

# OFFICE RENOVATION

## MARTIN ELEMENTARY SCHOOL

140 DARTMOUTH ROAD  
MANCHESTER, CT

Architect's Project No. 2016-077A

ISSUED FOR BID

03.27.2017

## SUPERINTENDENT OF SCHOOLS

MATTHEW GEARY

## ARCHITECT

FRIAR ASSOCIATES INC.  
281 FARMINGTON AVENUE  
FARMINGTON, CONNECTICUT 06032

## MECHANICAL / ELECTRICAL ENGINEER

FRIAR ASSOCIATES II, LLC  
281 FARMINGTON AVENUE  
FARMINGTON, CONNECTICUT 06032

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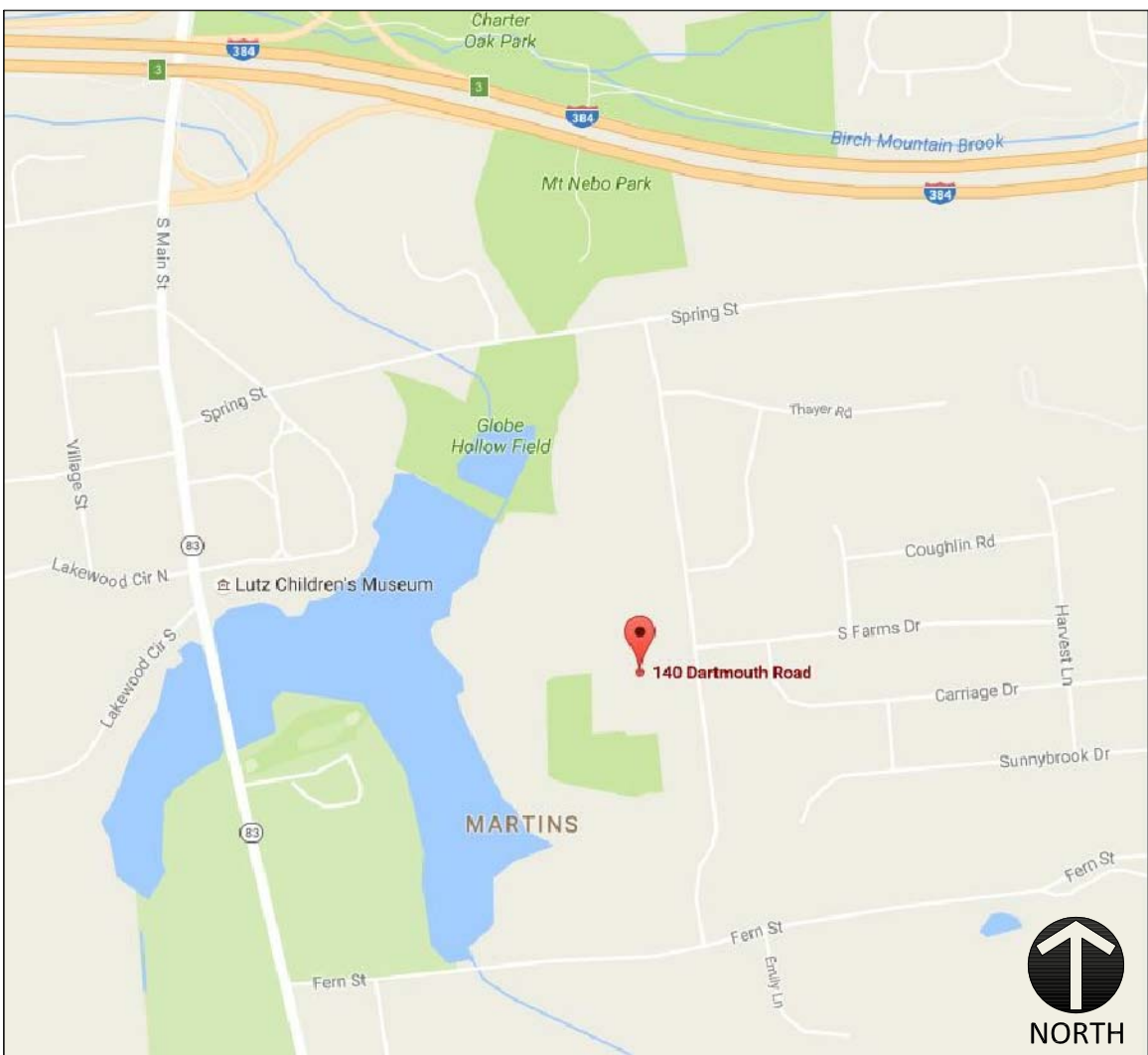
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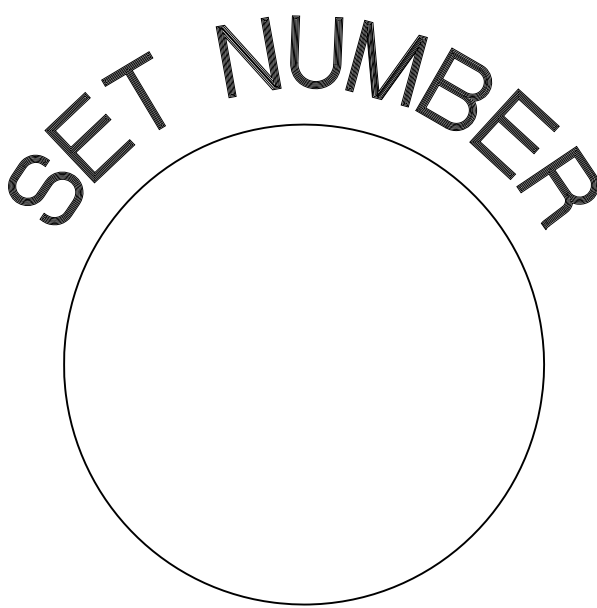
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SITE LOCATION MAP



MOUNTING HEIGHTS

ELECTRICAL MOUNTING HEIGHTS

ALL MOUNTING HEIGHTS TO BE COORDINATED WITH BLOCK COURSING AS OCCURS. CONSULT ARCHITECT IF EXISTING CONDITIONS DIFFER

ALL DIMENSIONS ARE TO THE CENTER OF THE DEVICE UNLESS OTHERWISE NOTED. SEE ELECTRICAL DRAWINGS FOR TYPES AND LOCATIONS.

RECEPTACLES: 18" A.F.F. (AT LOCATIONS ABOVE CASEWORK, MOUNT BOTTOM OF RECEPTACLE AT 2" ABOVE BACKSPLASH. AT LOCATIONS BELOW CASEWORK, MOUNT AT 24" A.F.F.)

WIREMOLD: 24" A.F.F. (AT LOCATIONS ABOVE CASEWORK, MOUNT BOTTOM OF WIREMOLD AT 2" ABOVE BACKSPLASH)

EXTERIOR RECEPTACLES: 24" A.F.G. (20" A.F.F.)

SWITCHES: 48" A.F.F.

BOILER EMERGENCY SWITCHES : 60" A.F.F.

DATA / PHONE OUTLETS: 18" A.F.F.

TV OUTLETS: 18" A.F.F. OR 18" BELOW FINISHED CEILING\*  
\* FIELD VERIFY CEILING HEIGHTS WITH COORDINATION DRAWINGS

WALL PHONE: 48" A.F.F. TO CENTER OF EARPIECE

SECURITY KEYPAD: 48" A.F.F.

MICROPHONE WALL JACK : 18" A.F.F.

FIRE ALARM PULL STATION: 48" A.F.F.

FIRE ALARM VISUAL/AUDIO INDICATING UNITS: 6'-8" TO BOTTOM OF UNIT

AREA OF REFUGE CALL STATION: 48" A.F.F.

EMERGENCY SHUT-OFF SWITCH / PUSH BUTTON: 48" A.F.F.

EMERGENCY CALL SWITCH: 36" A.F.F.

EMERGENCY CALL BELL / LIGHT: +/- 7'-6" A.F.F., CENTER ABOVE DOOR

WALL MOUNTED EXIT SIGNS: 7'-6" A.F.F.

WALL MOUNTED CLOCKS AND SPEAKERS: +/- 7'-6" A.F.F.

NOTES

CONSTRUCTION NOTES

- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL CODES AND ORDINANCES.
- DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION OF DIMENSIONS FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
- CONTRACT DRAWINGS MAY VARY FROM ACTUAL FIELD CONDITIONS. CONTRACTOR SHALL CORRECT DIMENSIONS OF ALL MATERIALS TO CARRY OUT THE INTENT OF THE CONTRACT DRAWINGS. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD BEFORE ORDERING ANY MATERIALS. CONTRACTOR SHALL NOTIFY ARCHITECT PROMPTLY OF ANY CRITICAL DISCREPANCIES BEFORE PROCEEDING WITH WORK.
- ALL NEW WORK SHALL BE IMPLEMENTED SO AS TO PROVIDE A SMOOTH AND CONTINUOUS SURFACE WITH ALL EXISTING CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY TO ACHIEVE THIS REQUIREMENT, EVEN THOUGH PROCEDURES ARE NOT DETAILED FOR EACH SPECIFIC CONDITION OR COMBINATION OF CONDITIONS. QUALITY OF WORKMANSHIP, MATERIALS AND FINISHES SHALL BE EQUAL TO THE LEVEL ESTABLISHED FOR SIMILAR CONSTRUCTION, EXCEPT WHERE EXISTING APPEARANCE IS TO BE MATCHED TO ACHIEVE CONTINUITY.
- CUTTING AND PATCHING SHALL BE THE RESPONSIBILITY OF THE TRADE WHOSE WORK RESULTS IN THE NEED FOR CUTTING AND PATCHING UNLESS A SPECIFIC CONTRACTOR IS CALLED OUT ON THE DRAWINGS. ALL HOLES LEFT BY REMOVING MECHANICAL, PLUMBING, ELECTRICAL, FIRE ALARM OR OTHER EQUIPMENT, SHALL BE PATCHED TO MATCH ADJOINING SURFACES/CONDITIONS. HOLES OR BLEMISHES TO CEILING TILE SHALL BE RESOLVED BY REPLACING CEILING TILE WITH MATERIALS AND STYLES THAT MATCH EXISTING.
- UNLESS OTHERWISE NOTED OR DIMENSIONED, NEW PARTITIONS SHALL BE CENTERED ON BUILDING COLUMN GRID OR WINDOW MULLIONS.
- CONTRACTOR SHALL PROVIDE FIRE TREATED WOOD BLOCKING AT WALLS AS REQUIRED TO SUPPORT PIPING, MILLWORK, ACCESSORIES, EQUIPMENT AND RELATED ITEMS.
- WHERE REQUIRED, SEISMIC BRACING SHALL BE PROVIDED AT SUSPENDED CEILINGS.
- ALL EGRESS DOORS SHALL BE NON-LOCKING IN DIRECTION OF TRAVEL.
- ALL PARTITIONS ARE TO EXTEND TO UNDERSIDE OF DECK ABOVE, U.O.N.

DEMOLITION NOTES

- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL NATIONAL, STATE, LOCAL CODES & ORDINANCES.
- THE DEMOLITION PLANS ARE DIAGRAMMATIC AND INTENDED TO SHOW THE GENERAL EXTENT OF THE WORK ONLY. THE CONTRACTOR SHALL INCLUDE ALL DEMOLITION WORK REQUIRED TO ACCOMPLISH THE INTENT OF THE PLANS AND SPECIFICATIONS.
- ALL DEMOLISHED ITEMS SHALL BE REMOVED FROM BUILDING / SITE UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER FOR DELIVERY OF ITEMS NOTED TO REMAIN OWNERS PROPERTY. THE PROJECT SITE / BUILDING SHALL BE CLEANED OF DEBRIS ON A DAILY BASIS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND SUPPORT (TEMPORARY OR PERMANENT) FOR ALL PORTIONS OF CONSTRUCTION DURING DEMOLITION AND CONSTRUCTION.
- ALL ABANDONED MECHANICAL / ELECTRICAL / PLUMBING LINES SHALL BE CAPPED OFF BEHIND FINISHES, UNLESS NOTED OTHERWISE. REFER TO MECHANICAL / ELECTRICAL / PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL SAWCUT ALL MASONRY OR CONCRETE OPENINGS INDICATED. MASONRY SHALL BE TOOTHED IN AND / OR RETURNED TO FINISHED OPENING.
- ALL OPENINGS WHERE EXISTING CONSTRUCTION HAS BEEN REMOVED, AND WHICH ARE NOT NOTED TO REMAIN, SHALL BE FILLED AND / OR PATCHED TO MATCH THE ADJACENT EXISTING OR NEW FINISH, INCLUDING ANY FIRE RATINGS REQUIRED.
- ALL AREAS OF FLOORS, WALLS AND CEILINGS DISTURBED BY DEMOLITION SHALL BE FILLED, PATCHED OR OTHERWISE REFINISHED TO MATCH EXISTING OR NEW FINISH AS DESIGNATED, INCLUDING ALL REQUIRED RATINGS.
- CONTRACTOR MUST VERIFY LOCATIONS OF ALL EXISTING STRUCTURAL, MECHANICAL, PLUMBING & ELECTRICAL ELEMENTS PRIOR TO START OF DEMOLITION.

GENERAL NOTES

- ALL DIMENSIONS FROM FINISHED FACE, U.O.N.
- REFER TO SHEET A1.1 FOR WALL TYPES.

SYMBOLS LEGEND

ARCHITECTURAL SYMBOLS

|                                                                                                              |  |
|--------------------------------------------------------------------------------------------------------------|--|
| BUILDING SECTION                                                                                             |  |
| WALL SECTION                                                                                                 |  |
| COLUMN CENTERLINE                                                                                            |  |
| DETAIL DESIGNATION, PLAN DETAIL, LARGE SCALE PLANS                                                           |  |
| INTERIOR ELEVATIONS                                                                                          |  |
| CASEWORK ELEVATIONS                                                                                          |  |
| CEILING DESIGNATION                                                                                          |  |
| ROOM NUMBER                                                                                                  |  |
| DOOR NUMBER                                                                                                  |  |
| STOREFRONT DESIGNATION                                                                                       |  |
| DEMOLITION TAG                                                                                               |  |
| WALL TYPES                                                                                                   |  |
| PHOTO LOCATION                                                                                               |  |
| REVISION NUMBER                                                                                              |  |
| DATUM / ELEVATION / LEVEL LINE                                                                               |  |
| EXISTING CONSTRUCTION TO REMAIN                                                                              |  |
| NEW STUD CONSTRUCTION                                                                                        |  |
| NEW CONCRETE BLOCK                                                                                           |  |
| NEW FACE BRICK                                                                                               |  |
| SOFFITS / OVERHANG ABOVE                                                                                     |  |
| AREA OF REFUGE WHEELCHAIR SPACE ACCESS, CLEAR FLOOR SPACE ASSEMBLY WHEELCHAIR SEAT 30"x48" CLEAR FLOOR SPACE |  |
| ACCESSIBLE ELEMENT                                                                                           |  |

ARCHITECTURAL MATERIALS

|                         |  |                            |  |
|-------------------------|--|----------------------------|--|
| ACOUSTICAL TILE         |  | PLASTER                    |  |
| ALUMINUM                |  | PLYWOOD (SMALL)            |  |
| BATT INSULATION         |  | RIGID INSULATION           |  |
| BITUMINOUS              |  | ROUGH WOOD (CONTINUOUS)    |  |
| BRASS OR BRONZE         |  | ROUGH WOOD (INTERRUPTED)   |  |
| CARPET                  |  | RUBBLE                     |  |
| CAST STONE              |  | SHEATHING INSUL.           |  |
| CERAMIC TILE            |  | SLATE, FLAGGING, SOAPSTONE |  |
| C.M.U.                  |  | STEEL                      |  |
| CONCRETE                |  | STRUCTURAL CLAY            |  |
| EARTH                   |  | STRUCT. GLAZED FACING TILE |  |
| FACE BRICK              |  | TERRA-COTTA                |  |
| FACE GRAIN              |  | TERRAZZO                   |  |
| FINISHED WOOD           |  | ELEVATIONS                 |  |
| FIRE BRICK              |  | BRICK                      |  |
| GLASS BLOCK             |  | CONCRETE BLOCK             |  |
| GLAZED BRICK (CALL OUT) |  | CERAMIC TILE               |  |
| GLAZING                 |  | GLASS                      |  |
| GRAVEL                  |  | METAL PANEL CORRUGATED     |  |
| GYPSUM BOARD            |  | SLATE, FLAGGING, SOAPSTONE |  |
| MARBLE                  |  | SHINGLES                   |  |
| METAL LATH              |  | FLAT METAL PANEL           |  |
| METAL (SMALL)           |  |                            |  |

