

RICHMOND COMMUNITY SCHOOL
Richmond High School: Mechanical Modernization Project
LWC Commission No. 20104.02

ADDENDUM #04
October 5, 2021

LWC, Inc.
712 EAST MAIN ST
RICHMOND, IN 47374

To Prospective Bidders:

This addendum is a modification of the Contract Documents for the above referenced project and is hereby incorporated into and becomes a part of said Contract Documents. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification. It is to be considered in the Proposals and covers additions to or changes in the Contract Documents as indicated below.

This addendum consists of (2) pages.

Attachments:

- Bidder Questions to Date.
- Drawings: A102A, A103, A203, A901, D102A, P202, M701, M702, E204
- Specifications: Section 000400, Section 012300, Section 092400

GENERAL NOTES

- **Bid Date and time is October 8, 2021, at 3:00 pm** at the School Administration Building, 300 Hub Etchison Parkway.

DRAWINGS

ITEM NO.1 Drawing A102A

- A. Revised Key Note at Markerboards

ITEM NO.2 Drawing A103

- A. Revised finished schedule.

ITEM NO.3 Drawing A203

- A. Revised Finish Tag at ceilings

ITEM NO.4 Drawing A901

- A. Revised sheet note #13
- B. Added Sheet Note #22

ITEM NO.5 Drawing D102A

- A. Revised Key Note at Markerboards.

ITEM NO.6 Drawing P202

- A. Added clarification to work defined within Base Bid versus Alternate No. 13 for gas main.

ITEM NO.7 Drawing M701

- A. Indoor Air Handling Unit schedule
 - a. Hot water coil shall be in preheat position.

ITEM NO.8 Drawing M702

- A. Revised Outside Air Unit Schedule.

ITEM NO.9 Drawing E204

- A. Added note E16 to read "E.C. SHALL PROVIDE FIRE ALARM CONNECTION TO HVLS-1 FAN CONTROLLER TO SHUTDOWN FANS IN THE EVENT OF A FIRE ALARM".
- B. Add note E16 to each HVLS-1 fan on sheet E204.

SPECIFICATIONS

ITEM NO. 1 000400 – Bid Proposal Form

- A. Add space to report cost for Alternate No. 9 – Extended Water Treatment Service Agreement
- B. Add space to report cost for Alternate No. 10 – Extended Water-cooled Chiller Warranties
- C. Add space to report cost for Alternate No. 11 – Extended Cooling Tower Warranties
- D. Add space to report cost for Alternate No. 12 – Extended Boiler Warranties
- E. Add space to report cost for Alternate No. 13 – Boiler House Main Gas Line Modifications

ITEM NO. 2 012300 – Alternates

- F. Add Alternate No. 9 – Extended Water Treatment Service Agreement
- G. Add Alternate No. 10 – Extended Water-cooled Chiller Warranties
- H. Add Alternate No. 11 – Extended Cooling Tower Warranties
- I. Add Alternate No. 12 – Extended Boiler Warranties
- J. Add Alternate No. 13 – Boiler House Main Gas Line Modifications

ITEM NO. 2 092400 – Portland Cement Plastering

- A. Add new specification section.

END OF ADDENDUM #04



Addendum 004 RFI Log

Commission Number: 20104.02

Project Name: Richmond High School: Mechanical Modernization Project

| RFI Number | Date IN | Date OUT | Due Date | Description/Response | Sheet/Spec Reference | PCO Number | CO Number |
|--------------------------|---------|----------|----------|---|----------------------|------------|-----------|
| Chemready 001 | 10/1/21 | 10/5/21 | | I could not find anything in the specs or addendums spelling out the water treatment required for this project. It is usually found in Section 232500 HVAC Water Treatment which is not on the job? Would the owner like water treatment for the three BAC 1130 Ton Cooling towers, three 400 Ton Chillers and the Four Cleaver Brooks Boilers? Please advise. They mention a side stream filtration system, but I didn't see the spec for that either. Please let me know. | | | |
| | | | | ANSWER: Water Treatment requirements are located in Section 201310. Water treatment will be required for closed chilled and hot water systems and open condenser water system. | | | |
| Whisenhunt 001 | 10/1/21 | 10/5/21 | | Sheet A102...looks to me like the marker boards that are intended for Alt 2 are noted as Note 1 on the plan. Sheet notes show marker boards are note 6. Am I seeing this right? | | | |
| | | | | ANSWER: Replacement of chalkboard with markerboards is NOT part of the Base Bid. The cost to replace chalkboards with markerboards should be included in Alternate #2. The drawings have been revised to clarify this intent. | | | |
| Whisenhunt 002 | 10/1/21 | 10/5/21 | | 3/A203 shows an ACT ceiling...however, ACT 4 in the finish schedule(A103) lists Plaster Ceiling as the finish. | | | |
| | | | | ANSWER: The ceiling in Detail 3/A203 is intended to be plaster. The drawings have been revised to clarify this intent. | | | |
| Chomel Roofing 001 | 10/1/21 | 10/3/21 | | Plans say to remove gutter from the pool roof so the painters can paint fascia and then re-install. Rick looked at them today and said it would be virtually impossible to do that without seriously damaging them. We recommend leaving them to be painted along with the fascia. They are old galvanized and not copper. | | | |
| | | | | ANSWER: The gutter and downspout should be left in this area and painted along with the fascia, as recommended. | | | |

FORM OF PROPOSAL

For: **RICHMOND COMMUNITY SCHOOLS**
RICHMOND HIGH SCHOOL MECHANICAL MODERNIZATION

LWC Incorporated
712 East Main Street
Richmond, IN 47374
Tel: 765-966-3546
Fax: 765-962-9195

SUBMITTED BY:

Name: _____
Address: _____

Telephone: _____
Fax: _____
Email: _____

TO: Richmond Community Schools
300 Hub Etchison Parkway
Richmond, IN 47374

Checklist:

State Form 96 **(Revised 2013)**
Bid Bond

Financial Statement
Indiana Public Law Certificate

Bonding Co.: _____

Addenda Received: _____

The undersigned, having carefully examined all contract documents, including Instructions to Bidders, General Conditions, Modifications to General Conditions, Special Conditions, Drawings, and Specifications and Addenda entitled:

Richmond Community Schools
Richmond High School Mechanical Modernization

Dated August 28, 2021, prepared by LWC Incorporated (Architects), Richmond, Indiana, and having examined the site, hereby proposed to furnish all materials, all services, all labor, and all equipment to complete all work as described in the contract documents for the following:

BASE BID:

TOTAL BASE BID – SINGLE PRIME CONTRACT:

\$ _____

SUM IN WORDS: _____

ALLOWANCES

The following allowances are included in the Base Bid:

NONE.

UNIT PRICES

Unit Price No. 1 – Monthly Rental of Temporary Boiler
_____ Dollars Per Month

(\$ _____) Per Month

Unit Price No. 2 – Monthly Rental of Temporary Chiller
_____ Dollars Per Month

(\$ _____) Per Month

ALTERNATES:

ALTERNATE NO. 1 – Additional Scope at Existing South Chiller Location:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 2 – Additional Classroom Finishes:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 3 – Additional Mechanical Scope at Unit C:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 4 – New Equipment in Fan Room L103 at Unit C:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 5 – Extend Ceiling and lighting replacement in hall around pool:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 6 – Temporary Steam Boilers:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 7 – Temporary Chiller:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 8 – Delay Library Work Until 2023:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 9 – Extended Water Treatment Service Agreement:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 10 – Extended Water-Cooled Chiller Warranties:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 11 – Extended Cooling Tower Warranties:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 12 – Extended Boiler Warranties:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

ALTERNATE NO. 13 – Boiler House Main Gas Line Modifications:

ALL LABOR AND MATERIALS, for the sum of **ADD \$** _____

Sum in words: _____

RICHMOND COMMUNITY SCHOOLS
RICHMOND HIGH SCHOOL
MECHANICAL MODERNIZATION PROJECT
LWC COMMISSION NO. 20104.02

SIGNATURE SHEET:

A CORPORATION: _____

STATE IN WHICH INCORPORATED: _____

A PARTNERSHIP: _____

AN INDIVIDUAL: _____

BY: _____
Signature Title

BY: _____
Signature Title

BUSINESS ADDRESS:

DATE: _____

NOTE: A CORPORATION must present a certified copy of a resolution by its Board of Directors authorizing the signing of this proposal by any person other than the President of the Corporation. AN INDIVIDUAL must be the Owner and state the name of his business, as well as his full legal name.

RICHMOND COMMUNITY SCHOOLS
RICHMOND HIGH SCHOOL
MECHANICAL MODERNIZATION PROJECT
LWC COMMISSION NO. 20104.02

VOLUNTARY ALTERNATES:

Contractors may voluntarily propose additional Alternates for the Owner's consideration.

Bidders desiring to submit voluntary Alternates shall list each below, together with the amount to be added to, or deducted from, the amount of their base bid. A brief description of each Alternate shall be included.

| Voluntary Alternate # | Proposed Alternate | Add | Deduct |
|-----------------------|--------------------|-----|--------|
| | | | |
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| | | | |

SUBSTITUTION SHEET:

All bids shall be based upon the "Standards" specified. (See standard substitution provision of specifications.)

Bidders desiring to make substitutions for "Standards" specified, shall list each proposed substitution below, together with the amount to be added to, or deducted from, the amount of their base bid.

| Brand or Make Specified | Proposed Substitution | Add | Deduct |
|-------------------------|-----------------------|-----|--------|
| | | | |
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| | | | |

SUBCONTRACTOR LIST

This list shall be provided with the Form of Proposal. Additional sheets may be added in the same format.

| <u>NAME/ADDRESS/PHONE</u> | <u>WORK TO BE PROVIDED</u> |
|---------------------------|----------------------------|
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END OF FORM OF PROPOSAL

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

1. Alternate No. 01 – Additional Scope at Existing South Chiller Location.
 - a. Base Bid Work shall include complete removal of the chiller south of Central Plant, including all associated electrical and piping. Existing concrete pad, foundations, wood fence, installation of topsoil to match surrounding grades, and restoration of lawn shall be by Owner under separate Contract.
 - b. Alternate Bid Work shall include complete removal of the chiller south of Central Plant, including all associated electrical, piping, concrete pad, foundations, wood fence, installation of topsoil to match surrounding grades, and restoration of lawn.
2. Alternate No. 02 – Additional Classroom Finishes.
 - a. Base Bid Work shall include repair, full prime paint, and two-coat finish paint all walls, ceilings, and other surfaces, in all locations as required for removal and installation of new plumbing, mechanical, and electrical items only in Classroom L113, Classroom L111, Classroom L110, Classroom L109, Classroom L106, Computer Lab L104, Office R121, Classroom R123, Office R123A, Storage R124, Room R128, Room R128A and Room R129. All walls where repairs and painting are required due to removal of plumbing, mechanical, and/or electrical items shall have all damaged areas repaired, whether the result of this project or not, and shall be fully primed and two-coat finish painted corner to corner and floor to ceiling.
 - b. Alternate Bid Work shall include repair, full prime paint, and two-coat finish paint all walls, replacement of all suspended acoustical ceiling tile, replacement of all carpet and vinyl base, installation of new markerboards and tackboards as indicated, and installation of new roller shades in Classroom L113, Classroom L111, Classroom L110, Classroom L109, Classroom L106, Computer Lab L104, Office R121, Classroom R123, Office R123A, Storage R124, Room R128, Room R128A and Room R129.
3. Alternate No. 03 – Additional Mechanical Scope at Unit C.
 - a. Base Bid Work shall limit work in Unit C to those rooms with existing steam heat, including Office R121, Classroom R123, Office R123A, Storage R124, Room R128, Room R128A and Room R129. All associated work, including additional plumbing, mechanical, electrical, and finish scope required to convert these spaces from steam to a hydronic system, shall be included.
 - b. Alternate Bid Work shall add all plumbing, mechanical, and electrical work as indicated in Unit C, in addition to the work included with the Base Bid scope.

4. Alternate No. 04 – Add New Equipment in Fan Room L103 at Unit C.
 - a. Base Bid Work shall maintain all existing equipment in Fan Room L103. No additional equipment shall be provided, including the AHU-1C, new rooftop unit ERV-1 and all new ductwork associated with new equipment connections to existing ductwork. The structural and roof work required to provide a new roof opening for ERV-1 shall not be included in the Base Bid. All new work in the area of Unit C shall be fed from the existing units.
 - b. Alternate Bid Work shall include all plumbing, mechanical, and electrical work as indicated in Fan Room L103, including the AHU-1C, new rooftop unit ERV-1 and all new ductwork associated with new equipment connections to existing ductwork. The structural and roof work required to provide a new roof opening for ERV-1 shall be included in the Alternate Bid.

5. Alternate No. 05 – Extend ceiling and lighting replacement in hall around pool.
 - a. Base Bid Work shall leave existing ceiling and lights in Corridor T270 and Corridor T271 as-is.
 - b. Alternate Bid Work shall remove plaster ceiling and replace with new acoustical ceiling and LED fixtures in Corridor T270 and Corridor T271 to match Corridor T165.

6. Alternate No. 06 – Temporary Steam Boilers.
 - a. Base Bid Work shall not include any provisions for installation, connections, or removal of a temporary steam boiler.
 - b. Alternate Bid Work shall include all requirements for installation, connections, and removal of a temporary steam boiler located in the fenced automotive yard north of Central Plant. The cost shall include all equipment, piping, controls, connections, and specialty equipment required to install, operate, and remove the temporary steam to water heating systems. Refer to drawings on Sheet M105.1 for additional information. Contractor shall provide detailed phasing plan with Bid to determine need for the acceptance of Alternate with proposal.

7. Alternate No. 07 – Temporary Chiller.
 - a. Base Bid Work shall not include any provisions for installation, connections, or removal of temporary chiller.
 - b. Alternate Bid Work shall include all requirements for installation, connections, and removal of temporary chiller to the existing system. The cost shall include all equipment, piping, controls, connections, and specialty equipment required to install, operate, and remove the temporary chilled water system. Refer to drawings on Sheet M105.1 for additional information. Contractor shall provide detailed phasing plan with Bid to determine need for acceptance of Alternate with proposal.

8. Alternate No. 08 – Delay Library Work Until 2023.
 - a. Base Bid – All Work accepted as part of the Contract at Library and surrounding areas, including architectural, roofing, plumbing, mechanical, electrical, and miscellaneous associated work, shall be completed per Specification Section 000500 – Preliminary Schedule, and Drawings G001 and G002, Phasing Plans, with Substantial Completion of all work by July 22, 2022. This includes Base Bid Work and all Accepted Alternates in that area.

- b. Alternate Bid - All Work at Library and surrounding areas, including architectural, roofing, plumbing, mechanical, electrical, and miscellaneous associated work, shall be Substantially Complete by July 22, 2023. This includes Base Bid Work and all Accepted Alternates in that area. This excludes changing the timing for the removal of existing steam piping and replacement with hot water hydronic piping in the tunnels in this area. Hydronic to steam heat exchangers shall be installed as needed to allow the main steam piping to be replaced per the Base Bid Schedule.
9. Alternate No. 9 – Extended Water Treatment Service Agreement
 - a. Base Bid - Contractor shall include 3-year service agreement for maintenance and chemicals of all open and closed loop chemical water treatment systems
 - b. Alternate Bid - Contractor shall provide the additional cost to extend the warranty from 3-year to 5-year service agreement for maintenance and chemicals of all open and closed loop chemical water treatment systems.
10. Alternate No. 10 – Extended Water-Cooled Chiller Warranties
 - a. Base Bid – Provide a standard unit parts and labor warranty for one year from substantial completion for the entire unit.
 - b. Alternate Bid A- Provide the additional cost to extend the warranty from a 1-year to a 5-year parts and labor warranty on all chillers. Warranty shall cover the entire unit including compressors.
 - c. Alternate Bid B- Provide the additional cost to extend the warranty from a 1-year to a 10-year parts and labor warranty on all chillers. Warranty shall cover the entire unit including compressors.
11. Alternate No. 11 – Extended Cooling Tower Warranties
 - a. Base Bid – Provide a standard unit parts and labor warranty for one year from substantial completion for the entire unit. 5 year parts and labor on fans, fan shafts, bearings, sheaves, gearboxes, drive shafts, couplings, and mechanical equipment support. Direct drive shall be 7-year parts and labor fans, fan shafts, bearings, sheaves, gearboxes, drive shafts, couplings, and mechanical equipment support.
 - b. Alternate Bid – Provide the additional cost to extend the standard warranty included in the Base Bid to add a 10-year part and labor warranty on all cooling towers. Warranty shall cover the entire unit.
12. Alternate No. 12 – Extended Boiler Warranties
 - a. Base Bid – Provide a standard unit parts and labor warranty for one year from substantial completion for the entire unit with 7-year non-prorated warranty against failure due to condensate corrosion, thermal stress, mechanical defects or workmanship.
 - b. Alternate Bid - Provide the additional cost to extend the standard warranty included in the Base Bid to add a 5-year parts and labor warranty on all boilers. Warranty shall cover the entire unit.
13. Alternate No. 13 – Boiler House Main Gas Line Modifications
 - a. Base Bid Work shall not include any provisions for installation, connections, or removal of existing main gas line in the East mechanical yard to boiler house.

RICHMOND COMMUNITY SCHOOLS
RICHMOND HIGH SCHOOL
MECHANICAL MODERNIZATION PROJECT
LWC COMMISSION NO. 20104.02

- b. Alternate Bid – Include all material, labor, and any other costs associated with new Gas Main to existing boiler house per Sheet P202, View 2 – BOILER HOUSE – GAS MAIN ALTERNATE No. 13.

END OF SECTION 012300

SECTION 092400 - PORTLAND CEMENT PLASTERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior Portland cement plasterwork on metal lath.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show locations and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other work.
- C. Samples for Initial Selection: For each type of factory-prepared finish coat indicated.
- D. Samples for Verification: For each type of factory-prepared textured finish coat indicated; 12 by 12 inches, and prepared on rigid backing.

1.4 QUALITY ASSURANCE

- A. Mockups: Before plastering, install mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Install mockups for each type of finish indicated.
 - 2. For interior plasterwork, simulate finished lighting conditions for review of mockups.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- B. Preinstallation Conference: Conduct conference at Project site.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

1.6 PROJECT CONDITIONS

- A. Comply with ASTM C 926 requirements.
- B. Interior Plasterwork: Maintain room temperatures at greater than 40 deg F for at least 48 hours before plaster application, and continuously during and after application.
 - 1. Avoid conditions that result in plaster drying out during curing period. Distribute heat evenly; prevent concentrated or uneven heat on plaster.
 - 2. Ventilate building spaces as required to remove water in excess of that required for hydrating plaster in a manner that prevents drafts of air from contacting surfaces during plaster application and until plaster is dry.
- C. Factory-Prepared Finishes: Comply with manufacturer's written recommendations for environmental conditions for applying finishes.

