND RECONNECT TO EXISTING CIRCUITRY. TYPICAL FOR (3)3/4" CONDUITS. CONTRACTOR SHALL FIELD VERIFY EXISTING.
2. PROVIDE JUNCTION BOX FOR CONNECTION OF AIR PURIFICATION SYSTEM. COORDINATE EXACT LOCATION AND MAKE FINAL CONNECTION.
3. ROUTE 2#12, 1#12G., 3/4"C. TO NEW 20A/1P CIRCUIT BREAKER IN PANEL LB1 FIELD VERIFY FOR SPACE AVAILABLE.

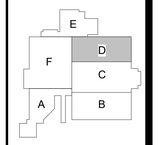


N 1 **ELECTRICAL POWER FLOOR PLAN - CMS - SECTION D**
Scale: 1/8" = 1'-0"

Revision /	Date	
1	02-16-24	City Comments 1
6	04-29-25	Addendum 3

Project:
CREEKWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
FOR
HUMBLE ISD
KINGWOOD, TX

BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
04-29-2025



KEY PLAN - 1ST FLOOR
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ELECTRICAL POWER FLOOR PLAN - SECTION D

PACKAGE	VOLUME
Job No. 1821-13-01	Sheet No. E3.14
Drawn By: DES	
Date: 04.01.2025	

Salas O'Brien
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX. 77064
Salas O'Brien Registration: F-4111
Salas O'Brien Project Number: 2022-05088-00

4/28/2025 5:52:32 PM
Autodesk Docs://HUMBLE ISD - CREEKWOOD & RIVERWOOD MS ADD RENOV/1821-13-01_02 CREEKWOOD & RIVERWOOD MS ADD & RENO_MEP7.rvt

Branch Panel: LA

Location: Space 131 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: 45 kVA, 277 V/480 V,... **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 225A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	Existing Circuit	--	20	1	0.2 / 0.2			1	20	--	Existing Circuit	2	
	3	Existing Circuit	--	20	1		0.2 / 0.5		1	20	#12	Chiller Heater(30mA EGFI)	4	1,G
	5	Existing Circuit	--	20	1			0.2 / 0.5	1	20	#12	Chiller Controls / Valves	6	1
--	7	Space	--	--	1	0.0 / 0.2			1	20	--	Existing Circuit	8	
--	9	Space	--	--	1		0.0 / 0.2		1	20	--	Existing Circuit	10	
	11	Existing Circuit	--	30	1			0.2 / 0.2	1	20	--	Existing Circuit	12	
	13	Existing Circuit	--	20	1	0.2 / 1.0			2	20	#12	Boiler (B-1)	14	1
	15	Existing Circuit	--	20	1		0.2 / 1.0						16	
	17	Existing Circuit	--	20	1			0.2 / 1.0	2	20	#12	Boiler (B-2)	18	1
	19	Existing Circuit	--	20	1	0.2 / 1.0							20	
	21	Existing Circuit	--	20	1		0.2 / 0.0		1	--	--	Space	22	--
	23	Existing Circuit	--	20	1			0.2 / 0.0	1	--	--	Space	24	--
--	25	Space	--	--	1	0.0 / 0.2			1	20	--	Existing Circuit	26	
	27	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	28	
	29	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	30	
	31	Existing Circuit	--	20	1	0.2 / 0.2			1	20	--	Existing Circuit	32	
	33	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	34	
	35	Existing Circuit	--	20	1			0.2 / 0.0	1	--	--	Space	36	--
	37	Existing Circuit	--	20	1	0.2 / 0.0			1	--	--	Space	38	--
	39	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	40	
	41	Existing Circuit	--	20	1			0.2 / 0.0	1	--	--	Space	42	--
--	43	Space	--	--	1	0.0 / 0.2			1	20	--	Existing Circuit	44	
--	45	Space	--	--	1		0.0 / 0.2		1	20	--	Existing Circuit	46	
	47	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	48	
	49	Existing Circuit	--	20	1	0.2 / 0.1			3	30	--	Existing Circuit	50	
--	51	Space	--	--	1		0.0 / 0.1						52	
--	53	Space	--	--	1			0.0 / 0.1					54	
	55	Existing Circuit	--	20	1	0.2 / 0.0			1	--	--	Space	56	--
	57	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	58	
--	59	Space	--	--	1			0.0 / 0.2	1	20	--	Existing Circuit	60	
	61	Existing Circuit	--	20	2	0.1 / 0.1			2	20	--	Existing Circuit	62	
	63						0.1 / 0.1						64	
	65	Existing Circuit	--	20	2			0.1 / 0.1	2	20	--	Existing Circuit	66	
	67					0.1 / 0.1							68	
	69	Existing Circuit	--	20	2		0.1 / 0.1		2	20	--	Existing Circuit	70	
	71							0.1 / 0.1					72	
	73	Existing Circuit	--	20	1	0.2 / 0.1			2	20	--	Existing Circuit	74	
	75	Existing Circuit	--	20	1		0.2 / 0.1						76	
	77	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	78	
	79	Existing Circuit	--	20	1	0.2 / 0.2			1	20	--	Existing Circuit	80	
	81	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	82	
	83	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	84	
	85	Existing Circuit	--	20	1	0.2 / 0.2			1	20	--	Existing Circuit	86	
	87	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	88	
	89	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	90	
	91	Existing Circuit	--	20	1	0.2 / 0.2			1	20	--	Existing Circuit	92	
	93	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	94	
	95	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	96	
--	97	Space	--	--	1	0.0 / 0.2			1	20	--	Existing Circuit	98	
	99	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	100	
	101	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	102	
	103	Existing Circuit	--	20	1	0.2 / 0.2			1	20	--	Existing Circuit	104	
	105	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	106	
	107	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	108	
	109	Existing Circuit	--	20	1	0.2 / 0.2			1	20	--	Existing Circuit	110	
	111	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	112	
	113	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	114	
	115	Existing Circuit	--	20	1	0.2 / 0.2			1	20	--	Existing Circuit	116	
	117	Existing Circuit	--	20	1		0.2 / 0.2		1	20	--	Existing Circuit	118	
	119	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	120	
	121	Existing Circuit	--	20	1	0.2 / 0.2			1	20	--	Existing Circuit	122	
	123	Existing Circuit	--	20	1		0.2 / 0.1		2	20	--	Existing Circuit	124	
	125	Existing Circuit	--	20	1			0.2 / 0.1					126	
	127	Existing Circuit	--	20	1	0.2 / 0.1			2	20	--	Existing Circuit	128	
	129	Existing Circuit	--	20	1		0.2 / 0.1						130	
	131	Existing Circuit	--	20	1			0.2 / 0.2	1	20	--	Existing Circuit	132	
		Total Load:				8.5 kVA	8.3 kVA	8.3 kVA						
		Total Amps:				71 A	69 A	69 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
Miscellaneous	5.2 kVA	100.00%	5.2 kVA		
Existing Circuit	20.0 kVA	100.00%	20.0 kVA	**Total Conn. Load:**	25.2 kVA
				Total Est. Demand:	25.2 kVA
				Total Conn. Current:	70 A
				Total Est. Demand...	70 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: HF

Location: MECHANICAL... **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: M **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 200A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	XFMR TLF	1-L	70	3	13.2 / 3.4			3	20	#12	AHU-1	2	
	3						11.4 / 3.4						4	
	5							17.3 / 3.4					6	
	7	AHU-2	#12	20	3	1.7 / 1.7			3	20	#12	OAU-1	8	
	9						1.7 / 1.7						10	
	11							1.7 / 1.7					12	
	13	Lighting	#12	20	1	2.9 / 0.0			1	--	--	Space	14	--
	15	Lighting	#12	20	1		2.6 / 0.0		1	--	--	Space	16	--
	17	Lighting	#12	20	1			2.3 / 0.0	1	--	--	Space	18	--
	19	Exterior Lighting	#8	20	1	1.2 / 0.0			1	--	--	Space	20	--
--	21	Spare	--	20	1		0.0 / 0.0		1	--	--	Space	22	--
--	23	Spare	--	20	1			0.0 / 0.0	1	--	--	Space	24	--
--	25	Spare	--	20	1	0.0 / 0.0			1	--	--	Space	26	--
--	27	Spare	--	20	1		0.0 / 0.0		1	--	--	Space	28	--
--	29	Space	--	--	1			0.0 / 0.0	1	--	--	Space	30	--
--	31	Space	--	--	1	0.0 / 0.0			1	--	--	Space	32	--
--	33	Space	--	--	1		0.0 / 0.0		1	--	--	Space	34	--
--	35	Space	--	--	1			0.0 / 0.0	1	--	--	Space	36	--
--	37	Space	--	--	1	0.0 / 0.0			3	30	--	SPDL	38	--
--	39	Space	--	--	1		0.0 / 0.0						40	
--	41	Space	--	--	1			0.0 / 0.0					42	
		Total Load:				23.6 kVA	20.2 kVA	25.7 kVA						
		Total Amps:				87 A	73 A	95 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	23.6 kVA	100.00%	23.6 kVA		
Lighting	9.0 kVA	125.00%	11.3 kVA	**Total Conn. Load:**	69.4 kVA
Miscellaneous	29.3 kVA	100.00%	29.3 kVA	**Total Est. Demand:**	71.7 kVA
Receptacles	9.4 kVA	100.00%	9.4 kVA	**Total Conn. Current:**	84 A
				Total Est. Demand...	86 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: HB1

EXISTING

Location: Space 35 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: DP3 **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	Existing Circuit	--	20	1	3.0 / 3.0			1	20	--	Existing Circuit	2	
	3	Existing Circuit	--	20	1		3.0 / 3.0		1	20	--	Existing Circuit	4	
	5	Existing Circuit	--	20	1			3.0 / 3.0	1	20	--	Existing Circuit	6	
	7	Existing Circuit	--	20	1	3.0 / 3.0			1	20	--	Existing Circuit	8	
	9	Existing Circuit	--	20	1		3.0 / 3.0		1	20	--	Existing Circuit	10	
	11	Existing Circuit	--	20	1			3.0 / 3.0	1	20	--	Existing Circuit	12	
1	13	FCU-1	#12	20	1	1.9 / 0.0			3	50	--	XFMR TB1	14	
1	15	FCU-2	#12	20	1		1.9 / 0.0						16	
1	17	FCU-3	#12	20	1			1.9 / 0.0					18	
--	19	Space	--	--	1	0.0 / 0.0			3	80	--	EXISTING CIRCUIT	20	--
--	21	Space	--	--	1		0.0 / 0.0						22	
--	23	Space	--	--	1			0.0 / 0.0					24	
--	25	Space	--	--	1	0.0 / 0.0			1	--	--	Space	26	--
--	27	Space	--	--	1		0.0 / 0.0		1	--	--	Space	28	--
--	29	Space	--	--	1			0.0 / 0.0	1	--	--	Space	30	--
--	31	Space	--	--	1	0.0 / 0.0			1	--	--	Space	32	--
--	33	Space	--	--	1		0.0 / 0.0		1	--	--	Space	34	--
--	35	Space	--	--	1			0.0 / 0.0	1	--	--	Space	36	--
--	37	Space	--	--	1	0.0 / 0.0			1	--	--	Space	38	--
--	39	Space	--	--	1		0.0 / 0.0		1	--	--	Space	40	--
--	41	Space	--	--	1			0.0 / 0.0	1	--	--	Space	42	--
		Total Load:				13.6 kVA	13.6 kVA	13.6 kVA						
		Total Amps:				49 A	49 A	49 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	5.6 kVA	100.00%	5.6 kVA		
Existing Circuit	36.0 kVA	100.00%	36.0 kVA	**Total Conn. Load:**	40.8 kVA
				Total Est. Demand:	40.8 kVA
				Total Conn. Current:	49 A
				Total Est. Demand...	49 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: ELHA

EXISTING

Location: Space 35 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: ATS-LS **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	Existing Circuit	--	20	1	3.0 / 0.9			1	20	#8	Emergency Lighting	2	
	3	Existing Circuit	--	20	1		3.0 / 3.0		1	20	#8	Emergency Lighting	4	
	5	Existing Circuit	--	20	1			3.0 / 3.2	1	20	#8	Emergency Lighting	6	
	7	XFMR TEL	EX	45	3	4.4 / 2.2			1	20	#8	Emergency Lighting	8	1
	9						2.4 / 2.1		1	20	#8	Emergency Lighting	10	1
	11							4.3 / 1.7	1	20	#8	Emergency Lighting	12	1
1	13	Emergency Lighting	#8	20	1	3.3 / 3.3			1	20	#8	Emergency Lighting	14	1
--	15	Space	--	--	1		0.0 / 3.0		1	20	#8	Emergency Lighting	16	1
--	17	Space	--	--	1			0.0 / 1.3	1	20	#8	Emergency Lighting	18	1
--	19	Space	--	--	1	0.0 / 0.0			3	30	--	(E)SPD	20	--
--	21	Space	--	--	1		0.0 / 0.0						22	
--	23	Space	--	--	1			0.0 / 0.0					24	
		Total Load:				17.0 kVA	13.3 kVA	13.4 kVA						
		Total Amps:				61 A	48 A	48 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	5.1 kVA	100.00%	5.1 kVA		
Lighting	23.9 kVA	125.00%	29.9 kVA	**Total Conn. Load:**	43.6 kVA
Miscellaneous	1.0 kVA	100.00%	1.0 kVA	**Total Est. Demand:**	49.6 kVA
Receptacles	1.4 kVA	100.00%	1.4 kVA	**Total Conn. Current:**	52 A
Existing Circuit	12.9 kVA	100.00%	12.9 kVA	**Total Est. Demand...**	60 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: HC1