ABBREVIATIONS

|                            |           |                               |              |
|----------------------------|-----------|-------------------------------|--------------|
| ABOVE FINISH FLOOR         | A.F.F.    | MASONRY                       | MAS.         |
| ABOVE FINISH GRADE         | A.F.G.    | MASONRY OPENING               | M.O.         |
| ACOUSTIC                   | AC.       | MATERIAL                      | MATL.        |
| ACOUSTIC TILE              | A.C.T.    | MAXIMUM                       | MAX.         |
| AIR CONDITIONING           | A.C.      | MECHANICAL                    | MECH.        |
| AIR HANDLING UNIT          | A.H.U.    | METAL                         | MET.         |
| ALTERNATE                  | ALT.      | MEZZANINE                     | MEZZ.        |
| ALUMINUM                   | ALUM.     | MINIMUM                       | MIN.         |
| ANCHOR, ANCHORAGE          | ANCH.     | MISCELLANEOUS                 | MISC.        |
| ANCHOR BOLTS               | AB        |                               |              |
| ANGLE                      | ANG.      |                               |              |
| ANODIZED                   | ANOD.     | OFFICE                        | OFF.         |
| APPROVED                   | APPD.     | ON CENTER                     | O.C.         |
| ARCHITECTURAL / ARCHITECT  | ARCH.     | OPPOSITE HAND                 | O.H.         |
| ASBESTOS                   | ASB.      | OPENING                       | OPG.         |
| ASPHALT                    | ASPH.     | OUTSIDE DIAMETER              | O.D.         |
| ASSEMBLY                   | ASSY.     |                               |              |
| ASSISTANT                  | ASST      |                               |              |
| AT                         | @         |                               |              |
| AUTOMATIC                  | AUTO.     |                               |              |
| BEAM                       | BM.       | PAINTED                       | PTD.         |
| BEARING                    | BRG.      | PAIR                          | PR.          |
| BETWEEN                    | BEV.      | PAPER TOWEL DISPENSER         | P.T.D.       |
| BEVEL / BEVELED            | BEV.      | PERPENDICULAR                 | PERP.        |
| BITUMINOUS                 | BIT.      | PLASTER                       | PLAS.        |
| BLOCK                      | BLK.      | PLASTIC LAMINATE              | P.LAM.       |
| BLOCKING                   | BLKG.     | PLATE                         | PL.          |
| BOARD                      | BD.       | PLUMBING                      | PLBG.        |
| BOTTOM OF                  | B/O       | PLYWOOD                       | PLYWD.       |
| BOTTOM                     | BOT.      | PRECAST                       | P.C.         |
| BUILDING                   | BLDG.     | PREFABRICATED                 | PREFAB.      |
| BUILT-UP ROOF              | B.U.R.    | PROJECT, PROJECTION           | PROJ.        |
|                            |           | POINT                         | PT.          |
| CABINET                    | CAB.      | QUANTITY                      | QTY.         |
| CABINET UNIT HEATER        | C.U.H.    | QUARRY TILE                   | Q.T.         |
| CAPACITY                   | CAP.      |                               |              |
| CEILING                    | CLG.      |                               |              |
| CEILING HEIGHT             | CLG. HGT. | RADIUS                        | RAD.         |
| CEMENT                     | CEM.      | RAIN WATER LEADER             | RWL.         |
| CENTER                     | CTR.      | RECEIVING                     | RECV.        |
| CENTERLINE                 | CL        | REFRIGERATOR                  | REF.         |
| CERAMIC                    | C.B.      | REINFORCED / REINFORCING      | REINF.       |
| CHALKBOARD                 | CH.       | REQUIRED                      | REQ'D.       |
| CHANNEL                    | CH.       | REVISION, REVISED             | REV.         |
| CLOSET                     | CLOS.     | RISER                         | R            |
| COLUMN                     | COL.      | ROOF DRAIN                    | R.D.         |
| CONFERENCE                 | CONF.     | ROOM                          | RM.          |
| CONTROL OR                 | C.J.      |                               |              |
| CONSTRUCTION JOINT         | CONT.     | SANITARY NAPKIN DISPENSER     | S.N.D.       |
| CONTINUOUS                 | CONTR.    | SANITARY NAPKIN RECEPTACLE    | S.N.R.       |
| CONTRACTOR                 | CORR.     | SCHEDULE                      | SCHED.       |
| CORRIDOR                   | CRS.      | SCUPPER                       | SC.          |
| COURSE / COURSES           |           | SECTION                       | SECT.        |
| DAMP PROOFING              | DAMPR.    | SEISMIC JOINT                 | S.J.         |
| DEGREE                     | DEG.      | SERVICE SINK                  | S.S.         |
| DEMOLITION                 | DEMO.     | SFT.                          | SFT.         |
| DEPARTMENT                 | DEPT.     | SIMILAR                       | SIM.         |
| DETAIL                     | DIA.      | SOAP DISPENSER                | S.D.         |
| DIAMETER                   | DIM.      | SOUND TRANSMISSION CLASS      | S.T.C.       |
| DIMENSION                  | DIST.     | SPECIFICATIONS                | SPEC.        |
| DISTANCE                   | DR.       | SPLASH BLOCK                  | S.B.         |
| DOOR                       | DBL.      | SQUARE                        | SQ.          |
| DOUBLE                     | DN.       | SQUARE INCH (S)               | SQ.IN.       |
| DOUBLE HUNG                | DN.       | SQUARE YARD (S)               | SQ.YD.       |
| DOWN                       | D.S.      | SQUARE FEET (FOOT)            | S.F.         |
| DOWNSPOUT                  | DWG.      | STAINLESS STEEL               | ST. STL.     |
| DRAWING                    | D.F.      | STANDARD                      | STD.         |
| DRINKING FOUNTAIN          |           | STEEL                         | STL.         |
|                            |           | STORAGE                       | STOR.        |
| EACH                       | EA.       | STRUCTURAL                    | STRUCT.      |
| ELECTRIC / ELECTRICAL      | ELEC.     | STRUCTURAL GLAZED FACING TILE | SGFT.        |
| ELECTRIC WATER COOLER      | EWC.      | STRUCTURAL STEEL              | STRUCT. STL. |
| ELEVATION                  | ELEV.     | SUSPEND, SUSPENSION           | SUSP.        |
| ELEVATOR                   | EXFE      | SURFACE                       | SYS.         |
| EXISTING FIRE EXTINGUISHER | EMG.      |                               |              |
| EMERGENCY                  | EQ.       |                               |              |
| EQUAL                      | EQUIP.    |                               |              |
| EQUIPMENT                  | EXIST.    | TACKBOARD                     | T.BD.        |
| EXISTING                   | ETR.      | TELEPHONE                     | TEL.         |
| EXISTING TO REMAIN         | EXP.      | TEMPERATURE/TEMPORARY         | TEMP.        |
| EXPANSION                  | E.J.      | TONGUE & GROOVE               | T & G        |
| EXPANSION JOINT            | EXT.      | THRESHOLD                     | THLD.        |
| EXTERIOR                   |           | THICK                         | THK.         |
| EXTERIOR INSULATION        | EIFS.     | TOILET                        | TLT          |
| FINISH SYSTEM              |           | TOP OF                        | T/O          |
|                            |           | TREAD                         | T.           |
|                            |           | TYPICAL                       | TYP.         |
| EQUIPMENT                  | EQUIP.    |                               |              |
| EXISTING                   | EXIST.    | UNDERWRITER'S LABORATORIES    | U.L.         |
| EXISTING TO REMAIN         | ETR.      | UNIT HEATER                   | U.H.         |
| EXPANSION                  | EXP.      | UNIT VENTILATOR               | U.V.         |
| EXPANSION JOINT            | E.J.      | UNLESS NOTED OTHERWISE        | U.N.O.       |
| FEET, FOOT                 | FT.       | URINAL                        | UR.          |
| FINISH, FINISHED           | FIN.      |                               |              |
| FIRE DAMPER                | FD.       |                               |              |
| FIRE EXTINGUISHER          | FE.       |                               |              |
| FIRE RETARDANT             | FR.       | VENT THRU ROOF                | V.T.R.       |
| FIREPROOFING               | FPRFG.    | VERIFY IN FIELD               | V.I.F.       |
| FIXTURE                    | FIXT.     | VERTICAL                      | VERT.        |
| FLASHING                   | FLASH.    | VINYL ASBESTOS TILE           | V.A.T.       |
| FLOOR                      | FL.       | VINYL COMPOSITION TILE        | V.C.T.       |
| FLOOR DRAIN                | FD.       |                               |              |
| FLOOR FINISH               | FLR. FIN. | WATER CLOSET                  | W.C.         |
| FOOTING                    | FTG.      | WATERPROOFING                 | W.P.         |
| FOUNDATION                 | FDN.      | WELDED WIRE FABRIC            | W.W.F.       |
| FURNISH / FURNISHED        | FURN.     | WEIGHT                        | WT.          |
| FURRED / FURRING           | FURR.     | WHITE BOARD                   | WBD.         |
|                            |           | WITH                          | W/           |
|                            |           | WOOD                          | WD.          |
| GAUGE                      | GA.       |                               |              |
| GALVANIZED                 | GALV.     |                               |              |
| GYPSUM BOARD               | GYP.BD.   |                               |              |
| HANDRAIL                   | HR.       |                               |              |
| HANDICAPPED                | H.C.      |                               |              |
| HEIGHT                     | HGT.      |                               |              |
| HIGH POINT                 | HP.       |                               |              |
| HOLLOW METAL               | HR.       |                               |              |
| HORIZONTAL                 | HORIZ.    |                               |              |
| HOSE BIB                   | HB.       |                               |              |
| INCH OR INCHES             | IN. OR "  |                               |              |
| INCLUDE / INCLUDING        | INCL.     |                               |              |
| INFORMATION                | INFO.     |                               |              |
| INSIDE DIAMETER            | I.D.      |                               |              |
| INSULATION                 | INSUL.    |                               |              |
| INTERIOR                   | INT.      |                               |              |
| JOINT                      | JT.       |                               |              |
| KICKPLATE                  | KP.       |                               |              |
| LABORATORY                 | LAB.      |                               |              |
| LAVATORY                   | LAV.      |                               |              |
| LIGHTING                   | LTG.      |                               |              |
| MACHINE                    | MACH.     |                               |              |
| MAINTENANCE                | MAINT.    |                               |              |
| MANUFACTURER               | MFR.      |                               |              |
| MARKER BOARD               | MBD.      |                               |              |

|              |           |
|--------------|-----------|
| DATE:        | 03.03.17  |
| DRAWN BY:    | LLB       |
| SCALE:       | AS NOTED  |
| REVIEWED BY: | RWR       |
| PROJECT NO.  | 2016-077a |

|        |             |
|--------|-------------|
| REVISE | DESCRIPTION |
| NO.    | DATE        |
|        | 03.27.17    |

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| REFERENCE SHEET |
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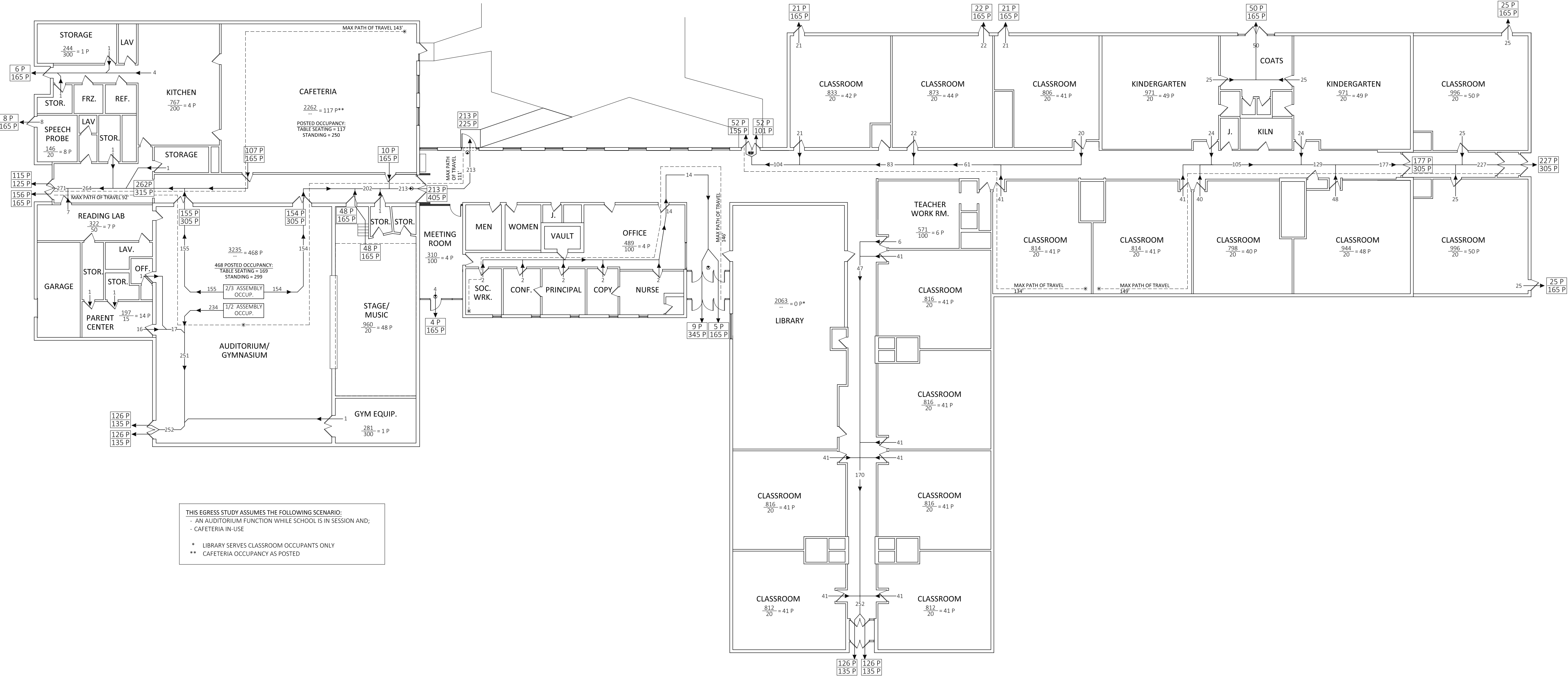
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|--------------------------------------------------------------------------------------------------|
| OFFICE RENOVATION<br>FOR<br>MARTIN ELEM. SCHOOL<br>140 DARTMOUTH ROAD<br>MANCHESTER, CONNECTICUT |
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|                  |
|------------------|
| ARCHITECT'S SEAL |
|------------------|

|                                               |
|-----------------------------------------------|
|                                               |
| 281 Farmington Avenue<br>Farmington, CT 06032 |

|                   |
|-------------------|
| SHEET NO.<br>R1.1 |
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THIS EGRESS STUDY ASSUMES THE FOLLOWING SCENARIO:  
- AN AUDITORIUM FUNCTION WHILE SCHOOL IS IN SESSION AND;  
- CAFETERIA IN-USE