PART 2 - PRODUCTS

2.1 METAL LATH

- A. Expanded-Metal Lath: ASTM C 847 with ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coating.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Alabama Metal Industries Corporation; a Gibraltar Industries company.
 - b. Clark Western Building Systems.
 - c. Dietrich Metal Framing; a Worthington Industries company.
 - d. MarinoWARE.
 - 2. Diamond-Mesh Lath: Flat, 3.4 lb/sq. yd. (1.8 kg/sq. m).

2.2 ACCESSORIES

- A. General: Comply with ASTM C 1063 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
- B. Metal Accessories:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Alabama Metal Industries Corporation; a Gibraltar Industries company.
 - b. Clark Western Building Systems.
 - c. Dietrich Metal Framing; a Worthington Industries company.
 - d. MarinoWARE.
 - 2. Cornerite: Fabricated from metal lath with ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coating.
 - 3. External-Corner Reinforcement: Fabricated from metal lath with ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coating.

4. Cornerbeads: Fabricated from zinc.
 - a. Small nose cornerbead with expanded flanges; use unless otherwise indicated.
 - b. Small nose cornerbead with perforated flanges; use on curved corners.
 - c. Small nose cornerbead with expanded flanges reinforced by perforated stiffening rib; use on columns and for finishing masonry corners.
 - d. Bull nose cornerbead, radius 3/4 inch (19.1 mm) minimum, with expanded flanges; use at locations indicated on Drawings.
5. Casing Beads: Fabricated from zinc; square-edged style; with expanded flanges.
6. Control Joints: Fabricated from zinc; one-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.
7. Expansion Joints: Fabricated from zinc; folded pair of unperforated screeds in M-shaped configuration; with expanded flanges.

2.3 MISCELLANEOUS MATERIALS

- A. Water for Mixing: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, 1/2 inch long, free of contaminants, manufactured for use in Portland cement plaster.
- C. Bonding Compound: ASTM C 932.
- D. Steel Drill Screws: For metal-to-metal fastening, ASTM C 1002 or ASTM C 954, as required by thickness of metal being fastened; with pan head that is suitable for application; in lengths required to achieve penetration through joined materials of no fewer than three exposed threads.
- E. Fasteners for Attaching Metal Lath to Substrates: Complying with ASTM C 1063.
- F. Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, not less than 0.0475-inch (1.21-mm) diameter, unless otherwise indicated.
- G. Acoustical Sealant: As specified in Division 07 Section "Joint Sealants"
 1. Provide sealants that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.4 PLASTER MATERIALS

- A. Portland Cement: ASTM C 150, Type I.
 1. Color for Finish Coats: White.
- B. Lime: ASTM C 206, Type S; or ASTM C 207, Type S.
- C. Sand Aggregate: ASTM C 897.
 1. Color for Job-Mixed Finish Coats: White.

- D. Perlite Aggregate: ASTM C 35.
- E. Ready-Mixed Finish-Coat Plaster: Mill-mixed portland cement, aggregates, coloring agents, and proprietary ingredients.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Amerimixx; Premium Plus Stucco.
 - b. USG Corporation; Imperial Brand Finish Plaster.
 - 2. Color: As selected by Architect from manufacturer's full range.

2.5 PLASTER MIXES

- A. General: Comply with ASTM C 926 for applications indicated.
 - 1. Fiber Content: Add fiber to base-coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb of fiber/cu. yd. (0.6 kg of fiber/cu. m) of cementitious materials.
- B. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:
 - 1. Portland Cement Mixes:
 - a. Scratch Coat: For cementitious material, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
 - b. Brown Coat: For cementitious material, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 3 to 5 parts aggregate per part of cementitious material, but not less than volume of aggregate used in scratch coat.
- C. Base-Coat Mixes: Single base coats for two-coat plasterwork as follows:
 - 1. Portland Cement Mix: For cementitious material, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
- D. Factory-Prepared Finish-Coat Mixes: For interiors use ready-mixed finish-coat plasters.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
- B. Prepare solid substrates for plaster that are smooth or that do not have the suction capability required to bond with plaster according to ASTM C 926.

3.3 INSTALLATION, GENERAL

- A. Acoustical Sealant: Where required, seal joints between edges of plasterwork and abutting construction with acoustical sealant.

3.4 INSTALLING METAL LATH

- A. Expanded-Metal Lath: Install according to ASTM C 1063.
 - 1. Partition Framing and Vertical Furring: Install flat diamond-mesh lath.
 - 2. Flat-Ceiling and Horizontal Framing: Install flat diamond-mesh lath.
 - 3. Curved-Ceiling Framing: Install flat diamond-mesh lath.
 - 4. On Solid Surfaces, Not Otherwise Furred: Install self-furring, diamond-mesh lath.

3.5 INSTALLING ACCESSORIES

- A. Install according to ASTM C 1063 and at locations indicated on Drawings.
- B. Reinforcement for External Corners:
 - 1. Install lath-type, external-corner reinforcement at exterior locations.
 - 2. Install cornerbead at interior and exterior locations.
- C. Control Joints: Install control joints at locations indicated on Drawings and in specific locations approved by Architect for visual effect as follows:
 - 1. As required to delineate plasterwork into areas (panels) of the following maximum sizes:
 - a. Vertical Surfaces: 144 sq. ft. (13.4 sq. m).
 - b. Horizontal and other Nonvertical Surfaces: 100 sq. ft. (9.3 sq. m).
 - 2. At distances between control joints of not greater than 18 feet (5.5 m) o.c.
 - 3. As required to delineate plasterwork into areas (panels) with length-to-width ratios of not greater than 2-1/2:1.
 - 4. Where control joints occur in surface of construction directly behind plaster.
 - 5. Where plasterwork areas change dimensions, to delineate rectangular-shaped areas (panels) and to relieve the stress that occurs at the corner formed by the dimension change.

3.6 PLASTER APPLICATION

- A. General: Comply with ASTM C 926.

1. Do not deviate more than plus or minus 1/4 inch in 10 feet (6.4 mm in 3 m) from a true plane in finished plaster surfaces, as measured by a 10-foot (3-m) straightedge placed on surface.
 2. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
 3. Provide plaster surfaces that are ready to receive field-applied finishes indicated.
- B. Bonding Compound: Apply on unit masonry plaster bases.
- C. Ceilings; Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork; 3/4 inch thick on concrete.
1. Portland cement mixes.
- D. Ceilings; Base-Coat Mix: Scratch coat for two-coat plasterwork, 1/4 inch thick on concrete.
1. Portland cement mixes.
- E. Plaster Finish Coats: Apply to provide float finish to match Architect's sample.
- F. Acrylic-Based Finish Coatings: Apply coating system, including primers, finish coats, and sealing topcoats, according to manufacturer's written instructions.
- G. Concealed Interior Plasterwork:
1. Where plaster application will be concealed behind built-in cabinets, similar furnishings, and equipment, apply finish coat.
 2. Where plaster application will be concealed above suspended ceilings and in similar locations, finish coat may be omitted.
 3. Where plaster application will be used as a base for adhesive application of tile and similar finishes, omit finish coat.

3.7 PLASTER REPAIRS

- A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

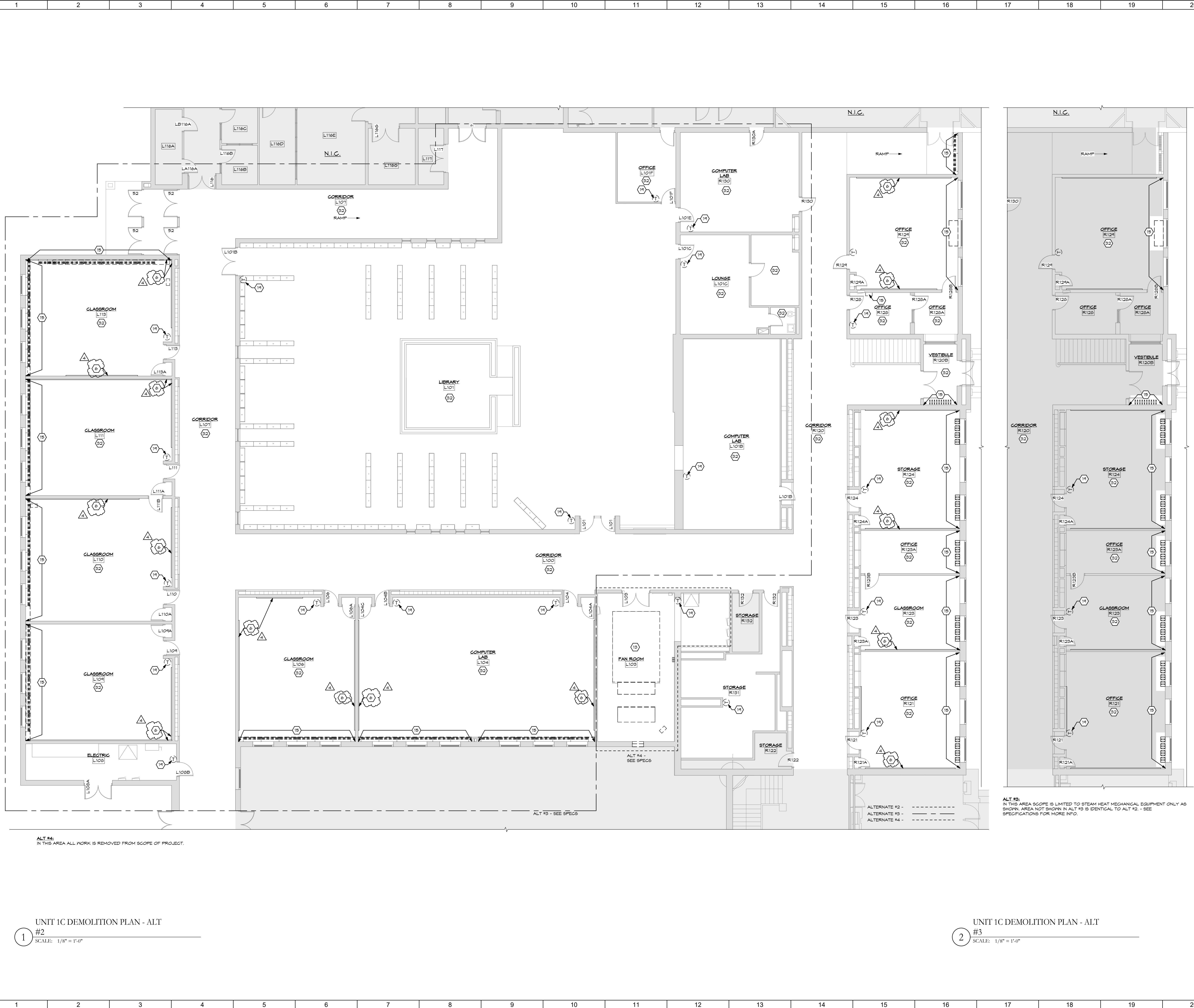
3.8 PROTECTION

- A. Remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION 092400

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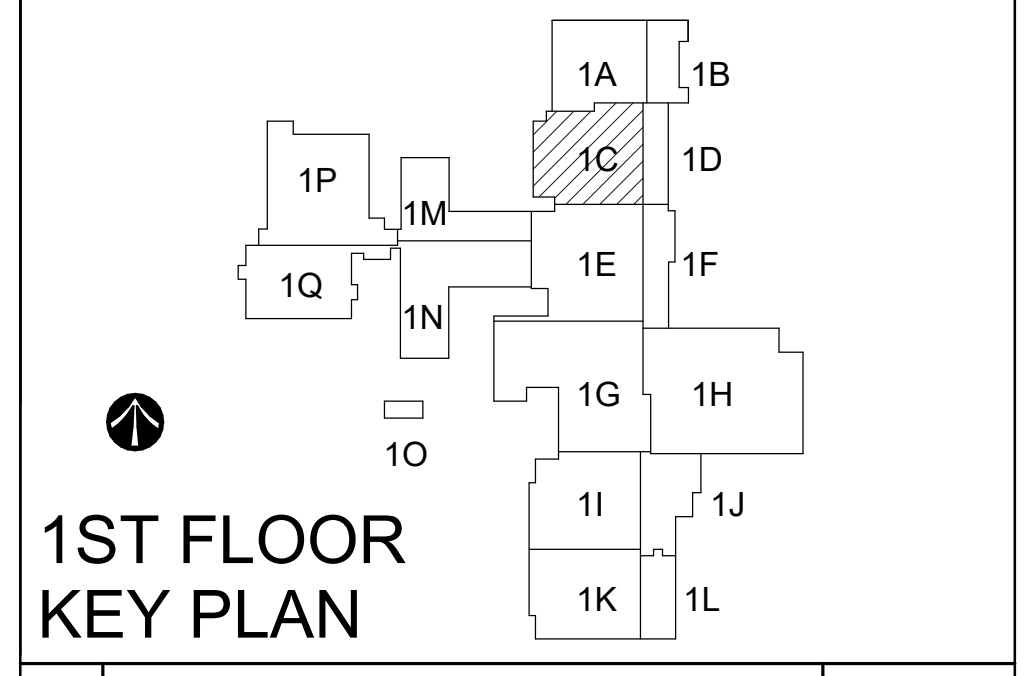
SHEET NOTES:

- EXISTING TO REMAIN.
- EXISTING LAMINATE WOOD BEAM & FURLIN TO REMAIN.
- EXISTING LIGHTING TO REMAIN - SEE ELECTRICAL.
- EXISTING CEILING GRID TO REMAIN. REPAIR SUSPENDED ACOUSTICAL CEILING GRID IN MAIN ROOM AS REQUIRED FOR SEAMLESS PATCH WITH NEW SUSPENDED ACOUSTICAL CEILING TILES TO MATCH MAIN ROOM. - ALT #2 & #3 EXISTING CEILING TILE TO REMAIN.
- EXISTING HARD SURFACE CEILING TILES TO MATCH MAIN ROOM.
- REPLACE EXISTING CHALKBOARD OR EXISTING MARKERBOARD WITH NEW MARKERBOARD OF SAME DIMENSIONS. - SEE ALT #2
- REMOVE ROOM ENTIRELY, INCLUDING ALL ELECTRICAL ITEMS ASSOC. WITH WALLS & CEILING.
- REMOVE ENTIRE CEILING & REPLACE WITH NEW SUSPENDED ACOUSTICAL CEILING SYSTEM.
- REMOVE & REPLACE ALL FLOORING & BASE TRIM IN THIS ROOM. SEE FINISH SCHEDULE. - SEE ALT #2
- REMOVE & REPLACE LIGHT FIXTURE. - SEE ELECTRICAL.
- CEILING MOUNTED PROJECTOR & RELATED EQUIP. TO REMAIN. INSTALL NEW SUSPENDED ANGLE, UNSAT ACOUSTICAL CEILING TILE AROUND ALL COMPONENTS.
- REMOVE & REPLACE EXISTING WINDOW SHADES WITH NEW WINDOW SHADES.
- REMOVE MECHANICAL EQUIPMENT COMPLETELY. - SEE MECHANICAL.
- PREPARE ALL WALL SURFACES TO RECEIVE PAINT. INCLUDING REMOVAL AND / OR BANDING OF ADHESIVE PER PAINT MANUFACTURER'S RECOMMENDATIONS PRIME & TWO-COAT FINISH PAINT WALL. FINISH PAINT PER FINISH SCHEDULE. - SEE ALT #2
- REMOVE & REPLACE EXISTING MECHANICAL HEATING UNIT. SEE MECHANICAL. PATCH & REPAIR WALLS & FLOORS AS REQUIRED. PATCH FLOOR WITH PRODUCT FROM OWNER ATTIC STOCK IN WHOLE PIECES TOOTHED INTO EXISTING FLOORING.
- CLEAN MASONRY AS REQUIRED. PATCH & REPAIR WALLS & FLOORS AS REQUIRED FROM REMOVAL OF MECHANICAL UNIT. FINISH TO MATCH EXISTING ADJACENT.
- PATCH, REPAIR, & PAINT BULKHEAD TO MATCH EXISTING ADJACENT.
- PATCH & REPAIR WALL WHERE THERMOSTAT HAS REMOVED. MATCH EXISTING ADJACENT PAINT COLOR, TEXTURE, & FINISH. - WALL TO WALL.
- REMOVE & REPLACE THERMOSTAT. - SEE MECHANICAL.
- CEILING FAN TO BE CENTERED IN BAY TYP. - SEE MECHANICAL.
- DEMOLISH & REMOVE EXHAUST FAN COMPLETELY. - SEE MECHANICAL.
- REMOVE & REPLACE PORTION OF CEILING FOR REMOVAL OF EXISTING EQUIPMENT AND / OR INSTALLATION OF NEW EQUIPMENT. - SEE PLUMBING, MECHANICAL, & ELECTRICAL DWGS.
- REMOVE & REPLACE SECTION OF DUCT WORK. - SEE MECHANICAL.
- MECHANICAL EQUIPMENT - SEE MECHANICAL.
- ACCESS PANEL - 2'-0" X 2'-0"
- REPLACE LOUVERED GRILLS TO MATCH EXISTING GRILLS IN SIZE, SHAPE, & COLOR. - SEE MECH.
- EXISTING LOUVERED GRILL TO BE CLEANED. DAMAGED GRILL TO BE REPLACED (1) FOR (1) - SEE MECH.
- PATCH, REPAIR, & PAINT CEILING / WALL AREA WHERE CEILING / WALL MOUNTED MECH UNIT WAS REMOVED. PAINT TO MATCH EXISTING ADJACENT.
- EXISTING FININGS TO REMAIN.
- EXISTING BULKHEAD WITH ROLL-UP FIRE DOOR.
- NEW LIGHTING FIXTURES - SEE ELECTRICAL.
- EXISTING FLOORING SHALL BE PROTECTED AT ALL TIMES.
- PATCH, REPAIR, & PAINT CEILING AS REQUIRED.
- NEW ACOUSTICAL DROP CEILING - SEE FINISH SCHEDULE.
- RETURN VENTS - SEE MECH.
- EXPOSED DUCT WORK TO REMAIN - SEE MECH.
- PATCH & REPAIR MASONRY WALL. TOOTH-IN BRICK MASONRY TO MATCH EXISTING ADJACENT IN COLOR, STYLE & SIZE.
- NEW 12" X 12" ACCESS DOOR.
- REMOVE & REPLACE PLASTER CEILING AS REQUIRED FOR NEW MECHANICAL VENT. - SEE MECH. MATCH EXISTING IN COLOR, TEXTURE, & HEIGHT.
- NEW PLASTER BULKHEAD.

