



ORCHARD VIEW SCHOOL DISTRICT
CARDINAL ELEMENTARY CAFETERIA
ACOUSTICAL TREATMENT

2310 MARQUETTE AVE
MUSKEGON, MI 49442

1/31/2023

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CODE REVIEW

PROJECT SCOPE
INTERIOR RENOVATIONS TO EXISTING ELEMENTARY SCHOOL CAFETERIA, CONSISTING OF ACOUSTICAL TREATMENT, REVISED CEILING (INCLUDING LIGHTING AND MINOR MECHANICAL ADJUSTMENTS AS REQUIRED), PAINTING, AND OPTION FOR NEW FLOOR FINISH MATERIAL.

APPLICABLE BUILDING CODES

BUILDING CODE: 2015 MICHIGAN BUILDING CODE
2015 MICHIGAN REHABILITATION CODE
BUILDING CODE (MI FIRE SAFETY STATE RULES): NFPA 11-2012
MECHANICAL CODE: 2015 MICHIGAN MECHANICAL CODE
ELECTRICAL CODE: 2015 NATIONAL ELECTRICAL CODE & MICHIGAN PART 8 ELECTRICAL RULES
ACCESSIBILITY: BARRIER FREE - ICC / ANSI-117

BUILDING DATA

TOTAL BUILDING AREA: 142,550 SQ FT
TOTAL RENOVATION AREA: **4347 SQ FT**
CONSTRUCTION TYPE = **II-B NON-COMBUSTIBLE NON-SPRINKLERED LEVEL 1 (CHAPTER 7)**
ALTERATIONS: NO CHANGE IN OCCUPANCY

USE AND OCCUPANCY

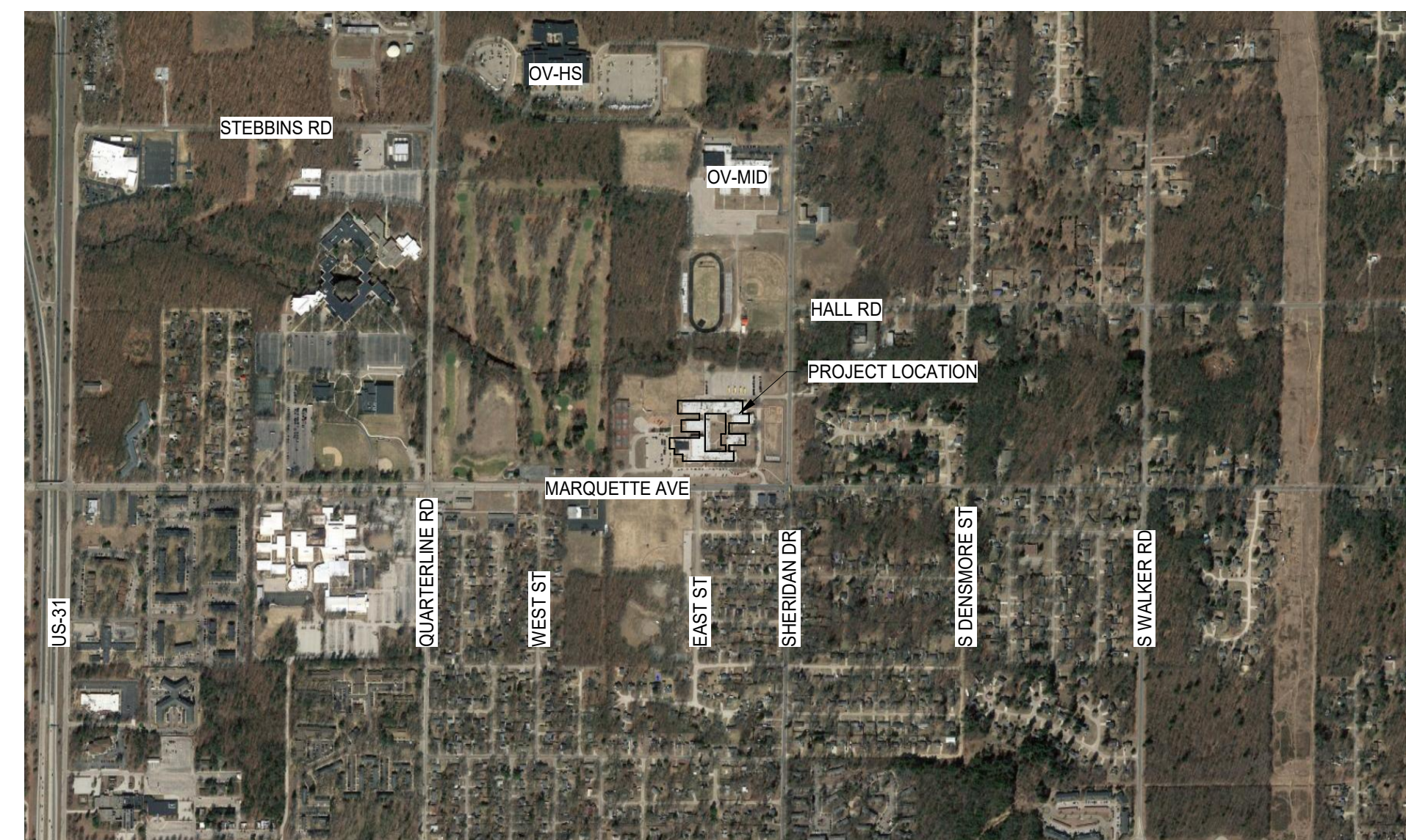
BUILDING IS CLASSIFIED AS "E" EDUCATIONAL
AREAS OF RENOVATION ARE CLASSIFIED AS "A" ASSEMBLY
MBC SECTION 303.3

INTERIOR FINISH

SECTION 803 INTERIOR FINISH AND TRIM: NON-SPRINKLERED TABLE 803.11
INTERIOR FINISHES AND TRIM SHALL MEET FLAME SPREAD, SMOKE DEVELOPED AND CLASS RATINGS AS REQUIRED FOR SPECIFIC USE AND AREA: **A-2**

DATE	DESCRIPTION
1/24/2023	OWNER REVIEW
1/31/2023	BIDS

PROJECT LOCATION MAP



1/31/2023 9:03:17 AM

DRAWING NUMBER

G000

DRAWING SYMBOLS

Table of drawing symbols including View Title, Section Marker, Detail Section, Detail Callout, Elevation Marker, Break Marker, North Arrow, Accessory Marker, Door Marker, Window Type Marker, Room name, SCHEDULED DOOR, EXISTING DOOR, KEYNOTE, KEYNOTE (REMOVALS), EQUIPMENT TAG, ELEVATION NOTATION, and CEILING HEIGHT.

MATERIAL INDICATORS

Table of material indicators with patterns for Undisturbed Earth, Gravel or Crushed Stone, Cast Stone, Concrete, Concrete Masonry Unit, Steel, Rigid Insulation, Brick, Plywood, Sand or Gypsum Board, Finish Wood, Batt Insulation, Wood Framing (Continuous), Wood Blocking (Discontin.), and Existing.

WALL STYLES

Table of wall styles including Existing Brick Wall, Existing CMU Wall, Existing Stud Wall, Brick Wall, CMU Wall, and Stud Wall, along with Existing Wall Removal.

ABBREVIATIONS

Large table of abbreviations for various construction materials and components, including Air Conditioning, Insulation, Electrical, and Structural systems.

GENERAL NOTES:

ALL GENERAL NOTES PERTAIN TO ALL ARCHITECTURAL (A-SERIES) DRAWINGS IN THIS SET GENERAL

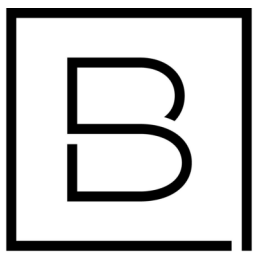
- 1. DEFINITIONS: "PROVIDE" MEANS FURNISH AND INSTALL. SUPPLY LABOR AND MATERIALS TO RESULT IN A FINISHED AND/OR OPERABLE SYSTEM.
2. CONTRACTOR RESPONSIBILITIES: A. MATERIALS: CONSTRUCTION METHODS INCLUDING BUT NOT LIMITED TO LAYOUT, COORDINATION, SCHEDULE AND CONSTRUCTION SITE ACCESS AND WORK.
B. DAILY CLEANING: KEEP SITE FREE FROM WASTE, RUBBISH, AND DEBRIS. REMOVE DAILY. WHEN WORK IS COMPLETE, LEAVE THE PREMISES BROOM CLEAN AND CLEAN FINISHED SURFACES, FIXTURES, GLASS, STOREFRONT, ETC.
C. FINAL CLEANING: PRIOR TO PUNCHLIST INSPECTION BROOM CLEAN ALL HARD SURFACE FLOORS, VACUUM ALL CARPETING AND WIPE DOWN ALL HORIZONTAL AND GLASS SURFACES PROVIDING A DUST FREE SURFACE.
D. TEMPORARY PROTECTION IS REQUIRED TO MAINTAIN ONGOING BUILDING OPERATIONS, EXITING PATHS, DUST CONTROL AND OCCUPANT SAFETY. IDENTIFY THE REQUIREMENTS FOR TEMPORARY PROTECTION AND PROJECT PHASING. COORDINATE WITH OWNER FOR OTHER REQUIREMENTS.
E. COORDINATE STARTUP AND ADJUSTING OF EQUIPMENT AND OPERATING COMPONENTS. START EQUIPMENT AND OPERATING COMPONENTS AND TEST TO CONFIRM PROPER OPERATION AND CONTROL. REMOVE MALFUNCTIONING UNITS, REPLACE WITH NEW UNITS, AND RETEST.
F. CLOSEOUT DOCUMENTS, CERTIFICATE OF RELEASE FROM THE AUTHORITY OF JURISDICTION AND INSURANCE FOR CONTINUING COVERAGE, WARRANTIES, TEST & INSPECTION RESULTS AND OPERATION, EMERGENCY & MAINTENANCE MANUALS.
3. EXISTING CONDITIONS: REVIEW EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING WORK AND REPORT DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
4. CONTRACT DOCUMENTS: A. PLANS, ELEVATIONS, SECTIONS, DETAILS AND SCHEDULES ARE COMPLEMENTARY. PLAN DRAWINGS WILL TAKE PRECEDENCE OVER ELEVATION, SECTION AND DETAILS DRAWINGS IN ANY CONFLICTS OF HORIZONTAL DIMENSIONS. DETAIL PLAN DRAWINGS WILL TAKE PRECEDENCE OVER LARGER SCALE PLANS IN ANY CONFLICTS WITH HORIZONTAL DIMENSIONS. WALL AND BUILDING SECTIONS WILL TAKE PRECEDENCE OVER PLAN DRAWING AND DETAILS IN ANY CONFLICTS WITH VERTICAL DIMENSIONS. DETAILS AND WALL SECTIONS WILL TAKE PRECEDENCE OVER ELEVATION AND PLAN DRAWINGS IN ANY CONFLICTS WITH MATERIAL DESCRIPTION. SCHEDULES WILL TAKE PRECEDENCE OVER OTHER ARCHITECTURAL DRAWINGS IN AND CONFLICTS WITH WALL, FLOOR AND CEILING FINISHES AND DOOR, DOOR HARDWARE AND PENETRATION INFORMATION.
B. DRAWINGS PREPARED BY THE ARCHITECT ARE INSTRUMENTS OF THE ARCHITECT'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT AND, UNLESS OTHERWISE PROVIDED, BERGMANN SHALL BE DEEMED THE AUTHOR OF THESE DOCUMENTS AND RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT.
C. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

FIELD CONDITIONS

- 1. REPAIR: EXISTING SURFACES TO REMAIN IMPACTED BY DEMOLITION TO MATCH EXISTING ADJACENT SURFACES.
2. DISCREPANCIES: NOTIFY ARCHITECT OF EXISTING DAMAGED OR DETERIORATED BUILDING ELEMENTS REVEALED DURING DEMOLITION OR CONSTRUCTION PRIOR TO PROCEEDING WITH ADDITIONAL WORK IN THE AREA.
3. HAZARDOUS MATERIALS: A PRE-DEMOLITION ASBESTOS SURVEY IS REQUIRED PRIOR TO DEMOLITION OF SUSPECT BUILDING MATERIALS IN ACCORDANCE WITH OSHA 29 DFR 1926.1101, AND USEPA 40 CRF 61.145. ALL SUSPECT ASBESTOS CONTAINING MATERIALS INCLUDING THERMAL SYSTEMS INSULATIONS AND SURFACING MATERIALS (PACM) UNLESS PROVEN OTHERWISE BY APPROPRIATE BULK SAMPLING AND LABORATORY ANALYSIS CONDUCTED BY APPROVED LICENSED COMPANIES AND PERSONNEL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL REGULATIONS. THE OWNER IS REQUIRED TO PROVIDE COPIES OF ANY ASBESTOS SURVEYS OR ASBESTOS OPERATIONS AND MAINTENANCE PLANS THEY HAVE ON FILE AT THE REQUEST OF THE CONTRACTOR. A COMPLETE ASBESTOS SURVEY FOR THE PROPOSED WORK TO BE PERFORMED IS THE RESPONSIBILITY OF THE BUILDING OWNER. BERGMANN DOES NOT WARRANT THE COMPLETENESS OF DOCUMENTS AND REPORTS PROVIDED BY OTHERS. NO EXEMPTION TO THE REQUIREMENT TO CONDUCT AN ASBESTOS SURVEY SHALL EXEMPT ANY PERSON, ASBESTOS CONTRACTOR, PROPERTY OWNER OR BUSINESS ENTITY FROM THE INSPECTION OR ASBESTOS SURVEY REQUIREMENTS OF EPA AND OSHA.
4. SAFETY: FOLLOW THE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR 1926.62. LEAD EXPOSURE IN CONSTRUCTION REGULATION. MATERIALS HAVING A CONCENTRATION EQUAL OR GREATER THAN 0.5% BY WEIGHT IN LEAD ARE CONSIDERED TO BE LEAD BASED. HOWEVER, OSHA CONSIDERS ANY AMOUNT OF LEAD ENCOUNTERED DURING CONSTRUCTION TO BE OF CONCERN. THE REGULATION STATES THAT THE EMPLOYER SHALL ASSURE THAT NO EMPLOYEE IS EXPOSED TO LEAD AT CONCENTRATIONS GREATER THAN FIFTY MICROGRAMS PER CUBIC METER OF AIR (50 MCG/M3) AVERAGED OVER AN 8-HOUR PERIOD. CONTRACTORS SHALL DETERMINE AND TAKE APPROPRIATE MEASURES IF THEY SUSPECT THE PRESENCE OF LEAD.

FINISHES

- A. GENERAL: FINISHED FLOORS EXTEND INTO TOE SPACES UNDER CASEWORK ON LAB PROJECTS, CLOSETS, DOOR REVEALS AND SIMILAR OPENINGS.
B. PRODUCTS:
A. INSTALL MATERIALS USING MANUFACTURER'S APPROVED ADHESIVES AND METHODS, U.N.O.
B. PAINT DESIGNATIONS INDICATE COLOR ONLY, REFER TO SPECIFICATION FOR FINISH TYPE.
C. PROVIDE SELF LEVELING TROWELABLE UNDERLAYMENT WHERE REQUIRED TO OBTAIN FINISH MANUFACTURER'S REQUIRED SUBFLOOR CONDITION.
D. PROVIDE THE REQUIRED TRANSITIONS BASED ON TYPES IDENTIFIED ON DRAWINGS AT EACH FINISH TRANSITION LOCATION.
C. EXECUTION:
A. ADHERE TO MATERIAL OR SYSTEM MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND TOLERANCES. ANY VARIATIONS FROM WRITTEN INSTALLATION AND INSTRUCTIONS MUST RECEIVE WRITTEN APPROVAL FROM THE MANUFACTURER AND MAINTAIN MANUFACTURER'S WARRANTIES.
B. PRIOR TO STARTING THE INSTALLATION OF A MATERIAL OR SYSTEM, VERIFY THE SUBSTRATE IS WITHIN THE MANUFACTURER'S REQUIRED TOLERANCES AND REQUIRED CLEARANCES ARE PROVIDED. NOTIFY THE CONSTRUCTION MANAGER OR GENERAL CONTRACTOR AND DESIGN PROFESSIONAL IN WRITING WHEN THE SUBSTRATE IS NOT WITHIN MANUFACTURER'S TOLERANCE OR REQUIRED CLEARANCES ARE NOT PROVIDED. PROCEEDING WITH INSTALLATION SIGNIFIES ACCEPTANCE OF THE SUBSTRATE AND CLEARANCES.
C. PROVIDE MANUFACTURER'S REQUIRED ENVIRONMENTAL TESTS FOR MOISTURE, VAPOR DRIVE, RELATIVE HUMIDITY AND TEMPERATURE TO VERIFY THESE ARE WITHIN THE MATERIAL MANUFACTURER'S TOLERANCE PRIOR TO INSTALLING MATERIALS.
D. MATERIAL AND INSTALLATION SHALL CONFORM WITH LOCAL, STATE AND NATIONAL BUILDING CODES AND CONSTRUCTION STANDARDS ENFORCED BY THE AUTHORITY HAVING JURISDICTION.
E. REQUIRED DOCUMENTATION:
1. SAFETY DATA SHEETS.
2. PROVIDE SAMPLES WHEN SPECIFICALLY REQUESTED IN THESE DOCUMENTS.
3. PROVIDE SHOP DRAWINGS OF MATERIALS AND SYSTEMS, WHICH WILL BE BUILT INTO AND MUST BE COORDINATED WITH OTHER CONSTRUCTION. SHOP DRAWINGS SHALL CONSIST OF PLAN, ELEVATION, SECTION VIEWS AND DETAILS AS REQUIRED TO COMMUNICATE FINAL APPEARANCE AND CONNECTION TO ADJOINING CONSTRUCTION.
F. PROTECT ADJACENT SURFACES DURING WORK.
G. REMOVE ADHESIVE OR PAINT SPOTS FROM FINISHED FLOORS, WALLS, GLASS OR OTHER SURFACES. FINISHES TO MEET OR EXCEED CODE REQUIREMENTS.
H. FILL MINOR DRYWALL IRREGULARITIES WITH SPACKLING COMPOUND AND SAND TO A SMOOTH LEVEL SURFACE. EXERCISE CARE TO AVOID RAISING THE NAP OF PAPER.
I. DO NOT PERFORM PAINTING AND OTHER FINISHING WORK UNDER CONDITIONS UNSUITABLE FOR EXECUTION OF PAINTING WORK. AIR SHALL BE FREE FROM DUST AND DIRT TO PREVENT LODGING OF FOREIGN MATTER IN FRESH PAINT. FLOORS TO BE BROOM CLEAN BEFORE PAINTING IS STARTED.
J. EDGES OF PAINT ADJOINING OTHER COLORS OR MATERIALS TO BE SHARP AND CLEAN WITHOUT OVERLAP.
K. WHENEVER NECESSARY TO OBTAIN REQUIRED RESULTS, REFINISH AN ENTIRE WALL RATHER THAN SPOT FINISHING WHERE A PORTION OF THE FINISH HAS BEEN DAMAGED OR IS UNSATISFACTORY.
L. WHEN INSTALLING CARPET FOLLOW THE CARPET AND RUG INSTITUTE METHODS OF INSTALLATION AND MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.
M. WHEN INSTALLING TILE FOLLOW THE TILE COUNCIL OF NORTH AMERICA'S INSTALLATION SPECIFICATIONS AND MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.
N. CENTER FLOOR MATERIAL TRANSITIONS ON DOOR ABOVE.
O. FLOOR MATERIAL TRANSITIONS SHALL OCCUR BELOW THE DOOR.



BERGMANN ARCHITECTS ENGINEERS PLANNERS

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ORCHARD VIEW SCHOOL DISTRICT

CARDINAL ELEMENTARY CAFETERIA ACOUSTICAL TREATMENT

2310 MARQUETTE AVE MUSKEGON, MI 49442

Table with 2 columns: Date Revised, Description. Includes entries for 1-24-2023 (OWNER REVIEW) and 1-31-2023 (BIDS).

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Table with 2 columns: Role, Name. Includes Project Manager (D. HOLTRUP), Discipline Lead (B. HUYLER), Designer (E. POST), Reviewer (R. KEUNEKE), Date Issued (1/31/2023), and Project Number (22013310A).