\* LIBRARY SERVES CLASSROOM OCCUPANTS ONLY  
\*\* CAFETERIA OCCUPANCY AS POSTED

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

| EGRESS SYMBOLS & LEGEND                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                  | APPLICABLE CODES                                                              |                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------|
| <div><div>AREA (SF)</div><div>LOAD FACTOR</div><div>960<br/>20</div><div>= 48 P</div><div>OCCUPANCY LOAD</div></div> <div><div>OCCUPANCY LOAD</div><div>EXIT CAPACITY</div><div>X P</div><div>135 P</div><div>← ACTUAL EGRESS</div><div>← EGRESS CAPACITY</div></div> <div><div>PATH OF TRAVEL</div><div>←</div></div> <div><div>TRAVEL DISTANCE</div><div>MAX TRAVEL DISTANCE</div><div>XXX'</div></div> | BUILDING                                                                         | 2012 INTERNATIONAL BUILDING CODE WITH CONNECTICUT STATE AMENDMENTS            |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                           | LIFE SAFETY                                                                      | 2015 NFPA 101                                                                 |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                           | ACCESSIBILITY                                                                    | ICC/ANSI A117.1, 2009 WITH CONNECTICUT STATE AMENDMENTS                       |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                           | PLUMBING                                                                         | 2012 INTERNATIONAL PLUMBING CODE WITH CONNECTICUT STATE AMENDMENTS            |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                           | MECHANICAL                                                                       | 2012 INTERNATIONAL MECHANICAL CODE WITH CONNECTICUT STATE AMENDMENTS          |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                           | ENERGY                                                                           | 2012 INTERNATIONAL ENERGY CONSERVATION CODE WITH CONNECTICUT STATE AMENDMENTS |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                           | ELECTRICAL                                                                       | 2014 NFPA 70, NATIONAL ELECTRICAL CODE WITH CONNECTICUT STATE AMENDMENTS      |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                           | EXISTING                                                                         | 2012 INTERNATIONAL EXISTING BUILDING CODE WITH CONNECTICUT STATE AMENDMENTS   |                                   |
| DOOR EGRESS CAPACITY REFERENCE                                                                                                                                                                                                                                                                                                                                                                            |                                                                                  | CODE DATA                                                                     |                                   |
| (0.2" PER OCCUPANT, per IBC 1005.3.2)                                                                                                                                                                                                                                                                                                                                                                     |                                                                                  |                                                                               |                                   |
| <div>X P</div> <div>101 P</div> <div>2'-0" DOOR (24")</div> <div>21" CLEAR</div>                                                                                                                                                                                                                                                                                                                          | <div>X P</div> <div>195 P</div> <div>3'-6" DOOR (42")</div> <div>39" CLEAR</div> | PROJECT TYPE                                                                  | MINOR ALTERATION                  |
| <div>X P</div> <div>125 P</div> <div>2'-4" DOOR (28")</div> <div>25" CLEAR</div>                                                                                                                                                                                                                                                                                                                          | <div>X P</div> <div>225 P</div> <div>4'-0" DOOR (48")</div> <div>45" CLEAR</div> | DATE OF ORIGINAL CONSTRUCTION                                                 | 1967                              |
| <div>X P</div> <div>135 P</div> <div>2'-6" DOOR (30")</div> <div>27" CLEAR</div>                                                                                                                                                                                                                                                                                                                          | <div>X P</div> <div>305 P</div> <div>2'-8" DOOR (64")</div> <div>61" CLEAR</div> | PRIMARY GROUP CLASSIFICATION                                                  | E (EDUCATIONAL)                   |
| <div>X P</div> <div>145 P</div> <div>2'-8" DOOR (32")</div> <div>29" CLEAR</div>                                                                                                                                                                                                                                                                                                                          | <div>X P</div> <div>345 P</div> <div>2'-0" DOOR (72")</div> <div>69" CLEAR</div> | IBC Chapter 3                                                                 |                                   |
| <div>X P</div> <div>155 P</div> <div>2'-10" DOOR (34")</div> <div>31" CLEAR</div>                                                                                                                                                                                                                                                                                                                         | <div>X P</div> <div>385 P</div> <div>3'-4" DOOR (80")</div> <div>77" CLEAR</div> | CONSTRUCTION TYPE                                                             | IIB                               |
| <div>X P</div> <div>165 P</div> <div>3'-0" DOOR (36")</div> <div>33" CLEAR</div>                                                                                                                                                                                                                                                                                                                          | <div>X P</div> <div>405 P</div> <div>2'-3" DOOR (84")</div> <div>81" CLEAR</div> | IBC Chapter 6                                                                 |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  | FIRE SUPPRESSION                                                              | UNSPRINKLERED                     |
|                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  | FIRE DETECTION                                                                | YES                               |
|                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  | BUILDING AREA                                                                 | 38,926 SF                         |
|                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  | PROJECT AREA                                                                  | 400 SF, APPROX.                   |
|                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  | OCCUPANCY LOAD                                                                | 1,378 TOTAL                       |
|                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  | TRAVEL DISTANCE                                                               | 150' MAX ALLOWABLE<br>149' ACTUAL |

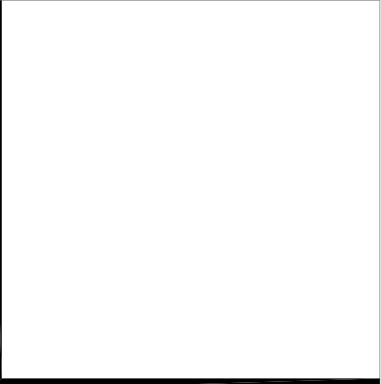
|              |                 |
|--------------|-----------------|
| DATE:        | 03.03.17        |
| DRAWN BY:    | LLB             |
| SCALE:       | 1/16" = 1' - 0" |
| REVIEWED BY: | RWR             |
| PROJECT NO.  | 2016-077a       |

| REVISIONS |                |
|-----------|----------------|
| NO.       | DESCRIPTION    |
| 03.27.17  | ISSUED FOR BID |

CODE SHEET

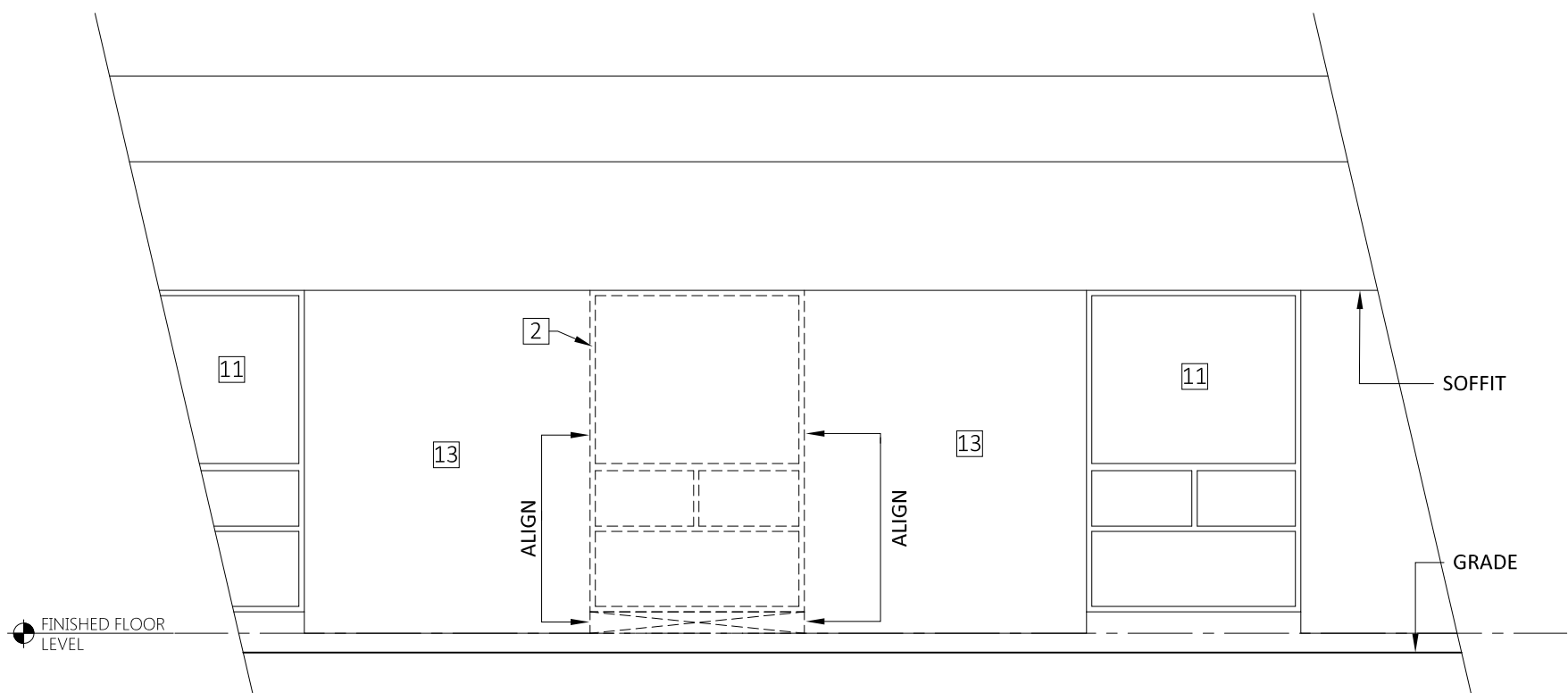
EGRESS PLAN

OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

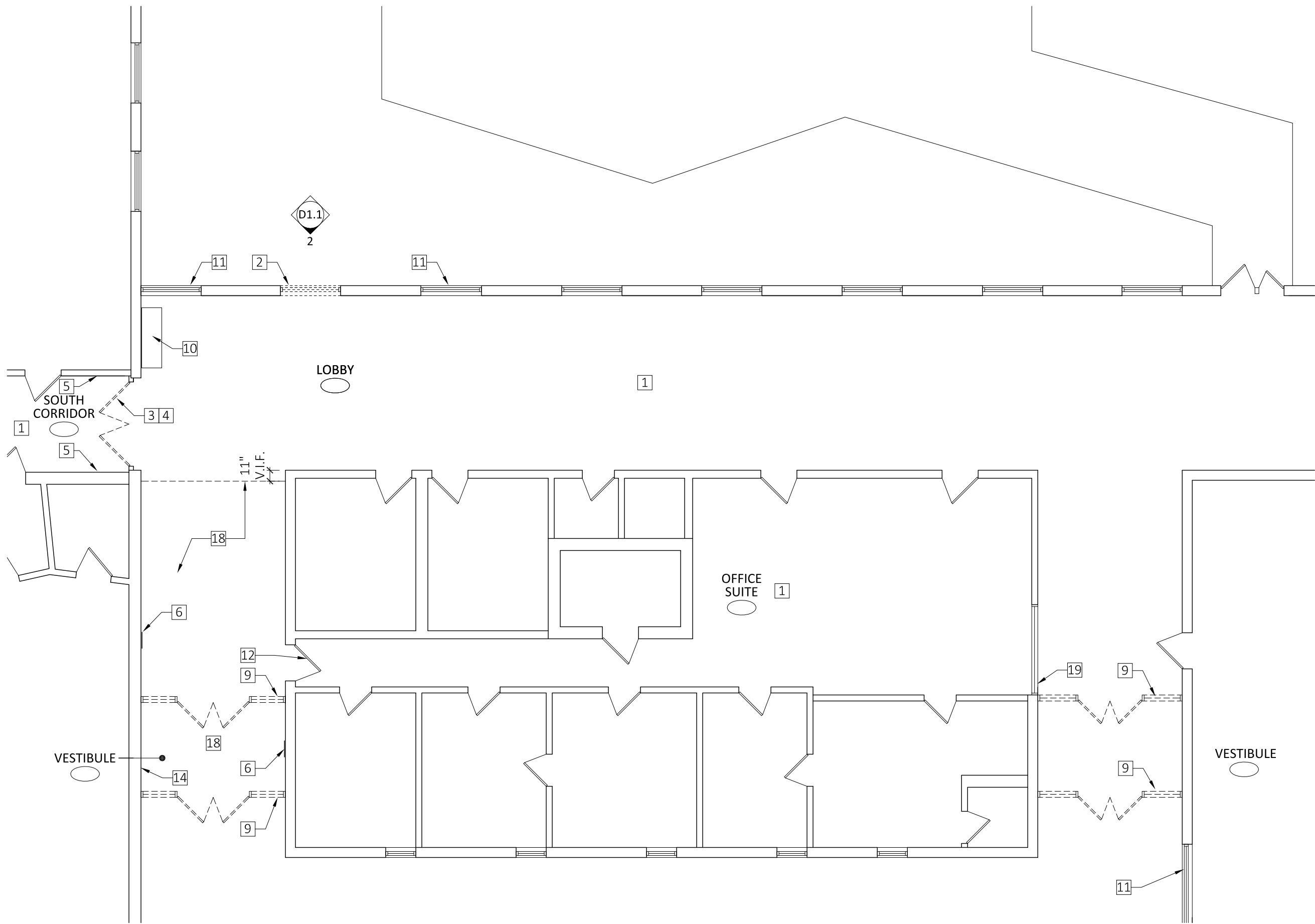


ARCHITECT'S SEAL

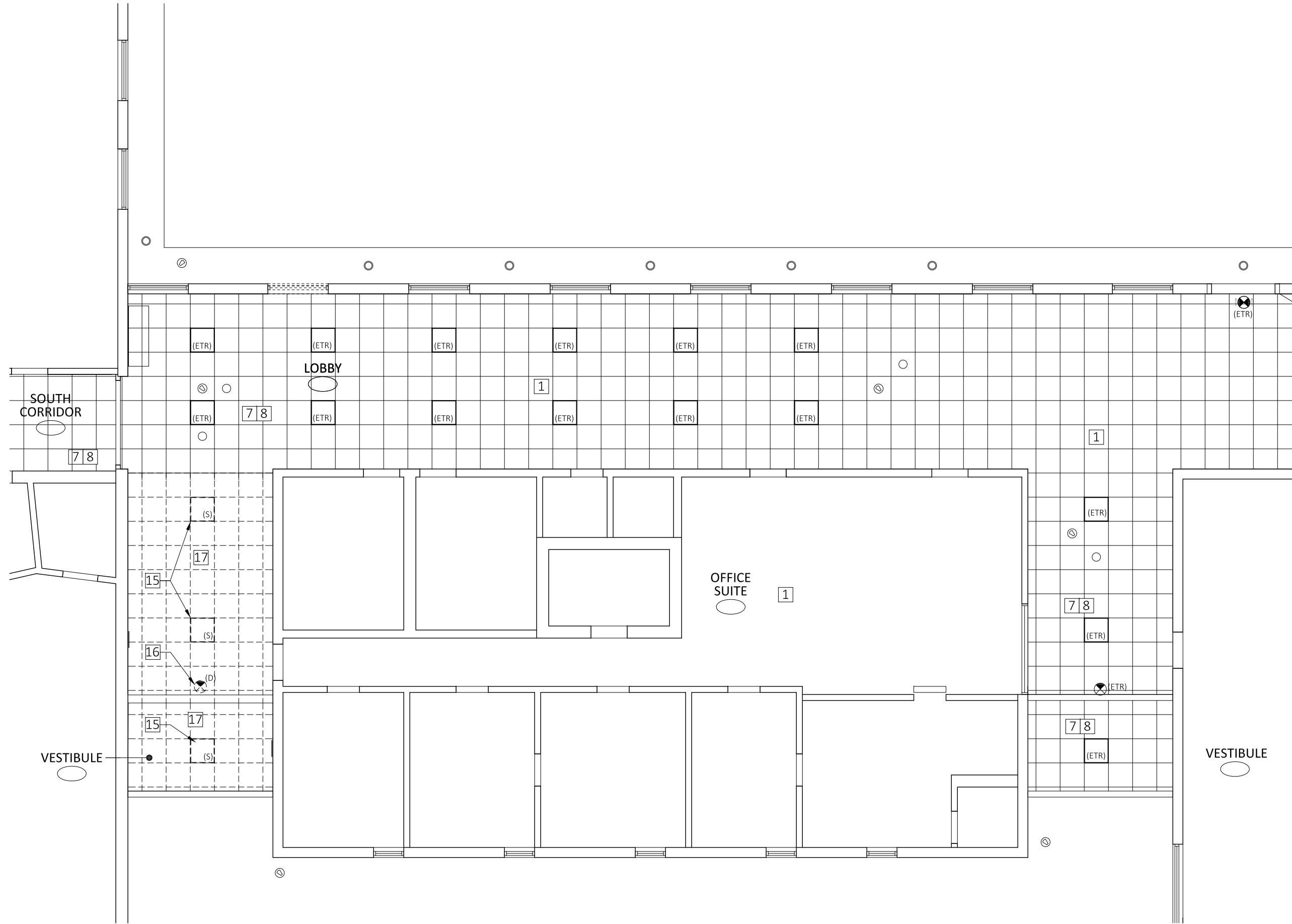




2 DEMO EXTERIOR ELEVATION  
SCALE: 1/8" = 1'-0"



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



3 PARTIAL FIRST FLOOR: DEMO CEILING PLAN  
SCALE: 1/8" = 1'-0"

FLOOR PLAN LEGEND

- EXISTING WALL TO REMAIN
- WALL/ITEM TO BE DEMOLISHED
- 2 X 2 LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- CEILING EQUIPMENT; REF: MEP DRAWINGS
- EXISTING DOOR
- EXIT SIGN WITH DIRECTIONAL ARROW; REF: MEP DRAWINGS
- SECURITY CAMERA
- (ETR) = EXISTING TO REMAIN
- (D) = ITEM TO BE REMOVED; COORDINATE RE-LOCATION OR DEMO WITH MEP DRAWINGS
- (S) = REMOVE & SALVAGE FOR REUSE