GENERAL NOTES:

- SEE MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS FOR ASSOCIATED WORK.
- ALL PROJECTORS ARE TO REMAIN UNLESS OTHERWISE NOTED.
- ALL CEILING-MOUNTED SPEAKERS ARE TO REMAIN UNLESS OTHERWISE NOTED.
- ALL EDUCATION EQUIPMENT, BOOKSHELVES, ELECTRONICS & FURNITURE SHALL BE PROTECTED FROM DUST & DEBRIS AT ALL TIMES.
- EXISTING FLOORING SHALL BE PROTECTED AT ALL TIMES.
- ALL VINYL BASE SHALL BE REMOVED & REPLACED WITH NEW VINYL WALL BASE IN ALL ROOMS RECEIVING NEW FLOORING. SEE FINISH SCHEDULE FOR COLOR.
- REMOVE & REPLACE ALL SUSPENDED ACOUSTICAL CEILING TILES. EXISTING SUSPENDED ACOUSTICAL CEILING GRID SYSTEM TO REMAIN EXCEPT WHERE NOTED OTHERWISE. PROTECT THROUGHOUT PROJECT. ALL EXISTING CEILING MOUNTED EQUIPMENT SHALL REMAIN UNLESS NOTED OTHERWISE. REMOVE & REINSTALL CEILING-MOUNTED EQUIPMENT TO ALLOW ANGLE UNIT SUSPENDED ACOUSTICAL CEILING TILES TO BE REINSTALLED. - SEE ALT #2
- ALL WINDOWS IN CLASSROOMS ARE TO RECEIVE NEW WINDOW SHADES. REFER TO FLOOR PLAN TAGS & SPECIALTY EQUIPMENT SCHEDULE. - SEE ALT #2
- ALL WALLS SHALL HAVE DAMAGE SPOTS REPAIRED & PRIMED. PRIME ENTIRE SURFACE OF WALL WITH OIL-BASED PRIMER & TWO-COAT FINISH PAINT WITH EXTERIOR ACRYLIC LATEX PAINT. ALL FINISH PAINT TO MATCH H&B 12B BONE WHITE. APPLIED TO ALL WALLS WHERE PLUMBING, MECHANICAL, & ELECTRICAL EQUIPMENT ARE BEING REMOVED OR MODIFIED AS PART OF THIS BASE BID. SEE ALT #2 FOR ADDITIONAL SCOPE.
- ALL ROOMS WITH NO SHEET NOTE #52 OR NOT IN CONTRACT (N.I.C.) SHALL TO RECEIVE NEW CARPET TILE FLOORING AFTER REMOVAL OF EXISTING FLOORING & FLOOR PREP PER FLOORING MANUFACTURER'S WRITTEN INSTRUCTIONS. FLOORING SHALL BE SHAW-WHITELAPLACE COMMERCIAL SPINLE 84440, 40700 FINALL. ALL CEILING GRID SYSTEMS GENERALLY INDICATED APPROXIMATE LOCATIONS WHERE CEILING MUST BE MODIFIED FOR PLUMBING, MECHANICAL, & ELECTRICAL WORK ARE GENERALLY INDICATED. ADDITIONAL AREAS OF MODIFICATION NOT INDICATED MAY BE NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL AREA OF CEILING MODIFICATIONS NECESSARY FOR A COMPLETE PROJECT. NEITHER SHOWN OR NOT.

KEY PLAN:



| No. | Addendum # | Revisions / Submissions | Date |
|-----|------------|-------------------------|------------|
| 1 | | | 10.05.2021 |

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434 East First Street Dayton, OH 45402 937.223.6500
712 East Main Street Richmond, IN 47374 765.966.3546

WE R RICHMOND Richmond Community Schools
RICHMOND HIGH SCHOOL
380 Hub Etchison Pkwy,
Richmond, IN 47374
MECHANICAL MODERNIZATION PROJECT

DEMOLITION - UNIT C - ALTERNATES PLAN

| | | |
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| Comm. No. | 20104.02 | 06.18.2021 |
| Drawn | TOD | Drawing No. |
| Checked | KRM | D102A |

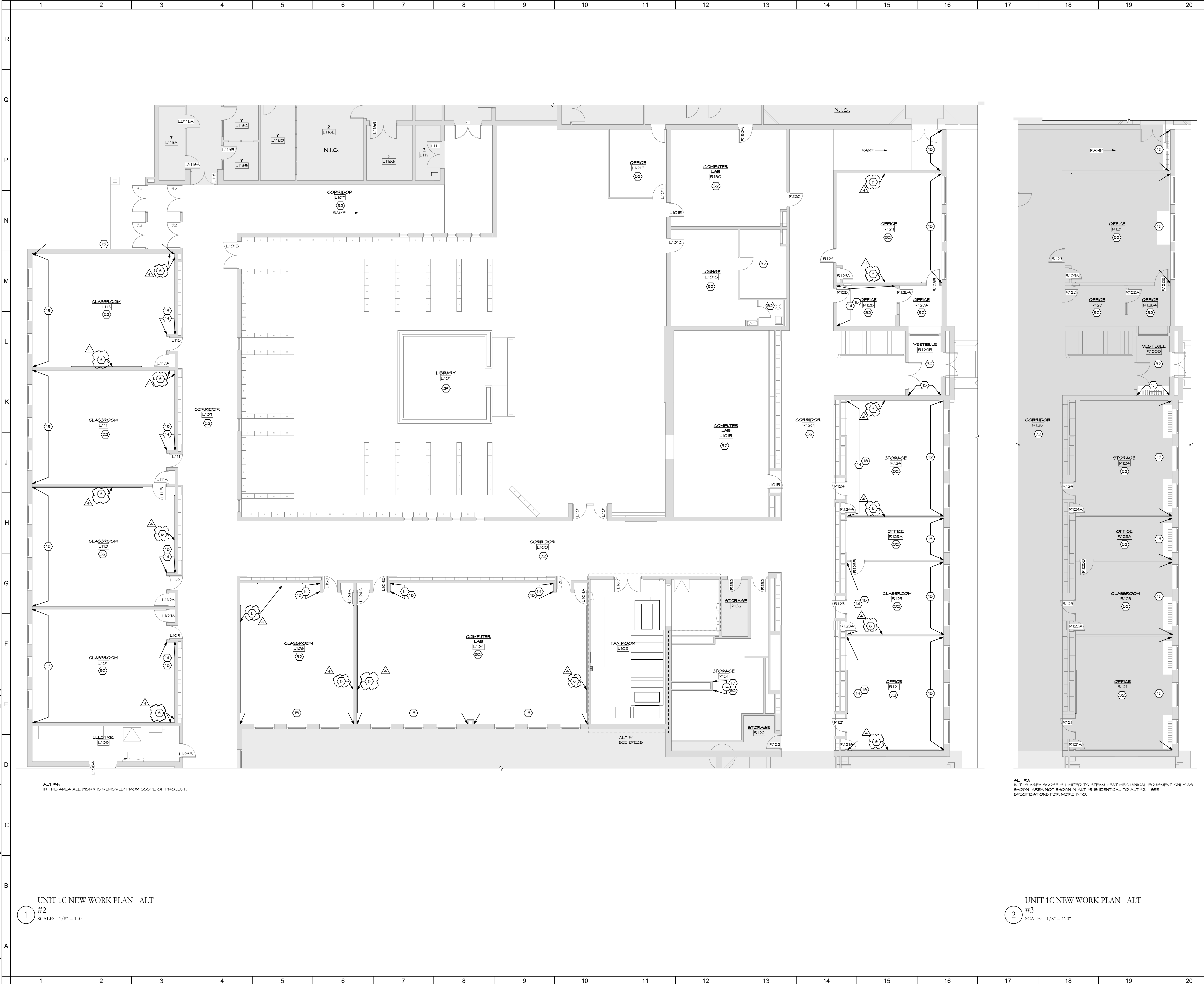
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UNIT 1C DEMOLITION PLAN - ALT #2
SCALE: 1/8" = 1'-0"

UNIT 1C DEMOLITION PLAN - ALT #3
SCALE: 1/8" = 1'-0"

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ALT #4:
IN THIS AREA ALL WORK IS REMOVED FROM SCOPE OF PROJECT.

UNIT 1C NEW WORK PLAN - ALT
#2
SCALE: 1/8" = 1'-0"

ALT #5:
IN THIS AREA SCOPE IS LIMITED TO STEAM HEAT MECHANICAL EQUIPMENT ONLY AS SHOWN. AREA NOT SHOWN IN ALT #3 IS IDENTICAL TO ALT #2 - SEE SPECIFICATIONS FOR MORE INFO.

UNIT 1C NEW WORK PLAN - ALT
#3
SCALE: 1/8" = 1'-0"

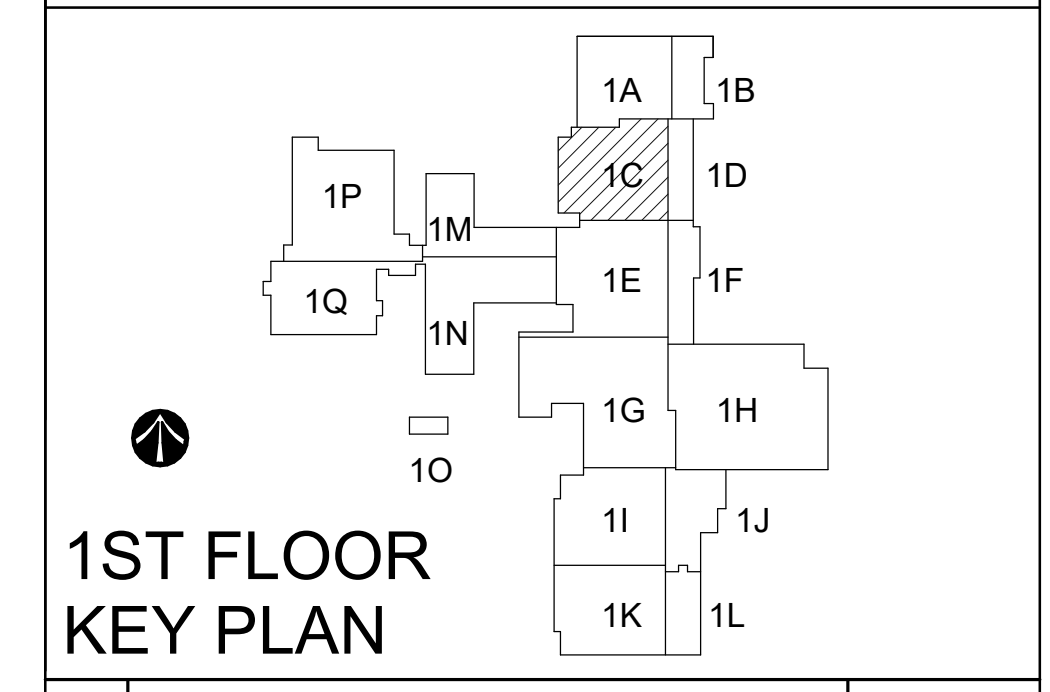
SHEET NOTES:

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- EXISTING LIGHTING TO REMAIN - SEE ELECTRICAL.
- EXISTING CEILING GRID TO REMAIN. REPAIR SUSPENDED ACoustical CEILING GRID IN MAIN ROOM AS REQUIRED FOR SEAMLESS PATCH WITH NEW SUSPENDED ACoustical CEILING TILES TO MATCH MAIN ROOM. - ALT #2 & #3
- EXISTING HARD SURFACE CEILING TO REMAIN.
- REPLACE EXISTING CHALKBOARD OR EXISTING MARKERBOARD WITH NEW MARKERBOARD OF SAME DIMENSIONS. - SEE ALT #2
- REMOVE ROOM ENTIRELY, INCLUDING ALL ELECTRICAL ITEMS ASSOC. WITH WALLS & CEILING.
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- REMOVE & REPLACE ALL FLOORING & BASE TRIM IN THIS ROOM. SEE FINISH SCHEDULE - SEE ALT #2
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- EXISTING FINISH TO REMAIN.
- EXISTING BULKHEAD WITH ROLL-UP FIRE DOOR.
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- ALL WALLS SHALL HAVE DAMAGE SPOTS REPAIRED & PRIMED. PRIME ENTIRE SURFACE OF WALL WITH OIL-BASED PRIMER & TWO-COAT FINISH PAINT WITH EXTERIOR ACRYLIC LATEX PAINT. ALL FINISH PAINT TO MATCH HAD 120 BONE WHITE. APPLIED TO ALL WALLS WHERE PLUMBING, MECHANICAL, & ELECTRICAL EQUIPMENT ARE BEING REMOVED OR MODIFIED AS PART OF THE BASE BID. SEE ALT #2 FOR ADDITIONAL SCOPE.
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KEY PLAN:



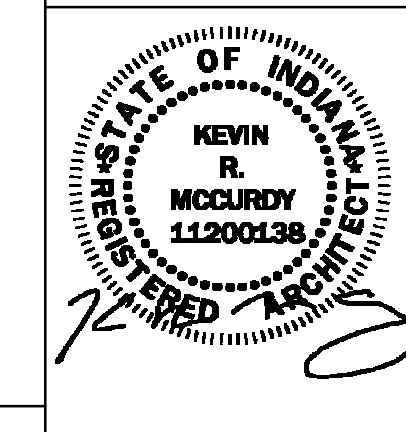
1ST FLOOR
KEY PLAN

| No. | Addendum # | Revisions / Submissions | Date |
|-----|------------|-------------------------|------------|
| 1 | | | 10.05.2021 |

LWC
INCORPORATED
434 East First Street Dayton, OH 45402 937.223.6500
712 East Main Street Richmond, IN 47374 765.966.3546

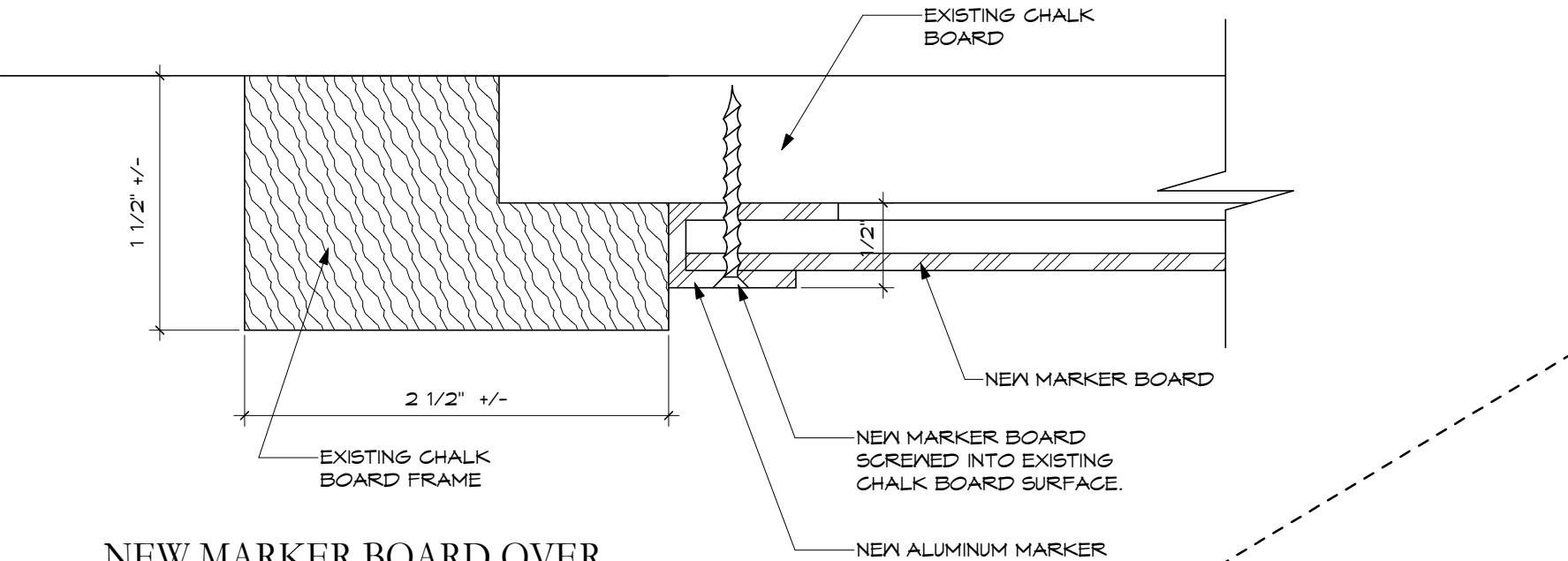
WE R RICHMOND Richmond Community Schools
RICHMOND HIGH SCHOOL
380 Hub Etchison Pkwy,
Richmond, IN 47374
**MECHANICAL MODERNIZATION
PROJECT**

| UNIT C FLOOR PLAN - ALTERNATES | |
|--------------------------------|-------------|
| Comm. No. | Date |
| 20104.02 | 06.18.2021 |
| Drawn | Drawing No. |
| TOD | A102A |
| Checked | KRM |