EXISTING

Location: Space 20 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: DP3 **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	Existing Circuit	--	20	1	3.0 / 3.0			1	20	--	Existing Circuit	2	
	3	Existing Circuit	--	20	1		3.0 / 3.0		1	20	--	Existing Circuit	4	
	5	Existing Circuit	--	20	1			3.0 / 3.0	1	20	--	Existing Circuit	6	
	7	Existing Circuit	--	20	1	3.0 / 3.0			1	20	--	Existing Circuit	8	
	9	Existing Circuit	--	20	1		3.0 / 3.0		1	20	--	Existing Circuit	10	
--	11	Space	--	--	1			0.0 / 1.5	2	30		Existing Circuit	12	
	13	EX. XFMR TC1	EX.	50	3	3.3 / 1.5							14	
	15						3.5 / 0.0		1	--	--	Space	16	--
	17							2.9 / 0.0	1	--	--	Space	18	--
1	19	FCU-5	#12	20	1	1.9 / 1.0			3	80	--	Existing Circuit	20	
1	21	FCU-7	#12	20	1		1.9 / 1.0						22	
1	23	FCU-8	#8	20	1			1.9 / 1.0					24	
1	25	FCU-6	#12	20	1	1.9 / 0.0			1	--	--	Space	26	--
--	27	Space	--	--	1		0.0 / 0.0		1	--	--	Space	28	--
--	29	Space	--	--	1			0.0 / 0.0	1	--	--	Space	30	--
--	31	Space	--	--	1	0.0 / 0.0			1	--	--	Space	32	--
--	33	Space	--	--	1		0.0 / 0.0		1	--	--	Space	34	--
--	35	Space	--	--	1			0.0 / 0.0	1	--	--	Space	36	--
--	37	Space	--	--	1	0.0 / 0.0			1	--	--	Space	38	--
--	39	Space	--	--	1		0.0 / 0.0		1	--	--	Space	40	--
--	41	Space	--	--	1			0.0 / 0.0	1	--	--	Space	42	--
		Total Load:				21.1 kVA	18.1 kVA	13.0 kVA						
		Total Amps:				79 A	68 A	47 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	7.4 kVA	100.00%	7.4 kVA		
Existing Circuit	45.6 kVA	100.00%	45.6 kVA	**Total Conn. Load:**	52.1 kVA
				Total Est. Demand:	52.1 kVA
				Total Conn. Current:	63 A
				Total Est. Demand...	63 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: LF

Location: MECHANICAL... **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: TLF **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 150A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	Receptacles MECHANICAL...	#12	20	1	0.5 / 0.7			1	20	#12	Receptacles STORAGE x130	2	
	3	Receptacles CORRIDOR x157	#12	20	1		0.5 / 2.5		1	30	#10	Electric Hand Dryer	4	LF
LF	5	Electric Hand Dryer	#10	30	1			2.5 / 2.5	1	30	#10	Electric Hand Dryer	6	LF
LF	7	Electric Hand Dryer	#10	30	1	2.5 / 0.7			1	20	#12	Receptacles DANCE E104	8	
	9	Receptacles Room E101	#12	20	1		0.7 / 0.5		1	20	#12	Receptacles MECH/ACCESS...	10	
	11	Gym Scoreboard	#12	20	1			2.0 / 0.4	1	20	#12	Receptacles GYM E101	12	
	13	Receptacles Room x135, x136, -	#12	20	1	0.7 / 0.7			1	20	#12	Receptacles DANCE E104	14	
	15	Receptacles	#8	20	1		0.5 / 0.5		1	20	#12	Motorized Basketball Goal	16	
	17	Motorized Basketball Goal	#12	20	1			0.5 / 0.5	1	20	#12	Motorized Basketball Goal	18	
	19	Motorized Basketball Goal	#12	20	1	0.5 / 0.5			1	20	#12	Motorized Basketball Goal	20	
	21	Motorized Basketball Goal	#12	20	1		0.5 / 0.4		1	20	#12	Drinking Fountain	22	
	23	Receptacles DANCE X.13	#12	20	1			0.9 / 1.3	3	20	#12	Motorized Gym Bleacher	24	
	25	Receptacles GYM E101		20	1	0.5 / 1.3							26	
	27	Miscellaneous CUST. E106	#12	20	1		0.5 / 1.3						28	
	29	EWH-1	#12	20	2			1.5 / 1.5	1	20	#12	Miscellaneous MECHANICAL...	30	
	31					1.5 / 0.4			1	20	#12	Receptacles IDF E107	32	
	33	Motorized Gym Bleacher	#12	20	3		1.3 / 0.5		1	20	#12	Receptacles DANCE E104	34	
	35							1.3 / 0.5	1	20	#12	Receptacles DANCE E104	36	
	37					1.3 / 0.0			3	30	--	SPDL	38	--
	39	Receptacles GYM E101	#12	20	1		0.5 / 0.0						40	
	41	EF-2	#12	20	1			0.3 / 0.0					42	
	43	Motorized Partition	#12	20	1	0.5 / 0.0			1	20	--	Spare	44	--
	45	Motorized Hoist	#12	20	1		0.5 / 0.0		1	20	--	Spare	46	--
	47	Motorized Shades	#12	20	1			1.1 / 0.0	1	20	--	Spare	48	--
	49	Motorized Shades	#12	20	1	0.8 / 0.0			1	20	--	Spare	50	--
	51	Motorized Shades	#12	20	1		0.5 / 0.0		1	20	--	Spare	52	--
	53	Motorized Door	#12	20	1			0.5 / 0.0	1	20	--	Spare	54	--
--	55	Spare	--	20	1	0.0 / 0.0			1	20	--	Spare	56	--
--	57	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	58	--
--	59	Spare	--	20	1			0.0 / 0.0	1	20	--	Spare	60	--
--	61	Spare	--	20	1	0.0 / 0.0			1	20	--	Spare	62	--
--	63	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	64	--
--	65	Spare	--	20	1			0.0 / 0.0	1	20	--	Spare	66	--
--	67	Spare	--	20	1	0.0 / 0.0			1	20	--	Spare	68	--
--	69	Space	--	--	1		0.0 / 0.0		1	--	--	Space	70	--
--	71	Space	--	--	1			0.0 / 0.0	1	--	--	Space	72	--
--	73	Space	--	--	1	0.0 / 0.0			1	--	--	Space	74	--
--	75	Space	--	--	1		0.0 / 0.0		1	--	--	Space	76	--
--	77	Space	--	--	1			0.0 / 0.0	1	--	--	Space	78	--
--	79	Space	--	--	1	0.0 / 0.0			1	--	--	Space	80	--
--	81	Space	--	--	1		0.0 / 0.0		1	--	--	Space	82	--
--	83	Space	--	--	1			0.0 / 0.0	1	--	--	Space	84	--
		Total Load:				13.2 kVA	11.4 kVA	17.3 kVA						
		Total Amps:				112 A	95 A	146 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	3.3 kVA	100.00%	3.3 kVA		
Miscellaneous	29.3 kVA	100.00%	29.3 kVA	**Total Conn. Load:**	41.9 kVA
Receptacles	9.4 kVA	100.00%	9.4 kVA	**Total Est. Demand:**	41.9 kVA
				Total Conn. Current:	116 A
				Total Est. Demand...	116 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: LE

NEW

Location: MECH A133 **Volts:** 120/208 Wye **A.I.C. Rating:** 10,000
Supply From: TLE **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 100A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	Receptacles Room X.04, x4, X.0...	#12	20	1	0.7 / 0.7			1	20	#12	Receptacles BAND HALL X.02	2	
	3	Receptacles OFFICE X.30	#12	20	1		0.9 / 0.9		1	20	#12	Receptacles Room X.32, X.23,...	4	
	5	Receptacles BAND HALL X.02	#12	20	1			1.4 / 0.5	1	20	#12	Receptacles Room x143, X.27	6	
	7	Receptacles	#12	20	1	0.4 / 1.1			1	20	#12	Receptacles COMPUTER LAB...	8	
	9	Receptacles COMPUTER LAB...	#12	20	1		0.7 / 0.7		1	20	#12	Receptacles COMPUTER LAB...	10	
	11	Receptacles COMPUTER LAB...	#12	20	1			0.7 / 0.4	1	20	#12	Receptacles COMPUTER LAB...	12	
	13	Receptacles COMPUTER LAB...	#12	20	1	0.4 / 0.4			1	20	#12	Receptacles COMPUTER LAB...	14	
	15	Receptacles COMPUTER LAB...	#12	20	1		1.1 / 0.4		1	20	#12	Receptacles COMPUTER LAB...	16	
	17	AV Rack RM. A135	#12	20	1			0.2 / 0.4	1	20	#12	Receptacles COMPUTER LAB...	18	
	19	Receptacles COMPUTER LAB...	#12	20	1	0.4 / 0.0			1	20	--	Spare	20	--
	21	Motorized Shades	#12	20	1		0.1 / 0.0		1	20	--	Spare	22	--
	23	Air Purification	#12	20	1			0.9 / 0.0	1	20	--	Spare	24	--
--	25	Spare	--	20	1	0.0 / 0.0			1	20	--	Spare	26	--
--	27	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	28	--
--	29	Spare	--	20	1			0.0 / 0.0	1	20	--	Spare	30	--
--	31	Spare	--	20	1	0.0 / 0.0			1	20	--	Spare	32	--
--	33	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	34	--
--	35	Spare	--	20	1			0.0 / 0.0	1	20	--	Spare	36	--
--	37	Spare	--	20	1	0.0 / 0.0			3	30	--	SPDL	38	--
--	39	Spare	--	20	1		0.0 / 0.0						40	
--	41	Spare	--	20	1			0.0 / 0.0					42	
		Total Load:				4.0 kVA	4.8 kVA	4.5 kVA						
		Total Amps:				33 A	40 A	38 A						

6

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	0.4 kVA	100.00%	0.4 kVA		
Miscellaneous	0.8 kVA	100.00%	0.8 kVA	**Total Conn. Load:**	13.2 kVA
Receptacles	12.1 kVA	91.46%	11.0 kVA	**Total Est. Demand:**	12.2 kVA
				Total Conn. Current:	37 A
				Total Est. Demand...	34 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: HE

NEW

Location: MECH A133 **Volts:** 277/480 Wye **A.I.C. Rating:** 18,000
Supply From: M **Phases:** 3 **Enclosure:** Type 1
Mounting: Surface **Wires:** 4 **Mains:** 250A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	XFMR TLE	1-L	50	3	4.0 / 1.7			3	20	#12	AHU-3	2	
	3						4.8 / 1.7						4	
	5							4.5 / 1.7					6	
	7	SF-3	#12	20	3	0.1 / 1.5			1	20	#12	Lighting	8	
	9						0.1 / 1.3		1	20	#12	Lighting	10	
	11							0.1 / 0.8	1	20	#12	Exterior Lighting	12	
1	13	FCU-9	#12	20	1	1.9 / 0.0			1	20	--	Spare	14	--
1	15	OAFCU-1	#12	20	1		0.9 / 0.0		1	20	--	Spare	16	--
--	17	Space	--	--	1			0.0 / 0.0	1	20	--	Spare	18	--
--	19	Space	--	--	1	0.0 / 0.0			1	--	--	Space	20	--
--	21	Space	--	--	1		0.0 / 0.0		1	--	--	Space	22	--
--	23	Space	--	--	1			0.0 / 0.0	1	--	--	Space	24	--
--	25	Space	--	--	1	0.0 / 0.0			1	--	--	Space	26	--
--	27	Space	--	--	1		0.0 / 0.0		1	--	--	Space	28	--
--	29	Space	--	--	1			0.0 / 0.0	1	--	--	Space	30	--
--	31	Space	--	--	1	0.0 / 0.0			1	--	--	Space	32	--
--	33	Space	--	--	1		0.0 / 0.0		1	--	--	Space	34	--
--	35	Space	--	--	1			0.0 / 0.0	1	--	--	Space	36	--
--	37	Space	--	--	1	0.0 / 0.0			3	30	--	SPDL	38	--
--	39	Space	--	--	1		0.0 / 0.0						40	
--	41	Space	--	--	1			0.0 / 0.0					42	
		Total Load:				8.9 kVA	8.5 kVA	6.9 kVA						
		Total Amps:				33 A	32 A	25 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	8.6 kVA	100.00%	8.6 kVA		
Lighting	3.6 kVA	125.00%	4.5 kVA	**Total Conn. Load:**	24.3 kVA
Miscellaneous	0.8 kVA	100.00%	0.8 kVA	**Total Est. Demand:**	24.2 kVA
Receptacles	12.1 kVA	91.46%	11.0 kVA	**Total Conn. Current:**	29 A
				Total Est. Demand...	29 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
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Revision /	Date	
1	02-16-24	City Comments 1
6	04-29-25	Addendum 3

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Salas O'Brien Registration: F-4111
Salas O'Brien Project Number: 2022-05088-00

Job No. 1821-13-01
Drawn By: DES
Date: 04.01.2025
Sheet No. E6.11

Branch Panel: EL

EXISTING

Location: Space 335 | **Supply From:** TEL | **Mounting:** Surface | **Volts:** 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **A.I.C. Rating:** 10,000 | **Enclosure:** Type 1 | **Mains:** 80A MCB

Phase in kVA

Note	CK T	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CK T	Note
	1	Existing Circuit	--	20	1	0.3 / 0.3			1	20	--	Existing Circuit	2	
	3	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	4	
	5	Existing Circuit	--	20	1			0.3 / 0.3	1	20	--	Existing Circuit	6	
	7	Existing Circuit	--	20	1	0.3 / 0.3			1	20	--	Existing Circuit	8	
	9	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	10	
	11	DMS-1 / DMSCU-1	#8	30	2	2.5 / 0.5			1	20	#8	Fire Alarm Booster Panel	14	1,LO
	13							2.5 / 0.3	1	30	--	Existing Circuit	12	
	15	Existing Circuit	--	20	1		0.3 / 0.5		1	20	#8	Fire Alarm Booster Panel	16	1,LO
	17	Existing Circuit	--	20	1			0.3 / 0.4	1	20	#8	IDF Receptacle	18	1
--	19	Space	--	--	1	0.0 / 0.4			1	20	#8	IDF Receptacle	20	1
--	21	Space	--	--	1		0.0 / 0.4		1	20	#8	IDF Receptacle	22	1
--	23	Space	--	--	1			0.0 / 0.4	1	20	#8	IDF Receptacle	24	1
			Total Load:			4.4 kVA	2.4 kVA	4.3 kVA						
			Total Amps:			39 A	20 A	38 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
HVAC	5.1 kVA	100.00%	5.1 kVA	
Miscellaneous	1.0 kVA	100.00%	1.0 kVA	**Total Conn. Load:** 11.0 kVA
Receptacles	1.4 kVA	100.00%	1.4 kVA	**Total Est. Demand:** 11.0 kVA
Existing Circuit	3.9 kVA	100.00%	3.9 kVA	**Total Conn. Current:** 30 A
				Total Est. Demand... 30 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER.