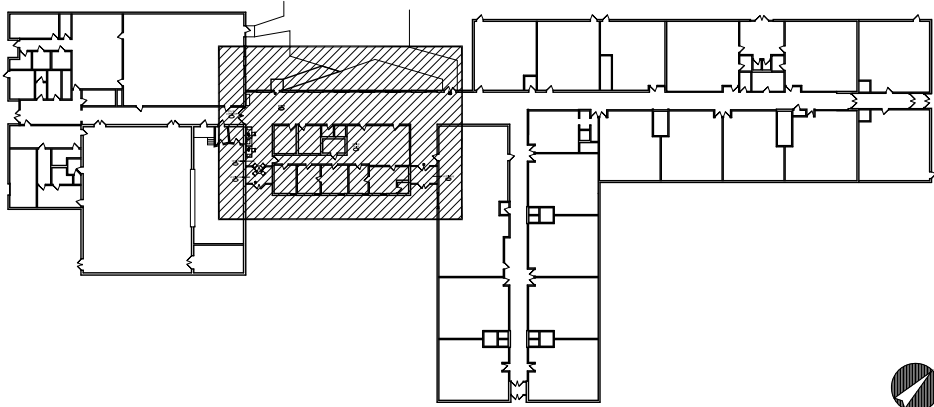
DEMOLITION NOTES

- A. FIELD VERIFY FIELD CONDITIONS PRIOR TO START OF WORK AND NOTIFY ARCHITECT OF ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND WHAT IS REPRESENTED IN DRAWINGS
- B. THE G.C. SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE PUBLIC AND/OR WORKMEN ON THE JOB AND TO PREVENT ACCIDENTS OR INJURY TO ANY PERSON ON, ABOUT, OR ADJACENT TO THE PREMISES. THE G.C. SHALL COMPLY WITH ALL LAWS, ORDINANCES, CODES, RULES AND REGULATIONS RELATIVE TO SAFETY AND THE PREVENTION OF ACCIDENTS.
- C. THE GENERAL CONTRACTOR SHALL PROVIDE AND PAY FOR ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, TRANSPORTATION, PERMITS AND OTHER SERVICES AND FACILITIES NECESSARY FOR THE PROPER AND TIMELY EXECUTION OF WORK, U.O.N.
- D. DIMENSIONS ARE FROM FINISHED FACE, U.O.N.
- E. GENERAL CONTRACTOR RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF RATED PARTITIONS AND STRUCTURE, AND TO MAINTAIN WHERE PENETRATED BY VARIOUS TRADES AND SERVICES
- F. THIS DEMOLITION PLAN IS TO BE USED IN CONJUNCTION WITH THE ENTIRE SET OF WORKING DRAWINGS. DO NOT REMOVE OR DEMOLISH ANYTHING WITHOUT VERIFYING AND COORDINATING WITH ALL TRADES AS TO HOW THEY RELATE TO THE OVERALL PROJECT.
- G. REFER TO MEP DRAWINGS FOR ADDITIONAL INFORMATION
- H. ALL FIRE ALARM, AV, DATA, SECURITY & COMMUNICATION SYSTEMS AND EQUIPMENT SHALL BE PROTECTED DURING DEMOLITION & CONSTRUCTION; REF: MEP DRAWINGS
- I. IN ACCORDANCE WITH THE DRAWINGS, THOSE ITEMS WHICH ARE REMOVED, AND ARE NOT RELOCATED OR REUSED, SHALL BE DISPOSED OF BY THE G.C.; VERIFY WITH OWNER PRIOR TO DISPOSAL OF ALL ITEMS.
- J. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE FINAL CLEANUP OF THE ENTIRE PREMISES, INCLUDING BUT NOT LIMITED TO FLOORS, GLASS, FIXTURES, ETC. FOLLOWING THE INSTALLATION OF ALL WORK; G.C. RESPONSIBLE FOR THE REMOVAL OF ALL CARDBOARD, TRASH AND DEMOLISHED ITEMS PRIOR TO PROJECT COMPLETION

KEY NOTES # (KEYED ON PLANS)

- 1. ADJACENT SPACE N.I.C.; NO WORK THIS AREA, U.O.N.
- 2. EXISTING WINDOW AND SILL TO BE REMOVED TO PROVIDE CLEAR OPENING LEVEL WITH INTERIOR FLOOR LEVEL; SAW CUT CONCRETE SILL IN LINE WITH EXISTING MASONRY OPENING TO PROVIDE SMOOTH FINISHED EDGE TO RECEIVE NEW STOREFRONT SYSTEM
- 3. DOUBLE DOORS AND HARDWARE TO BE REMOVED AND SALVAGED FOR REINSTALLATION AT SAME LOCATION WITH OPPOSITE SWING DIRECTION, PER FLOOR PLAN A1.1
- 4. MAGNETIC HOLD OPEN DEVICES TO BE SALVAGED FOR RE-USE; MAGNET POSITION ON DOOR TO BE RELOCATED, AS REQUIRED; REF: ELECTRICAL DRAWINGS
- 5. MAGNETIC HOLD OPEN CATCH PLATE TO BE REMOVED FROM WALL AND RELOCATED TO NEW DOOR LOCATION PER FLOOR PLAN A1.1; COORDINATE WITH DOOR MAGNET LOCATION; REF: MEP DRAWINGS
- 6. REMOVE WALL PLATE AND PREPARE FOR WALL INFILL; NOTIFY ARCHITECT OF ANY HIDDEN CONDITIONS WHICH ARE SIGNIFICANT TO THE CURRENT STATUS OF THE BUILDING
- 7. EXISTING ACT AND GRID TO REMAIN, UO.N.; REF: CEILING PLAN A2.1
- 8. ALL CEILING FIXTURES TO REMAIN, U.O.N.; REF: MEP DRAWINGS FOR FIXTURES TO BE RELOCATED AT NEW OFFICE AREA
- 9. STOREFRONT SYSTEM TO BE DEMOLISHED
- 10. EXISTING TROPHY CASE TO REMAIN; PROTECT DURING DEMOLITION
- 11. EXISTING WINDOWS TO REMAIN, TYP. U.O.N.
- 12. REMOVE DEADBOLT FROM DOOR; RETURN TO SCHOOL
- 13. EXISTING BRICK
- 14. EXISTING CABINET UNIT HEATER TO REMAIN
- 15. EXISTING LIGHT FIXTURES TO BE REMOVED AS INDICATED ON PLAN; (2) FIXTURES IN BEST CONDITION TO BE SALVAGED AND REUSED, REMAINING FIXTURE TO BE RETURNED TO OWNER; REF: RCP AND ELECTRICAL DRAWINGS FOR FINAL LIGHTING LAYOUT
- 16. ILLUMINATED EXIT SIGN TO BE REMOVED AND SALVAGED FOR RE-USE; REF: ELECTRICAL DRAWINGS FOR RELOCATION INFORMATION, AND FOR ADDITIONAL CEILING EQUIPMENT TO BE RELOCATED
- 17. EXISTING CEILING TILE TO BE DEMOLISHED THIS AREA
- 18. EXISTING VCT FLOORING TO BE DEMOLISHED THIS AREA; COORDINATE EXTENT OF DEMO WITH LOCATION OF NEW WALL (REF: A1.1); SLAB TO BE CLEANED AND PREPARED TO RECEIVE NEW FLOOR FINISH PER MANUFACTURER'S RECOMMENDATIONS
- 19. EXISTING STOREFRONT TO REMAIN; PROTECT DURING DEMOLITION OF ADJACENT STOREFRONT SYSTEM

KEY PLAN



|              |              |
|--------------|--------------|
| DATE:        | 03.03.17     |
| DRAWN BY:    | LLB          |
| SCALE:       | 1/8" = 1'-0" |
| REVIEWED BY: | RWR          |
| PROJECT NO.  | 2016-077a    |

| NO. | DATE     | DESCRIPTION    |
|-----|----------|----------------|
|     | 03.27.17 | ISSUED FOR BID |

PARTIAL FIRST FLOOR

DEMOLITION PLAN & RCP

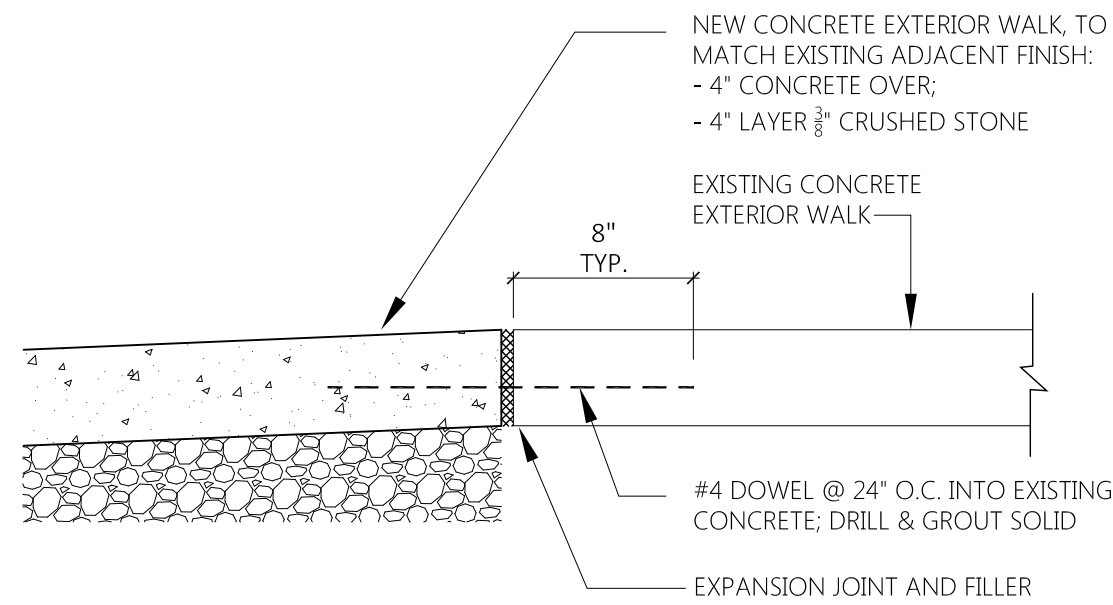
OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