Sheet Name

GENERAL NOTES AND LEGENDS

Drawing Number

A001

GENERAL REQUIREMENTS:

ALTERNATES:

- 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 THE 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.
- B. INCLUDE AS PART OF EACH ALTERNATE, MISCELLANEOUS DEVICES, ACCESSORY OBJECTS, AND SIMILAR ITEMS INCIDENTAL TO OR REQUIRED FOR A COMPLETE INSTALLATION WHETHER INDICATED AS PART OF ALTERNATE. EXECUTE ACCEPTED ALTERNATES UNDER THE SAME CONDITIONS AS OTHER WORK OF THE CONTRACT.
- C. PROVIDE ALTERNATE PRICING AS FOLLOWS:
- ALTERNATE NO 1: BASE BID, NO ACOUSTICAL WALL PANELS. ALTERNATE BID, PROVIDE ACOUSTICAL WALL PANELS AS SHOWN.
 - ALTERNATE NO 2: BASE BID, EXISTING FLOORING AND WALL BASE TO REMAIN. ALTERNATE BID, REMOVE EXISTING VCT FLOORING AND RUBBER BASE; PROVIDE NEW FLOORING AND WALL BASE AS SHOWN.

SUBSTITUTION PROCEDURES:

- A. SUBSTITUTIONS FOR CAUSE: CHANGES PROPOSED BY CONTRACTOR THAT ARE REQUIRED DUE TO CHANGED PROJECT CONDITIONS, SUCH AS UNAVAILABILITY OF PRODUCT, REGULATORY CHANGES, OR UNAVAILABILITY OF REQUIRED WARRANTY TERMS.
- B. SUBSTITUTIONS FOR CONVENIENCE: CHANGES PROPOSED BY CONTRACTOR OR OWNER THAT ARE NOT REQUIRED IN ORDER TO MEET OTHER PROJECT REQUIREMENTS BUT MAY OFFER ADVANTAGE TO CONTRACTOR OR OWNER. SUBSTITUTIONS FOR CONVENIENCE ARE ALLOWED ONLY BY APPROVAL OF THE OWNER OR OWNER'S AGENT.
- C. SUBMIT REQUEST FOR CONSIDERATION. IDENTIFY PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED. INCLUDE PRODUCT, MATERIAL OR SYSTEM NAME AND AFFECTED DRAWING NUMBERS AND TITLES.
- D. EXECUTE ACCEPTED SUBSTITUTIONS UNDER THE SAME CONDITIONS AS OTHER WORK OF THE CONTRACT.
- E. DOCUMENTATION: SHOW COMPLIANCE WITH REQUIREMENTS FOR SUBSTITUTIONS AND THE FOLLOWING, AS APPLICABLE:
- COST INFORMATION, INCLUDING A PROPOSAL OF CHANGE, IF ANY, IN THE CONTRACT SUM.
 - CONTRACTOR'S CERTIFICATION THAT PROPOSED SUBSTITUTION COMPLIES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS, EXCEPT AS INDICATED IN SUBSTITUTION REQUEST, IS COMPATIBLE WITH RELATED MATERIALS AND IS APPROPRIATE FOR APPLICATIONS INDICATED.
 - STATEMENT INDICATING WHY SPECIFIED PRODUCT OR FABRICATION, OR INSTALLATION METHOD CANNOT BE PROVIDED, IF APPLICABLE.
 - COORDINATION OF INFORMATION, INCLUDING A LIST OF CHANGES OR REVISIONS NEEDED TO OTHER PARTS OF THE WORK AND TO CONSTRUCTION PERFORMED BY OWNER AND SEPARATE CONTRACTORS THAT WILL BE NECESSARY TO ACCOMMODATE PROPOSED SUBSTITUTION.
 - PRODUCT DATA, INCLUDING DRAWINGS AND DESCRIPTIONS OF PRODUCTS AND FABRICATION AND INSTALLATION PROCEDURES. INCLUDE DETAILED COMPARISON OF SIGNIFICANT QUALITIES OF PROPOSED SUBSTITUTIONS WITH THOSE OF THE WORK SPECIFIED. SIGNIFICANT QUALITIES MAY INCLUDE ATTRIBUTES, SUCH AS PERFORMANCE, WEIGHT, SIZE, DURABILITY, VISUAL EFFECT, SUSTAINABLE DESIGN CHARACTERISTICS, WARRANTIES, AND SPECIFIC FEATURES AND REQUIREMENTS INDICATED. INDICATE DEVIATIONS, IF ANY, FROM THE WORK SPECIFIED.
 - CONTRACTOR'S WAIVER OF RIGHTS TO ADDITIONAL PAYMENT OR TIME THAT MAY SUBSEQUENTLY BECOME NECESSARY BECAUSE OF FAILURE OF PROPOSED SUBSTITUTION TO PRODUCE INDICATED RESULTS.
- F. ARCHITECT'S ACTION: IF NECESSARY, ARCHITECT WILL REQUEST ADDITIONAL INFORMATION OR DOCUMENTATION FOR EVALUATION WITHIN 7 DAYS OF RECEIPT OF A REQUEST FOR SUBSTITUTION. ARCHITECT WILL NOTIFY CONTRACTOR OF ACCEPTANCE OR REJECTION OF PROPOSED SUBSTITUTION WITHIN 14 DAYS OF RECEIPT OF REQUEST, OR 7 DAYS OF RECEIPT OF ADDITIONAL INFORMATION OR DOCUMENTATION.
- G. ARCHITECT WILL CONSIDER CONTRACTOR'S REQUEST FOR SUBSTITUTION WHEN THE LISTED REQUIREMENTS ARE SATISFIED. IF THE LISTED REQUIREMENTS ARE NOT SATISFIED, ARCHITECT WILL RETURN REQUESTS WITHOUT ACTION, EXCEPT TO RECORD NONCOMPLIANCE WITH LISTED REQUIREMENTS.
- H. FORMS OF ACCEPTANCE: CHANGE ORDER, CONSTRUCTION CHANGE DIRECTIVE, OR ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS FOR MINOR CHANGES IN THE WORK.

SUBMITTAL REQUIREMENTS:

- A. PREPARE SUBMITTAL SCHEDULE: SUBMIT, AS AN ACTION SUBMITTAL, A LIST OF SUBMITTALS, ARRANGED IN CHRONOLOGICAL ORDER BY DATES REQUIRED BY CONSTRUCTION SCHEDULE. INCLUDE TIME REQUIRED FOR REVIEW, ORDERING, MANUFACTURING, FABRICATION, AND DELIVERY WHEN ESTABLISHING DATES. INCLUDE ADDITIONAL TIME REQUIRED FOR MAKING CORRECTIONS OR REVISIONS TO SUBMITTALS NOTED BY ARCHITECT AND CONTRACTOR AND ADDITIONAL TIME FOR HANDLING AND REVIEWING SUBMITTALS REQUIRED BY THOSE CORRECTIONS.
- B. PREPARE AND SUBMIT SUBMITTALS AS INCLUDED IN THE SUBMITTAL SCHEDULED.
- C. EMAIL: PREPARE SUBMITTALS AS PDF PACKAGE AND TRANSMIT TO ARCHITECT BY SENDING VIA EMAIL. INCLUDE PDF TRANSMITTAL FORM. INCLUDE INFORMATION IN EMAIL SUBJECT LINE AS REQUESTED BY ARCHITECT.
- D. WEB-BASED PROJECT MANAGEMENT SOFTWARE: PREPARE SUBMITTALS IN PDF FORM, AND UPLOAD TO WEB-BASED PROJECT MANAGEMENT SOFTWARE WEBSITE. ENTER REQUIRED DATA IN WEB-BASED SOFTWARE SITE TO FULLY IDENTIFY SUBMITTAL.
- E. ACTION SUBMITTALS AND INFORMATIONAL SUBMITTALS: REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK OF THE CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO ARCHITECT.
- F. USE FOR CONSTRUCTION: RETAIN COMPLETE COPIES OF SUBMITTALS ON PROJECT SITE. USE ONLY FINAL ACTION SUBMITTALS THAT ARE MARKED WITH APPROVAL NOTATION FROM ARCHITECT'S AND CONTRACTOR'S ACTION STAMP.
- G. SUBMITTAL INFORMATION: INCLUDE THE FOLLOWING INFORMATION IN EACH SUBMITTAL:
- PROJECT NAME, DATE AND INDICATION OF FULL OR PARTIAL SUBMITTAL.
 - ARCHITECT'S AND CONTRACTOR'S AND/OR CONSTRUCTION MANAGER'S, FIRM OR ENTITY THAT PREPARED SUBMITTAL AND SUBCONTRACTOR, MANUFACTURER, AND SUPPLIER NAMES.
 - NUMBER AND TITLE OF SPECIFICATION SECTION, WITH PARAGRAPH NUMBER AND GENERIC NAME FOR EACH OF MULTIPLE ITEMS
 - MATERIAL OR SYSTEM NAME AND DRAWING NUMBER AND DETAIL REFERENCES, AS APPROPRIATE.
 - IDENTIFY OPTIONS REQUIRING SELECTION BY ARCHITECT.
 - LOCATION(S) WHERE PRODUCT IS TO BE INSTALLED, AS APPROPRIATE AND OTHER NECESSARY INFORMATION.
 - ON EACH SUBMITTAL, CLEARLY INDICATE DEVIATIONS FROM REQUIREMENTS IN THE CONTRACT DOCUMENTS, INCLUDING MINOR VARIATIONS AND LIMITATIONS; INCLUDE RELEVANT ADDITIONAL INFORMATION AND REVISIONS, OTHER THAN THOSE REQUESTED BY ARCHITECT AND CONTRACTOR ON PREVIOUS SUBMITTALS. INDICATE BY HIGHLIGHTING ON EACH SUBMITTAL OR NOTING ON ATTACHED SEPARATE SHEET.
- H. INCOMPLETE SUBMITTALS ARE UNACCEPTABLE, WILL BE CONSIDERED NONRESPONSIVE, AND WILL BE RETURNED FOR RESUBMITTAL WITHOUT REVIEW.
- I. ARCHITECT'S ACTION: ARCHITECT WILL REVIEW INFORMATION OR DOCUMENTATION NOTIFY CONTRACTOR OF ACCEPTANCE REQUEST FOR MORE INFORMATION OR REJECTION WITHIN 14 DAYS OF RECEIPT. ARCHITECT WILL REVIEW RESUBMITTAL WITHIN 7 DAYS OF RECEIPT.
- J. SUBMITTALS NOT REQUIRED BY THE CONTRACT DOCUMENTS WILL BE RETURNED BY ARCHITECT WITHOUT ACTION.

QUALITY REQUIREMENTS:

- A. CONFLICTING STANDARDS AND OTHER REQUIREMENTS: IF COMPLIANCE WITH TWO OR MORE STANDARDS OR REQUIREMENTS IS SPECIFIED AND THE STANDARDS OR REQUIREMENTS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, INFORM THE ARCHITECT REGARDING THE CONFLICT AND OBTAIN CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK. REFER CONFLICTING REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING.
- B. PREPARE AND SUBMIT CERTIFIED WRITTEN REPORTS REQUIRED. INCLUDE THE FOLLOWING:
- PROJECT TITLE AND NUMBER AND DATE OF ISSUE. RECORD OF TEMPERATURE AND WEATHER CONDITIONS AT TIME OF SAMPLE TAKING AND TESTING AND INSPECTION. NAME AND SIGNATURE OF LABORATORY INSPECTOR.
 - NAME, ADDRESS, TELEPHONE NUMBER, AND EMAIL ADDRESS OF TESTING AGENCY
 - DATES AND LOCATIONS OF SAMPLES AND TESTS OR INSPECTIONS.
 - TEST AND INSPECTION RESULTS AND AN INTERPRETATION OF TEST RESULTS. COMMENTS OR PROFESSIONAL OPINION ON WHETHER TESTED OR INSPECTED WORK COMPLIES WITH THE CONTRACT DOCUMENT REQUIREMENTS. RECOMMENDATIONS ON RETESTING AND REINSPECTING.
- C. MANUFACTURER QUALIFICATIONS: A FIRM EXPERIENCED IN MANUFACTURING PRODUCTS OR SYSTEMS SIMILAR TO THOSE INDICATED FOR THIS PROJECT AND WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE, AS WELL AS SUFFICIENT PRODUCTION CAPACITY TO PRODUCE REQUIRED UNITS. AS APPLICABLE, PROCURE PRODUCTS FROM MANUFACTURERS ABLE TO MEET QUALIFICATION REQUIREMENTS, WARRANTY REQUIREMENTS, AND TECHNICAL OR FACTORY-AUTHORIZED SERVICE REPRESENTATIVE REQUIREMENTS.
- D. FABRICATOR QUALIFICATIONS: A FIRM EXPERIENCED IN PRODUCING PRODUCTS SIMILAR TO THOSE INDICATED FOR THIS PROJECT AND WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE, AS WELL AS SUFFICIENT PRODUCTION CAPACITY TO PRODUCE REQUIRED UNITS.
- E. INSTALLER QUALIFICATIONS: A FIRM OR INDIVIDUAL EXPERIENCED IN INSTALLING, ERECTING, APPLYING, OR ASSEMBLING WORK SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT, WHOSE WORK HAS RESULTED IN CONSTRUCTION WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE.
- F. TESTING AND INSPECTING AGENCY QUALIFICATIONS: AN NRTL, AN NVLAP, OR AN INDEPENDENT AGENCY WITH THE EXPERIENCE AND CAPABILITY TO CONDUCT TESTING AND INSPECTION INDICATED, AS DOCUMENTED ACCORDING TO ASTM E329; AND WITH ADDITIONAL QUALIFICATIONS REQUIRED BY THE CONSTRUCTION DOCUMENTS; AND, WHERE REQUIRED BY AUTHORITIES HAVING JURISDICTION, THAT IS ACCEPTABLE TO AUTHORITIES.
- G. PRECONSTRUCTION TESTING: WHERE TESTING AGENCY IS INDICATED TO PERFORM PRECONSTRUCTION TESTING FOR COMPLIANCE WITH SPECIFIED REQUIREMENTS FOR PERFORMANCE AND TEST METHODS, COMPLY WITH THE FOLLOWING:
- CONTRACTOR RESPONSIBILITIES INCLUDE THE FOLLOWING: PROVIDE TEST SPECIMENS REPRESENTATIVE OF PROPOSED PRODUCTS AND CONSTRUCTION. SUBMIT SPECIMENS IN A TIMELY MANNER WITH SUFFICIENT TIME FOR TESTING AND ANALYZING RESULTS TO PREVENT DELAYING THE WORK. WHEN TESTING IS COMPLETE, REMOVE TEST SPECIMENS AND TEST ASSEMBLIES, AND MOCKUPS UNLESS NOTED OTHERWISE; DO NOT REUSE PRODUCTS ON PROJECT.
 - TESTING AGENCY RESPONSIBILITIES: SUBMIT A CERTIFIED WRITTEN REPORT OF EACH TEST, INSPECTION, AND SIMILAR QUALITY-ASSURANCE SERVICE TO ARCHITECT OR CONTRACTOR. INTERPRET TESTS AND INSPECTIONS AND STATE IN EACH REPORT WHETHER TESTED AND INSPECTED WORK COMPLIES WITH OR DEVIATES FROM THE CONTRACT DOCUMENTS.
- H. MOCKUPS: BEFORE INSTALLING PORTIONS OF THE WORK REQUIRING MOCKUPS, BUILD MOCKUPS FOR EACH FORM OF CONSTRUCTION AND FINISH REQUIRED TO COMPLY WITH THE FOLLOWING REQUIREMENTS, USING MATERIALS INDICATED FOR THE COMPLETED WORK, TO SIZE AND LOCATION INDICATED. DEMONSTRATE THE PROPOSED RANGE OF AESTHETIC EFFECTS AND WORKMANSHIP. NOTIFY ARCHITECT AND CONTRACTOR 7 DAYS IN ADVANCE OF DATES AND TIMES WHEN MOCKUPS WILL BE CONSTRUCTED AND ALLOW 7 DAYS FOR REVIEW AND APPROVAL. OBTAIN THE APPROVAL FROM ARCHITECT AND CONTRACTOR BEFORE STARTING CORRESPONDING WORK. FABRICATION OR CONSTRUCTION. MAINTAIN MOCKUPS DURING CONSTRUCTION IN AN UNDISTURBED CONDITION AS A STANDARD FOR JUDGING THE COMPLETED WORK. DEMOLISH AND REMOVE MOCKUPS WHEN DIRECTED UNLESS OTHERWISE INDICATED.
- I. QUALITY CONTROL:
- CONTRACTOR RESPONSIBILITIES: TESTS AND INSPECTIONS ARE CONTRACTOR'S RESPONSIBILITY. PERFORM ADDITIONAL QUALITY-CONTROL ACTIVITIES, WHETHER SPECIFIED OR NOT, TO VERIFY AND DOCUMENT THAT THE WORK COMPLIES WITH REQUIREMENTS. ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM QUALITY-CONTROL SERVICES. NOTIFY TESTING AGENCIES AT LEAST 72 HOURS IN ADVANCE OF TIME WHEN WORK THAT REQUIRES TESTING OR INSPECTION WILL BE PERFORMED. COOPERATE WITH AGENCIES AND REPRESENTATIVES PERFORMING REQUIRED TESTS, INSPECTIONS, AND SIMILAR QUALITY-CONTROL SERVICES, AND PROVIDE REASONABLE AUXILIARY SERVICES AS REQUESTED.
 - TESTING AGENCY RESPONSIBILITIES: COOPERATE WITH ARCHITECT OR CONTRACTOR IN PERFORMANCE OF DUTIES. PROVIDE QUALIFIED PERSONNEL TO PERFORM REQUIRED TESTS AND INSPECTIONS. INTERPRET TESTS AND INSPECTIONS AND STATE IN EACH REPORT WHETHER TESTED AND INSPECTED WORK COMPLIES WITH OR DEVIATES FROM REQUIREMENTS. NOTIFY ARCHITECT OR CONTRACTOR PROMPTLY OF IRREGULARITIES OR DEFICIENCIES OBSERVED IN THE WORK DURING PERFORMANCE OF ITS SERVICES.
 - CONTRACTOR AND TESTING AGENCY SHALL COORDINATE SEQUENCE OF ACTIVITIES TO ACCOMMODATE REQUIRED QUALITY-ASSURANCE AND QUALITY-CONTROL SERVICES WITH A MINIMUM OF DELAY AND TO AVOID NECESSITY OF REMOVING AND REPLACING CONSTRUCTION TO ACCOMMODATE TESTING AND INSPECTION.
- J. SPECIAL TESTS AND INSPECTIONS: OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY OR SPECIAL INSPECTOR TO CONDUCT SPECIAL TESTS AND INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION AS THE RESPONSIBILITY OF OWNER AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTIONS, AND AS FOLLOWS:
- VERIFYING THAT MANUFACTURER MAINTAINS DETAILED FABRICATION AND QUALITY-CONTROL PROCEDURES AND REVIEWING THE COMPLETENESS AND ADEQUACY OF THOSE PROCEDURES TO PERFORM THE WORK.
 - NOTIFY ARCHITECT OR CONTRACTOR PROMPTLY OF IRREGULARITIES OR DEFICIENCIES OBSERVED IN THE WORK DURING PERFORMANCE OF ITS SERVICES.
 - SUBMITTING A CERTIFIED WRITTEN REPORT OF EACH TEST, INSPECTION, AND SIMILAR QUALITY-CONTROL SERVICE TO ARCHITECT OR CONTRACTOR WITH COPY TO CONTRACTOR AND TO AUTHORITIES HAVING JURISDICTION. SUBMIT A FINAL REPORT OF SPECIAL TESTS AND INSPECTIONS AT SUBSTANTIAL COMPLETION, WHICH INCLUDES A LIST OF UNRESOLVED DEFICIENCIES.
 - RETESTING AND REINSPECTING CORRECTED WORK.
- K. ALL RETESTING/REINSPECTING: REGARDLESS OF WHETHER ORIGINAL TESTS OR INSPECTIONS WERE CONTRACTOR'S RESPONSIBILITY OR THE OWNER'S SPECIAL INSPECTIONS, PROVIDE QUALITY-CONTROL SERVICES, INCLUDING RETESTING AND REINSPECTING, FOR CONSTRUCTION THAT REPLACED WORK THAT FAILED TO COMPLY WITH THE CONTRACT DOCUMENTS.