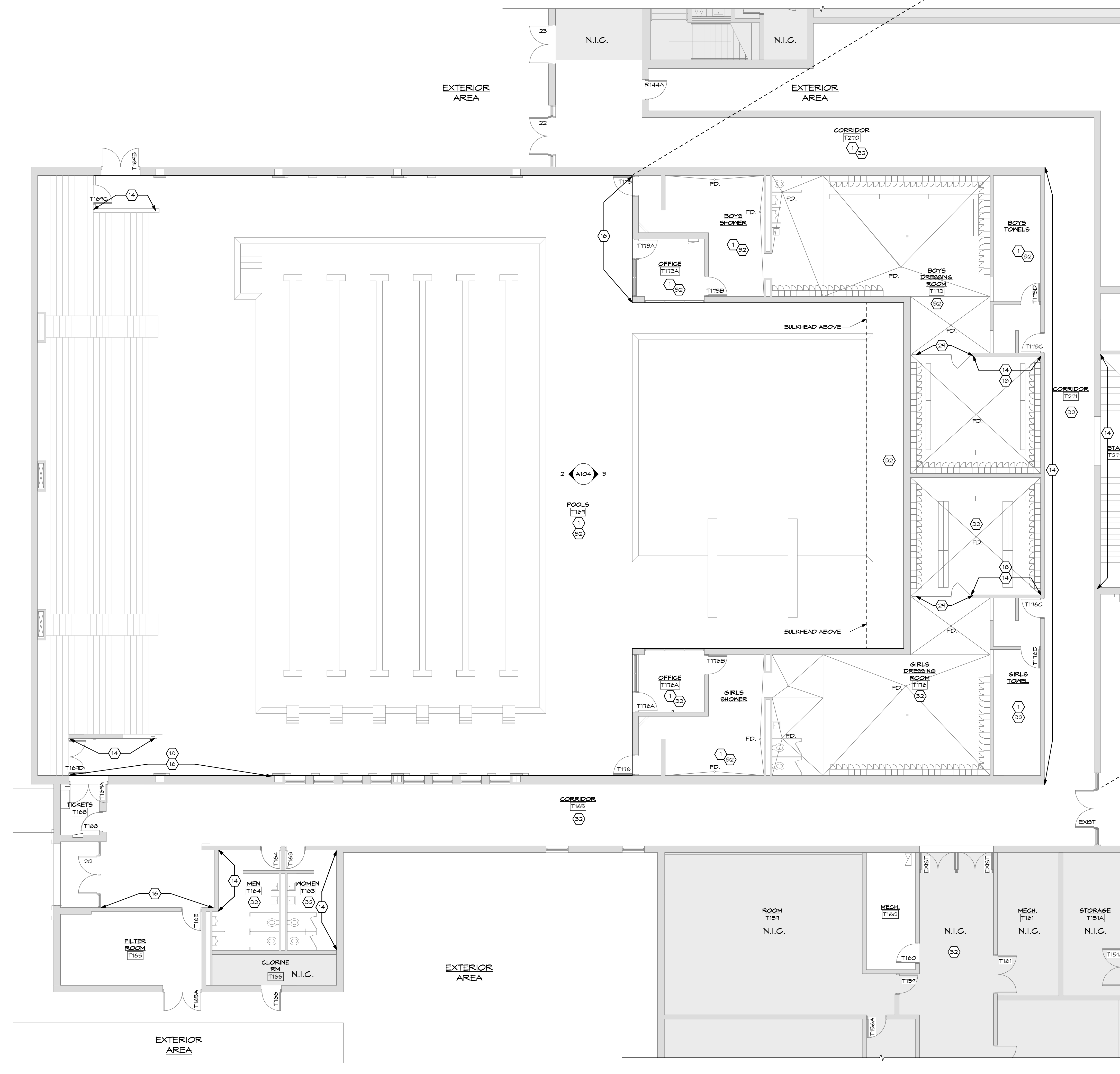


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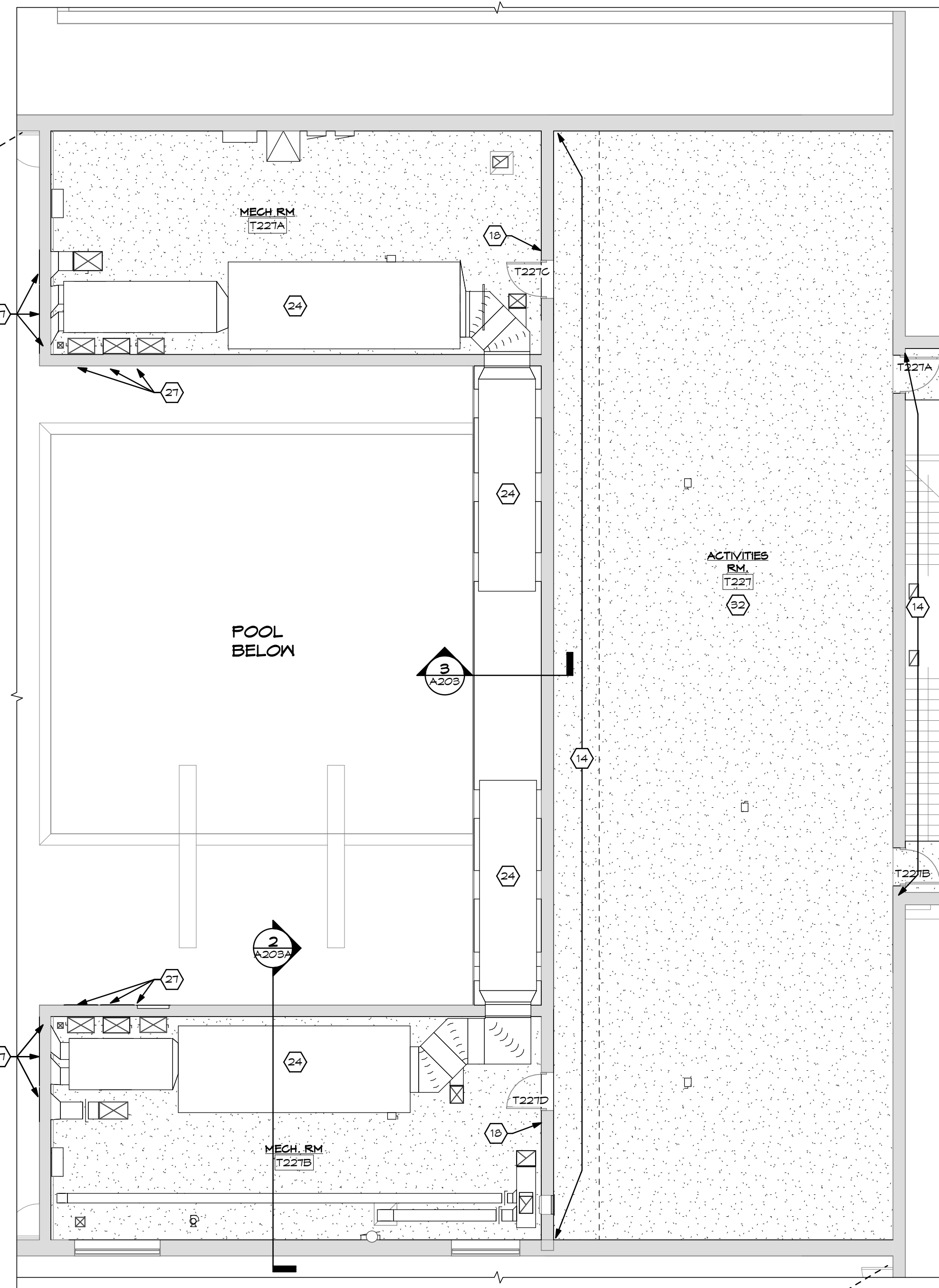
| FINISH MATERIAL SCHEDULE | | | | | |
|--------------------------|--|------------------------------|-----------------------|------------------|---|
| CODE | MATERIAL | MANUFACTURER | DESCRIPTION / PATTERN | COLOR / MATERIAL | REMARKS |
| ACT-1 | 24" X 24" SUSPENDED ACOUSTICAL CEILING TILE IN EXISTING GRID | ARMSTRONGS CORTESA | #104 | RANDOM TEXTURE | PROVIDE NEW ACOUST. CLG. TILE THROUGHOUT EXISTING GRID IN SPACE |
| ACT-2 | 24" X 24" SUSPENDED ACOUSTICAL CEILING TILE IN NEW GRID | ARMSTRONGS KITCHEN ZONE | #673 | RANDOM TEXTURE | PROVIDE NEW ACOUST. CLG. TILE THROUGHOUT NEW GRID IN SPACE |
| ACT-3 | 24" X 24" SUSPENDED ACOUSTICAL CEILING TILE IN NEW GRID | ARMSTRONGS MESA | #686 | FINE TEXTURE | PROVIDE NEW ACOUST. CLG. TILE THROUGHOUT NEW GRID IN SPACE |
| B-1 | VINYL BASE | ROFFE | 4" OR 6" | # 100 BLACK | MATCH EXISTING HEIGHT |
| CPT-1 | ROOM CARPET | SHAW PHILADELPHIA COMMERCIAL | SPINZLE 54440 | 40700 PIN BALL | MATCH EXISTING |
| FLG-1 | PLASTER CEILING | | | | MATCH EXISTING |
| PT-1 | PALL PAINT | MAB | | | MATCH EXISTING |
| PT-2 | BASE PAINT | MATCH IN FIELD | | | |



3 NEW MARKER BOARD OVER EXISTING CHALK BOARD
SCALE: 12" = 1'-0"



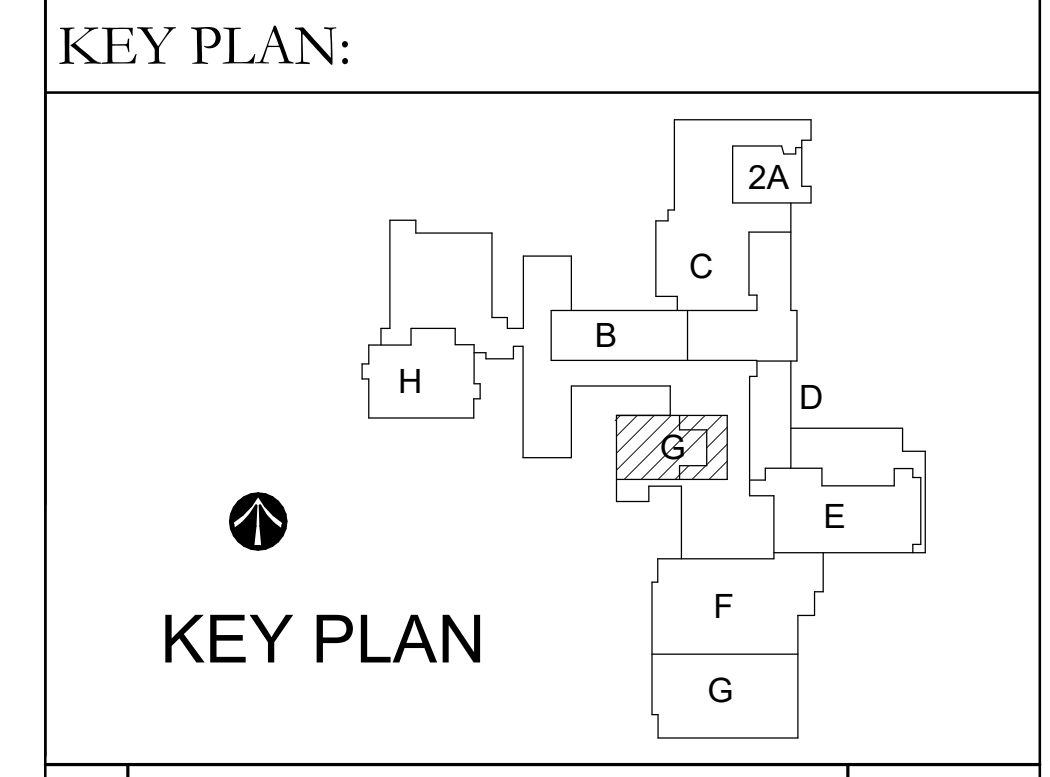
1 FIRST FLOOR NEW WORK PLAN
SCALE: 1/8" = 1'-0"



2 SECOND FLOOR NEW WORK PLAN
SCALE: 1/8" = 1'-0"

- SHEET NOTES:**
- EXISTING TO REMAIN.
 - EXISTING LIGHTING TO REMAIN - SEE ELECTRICAL.
 - EXISTING CEILING GRID TO REMAIN. REPAIR SUSPENDED ACOUSTICAL CEILING GRID IN MAIN ROOM AS REQUIRED FOR SEAMLESS PATCH WITH NEW SUSPENDED ACOUSTICAL CEILING TILES TO MATCH MAIN ROOM - ALT #2 & #3 EXISTING CEILING TILE TO REMAIN.
 - EXISTING HARD SURFACE CEILING TO REMAIN.
 - REPLACE EXISTING CHALKBOARD OR EXISTING MARKERBOARD WITH NEW MARKERBOARD OF SAME DIMENSIONS - SEE ALT #2
 - REMOVE ROOM ENTIRELY, INCLUDING ALL ELECTRICAL ITEMS ASSOC. WITH WALLS & CEILING
 - REMOVE ENTIRE CEILING & REPLACE WITH NEW SUSPENDED ACOUSTICAL CEILING SYSTEM
 - REMOVE & REPLACE ALL FLOORING & BASE TRIM IN THIS ROOM. SEE FINISH SCHEDULE - SEE ALT #2
 - REMOVE & REPLACE LIGHT FIXTURE - SEE ELECTRICAL.
 - CEILING MOUNTED PROJECTORS & RELATED EQUIP. TO REMAIN. INSTALL NEW SUSPENDED PANEL, UNSIT ACOUSTICAL CEILING TILE AROUND ALL COMPONENTS
 - REMOVE EXISTING WINDOW SHADES WITH NEW WINDOW SHADES
 - REMOVE MECHANICAL EQUIPMENT COMPLETELY - SEE MECHANICAL.
 - PREPARE ALL WALL SURFACES TO RECEIVE PAINT, INCLUDING REMOVAL AND / OR BANDING OF ADHESIVE PER PAINT MANUFACTURER'S RECOMMENDATIONS PRIME & TWO-COAT FINISH PAINT WALL. FINISH PAINT PER FINISH SCHEDULE - SEE ALT #2
 - REMOVE & REPLACE EXISTING MECHANICAL HEATING UNIT. SEE MECHANICAL.
 - PATCH FINISH FLOOR WITH PRODUCT FROM OWNER ATTC STOCK IN WHOLE PIECES TOOTHED INTO EXISTING FLOORING
 - CLEAN MASONRY AS REQUIRED. PATCH & REPAIR WALLS & FLOORS AS REQUIRED FROM REMOVAL OF MECHANICAL UNIT. FINISH TO MATCH EXISTING ADJACENT
 - PATCH, REPAIR, & PAINT BULKHEAD TO MATCH EXISTING ADJACENT.
 - PATCH & REPAIR WALL WHERE THERMOSTAT WAS REMOVED. MATCH EXISTING ADJACENT PAINT COLOR, TEXTURE, & FINISH - WALL TO WALL.
 - REMOVE & REPLACE THERMOSTAT - SEE MECHANICAL.
 - CEILING FAN TO BE REMOVED IN BAY TYPE - SEE MECHANICAL.
 - DEMOLISH & REMOVE EXHAUST FAN COMPLETELY - SEE MECHANICAL.
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 - REMOVE & REPLACE SECTION OF DUCT WORK - SEE MECHANICAL.
 - MECHANICAL EQUIPMENT - SEE MECHANICAL.
 - ACCESS PANEL - 2'-0" X 2'-0"
 - REPLACE LOUVERED GRILLS TO MATCH EXISTING GRILLS IN SIZE, SHAPE, & COLOR - SEE MECH.
 - EXISTING LOUVERED GRILL TO BE CLEANED. DAMAGED GRILL TO BE REPLACED (1) FOR (1) - SEE MECH.
 - PATCH, REPAIR, & PAINT CEILING / WALL AREA WHERE CEILING / WALL MOUNTED MECH UNIT WAS REMOVED. PAINT TO MATCH EXISTING ADJACENT.
 - EXISTING FENCING TO REMAIN.
 - EXISTING BULKHEAD WITH ROLL-UP FIRE DOOR.
 - NEW LIGHTING FIXTURES - SEE ELECTRICAL.
 - EXISTING FLOORING SHALL BE PROTECTED AT ALL TIMES
 - PATCH, REPAIR, & PAINT CEILING AS REQUIRED.
 - NEW ACOUSTICAL DROP CEILING - SEE FINISH SCHEDULE.
 - RETURN VENTS - SEE MECH.
 - EXPOSED DUCT WORK TO REMAIN - SEE MECH.
 - PATCH & REPAIR MASONRY WALL, TOOTH-IN BRICK MASONRY TO MATCH EXISTING ADJACENT IN COLOR, STYLE & SIZE.
 - NEW 12' X 12' ACCESS DOOR.
 - REMOVE & REPLACE PLASTER CEILING AS REQUIRED FOR NEW MECHANICAL VENT - SEE MECH. MATCH EXISTING IN COLOR, TEXTURE, & HEIGHT.
 - NEW PLASTER BULKHEAD

- GENERAL NOTES:**
- SEE MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS FOR ASSOCIATED WORK.
 - ALL PROJECTORS ARE TO REMAIN UNLESS OTHERWISE NOTED.
 - ALL CEILING-MOUNTED SPEAKERS ARE TO REMAIN UNLESS OTHERWISE NOTED.
 - ALL EDUCATION EQUIPMENT, BOOKSHELVES, ELECTRONICS & FURNITURE SHALL BE PROTECTED FROM DUST & DEBRIS AT ALL TIMES.
 - EXISTING FLOORING SHALL BE PROTECTED AT ALL TIMES
 - ALL VINYL BASE SHALL BE REMOVED & REPLACED WITH NEW VINYL WALL BASE IN ALL ROOMS RECEIVING NEW FLOORING. SEE FINISH SCHEDULE FOR COLOR.
 - REMOVE & REPLACE ALL SUSPENDED ACOUSTICAL CEILING TILES. EXISTING SUSPENDED ACOUSTICAL CEILING GRID SYSTEM TO REMAIN EXCEPT WHERE NOTED OTHERWISE. PROTECT THROUGHOUT PROJECT. ALL EXISTING CEILING MOUNTED EQUIPMENT SHALL REMAIN UNLESS NOTED OTHERWISE. REMOVE & REINSTALL CEILING-MOUNTED EQUIPMENT TO ALL CORNICE UNIT SUSPENDED ACOUSTICAL CEILING TILES TO BE REINSTALLED - SEE ALT #2
 - ALL WINDOWS IN CLASSROOMS ARE TO RECEIVE NEW WINDOW SHADES. REFER TO FLOOR PLAN TAGS & SPECIALTY EQUIPMENT SCHEDULE - SEE ALT #2
 - ALL WALLS SHALL HAVE DAMAGE SPOTS REPAIRED & PRIME. PRIME ENTIRE SURFACE OF WALL WITH OIL-BASED PRIMER & TWO-COAT FINISH PAINT WITH EXTERIOR ACRYLIC LATEX PAINT. ALL FINISH PAINT TO MATCH MAB 120 BONE WHITE APPLIED TO ALL WALLS WHERE PLUMBING, MECHANICAL, & ELECTRICAL EQUIPMENT ARE BEING REMOVED OR MODIFIED AS PART OF THIS BASE BID. SEE ALT #2 FOR ADDITIONAL SCORE.
 - ALL ROOMS WITH NO SHEET NOTE #32 OR NOT IN CONTRACT N.I.C. SHALL TO RECEIVE NEW CARPET TILE FLOORING AFTER REMOVAL OF EXISTING FLOORING & FLOOR PREP PER FLOORING MANUFACTURER'S WRITTEN INSTRUCTIONS. FLOORING SHALL BE SHAW/PHILADELPHIA COMMERCIAL SPINZLE #4440, 40700 PINBALL, 24" X 24" TILES. SEE ALT #2 FOR EXTENTS APPROXIMATE LOCATIONS WHERE CEILING MUST BE MODIFIED FOR PLUMBING, MECHANICAL, & ELECTRICAL WORK ARE GENERALLY INDICATED. ADDITIONAL AREAS OF MODIFICATION NOT INDICATED MAY BE NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL AREA OF CEILING MODIFICATIONS NECESSARY FOR A COMPLETE PROJECT, WHETHER SHOWN OR NOT.