ARCHITECT'S SEAL

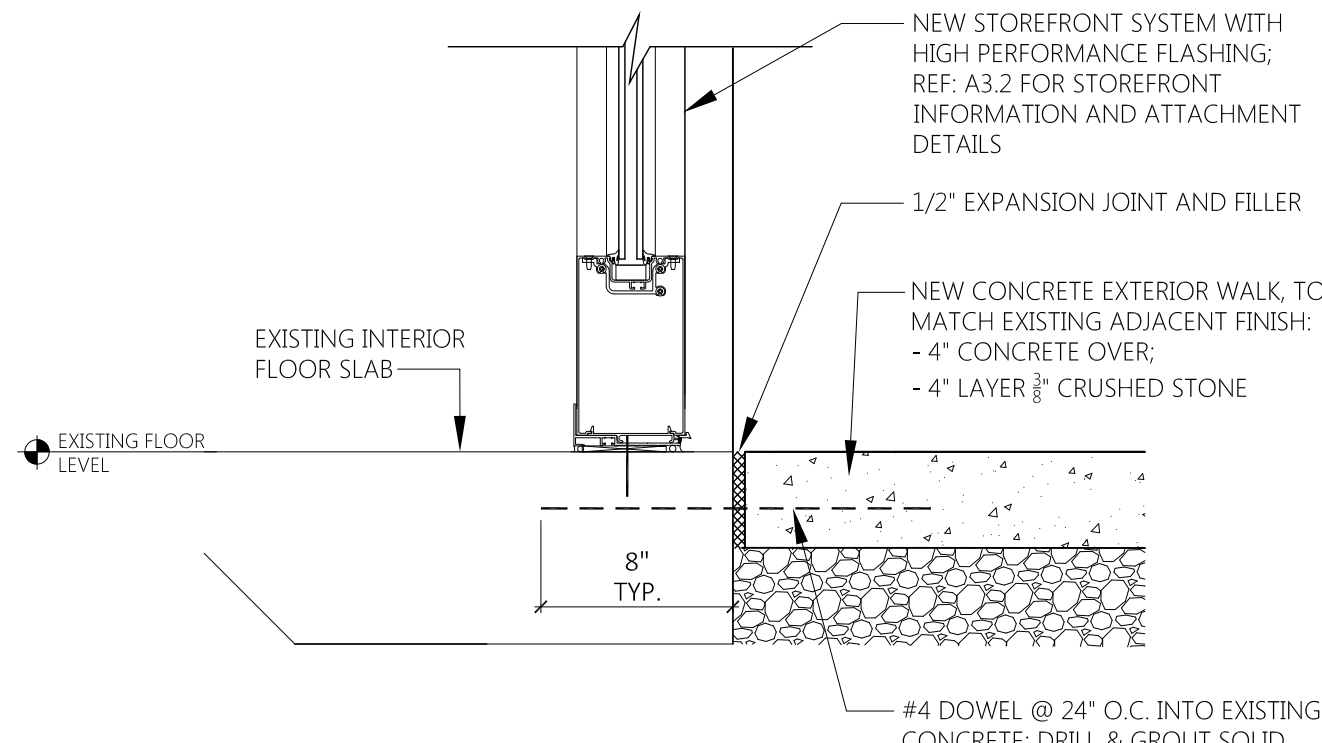


281 Farmington Avenue  
Farmington, CT 06032

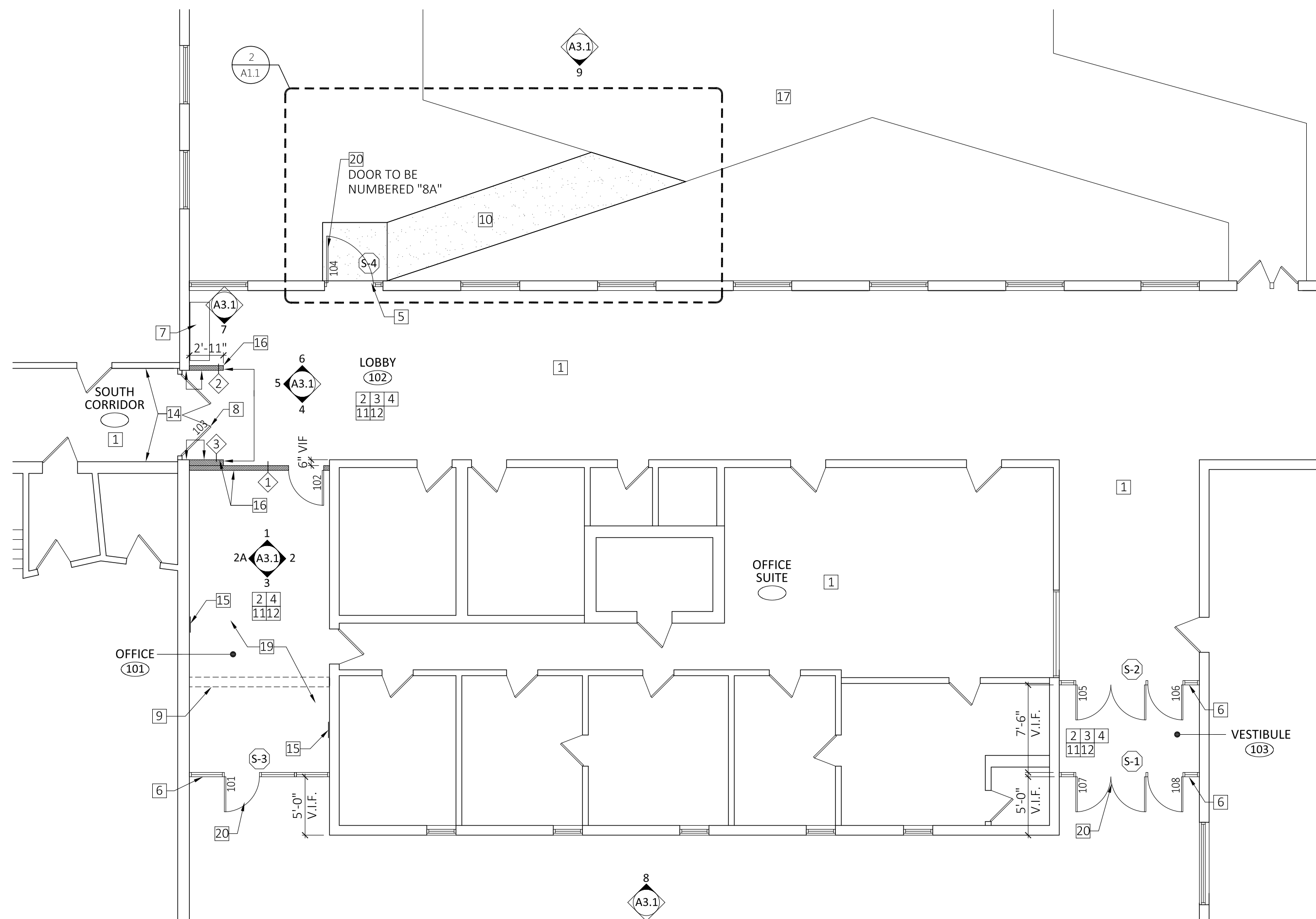
SHEET NO.  
D1.1



4 NEW WALKWAY AT EXISTING  
SCALE: 1-1/2" = 1'-0"



3 NEW WALKWAY AT STOREFRONT  
SCALE: 1-1/2" = 1'-0"



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

## GENERAL SITEWORK NOTES

NOTE: ALL NOTES MAY NOT APPLY TO THIS SCOPE OF WORK

### GENERAL NOTES:

1. CONCRETE SHALL BE AIR ENTRAINED & SHALL HAVE MIN. DESIGN STRENGTH OF 3000 PSI AT 28 DAYS.

2. ALL ACTUAL DIMENSIONS TO BE DETERMINED BY "ON SITE" CONDITIONS.

### TYPICAL VERTICAL PIER DOWEL NOTES:

1. BAR TO EXTEND A MIN. OF 12" INTO FOOTING & A MIN. OF 3" FROM THE TOP OF THE PIER

2. ALL HORIZONTALLY PLACED CROSS MEMBERS TO BE 3/8" DIA. (#3 MIN.) REBAR @ 12" o.c. FROM BOTTOM OF VERTICAL DOWELS

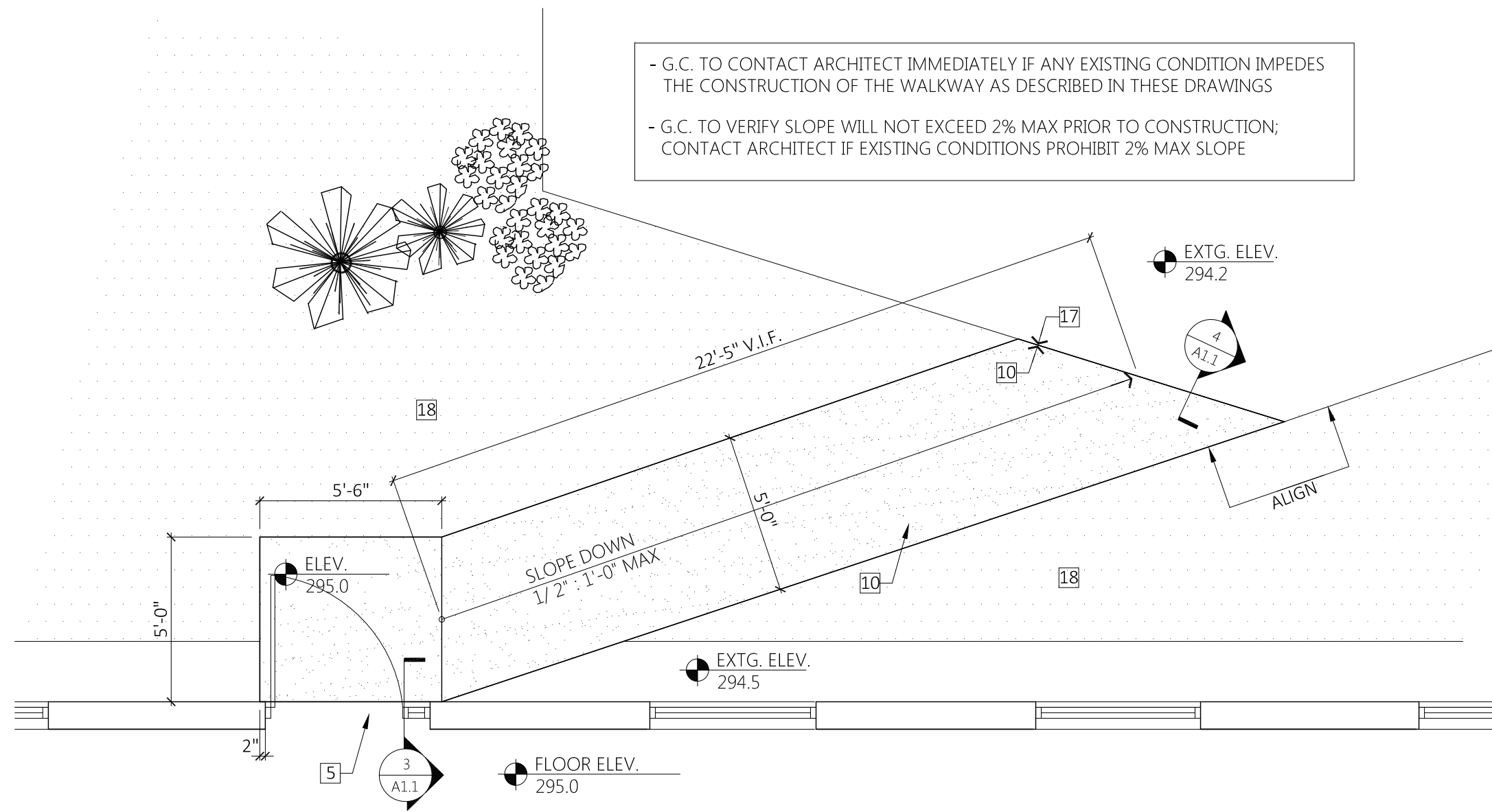
3. ALL 6" HOOKS TO POINT TO THE CENTER OF THE PIERS

### EXCAVATION & BACKFILL

- Footings shall rest on inorganic undisturbed soil or compacted gravel backfill.
- All fill and backfill inside the foundation must be approved gravel compacted to 95% optimum density.
- No backfill shall be placed against any foundation wall until walls are properly braced or floors are erected & anchored in place.
- Maximum assumed soil bearing capacity: 4000 lbs/sq ft. (to be verified by a Soils Engineer).

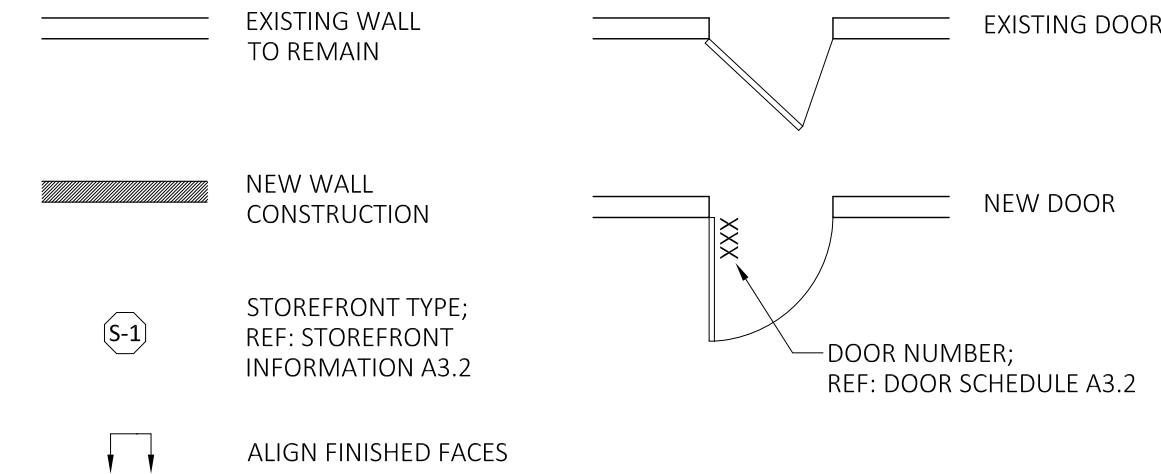
### POURED IN PLACE CONCRETE

- All concrete is to have a minimum 28 day compressive strength (f'c) as noted in "Structural Design Data".
- Concrete coverage of reinforcing steel: 3" at bottoms of footings, 2" for other steel with soil contact, otherwise 1 1/2", except 3/4" for slabs.
- Reinforcing steel shall be Grade 60, new billet steel, of intermediate or hard grade conforming to ASTM A-615.
- Welded wire fabric shall conform to ASTM A-185. Fabric in slabs on grade shall be in the upper 1/3 of slab.
- All continuous reinforcing bars shall lap 24 diameters unless noted otherwise. Vertical bars in columns and piers shall lap a minimum of 30 bar diameters.
- Slab elevations are to tops of slabs. Slabs on grade shall be poured in panels not exceeding 1000 square feet having length to width ratio not exceeding 3.
- The General Contractor shall install all anchors, pipe sleeves, inserts, etc. in concrete as required by the trades, and shall coordinate and verify the locations before proceeding with concrete work.
- Key all construction joints with a beveled 2x4. Dowel all reinforcing a minimum of 24 diameters at joints, more if noted.
- Piping, conduit, etc. passing through or embedded in concrete shall be placed strictly in accordance with ACI recommendations. Aluminum products shall not be placed in concrete.
- All openings in concrete walls shall have 2 additional #5 rebars all around opening, extending 12" beyond opening.



2 ENLARGED SITE PLAN  
SCALE: 1/4" = 1'-0"

## FLOOR PLAN LEGEND



## WALL TYPES

- 1 HOUR RATED PARTITION (ASSEMBLY UL U404)
  - 3-5/8" METAL STUDS WITH (1) LAYER 5/8" TYPE 'X' GWB TO UNDERSIDE OF DECK, BOTH SIDES
  - STUDS SECURED TO STRUCTURE ABOVE
  - 3" BATT INSULATION IN CAVITY, FULL HEIGHT OF METAL STUDS
- FULL HEIGHT PARTITION
  - 3-5/8" METAL STUDS, (1) LAYER 5/8" TYPE GWB BOTH SIDES
  - STUDS AND GWB TO 6" ABOVE CEILING
  - STUD BRACING STAGGERED FROM T/ PARTITION & FASTENED TO STRUCTURE ABOVE 24" O.C.
- FULL HEIGHT PARTITION, SHEATHING (1) SIDE
  - 3-5/8" METAL STUDS, (1) LAYER 5/8" TYPE GWB ONE SIDE
  - STUDS AND GWB TO 6" ABOVE CEILING

## GENERAL CONSTRUCTION NOTES

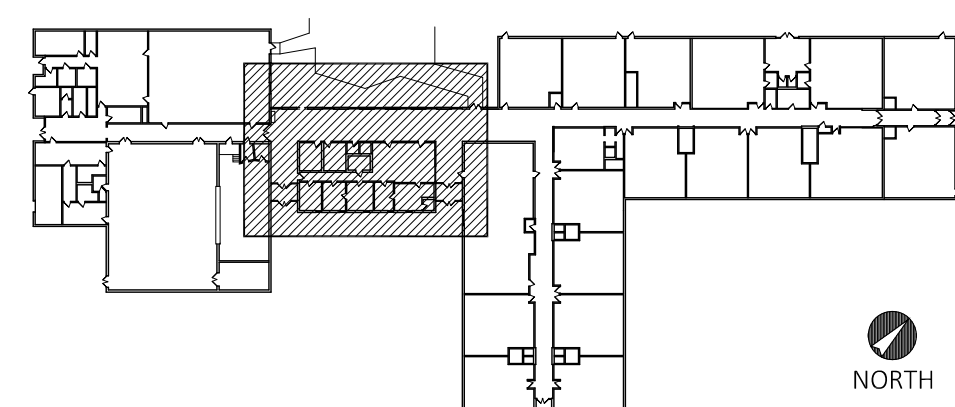
- FIELD VERIFY FIELD CONDITIONS PRIOR TO START OF WORK AND NOTIFY ARCHITECT OF ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND WHAT IS REPRESENTED IN DRAWINGS
- REFER TO MEP DRAWINGS FOR ADDITIONAL INFORMATION
- ALL FIRE ALARM, AV, DATA, SECURITY & COMMUNICATION SYSTEMS AND EQUIPMENT SHALL BE PROTECTED DURING CONSTRUCTION; REF: MEP DRAWINGS
- WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALE ON THE CONSTRUCTION DOCUMENTS; DO NOT SCALE DRAWINGS
- DIMENSIONS ARE FROM FINISHED FACE, U.O.N.
- GENERAL CONTRACTOR RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF RATED PARTITIONS AND STRUCTURE, AND TO MAINTAIN WHERE PENETRATED BY VARIOUS TRADES AND SERVICES
- ALL NEW DOORS ARE TO BE CONSTRUCTED 4" OFF ADJOINING PARTITION, U.O.N.
- ALL MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED, AND CONDITIONED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS OR INSTRUCTIONS
- THE GENERAL CONTRACTOR SHALL PROVIDE AND PAY FOR ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, TRANSPORTATION, PERMITS AND OTHER SERVICES AND FACILITIES NECESSARY FOR THE PROPER AND TIMELY EXECUTION OF WORK, U.O.N.
- THE CONTRACTOR WARRANTS TO THE OWNER AND THE ARCHITECT THAT ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THE CONTRACT ARE NEW, UNLESS OTHERWISE SPECIFIED, AND THAT ALL WORK WILL BE AS SPECIFIED AND FREE OF DEFECTS
- FOR ALL WOOD MEMBERS REQUIRED BY CODE TO BE FIRE RETARDANT TREATED, PROVIDE PRESSURE IMPREGNATION WITH FIRE RETARDANT CHEMICALS TO PROVIDE UL PRS FIRE HAZARD CLASSIFICATION, ALL WOOD SHALL BE IDENTIFIED WITH A UL LABEL CERTIFYING THIS CLASSIFICATION AND FM DIAMOND
- G.C. SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CARDBOARD, TRASH AND DEMOLISHED ITEMS PRIOR TO PROJECT COMPLETION
- ALL WORK INDICATED TO BE "NEW" SHALL BE BY GENERAL CONTRACTOR, U.O.N.