CONSTRUCTION WASTE MANAGEMENT:

- A. DEVELOP A WASTE MANAGEMENT PLAN AND SUBMIT PLAN FOR APPROVAL WITHIN 14 DAYS OF DATE ESTABLISHED FOR COMMENCEMENT OF THE WORK.
- B. DISTRIBUTE AND IMPLEMENT APPROVED WASTE MANAGEMENT PLAN. PROVIDE HANDLING, CONTAINERS, STORAGE, SIGNAGE, TRANSPORTATION, AND OTHER ITEMS AS REQUIRED TO IMPLEMENT WASTE MANAGEMENT PLAN DURING THE ENTIRE DURATION OF THE CONTRACT.
- C. TRAIN WORKERS, SUBCONTRACTORS, AND SUPPLIERS ON PROPER WASTE MANAGEMENT PROCEDURES, AS APPROPRIATE FOR THE WORK.
- D. SITE ACCESS AND TEMPORARY CONTROLS: CONDUCT WASTE MANAGEMENT OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, WALKWAYS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES. DESIGNATE AND LABEL SPECIFIC AREAS ON PROJECT SITE NECESSARY FOR SEPARATING MATERIALS THAT ARE TO BE SALVAGED AND RECYCLED.

CLOSEOUT PROCEDURES:

- A. CONTRACTOR'S LIST OF INCOMPLETE ITEMS: PREPARE AND SUBMIT A LIST OF ITEMS TO BE COMPLETED AND CORRECTED (CONTRACTOR'S "PUNCH LIST"), INDICATING THE VALUE OF EACH ITEM ON THE LIST AND REASONS WHY THE WORK IS INCOMPLETE.
- B. SUBMITTALS PRIOR TO SUBSTANTIAL COMPLETION: COMPLETE THE FOLLOWING A MINIMUM OF 10 DAYS PRIOR TO REQUESTING INSPECTION FOR DETERMINING DATE OF SUBSTANTIAL COMPLETION.
- SUBMIT A FINAL APPLICATION FOR PAYMENT.
 - CERTIFICATE OF INSURANCE: SUBMIT EVIDENCE OF FINAL, CONTINUING INSURANCE COVERAGE.
 - CERTIFIED LIST OF INCOMPLETE ITEMS: SUBMIT CERTIFIED COPY OF ARCHITECT'S SUBSTANTIAL COMPLETION INSPECTION LIST OF ITEMS TO BE COMPLETED OR CORRECTED (PUNCH LIST), ENDORSED AND DATED BY ARCHITECT. CERTIFIED COPY OF THE LIST SHALL STATE THAT EACH ITEM HAS BEEN COMPLETED OR OTHERWISE RESOLVED FOR ACCEPTANCE.
 - CERTIFICATES OF RELEASE: OBTAIN AND SUBMIT RELEASES FROM AUTHORITIES HAVING JURISDICTION, PERMITTING OWNER UNRESTRICTED USE OF THE WORK AND ACCESS TO SERVICES AND UTILITIES. INCLUDE OCCUPANCY PERMITS, OPERATING CERTIFICATES, AND SIMILAR RELEASES.
 - SUBMIT CLOSEOUT SUBMITTALS AS REQUIRED, INCLUDING SPECIFIC WARRANTIES, WORKMANSHIP BONDS, MAINTENANCE SERVICE AGREEMENTS, FINAL CERTIFICATIONS, AND SIMILAR DOCUMENTS.
 - SUBMIT MAINTENANCE MATERIAL SUBMITTALS SPECIFIED IN INDIVIDUAL SECTIONS, INCLUDING TOOLS, SPARE PARTS, EXTRA MATERIALS, AND SIMILAR ITEMS, AND DELIVER TO LOCATION DESIGNATED BY OWNER OR OWNER'S AGENT. LABEL WITH MANUFACTURER'S NAME AND MODEL NUMBER.
 - SUBMIT TESTING, ADJUSTING, AND BALANCING RECORDS.
 - SUBMIT CHANGEOVER INFORMATION RELATED TO OWNER'S OCCUPANCY, USE, OPERATION, AND MAINTENANCE.

C. FINAL CLEANING

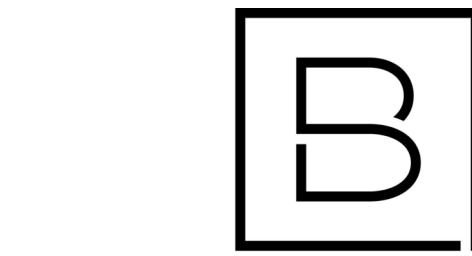
- EMPLOY EXPERIENCED WORKERS OR PROFESSIONAL CLEANERS FOR FINAL CLEANING. CLEAN EACH SURFACE OR UNIT TO CONDITION EXPECTED IN AN AVERAGE COMMERCIAL BUILDING CLEANING AND MAINTENANCE PROGRAM. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- USE CLEANING PRODUCTS THAT COMPLY WITH GREEN SEAL'S GS-37, OR IF GS-37 IS NOT APPLICABLE, USE PRODUCTS THAT COMPLY WITH THE CALIFORNIA CODE OF REGULATIONS MAXIMUM ALLOWABLE VOC LEVELS.
- CLEAN EXPOSED EXTERIOR AND INTERIOR HARD-SURFACED FINISHES TO A DIRT-FREE CONDITION, FREE OF STAINS, FILMS, AND SIMILAR FOREIGN SUBSTANCES. AVOID DISTURBING NATURAL WEATHERING OF EXTERIOR SURFACES. RESTORE REFLECTIVE SURFACES TO THEIR ORIGINAL CONDITION.
- VACUUM CARPET AND SIMILAR SOFT SURFACES, REMOVING DEBRIS AND EXCESS NAP; CLEAN ACCORDING TO MANUFACTURER'S RECOMMENDATIONS IF VISIBLE SOIL OR STAINS REMAIN.
- CLEAN TRANSPARENT MATERIALS, INCLUDING MIRRORS AND GLASS IN DOORS AND WINDOWS. REMOVE GLAZING COMPOUNDS AND OTHER NOTICEABLE, VISION-OBSCURING MATERIALS. POLISH MIRRORS AND GLASS, TAKING CARE NOT TO SCRATCH SURFACES.
- CLEAN PLUMBING FIXTURES TO A SANITARY CONDITION, FREE OF STAINS, INCLUDING STAINS RESULTING FROM WATER EXPOSURE.

OPERATIONS AND MAINTENANCE DATA:

- A. SUBMIT EACH MANUAL IN FINAL FORM PRIOR TO REQUESTING INSPECTION FOR SUBSTANTIAL COMPLETION AND AT LEAST 10 DAYS BEFORE COMMENCING DEMONSTRATION AND TRAINING.
- B. CORRECT OR REVISE EACH MANUAL TO COMPLY WITH ARCHITECT'S COMMENTS. SUBMIT COPIES OF EACH CORRECTED MANUAL WITHIN 10 DAYS OF RECEIPT OF ARCHITECT'S COMMENTS AND PRIOR TO COMMENCING DEMONSTRATION AND TRAINING.
- C. SUBMIT ON DIGITAL MEDIA ACCEPTABLE TO ARCHITECT BY UPLOADING TO WEB-BASED PROJECT SOFTWARE SITE OR BY EMAIL TO ARCHITECT, IF WEB-BASED SOFTWARE IS NOT UTILIZED. ENABLE REVIEWER COMMENTS ON DRAFT SUBMITTALS.
- ELECTRONIC FILES: USE ELECTRONIC FILES PREPARED BY MANUFACTURER WHERE AVAILABLE. WHERE SCANNING OF PAPER DOCUMENTS IS REQUIRED, CONFIGURE SCANNED FILE FOR MINIMUM READABLE FILE SIZE.
 - BOOKMARK INDIVIDUAL DOCUMENTS BASED ON FILE NAMES. NAME DOCUMENT FILES TO CORRESPOND TO SYSTEM, SUBSYSTEM, AND EQUIPMENT NAMES USED IN MANUAL DIRECTORY AND TABLE OF CONTENTS. GROUP DOCUMENTS FOR EACH SYSTEM AND SUBSYSTEM INTO INDIVIDUAL COMPOSITE BOOKMARKED FILES; THEN CREATE COMPOSITE MANUAL, SO THAT RESULTING BOOKMARKS REFLECT THE SYSTEM, SUBSYSTEM, AND EQUIPMENT NAMES IN A READILY NAVEGATED FILE TREE. CONFIGURE ELECTRONIC MANUAL TO DISPLAY BOOKMARK PANEL ON OPENING FILE.
- D. ORGANIZATION OF MANUALS: UNLESS OTHERWISE INDICATED, ORGANIZE EACH MANUAL INTO A SEPARATE SECTION FOR EACH SYSTEM AND SUBSYSTEM, AND A SEPARATE SECTION FOR EACH PIECE OF EQUIPMENT NOT PART OF A SYSTEM. PROVIDE A TITLE PAGE AND TABLE OF CONTENTS.
1. TITLE PAGE SHALL INCLUDE:
- SUBJECT MATTER INCLUDED IN MANUAL.
 - DATE OF SUBMITTAL.
 - NAME AND CONTACT INFORMATION FOR CONTRACTOR AND CONSTRUCTION MANAGER WHEN APPLICABLE.
 - NAME AND CONTACT INFORMATION FOR COMMISSIONING AUTHORITY.
- EMERGENCY MANUAL: ASSEMBLE A COMPLETE SET OF EMERGENCY INFORMATION INDICATING PROCEDURES FOR USE BY EMERGENCY PERSONNEL AND BY OWNER'S OPERATING PERSONNEL FOR TYPES OF EMERGENCIES INDICATED.
 - SYSTEMS AND EQUIPMENT OPERATION MANUAL: ASSEMBLE A COMPLETE SET OF DATA INDICATING OPERATION OF EACH SYSTEM, SUBSYSTEM, AND PIECE OF EQUIPMENT NOT PART OF A SYSTEM. INCLUDE INFORMATION REQUIRED FOR DAILY OPERATION AND MANAGEMENT, OPERATING STANDARDS, AND ROUTINE AND SPECIAL OPERATING PROCEDURES.
 - SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS: ASSEMBLE A COMPLETE SET OF DATA INDICATING MAINTENANCE OF EACH SYSTEM, SUBSYSTEM, AND PIECE OF EQUIPMENT NOT PART OF A SYSTEM. INCLUDE MANUFACTURER'S MAINTENANCE DOCUMENTATION, PREVENTIVE MAINTENANCE PROCEDURES AND FREQUENCY, REPAIR PROCEDURES, WIRING AND SYSTEMS DIAGRAMS, LISTS OF SPARE PARTS, AND WARRANTY INFORMATION.
 - PRODUCT MAINTENANCE MANUAL: ASSEMBLE A COMPLETE SET OF MAINTENANCE DATA INDICATING CARE AND MAINTENANCE OF EACH PRODUCT, MATERIAL, AND FINISH INCORPORATED INTO THE WORK.

PROJECT RECORD DOCUMENTS:

- A. RECORD PRINTS: MAINTAIN ONE SET OF MARKED-UP PAPER COPIES OF THE CONTRACT DRAWINGS AND SHOP DRAWINGS, INCORPORATING NEW AND REVISED DRAWINGS AS MODIFICATIONS ARE ISSUED.
- B. MAINTAIN ONE COPY OF EACH SUBMITTAL DURING THE CONSTRUCTION PERIOD FOR PROJECT RECORD DOCUMENT PURPOSES. POST CHANGES AND REVISIONS TO PROJECT RECORD DOCUMENTS AS THEY OCCUR; DO NOT WAIT UNTIL END OF PROJECT.
- C. RECORD DIGITAL DATA FILES: IMMEDIATELY BEFORE INSPECTION FOR CERTIFICATE OF SUBSTANTIAL COMPLETION, REVIEW MARKED-UP RECORD DOCUMENTS WITH ARCHITECT OR CONTRACTOR. WHEN AUTHORIZED, PREPARE A FULL SET OF CORRECTED DIGITAL DATA FILES OF THE CONTRACT DOCUMENTS. SEE OPERATIONS AND MAINTENANCE DATA SECTION ABOVE FOR SUBMISSION FORMAT REQUIREMENTS.
- DEMONSTRATION AND TRAINING:
- A. FACILITATOR: CONTRACTOR OR CONSTRUCTION MANAGER SHALL PREPARE INSTRUCTION PROGRAM AND TRAINING MODULES, TO COORDINATE INSTRUCTORS, AND TO COORDINATE BETWEEN CONTRACTOR AND OWNER FOR NUMBER OF PARTICIPANTS, INSTRUCTION TIMES, AND LOCATION.
- B. ENGAGE QUALIFIED INSTRUCTORS TO INSTRUCT OWNER'S PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN SYSTEMS, SUBSYSTEMS, AND EQUIPMENT NOT PART OF A SYSTEM.
- C. PROVIDE INSTRUCTION AT MUTUALLY AGREED-ON TIMES. FOR EQUIPMENT THAT REQUIRES SEASONAL OPERATION, PROVIDE SIMILAR INSTRUCTION AT START OF EACH SEASON.
- D. TRAINING LOCATION AND REFERENCE MATERIAL: CONDUCT TRAINING ON-SITE IN THE COMPLETED AND FULLY OPERATIONAL FACILITY USING THE ACTUAL EQUIPMENT IN-PLACE. CONDUCT TRAINING USING FINAL OPERATION AND MAINTENANCE DATA SUBMITTALS.
- E. EVALUATION: AT CONCLUSION OF EACH TRAINING MODULE, ASSESS AND DOCUMENT EACH PARTICIPANT'S MASTERY OF MODULE BY USE A DEMONSTRATION PERFORMANCE-BASED TEST.
- F. COLLECT USED AND LEFTOVER EDUCATIONAL MATERIALS AND GIVE TO OWNER. REMOVE INSTRUCTIONAL EQUIPMENT. RESTORE SYSTEMS AND EQUIPMENT TO CONDITION EXISTING BEFORE INITIAL TRAINING USE.



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ORCHARD VIEW SCHOOL DISTRICT

CARDINAL ELEMENTARY CAFETERIA ACOUSTICAL TREATMENT

2310 MARQUETTE AVE
MUSKEGON, MI 49442

Date Revised	Description
1-24-2023	OWNER REVIEW
1-31-2023	BIDS

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Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	22013310A

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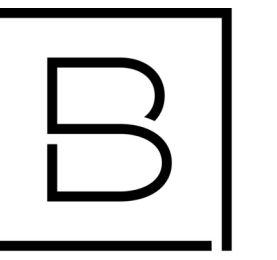
GENERAL REQUIREMENTS

Drawing Number

A002

GENERAL NOTES

- A. CONTRACTOR SHALL COORDINATE REMOVAL OF FLOORS, WALLS AND CEILINGS WITH MECHANICAL, ELECTRICAL AND PLUMBING TRADES. ALL POWER, MECHANICAL AND PLUMBING LINES SHALL BE REMOVED BACK TO NEAREST MAIN BRANCH LINE OR PANEL.
- B. CONTRACTOR SHALL PROTECT EXISTING CONSTRUCTION AND EQUIPMENT NOTED TO REMAIN FROM DAMAGE RESULTING FROM DEMOLITION ACTIVITIES. ANY DAMAGE TO EXISTING PROPERTY RESULTING FROM DEMOLITION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- C. CONTRACTOR SHALL PROTECT ADJACENT SURFACES IN PREPARATION OF SAW CUTTING REQUIRED FOR DEMOLITION ACTIVITIES.



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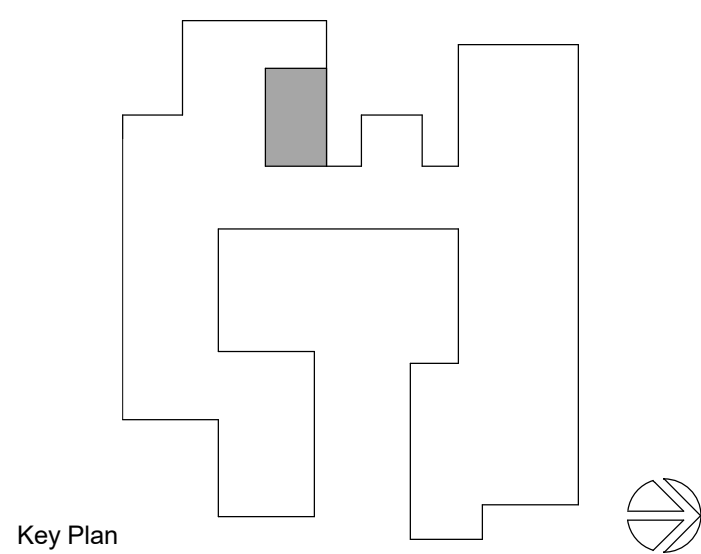
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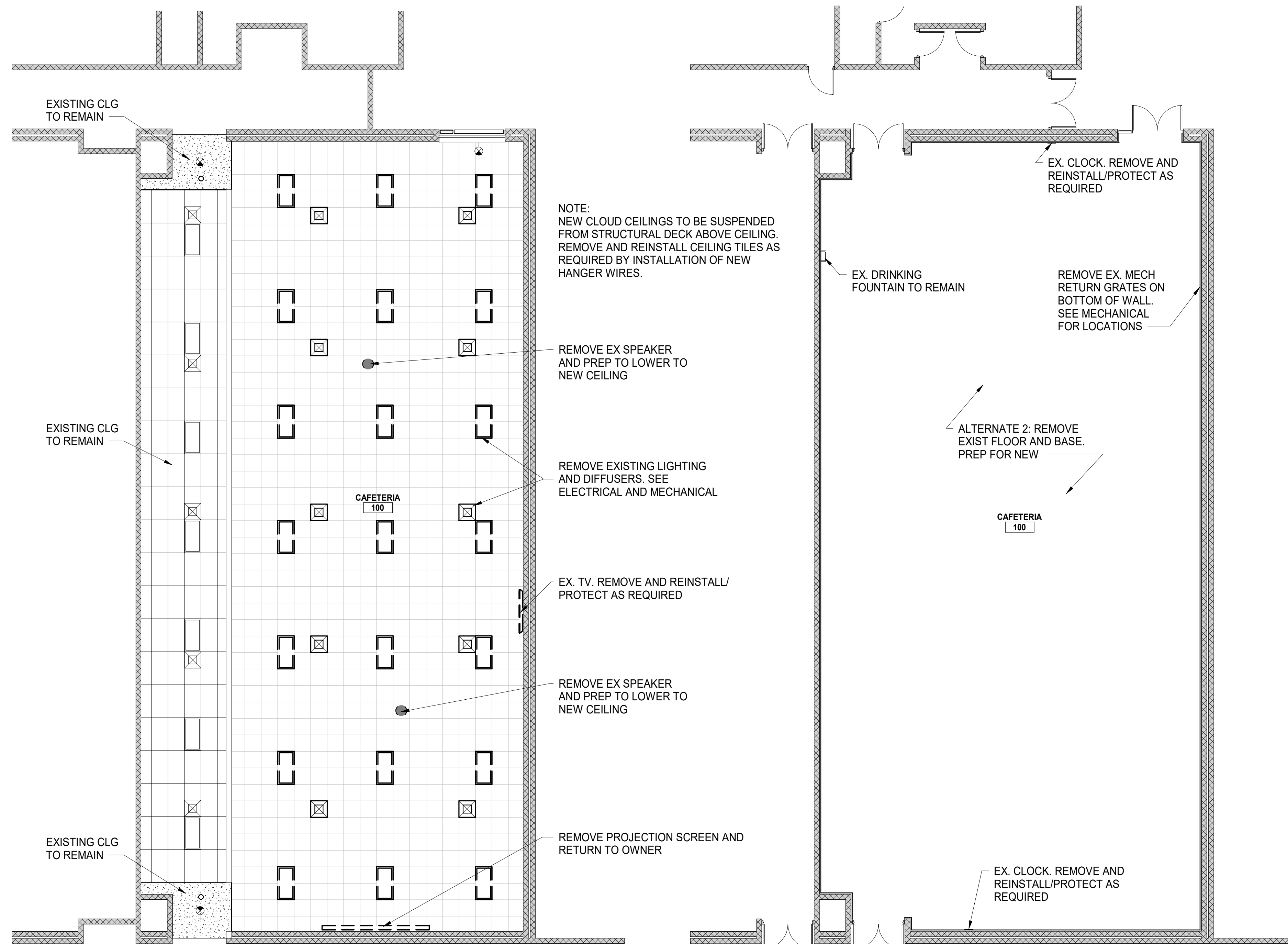
Project Manager D HOLTROP	Discipline Lead B HUYLER
Designer E POST	Reviewer R KEUNEKE
Date Issued 1/31/2023	Project Number 22013310A