Abbreviations:
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Branch Panel: EQLA

EXISTING

Location: Space 131 | **Supply From:** TEQLA | **Mounting:** Surface | **Volts:** 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **A.I.C. Rating:** 10,000 | **Enclosure:** Type 1 | **Mains:** 100A MCB

Phase in kVA

Note	CK T	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CK T	Note
	1					2.9 / 0.8							2	
	3	Existing Circuit	#8	35	3		2.9 / 0.8		3	20	#12	Existing Circuit	4	
	5							2.9 / 0.8					6	
	7	Existing Circuit	#12	20	1	1.0 / 0.5			1	20	#12	Existing Circuit	8	
	9	Existing Circuit	#12	20	2		1.1 / 1.1		2	20	#12	Existing Circuit	10	
	11							1.1 / 1.1					12	
	13	Existing Circuit	#12	20	1	0.5 / 0.0			1	--	--	Space	14	--
	15	Existing Circuit	#12	20	1		0.5 / 0.0		1	--	--	Space	16	--
	17	Existing Circuit	#10	20	1			0.5 / 0.0	1	--	--	Space	18	--
1,LO	19	BMCS	#8	20	1	0.5 / 0.0			1	--	--	Space	20	--
1,LO	21	BMCS	#8	20	1		0.5 / 0.0		1	--	--	Space	22	--
--	23	Spare	--	20	1			0.0 / 0.0	1	--	--	Space	24	--
--	25	Spare	--	20	1	0.0 / 0.1			1	20			26	
--	27	Spare	--	20	1		0.0 / 0.1		3	30	--	SPDL	28	
--	29	Spare	--	20	1			0.0 / 0.1					30	
			Total Load:			6.3 kVA	7.0 kVA	6.5 kVA						
			Total Amps:			53 A	59 A	54 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
Miscellaneous	1.0 kVA	100.00%	1.0 kVA	
Existing Circuit	18.8 kVA	100.00%	18.8 kVA	**Total Conn. Load:** 19.8 kVA
				Total Est. Demand: 19.8 kVA
				Total Conn. Current: 55 A
				Total Est. Demand... 55 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER.

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
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LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: SL1

EXISTING

Location: ELEC / AIR COMP... | **Supply From:** TD2 | **Mounting:** Surface | **Volts:** 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **A.I.C. Rating:** 10,000 | **Enclosure:** Type 1 | **Mains:** 50A

Phase in kVA

Note	CK T	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CK T	Note
	1	Existing Circuit	--	20	1	0.3 / 0.3			1	20	--	Existing Circuit	2	
	3	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	4	
	5	Existing Circuit	--	20	1			0.3 / 0.3	1	20	--	Existing Circuit	6	
	7	Existing Circuit	--	20	1	0.3 / 0.3			1	20	--	Existing Circuit	8	
	9	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	10	
	11	Existing Circuit	--	20	1			0.3 / 0.3	1	20	--	Existing Circuit	12	
	13	Existing Circuit	--	20	1	0.3 / 0.3			1	20	--	Existing Circuit	14	
	15	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	16	
	17	Existing Circuit	--	20	1			0.3 / 0.3	1	20	--	Existing Circuit	18	
	19	Existing Circuit	--	20	1	0.3 / 0.3			1	20	--	Existing Circuit	20	
	21	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	22	
	23	Existing Circuit	--	20	1			0.3 / 0.0	1	--	--	Space	24	--
1	25	Receptacles SHOP A107	#12	20	1	0.4 / 0.0			1	--	--	Space	26	--
1	27	Receptacles SHOP A107	#12	20	1		0.4 / 0.0		1	--	--	Space	28	--
--	29	Space	--	--	1			0.0 / 0.0	1	--	--	Space	30	--
--	31	Space	--	--	1	0.0 / 0.0			1	--	--	Space	32	--
--	33	Space	--	--	1		0.0 / 0.0		1	--	--	Space	34	--
--	35	Space	--	--	1			0.0 / 0.0	1	--	--	Space	36	--
--	37	Space	--	--	1	0.0 / 0.0			1	--	--	Space	38	--
--	39	Space	--	--	1		0.0 / 0.0		1	--	--	Space	40	--
--	41	Space	--	--	1			0.0 / 0.0	1	--	--	Space	42	--
--	43	Space	--	--	1	0.0 / 0.0			1	--	--	Space	44	--
--	45	Space	--	--	1		0.0 / 0.0		1	--	--	Space	46	--
--	47	- - - SHUNT TRIP - - -	--	20	1			0.0 / 0.0	1	--	--	Space	48	--
	49					0.0 / 0.0			1	--	--	Space	50	--
--	51	MAIN	--	50	3		0.0 / 0.0		1	--	--	Space	52	--
	53							0.0 / 0.0	1	--	--	Space	54	--
			Total Load:			2.8 kVA	2.8 kVA	2.1 kVA						
			Total Amps:			24 A	24 A	18 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
Receptacles	0.7 kVA	100.00%	0.7 kVA	
Existing Circuit	6.9 kVA	100.00%	6.9 kVA	**Total Conn. Load:** 7.6 kVA
				Total Est. Demand: 7.6 kVA
				Total Conn. Current: 21 A
				Total Est. Demand... 21 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER.

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: LC1

Location: Space 20 | **Supply From:** 75 kVA, 277 V/480 V,... | **Mounting:** Surface | **Volts:** 120/208 Wye | **Phases:** 3 | **Wires:** 4 | **A.I.C. Rating:** 10,000 | **Enclosure:** Type 1 | **Mains:** 100A MCB

Phase in kVA

Note	CK T	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CK T	Note
	1	Existing Circuit	--	20	1	0.3 / 0.2			2	20	--	Existing Circuit	2	
	3	Existing Circuit	--	20	1		0.3 / 0.2						4	
	5	Existing Circuit	--	20	1			0.3 / 0.2	2	20	--	Existing Circuit	6	
	7	Existing Circuit	--	20	1	0.3 / 0.2							8	
	9	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	10	
	11	Existing Circuit	--	20	1			0.3 / 0.3	1	20	--	Existing Circuit	12	
	13	Existing Circuit	--	20	1	0.3 / 0.3			1	20	--	Existing Circuit	14	
	15	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	16	
	17	Existing Circuit	--	20	1			0.3 / 0.3	1	20	--	Existing Circuit	18	
	19	Existing Circuit	--	20	1	0.3 / 0.3			1	20	--	Existing Circuit	20	
	21	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	22	
	23	Existing Circuit	--	20	1			0.3 / 0.3	1	20	--	Existing Circuit	24	
	25	Existing Circuit	--	20	1	0.3 / 0.0			1	--	--	Space	26	--
	27	Existing Circuit	--	20	1		0.3 / 0.0		1	--	--	Space	28	--
--	29	Space	--	--	1			0.0 / 0.0	1	--	--	Space	30	--
	31	Existing Circuit	--	20	1	0.3 / 0.3			1	20	--	Existing Circuit	32	
	33	Existing Circuit	--	20	1		0.3 / 0.3		1	20	--	Existing Circuit	34	
	35	Existing Circuit	--	20	1			0.3 / 0.3	1	20	--	Existing Circuit	36	
--	37	Space	--	--	1	0.0 / 0.3			1	20	--	Existing Circuit	38	
	39	Existing Circuit	--	20	1		0.3 / 0.0		1	--	--	Space	40	--
--	41	Space	--	--	1			0.0 / 0.0	1	--	--	Space	42	--
--	43	Space	--	--	1	0.0 / 0.0							44	
--	45	Space	--	--	1		0.0 / 0.0		3	100	--	MAIN	46	--
--	47	Space	--	--	1			0.0 / 0.0					48	
			Total Load:			3.3 kVA	3.5 kVA	2.9 kVA						
			Total Amps:			28 A	29 A	24 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
Existing Circuit	9.6 kVA	100.00%	9.6 kVA	
				Total Conn. Load: 9.6 kVA
				Total Est. Demand: 9.6 kVA
				Total Conn. Current: 27 A
				Total Est. Demand... 27 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER.

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: LC2

EXISTING

Location: Space 280 | **Supply From:** TC2 | **Mounting:** Surface | **Volts:** 120/240 Single | **Phases:** 1 | **Wires:** 3 | **A.I.C. Rating:** 10,000 | **Enclosure:** Type 1 | **Mains:** 400A MCB

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	Breaker	Wire	Circuit Description	CKT	Note
1,ST	1	Burner Range (E910)	#12	20	1	0.2 / 1.5	1	20	#12	Ice Machine (E909)	2	
--	3	- - - SHUNT TRIP - - -	--	20	1	0.0 / 1.0	1	20	#12	Refrigerator (E904)	4	LF
1,ST	5	Burner Range (E910)	#12	20	1	0.3 / 0.5	1	20	#12	Receptacles Room x41, x158, x42	6	
--	7	- - - SHUNT TRIP - - -	--	20	1	0.0 / 0.5	1	20	#12	Fire Protection System (E925)	8	
1,ST	9	Burner Range (E910)	#12	20	1	0.3 / 1.2	1	20	#12	Hood Lights (E909)	10	
--	11	- - - SHUNT TRIP - - -	--	20	1	0.0 / 1.0	1	20	#12	Convenience Receptacle (E900B)	12	
1	13	Convenience Receptacle (E900B)	#12	20	1	1.0 / 1.5					14	
1	15	Hood Lights (E909)	#12	20	1	1.2 / 1.5	2	30	#10	Dryer	16	
1	17	Heat Sensor (E909M)	#12	20	1	1.2 / 1.2	1	20	#12	Hood Lights (E909)	18	
1	19	Receptacles CULINARY x158	#12	20	1	1.0 / 1.0	1	20	#12	Convenience Receptacle (E900F)	20	
	21	Heat Sensor (E909M)	#12	20	1	1.2 / 1.0	1	20	#12	Receptacles CULINARY x158	22	
	23	Convenience Receptacle (E900B)	#12	20	1	1.0 / 1.2	1	20	#12	Heat Sensor (E909M)	24	
G	25	Convenience Receptacles	#12	20	1	2.3 / 1.5	1	20	#12	Clothes Washer (E906)	26	
	27	Convenience Receptacle (E900C)	#12	20	1	1.0 / 1.0	1	20	#12	Refrigerator (E904)	28	LF
1,G	29	Convenience Receptacle (E900A)	#12	20	1	1.5 / 1.0	1	20	#12	Convenience Receptacle (E900B)	30	
1,LF	31	Freezer (E903)	#12	20	1	1.8 / 1.7	1	20	#12	Freezer (E903)	32	LF
1,G	33	Convenience Receptacle (E900A)	#12	20	1	1.5 / 5.5					34	
1	35	Load Center (E920)	#3	100	2	7.0 / 8.2	2	100	1-L	LC3	36	1
	37					7.0 / 0.0	1	20	--	Spare	38	--
--	39	Spare	--	20	1	0.0 / 0.0	1	20	--	Spare	40	--
--	41	Spare	--	20	1	0.0 / 0.0	1	20	--	Spare	42	--
			Total Load:			31.3 kVA	29.8 kVA					
			Total Amps:			261 A	249 A					

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
HVAC	6.7 kVA	100.00%	6.7 kVA	
Kitchen Equipment	22.1 kVA	65.00%	14.4 kVA	**Total Conn. Load:** 61.2 kVA
Miscellaneous	28.3 kVA	100.00%	28.3 kVA	**Total Est. Demand:** 53.4 kVA
Power	0.4 kVA	100.00%	0.4 kVA	**Total Conn. Current:** 255 A
Receptacles	4.5 kVA	100.00%	4.5 kVA	**Total Est. Demand...** 223 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER.