## KEY NOTES

# (KEYED ON PLANS)

- ADJACENT SPACE N.I.C.; NO WORK THIS AREA, U.O.N.
- FOR WALL FINISH INFORMATION REF: ELEVATIONS A-3.1; FOR CEILING FINISH INFORMATION REF: CEILING PLAN A-2.1
- FLOOR FINISHES TO REMAIN, TYP.; PROTECT DURING CONSTRUCTION
- FOR DOOR INFORMATION, REF: DOOR SCHEDULE, A-3.2 TYP.
- NEW STOREFRONT SYSTEM WITHIN EXISTING MASONRY OPENING; REF: STOREFRONT INFORMATION, A-3.2
- NEW STOREFRONT SYSTEM TO REPLACE EXISTING; REF: STOREFRONT INFORMATION, A-3.2
- EXISTING TROPHY CASE TO REMAIN, PROTECT DURING CONSTRUCTION; COORDINATE WITH SCHOOL FOR RELOCATION AND STORAGE DURING CONSTRUCTION
- EXISTING DOUBLE DOORS, SWING TO BE REVERSED PER PLAN; MAGNETIC HOLD OPENS TO BE RELOCATED; REF: MEP DRAWINGS
- LINE OF NEW SOFFIT ABOVE, REF: CEILING PLAN A-2.1
- NEW CONCRETE WALKWAY CONNECTING TO EXISTING SIDEWALK
- PATCH AND REPAIR WALLS, FLOOR AND CEILING AS REQUIRED AS A RESULT FROM DEMOLITION WORK; PAINT OR INFILL TO CREATE A SMOOTH AND CONTINUOUS SURFACE THAT MATCHES EXISTING, ADJACENT AS REQUIRED
- ALL SURFACES TO RECEIVE A NEW FINISH SHALL BE PREPARED PER MANUFACTURER'S RECOMMENDATIONS, TYP.
- NOT USED
- WALL AT CATCH PLATE DEMO LOCATIONS TO BE PATCHED AND PAINTED TO MATCH EXISTING ADJACENT WALL
- AT LOCATIONS OF WALL PLATE REMOVAL, INFILL WITH GWB AND MAKE FLUSH WITH ADJACENT WALL
- PROVIDE NEW VINYL WALL BASE ALL VISIBLE SIDES NEW WALLS, TYP.; REF: A3.1 FOR ELEVATIONS AND FINISHES
- EXISTING WALKWAY
- EXISTING GRASS AND PLANTING BED TO REMAIN; PROTECT DURING CONSTRUCTION
- NEW VCT FLOOR FINISH (VCT-1); REF: FINISH SCHEDULE A3.1
- INTERIOR SIDE OF DOOR TO BE NUMBERED WITH WHITE PAINT AND STENCIL; EXTERIOR SIDE OF DOOR TO RECEIVE VINYL DOOR NUMBER; FONT, SIZE, LOCATION AND NUMBER TO MATCH EXISTING AS INDICATED ON THE PLAN, U.O.N.

## KEY PLAN



|              |              |
|--------------|--------------|
| DATE:        | 03.03.17     |
| DRAWN BY:    | LB           |
| SCALE:       | 1/8" = 1'-0" |
| REVIEWED BY: | RWR          |
| PROJECT NO.  | 2016-077a    |

## REVISIONS

| NO. | DATE     | DESCRIPTION    |
|-----|----------|----------------|
| 1   | 03.27.17 | ISSUED FOR BID |

## PARTIAL FIRST FLOOR

## CONSTRUCTION & SITE PLAN

## OFFICE RENOVATION FOR MARTIN ELEM. SCHOOL

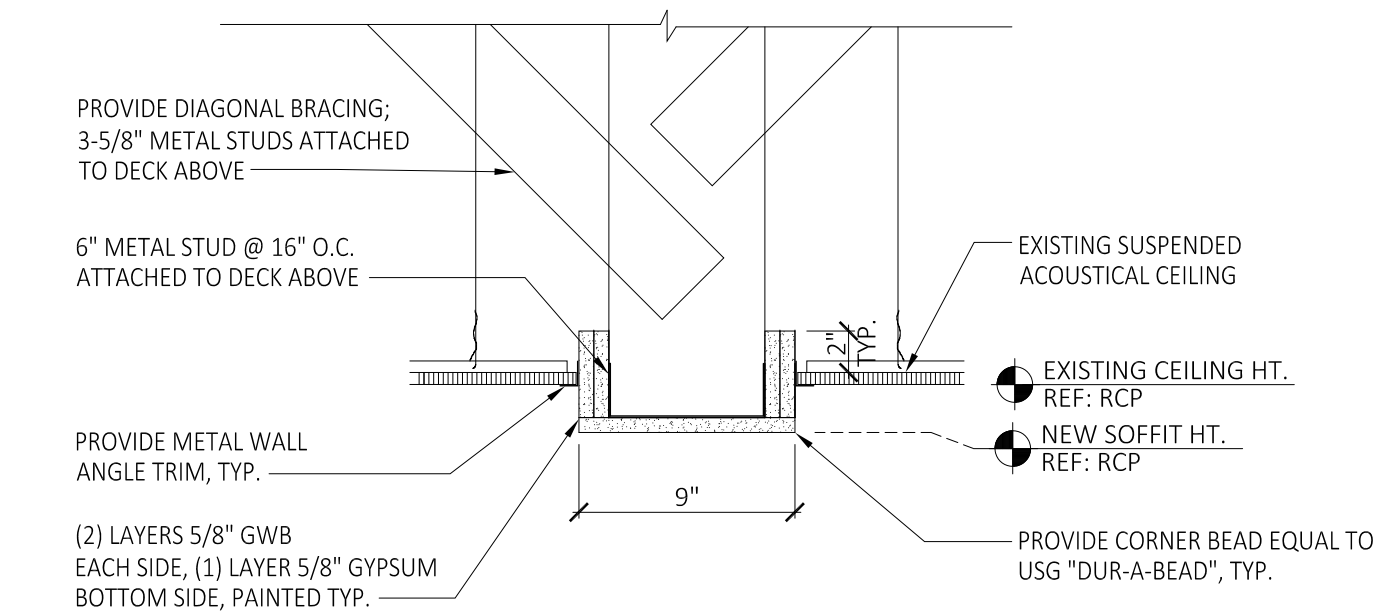
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

ARCHITECT'S SEAL

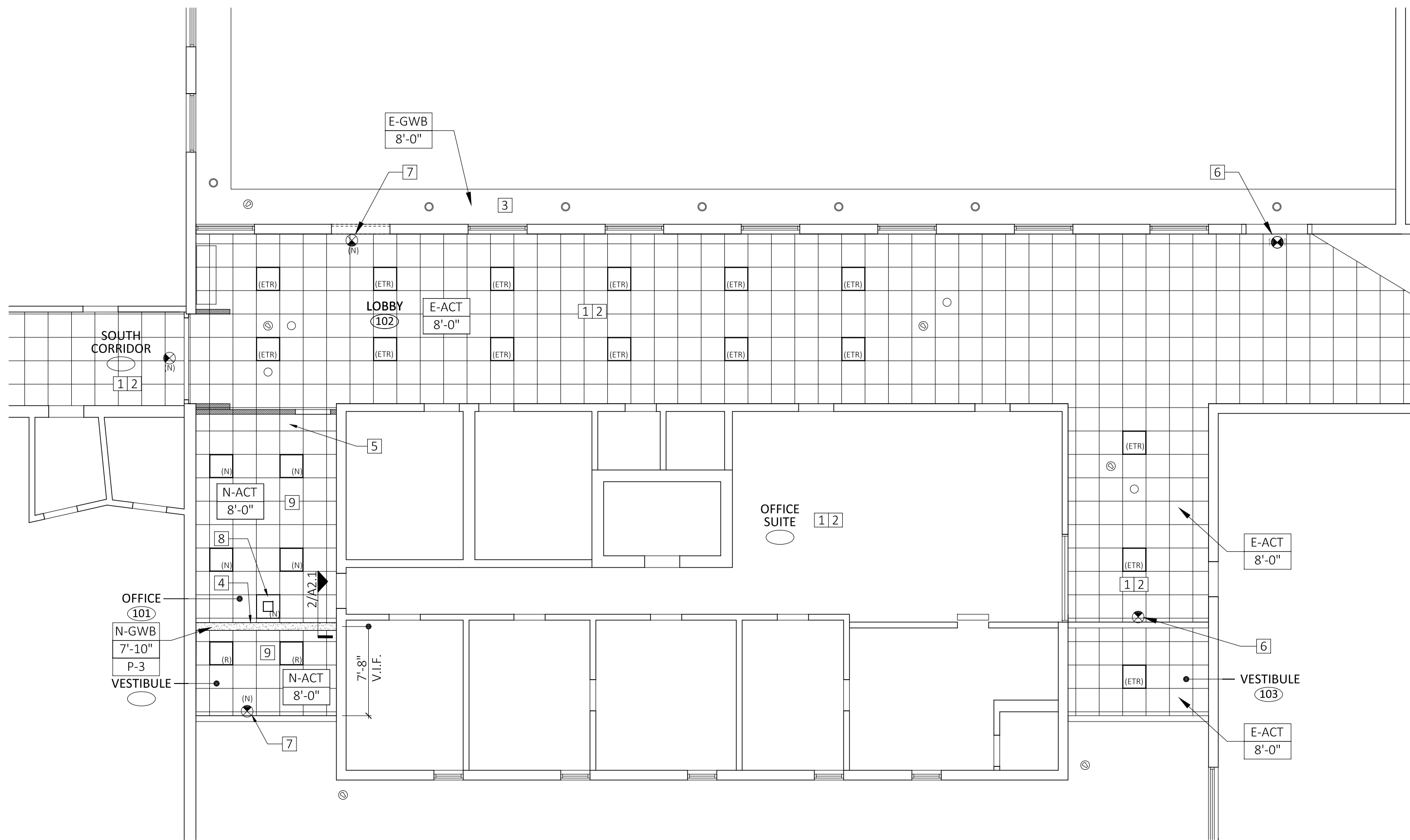


281 Farmington Avenue  
Farmington, CT 06032

SHEET NO.  
A1.1



2 SOFFIT DETAIL  
SCALE: 1-1/2" = 1'-0"



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

### REFLECTED CEILING LEGEND

|       |                                         |       |                                                        |
|-------|-----------------------------------------|-------|--------------------------------------------------------|
| C-X   | CEILING TYPE                            | ☒     | SUPPLY DIFFUSER;<br>REF: MEP DRAWINGS                  |
| X'-X" | CEILING HEIGHT                          | ☐     | RETURN DIFFUSER;<br>REF: MEP DRAWINGS                  |
| □     | 2 X 2 LIGHT FIXTURE                     | ➡     | EXIT SIGN WITH DIRECTIONAL<br>ARROW; REF: MEP DRAWINGS |
| ○     | RECESSED LIGHT FIXTURE                  | (ETR) | = EXISTING TO REMAIN                                   |
| ○     | CEILING EQUIPMENT;<br>REF: MEP DRAWINGS | (R)   | = RELOCATED FIXTURE                                    |
| ⊙     | SECURITY CAMERA                         | (N)   | = NEW                                                  |

### CEILING TYPE SCHEDULE

|       |                                                        |
|-------|--------------------------------------------------------|
| E-ACT | EXISTING ACT CEILING                                   |
| E-GWB | EXISTING GWB SOFFIT                                    |
| N-GWB | NEW GWB SOFFIT                                         |
| N-ACT | NEW ACOUSTICAL TILES INSTALLED<br>WITHIN EXISTING GRID |

### GENERAL CEILING NOTES

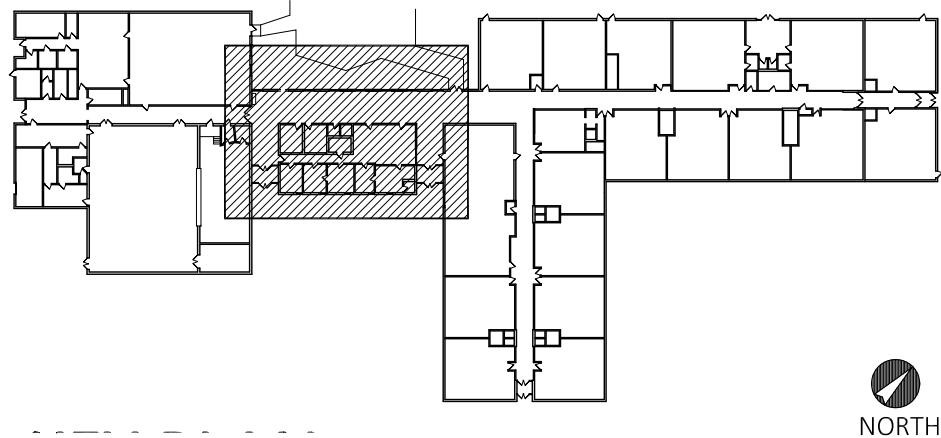
- FIELD VERIFY ALL CEILING HEIGHTS PRIOR TO START OF WORK; COORDINATE WITH INSTALLATION OF NEW CEILING FIXTURES, DUCTWORK AND EXISTING STRUCTURE.
- NOTIFY ARCHITECT OF ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND WHAT IS REPRESENTED IN DRAWINGS
- REFER TO ELECTRICAL DRAWINGS FOR LIGHTING FIXTURE TYPES, REQUIRED WORK AND FOR OTHER CEILING MOUNTED EQUIPMENT NOT INDICATED ON THESE DRAWINGS.
- REFER TO MECHANICAL DRAWINGS FOR DIFFUSER TYPES, REQUIRED WORK AND FOR OTHER CEILING MOUNTED EQUIPMENT NOT INDICATED ON THESE DRAWINGS.
- WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALE ON THE CONSTRUCTION DOCUMENTS; DO NOT SCALE DRAWINGS
- CONFIRM ALL POWER REQUIREMENTS AND LOCATIONS FOR ALL LIGHTING AS REQUIRED, PRIOR TO START OF WORK
- REF: MEP DRAWINGS FOR EMERGENCY LIGHTING LOCATIONS
- ALL LIGHTS ARE EXISTING TO REMAIN OR BE RELOCATED, U.O.N.
- REF: FINISH LEGEND A3.1 FOR FINISH INFORMATION, TYP.