| No. | Revisions / Submissions | Date |
|-----|-------------------------|------------|
| 1 | Bid Documents | 08.27.2021 |
| | Addendum #1 | 10.05.2021 |

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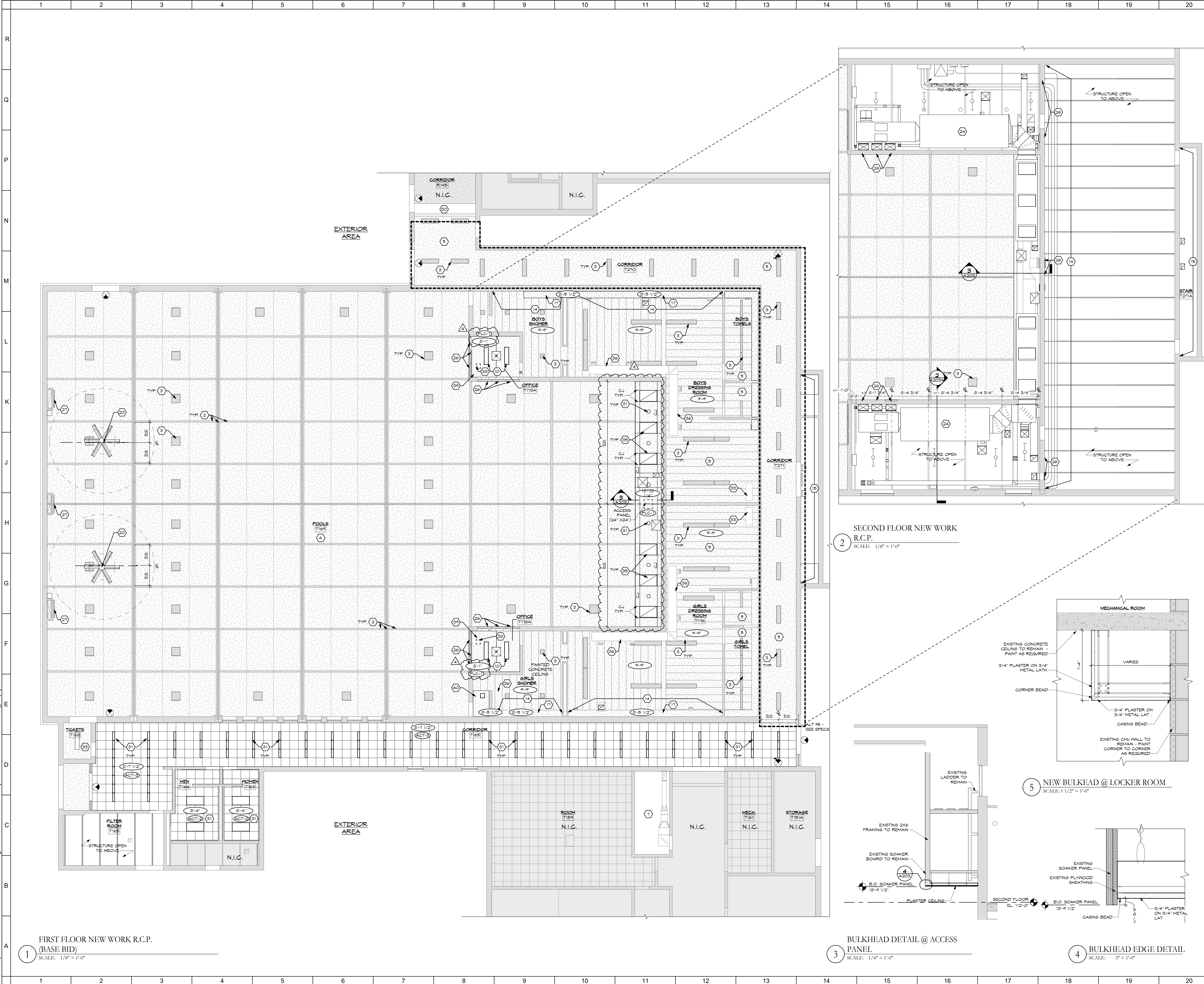
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**MECHANICAL MODERNIZATION
PROJECT**

**NATATORIUM - FIRST & SECOND FLOOR
NATATORIUM PLANS**

| | |
|-----------|-------------|
| Comm. No. | Date |
| 20104.02 | 06.18.2021 |
| Drawn | Drawing No. |
| TOD | A103 |
| Checked | KRM |

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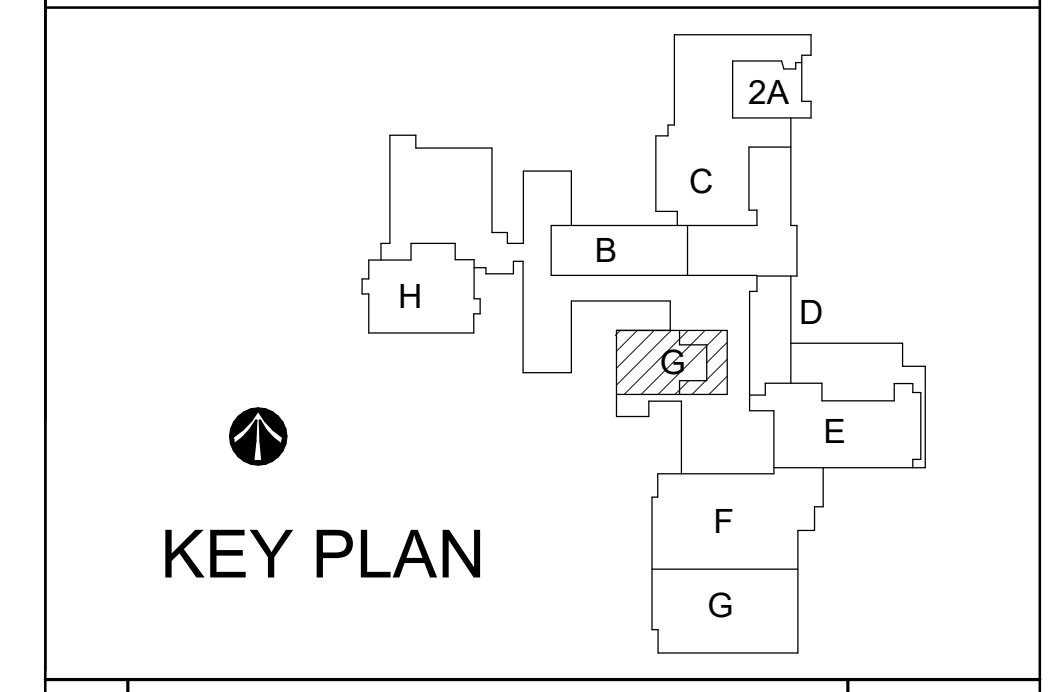
SHEET NOTES:

1. EXISTING TO REMAIN.
2. EXISTING LAMINATE POOD BEAM & FURLIN TO REMAIN.
3. EXISTING LIGHTING TO REMAIN - SEE ELECTRICAL.
4. EXISTING GELING GRID TO REMAIN. REPAIR SUSPENDED ACOUSTICAL GELING GRID IN MAIN ROOM AS REQUIRED FOR SEAMLESS PATCH WITH NEW SUSPENDED ACOUSTICAL GELING TILES TO MATCH MAIN ROOM. - ALT #2 & 13 EXISTING GELING TILE TO REMAIN.
5. EXISTING HARD SURFACE GELING TO REMAIN.
6. REPLACE EXISTING CHALKBOARD OR EXISTING MARKERBOARD WITH NEW MARKERBOARD OF SAME DIMENSIONS. - SEE ALT #2
7. REMOVE ROOM ENTIRELY, INCLUDING ALL ELECTRICAL ITEMS ASSOC. WITH WALLS & GELING.
8. REMOVE ENTIRE GELING & REPLACE WITH NEW SUSPENDED ACOUSTICAL GELING SYSTEM.
9. REMOVE & REPLACE ALL FLOORING & BASE TRIM IN THIS ROOM. SEE FINISH SCHEDULE - SEE ALT #2
10. REMOVE & REPLACE LIGHT FIXTURE. - SEE ELECTRICAL.
11. GELING MOUNTED PROJECTOR & RELATED EQUIP. TO REMAIN. INSTALL NEW SUSPENDED ANGLE, UNSUT ACOUSTICAL GELING TILE AROUND ALL COMPONENTS.
12. REMOVE & REPLACE EXISTING WINDOW SHADES WITH NEW WINDOW SHADES.
13. REMOVE MECHANICAL EQUIPMENT COMPLETELY. - SEE MECHANICAL.
14. PREPARE ALL WALL SURFACES TO RECEIVE PAINT, INCLUDING REMOVAL AND / OR BANDING OF ADHESIVE PER PAINT MANUFACTURER'S RECOMMENDATIONS PRIME & TWO-COAT FINISH PAINT WALL. FINISH PAINT PER FINISH SCHEDULE - SEE ALT #2
15. REMOVE & REPLACE EXISTING MECHANICAL HEATING UNIT. SEE MECHANICAL.
16. PATCH & REPAIR WALLS & FLOORS AS REQUIRED. PAINT WALLS TO WALL. PATCH FINISH FLOOR WITH PRODUCT FROM OWNER ATTIC STOCK IN WHOLE PIECES TOOTHED INTO EXISTING FLOORING.
17. CLEAN MASONRY AS REQUIRED. PATCH & REPAIR WALLS & FLOORS AS REQUIRED FROM REMOVAL OF MECHANICAL UNIT. FINISH TO MATCH EXISTING ADJACENT.
18. PATCH, REPAIR, & PAINT BULKHEAD TO MATCH EXISTING ADJACENT.
19. PATCH & REPAIR WALL WHERE THERMOSTAT HAS BEEN REMOVED. MATCH EXISTING ADJACENT PAINT COLOR, TEXTURE, & FINISH. - WALL TO WALL.
20. REMOVE & REPLACE THERMOSTAT. - SEE MECHANICAL.
21. GELING FAN TO BE PORTIONED IN BAY TYPE. - SEE MECHANICAL.
22. DEMOLISH & REMOVE EXHAUST FAN COMPLETELY. - SEE MECHANICAL.
23. REMOVE & REPLACE PORTION OF GELING FOR REMOVAL OF EXISTING EQUIPMENT AND / OR INSTALLATION OF NEW EQUIPMENT. - SEE PLUMBING, MECHANICAL, & ELECTRICAL DWGS.
24. REMOVE & REPLACE SECTION OF DUCT WORK. - SEE MECHANICAL.
25. MECHANICAL EQUIPMENT - SEE MECHANICAL.
26. REPLACE LOUVERED GRILLS TO MATCH EXISTING GRILLS IN SIZE, SHAPE, & COLOR. - SEE MECH.
27. EXISTING LOUVERED GRILL TO BE CLEANED. DAMAGED GRILL TO BE REPLACED (1) FOR (1) - SEE MECH.
28. PATCH, REPAIR, & PAINT GELING / WALL AREA WHERE GELING / WALL MOUNTED MECH UNIT HAS BEEN REMOVED. PAINT TO MATCH EXISTING ADJACENT.
29. EXISTING FENCING TO REMAIN.
30. EXISTING BULKHEAD WITH ROLL-UP FIRE DOOR.
31. NEW LIGHTING FIXTURES - SEE ELECTRICAL.
32. EXISTING FLOORING SHALL BE PROTECTED AT ALL TIMES.
33. PATCH, REPAIR, & PAINT GELING AS REQUIRED.
34. NEW ACOUSTICAL DROP GELING - SEE FINISH SCHEDULE.
35. RETURN VENTS - SEE MECH.
36. EXPOSED DUCT WORK TO REMAIN - SEE MECH.
37. PATCH & REPAIR MASONRY WALL, TOOTH IN BRICK MASONRY TO MATCH EXISTING ADJACENT IN COLOR, STYLE & SIZE.
38. NEW 12" X 12" ACCESS DOOR.
39. REMOVE & REPLACE PLASTER GELING AS REQUIRED FOR NEW MECHANICAL VENT. - SEE MECH. MATCH EXISTING IN COLOR, TEXTURE, & HEIGHT.
40. NEW PLASTER BULKHEAD.

GENERAL NOTES:

- A. SEE MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS FOR ASSOCIATED WORK.
- B. ALL PROJECTORS ARE TO REMAIN UNLESS OTHERWISE NOTED.
- C. ALL CEILING-MOUNTED SPEAKERS ARE TO REMAIN UNLESS OTHERWISE NOTED.
- D. ALL EDUCATION EQUIPMENT, BOOKSHELVES, ELECTRONICS & FURNITURE SHALL BE PROTECTED FROM DUST & DEBRIS AT ALL TIMES.
- E. ALL VINYL BASE SHALL BE REMOVED & REPLACED WITH NEW VINYL WALL BASE IN ALL ROOMS RECEIVING NEW FLOORING. SEE FINISH SCHEDULE FOR COLOR.
- F. REMOVE & REPLACE ALL SUSPENDED ACOUSTICAL GELING TILES. EXISTING SUSPENDED ACOUSTICAL GELING GRID SYSTEM TO REMAIN EXCEPT WHERE NOTED OTHERWISE. PROTECT THROUGHOUT PROJECT ALL EXISTING GELING MOUNTED EQUIPMENT SHALL REMAIN UNLESS NOTED OTHERWISE. REMOVE & REINSTALL CEILING-MOUNTED EQUIPMENT TO ALL CORNER ANGLE. UNSUT SUSPENDED ACOUSTICAL GELING TILES TO BE REINSTALLED. - SEE ALT #2
- G. ALL WINDOWS IN CLASSROOMS ARE TO RECEIVE NEW WINDOW SHADES. REFER TO FLOOR PLAN TAGS & SPECIALTY EQUIPMENT SCHEDULE. - SEE ALT#2
- H. ALL WALLS SHALL HAVE DAMAGE SPOTS REPAIRED & PRIMED. PRIME ENTIRE SURFACE OF WALL WITH OIL-BASED PRIMER & TWO-COAT FINISH PAINT WITH EXTERIOR ACRYLIC LATEX PAINT. ALL FINISH PAINT TO MATCH HAD 120 BONE WHITE APPLIED TO ALL WALLS WHERE PLUMBING, MECHANICAL, & ELECTRICAL EQUIPMENT ARE BEING REMOVED OR MODIFIED AS PART OF THE BASE BID. SEE ALT #2 FOR ADDITIONAL SCORE.
- I. ALL ROOMS WITH NO SHEET NOTE #52 OR NOT IN CONTRACT N.I.C. SHALL TO RECEIVE NEW CARPET TILE FLOORING AFTER REMOVAL OF EXISTING FLOORING & FLOOR PREP PER FLOORING MANUFACTURER'S WRITTEN INSTRUCTIONS. FLOORING SHALL BE SHAWPHILADELPHIA COMMERCIAL SPIZZE #4440, 4070 FINISH 12" X 12" TILES. SEE ALT #2 FOR EXTENTS APPROXIMATE LOCATIONS WHERE GELING MUST BE MODIFIED FOR PLUMBING, MECHANICAL, & ELECTRICAL WORK ARE GENERALLY INDICATED. ADDITIONAL AREAS OF MODIFICATION NOT INDICATED MAY BE REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR AREA OF GELING MODIFICATIONS NECESSARY FOR A COMPLETE PROJECT, WHETHER SHOWN OR NOT.

KEY PLAN:



| No. | Revisions / Submissions | Date |
|-----|-------------------------|------------|
| 1 | Bid Documents | 08.27.2021 |
| 2 | Addendum #2 | 09.24.2021 |
| 3 | Addendum #4 | 10.05.2021 |

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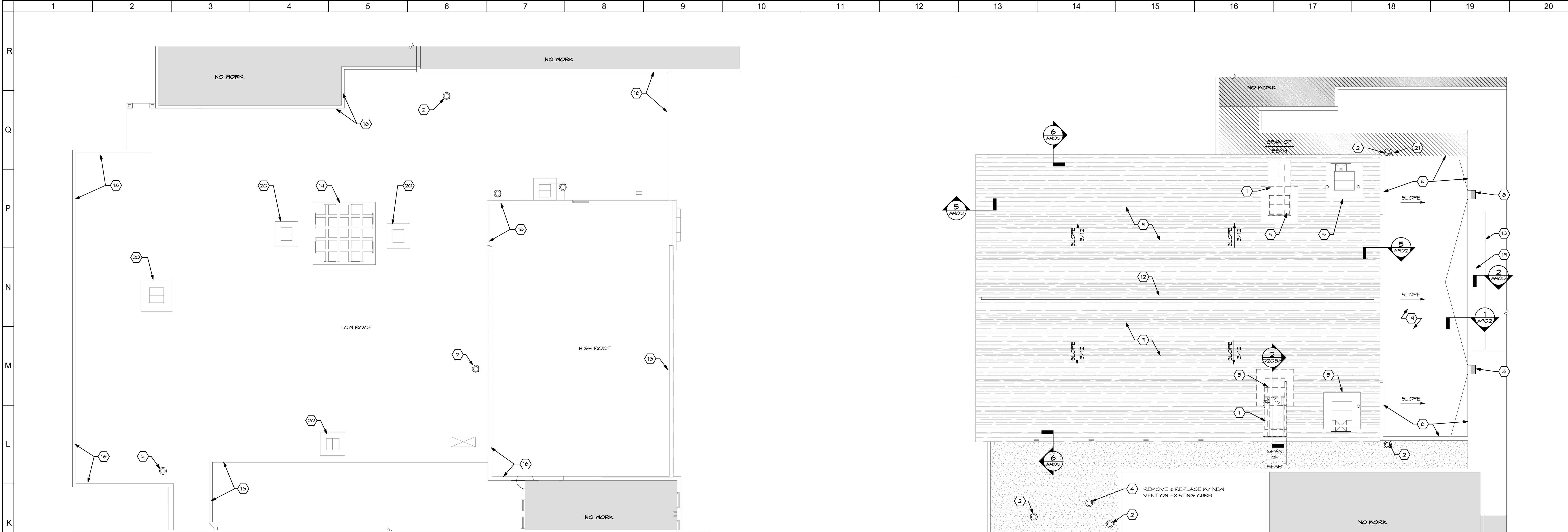
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MECHANICAL MODERNIZATION PROJECT