**Remove un-used breakers and replace with 20A/1P spare.

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: LC3

Location: STORAGE B114 | **Supply From:** LC2 | **Mounting:** Surface | **Volts:** 120/240 Single | **Phases:** 1 | **Wires:** 3 | **A.I.C. Rating:** 10,000 | **Enclosure:** Type 1 | **Mains:** 125A MLO

Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker	A	B	Breaker	Wire	Circuit Description	CKT	Note
	1	Receptacles	#12	20	1	0.4 / 1.1	1	20	#12	KEF-1	2	
	3	KEF-3	#10	30	1	1.8 / 1.8	1	30	#10	KEF-2	4	
	5	KEF-4	#10	30	1	1.8 / 0.2	1	20	#12	Receptacles	6	
	7	Convenience Receptacle (E900B)	#12	20	1	1.0 / 1.0	1	20	#12	Convenience Receptacle (E900D)	8	ST
	9	Convenience Receptacle (E900B)	#12	20	1	1.0 / 0.0	1	20	--	- - - SHUNT TRIP - - -	10	--
ST	11	Convenience Receptacle (E900D)	#12	20	1	1.0 / 0.2	1	20	#12	Convenience Receptacle (E900D)	12	ST
--	13	- - - SHUNT TRIP - - -	--	20	1	0.0 / 0.0	1	20	--	- - - SHUNT TRIP - - -	14	--
	15	Convenience Receptacle (E900B)	#12	20	1	1.0 / 0.1	1	20	#12	EF-1	16	
	17	Convenience Receptacle (E900B)	#12	20	1	1.0 / 0.2	1	20	#12	Receptacles	18	
Δ1	19	Air Purification	#12	20	1						20	
	21	Spare	--	--	1	0.0 / 0.0	1	--	--	Space	22	--
--	23	Space	--	--	1	0.0 / 0.0	1	--	--	Space	24	--
--	25	Space	--	--	1	0.0 / 0.0	1	--	--	Space	26	--
--	27	Space	--	--	1	0.0 / 0.0	1	--	--	Space	28	--
--	29	Space	--	--	1	0.0 / 0.0	1	--	--	Space	30	--
--	31	Space	--	--	1	0.0 / 0.0	1	--	--	Space	32	--
--	33	Space	--	--	1	0.0 / 0.0	1	--	--	Space	34	--
--	35	Space	--	--	1	0.0 / 0.0	1	--	--	Space	36	--
--	37	Space	--	--	1	0.0 / 0.0	1	--	--	Space	38	--
--	39	Space	--	--	1	0.0 / 0.0	2	30	--	SPDL	40	
--	41	Space	--	--	1	0.0 / 0.0					42	--
			Total Load:			5.5 kVA	8.2 kVA					
			Total Amps:			46 A	68 A					

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
HVAC	6.7 kVA	100.00%	6.7 kVA	
Kitchen Equipment	6.0 kVA	65.00%	3.9 kVA	**Total Conn. Load:** 13.6 kVA
Miscellaneous	0.5 kVA	100.00%	0.5 kVA	**Total Est. Demand:** 11.6 kVA
Receptacles	0.9 kVA	100.00%	0.9 kVA	**Total Conn. Current:** 57 A
				Total Est. Demand... 48 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER.

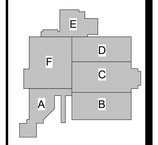
**Remove un-used breakers and replace with 20A/1P spare.

Abbreviations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Revision / 6 — Date 04-29-25 — Addendum 3

Project:
CREEKWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
3603 W LAKE HOUSTON PKWY, KINGWOOD, TX 77339
FOR
HUMBLE ISD
KINGWOOD, TX

BRADLEY KALMANS 80219 LICENSED ENGINEER — 04-29-2025



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ELECTRICAL PANEL SCHEDULES

PACKAGE | VOLUME

Job No. 1821-13-01 | Sheet No. E6.12

Drawn By: DES | Date: 04.01.2025

Salas O'Brien
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064
Salas O'Brien Registration: F-4111
Salas O'Brien Project Number: 2022-05088-00

4/28/2025 5:52:33 PM
Autodesk Docs://HUMBLE ISD - CREEKWOOD & RIVERWOOD MS ADD RENOVATE21-13-01_00 CREEKWOOD & RIVERWOOD MS ADD & RENO_MEP7.rvt

PACKAGED AIR COOLED CHILLER

MARK	ACTUAL CAPACITY (TONS)	LEAVING WATER TEMP.(°F)	GPM	PRESSURE DROP (FT.)	AMBIENT AIR TEMP. (°F)	CURRENT CHARAC. V	P	F	MANUFACTURER	MODEL	MOCP	MCA	REMARKS
CH-3	220	42	528	20.0	95 °F	480	3	60	CARRIER	30RC	600	500	1,2,3,4,5

GENERAL NOTES:
1. MAXIMUM FOULING FACTOR FOR THE EVAPORATOR IS 0.0001
2. MAINTAIN MINIMUM CLEARANCES REQUIRED BY CHILLER MANUFACTURER FOR PROPER AIRFLOW TO FANS AND UNIT. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON EQUIPMENT FOR SERVICE, MAINTENANCE AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCES AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH LOW AMBIENT HEAD PRESSURE CONTROL.
2. PROVIDE WITH INTEGRAL MAIN ELECTRICAL DISCONNECT SWITCH.
3. PROVIDE WITH INSULATION ON ALL SUCTION LINES.
4. PROVIDE HIGH EFFICIENCY CHILLER. (MIN. OF 9.5 EER)
5. PROVIDE WITH POLYMER CONDENSER FANS AND COMPRESSOR BLANKETS.

PUMP

MARK	SERVICE	TYPE	GPM	HEAD (FT.)	MOTOR HORSE POWER	MAX. RPM	CURRENT CHARAC. V	P	F	MANUFACTURER	MODEL NUMBER	REMARKS
PCHWP-3	CHILLED WATER	HORIZONTAL END SUCTION	528	50.00	10	1800	480	3	60	ARMSTRONG	4030	1,2,3,4

GENERAL NOTES:
1. PUMP IS TO HAVE A NON-OVERLOADING MOTOR.
2. MINIMUM RECOMMENDED CLEARANCE AROUND A PUMP IS 24 INCHES. MAINTAIN MINIMUM CLEARANCES AS REQUIRED FOR SERVICE, MAINTENANCE, AND INSPECTION.

REMARKS:
1. PROVIDE WITH GAUGE TAPPING
2. PROVIDE WITH SUCTION DIFFUSER AT PUMP INLET.
3. PROVIDE PUMP WITH BACK PULL OUT.
4. PROVIDE WITH VARIABLE FREQUENCY DRIVE.

VARIABLE VOLUME TERMINAL BOX

MARK	MAXIMUM CFM	MINIMUM CFM	INLET DIAMETER SIZE (IN.)	HOT WATER COIL GPM	HOT WATER COIL CONNECTING PIPE SIZE	REMARKS
VAV-13-11	900	230	10	2.1	3/4"	-
VAV-13-12	900	230	10	2.1	3/4"	-
VAV-14-11	900	230	10	2.1	3/4"	-
VAV-16-9	900	230	10	2.1	3/4"	-
VAV-17-11	900	230	10	2.1	3/4"	-
VAV-17-12	900	230	10	2.1	3/4"	-
VAV-18-8	400	110	8	0.9	3/4"	-
VAV-18-10	640	180	8	1.5	3/4"	-
VAV-K1	1,350	360	12			-
VAV-K2	1,890	480	14			-
VAV-K3	1,890	480	14			-
VAV-K4	1,890	480	14			-
VAV-O1-1	910	360	10			1
VAV-O1-2	2,460	630	16			1

GENERAL NOTES:
1. MAXIMUM STATIC PRESSURE DROP OF AIR THROUGH THE TERMINAL BOX SHALL BE 0.2" ESP.
2. MAXIMUM VELOCITY THROUGH DUCT INLET SHALL BE 2,000 FPM.
3. MAXIMUM STATIC PRESSURE DROP THROUGH HEATER COIL SHALL BE 0.25" ESP.
4. MAXIMUM STATIC PRESSURE DROP OF WATER THROUGH HEATER COIL SHALL BE 10' W.G.
5. BTUH REQUIRED FOR HOT WATER HEATING IS HEATING GPM MULTIPLIED BY 10,000.
6. SUSPEND UNIT WITH FOUR THREADED HANGER RODS ATTACHED TO TWO UNISTRUT RUNNERS SECURED TO STRUCTURE. REFER TO MANUFACTURER FOR MORE DETAILS.
7. UNITS TO BE MOUNTED BETWEEN BEAMS AND 18" MAXIMUM ABOVE CEILING. AVOID MOUNTING OVER LIGHTS WHEREVER POSSIBLE.
8. REFER TO PIPING AT HOT WATER COIL DETAILS. PROVIDE WITH 2-WAY CONTROL VALVE UNLESS OTHERWISE SCHEDULED.

REMARKS:
1. PROVIDE WITH DCV.

ROOF MOUNTED AIR HANDLING UNIT

MARK	FAN SUPPLY AIR CFM	FAN OUTSIDE AIR CFM	FAN EXT. STATIC PRESSURE (IN. W.C)	FAN HORSE POWER	FAN CURRENT CHARAC. V	PH	F	COOLING AIR TEMPERATURE (°F) ENTERING DRY BULB	ENTERING WET BULB	LEAVING DRY BULB	LEAVING WET BULB	COOLING WATER ENTERING TEMP (°F)	GPM	PRESSURE DROP (FT.)	HEATING ENTERING AIR TEMPERATURE (°F)	MIN. HEATING CAPACITY	HEATING WATER ENTERING TEMP. (°F)	GPM	PRESSURE DROP (FT.)	PIPE SIZE TO COIL (IN.) CHILLED WATER	HOT WATER	REMARKS
RMAHU-1	4,220	1,060	1.50	5.0	480	3	60	80.6	67.4	54.6	53.8	45	23.7	15.0	67.7	124,422	180.0	6.3	10.0	2"	1"	1,3,4,6,7,8,10,11,12,13,17
RMUA-1	7,020	7,020	1.50	7.5	480	3	60	98.0	80.0	75.0	62.5	45	64.9	15.0	27.0	212,285	180.0	10.7	10.0	3"	1 1/4"	2,3,5,6,7,8,9,11,12,13, 16,17

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. VELOCITY NOT TO EXCEED 500 FPM ON COOLING COIL.
2. VELOCITY NOT TO EXCEED 450 FPM ON COOLING COIL.
3. PROVIDE HORIZONTAL UNIT.
4. PROVIDE CONSTANT VOLUME UNIT.
5. RMUA-1 SHALL BE INTERLOCKED WITH HOOD FIRE SUPPRESSION SUCH THAT RMAU-1 IS DEACTIVATED UPON DETECTION OF FIRE BELOW HOOD.
6. PROVIDE UNIT WITH AIR PURIFICATION SYSTEM. REFER TO SPECIFICATIONS.
7. PROVIDE TWO-WAY COOLING CONTROL VALVES.
8. PROVIDE THREE-WAY HEATING CONTROL VALVES.
9. PROVIDE HOT WATER COIL IN PRE-HEAT POSITION.
10. PROVIDE HOT WATER COIL IN RE-HEAT POSITION.
11. PROVIDE UNIT WITH BOTTOM DISCHARGE.
12. PROVIDE UNIT WITH PENTHOUSE SECTION TO ENCLOSE PIPING AND CONTROL VALVES.
13. PROVIDE UNIT WITH ANGLED FILTER SECTION.
14. PROVIDE SINGLE ZONE VAV UNIT.
15. PROVIDE TWO-WAY HEATING CONTROL VALVES.
16. PROVIDE WITH SINGLE ZONE VARIABLE VOLUME UNIT.
17. PROVIDE UNIT WITH VARIABLE FREQUENCY DRIVE.