### KEY NOTES

# (KEYED ON PLANS)

- ADJACENT SPACE N.I.C.; NO WORK THIS AREA, U.O.N.
- EXISTING CEILING AND FIXTURES TO REMAIN, U.O.N.; REF: MEP FOR INFORMATION REGARDING RELOCATED AND NEW FIXTURES AT NEW OFFICE AREA
- EXISTING EXTERIOR SOFFIT AND FIXTURES TO REMAIN; PROTECT DURING CONSTRUCTION
- NEW GWB SOFFIT INFILL AT LOCATION OF DEMOLISHED STOREFRONT; SOFFIT TO BE PAINTED ON ALL EXPOSED SURFACES
- INFILL ACT SYSTEM TO MATCH EXISTING ADJACENT, AS REQUIRED DUE TO DEMOLITION
- EXISTING EXIT SIGN TO REMAIN; VERIFY SIGN MEETS ALL CURRENT CODES; REF: MEP DRAWINGS
- NEW OR RELOCATED EXIT SIGN; REF: MEP DRAWINGS FOR INFORMATION, TYPE AND SPECIFICATIONS
- NEW HVAC UNIT AT CEILING; REF: MECHANICAL DRAWINGS
- NEW ACOUSTICAL CEILING TILES TO MATCH EXISTING IN TYPE, STYLE AND COLOR, INSTALLED WITHIN EXISTING CEILING GRID

### KEY PLAN



|              |              |
|--------------|--------------|
| DATE:        | 03.03.17     |
| DRAWN BY:    | LLB          |
| SCALE:       | 1/8" = 1'-0" |
| REVIEWED BY: | RWR          |
| PROJECT NO.  | 2016-077a    |

| NO. | DATE     | DESCRIPTION    |
|-----|----------|----------------|
|     | 03.27.17 | ISSUED FOR BID |

## PARTIAL FIRST FLOOR

## CEILING PLAN & DETAILS

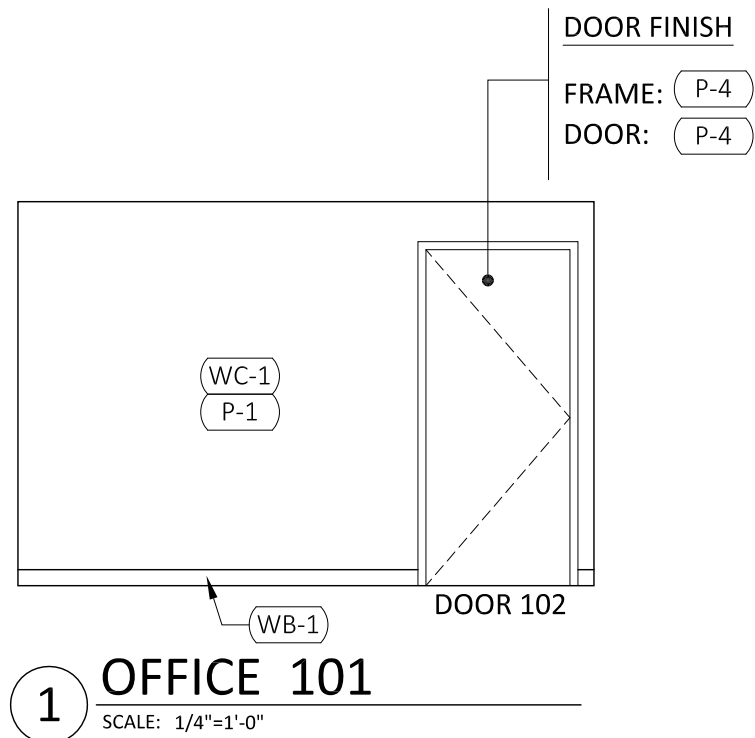
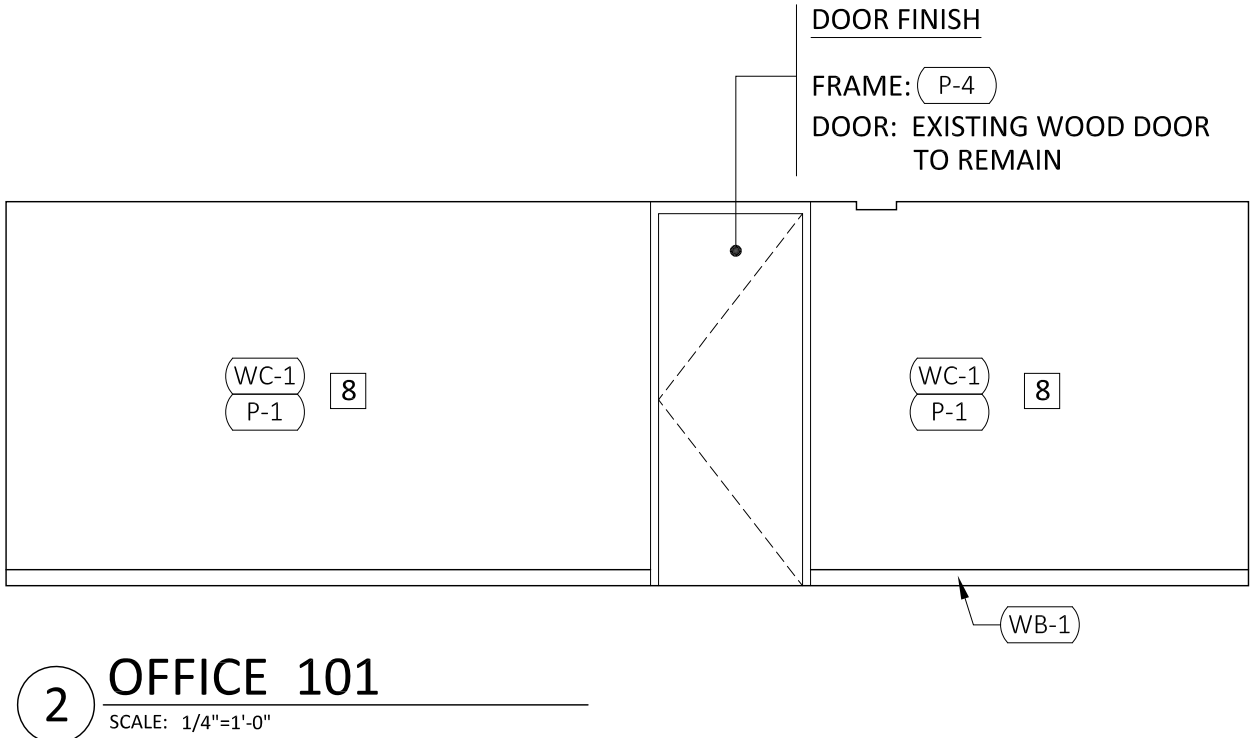
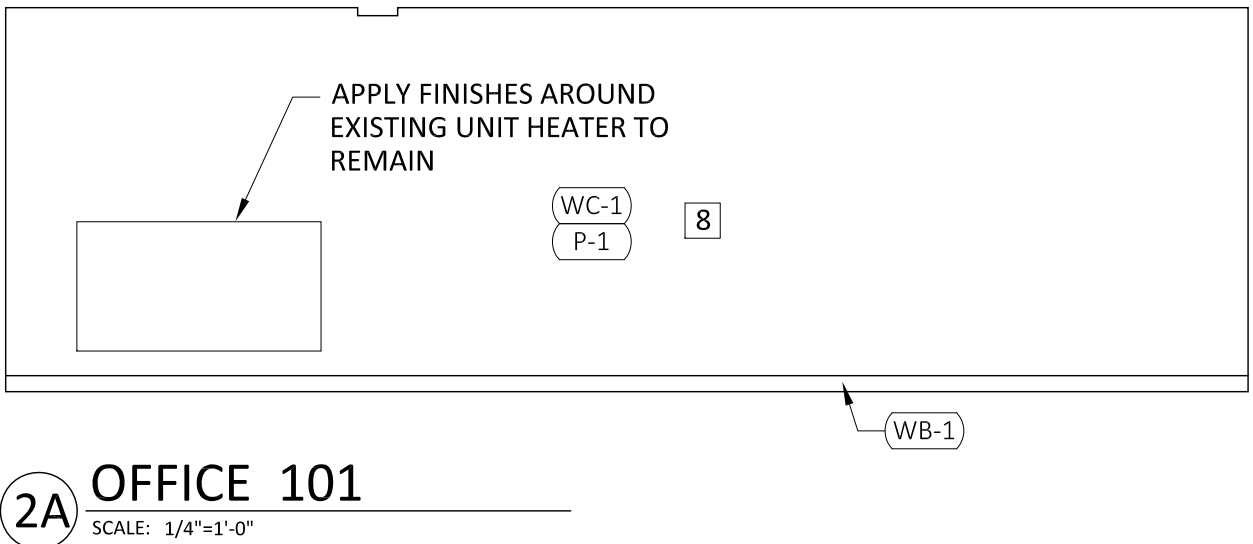
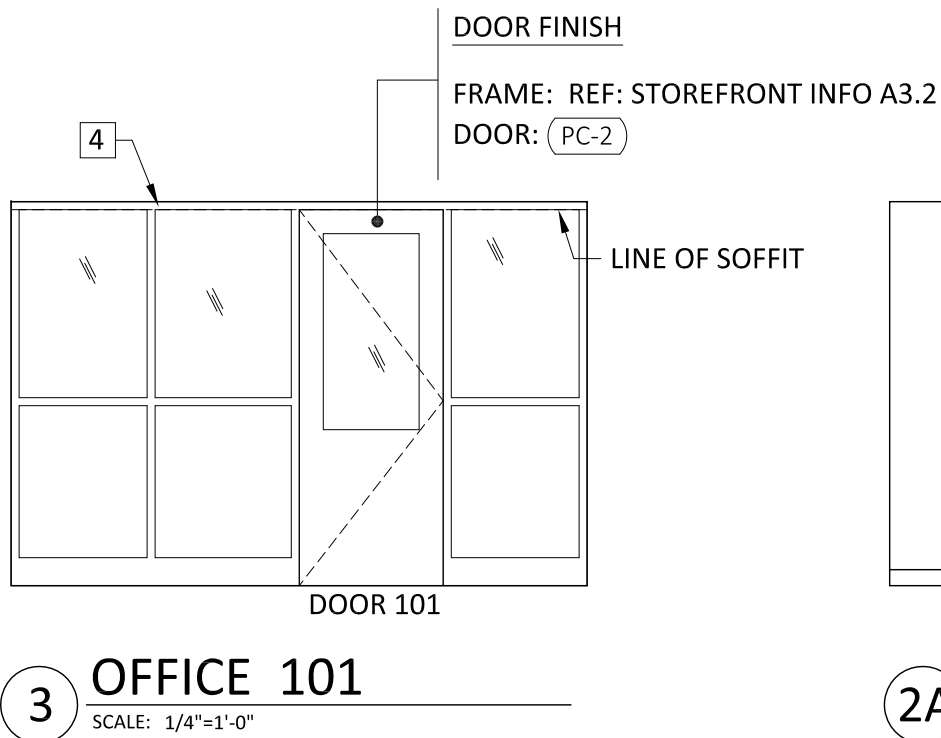
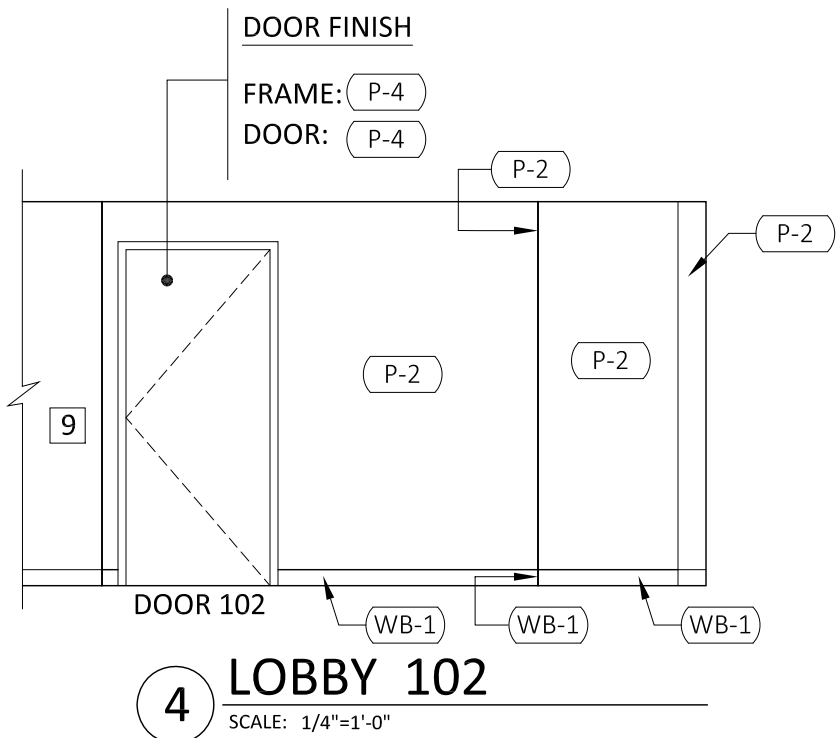
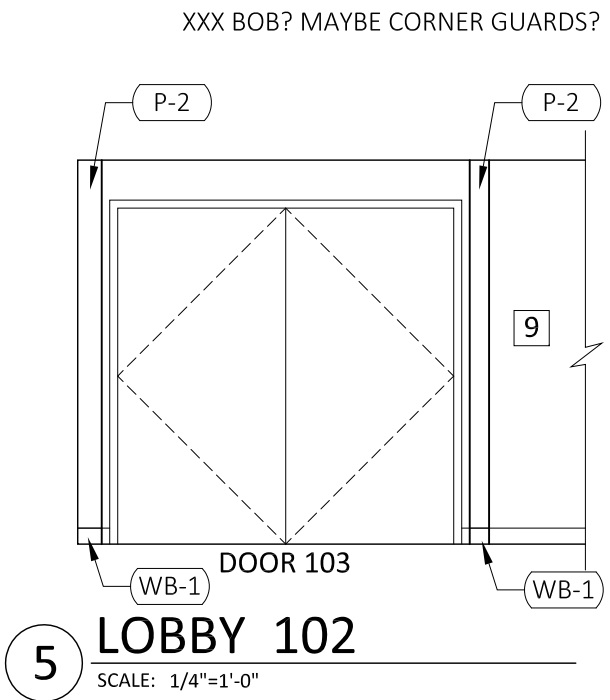
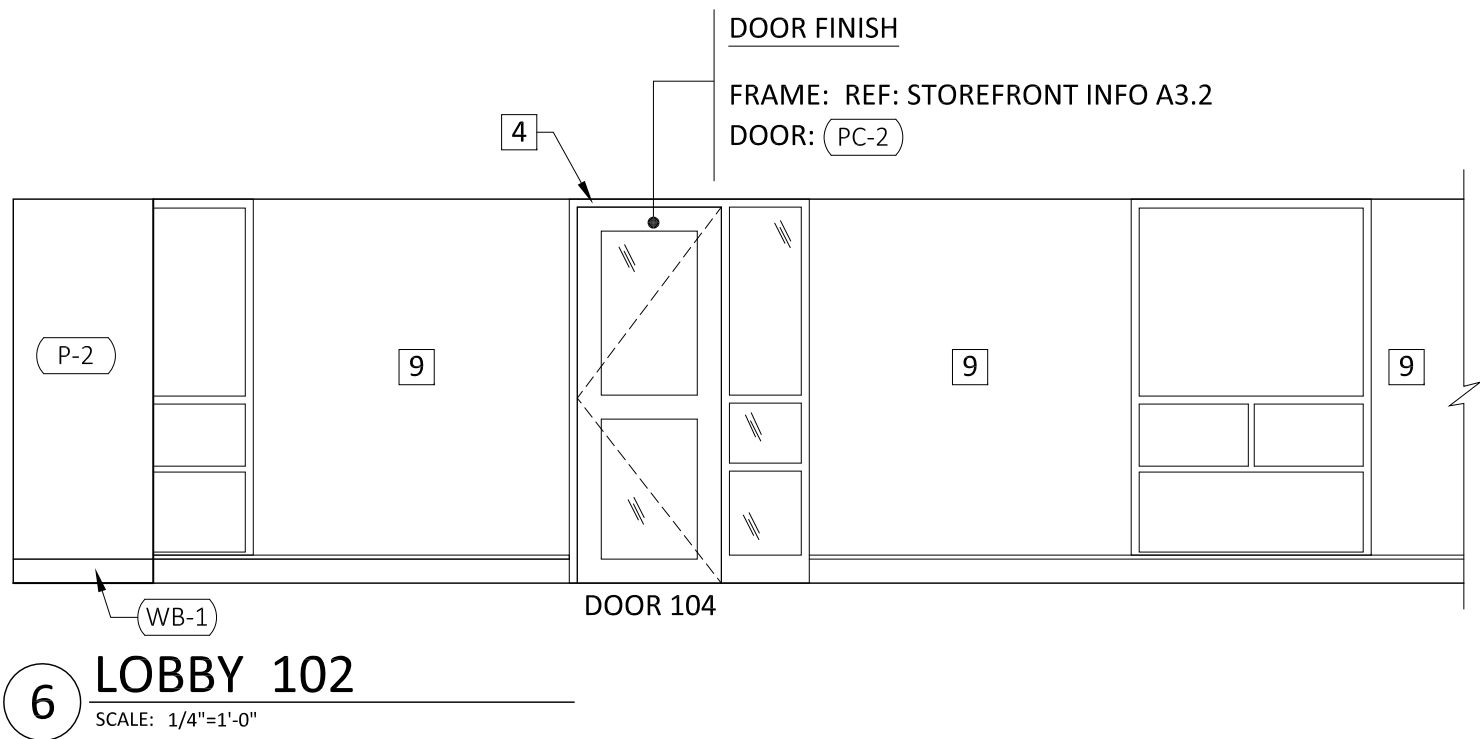
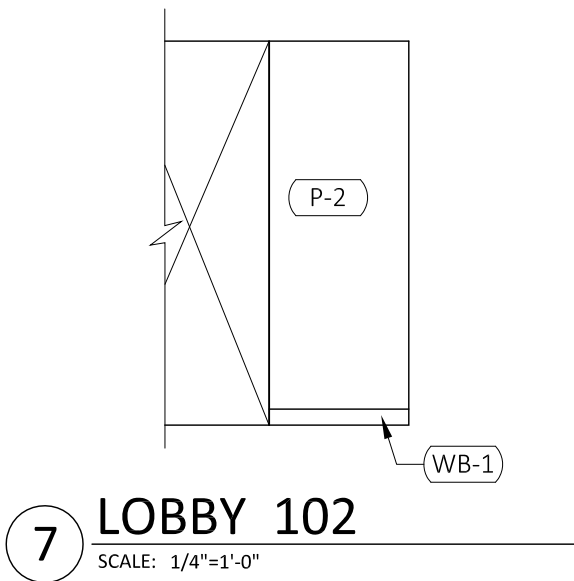
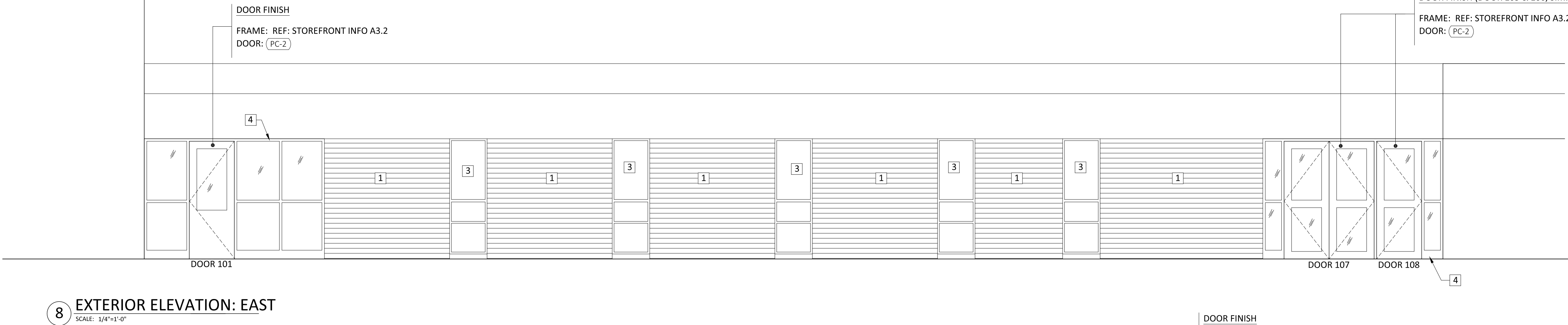
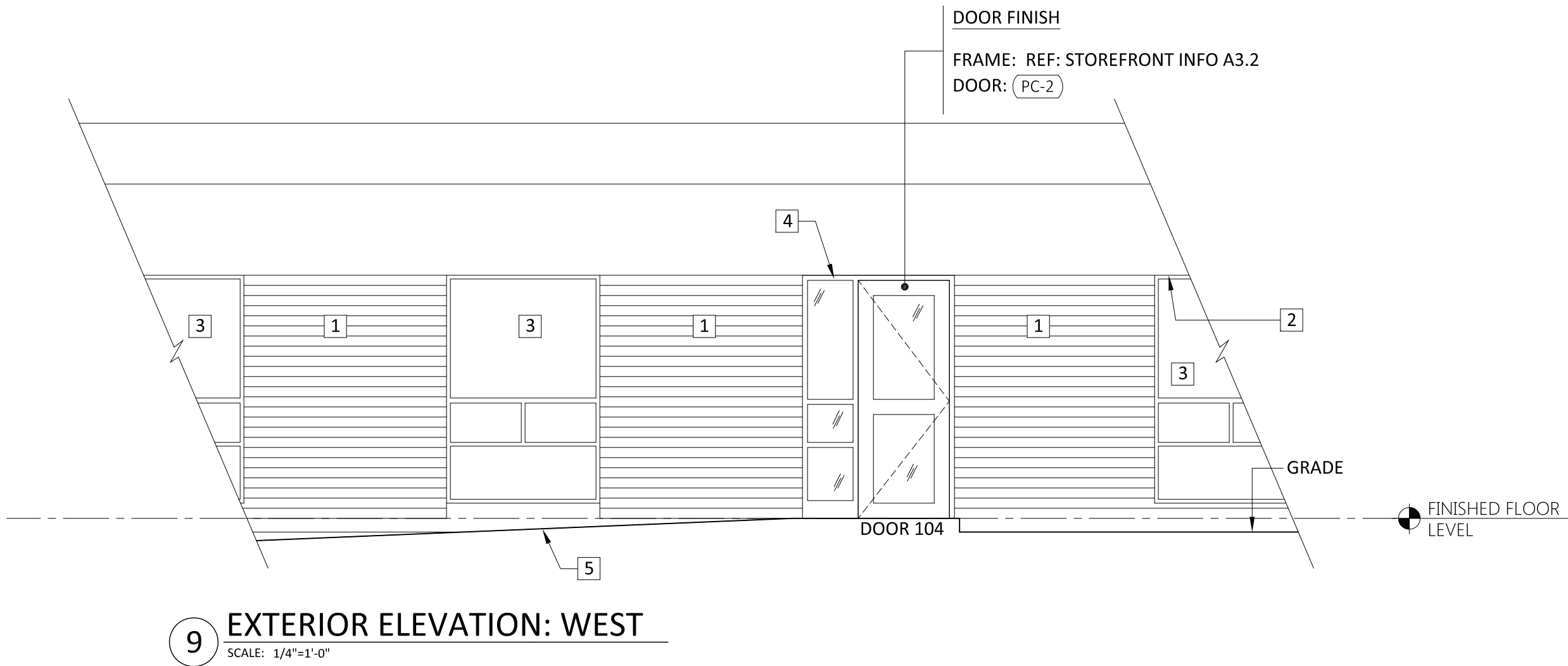
OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