Sheet Name

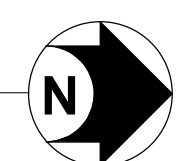
**FIRST FLOOR AND CEILING
DEMOLITION PLANS**

Drawing Number

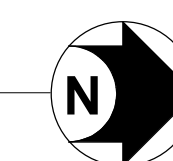
AD101



2 FIRST FLOOR DEMOLITION RCP
SCALE: 1/8" = 1'-0"



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



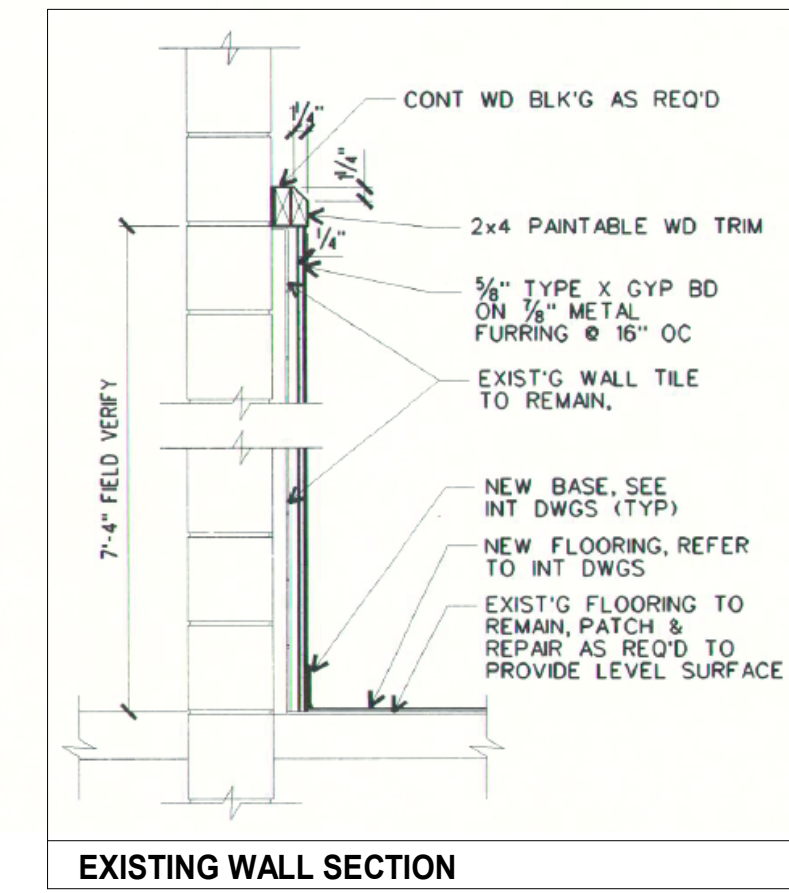
GENERAL CEILING NOTES

- A. ALL NEW CLOUD CEILINGS TO BE SUSPENDED FROM STRUCTURAL DECK ABOVE EXISTING CEILING. REMOVE AND REINSTALL CEILING TILES AS REQUIRED BY INSTALLATION OF NEW HANGER WIRES.
- B. PAINT ALL HANGER WIRES FOR CLOUDS, DUCT AND CONDUIT EXTENSIONS, AND EXISTING CEILING P-2 (SEE A141).

LEGEND

NOTE: SEE OTHER DISCIPLINE DRAWINGS (E.G. MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS) FOR ASSOCIATED SYSTEMS AND INFORMATION ABOUT SYMBOLS NOT INDICATED IN THIS LEGEND.

- 2' x 2' SUSPENDED CEILING TILE
- 2' x 4' SUSPENDED CEILING TILE
- GYPSUM BOARD CEILING/SOFFIT
- FABRIC WRAPPED ACOUSTICAL PANEL 46" X 46"
- FABRIC WRAPPED ACOUSTICAL PANEL 46" DIA.



GENERAL NOTES

- A. REFER TO A140 SERIES DRAWINGS FOR FINISH PLANS, SCHEDULES, AND DETAILS.

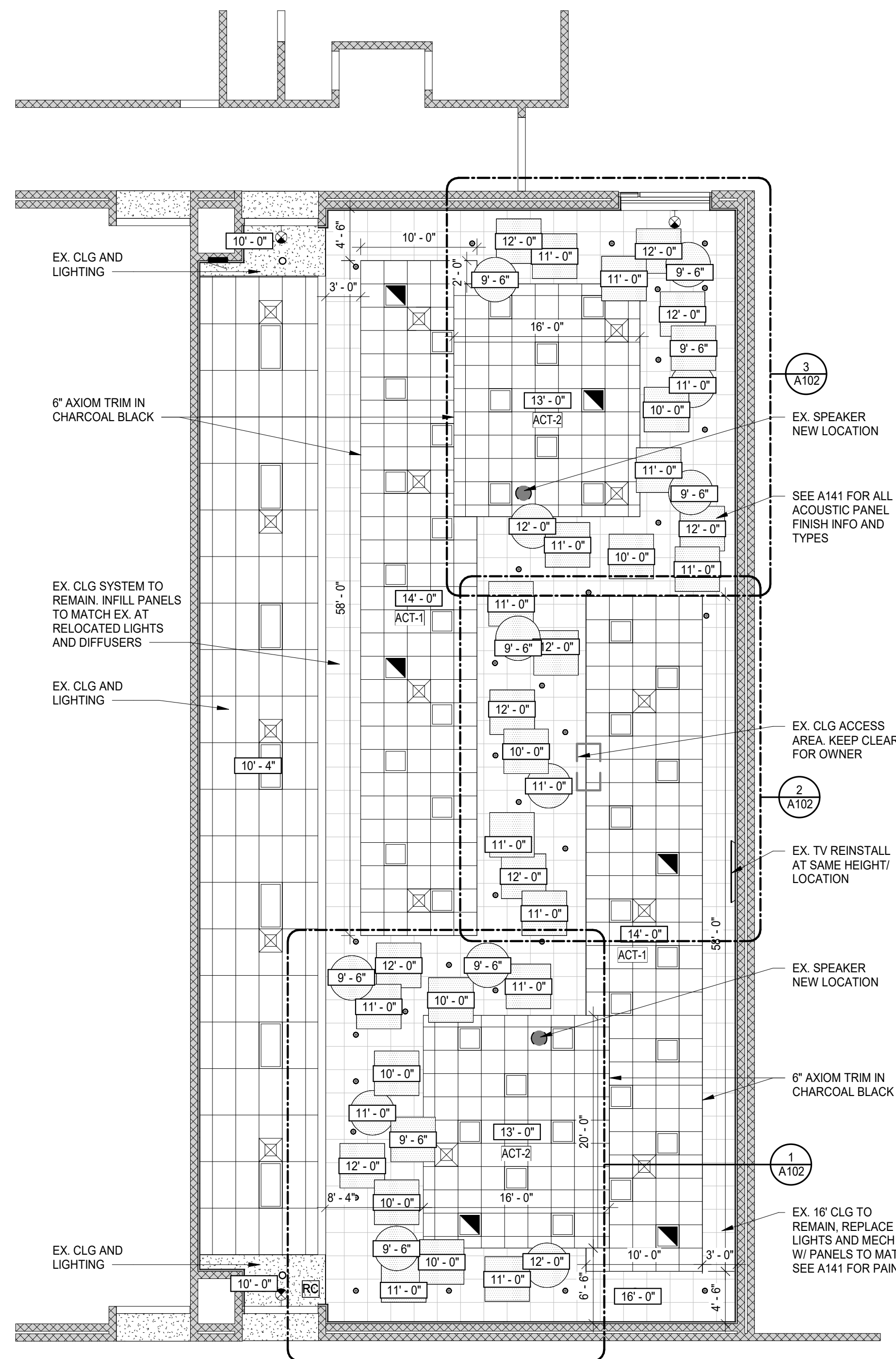
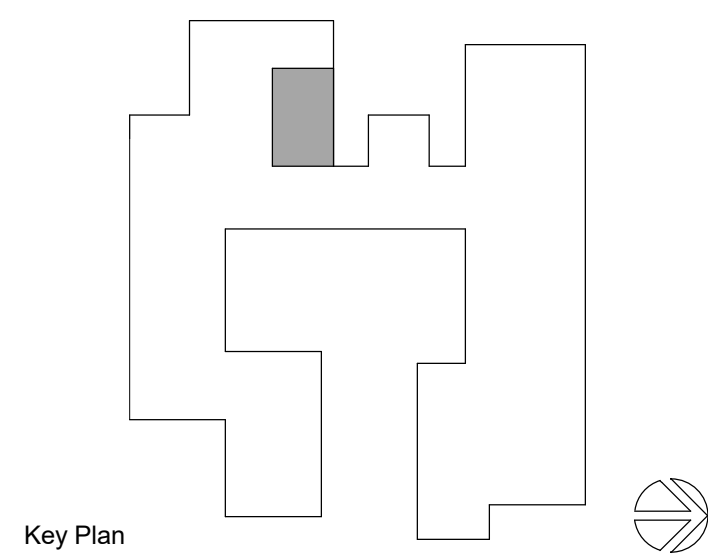
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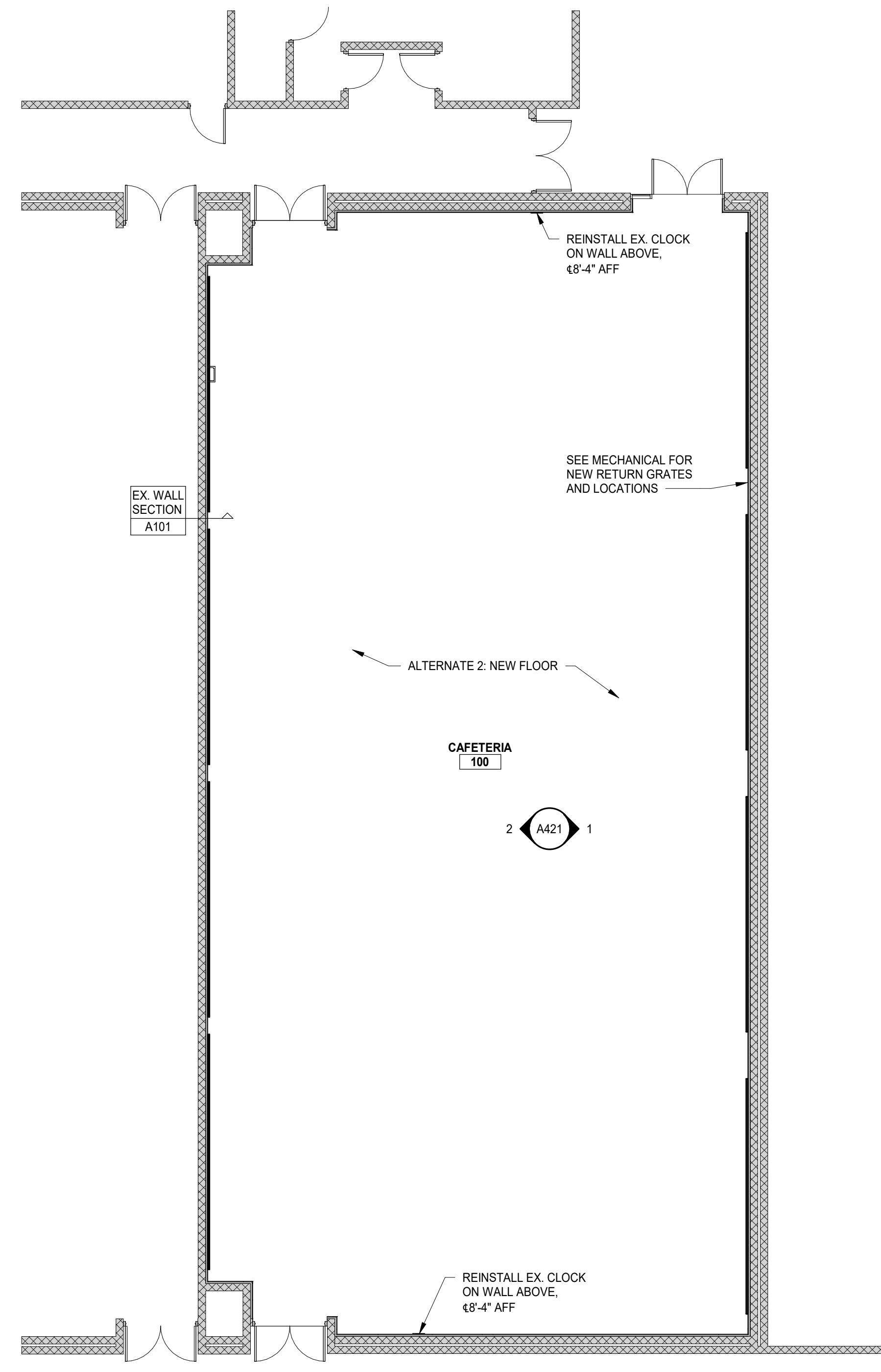
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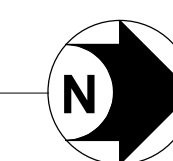
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2 FIRST FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"



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



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D HOLTROP	B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	22013310A

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**FIRST FLOOR AND CEILING
PLANS**

Drawing Number


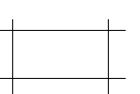

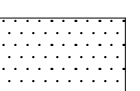
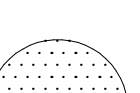
A101

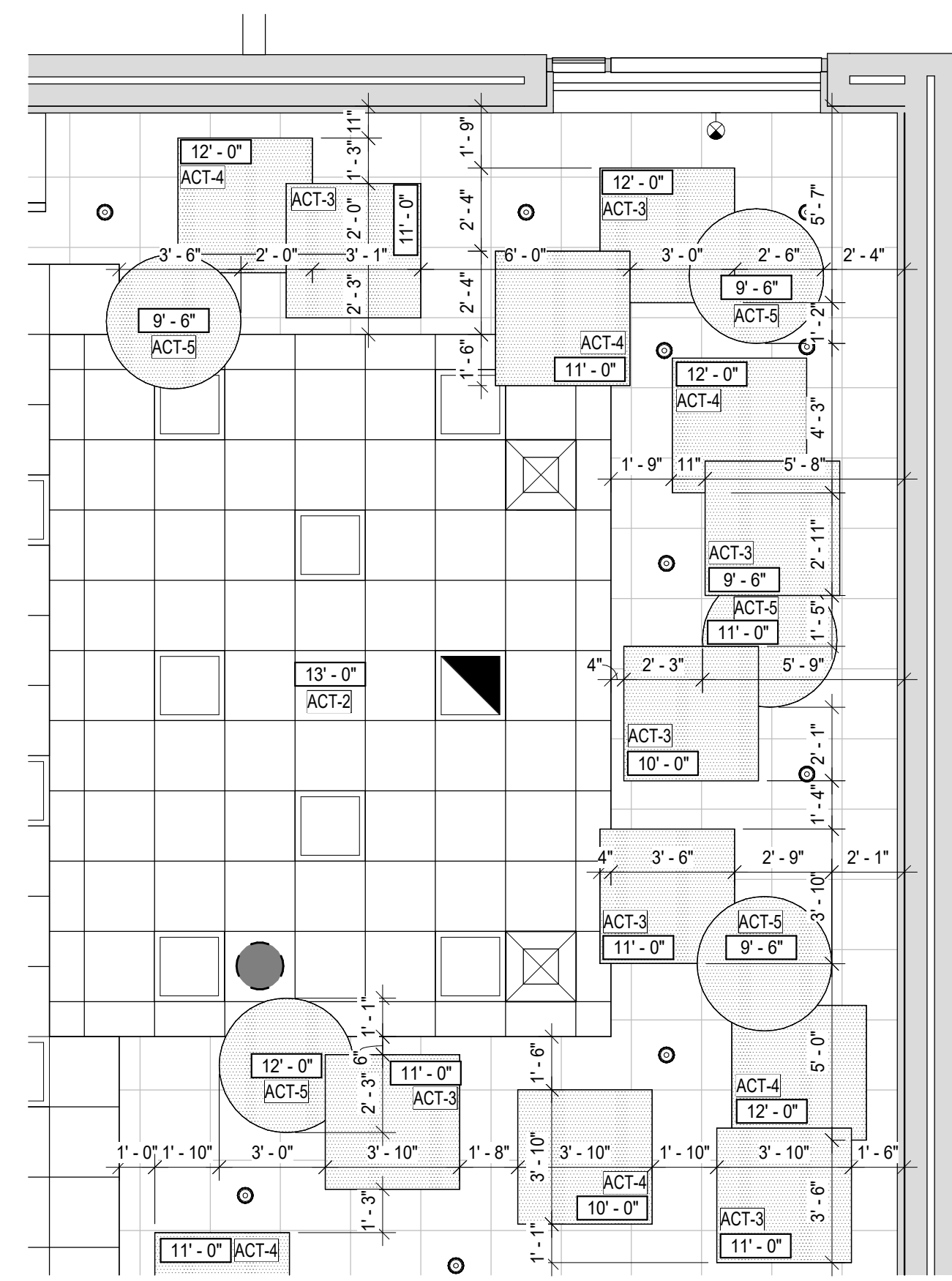
GENERAL NOTES

A. REFER TO A140 SERIES DRAWINGS FOR FINISH PLANS, SCHEDULES, AND DETAILS.

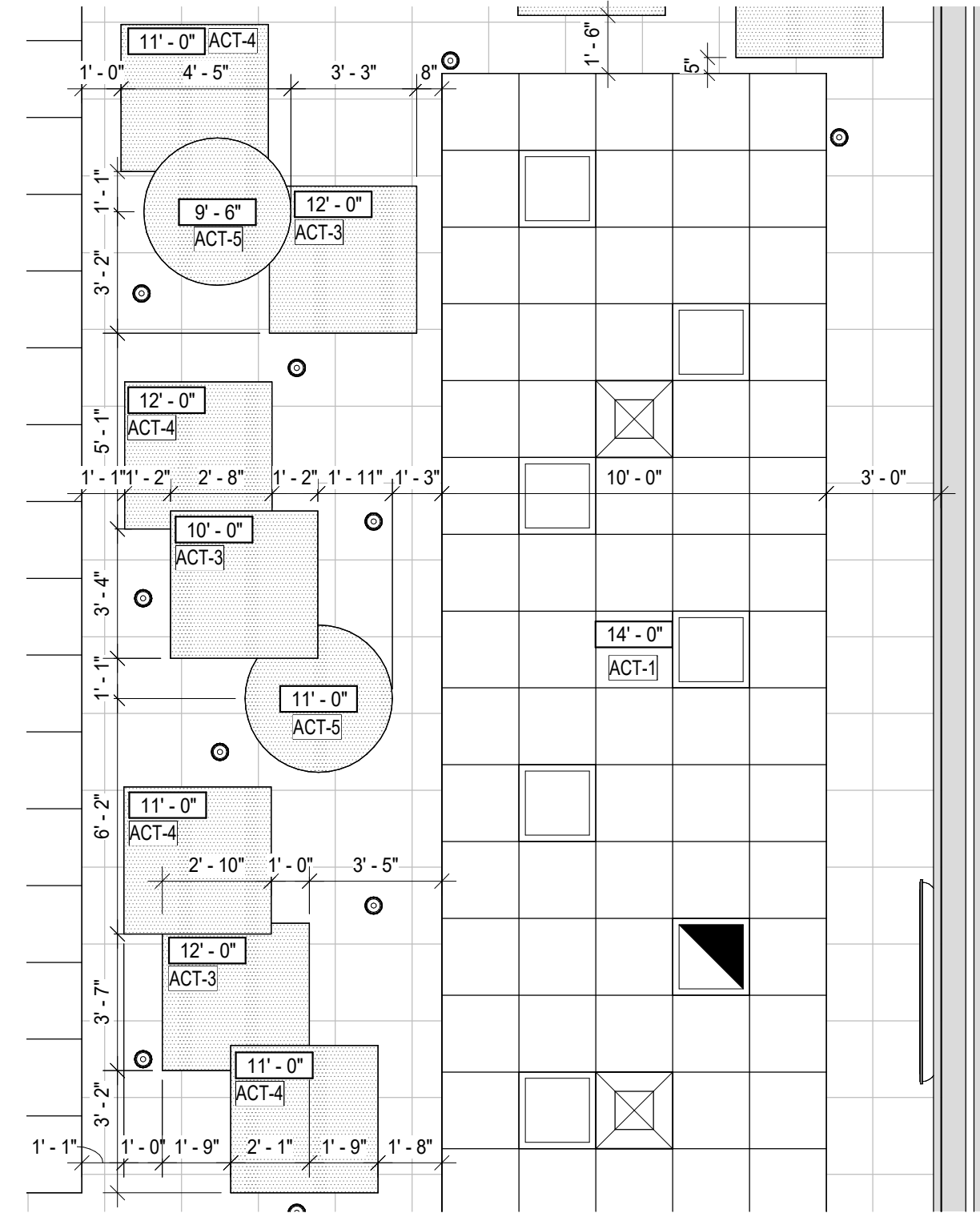
LEGEND

NOTE: SEE OTHER DISCIPLINE DRAWINGS (E.G. MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS) FOR ASSOCIATED SYSTEMS AND INFORMATION ABOUT SYMBOLS NOT INDICATED IN THIS LEGEND.