AIR HANDLING UNIT

MARK	FAN SUPPLY AIR CFM	FAN OUTSIDE AIR CFM	FAN EXT. STATIC PRESSURE (IN. W.C)	FAN HORSE POWER	FAN CURRENT CHARAC. V	PH	F	COOLING AIR TEMPERATURE (°F) ENTERING DRY BULB	ENTERING WET BULB	LEAVING DRY BULB	LEAVING WET BULB	COOLING WATER ENTERING TEMP (°F)	GPM	PRESSURE DROP (FT.)	HEATING ENTERING AIR TEMPERATURE (°F)	MIN. HEATING CAPACITY	HEATING WATER ENTERING TEMP. (°F)	GPM	PRESSURE DROP (FT.)	PIPE SIZE TO COIL (IN.) CHILLED WATER	HOT WATER	REMARKS
AHU-1	9,555	2,460	1.50	10.0	480	3	60	75.0	62.5	53.8	53.0	45	34.9	15.0	66.1	298,231	180.0	15.1	10.0	2"	1 1/2"	1,3,4,5,7,10,12,13,16,17
AHU-2	4,600	910	1.50	5.0	480	3	60	75.0	62.5	53.8	53.0	45	16.8	15.0	66.0	144,072	180.0	7.3	10.0	1 1/2"	1 1/4"	1,3,4,5,7,10,12,13,16,17
AHU-3	4,780	1,400	1.50	5.0	480	3	60	75.0	62.5	53.8	53.0	45	17.5	15.0	65.6	151,775	180.0	7.7	10.0	1 1/2"	1 1/4"	1,3,4,5,7,10,12,13,16,17
AHU-3A	1,400	1,400						98.0	80.0	53.5	53.0	45	18.0	15.0	27.0	65,016	180.0	3.3	10.0	1 1/2"	3/4"	2,3,4,7,10,13,14,15,16, 17
OAU-1	3,370	3,370	2.00	5.0	480	3	60	98.0	80.0	53.5	53.0	45	43.4	15.0	27.0	163,782	180.0	8.3	10.0	2 1/2"	1 1/4"	2,3,4,5,7,10,11,13,16,17

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. VELOCITY NOT TO EXCEED 500 FPM ON COOLING COIL.
2. VELOCITY NOT TO EXCEED 450 FPM ON COOLING COIL.
3. PROVIDE HORIZONTAL UNIT.
4. PROVIDE CONSTANT VOLUME UNIT WITH VARIABLE FREQUENCY DRIVE.
5. PROVIDE FRONT DISCHARGE.
6. PROVIDE TOP DISCHARGE.
7. PROVIDE TWO-WAY COOLING CONTROL VALVES.
8. PROVIDE THREE-WAY COOLING CONTROL VALVES.
9. PROVIDE TWO-WAY HEATING CONTROL VALVES.
10. PROVIDE THREE-WAY HEATING CONTROL VALVES.
11. PROVIDE HOT WATER COIL IN PRE-HEAT POSITION.
12. PROVIDE HOT WATER COIL IN REHEAT POSITION.
13. PROVIDE UNIT WITH ANGLED FILTER SECITON.
14. UNIT INDICATED SHALL BE STACKED OAU FURNISHED WITH ASSOCIATED AHU (LISTED ABOVE). UNIT INCLUDES ANGLED FILTER MIXING BOX, PREHEAT COIL, ACCESS SPACE, COOLING COIL AND DISCHARGE PLENUM. UNIT DOES NOT HAVE FAN SECTION. SPLIT DEHUMIDIFICATION UNIT SHALL DELIVER OUTSIDE AIR TO MIXING BOX SECTION OF MAIN AIR HANDLER UNIT UPSTREAM OF COIL.
15. SPLIT DEHUMIDIFICATION UNIT TO BE MOUNTED ON TOP OF ASSSOCIATED AHU.
16. PROVIDE UNIT WITH VARIABLE FREQUENCY DRIVE.
17. PROVIDE UNIT WITH AIR PURIFICATION SYSTEM. REFER TO SPECIFICATIONS.

FAN

MARK	LOCATION NAME	LOCATION NUMBER	CFM	EXT. STATIC PRESSURE (IN. W.C.)	MAX. FAN RPM	HORSE POWER	CURRENT CHARAC. V	P	F	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	DRIVE TYPE	MANUFACTURER	MODEL NUMBER	REMARKS
KEF-1	DRY STG	B107	1,500	1.00	1,254	1	120	1	60	-	HOOD-1	ROOF MOUNTED	DIRECT	COOK	VCR	1,2,3,4,7
KEF-2	DRY STG	B107	2,100	1.00	1,201	1	120	1	60	-	HOOD-2	ROOF MOUNTED	DIRECT	COOK	VCR	1,2,3,4,7
KEF-3	DRY STG	B107	2,100	1.00	1,201	1	120	1	60	-	HOOD-3	ROOF MOUNTED	DIRECT	COOK	VCR	1,2,3,4,7
KEF-4	DRY STG	B107	2,100	1.00	1,201	1	120	1	60	-	HOOD-4	ROOF MOUNTED	DIRECT	COOK	VCR	1,2,3,4,7
EF-1	CLASSROOM	B112	125	0.50	1,550	0.13	120	1	60	-	AHU-16	ROOF MOUNTED	BELT	COOK	ACED	1,2,4
EF-2	MECHANICAL PLATFORM	G100	725	0.75	2,160	0.3	120	1	60	-	AHU-2	INLINE	BELT	COOK	SQND	1,2,4,6
SF-1	MECH	A133	1,400	0.50	1,103	0.34	480	3	60	-	AHU-3	INLINE	BELT	COOK	SQND	1,2,4,5,6

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH ROOF CURB AND BIRD SCREEN.
3. PROVIDE WITH EC CONTROL MOTOR
4. PROVIDE WITH MOTORIZED DAMPER.
5. PROVIDE WITH VARIABLE FREQUENCY DRIVE.
6. SUSPEND FAN FROM STRUCTURE WITH FOUR THREADED RODS AND UNISTRUT.
7. PROVIDE WITH CLEANOUT PORT, VENTED CURB EXTENSION TO MEET NFPA 96, DRAIN CONNECTION, GREASE TRAP AND HINGE KIT.

DUCTLESS MINI-SPLIT - OUTDOOR UNIT

MARK	MIN. TOTAL CAPACITY (BTUH)	OUTDOOR AIR TEMP (°F)	MINIMUM EER/ SEER	CURRENT CHARAC. V	PH	F	RELATED UNIT MARK	REMARKS
DMSCU-1	17,100	95	-/15.2	208	1	60	DMS-1	1,2,3

GENERAL NOTES:
1. MINIMUM RECOMMENDED CLEARANCE AROUND ROOFTOP UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE FOR CONDENSER AIR FLOW AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. PROVIDE WITH LOW AMBIENT CONTROL DOWN TO 20 DEG F.
2. PROVIDE WITH DISCONNECT SWITCH.
3. REFRIGERANT LINES TO BE SIZED TO MANUFACTURER'S REQUIREMENTS.

GRILLE

MARK	SERVICE	TYPE	DAMPER	CONSTRUCTION MATERIAL	FINISH COLOR	MANUFACTURER	MODEL NUMBER	DESCRIPTION
A	SUPPLY AIR	DIFFUSER	-	STEEL	-	TITUS	OMNI	EXPOSED T-BAR CEILING FRAME STYLE WITH OR 12"X12" FACE.
B	RETURN AIR	GRILLE	-	STEEL	-	TITUS	PAR	EXPOSED T-BAR CEILING FRAME STYLE WITH 24"X24" OR 12"X12" FACE. (1,2).
C	SUPPLY AIR	GRILLE	-	STEEL	-	TITUS	300RL	DOUBLE DEFLECTION SIDEWALL GRILLE WITH HORIZONTAL FRONT BARS. SURFACE MOUNTE
D	RETURN AIR	GRILLE	-	STEEL	-	TITUS	350RL	DOUBLE DEFLECTION SIDEWALL GRILLE WITH HORIZONTAL FRONT BARS. SURFACE MOUNTED (1)
E	EXHAUST AIR	GRILLE	-	STEEL	-	TITUS	PAR	SURFACE MOUNT CEILING FRAME STYLE WITH 18"X18" OR 12"X12" FACE. PERFERATED FACE.
F	SUPPLY AIR	DIFFUSER	-	STEEL	-	TITUS	PAS	EXPOSED T-BAR CEILING FRAME STYLE WITH 24"X24" FACE. (1)
G	EXHAUST AIR	GRILLE	-	STEEL	-	TITUS	350RL	DOUBLE DEFLECTION SIDEWALL GRILLE WITH HORIZONTAL FRONT BARS. SURFACE MOUNTED (1)

GENERAL NOTES:
1. DAMPERS NOTED AS U.L. SHALLBE A 'U.L.' CLASSIFIED CEILING RADIATION DAMPER WITH THERMAL BLANKET.
2. COORDINATE FINAL AIR DEVICE LOCATION AND FINISH COLOR WITH ARCHITECT.

REMARKS:
1. COORDINATE FINAL AIR DEVICE LOCATION AND FIINISH COLOR WITH ARCHITECT.
2. PROVIDE WITH RETURN AIR BOOT WHEN USED FOR PLENUM RETURN.

DUCTLESS MINI-SPLIT - INDOOR UNIT

MARK	FAN SUPPLY AIR CFM	FAN OUTSIDE AIR CFM	FAN EXT-STATIC PRESSURE (IN. W.C.)	FAN HORSE POWER	FAN CURRENT CHARAC. V	PH	F	COOLING AIR TEMPERATURE (°F) ENTERING DRY BULB	ENTERING WET BULB	MIN. TOTAL CAPACITY (BTUH)	MIN. SENS. CAPACITY (BTUH)	MINIMUM EER/ SEER	NUMBER OF STAGES	REMARKS
DMS-1	370	0	0.10	40.0	208	1	60	75.0	62.5	17,100	13,680	-/15.2	1	1,2,3,4,5

GENERAL NOTES:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
2. MAINTAIN MINIMUM CLEARANCE FOR COIL PULL AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
1. UNIT TO BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. CONTROLLED BY PROGRAMMABLE WIRED THERMOSTAT.
3. REFRIGERANT LINES TO BE SIZED PER MANUFACTURER'S REQUIREMENTS.
4. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT.
5. PROVIDE INTEGRAL MINI SPLIT CONDENSATE PUMP KIT ASP-MA-UNI MINI AQUA BY ASPEN PUMPS OR EQUAL. CONDENSATE PUMP SHALL BE INSTALLED INSIDE HIG WALL UNIT. REFER TO MANUFACTURER INSTALLATION INSTRUCTIONS.

DUCT ATTENUATORS

MARK	CFM	DUCT DIMENSIONS WIDTH	DUCT DIMENSIONS HEIGHT	SERVE	DUCT VELOCITY (FPM)	LENGTH	MANUFACTURUER	MODEL	REMARKS
SA-1	4,785	40	18	AHU-3	957	36"	IAC ACOUSTICS1	LFL	1

GENERAL NOTES:

1. MAXIMUM STATIC PRESSURE DROP OF AIR THROUGH THE SILENCERS SHALL NOT EXCEED 0.35" W.G. ESP
2. PROVIDE WITH GALVANIZED, LOCKFORMED CASING CONSTRUCTED TO SMACNA STANDARDS. AIRTIGHT CONSTRUCTION SHALL BE ACHIEVED BY USE OF A DUCT-SEALING COMPOUND SUPPLIED AND INSTALLED BY THE CONTRACTOR AT THE JOBSITE.
3. PROVIDE WITH 2" SLIP CONNECTION AT EACH END.
4. PROVIDE WITH GALVANIZED NOSE AT INLET.
5. PROVIDE WITH GALVANIZED GAP PLATES BETWEEN SPLITTERS TO ENSURE CLOSE DIMENSIONAL TOLERANCES AT AIR PASSAGES.
6. PROVIDE WITH PERFORATED GALVANIZED SPLITTERS COMPLETE WITH PERFORATED DIFFUSER TAIL SECTIONS.
7. SPLITTERS FILLED WITH ACOUSTIC GRADE GLASS FIBER UNDER MINIMUM 15% COMPRESSION.
8. SILENCERS SHALL BE LOCATED AS CLOSE TO NOISE GENERATING EQUIPMENT AS POSSIBLE WITH 5 EQUIVALENT DUCT DIAMETERS OF STRAIGHT, UNOBSTRUCTED DUCTWORK ON INLET AND DISCHARGE SIDE OF SILENCER.
9. SILENCERS SHALL NOT FAIL STRUCTURALLY WHEN SUBJECTED TO A DIFFERENTIAL AIR PRESSURE OF 8" W.G.
10. SILENCER INLET AND OUTLET CONNECTION DIMENSIONS MUST BE EQUAL TO THE DUCT SIZES SHOWN ON THE DRAWINGS

REMARKS:

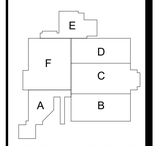
1. STRAIGHT DUCT SILENCER TYPE TO BE USED.

Revision /	Date
3	06-06-24
5	04-29-25

CITY COMMENTS 3
Addendum 3

Project:
RIVERWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
2910 HIGH VALLEY DR, HUMBLE, TX 77345
FOR
HUMBLE ISD
KINGWOOD, TX

BRADLEY KALMANS
80219
COLORADO
04-29-2025



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MECHANICAL SCHEDULES

PACKAGE VOLUME

Job No. 1821-13-02
Sheet No. M6.11
Drawn By: AA
Date: 04.01.2025

Salas O'Brien
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064
Salas O'Brien Registration: F-4111
Salas O'Brien Project Number: 2022-05088-00