NATATORIUM - FIRST & SECOND FLOOR NEW REFLECTED CEILING PLANS

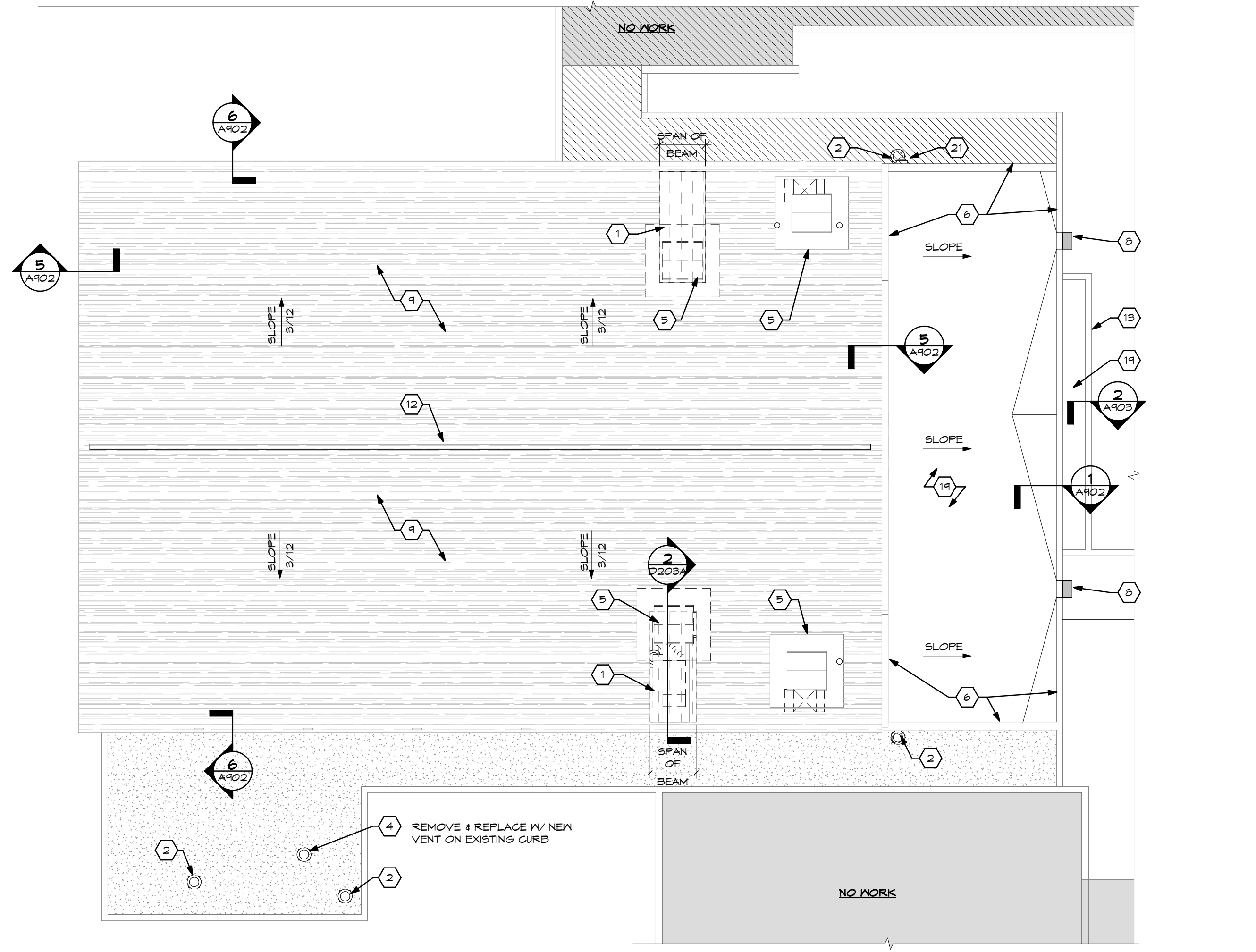
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| Drawn | TOD | Drawing No. | A203 |
| Checked | KRM | | |

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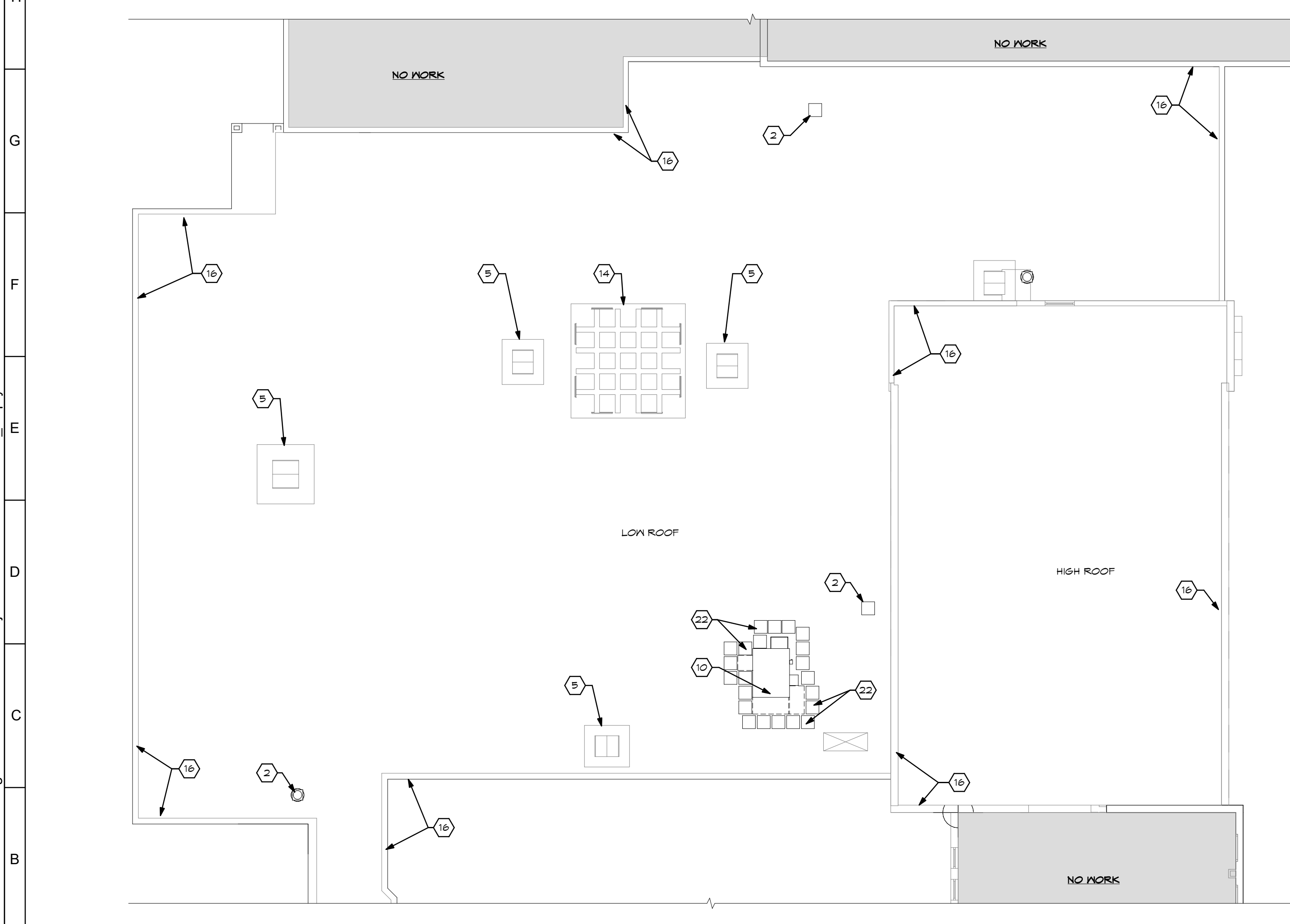
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1 DEMOLITION ROOF PLAN - UNIT C
SCALE: 1/16" = 1'-0"

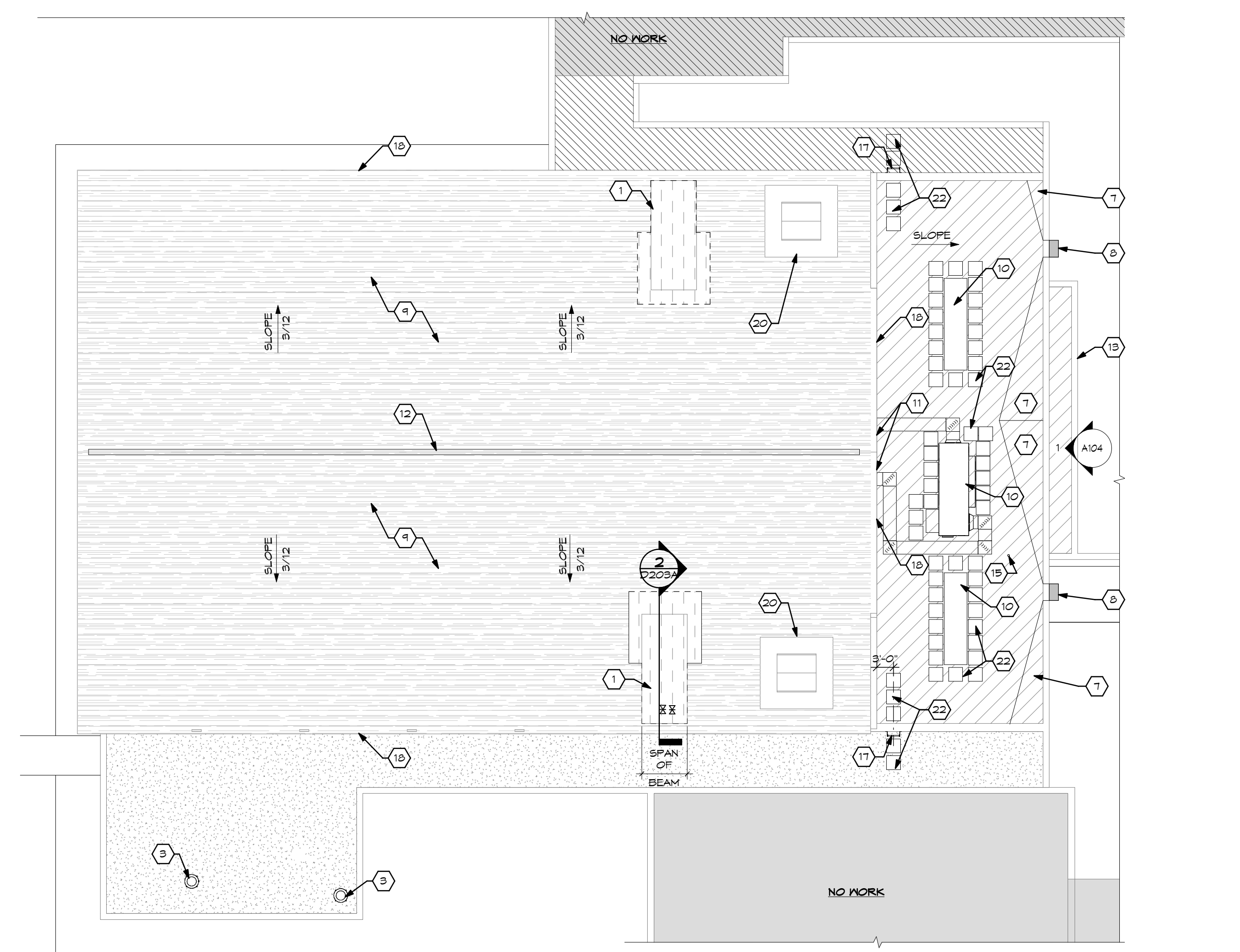


2 DEMOLITION ROOF PLAN - NATATORIUM
SCALE: 1/16" = 1'-0"



3 NEW WORK ROOF PLAN - UNIT C
SCALE: 1/16" = 1'-0"

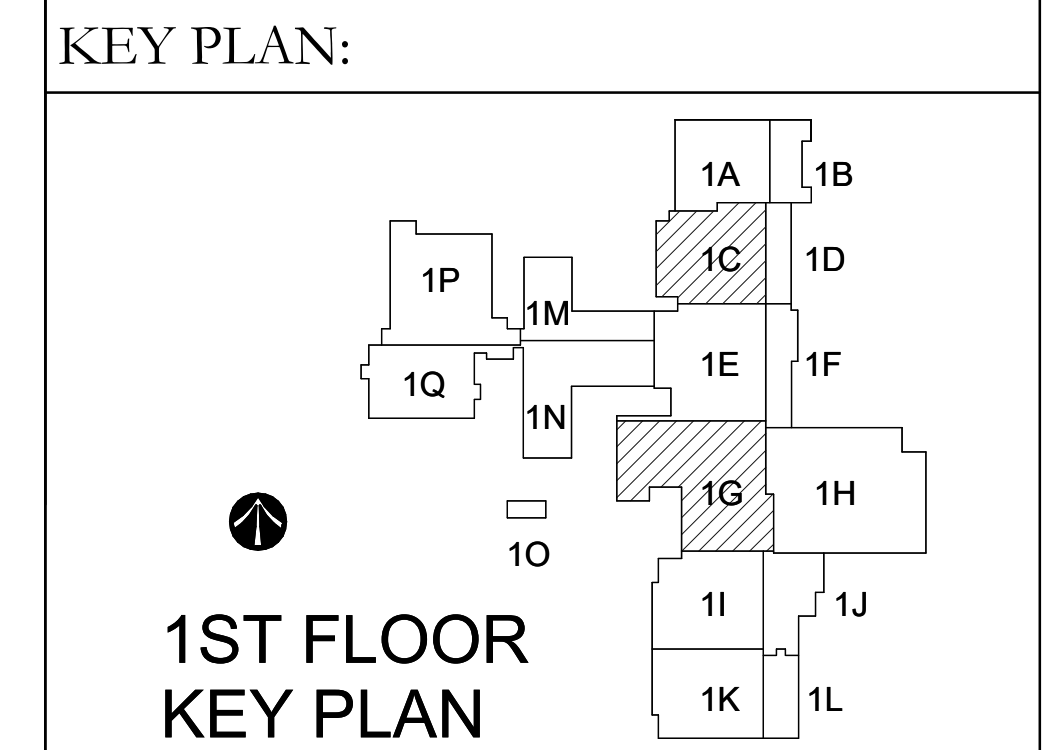
- ROOF PLAN LEGEND**
- EPDM ROOF REPLACED IN 2019. ALL REPAIRS IN THIS AREA SHALL BE MADE IN A MANNER SUCH THAT THE EXISTING WARRANTY IS MAINTAINED.
 - ASPHALT SHINGLE ROOF ON 5" WOOD DECK. REPAIR DECK. INSTALL ROOF SYSTEM TO MATCH EXISTING.
 - BUILT UP ROOF ON 1 1/2" RIGID INSULATION OVER 1 1/2" METAL DECK. INSTALL NEW 1/2" GYPSUM BOARD, AIR BARRIER MEMBRANE, 3" POLYISOCYANURATE INSULATION, 1/2" RECOVER BOARD & 60 MIL EPDM ROOF. EXISTING ROOF DECK IS SLOPED.
 - EPDM ROOF SYSTEM TO BE COMPLETED UNDER SEPARATE CONTACT BY OWNER.
 - EXISTING BUILT UP ROOF SYSTEM TO REMAIN.
 - LOCATION WHERE PORTION OF THE ROOF IS REMOVED TO ALLOW ACCESS TO THE MECHANICAL ROOMS BELOW. ALSO REMOVE RELIEF HOOD COMPLETELY. PATCH & REPAIR THIS AREA TO MATCH EXISTING ADJACENT ROOF CONSTRUCTION & FINISH.



4 NEW WORK ROOF PLAN - NATATORIUM
SCALE: 1/16" = 1'-0"

- SHEET NOTES:**
1. PORTION OF ROOF TO BE REMOVED AS REQUIRED FOR NEW MECHANICAL EQUIPMENT. COORDINATE OPENING SIZE WITH FINAL SPLITS ON MECHANICAL SHOP DWGS. - SEE DETAIL FOR MORE INFO.
 2. REMOVE EXISTING EXHAUST FAN. SEE MECH DWGS. CAP CURB ON ROOF. SEE DETAILS.
 3. NEW EXHAUST FAN ON EXISTING CURB - SEE MECH.
 4. REMOVE EXISTING EXHAUST FAN & REPLACE WITH NEW ON EXISTING CURB. SEE MECH DWGS.
 5. REMOVE EXISTING RELIEF HOOD & REPAIR EXISTING ROOF.
 6. STONE COPINGS TO REMAIN. REMOVE SEALANT AT ALL JOINTS. INSTALL NEW BACKERROD AND SEALANT (TYP.).
 7. TAPERED INSULATION.
 8. EXISTING COPPER ROOF SCUPPER AND DOWNSPOUT TO BE REMOVED & REINSTALLED WITH NEW ROOF.
 9. EXISTING ASPHALT SHINGLE SYSTEM TO REMAIN.
 10. NEW ROOFTOP MECHANICAL EQUIPMENT. SEE MECH DWGS & DETAILS.
 11. REMOVE EXISTING FAN AND / OR LOWER SYSTEM & PROVIDE PRE-FINISHED ALUMINUM INSULATED ENCLOSURE AT NEW THROUGH-WALL DUCT PENETRATIONS.
 12. CONTINUOUS RESIST VENT TO REMAIN.
 13. EXISTING SILLER AND JOISTS TO BE REMOVED & REBUILT WITH NEW ROOF. EXISTING SILLER TO REMAIN.
 14. EXISTING FLASHING TO REMAIN.
 15. WASTE VENT. PROVIDE NEW FLASHING.
 16. STONE COPINGS TO REMAIN. NO WORK.
 17. NEW ROOF ACCESS LADDER - SEE DETAILS.
 18. REMOVE EXISTING BUILT UP ROOF SYSTEM TO DECK. REPLACE WITH NEW EPDM ROOF SYSTEM.
 19. REMOVE EXISTING BUILT UP ROOF SYSTEM TO DECK. REPLACE WITH NEW EPDM ROOF SYSTEM.
 20. EXISTING RELIEF HOOD TO REMAIN - SEE MECH DWGS.
 21. REMOVE EXISTING THROUGH-WALL EXHAUST FAN. REMOVE CUT MASONRY & TOOTH-IN AT EXTERIOR & INTERIOR SURFACES. MATCH ALL ADJACENT FINISHES.
 22. 30" X 50" ROOF WALK PADS.