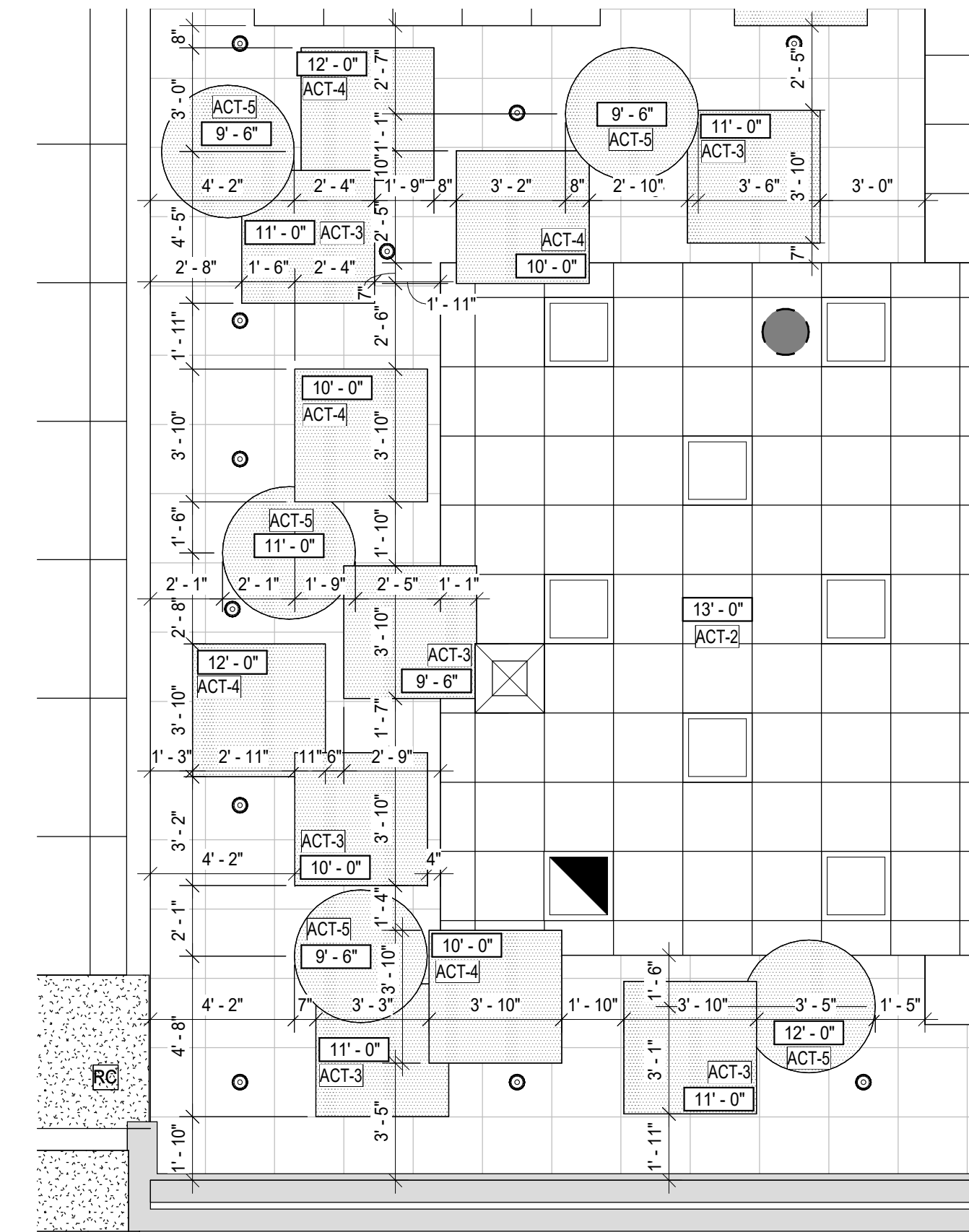
-  2' x 2' SUSPENDED CEILING TILE
-  2' x 4' SUSPENDED CEILING TILE
-  GYPSUM BOARD CEILING/SOFFIT
-  FABRIC WRAPPED ACOUSTICAL PANEL 48"X48"
-  FABRIC WRAPPED ACOUSTICAL PANEL 48" DIA.



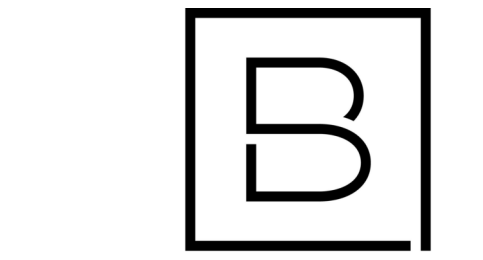
3 FIRST FLOOR RCP - AREA 3
SCALE: 1/4" = 1'-0"



2 FIRST FLOOR RCP - AREA 2
SCALE: 1/4" = 1'-0"



1 FIRST FLOOR RCP - AREA 1
SCALE: 1/4" = 1'-0"



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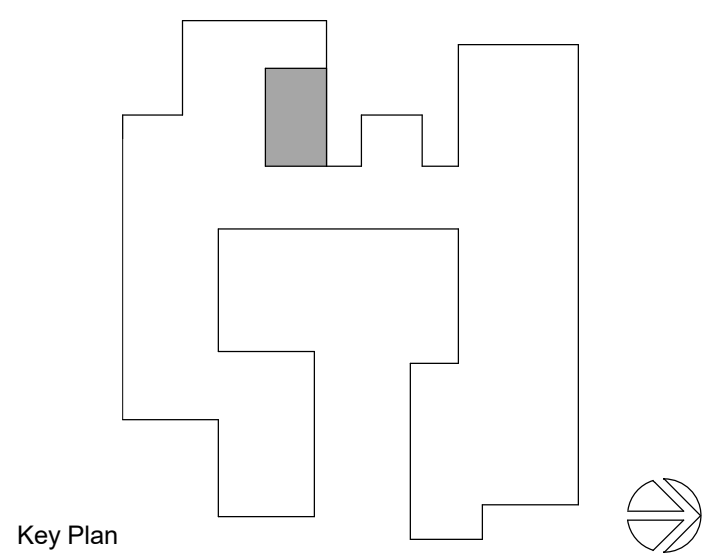
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Designer E POST	Reviewer R KEUNEKE
Date Issued 1/31/2023	Project Number 22013310A

Sheet Name

**FIRST FLOOR ENLARGED
CEILING PLANS**

Drawing Number

A102

BASIS OF DESIGN	
095113 ACOUSTICAL PANEL CEILINGS	
ACT-1: ACOUSTICAL CEILING TILE 24"x24"	
MANUFACTURER:	ARMSTRONG
STYLE:	CALLA
COLOR:	WHITE
EDGE:	SQUARE LAY-IN 15/16
GRID:	15/16" WHITE
NOTE:	6" AXIOM TRIM AT CLOUDS - CHARCOAL BLACK
ACT-2: ACOUSTICAL CEILING TILE 24"x24"	
MANUFACTURER:	ARMSTRONG
STYLE:	CALLA
COLOR:	LIGHT GREY
EDGE:	SQUARE LAY-IN 15/16
GRID:	15/16" LIGHT GREY (TBD)
NOTE:	6" AXIOM TRIM AT CLOUDS - CHARCOAL BLACK
ACT-3: ACOUSTICAL CEILING PANEL; 2" THICK	
MANUFACTURER:	BASIS OF DESIGN: KOROSEAL
STYLE:	SOUND DESIGNS PERFORMANCE SERIES
FABRIC:	FR701 - SILVER NEUTRAL
NOTE:	ALT MANUF: KINETICS & SOUND SEAL
ACT-4: ACOUSTICAL CEILING PANEL; 2" THICK	
MANUFACTURER:	BASIS OF DESIGN: KOROSEAL
STYLE:	SOUND DESIGNS PERFORMANCE SERIES
FABRIC:	FR701 - FLANNEL
NOTE:	ALT MANUF: KINETICS & SOUND SEAL
ACT-5: ACOUSTICAL CEILING PANEL; 2" THICK	
MANUFACTURER:	BASIS OF DESIGN: KOROSEAL
STYLE:	SOUND DESIGNS PERFORMANCE SERIES
FABRIC:	FR701 - CLARET ACCENT
NOTE:	ALT MANUF: KINETICS & SOUND SEAL
098433 INTERIOR PAINT	
P-1: FIELD - INTERIOR PAINT	
MANUFACTURER:	SHERWIN-WILLIAMS
COLOR:	SW 7008 - ALABASTER
FINISH:	SATIN
NOTE:	
P-2: CEILING - INTERIOR PAINT	
MANUFACTURER:	SHERWIN-WILLIAMS
COLOR:	SW 6258 - TRICORN BLACK
FINISH:	TBD
NOTE:	
098200 ACOUSTICAL WALL PANELS - ALTERNATE 1	
WP-1: ACOUSTICAL WALL PANEL; 1.5" THICK	
MANUFACTURER:	BASIS OF DESIGN: KOROSEAL
STYLE:	SOUND DESIGNS PERFORMANCE PLUS SERIES
FABRIC:	BEEHAVE - BLACK
NOTE:	SEE A421 FOR SIZING ALT MANUF: KINETICS & SOUND SEAL
WP-2: ACOUSTICAL WALL PANEL; 1.5" THICK	
MANUFACTURER:	BASIS OF DESIGN: KOROSEAL
STYLE:	SOUND DESIGNS PERFORMANCE PLUS SERIES
FABRIC:	BEEHAVE - SLATE
NOTE:	SEE A421 FOR SIZING ALT MANUF: KINETICS & SOUND SEAL
096519 RESILIENT TILE FLOORING - ALTERNATE 2	
LVT-1: LVT PLANK; 6" x 48", 20 MIL	
MANUFACTURER:	SHAW CONTRACT
COLLECTION:	SOLITUDE
STYLE:	0648V
COLOR:	COCOA 48103
NOTE:	STAGGER LAYOUT
096530 RESILIENT WALL BASE - ALTERNATE 2	
RB-1: RESILIENT WALL BASE; 4" H	
MANUFACTURER:	JOHNSONITE
STYLE:	TRADITIONAL 4" DC
COLOR:	BURNT UMBER B
TOE STYLE:	COVE
NOTE:	

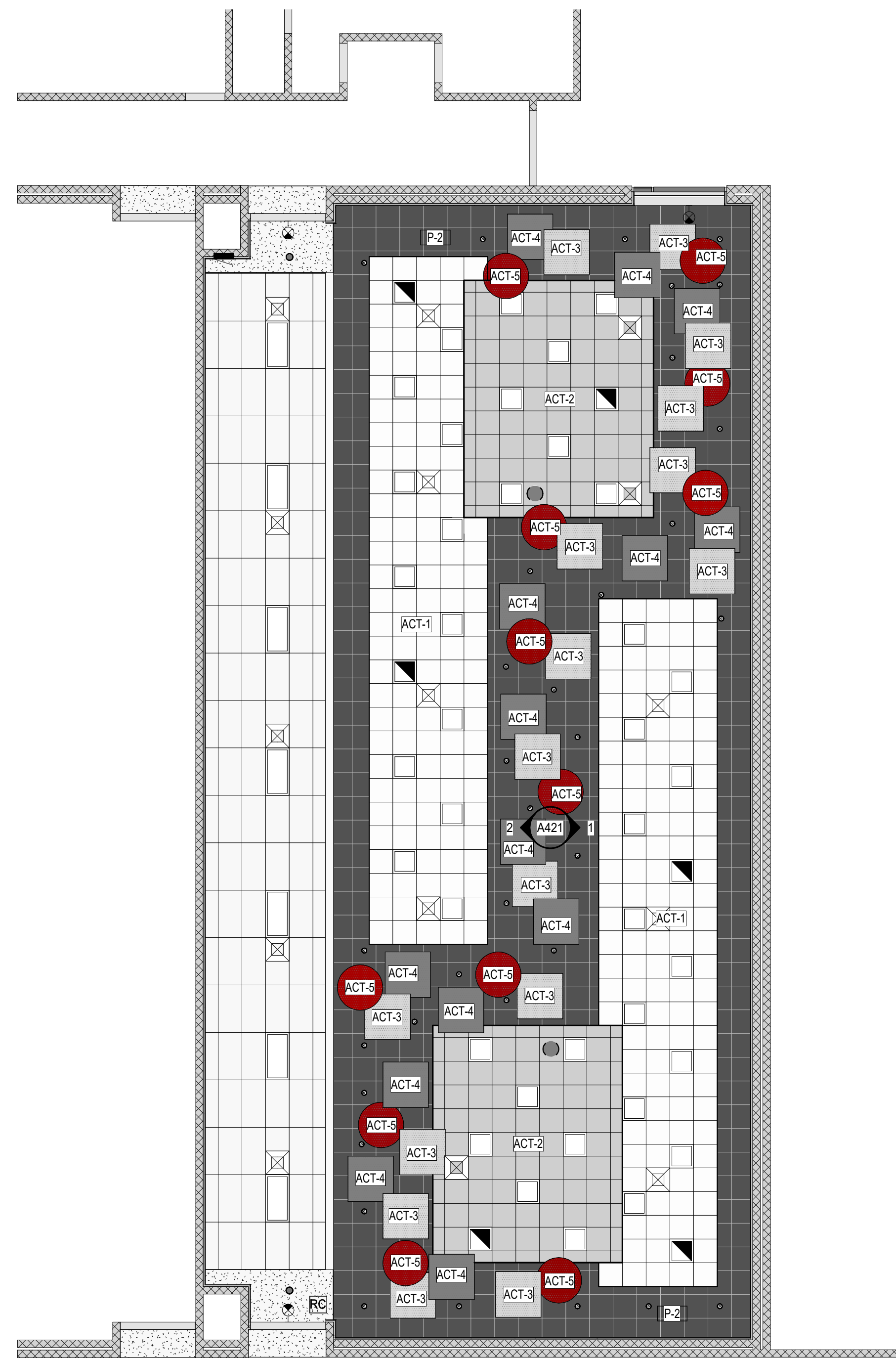
ROOM FINISH SCHEDULE									
ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS				CEILING	REMARKS
				NORTH	SOUTH	EAST	WEST		
1ST FLOOR									
100	CAFETERIA	LVT-1	RB-1	P-1	P-1	P-1	P-1	EX CEILING AT ELEVATION 16'-0" TO BE PAINTED P-2	FLOOR AND BASE ARE PART OF ALTERNATE 2

GENERAL NOTES

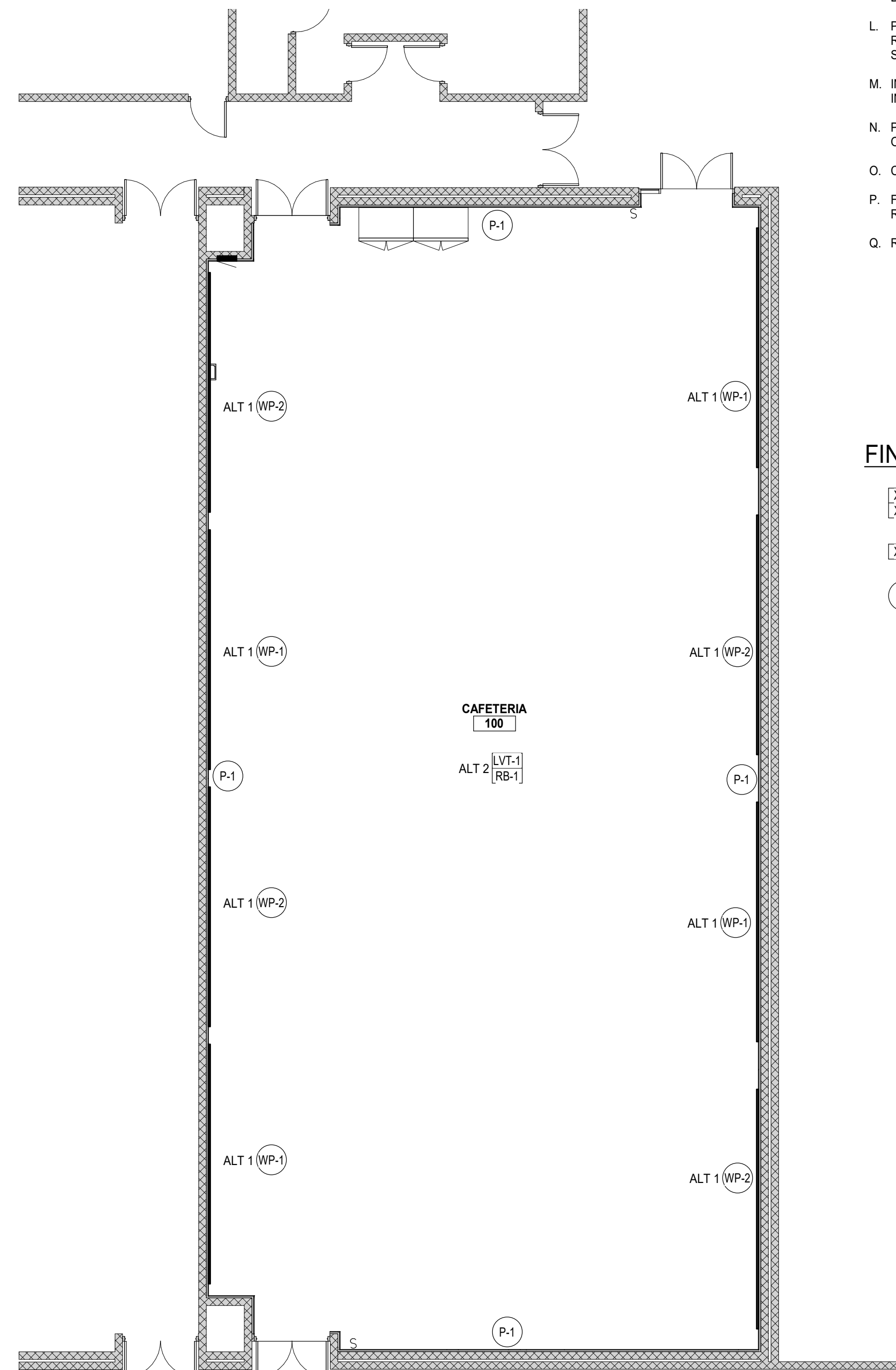
- A. COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR PREPARING AND INSTALLING FINISHES.
- B. PROTECT ADJACENT WORK BY SUITABLY COVERING DURING WORK.
- C. REMOVE ADHESIVE OR PAINT SPOTS FROM FINISHED FLOORS, WALLS, GLASS OR OTHER SURFACES. FINISHES TO MEET OR EXCEED CODE REQUIREMENTS.
- D. INSTALL MATERIALS USING MANUFACTURER'S APPROVED ADHESIVES AND METHODS, U.O.N.
- E. FILL MINOR DRYWALL IRREGULARITIES WITH SPACKLING COMPOUND AND SAND TO A SMOOTH LEVEL SURFACE. EXERCISE CARE TO AVOID RAISING THE NAP OF PAPER
- F. DO NOT PERFORM PAINTING AND OTHER FINISHING WORK UNDER CONDITIONS UNSUITABLE FOR EXECUTION OF PAINTING WORK. AIR SHALL BE FREE FROM DUST AND DIRT TO PREVENT LODGING OF FOREIGN MATTER IN FRESH PAINT. FLOORS MUST BE BROOM CLEAN BEFORE PAINTING IS STARTED.
- G. PAINT DESIGNATIONS INDICATE COLOR ONLY, REFER TO SPECIFICATION FOR FINISH TYPE.
- H. EDGES OF PAINT ADJOINING OTHER COLORS OR MATERIALS TO BE SHARP AND CLEAN WITHOUT OVERLAP.
- I. EXAMINE SURFACES TO RECEIVE PAINT CAREFULLY FOR DEFECTS. DO NOT PROCEED WITH WORK UNTIL DEFECTS ARE CORRECTED.
- J. WHENEVER NECESSARY TO OBTAIN REQUIRED RESULTS, REFINISH AN ENTIRE WALL RATHER THAN SPOT FINISHING WHERE A PORTION OF THE FINISH HAS BEEN DAMAGED OR IS UNSATISFACTORY.
- K. PREPARE FLOOR SURFACES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
 - A. PREPARE/PROPERLY REPAIR AND PATCH SUBFLOORS TO A SMOOTH AND LEVEL FINISH.
 - B. FLASH PATCH AS REQUIRED, READY TO RECEIVE NEW FINISH.
- L. PROVIDE SELF LEVELING TROWELABLE UNDERLAYMENT WHERE REQUIRED TO OBTAIN FINISH MANUFACTURER'S REQUIRED SUBFLOOR CONDITION.
- M. INSTALL TILE PER THE TILE COUNCIL OF NORTH AMERICA'S INSTALLATION SPECIFICATIONS.
- N. PROVIDE THE REQUIRED TRANSITIONS BASED ON TYPES IDENTIFIED ON DRAWINGS AT EACH FINISH TRANSITION LOCATION
- O. CENTER FLOOR MATERIAL TRANSITIONS ON DOOR ABOVE.
- P. FINISHED FLOORS EXTEND INTO TOE SPACES, CLOSETS, DOOR REVEALS AND SIMILAR OPENINGS.
- Q. REFER TO REFLECTED CEILING PLANS FOR CEILING FINISHES.