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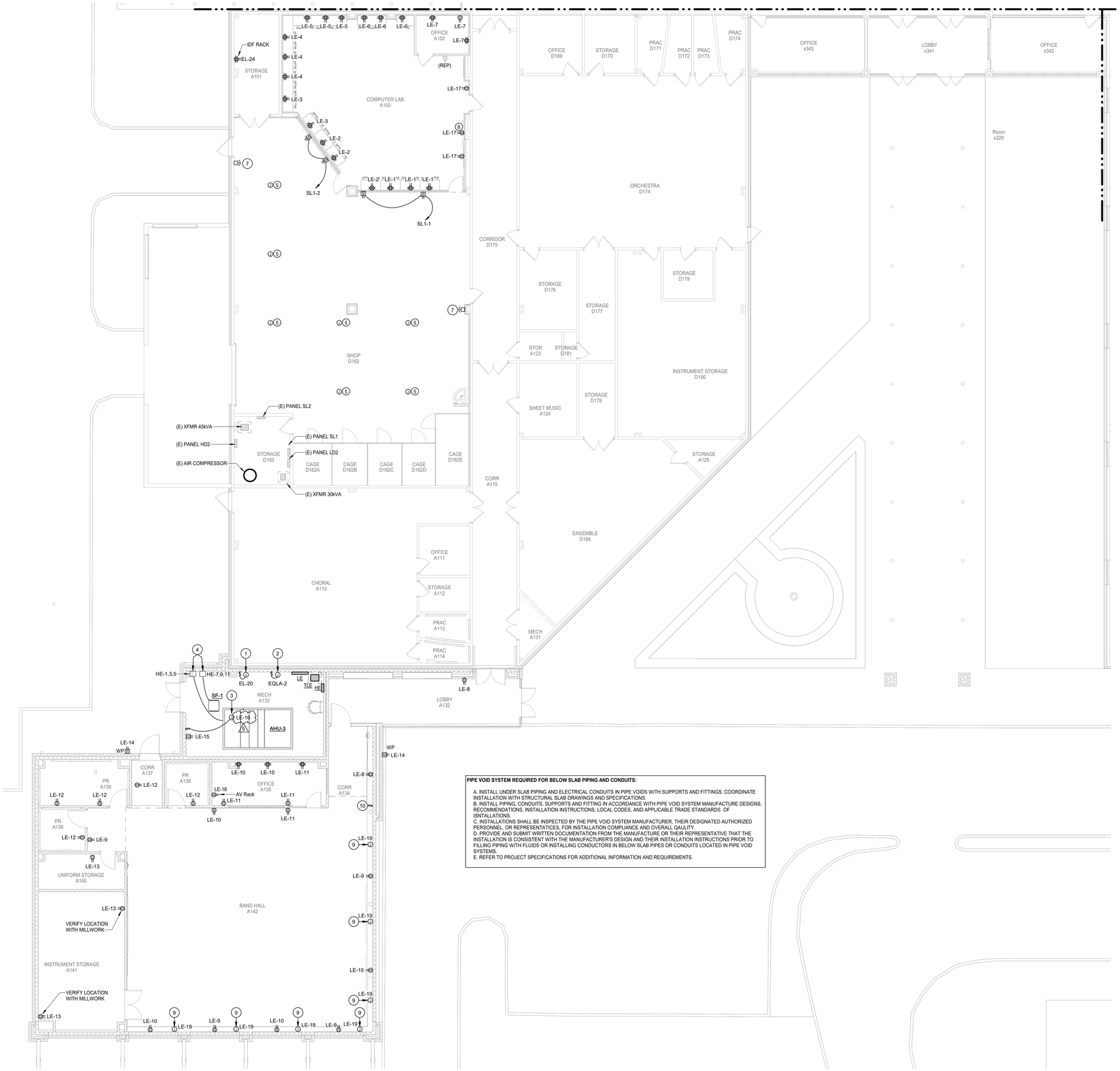

PIPE VOID SYSTEM REQUIRED FOR BELOW SLAB PIPING AND CONDUITS:

A. INSTALL UNDER SLAB PIPING AND ELECTRICAL CONDUITS IN PIPE VOIDS WITH SUPPORTS AND FITTINGS. COORDINATE INSTALLATION WITH STRUCTURAL SLAB DRAWINGS AND SPECIFICATIONS.
B. INSTALL PIPING, CONDUITS, SUPPORTS AND FITTING IN ACCORDANCE WITH PIPE VOID SYSTEM MANUFACTURE DESIGNS, RECOMMENDATIONS, INSTALLATION INSTRUCTIONS, LOCAL CODES, AND APPLICABLE TRADE STANDARDS OF ISNTALLATIONS.
C. INSTALLATIONS SHALL BE INSPECTED BY THE PIPE VOID SYSTEM MANUFACTURER, THEIR DESIGNATED AUTHORIZED PERSONNEL, OR REPRESENTATICES, FOR INSTALLATION COMPLIANCE AND OVERALL QAULITY.
D. PROVIDE AND SUBMIT WRITTEN DOCUMENTATION FROM THE MANUFACTURE OR THEIR REPRESENTATIVE THAT THE INSTALLATION IS CONSISTENT WITH THE MANUFACTURER'S DESIGN AND THEIR INSTALLATION INSTRUCTIONS PRIOR TO FILLING PIPING WITH FLUIDS OR INSTALLING CONDUCTORS IN BELOW SLAB PIPES OR CONDUITS LOCATED IN PIPE VOID SYSTEMS.
E. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

N

1 ELECTRICAL POWER FLOOR PLAN -RMS - SECTION A

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

ELECTRICAL GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, SHALL REMAIN.
2. REFER TO TECHNOLOGY (T-SERIES) DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DIVISION 26 SCOPE OF WORK.
3. UNLESS NOTED OTHERWISE, REINSTALL ALL EXISTING LIGHT FIXTURES AND ALL CEILING MOUNTED ELECTRICAL IN NEW CEILINGS WHERE APPLICABLE. DEVICES INCLUDE BUT ARE NOT LIMITED TO: LIGHTS, EXIT SIGNS, OCCUPANCY SENSORS, ETC. REFER TO ARCHITECTURAL PLANS FOR AREAS THAT THE CEILING IS BEING REPLACED.

ELECTRICAL KEYED NOTES:

1. PROVIDE JUNCTION BOX AT +54"AFF FOR CONNECTION OF FIRE ALARM BOOSTER PANEL. VERIFY FINAL LOCATION WITH FIRE ALARM SHOP DRAWINGS AND MAKE FINAL CONNECTION.
2. PROVIDE JUNCTION BOX AT +54"AFF FOR CONNECTION OF BMCS PANEL. VERIFY FINAL LOCATION WITH BMCS SHOP DRAWINGS AND MAKE FINAL CONNECTION.
3. PROVIDE JUNCTION BOX FOR CONNECTION OF AIR PURIFICATION SYSTEM. COORDINATE EXACT LOCATION AND MAKE FINAL CONNECTION.
4. VARIABLE FREQUENCY DRIVE MOTOR CONTROLLER (VFD), PROVIDED BY DIVISION 23, INSTALLED BY DIVISION 26.
5. PROVIDE 120V ELECTRIC CORD REEL MOUNTED TO BOTTOM OF STRUCTURE WITH GFCI DOUBLE DUPLEX RECEPTACLE. VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. CONNECT TO EXISTING CORD REEL CIRCUIT PRESERVED DURING DEMOLITION. EXTEND CONDUIT/WIRE AND MAKE FINAL CONNECTION.
6. CONNECT TO EXISTING PANEL SL1 WITH 2#12,1#12G.,3/4"C.
7. PROVIDE NEW EPO (EMERGENCY POWER OFF) FOR LOCAL PANEL SHUT OFF FOR SHOP EQUIPMENT. PROVIDE SWITCH WITH COVER AND KEY RESET. APPROVED MANUFACTURER: STI OR APPROVED EQUAL.
8. RECEPTACLE FOR WALL MOUNTED DISPLAY. VERIFY EXACT LOCATION WITH ARCHITECT/OWNER.
9. PROVIDE A JUNCTION BOX FOR CONNECTION OF MOTORIZED SHADES. COORDINATE LOCATION OF LOW VOLTAGE SHADE CONTROLS WITH ARCHITECT AND MAKE ALL FINAL CONNECTIONS.
10. MOTORIZED SHADE CONTROLLER PROVIDED WITH SHADES. VERIFY EXACT LOCATION WITH ARCHITECT.

ALL 15 AND 20 AMPERES, 125 AND 250-VOLT NONLOCKING-TYPE RECEPTACLES IN THE AREAS SPECIFIED IN 406.12(1) THROUGH (7) SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.

Revision /	Date	
1	02-28-24	CITY COMMENTS 1
5	04-29-25	Addendum 3

Project:
RIVERWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
2910 HIGH VALLEY DR, HUMBLE, TX 77345
FOR
HUMBLE ISD
KINGWOOD, TX

BRADLEY KALMANS
80219
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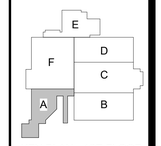
PROFESSIONAL ENGINEER
04-29-2025



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ELECTRICAL POWER FLOOR PLAN - SECTION A

PACKAGE	VOLUME
Job No. 1821-13-02	Sheet No. E3.11
Drawn By: DES	
Date: 04.01.2025	

Salas O'Brien
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064
Salas O'Brien Registration: F-4111
Salas O'Brien Project Number: 2022-05088-00

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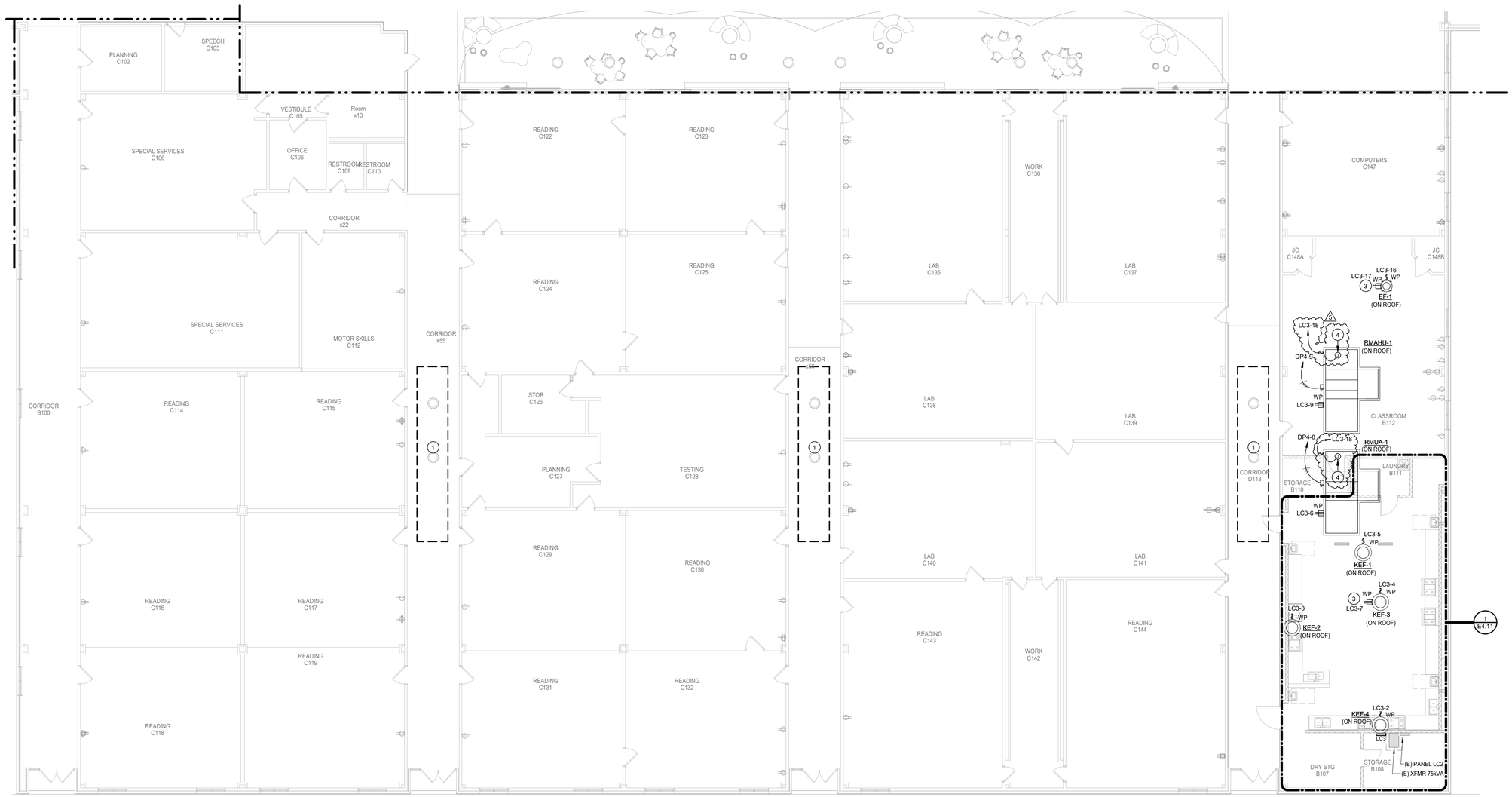
ELECTRICAL GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, SHALL REMAIN.
2. REFER TO TECHNOLOGY (T-SERIES) DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DIVISION 26 SCOPE OF WORK.
3. UNLESS NOTED OTHERWISE, REINSTALL ALL EXISTING LIGHT FIXTURES AND ALL CEILING MOUNTED ELECTRICAL IN NEW CEILINGS WHERE APPLICABLE. DEVICES INCLUDE BUT ARE NOT LIMITED TO: LIGHTS, EXIT SIGNS, OCCUPANCY SENSORS, ETC. REFER TO ARCHITECTURAL PLANS FOR AREAS THAT THE CEILING IS BEING REPLACED.

ELECTRICAL KEYED NOTES:

1. CONTRACTOR SHALL INTERCEPT ALL EXISTING BRANCH CIRCUITS AND/OR FEEDERS IN THIS AREA AND RE-ROUTE AROUND NEW SKYLIGHT. CONTRACTOR TO EXTEND CONDUIT/WIRE AND RECONNECT TO EXISTING CIRCUITRY. TYPICAL FOR (5)3/4" CONDUITS. CONTRACTOR SHALL FIELD VERIFY EXISTING.
2. CONTRACTOR SHALL INTERCEPT ALL EXISTING BRANCH CIRCUITS AND/OR FEEDERS IN THIS AREA AND RE-ROUTE AROUND NEW SKYLIGHT. CONTRACTOR TO EXTEND CONDUIT/WIRE AND RECONNECT TO EXISTING CIRCUITRY. TYPICAL FOR (5)3/4" CONDUITS AND (1)1-1/2" CONDUIT. CONTRACTOR SHALL FIELD VERIFY EXISTING.
3. PROVIDE (2)3/4" RIGID GALVANIZED CONDUITS PENETRATED THROUGH ROOF FOR RECEPTACLE WIRING AND SUPPORT PER NEC 314. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATIONS.
4. PROVIDE JUNCTION BOX FOR CONNECTION OF AIR PURIFICATION SYSTEM. COORDINATE EXACT LOCATION AND MAKE FINAL CONNECTION.