- GENERAL NOTES:**
- A. SEE MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS FOR ASSOCIATED WORK.
 - B. DEVELOP ALL SADDLES AS REQUIRED TO PROVIDE POSITIVE SLOPE TO ROOF DRAINS FOR WATER FLOW AND AS REQUIRED TO ELIMINATE ANY POONDING OF WATER ON ROOF SURFACE.
 - C. DEVELOP SADDLES AND CRICKETS WITH TAPERED INSULATION TO ACHIEVE 1/4" PER FOOT MINIMUM.
 - D. EXTEND ALL PLUMBING VENTS FOR NEW ROOF SYSTEM. EXTEND ALL ROOF CURBS FOR FANS, VENTS ROOFTOP EQUIPMENT, ETC. AS REQUIRED, MINIMUM 2" ABOVE NEW ROOF SYSTEM. VERIFY LOCATIONS OF ALL ROOF PENETRATIONS.
 - E. ALL ROOF TRIM SHALL BE PREPARED PER MANUFACTURER'S WRITTEN INSTRUCTIONS, PRIMED IN AREAS OF EXPOSED WOOD, AND TWO-COAT FINISH PAINT ALL WOOD BASE IN ALL ROOMS RECEIVING NEW FLOORING. SEE FINISH MATERIALS LEGEND FOR COLOR.
 - F. PROVIDE NEW COPPER ROOF FLASHING WHERE APPLICABLE. - SEE DETAILS.
 - G. PROVIDE WALK-PADS AT ALL ROOF MOUNTED EQUIPMENT.



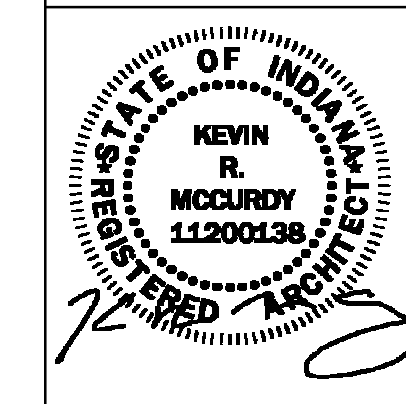
| No. | Revisions / Submissions | Date |
|-----|-------------------------|------------|
| 1 | Bid Documents | 08.27.2021 |
| 2 | Addendum #1 | 10.05.2021 |

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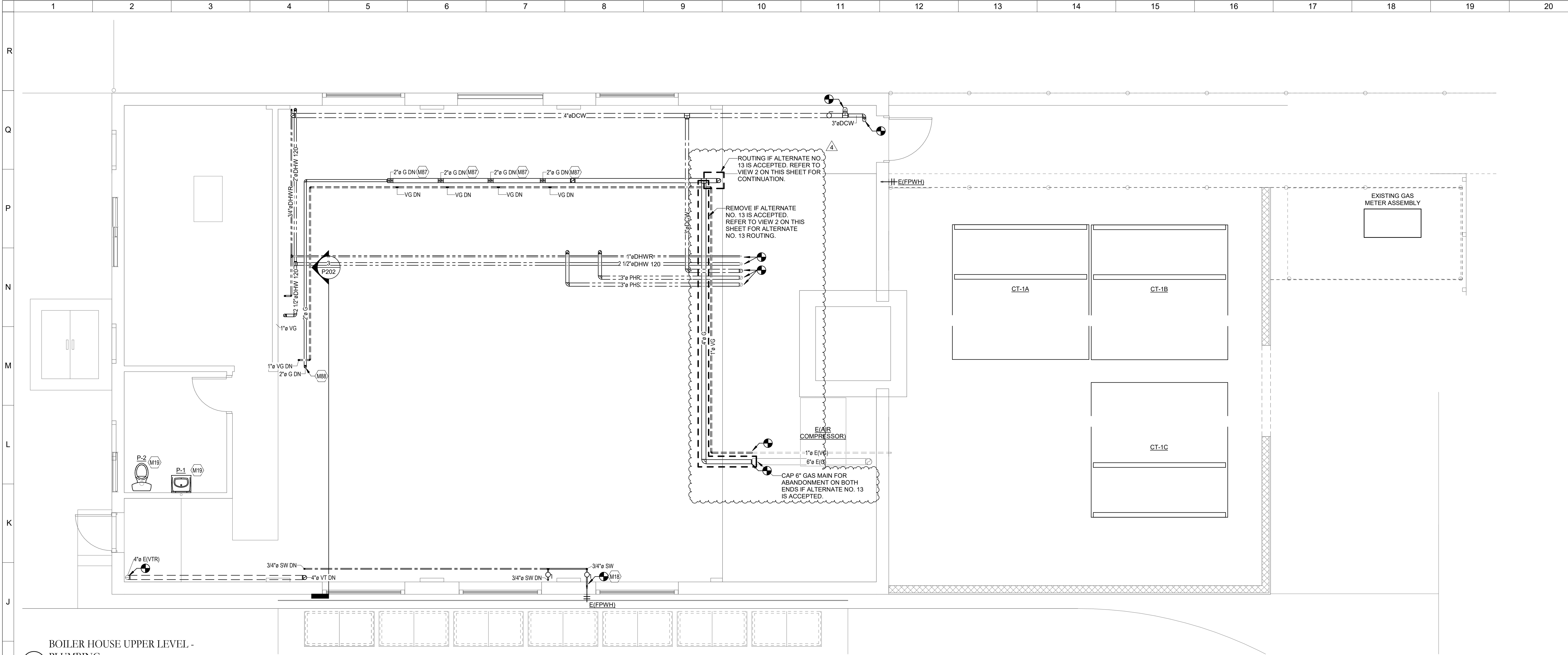
DEMOLITION & NEW ROOF PLANS

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| Comm. No. | Date |
| 20104.02 | 06.18.2021 |
| Drawn | Drawing No. |
| TOD | A901 |
| Checked | KRM |

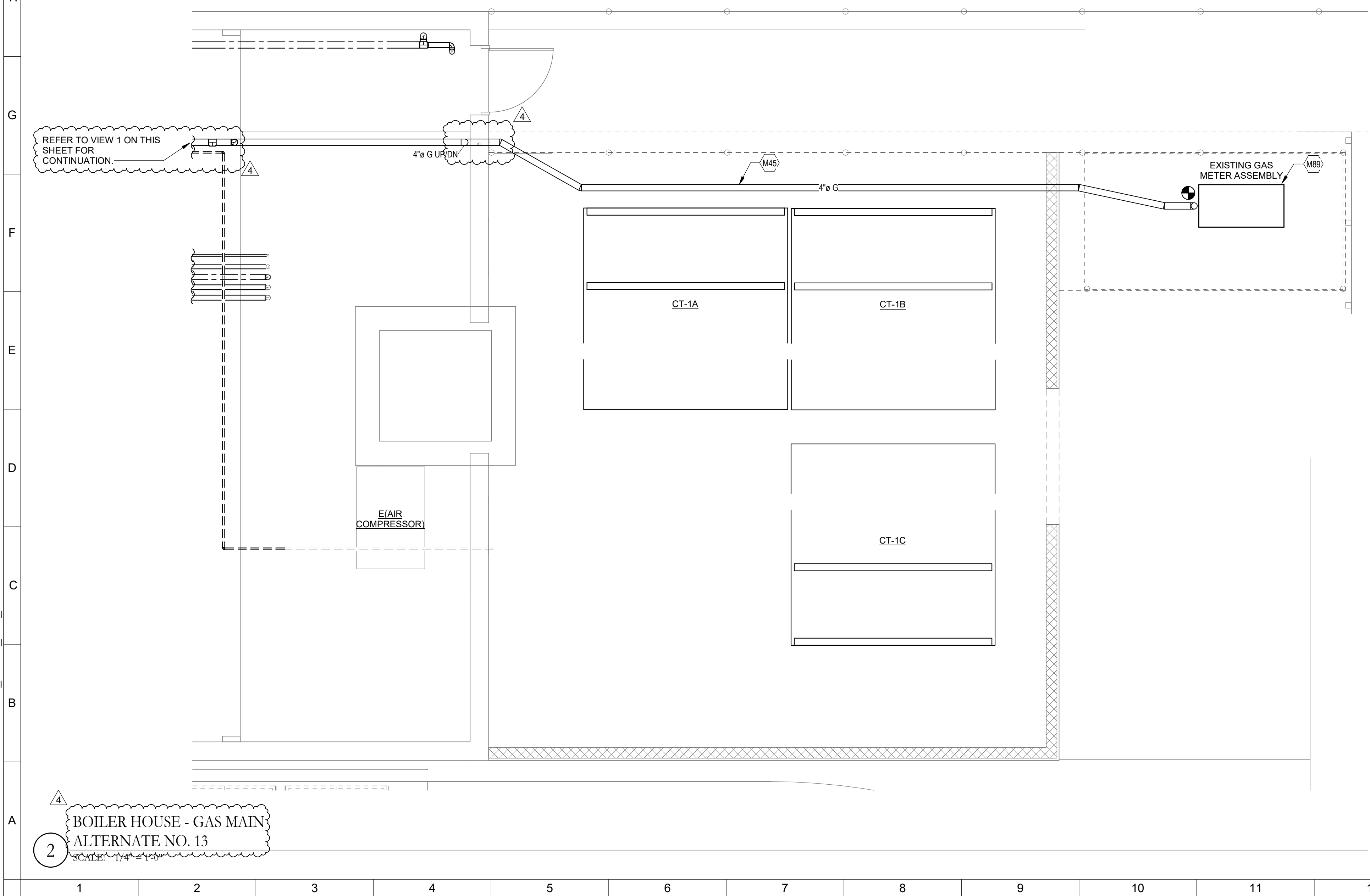


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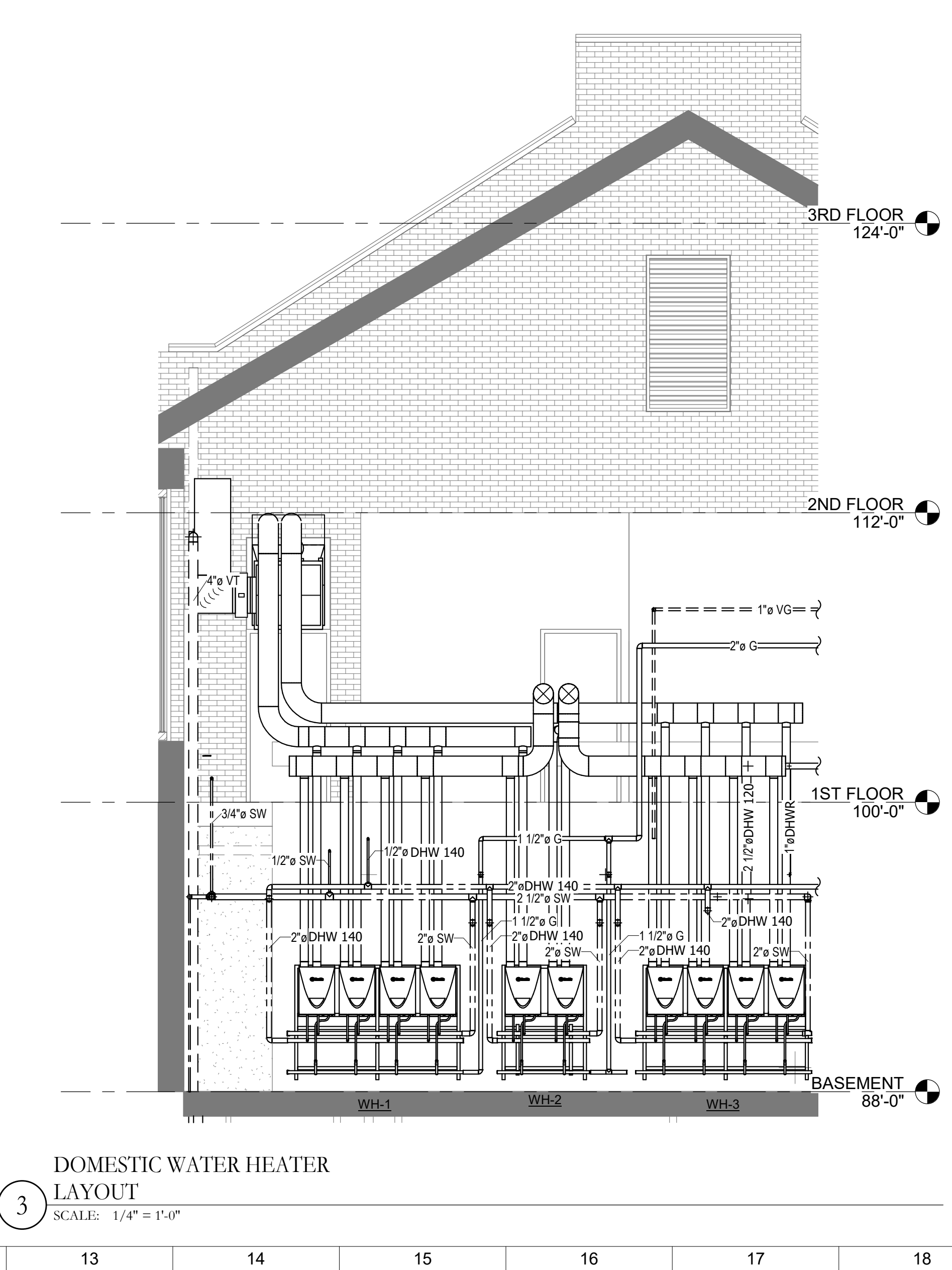
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1 BOILER HOUSE UPPER LEVEL - PLUMBING
SCALE: 1/4" = 1'-0"



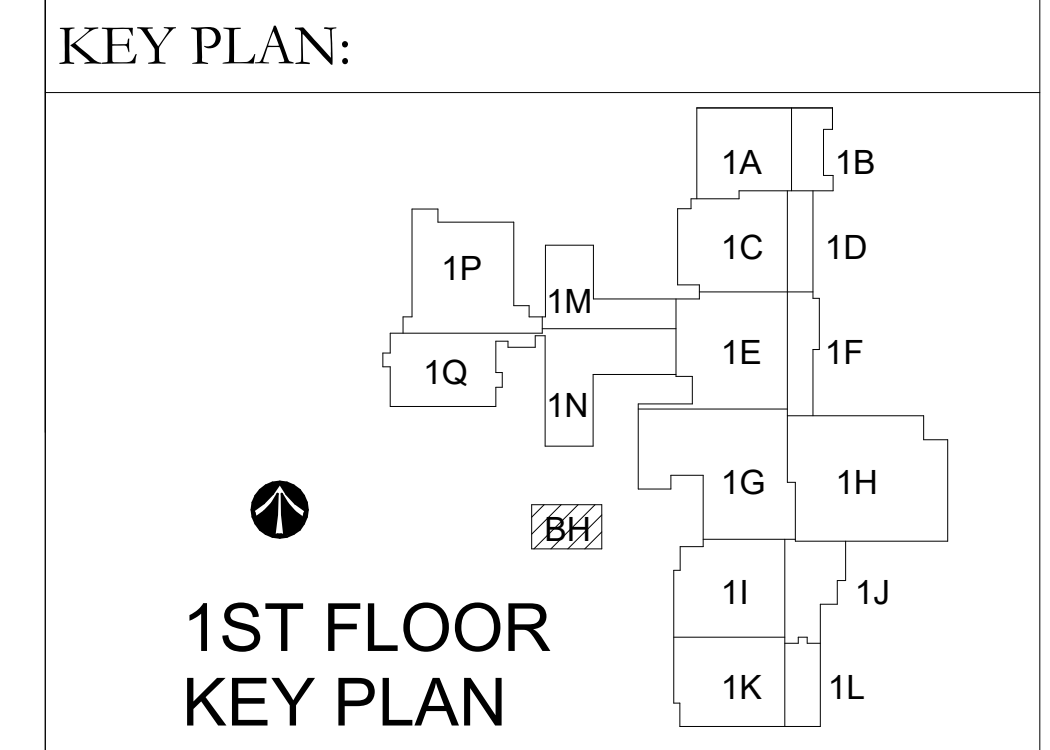
2 BOILER HOUSE - GAS MAIN ALTERNATE NO. 13
SCALE: 1/4" = 1'-0"



3 DOMESTIC WATER HEATER LAYOUT
SCALE: 1/4" = 1'-0"

- SHEET NOTES:**
- M18 RECONNECT EXISTING FREEZEPROOF WALL HYDRANT TO NEW PIPING.
 - M19 CONNECT NEW PLUMBING FIXTURE TO EXISTING SANITARY.
 - M45 DEMOLISH AND INSTALL NEW GAS MAIN BELOW GRADE FROM METER ASSEMBLY TO NEW EQUIPMENT WITHIN BOILER HOUSE.
 - M87 NATURAL GAS DOWN TO MECHANICAL EQUIPMENT. REFER TO DETAIL 1 ON SHEET P301 FOR GAS CONNECTION DETAIL.
 - M88 NATURAL GAS DOWN TO DOMESTIC WATER HEATERS. REFER TO DOMESTIC WATER HEATER LAYOUT SECTION ON THIS SHEET FOR CONTINUATION.
 - M89 MAINTAIN GAS MAIN TO SCHOOL BUILDING SCIENCE CLASSROOMS.