FINISH SYMBOL LEGEND

- FLOOR FINISH
- WALL BASE FINISH
- FLOOR FINISH ONLY
- GENERAL WALL FINISH



2 FIRST FLOOR FINISH RCP
SCALE: 1/8" = 1'-0"



1 FIRST FLOOR FINISH PLAN
SCALE: NTS



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Grand Rapids, MI 49504

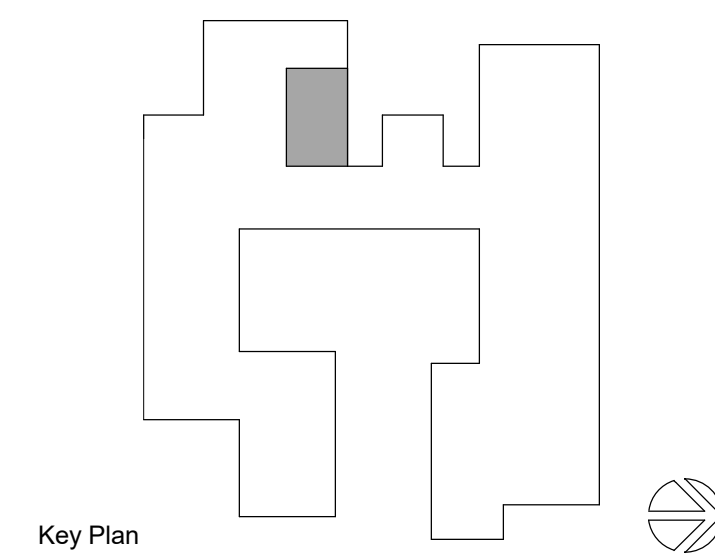
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**ORCHARD VIEW
SCHOOL
DISTRICT**

**CARDINAL
ELEMENTARY
CAFETERIA
ACOUSTICAL
TREATMENT**

2310 MARQUETTE AVE
MUSKEGON, MI 49442

Date Revised	Description
1-24-2023	OWNER REVIEW
1-31-2023	BIDS



Key Plan

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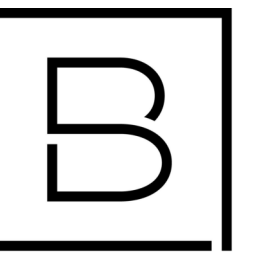
Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	22013310A

Sheet Name

FIRST FLOOR FINISH PLAN

Drawing Number

A141

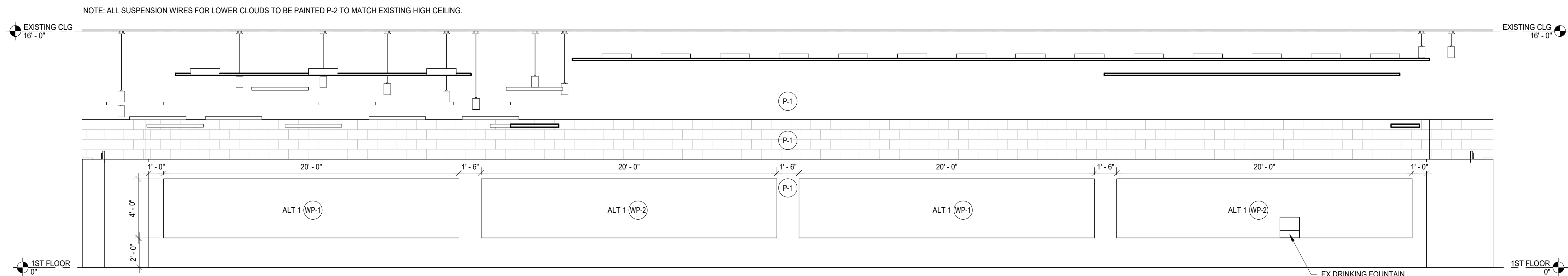


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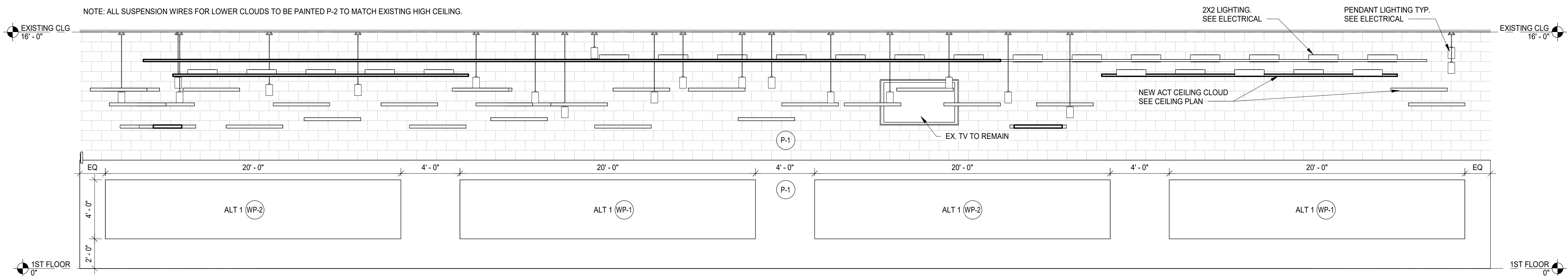
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2 SOUTH INTERIOR WALL
SCALE: 1/4" = 1'-0"



1 NORTH INTERIOR WALL
SCALE: 1/4" = 1'-0"

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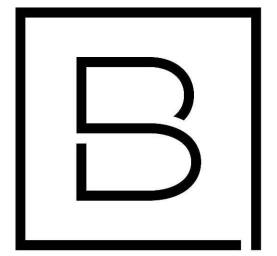
Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	22013310A

Sheet Name

INTERIOR ELEVATIONS

Drawing Number

A421


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






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HVAC ABBREVIATIONS

ARCH	ARCHITECTURAL	HTG	HEATING
BD	BALANCING DAMPER	HVAC	HEATING VENTILATING AND AIR CONDITIONING
CD	CEILING DIFFUSER	MC	MECHANICAL CONTRACTOR
CLG	CEILING	MECH	MECHANICAL
CONN	CONNECTION	MFGR	MANUFACTURER
CONST	CONSTRUCTION	RG	RETURN AIR GRILLE
DWG	DRAWING	TYP	TYPICAL
DX	DIRECT EXPANSION	TG	TRANSFER GRILLE
EA	EACH	W/	WITH
EAT	ENTERING AIR TEMPERATURE	W/O	WITHOUT
EXIST	EXISTING		
GA	GAUGE		
GC	GENERAL CONTRACTOR		
GALV	GALVANIZED		

HVAC LEGEND

	CEILING DIFFUSER (ROUND NECK)		QUANTITY	AIR DEVICE TAG	AIR DEVICE DESIGNATION
	RETURN/EXHAUST GRILLE		NECK SIZE		
	EXHAUST/RETURN AIRFLOW ARROW		AIR FLOW CFM		
	THERMOSTAT/SENSOR		CONNECTION OF NEW ONTO EXISTING		

DIFFUSER, REGISTER & GRILLE SCHEDULE

MARK	SERVICE	MODEL	VOLUME CONTROL DAMPER	FINISH	REMARKS
TG-1	EGGCRATE GRILLE	50F	NO	STANDARD WHITE BAKED ENAMEL	1, 1/2" x 1/2" x 1/2", 24"x24" LAY-IN
RG-1	HEAVY DUTY RETURN GRILLE	33RL	NO	STANDARD WHITE BAKED ENAMEL	1, 1/2" SPACING, 38° FIXED, SURF

1. BASED ON TITUS.

MECHANICAL (DIVISION 23) SPECIFICATION:

GENERAL REQUIREMENTS

PROVIDE EQUIPMENT AND COMPONENTS INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM. CONTRACTOR WILL BE RESPONSIBLE FOR RECEIVING, RIGGING AND INSTALLING ALL EQUIPMENT PROVIDED PART OF THEIR WORK CATEGORY.

DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE. RECEIVE MEANS TO COORDINATE AND ACCEPT DELIVERY OF EQUIPMENT AT JOBSITE.

GENERAL DUCT REQUIREMENTS

DUCT INSULATION:
INDOOR: PROVIDE INSULATION FOR ALL CONCEALED SUPPLY & OA DUCTWORK PROVIDE MINIMUM 1.5" THICK BLANKET TYPE FIBERGLASS INSULATION COMPLYING WITH ASTM C-553, TYPE II, WITH FACTORY APPLIED KRAFT BONDED TO ALUMINUM FOIL, REINFORCED WITH FIBERGLASS VAPOR BARRIER/JACKET. JACKET SHALL CONFORM TO ASTM C-1136, TYPE II. INSTALLED R-VALUE SHALL BE 4.2 OR HIGHER WITH A 3/4 PCF DENSITY -OR- PROVIDE MINIMUM 1" THICKNESS INTERNAL ACOUSTIC DUCT LINER (R3.5). INTERNAL DUCT LINER TO BE EQUAL TO JOHNS MANSVILLE LINACOUSTIC RC. NOTE: ALL RA & SA DUCTWORK TO BE LINED WITHIN 25' OF EQUIPMENT, AND AS NOTED ON PLANS.

DUCT SEALANT: PROVIDE WATER BASED SYNTHETIC LATEX EMULSION PERMANENTLY FLEXIBLE HIGH VELOCITY DUCT SEALANT. DUCTMATE INDUSTRIES, INC. PRO SEAL OR EQUIVALENT. SEALANT TO BE LOW VOC LEED COMPLIANT CAPABLE OF 15" W.G., NFPA 90A AND 90B APPROVED, UL 181B-M LISTED AND UL 723 CLASSIFIED. INSTALL PER MANUFACTURER INSTRUCTIONS. SEALANT SHALL BE APPROVED FOR PLENUM INSTALLATIONS AND MEET FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS FOR PLENUM APPLICATIONS.

SHEET METAL DUCT

SHEETMETAL DUCTWORK: PROVIDE SHEETMETAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 2" W.G. PRESSURE CLASS, SEAL CLASS "A" (UNLESS OTHERWISE INDICATED ON DUCT SYSTEM SCHEDULE). SHEETMETAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEETMETAL, ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90° ELBOWS.

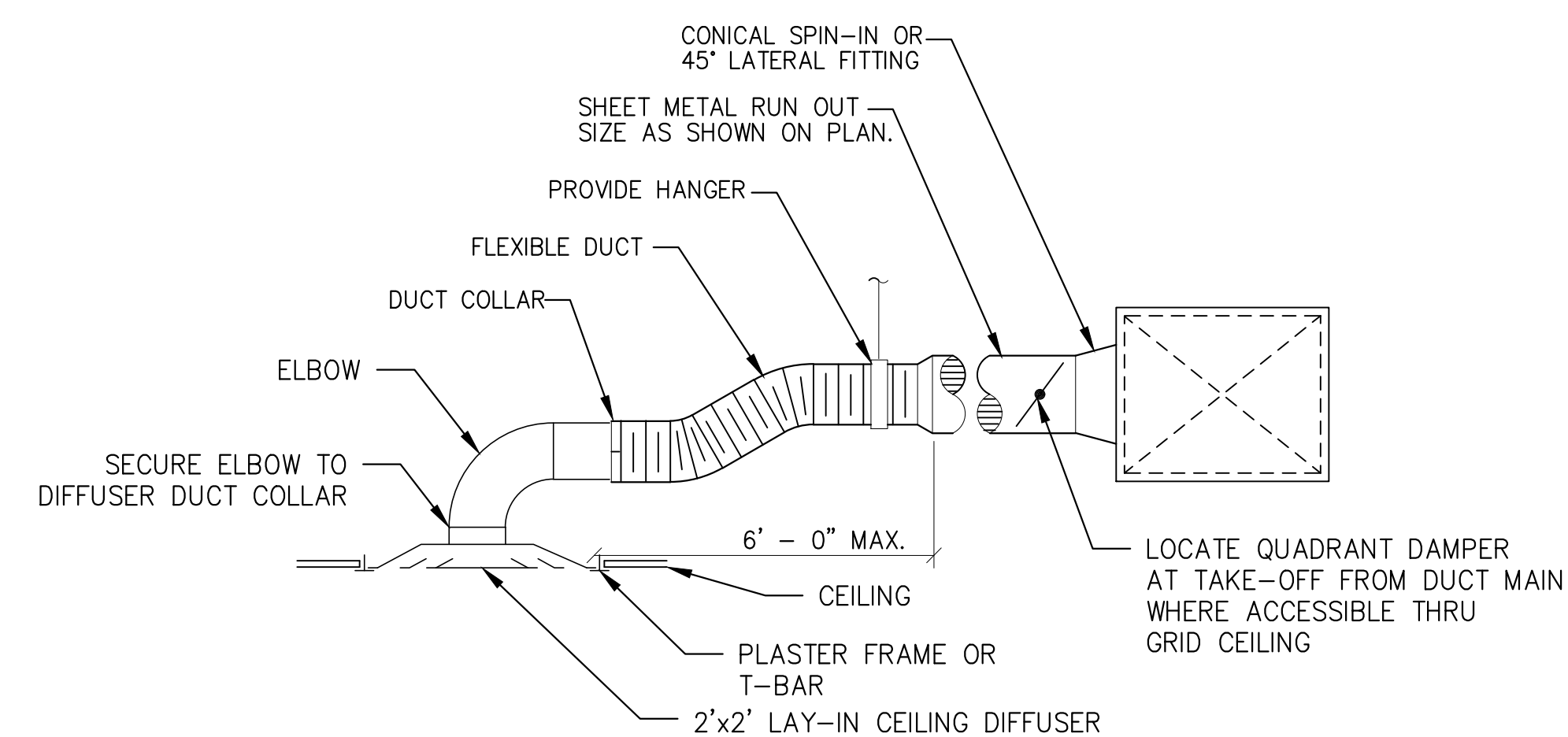
FLEXIBLE DUCT CONNECTORS: PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS AT DUCT CONNECTIONS TO ALL VIBRATING EQUIPMENT.

GENERAL NOTES:

- CONTRACTOR RESPONSIBLE FOR ALL REQUIRED PERMITS AND FEES RELATIVE TO THEIR WORK SCOPE.
- COMPLETED INSTALLATIONS SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND ORDINANCES INCLUDING, BUT NOT LIMITED TO THE LATEST EDITIONS OF THE FOLLOWING: STATE BUILDING CODE, NFPA-90A, NFPA-96 AND NFPA-101.
- CONTRACTOR TO VISIT THE SITE PRIOR TO BID AND VERIFY ALL PERTINENT EXISTING CONDITIONS.
- PROVIDE 1 YEAR WARRANTY ON WORKMANSHIP.

MECH CODE COMPLIANCE NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF SYSTEM IN COMPLIANCE WITH 2015 MICHIGAN MECHANICAL CODE (MMC), ASHRAE 90.1-2013, AND ALL OTHER APPLICABLE STATE AND LOCAL CODES.



TYPICAL CEILING DIFFUSER RUN-OUT DETAIL
NOT TO SCALE

CHRISTOPHER J. NOLAN, P.E.
MI - REGISTRATION# 6201043863
EXP. DATE# 4/14/2023

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Project Manager	Discipline Lead
D. HOLTROP	B. HUYLER
Designer	Reviewer
C. SCHOLTEN	C. NOLAN
Date Issued	Project Number
01/31/2023	22013309A

Sheet Name

GENERAL
MECHANICAL
INFORMATION

Drawing Number

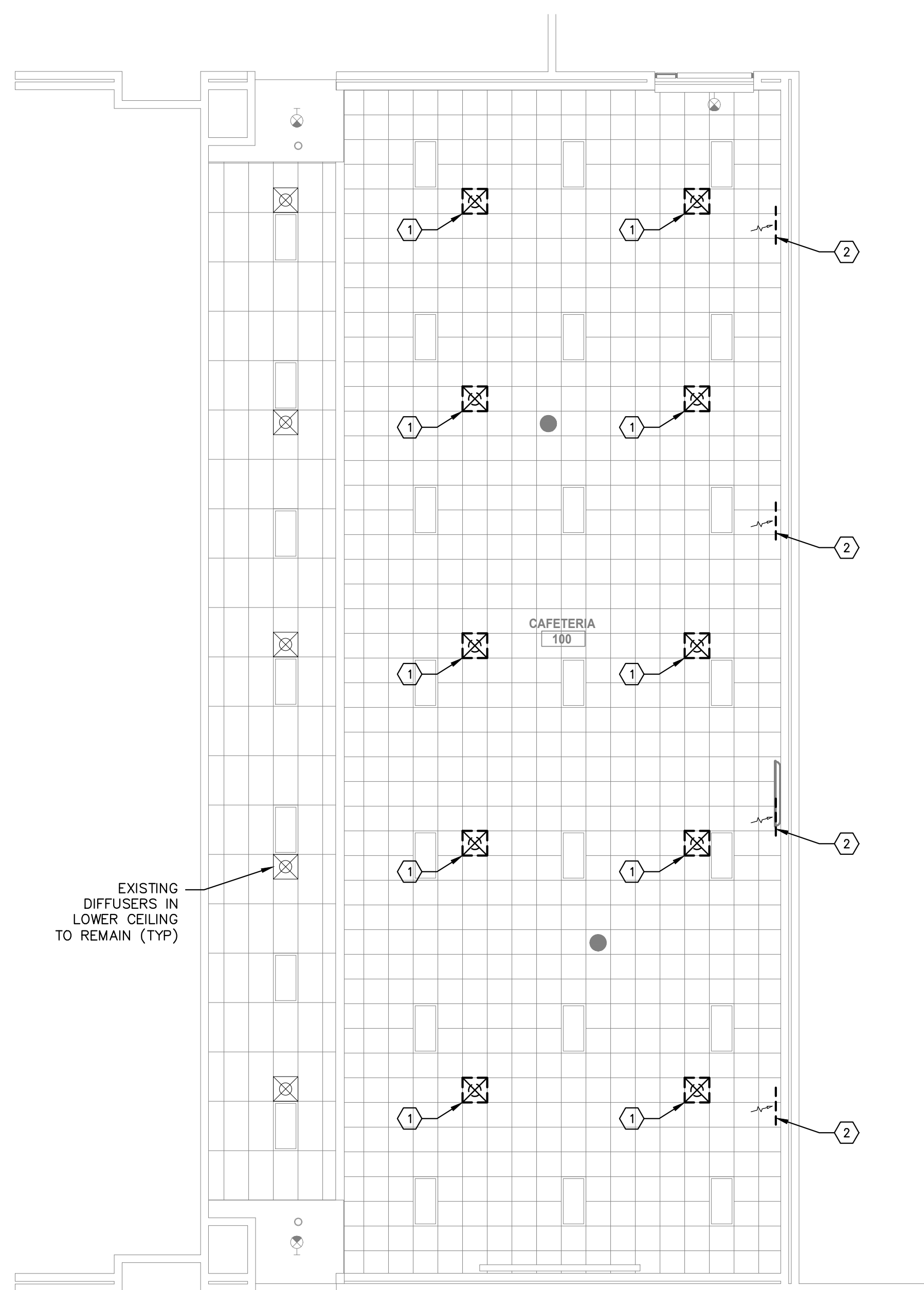
M001

GENERAL HVAC DEMOLITION NOTES:

1. ALL EXISTING FIXTURES, PIPING, AND EQUIPMENT SHOWN AS DASHED SHALL BE REMOVED. PROTECT EXISTING WORK WHICH IS TO REMAIN IN PLACE FOR REUSE WITH TEMPORARY COVERS, SHORING, BRACING, AND SUPPORTS.
2. ALL EQUIPMENT TO BE REMOVED SHALL BE INSPECTED AND REVIEWED BY THE OWNER FOR POSSIBLE REUSE. EXCEPT WHERE INDICATED OTHERWISE, ALL MATERIALS AND EQUIPMENT REMOVED AND NOT REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE OWNERS PROPERTY.
3. DO NOT INTERRUPT OR CONNECT INTO ANY SERVICE PIPING, ELECTRICAL, OR INSTRUMENTATION WORK WITHOUT PRIOR APPROVAL FROM THE OWNERS REPRESENTATIVE.
4. CONTRACTOR SHALL FIELD VERIFY LOCATION(S) OF EXISTING EQUIPMENT TO BE REMOVED.