ALL 15 AND 20 AMPERES, 125 AND 250-VOLT NONLOCKING-TYPE RECEPTACLES IN THE AREAS SPECIFIED IN 406.12(1) THROUGH (7) SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.



N 1 **ELECTRICAL POWER FLOOR PLAN -RMS - SECTION B**
Scale: 1/8" = 1'-0"

Revision /	Date	
1	02-28-24	CITY COMMENTS 1
5	04-29-25	Addendum 3

Project:
RIVERWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
2910 HIGH VALLEY DR, HUMBLE, TX 77345
FOR
HUMBLE ISD
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ELECTRICAL POWER FLOOR PLAN - SECTION B

PACKAGE	VOLUME
Job No. 1821-13-02	Sheet No. E3.12
Drawn By: DES	
Date: 04.01.2025	

Salas O'Brien
Houston
10930 W. Sam Houston Pkwy North, Suite 900
Houston, TX 77064
Salas O'Brien Registration: F-4111
Salas O'Brien Project Number: 2022-05088-00

Branch Panel: LF

Location: MECHANICAL... Volts: 120/208 Wye A.I.C. Rating: 10,000
Supply From: TLF Phases: 3 Enclosure: Type 1
Mounting: Surface Wires: 4 Mains: 150A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	Receptacles	#12	20	1	0.7 / 0.5			1	20	#12	Receptacles	2	
LF	3	Electric Hand Dryer	#10	30	1		2.5 / 2.5		1	30	#10	Electric Hand Dryer	4	LF
LF	5	Electric Hand Dryer	#10	30	1			2.5 / 2.5	1	30	#10	Electric Hand Dryer	6	LF
	7	Receptacles	#12	20	1	0.5 / 0.4			1	20	#12	Receptacles GYM E101	8	
	9	Receptacles Room E101	#12	20	1		0.7 / 0.7		1	20	#12	Receptacles DANCE E104	10	
	11	Receptacles DANCE E104	#12	20	1			0.7 / 0.5	1	20	#12	Gym Scoreboard	12	
	13	Receptacles	#12	20	1	0.5 / 0.7			1	20	#12	Receptacles	14	
	15	Motorized Goal	#12	20	1		0.5 / 0.5		1	20	#12	Motorized Goal	16	
	17	Motorized Goal	#12	20	1			0.5 / 0.5	1	20	#12	Motorized Goal	18	
	19	Motorized Goal	#12	20	1	0.5 / 0.5			1	20	#12	Receptacles DANCE E104	20	
	21	Motorized Goal	#12	20	1		0.5 / 0.5		1	20	#12	Receptacles DANCE E104	22	
	23	Receptacles	#12	20	1			0.5 / 0.5	1	20	#12	CP-1	24	
	25	Motorized Gym Bleachers	#12	20	3	1.3 / 1.0			1	20	#12	Lighting MECHANICAL...	26	
	27						1.3 / 0.5		1	20	#12	Receptacles	28	
	29							1.3 / 3.0	2	40	#8	EWH-1	30	
	31	Receptacles	#12	20	1	0.5 / 3.0							32	
	33	Drinking Fountain	#12	20	1		0.4 / 0.9		1	20	#12	Receptacles Room E103, E102	34	
	35	Gym Scoreboard	#12	20	1			0.5 / 0.3	1	20	#12	EF-2	36	
	37	Motorized Gym Bleachers	#12	20	3	1.3 / 0.0			3	30	--	SPDL	38	--
	39						1.3 / 0.0						40	
	41							1.3 / 0.0					42	
	43	Motorized Partition	#12	20	1	1.0 / 0.0			1	20	--	Spare	44	--
	45	Motorized Shades	#12	20	1		1.1 / 0.0		1	20	--	Spare	46	--
	47	Receptacles	#12	20	1			0.4 / 0.0	1	20	--	Spare	48	--
	49	Motorized Shades	#12	20	1	0.5 / 0.0			1	20	--	Spare	50	--
	51	Motorized Hoist	#12	20	1		0.5 / 0.0		1	20	--	Spare	52	--
	53	Motorized Shades	#12	20	1			0.8 / 0.0	1	20	--	Spare	54	--
	55	Motorized Door	#12	20	1	0.5 / 0.0			1	20	--	Spare	56	--
--	57	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	58	--
--	59	Spare	--	20	1			0.0 / 0.0	1	20	--	Spare	60	--
--	61	Spare	--	20	1	0.0 / 0.0			1	20	--	Spare	62	--
--	63	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	64	--
--	65	Spare	--	20	1			0.0 / 0.0	1	20	--	Spare	66	--
--	67	Spare	--	20	1	0.0 / 0.0			1	20	--	Spare	68	--
--	69	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	70	--
--	71	Space	--	--	1			0.0 / 0.0	1	--	--	Space	72	--
--	73	Space	--	--	1	0.0 / 0.0			1	--	--	Space	74	--
--	75	Space	--	--	1		0.0 / 0.0		1	--	--	Space	76	--
--	77	Space	--	--	1			0.0 / 0.0	1	--	--	Space	78	--
--	79	Space	--	--	1	0.0 / 0.0			1	--	--	Space	80	--
--	81	Space	--	--	1		0.0 / 0.0		1	--	--	Space	82	--
--	83	Space	--	--	1			0.0 / 0.0	1	--	--	Space	84	--
		Total Load:				13.6 kVA	14.5 kVA	15.8 kVA						
		Total Amps:				113 A	122 A	133 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	6.3 kVA	100.00%	6.3 kVA		
Lighting	0.0 kVA	0.00%	0.0 kVA	Total Conn. Load:	43.9 kVA
Miscellaneous	28.3 kVA	100.00%	28.3 kVA	Total Est. Demand:	43.9 kVA
Receptacles	9.4 kVA	100.00%	9.4 kVA	Total Conn. Current:	122 A
				Total Est. Demand...	122 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: LC2

Location: STORAGE B108 Volts: 120/240 Single A.I.C. Rating: 10,000
Supply From: Phases: 1 Enclosure: Type 1
Mounting: Surface Wires: 3 Mains: 400A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	Breaker		Wire	Circuit Description	CKT	Note
1,ST	1	Burner Range (E910)	#12	20	1	0.4 / 0.2		1	20	#12	Convenience Recept. (E900B)	2	
--	3	- - - SHUNT TRIP - - -	--	20	1		0.0 / 1.0	1	20	#12	Convenience Recept. (E900C)	4	
1,ST	5	Burner Range (E910)	#12	20	1	0.5 / 1.0		1	20	#12	Convenience Recept. (E900B)	6	
--	7	- - - SHUNT TRIP - - -	--	20	1		0.0 / 0.2	1	20	#12	Convenience Recept. (E900B)	8	
1,ST	9	Burner Ranger (E910)	#12	20	1	0.5 / 0.2		1	20	#12	Convenience Recept. (E900B)	10	
--	11	- - - SHUNT TRIP - - -	--	20	1		0.0 / 1.2	1	20	#12	Convenience Recept. (E900B)	12	
1,G	13	Convenience Recept.(E900A)	#12	20	1	0.9 / 1.6		2	30	#10	Dryer (E907A)	14	1,G
1	15	Convenience Recept.(E900A)	#12	20	1		0.2 / 1.6					16	
1	17	Convenience Recept.(E900A)	#12	20	1	0.2 / 0.3		1	20	#12	Ice Machine (9009)	18	
1,LF	19	Refrigerator (E903)	#12	20	1		0.5 / 0.5	1	20	#12	Freezer (E904)	20	LF
	21	Receptacles DRY STG B107	#12	20	1	0.2 / 0.5		1	20	#12	Hood Lights (E153)	22	
	23	Heat Sensor (E153M)	#12	20	1		0.5 / 0.2	1	20	#12	Convenience Recept. (E920A)	24	
	25	Fire Protection System (E925)	#12	20	1	2.0 / 0.2		1	20	#12	Convenience Recept. (E900B)	26	
	27	Clothes Washer (E906)	#12	20	1		1.5 / 0.5	1	20	#12	Heat Sensor (E153M)	28	
	29	Heat Sensor (E153M)	#12	20	1	0.5 / 0.5		1	20	#12	Hood Lights (E153)	30	
	31	Hood Lights (E153)	#12	20	1		0.5 / 0.2	1	20	#12	Convenience Recept. (E900A)	32	
	33	Load Center (E920)	#3	100	2	7.0 / 0.5		1	20	#12	Freezer (E904)	34	LF
	35						7.0 / 3.4	2	100	1-L	PANEL LC3	36	
LF	37	Refrigerator (E904)	#12	20	1	0.5 / 2.4						38	
--	39	Spare	--	20	1		0.0 / 0.2	1	20	#12	Convenience Recept. (E900B)	40	
--	41	Spare	--	20	1	0.0 / 0.0		1	20	--	Spare	42	--
		Total Load:				19.7 kVA	19.0 kVA						
		Total Amps:				164 A	158 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	3.1 kVA	100.00%	3.1 kVA		
Miscellaneous	22.0 kVA	100.00%	22.0 kVA	Total Conn. Load:	38.7 kVA
Power	0.4 kVA	100.00%	0.4 kVA	Total Est. Demand:	36.9 kVA
Receptacles	13.7 kVA	86.55%	11.8 kVA	Total Conn. Current:	161 A
				Total Est. Demand...	154 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER.

**Remove un-used breakers and replace with 20A/1P spare.

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE
1-L - REFER TO ONE-LINE DIAGRAM

Branch Panel: LC3

Location: STORAGE B108 Volts: 120/240 Single A.I.C. Rating: 10,000
Supply From: LC2 Phases: 1 Enclosure: Type 1
Mounting: Surface Wires: 3 Mains: 400A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	Breaker		Wire	Circuit Description	CKT	Note
	1	KEF-4	#12	20	1	0.7 / 0.0		1	20	#12	Receptacles	2	
	3	KEF-2	#12	20	1		0.7 / 0.7	1	20	#12	KEF-3	4	
	5	KEF-1	#12	20	1	0.7 / 0.2		1	20	#12	Receptacles	6	
	7	Receptacles	#12	20	1		0.2 / 0.2	1	20	#12	Convenience Receptacle...	8	ST
	9	Receptacles	#12	20	1	0.2 / 0.2		1	20	#12	Convenience Receptacle...	10	
	11	Convenience Receptacle...	#12	20	1		0.2 / 0.2	1	20	#12	Convenience Receptacle...	12	
	13	Convenience Receptacle...	#12	20	1	0.2 / 0.2		1	20	#12	Convenience Receptacle...	14	
	15	Convenience Receptacle...	#12	20	1		0.2 / 0.1	1	20	#12	EF-1	16	
	17	Receptacles	#12	20	1	0.2 / 1.0		1	20	#12	Air Purification Unit	18	
--	19	Spare	--	20	1		0.0 / 0.0	1	20	--	Spare	20	--
--	21	Spare	--	20	1	0.0 / 0.0		1	20	--	Spare	22	--
--	23	Spare	--	20	1		0.0 / 0.0	1	20	--	Spare	24	--
--	25	Spare	--	20	1	0.0 / 0.0		1	20	--	Spare	26	--
--	27	Spare	--	20	1		0.0 / 0.0	1	--	--	Space	28	--
--	29	Space	--	--	1	0.0 / 0.0		1	--	--	Space	30	--
--	31	Space	--	--	1		0.0 / 0.0	1	--	--	Space	32	--
--	33	Space	--	--	1	0.0 / 0.0		1	--	--	Space	34	--
--	35	Space	--	--	1		0.0 / 0.0	1	--	--	Space	36	--
--	37	Space	--	--	1	0.0 / 0.0		1	--	--	Space	38	--
--	39	Space	--	--	1		0.0 / 0.0	1	--	--	Space	40	--
--	41	Space	--	--	1	0.0 / 0.0		1	--	--	Space	42	--
		Total Load:				3.4 kVA	2.4 kVA						
		Total Amps:				29 A	20 A						

5

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	3.1 kVA	100.00%	3.1 kVA		
Miscellaneous	1.0 kVA	100.00%	1.0 kVA	Total Conn. Load:	5.8 kVA
Receptacles	2.0 kVA	100.00%	2.0 kVA	Total Est. Demand:	5.8 kVA
				Total Conn. Current:	24 A
				Total Est. Demand...	24 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER.