GENERAL NOTES:



| No. | Revisions / Submissions | Date |
|-----|-------------------------|-----------|
| 4 | Addendum 4 | 10.5.2021 |

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| BOILER HOUSE UPPER LEVEL PLUMBING PLAN | |
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| Comm. No. | Date |
| 20104.02 | 8.27.2021 |
| Drawn | Drawing No. |
| JDW | P202 |
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SHEET NOTES:

| DEHUMIDIFICATION UNIT SCHEDULE - PART 1 | | | | | | | | | | | | | | | | | | | |
|---|--------------|---------|---------|-----------------|------------------|---------------|-------------|-------------|-----------------|-------|-----|---------|-------------------|--------------|-------------|-----------------------|---------|----------------|----------------|
| SYMBOL | MANUFACTURER | MODEL # | SERVICE | LOCATION | SYSTEM TYPE | PHYSICAL DATA | | | ELECTRICAL DATA | | | | SUPPLY AIR BLOWER | | | | | | |
| | | | | | | WIDTH (IN) | LENGTH (IN) | HEIGHT (IN) | WEIGHT (LBS) | MCA | MOC | VOLTAGE | PHASE | TOTAL SA CFM | MIN. OA CFM | NUMBER OF FANS SUPPLY | FAN RPM | E.S.P. (IN WC) | T.S.P. (IN WC) |
| DHU-1 | DESERT AIRE | SA50 | POOL | POOL MECH. ROOM | DEHUMIDIFICATION | 91 | 244 | 96 | 7300.00 lbf | 122 A | 125 | 460 V | 3 | 22000 CFM | 4560 CFM | 3 | 1800 | 1.00 in-wg | 2.60 in-wg |
| DHU-2 | DESERT AIRE | SA50 | POOL | POOL MECH. ROOM | DEHUMIDIFICATION | 91 | 244 | 88 | 7300.00 lbf | 122 A | 125 | 460 V | 3 | 22000 CFM | 4560 CFM | 3 | 1800 | 1.00 in-wg | 2.60 in-wg |

| DEHUMIDIFICATION UNIT SCHEDULE - PART 2 | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------|--------------|-------------|------------------------|---------------------------------|--------------|------------|-------------|----------------------------|---------------------------|--------------------------|-----------------|--------------------|--------------|------------------------|------------------------------|------|---------|-------|----|-------|
| SYMBOL | NUMBER OF CIRCUITS | TOTAL SA CFM | MIN. OA CFM | COOLING CAPACITY (MBH) | COOLING CAPACITY SENSIBLE (MBH) | EAT (DB) (F) | EAT WB (F) | CAPACITY | POOL WATER FLOW RATE (GPM) | WATER PRESSURE DROP (PSI) | CONNECTION SIZE (IN NPT) | MODEL | DIMENSIONS (LxWxH) | WEIGHT (LBS) | REMOTE CONDENSING UNIT | | | | | | |
| | | | | | | | | | | | | | | | NUMBER OF FANS | AMBIENT OUTDOOR AIR TEMP (F) | MOPD | VOLTAGE | PHASE | HZ | |
| DHU-1 | 2 | 22000 CFM | 4560 CFM | 626.0 | 328.0 | 82 | 71 | 234.0 Btu/h | 40 GPM | 7.00 psi | 1-1/2" | RC8S022C3H22029 | 197"x49"x54.62" | 1186 | 3 | 92 | 11.7 | 15 | 460 V | 3 | 60 Hz |
| DHU-2 | 2 | 22000 CFM | 4560 CFM | 626.0 | 328.0 | 82 | 71 | 234.0 Btu/h | 40 GPM | 7.00 psi | 1-1/2" | RC8S022C3H22029 | 197"x49"x54.62" | 1186 | 3 | 92 | 11.7 | 15 | 460 V | 3 | 60 Hz |

REMARKS:

- REFRIGERANT IS R410A.
- UNIT SHALL HAVE SINGLE POINT POWER CONNECTION.
- UNIT SHALL BE INSTALLED ON INSULATED ROOF CURB.
- HOT WATER AND POOL WATER PIPING AND POWER CONNECTIONS SHALL BE FED THROUGH THE CURB TO BOTTOM OF UNIT WHERE POSSIBLE.
- UNIT SHALL BE PROVIDED WITH MODULATING HOT GAS REHEAT CAPABLE OF REACHING A LAT OF 82 DEG F.
- UNIT SHALL BE DOUBLE WALL INSTALLED CONSTRUCTION.
- PROVIDE UNIT WITH CORROSION-PROTECTIVE COATING FOR CHLORINE AND POOL CHEMICAL RESISTANCE FINISH.
- EXTERIOR SHALL BE POWDER-COATED FINISH.
- PROVIDE WITH ASHRAE 62.1 COMPLIANT STAINLESS STEEL DRAIN PAN.
- PROVIDE LEAD COMPRESSOR WITH HOT GAS BYPASS.
- PROVIDE UNIT WITH FACOTRY DDC CONTROLS. INTERFACE UNIT CONTROLS WITH BUILDING BAS.
- PROVIDE WITH INTEGRAL NON-FUSED DISCONNECT POWER SWITCH.
- ACCEPTABLE MANUFACTURERS: DESERTAIRE, DECTRON, POOLPAK, SERESCO, AAOON
- POOL DESIGN PARAMETERS:
 - POOL WATER TEMP - 82 DEG F
 - AIR TEMP - 84 DEG F
 - HUMIDITY - 60% RH
 - POOL ACTIVITY FACTOR - 1.0

DEHUMIDIFICATION UNIT SCHEDULE - HOT WATER EXCHANGER

| MARK | HOT WATER COIL | | | | | |
|-------|-------------------------|---------|---------|---------|---------|-----------------------|
| | TOTAL HEATING CAP (MBH) | EAT (F) | LAT (F) | EWI (F) | LWT (F) | WATER FLOW RATE (GPM) |
| DHU-1 | 450.0 Btu/h | 160 °F | 140 °F | 84 °F | 119 °F | 46 GPM |
| DHU-2 | 450.0 Btu/h | 160 °F | 140 °F | 84 °F | 119 °F | 46 GPM |

| ENERGY RECOVERY VENTILATOR SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|--------------|---------|--------------|-------------|-------------------------|--------------|------------|-------|----|------|-----------------|--------|--------|----------------|-----------------|--------|--------|----------------|---------------------------------------|---------------------|------|--------------------------|--------------------------|---------|--------------------------|--------------------------|---------|---------|-----|
| SYMBOL | MANUFACTURER | MODEL | TYPE | LOCATION | NOMINAL SIZE LxWxH (IN) | WEIGHT (LBS) | ELECTRICAL | | | | OUTSIDE AIR FAN | | | | EXHAUST AIR FAN | | | | MINIMUM EFFECTIVENESS (SUMMER/WINTER) | CORE HEAT EXCHANGER | | | | REMARKS | | | | | |
| | | | | | | | VOLTS | PHASE | HZ | MCA | MOC | OA CFM | DRIVE | E.S.P. (IN WG) | MOTOR HP | EA CFM | DRIVE | E.S.P. (IN WG) | | MOTOR HP | CFM | SUMMER EAT (DB / WB) (F) | SUMMER LAT (DB / WB) (F) | | WINTER EAT (DB / WB) (F) | WINTER LAT (DB / WB) (F) | | | |
| ERV-1 | RENEWAIRE | HE8XRTV | STATIC PLATE | AREA C ROOF | 140"x106"x81" | 3416 | 460 V | 3 | 60 | 21 A | 25 A | 6500 | DIRECT | 1 | 15 | 5972 | DIRECT | 1 | 15 | 50.6 / 73.3 | 6500 | 95 / 76 | 81 / 70 | 0 / -1 | 46 / 36 | 5972 | 75 / 62 | 70 / 51 | ALL |

REMARKS:

- ENTIRE UNIT SHALL BE DOUBLE WALL CONSTRUCTION.
- PROVIDE WITH MERV 8 OUTDOOR AIR FILTERS.
- ACCEPTABLE MANUFACTURERS: GREENHECK, RENEWAIRE, CONSERV.
- PROVIDE WITH ISOLATION DAMPERS.
- PROVIDE WITH INTEGRAL DISCONNECT SWITCH.

| OUTSIDE AIR UNIT SCHEDULE - PART 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|--------------|---------|--------------------|------------------|-------------|-------------------------|--------------|------------------|------------------|---------|-----------|-----------------|-------------------------|--------------------------|--------|------------|-----------|--------|-------------------------|--|--|--------------------------|-------|-------|-------------------------|-------------------------|
| SYMBOL | MANUFACTURER | MODEL | SERVICE | TYPE | LOCATION | NOMINAL SIZE LxWxH (IN) | WEIGHT (LBS) | SUPPLY AIR FAN | | | | EXHAUST AIR FAN | | | | ELECTRICAL | | | | ACOUSTICS INLET (63/125/250/500/1K/2K/4K/8K/16K) | ACOUSTICS DISCHARGE (63/125/250/500/1K/2K/4K/8K/16K) | | | | | |
| | | | | | | | | SA CFM (100% OA) | FAN MIN TURNDOWN | FAN QTY | RPM (MAX) | DRIVE | T.S.P. / E.S.P. (IN WG) | MOTOR HP / BHP (PER FAN) | EA CFM | FAN QTY | RPM (MAX) | DRIVE | T.S.P. / E.S.P. (IN WG) | | | MOTOR HP / BHP (PER FAN) | VOLTS | PHASE | MCA | MOC |
| OA-1 | AAON | RNA-011 | WRESTLING/ LOCKERS | PACKAGED ROOFTOP | AREA G ROOF | 225"x78"x59" | 3800 | 6550 | 30% | 1 | 1800 | DIRECT | 3.4 / 1.0 | 7.5 / 5.3 | 5500 | 1 | 2200 | DIRECT | 1.3 / 0.85 | 5 / 2.8 | 460 V | 3 | 22 A | 30 A | 88/86/83/75/74/74/70/63 | 93/91/92/92/89/87/88/84 |

| OUTSIDE AIR UNIT SCHEDULE - PART 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|------------|--------------------------|--------------------------|----------------------|-------------------------|----------------|---------|-------------------|-------------------|------|----------------|----------------------------------|---------|---------|---------------|---|--------------------------------------|------------|---------------------|-------------------|--------------------------------------|
| SYMBOL | ENERGY RECOVERY WHEEL | | | | EXHAUST AIR SIDE | | | | COOLING COIL | | | | PREHEAT COIL | | | | SUPPLY / EXHAUST FILTER SECTIONS | | | | REMARKS | | | | | |
| | CFM / APD | SUMMER EAT (DB / WB) (F) | SUMMER LAT (DB / WB) (F) | WINTER EAT (DB / WB) (F) | WINTER LAT (DB / WB) (F) | CFM / APD | SUMMER EAT (DB / WB) (F) | WINTER EAT (DB / WB) (F) | TOTAL CAPACITY (MBH) | SENSIBLE CAPACITY (MBH) | GPM / WPD (FT) | EWI/LWT | EAT (DB / WB) (F) | LAT (DB / WB) (F) | CFM | TOTAL CAPACITY | GPM / WPD (FT) | EAT (F) | LAT (F) | EWI / LWT (F) | | TYPE | EFFICIENCY | MAX. VELOCITY (FPM) | FREE AREA (SQ FT) | FILTER PRESSURE DROP (CLEAN / DIRTY) |
| OA-1 | 6553 / 0.9 | 92 / 74 | 81 / 67 | 0 / -2.0 | 42 / 40 | 5453 / 0.9 | 75 / 62 | 70 / 51 | 249.9 | 185.4 | 38 / 14 | 47 / 59 | 81.7 / 67.3 | 55.0 / 54.5 | 6550 | 214 | 12 / 5 | 42.7 | 72.0 | 160 / 120 | SA - 2" PLEATED / 4" PLEATED EA - 2" PLEATED | SA - MERV 8 / MERV 13 EA - MERV 8 | 314 | 13.1 | 0.37 / 0.72 | ALL |

REMARKS:

- UNITS SHALL BE AHRI CERTIFIED.
- DUCT SMOKE DETECTOR PROVIDE BY ELECTRICAL CONTRACTOR.
- PROVIDE FACTORY START-UP UTILIZING MANUFACTURER'S STANDARD FORMS.
- SUPPLY STAINLESS STEEL RAO CONDENSATE PAN. ENTIRE DRAIN SHALL BE PITCHED TO OUTLET. WATER CARRY OVER IS NOT ALLOWED. SELECT CHILLED WATER COILS ACCORDINGLY. PROVIDE STAINLESS STEEL INTERMEDIATE DRAIN PANS FOR STACKED CHILLED WATER COILS ALL PRE-PIPED TO MAIN DRAIN PAN.
- PROVIDE 18" INSULATED ROOF CURB.
- PROVIDE NON-FUSED DISCONNECT AND SINGLE POINT POWER CONNECTION.
- PROVIDE WITH ECM DRIVEN SUPPLY/EXHAUST FANS.
- PROVIDE UNIT WITH FACTORY CONTROLS WITH BACNET / MSTP INTERFACE GATEWAY.
- THE ERV SHALL INCLUDE PROVISIONS FOR SHUTDOWN UPON ACTIVATION OF EITHER FIRE ALARM OF THE DUCT SMOKE DETECTOR. COORDINATE WITH THE CONTROLS CONTRACTOR. FIRE ALARM CABLING SHALL BE PULLED BY THE ELECTRICAL CONTRACTOR AND BE TERMINATED BY THE CONTROLS CONTRACTOR.
- PROVIDE LOW LEAKAGE AIR/OIL BLADE TYPE MOTORIZED DAMPERS ON BOTH SUPPLY AND EXHAUST.
- PROVIDE WITH NEEDLEPOINT BIPOLAR IONIZATION. EQUIPMENT VENDOR RESPONSIBLE FOR PURCHASE AND INSTALLATION OF BIPOLAR IONIZATION DEVICE.
- ENTIRE UNIT SHALL BE DOUBLE WALL CONSTRUCTION.
- PROVIDE STAINLESS STEEL CHILLED WATER COIL CASING.

| AHU-1 VAV BOX SCHEDULE | | | | | | | | | | | | | |
|------------------------|--------------|-------|-------|---------------|-------------|----------------|-----------|-----------|------------|-------------|-----|------------------|---------|
| SYMBOL | MANUFACTURER | MODEL | INLET | AHU SERVED BY | MAXIMUM CFM | HOT WATER COIL | | | | NO. OF ROWS | WPD | RUNOUT PIPE SIZE | REMARKS |
| | | | | | | CAPACITY (MBH) | EAT / LAT | EWI / LWT | FLOW (GPM) | | | | |
| VAV-06 | TRANE | VCWF | 6 | AHU-1 | 350 | 6.5 | 55 / 95 | 160 / 120 | 0.5 | 2 | 5' | 3/4" | 1,2,3,4 |
| VAV-08 | TRANE | VCWF | 8 | AHU-1 | 700 | 10.8 | 55 / 95 | 160 / 120 | 0.6 | 2 | 5' | 3/4" | 1,2,3,4 |
| VAV-10 | TRANE | VCWF | 10 | AHU-1 | 1050 | 15.2 | 55 / 95 | 160 / 120 | 0.8 | 2 | 5' | 3/4" | 1,2,3,4 |
| VAV-12 | TRANE | VCWF | 12 | AHU-1 | 1450 | 21.7 | 55 / 95 | 160 / 120 | 1.1 | 2 | 5' | 3/4" | 1,2,3,4 |
| VAV-14 | TRANE | VCWF | 14 | AHU-1 | 2000 | 26.0 | 55 / 95 | 160 / 120 | 1.3 | 2 | 5' | 3/4" | 1,2,3,4 |

REMARKS:

- ALL BOXES SHALL BE SINGLE WALL WITH 1/2" FOIL FACED INSULATION.
- ALL HEATING COILS SHALL BE 2-ROWS.
- PROVIDE EACH BOX WITH AN INDEPENDENT CONTROLLER. NO BOX SHALL BE OPERATED BY ANOTHER CONTROLLER LOCATED ON ANOTHER BOX.
- PROVIDE BOTTOM ACCESS PANEL.

| UNIT HEATER SCHEDULE | | | | | | | | | | | | | |
|----------------------|--------------|----------|---------------|-----------------|---------------|---------------|----------------|------|-------|-------|----|-------|-------------|
| SYMBOL | MANUFACTURER | MODEL | SIZE (LxWxH) | SERVICE | EWI / LWT (F) | EAT / LAT (F) | CAPACITY (MBH) | GPM | VOLTS | PHASE | HZ | HP | REMARKS |
| CUH-1 | TRANE | FFEB020 | 33x30x11 | CORRIDOR | 160/120 | 75/117 | 10.02 | 0.50 | 115 V | 1 | 60 | 0.015 | 1,2,3,4,5,6 |
| CUH-2 | TRANE | FFEB020 | 33x30x11 | VESTIBULE | 160/120 | 75/117 | 10.02 | 0.50 | 115 V | 1 | 60 | 0.015 | 1,2,3,4,5,6 |
| CUH-3 | TRANE | FFJB030 | 33.25x10x28.5 | VESTIBULE | 160/120 | 75/108 | 14.66 | 0.73 | 115 V | 1 | 60 | 0.08 | 2,5,6 |
| UH-1 | TRANE | UHS0181T | 14"x9"x15" | ELECTRICAL | 160/120 | 70/102 | 8.3 | 0.50 | 115 V | 1 | 60 | 0.02 | 1,2,3,5,6 |
| UH-2 | TRANE | UHS0181T | 14"x9"x15" | STORAGE | 160/120 | 70/102 | 8.3 | 0.50 | 115 V | 1 | 60 | 0.02 | 1,2,3,5,6 |
| UH-3 | TRANE | UHS0181T | 14"x9"x15" | FAN ROOM 103 | 160/120 | 70/102 | 8.3 | 0.50 | 115 V | 1 | 60 | 0.02 | 1,2,3,5,6 |
| UH-4 | TRANE | UHS0181T | 14"x9"x15" | MECH ROOM T227A | 160/120 | 70/102 | 8.3 | 0.5 | 115 V | 1 | 60 | 0.02 | 1,2,3,5,6 |
| UH-5 | TRANE | UHS0181T | 14"x9"x15" | MECH ROOM T227B | 160/120 | 70/102 | 8.3 | 0.5 | 115 V | 1 | 60 | 0.02 | 1,2,3,5,6 |
| UH-6 | TRANE | UHS0381T | 14"x9"x18" | BOILER HOUSE | 160/120 | 70/119 | 35.9 | 1.08 | 115 V | 1 | 60 | 0.03 | 1,2,3,5,6 |

REMARKS:

- PROVIDE HANGING KIT WITH NEOPRENE VIBRATION ISOLATORS.
- PROVIDE COPPER TUBES WITH ALUMINUM FINIS.
- PROVIDE WITH DISCHARGE LOUVERS.
- PROVIDE ALL ACCESSORIES NECESSARY FOR CEILING MOUNTING.
- APPROVED MANUFACTURERS: REZNOR, TRANE, DAKIN, RITTLING, AIRTHERM MANUFACTURING COMPANY, AMERICAN AIR FILTER, DUNHAM BUSH, STERLING, VULCAN RADIATOR CORPORATION.
- PROVIDE WITH INTERGAL DISCONNECT.

GENERAL NOTES:

KEY PLAN:

| No. | Addendum / Revisions / Submissions | Date |
|-----|------------------------------------|-----------|
| 4 | Addendum 4 | 10.5.2021 |

434 East First Street Dayton, OH 45402 937.223.6500
712 East Main Street Richmond, IN 47374 765.966.3546

Richmond Community Schools
RICHMOND HIGH SCHOOL
380 Hub Etchison Pkwy,
Richmond, IN 47374

MECHANICAL MODERNIZATION PROJECT

MECHANICAL SCHEDULES

| | |
|-----------|-------------|
| Comm. No. | Date |
| 20104.02 | 8.27.2021 |
| Drawn | Drawing No. |
| JLK | M702 |
| Checked | |
| NPR | |