KEYED HVAC DEMOLITION NOTES:

- ① REMOVE EXIST CEILING DIFFUSER FOR REUSE IN GRID BELOW. STORE AND CLEAN DIFFUSER AS REQ'D FOR NEW INSTALLATION.
- ② REMOVE EXISTING LOW WALL RETURN GRILLE FOR REPLACEMENT.



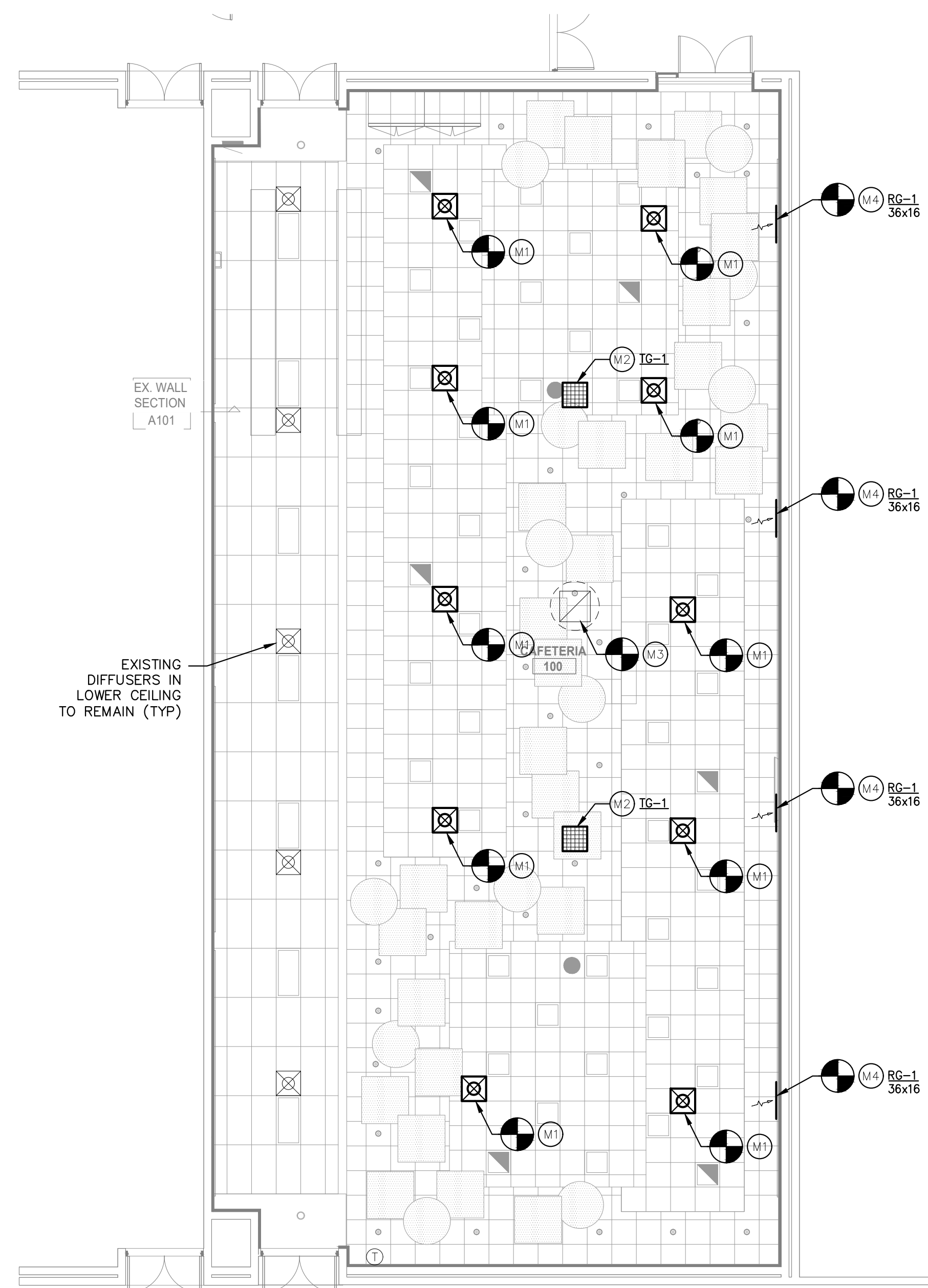
FIRST FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

GENERAL HVAC NOTES:

1. DUCT RUNOUT SIZES TO MATCH DIFFUSER OR GRILLE NECK SIZE UNLESS SHOWN OTHERWISE.
2. ALL SUPPLY DIFFUSER RUN-OUT DUCT TO HAVE BD AS FAR AS POSSIBLE FROM DIFFUSER.
3. FLEX CONNECTORS TO CD'S TO BE THE SAME SIZE AS THE CD COLLAR, MAX 5 FT LONG.
4. ALL RECTANGULAR DUCT TAKE-OFFS TO HAVE 45° LEADING EDGE OR CONICAL SPIN IN FITTINGS.
5. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL TRADES AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEM.
6. SPIRAL ROUND AND FLAT OVAL DUCT UPSTREAM OF TERMINAL UNITS TO HAVE LO-LOSS FITTINGS FOR ALL TAKE-OFFS.
7. DUCT DIMENSIONS SHOWN REPRESENT FREE AREA REQUIRED. INCREASE FOR INTERNAL DUCT ACOUSTIC LINING AS REQUIRED.

KEYED MECHANICAL HVAC NOTES:

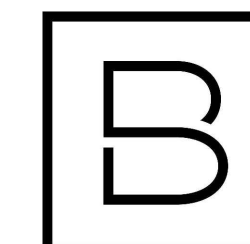
- M1 EXTEND EXISTING SPIRAL SUPPLY DUCT BRANCH PIPING DOWN TO NEW CEILING CONNECT TO RELOCATED EXISTING SUPPLY CEILING DIFFUSERS WITH MAXIMUM 5'-0" OF FLEX DUCTWORK. CLEAN DIFFUSER BEFORE INSTALLING.
- M2 PROVIDE NEW TRANSFER GRILLE (TG) IN EXIST HIGH CEILING ABOVE CLOUDS FOR RELIEF TO EXISTING RELIEF HOOD ON ROOF.
- M3 PROVIDE DRIP PAN ABOVE EXISTING CEILING FOR EXISTING RELIEF HOOD ON ROOF. PAN SIZE TO BE A MINIMUM 12" LARGER THAN THE DUCT OPENING SIZE OF HOOD. FIELD VERIFY SIZE AND ACTUAL LOCATION.
- M4 PROVIDE NEW GRILLE FOR EXISTING LOW WALL RETURN DUCT.



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

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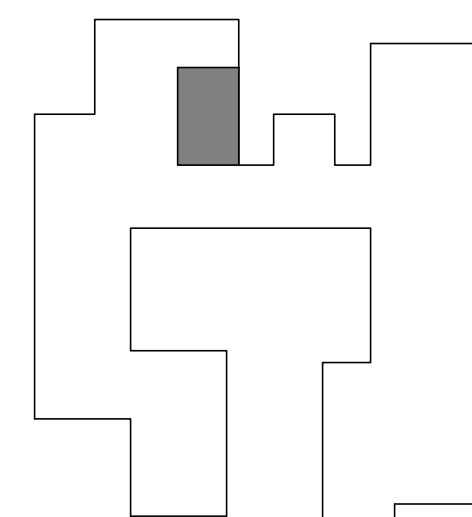
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MI - REGISTRATION# 6201043863
EXP. DATE# 4/14/2023



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Project Manager	Discipline Lead
D. HOLTROP	B. HUYLER
Designer	Reviewer
C. SCHOLTEN	C. NOLAN
Date Issued	Project Number
01/31/2023	22013309A

Sheet Name

FIRST FLOOR
MECHANICAL PLANS

Drawing Number

M101

ABBREVIATIONS

Table of abbreviations with columns for symbol, description, and unit. Includes terms like INCHES, FEET, AMPERE, and various electrical components.

REFERENCE SYMBOLS

Table of reference symbols showing symbols for equipment identity, match lines, keynote indicators, and revision clouds.

MOUNTING HEIGHTS

Table of mounting heights for various electrical components like card readers, light switches, and panel boards.

NOTE

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED APPEAR ON THESE CONTRACT DRAWINGS...

ELECTRICAL SYMBOL LIST

Large table of electrical symbols and their descriptions, organized into sections: GENERAL, POWER, SIGNAL, SITE, and FIRE ALARM. Includes symbols for switches, receptacles, conduits, and various control devices.



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Table with columns: Date Revised, Description. Shows revisions 1-24-2023 and 1-31-2023.

- 1. MINIMUM CIRCUIT BREAKER SIZE FOR CONDUITS SHOWN ON PLANS IS 20A, 1 POLE FOR 120VAC UNLESS OTHERWISE NOTED/SHOWN ON PLANS

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Table with columns: Project Manager, Discipline Lead, Designer, Reviewer. Lists D. Holtrop and A. Robinson.

LEGEND

E001

DIVISION 26

ELECTRICAL SPECIFICATIONS

DESCRIPTION OF WORK
WORK SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING:
1. WIRING METHODS.
2. LIGHTING.

STANDARDS
MATERIALS AND EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF MBC, NEC, MIOSHA, NFPA, U.L., NEMA, A.D.A., AND RESPECTIVE PUBLICATIONS AND OTHER REQUIREMENTS SPECIFIED BELOW. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER.

CODES AND ORDINANCES
COMPLY WITH ALL CODES AND ORDINANCES. BIDDERS SHALL INFORM THEMSELVES OF CODE REQUIREMENTS.

PERMITS, INSPECTION FEES, AND CODES
THE CONTRACTOR SHALL OBTAIN AND PAY ALL PERMIT AND INSPECTION FEES. FINAL INSPECTION CERTIFICATES BY THE LOCAL ELECTRICAL INSPECTOR AND FIRE MARSHAL SHALL BE OBTAINED BY THE CONTRACTOR AND TURNED OVER IN DUPLICATE TO THE OWNER.

SUBMISSIONS
SUBMIT PRODUCT DATA, SHOP DRAWINGS, WIRING DIAGRAMS, AND DESCRIPTIVE LITERATURE ON ALL MATERIALS AND EQUIPMENT. MAKE SUBMITTALS WITHIN THIRTY (30) DAYS AFTER THE SIGNING OF THE CONTRACT. SHIPMENT SHALL NOT BE RELEASED UNTIL DRAWINGS AND LITERATURE HAVE BEEN FINALLY APPROVED.

AS-BUILTS - OPERATION & MAINTENANCE MANUALS
PROVIDE FOR EACH SYSTEM AND EQUIPMENT AS SPECIFIED FOR USE BY OPERATION AND MAINTENANCE PERSONNEL. THE OPERATING INSTRUCTIONS SHALL INCLUDE:
• WIRING DIAGRAMS, CONTROL DIAGRAMS, AND CONTROL SEQUENCE FOR EACH SYSTEM AND ITEM OF EQUIPMENT.
• START-UP, PROPER ADJUSTMENT, OPERATING, LUBRICATION, AND SHUTDOWN PROCEDURES.
• SAFETY PRECAUTIONS
• THE PROCEDURE IN THE EVENT OF EQUIPMENT FAILURE
• OTHER ITEMS OF INSTRUCTION AS RECOMMENDED BY THE MANUFACTURER OF EACH SYSTEM OR ITEM OF EQUIPMENT.

IDENTIFICATION OF SYSTEMS
OPERATING INSTRUCTIONS, PRINT OR ENGRAVE INSTRUCTIONS AND FRAME UNDER GLASS OR APPROVED LAMINATED PLASTIC. POST INSTRUCTIONS IN VIEW OF EQUIPMENT. PROVIDE WEATHER RESISTANT MATERIALS FOR EXTERIOR APPLICATIONS.

EQUIPMENT: PROVIDE NAMEPLATE FOR ALL EQUIPMENT IT SHALL BE A SELF-ADHESIVE, ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABEL. PROVIDE ADHESIVE BACK, WITH WHITE LETTERS ON A DARK GRAY BACKGROUND. MINIMUM LETTER HEIGHT SHALL BE 3/8-INCH.

WARNING SIGNS: PROVIDE A SELF-ADHESIVE WARNING LABEL THAT IS FACTORY PRINTED, MULTI-COLOR, PRESSURE SENSITIVE, ADHESIVE LABEL. COMPLY WITH N.E.C. 70 AND 29 CFR 1910.145. LABELS FOR MULTIPLE POWER SOURCES SHALL READ: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES". LABELS FOR ALL OTHER EQUIPMENT REQUIRING WORKSPACE CLEARANCES SHALL READ: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36-INCHES".

CONTRACTOR SHALL PROVIDE IDENTIFICATION ON ALL DEVICES. PROVIDE WHITE LABEL WITH BLACK LETTERING AND LOCATE ON DEVICE UNDER PLATE. CONTRACTOR SHALL IDENTIFY DEVICE WITH PANEL AND CIRCUIT NUMBER FEEDING DEVICE.

GUARANTEE
PROVIDE GUARANTEE FOR ALL LABOR AND MATERIALS FOR ONE (1) YEAR AFTER OWNER'S WRITTEN ACCEPTANCE OF THE PROJECT.

LAYOUT OF THE WORK
EXAMINE THE SITE AND ALL THE DRAWINGS BEFORE PROCEEDING WITH THE LAYOUT AND INSTALLATION OF THIS WORK. LOCATE ESSENTIALLY AS SHOWN ON THE DRAWINGS, BUT IN EXACT LAYOUT DETERMINED ON THE JOB, TO SUIT ACTUAL CONDITIONS. CONFER AND COOPERATE WITH OTHER TRADES ON THE JOB SO ALL PARTS WILL BE INSTALLED IN PROPER RELATIONSHIP. PRECISE LOCATION OF PARTS TO COORDINATE WITH OTHER WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

DEMOLITION
CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIAL AS INDICATED ON THE DEMOLITION PLAN. ALL REMOVED AND UNUSED LIGHTS AND EQUIPMENT SHALL BE TURNED OVER TO THE OWNER; ALL OTHER ITEMS SHALL BE REMOVED FROM THE SITE. EXISTING CONDUIT HOMERUNS MAY BE REUSED WHENEVER POSSIBLE. CONTRACTOR SHALL PATCH EXISTING WALL AND CEILING OPENINGS IN FINISHED AREAS UPON REMOVAL OF ELECTRICAL EQUIPMENT. CONTRACTOR SHALL ALSO PROTECT ALL EXISTING ELECTRICAL EQUIPMENT TO REMAIN DURING CONSTRUCTION PERIOD.

WIRE AND CABLE
ALL WIRING SHALL STRANDED COPPER AND INSTALLED IN CONDUIT, TUBING, OR SURFACE METALLIC RACEWAY. CONDUCTORS SHALL BE CONTINUOUS BETWEEN OUTLETS OF JUNCTION BOXES WITH SPLICES MADE ONLY WITHIN SUCH BOXES. SOLDERLESS PRESSURE-TYPE CONNECTORS PROPERLY INSULATED SHALL BE USED FOR ALL JOINTS. NO WIRE SMALLER THAN #12 MAY BE USED UNLESS SPECIFICALLY SPECIFIED UNDER DESCRIPTIONS OF SPECIAL SYSTEMS. ALL INDIVIDUAL BRANCH CIRCUITS AND SINGLE POLE BRANCH CIRCUITS SHALL HAVE INDIVIDUAL NEUTRALS. EACH NEUTRAL SHALL BE IDENTIFIED AT ALL JUNCTION BOXES AND TERMINALS SAME AS ITS CORRESPONDING BRANCH CIRCUIT NUMBER.

CONDUIT
ALL CONDUIT SHALL BE 1/2-INCH MINIMUM UNLESS NOTED OTHERWISE. WIRING METHODS: INTERIOR EXPOSED/CONCEALED UNDER 2-INCHES; EMT. CONNECTIONS TO VIBRATING EQUIPMENT/LIGHT FIXTURES: LFMC; ALL CONDUIT AND WIRE IN FINISHED AREAS SHALL BE CONCEALED IN THE CONSTRUCTION WHERE PRACTICABLE. ALL RACEWAYS SHALL BE ROUTED WITHIN STRUCTURAL STEEL AND FURRED SPACES UTILIZING FACTORY MADE ELBOWS AS GOOD PRACTICE AND WORKMANSHIP ALLOWS. KEEP RACEWAYS AT LEAST 6-INCHES FROM PARALLEL RUNS OF FLUES, STEAM AND HOT WATER PIPING. INSTALL HORIZONTAL CONDUIT RUNS ABOVE WATER AND STEAM PIPING. INSTALL RACEWAYS LEVEL AND SQUARE AND AT PROPER ELEVATIONS.

LIGHTING FIXTURES
ALL LIGHTING FIXTURES AND COMPONENTS THEREOF SHALL BE U.L. AND E.T.L. APPROVED.