**Remove un-used breakers and replace with 20A/1P spare.

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: EL

Location: MECH D140 Volts: 120/208 Wye A.I.C. Rating: 10,000
Supply From: TE Phases: 3 Enclosure: Type 1
Mounting: Surface Wires: 4 Mains: 100A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
--	1	Existing CIrcuit	--	20	1	0.0 / 0.0			1	20	--	Spare	2	--
--	3	Existing CIrcuit	--	20	1		0.0 / 0.0		1	20	--	Existing CIrcuit	4	--
--	5	Existing CIrcuit	--	20	1			0.0 / 0.0	1	20	--	Existing CIrcuit	6	--
--	7	Spare	--	20	3	0.0 / 0.0			3	20	--	Spare	8	--
	9						0.0 / 0.0						10	
	11							0.0 / 0.0					12	
--	13	Spare	--	20	2	0.0 / 1.1			2	20	#8	DMS-1 / DMSCU-1	14	2
	15						0.0 / 1.1						16	
1,LO	17	IDF Receptacle	#8	20	1			0.2 / 0.5	1	20	#8	Fire Alarm Booster Panel	18	1,LO
1,LO	19	IDF Receptacle	#8	20	1	0.4 / 0.5			1	20	#8	Fire Alarm Booster Panel	20	1,LO
1,LO	21	IDF Receptacle	#8	20	1		0.4 / 0.2		1	20	#8	IDF Receptacle	22	1,LO
1,LO	23	IDF Receptacle	#8	20	1			0.4 / 0.4	1	20	#8	IDF Receptacle	24	1,LO
		Total Load:				1.9 kVA	1.6 kVA	1.4 kVA						
		Total Amps:				16 A	14 A	12 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	2.4 kVA	100.00%	2.4 kVA		
Miscellaneous	1.0 kVA	100.00%	1.0 kVA	Total Conn. Load:	5.0 kVA
Receptacles	1.8 kVA	100.00%	1.8 kVA	Total Est. Demand:	5.0 kVA
				Total Conn. Current:	14 A
				Total Est. Demand...	14 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER.
2 - EXISTING SPARE. PROVIDE NEW BRANCH CIRCUIT.

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: EQLA

Location: MECH A106 Volts: 120/208 Wye A.I.C. Rating: 10,000
Supply From: TEQLA Phases: 3 Enclosure: Type 1
Mounting: Surface Wires: 4 Mains: 600A
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
1	1	Miscellaneous MECHANICAL...	--	20	1	0.5 / 0.5			1	20	#8	BMCS	2	1
--	3	Space	--	--	1		0.0 / 1.0		1	20	--	Existing Circuit	4	
--	5	Space	--	--	1			0.0 / 1.0	1	20	--	Existing Circuit	6	
	7	Existing Circuit	--	20	3	0.3 / 0.2			3	20	--	Existing Circuit	8	
	9						0.3 / 0.2						10	
	11							0.3 / 0.2					12	
	13	Existing Circuit	--	20	2	0.3 / 0.5			2	20	--	Existing Circuit	14	
	15						0.3 / 0.5						16	
	17	Existing Circuit	--	20	1			0.5 / 2.2	1	20	--	Existing Circuit	18	
	19	Existing Circuit	--	20	3	0.2 / 0.5			1	20	--	Existing Circuit	20	
	21						0.2 / 2.2		1	20	--	Existing Circuit	22	
	23							0.2 / 2.2	1	20	--	Existing Circuit	24	
		Total Load:				2.9 kVA	4.6 kVA	6.6 kVA						
		Total Amps:				24 A	41 A	57 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
Miscellaneous	1.0 kVA	100.00%	1.0 kVA		
Existing Circuit	13.1 kVA	100.00%	13.1 kVA	Total Conn. Load:	14.1 kVA
				Total Est. Demand:	14.1 kVA
				Total Conn. Current:	39 A
				Total Est. Demand...	39 A

Notes:
1 - PROVIDE NEW CIRCUIT BREAKER

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

FEED THROUGH LUGS

Branch Panel: LE

NEW

Location: MECH A133 Volts: 120/208 Wye A.I.C. Rating: 10,000
Supply From: TLE Phases: 3 Enclosure: Type 1
Mounting: Surface Wires: 4 Mains: 100A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	Receptacles	#12	20	1	1.1 / 1.1			1	20	#12	Receptacles	2	
	3	Receptacles	#12	20	1		0.7 / 1.1		1	20	#12	Receptacles	4	
	5	Receptacles	#12	20	1			1.1 / 1.1	1	20	#12	Receptacles	6	
	7	Receptacles	#12	20	1	0.9 / 0.4			1	20	#12	Receptacles	8	
	9	Receptacles	#12	20	1		0.7 / 1.4		1	20	#12	Receptacles	10	
	11	Receptacles	#12	20	1			0.9 / 0.9	1	20	#12	Receptacles	12	
	13	Receptacles	#12	20	1	0.5 / 0.4			1	20	#12	Receptacles	14	
	15	Receptacles	#12	20	1		0.2 / 0.2		1	20	#12	Air Purification System	16	
	17	Receptacles	#12	20	1			0.5 / 0.5	1	20	#12	AV Rack	18	
	19	Motorized Shades		20	1	0.1 / 0.0			1	20	--	Spare	20	--
--	21	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	22	--
--	23	Spare	--	20	1			0.0 / 0.0	1	20	--	Spare	24	--
--	25	Spare	--	20	1	0.0 / 0.0			1	20	--	Spare	26	--
--	27	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	28	--
--	29	Spare	--	20	1			0.0 / 0.0	1	20	--	Spare	30	--
--	31	Spare	--	20	1	0.0 / 0.0			1	20	--	Spare	32	--
--	33	Spare	--	20	1		0.0 / 0.0		1	20	--	Spare	34	--
--	35	Spare	--	20	1			0.0 / 0.0	1	20	--	Spare	36	--
--	37	Spare	--	20	1	0.0 / 0.0			3	30	--	SPDL	38	--
--	39	Spare	--	20	1		0.0 / 0.0						40	
--	41	Spare	--	20	1			0.0 / 0.0					42	
		Total Load:				4.4 kVA	4.3 kVA	5.0 kVA						
		Total Amps:				37 A	36 A	42 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
Miscellaneous	0.8 kVA	100.00%	0.8 kVA		
Receptacles	13.0 kVA	88.58%	11.5 kVA	Total Conn. Load:	13.7 kVA
				Total Est. Demand:	12.2 kVA
				Total Conn. Current:	38 A
				Total Est. Demand...	34 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: HE

Location: MECH A133 Volts: 277/480 Wye A.I.C. Rating: 18,000
Supply From: M Phases: 3 Enclosure: Type 1
Mounting: Surface Wires: 4 Mains: 100A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	AHU-3	#10	30	3	1.7 / 2.3			1	20	#12	Lighting	2	
	3						1.7 / 1.2		1	20	#8	Exterior Lighting	4	
	5							1.7 / 0.0	1	20	--	Spare	6	--
	7	SF-1	#12	20	3	0.1 / 0.0			1	20	--	Spare	8	--
	9						0.1 / 0.0		1	20	--	Spare	10	--
	11							0.1 / 0.0	1	20	--	Spare	12	--
	13	XFMR TLE	1-L	50	3	4.4 / 0.0			1	--	--	Space	14	--
	15						4.3 / 0.0		1	--	--	Space	16	--
	17							5.0 / 0.0	1	--	--	Space	18	--
--	19	Space	--	--	1	0.0 / 0.0			1	--	--	Space	20	--
--	21	Space	--	--	1		0.0 / 0.0		1	--	--	Space	22	--
--	23	Space	--	--	1			0.0 / 0.0	1	--	--	Space	24	--
--	25	Space	--	--	1	0.0 / 0.0			1	--	--	Space	26	--
--	27	Space	--	--	1		0.0 / 0.0		1	--	--	Space	28	--
--	29	Space	--	--	1			0.0 / 0.0	1	--	--	Space	30	--
--	31	Space	--	--	1	0.0 / 0.0			1	--	--	Space	32	--
--	33	Space	--	--	1		0.0 / 0.0		1	--	--	Space	34	--
--	35	Space	--	--	1			0.0 / 0.0	1	--	--	Space	36	--
--	37	Space	--	--	1	0.0 / 0.0			3	30	--	SPDL	38	--
--	39	Space	--	--	1		0.0 / 0.0						40	
--	41	Space	--	--	1			0.0 / 0.0					42	
		Total Load:				8.3 kVA	7.1 kVA	6.6 kVA						
		Total Amps:				30 A	26 A	24 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	5.5 kVA	100.00%	5.5 kVA		
Lighting	3.5 kVA	125.00%	4.4 kVA	Total Conn. Load:	22.1 kVA
Miscellaneous	0.8 kVA	100.00%	0.8 kVA	Total Est. Demand:	21.5 kVA
Receptacles	13.0 kVA	88.58%	11.5 kVA	Total Conn. Current:	27 A
				Total Est. Demand...	26 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: HF

Location: MECHANICAL... Volts: 277/480 Wye A.I.C. Rating: 18,000
Supply From: M Phases: 3 Enclosure: Type 1
Mounting: Surface Wires: 4 Mains: 200A MCB
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	OAU-1	#12	20	3	1.7 / 1.7			3	30	#8	AHU-2	2	
	3						1.7 / 1.7						4	
	5							1.7 / 1.7					6	
	7	AHU-1	#8	30	3	3.4 / 3.3			1	20	#12	Lighting	8	
	9						3.4 / 3.3		1	20	#12	Lighting	10	
	11							3.4 / 1.3	1	20	#12	Lighting	12	
	13	Exterior Lighting	#12	20	1	1.4 / 0.0			1	--	--	Space	14	--
--	15	Spare	--	20	1		0.0 / 0.0		1	--	--	Space	16	--
--	17	Spare	--	20	1			0.0 / 0.0	1	--	--	Space	18	--
--	19	Spare	--	20	1	0.0 / 0.0			1	--	--	Space	20	--
--	21	Spare	--	20	1		0.0 / 0.0		1	--	--	Space	22	--
--	23	Spare	--	20	1			0.0 / 0.0	1	--	--	Space	24	--
--	25	Space	--	--	1	0.0 / 0.0			1	--	--	Space	26	--
--	27	Space	--	--	1		0.0 / 0.0		1	--	--	Space	28	--
--	29	Space	--	--	1			0.0 / 0.0	1	--	--	Space	30	--
--	31	Space	--	--	1	0.0 / 0.0			1	--	--	Space	32	--
--	33	Space	--	--	1		0.0 / 0.0		1	--	--	Space	34	--
--	35	Space	--	--	1			0.0 / 0.0	1	--	--	Space	36	--
	37	XFMR TLF	1-L	70	3	13.6 / 0.0			3	30	--	SPDL	38	--
	39						14.5 / 0.0						40	
	41							15.8 / 0.0					42	
		Total Load:				24.4 kVA	23.9 kVA	23.2 kVA						
		Total Amps:				89 A	87 A	84 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	26.2 kVA	100.00%	26.2 kVA		
Lighting	9.2 kVA	125.00%	11.5 kVA	Total Conn. Load:	71.6 kVA
Miscellaneous	28.3 kVA	100.00%	28.3 kVA	Total Est. Demand:	73.9 kVA
Receptacles	9.4 kVA	100.00%	9.4 kVA	Total Conn. Current:	86 A
				Total Est. Demand...	89 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Branch Panel: EH

NEW

Location: MECH A106 Volts: 277/480 Wye A.I.C. Rating: 10,000
Supply From: ATS 1 Phases: 3 Enclosure: Type 1
Mounting: Surface Wires: 4 Mains: 100A MLO
Phase in kVA

Note	CKT	Circuit Description	Wire	Breaker		A	B	C	Breaker		Wire	Circuit Description	CKT	Note
	1	Existing Circuit	-	20	1	2.0 / 1.9			3	45	-	(E) XFMR TE	2	
	3	Existing Circuit	-	20	1		2.0 / 1.6						4	
	5	Existing Circuit	-	20	1			2.0 / 1.4					6	
	7	Emergency Lighting	#8	20	1	1.1 / 0.0			3	20	--	Spare	8	--
	9	Emergency Lighting	#8	20	1		2.4 / 0.0						10	
	11	Emergency Lighting	#8	20	1			2.3 / 0.0					12	
	13	Emergency Lighting	#8	20	1	3.5 / 0.0			1	--	--	Space	14	--
	15	Emergency Lighting	#8	20	1		2.6 / 0.0		1	--	--	Space	16	--
	17	Lighting	#8	20	1			2.2 / 0.0	1	--	--	Space	18	--
	19	Emergency Lighting	#8	20	1	3.0 / 0.0			1	--	--	Space	20	--
	21	Emergency Lighting	#8	20	1		3.8 / 0.0		1	--	--	Space	22	--
	23	Emergency Lighting	#8	20	1			2.6 / 0.0	1	--	--	Space	24	--
--	25	Spare	--	20	1	0.0 / 0.0			3	20	--	SPDL	26	--
--	27	Spare	--	20	1		0.0 / 0.0						28	
--	29	Spare	--	20	1			0.0 / 0.0					30	
		Total Load:				11.4 kVA	12.3 kVA	10.3 kVA						
		Total Amps:				42 A	45 A	37 A						

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	2.4 kVA	100.00%	2.4 kVA		
Lighting	23.4 kVA	125.00%	29.2 kVA	Total Conn. Load:	34.1 kVA
Miscellaneous	7.0 kVA	100.00%	7.0 kVA	Total Est. Demand:	39.9 kVA
Receptacles	1.8 kVA	100.00%	1.8 kVA	Total Conn. Current:	41 A
				Total Est. Demand...	48 A

Notes:

Abbrevations:
G - PROVIDE GFCI CIRCUIT BREAKER
LF - PROVIDE PERMANENT LOCK-OFF DEVICE
LO - PROVIDE PERMANENT LOCK-ON DEVICE

Revision /	Date	
1	02-28-24	CITY COMMENTS 1
5	04-29-25	Addendum 3

Project:
RIVERWOOD MIDDLE SCHOOL ADDITIONS & RENOVATIONS
2910 HIGH VALLEY DR, HUMBLE, TX 77345
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Salas O'Brien
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Houston, TX 77064
Salas O'Brien Registration: F-4111
Salas O'Brien Project Number: 2022-05088-00

Job No.
1821-13-02

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04.01.2025

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