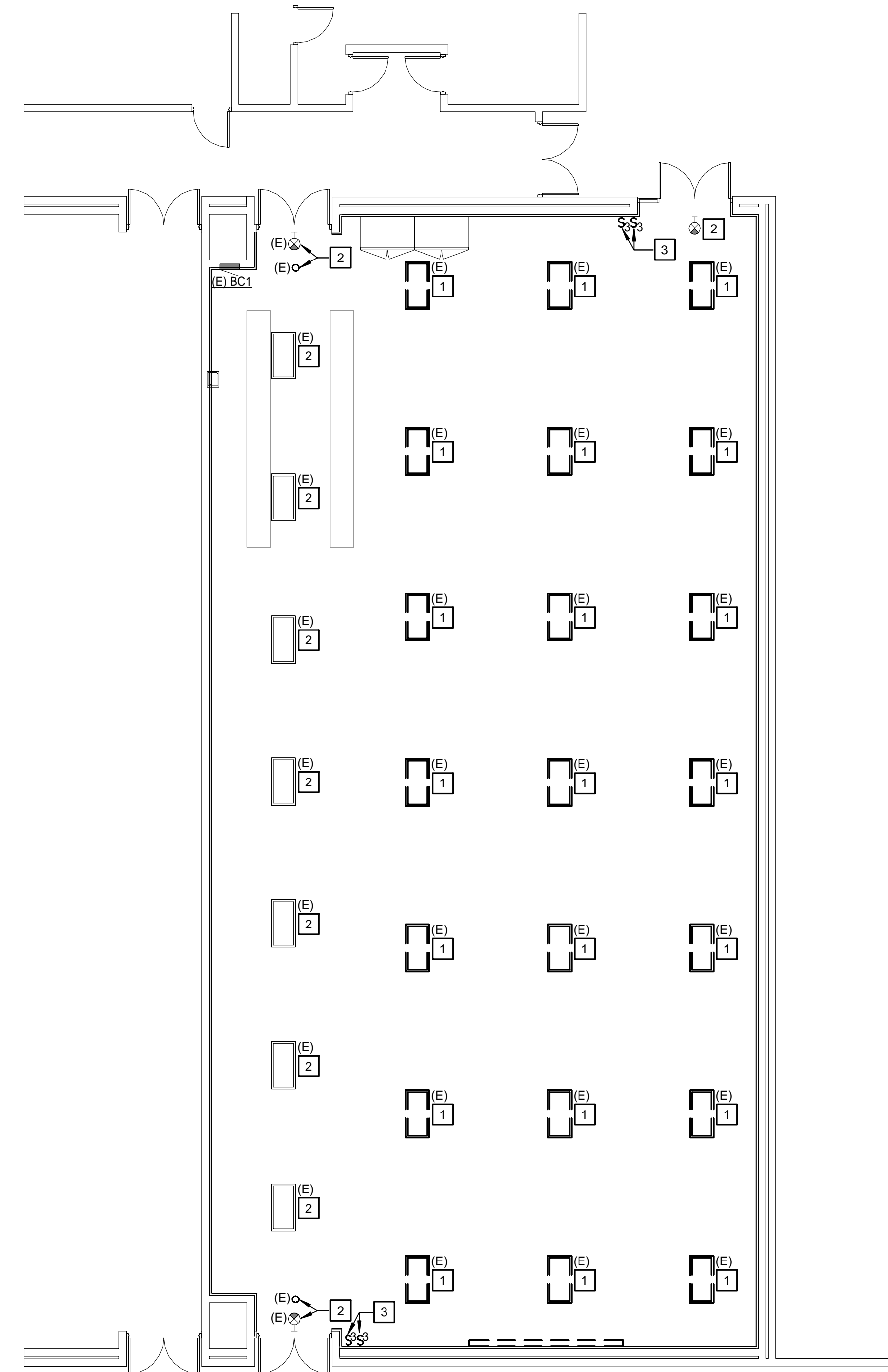
WALL SWITCHES
LOW VOLTAGE COMPATIBLE WITH LIGHT FIXTURES AND LIGHT CONTROL.

WALL PLATES
ALL DEVICE PLATES SHALL BE NON-CONDUCTIVE, THERMOPLASTIC, COLOR TO MATCH DEVICES, AND MEET FEDERAL SPECIFICATION WP455-A.

END OF DIVISION 26

KEYNOTES

- 1 DISCONNECT AND REMOVE LIGHT FIXTURE. REMOVE CONDUIT AND WIRE TO SOURCE.
- 2 LIGHT FIXTURE SHALL REMAIN.
- 3 DISCONNECT AND REMOVE DEVICE. REMOVE WIRE TO SOURCE. RECESSED BOX AND CONDUIT TO REMAIN.



1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



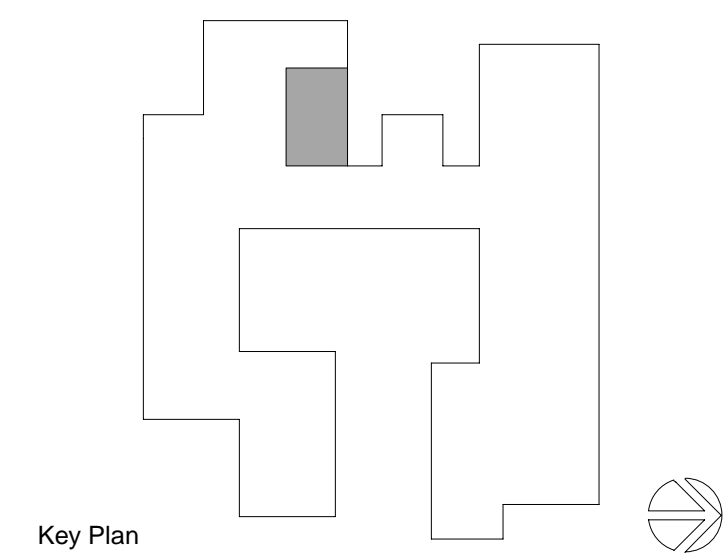
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ORCHARD VIEW
SCHOOL
DISTRICT

CARDINAL
ELEMENTARY
CAFETERIA
ACOUSTICAL
TREATMENT

2310 MARQUETTE AVE
MUSKEGON, MI

Date Revised	Description
1-24-2023	OWNER REVIEW
1-31-2023	BIDS



Key Plan

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Date Issued	Project Number
01/31/2023	22013310A

Sheet Name

ELECTRICAL DEMOLITION
PLAN

Drawing Number

ED101

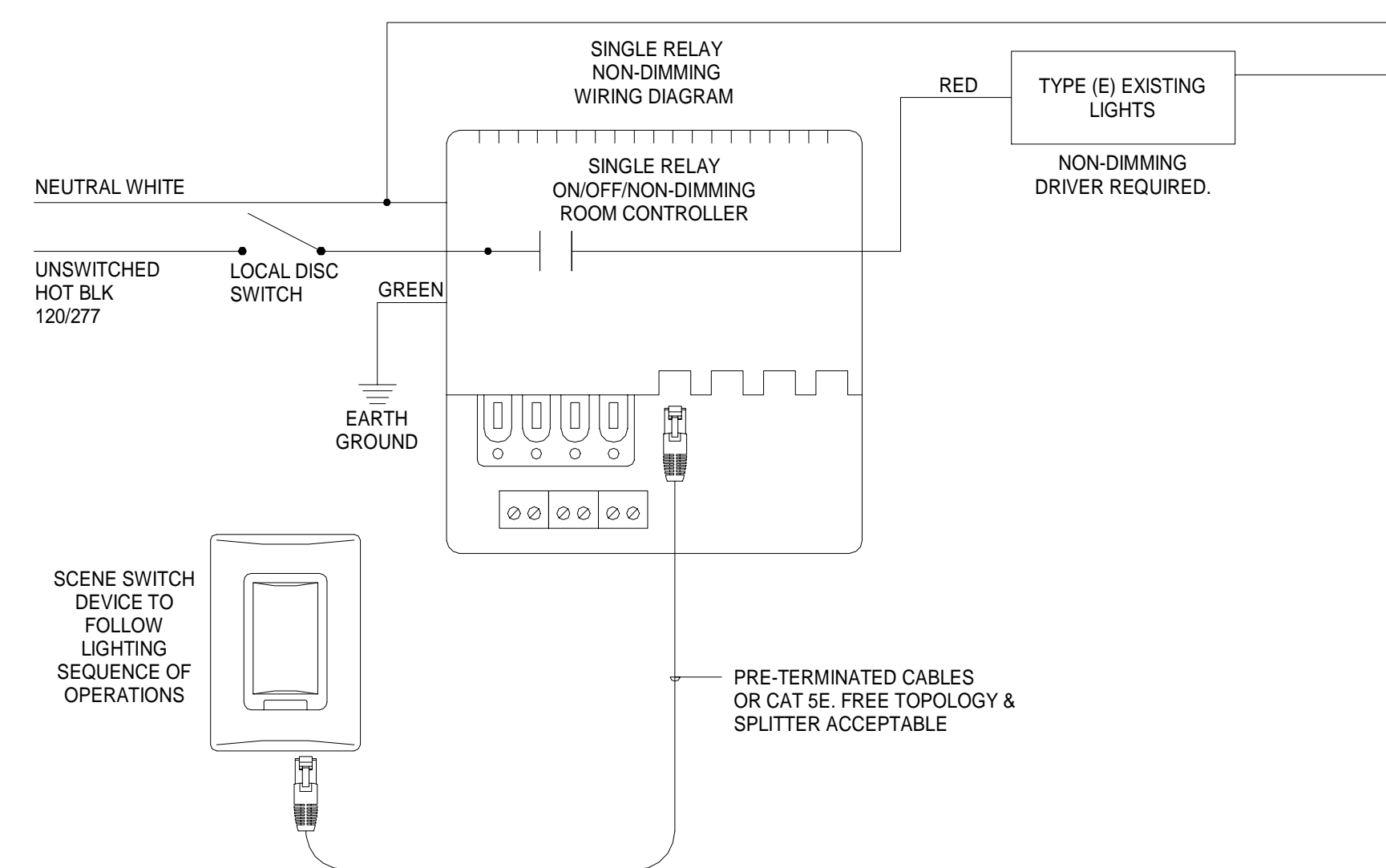
LUMINAIRE SCHEDULE								
TYPE	LAMP	MANUFACTURER	MODEL NUMBER	BALLAST/DRIVER	MOUNTING	INPUT WATTAGE	DESCRIPTION	NOTE
A	3300 LUMEN, 3500K, LED	LITHONIA	STAK-2X2-3000LM-80CRI-35K-COLT-MINI-MVOLT-NLTAIR2-APDT	0-10V	RECESSED CEILING GRID	25W	2x2 TROFFER. PROVIDE INTEGRAL OCCUPANCY SENSOR AND DAYLIGHT HARVEST SENSOR. PROVIDE WIRELESS CONTROL INTERFACE.	
		METALUX	22C22-34-S-UNV-GL-L835-A3/8-5/18GDM-CD-1-WAA					
		H.E. WILLIAMS	PT-22-L43/835-(L33)-RA-AVI-LVFA-CS2-PIR-DA-UNV					
		COLUMBIA	LCAT22- 8-35-ML-G-ED-U-NXSW-FK24					
AEM	3300 LUMEN, 3500K, LED	LITHONIA	STAK-2X2-3000LM-80CRI-35K-COLT-MINI-MVOLT-E7W-NLTAIR2-APDT	0-10V	RECESSED CEILING GRID	25W	2x2 TROFFER. PROVIDE INTEGRAL OCCUPANCY SENSOR AND DAYLIGHT HARVEST SENSOR. PROVIDE WIRELESS CONTROL INTERFACE. PROVIDE INTEGRAL 7W BATTERY.	
		METALUX	22C22-34-S-UNV-GL-L835-A3/8-5/18GDM-EL7W-CD-1-WAA					
		H.E. WILLIAMS	PT-22-L43/835-(L33)-RA-EM/7W-AVI-LVFA-CS2-PIR-DA-UNV					
		COLUMBIA	LCAT22- 8-35-ML-G-ED-U-NXSW-FK24					
B	750 LUMENS, 3500K, LED	PRESCOLITE	IC04CC-35/07-AR-LSS-60D-MVOLT-EZ1-JBX-CCAN-C120-NLTAIR2-DBL	0-10V	SUSPENDED	7.5W	4" CYLINDER PENDANT WITH A BLACK FINISH.	
		DMF LIGHTING	LTC-4RD-P-06L-35K-8-WD-DM1-S-BC DC4-C4-S-M-D-07-WF-0-00-00-35-BK-O-00-R					

SEQUENCE OF OPERATION:

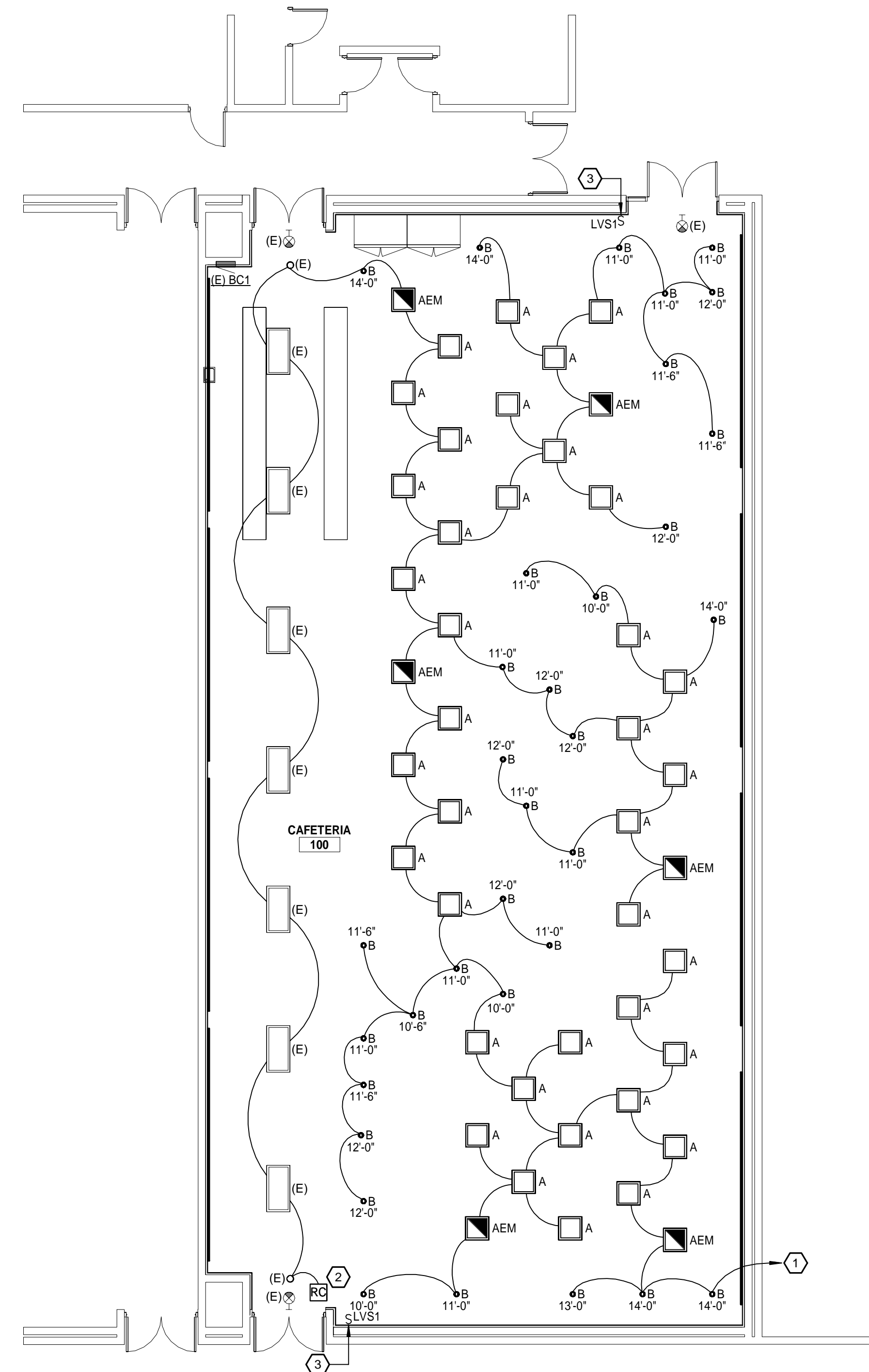
- LIGHTING CONTROL INTENTION IS TO USE LIGHT FIXTURES WITH INTEGRATED CONTROLS AND ASSOCIATED LOW VOLTAGE SWITCHES. UNLESS NOTED OTHERWISE, DEVIATION FROM THIS SOLUTION SHALL MEET CONTROL INTENTIONS AND COORDINATED WITH ELECTRICAL CONTRACTOR FOR ADDITIONAL WIRING AND INSTALLATION.
- ALL SWITCHES WITH "LVS#"¹ ARE LOW VOLTAGE CONTROL STATIONS. PROVIDE ON/OFF BUTTONS, PRE-PROGRAMMED SCENES, INTEGRAL OCCUPANCY SENSING, AND/OR DIMMING CONTROL AS DESCRIBED BELOW PER SPACE.
- ALL EMERGENCY FIXTURES SHALL BE PROGRAMMED TO FUNCTION WITH AREA NORMAL LIGHTS. UNLESS NOTED AS NIGHT LIGHTS. UPON LOSS OF POWER, EMERGENCY FIXTURES SHALL ILLUMINATE TO 100% OF RATED POWER.
- COORDINATE COMMISSIONING OF SYSTEM PER LIGHTING, LIGHTING CONTROL, AND COMMISSIONING SPECIFICATIONS WITH OWNER'S AGENT AS REQUIRED PER STATE OF MICHIGAN ENERGY CODE.
- CAFETERIA:**
 - AUTO ON TO 50%.
 - AUTO OFF UPON 15-MINUTES OF NO ACTIVITY.
 - LVS1 STATIONS SHALL INCLUDE BUTTONS:
 - ALL ON
 - 50% ILLUMINATION
 - ALL OFF
 - DIM UP
 - DIM DOWN

ASHRAE/ENERGY CODE - LIGHTING POWER DENSITY (WATTS/SQ. FT.)

- REMOVED LIGHTING WATTAGE:
 - TYPE (E): QUANTITY: 21 WATTAGE PER FIXTURE: 85W
21 x 85W = 1,785W
 - TOTAL REMOVED: 1,785W
- NEW LIGHTING WATTAGE:
 - TYPE A: QUANTITY: 38 WATTAGE PER FIXTURE: 25W
38 x 25W = 950W
 - TYPE AEM: QUANTITY: 6 WATTAGE PER FIXTURE: 25W
6 x 25W = 150W
 - TYPE B: QUANTITY: 33 WATTAGE PER FIXTURE: 7.5W
33 x 7.5W = 247.5W
 - TOTAL NEW: 950W + 150W + 247.5W = 1,347.5W
- LIGHTING POWER DENSITY (LPD):
 - SQUARE FOOTAGE: 4,346 SQ. FT.
 - TOTAL WATTAGE: 1,347.5W / 4,346 SQ. FT. = 0.31 WATTS/SQ. FT.
 - LPD = 1,942.5W / 4,346 SQ. FT. = 0.45 WATTS/SQ. FT.



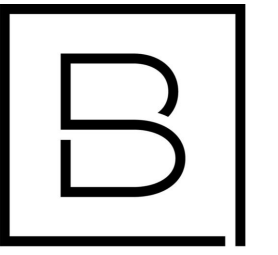
2 ROOM CONTROLLER DETAIL
SCALE: 1/2" = 1'-0"



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

KEYNOTES

- LIGHT FIXTURES TO BE CONNECTED TO ROOM CIRCUIT.
- ROOM CONTROLLER SHALL TURN EXISTING LIGHTS ON/OFF VIA OCCUPANCY SENSORS INTEGRAL TO NEW FIXTURES.
- PROVIDE NEW DEVICE IN EXISTING RECESSED BOX AND CONDUIT.



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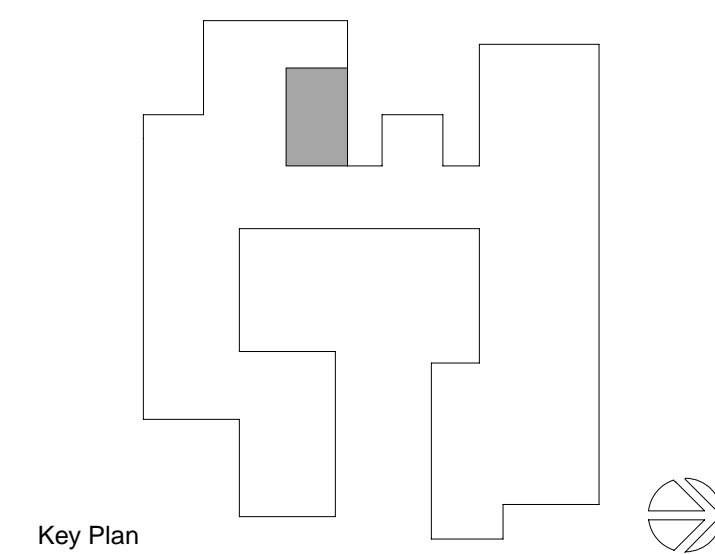
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ORCHARD VIEW SCHOOL DISTRICT

CARDINAL ELEMENTARY CAFETERIA ACOUSTICAL TREATMENT

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Key Plan

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Designer	Reviewer
G. ANSCHUTZ-CEJA	A. ROBINSON
Date Issued	Project Number
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Sheet Name

LIGHTING PLANS

Drawing Number

E101