ARCHITECT'S SEAL



281 Farmington Avenue  
Farmington, CT 06032

SHEET NO.  
A2.1



| FINISH LEGEND (##-#) (KEYED ON DRAWING) |                                                                                                                                                                                                                                                                                              | KEY NOTES # (KEYED ON DRAWING)                                                                                                                                                                                                |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PAINT                                   | P-1: MANUFACTURER: SHERWIN WILLIAMS<br>COLOR: NAVAJO WHITE<br>FINISH: SEMI-GLOSS<br>SHERWIN-WILLIAMS PRO GREEN 200 OR EQUAL;<br>GLOSS LEVEL 5; TO MEET MPI #54                                                                                                                               | WALLCOVERING<br>WC-1: MANUFACTURER: FLEXI-WALL SYSTEMS<br>TYPE: FASTER PLASTER<br>WALL LINER 605                                                                                                                              |
|                                         | P-2: MANUFACTURER: SHERWIN WILLIAMS<br>COLOR: NAVAJO WHITE<br>FINISH: GLOSS<br>SHERWIN-WILLIAMS PRO INDUSTRIAL OR EQUAL;<br>GLOSS LEVEL 6, EXCEPT MIN GLOSS OF 65 UNITS<br>AT 60 DEGREES; TO MEET MPI #114                                                                                   |                                                                                                                                                                                                                               |
|                                         | P-3: MANUFACTURER: SHERWIN WILLIAMS<br>COLOR: SW 7757 HIGH REFLECTIVE WHITE<br>FINISH: FLAT<br>LOCATION: SOFFIT<br>SHERWIN-WILLIAMS PROMAR 200 ZERO VOC<br>INTERIOR LATEX FLAT WALL PAINT, 830-2600 SERIES;<br>APPLIED AT A DRY FILM THICKNESS OF NOT LESS<br>THAN 1.6 MILS; TO MEET MPI #53 |                                                                                                                                                                                                                               |
|                                         | P-4: MANUFACTURER: SHERWIN WILLIAMS<br>COLOR: SW 9089 LLAMA WOOL<br>FINISH: SEMI-GLOSS<br>LOCATION: DOORS AND FRAMES                                                                                                                                                                         |                                                                                                                                                                                                                               |
| POWDER COAT                             | PC-1: KAWNEER PERMACOAT POWDER COAT FINISH<br>COLOR: TBD (NEUTRAL BEIGE TO MATCH EXISTING)<br>GLOSS: STANDARD                                                                                                                                                                                | FLOOR COVERING<br>VCT-1: MANUFACTURER: MANNINGTON<br>TYPE: COLORPOINT<br>COLOR: 641 NATURAL WHITE                                                                                                                             |
|                                         | PC-2: KAWNEER PERMACOAT POWDER COAT FINISH<br>COLOR: TO MATCH SHERWIN WILLIAMS<br>SHOWSTOPPER 7588<br>GLOSS: STANDARD                                                                                                                                                                        |                                                                                                                                                                                                                               |
|                                         |                                                                                                                                                                                                                                                                                              | VINYL WALL BASE<br>WB-1: MANUFACTURER: ROPPE<br>TYPE: 4" COVE<br>COLOR: 193 BLACK/BROWN                                                                                                                                       |
|                                         |                                                                                                                                                                                                                                                                                              | GENERAL FINISH NOTES                                                                                                                                                                                                          |
|                                         |                                                                                                                                                                                                                                                                                              | 1. EXISTING BRICK TO REMAIN, TYP.                                                                                                                                                                                             |
|                                         |                                                                                                                                                                                                                                                                                              | 2. EXISTING SOFFIT                                                                                                                                                                                                            |
|                                         |                                                                                                                                                                                                                                                                                              | 3. EXISTING WINDOW TO REMAIN                                                                                                                                                                                                  |
|                                         |                                                                                                                                                                                                                                                                                              | 4. NEW STOREFRONT SYSTEM; REF: SHEET A3.2 FOR STOREFRONT FINISH INFORMATION, TYP.                                                                                                                                             |
|                                         |                                                                                                                                                                                                                                                                                              | 5. NEW CONCRETE WALKWAY                                                                                                                                                                                                       |
|                                         |                                                                                                                                                                                                                                                                                              | 6. REF: FLOOR PLAN FOR PAINTED/VINYL DOOR NUMBERING INFORMATION                                                                                                                                                               |
|                                         |                                                                                                                                                                                                                                                                                              | 7. NOT USED                                                                                                                                                                                                                   |
|                                         |                                                                                                                                                                                                                                                                                              | 8. WALL TO RECEIVE (1) LAYER WC-1 (FLEXI-WALL/WALL LINER 605) APPLIED DIRECTLY OVER EXISTING BRICK WITH MANUFACTURER RECOMMENDED ADHESIVE. WALL LINER TO BE PAINTED. REF: FINISH SCHEDULE & ELEVATIONS FOR FINISH INFORMATION |
|                                         |                                                                                                                                                                                                                                                                                              | 9. EXISTING FINISH TO REMAIN                                                                                                                                                                                                  |

INTERIOR & EXTERIOR  
ELEVATIONS AND FINISHES

OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

ARCHITECT'S SEAL

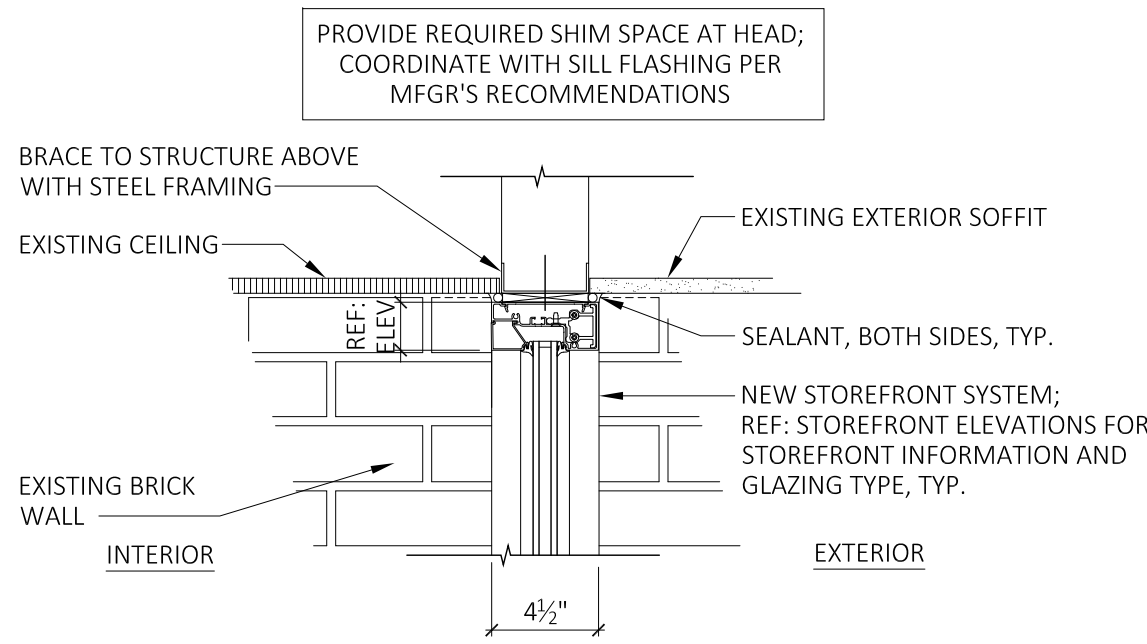


SHEET NO.  
A3.1

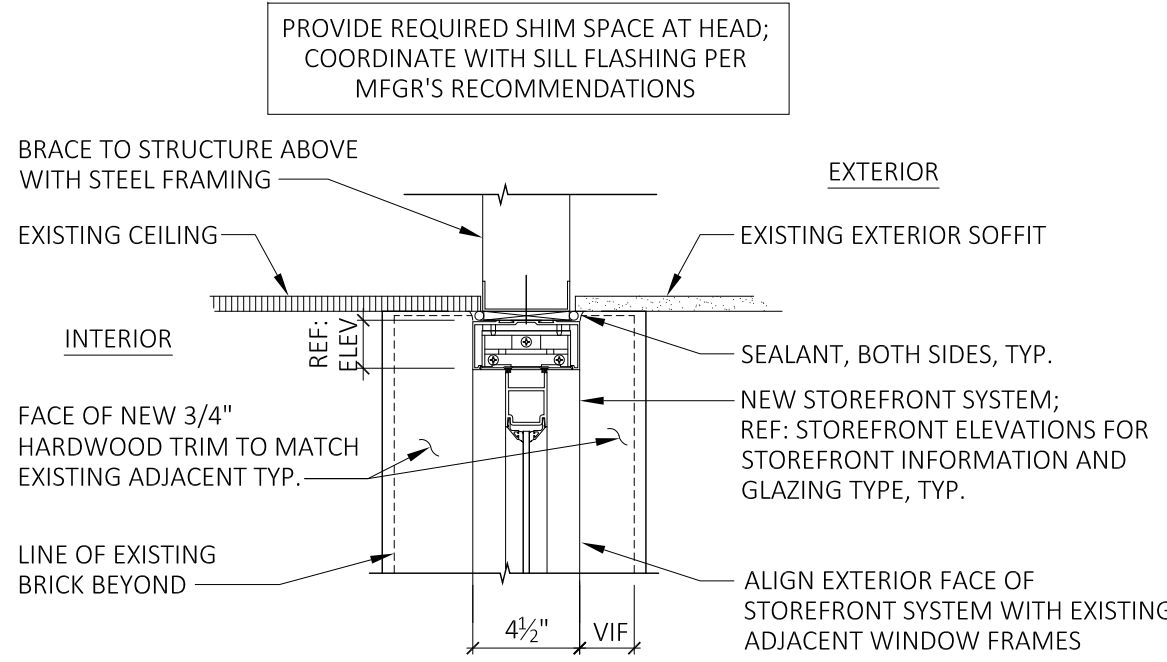
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|                       | 03.27.17 |                  |             |
| DATE: 03.03.17        |          | DRAWN BY: LJB    |             |
| SCALE: AS NOTED       |          | REVIEWED BY: RWR |             |
| PROJECT NO. 2016-077a |          |                  |             |

DOOR HARDWARE NOTES

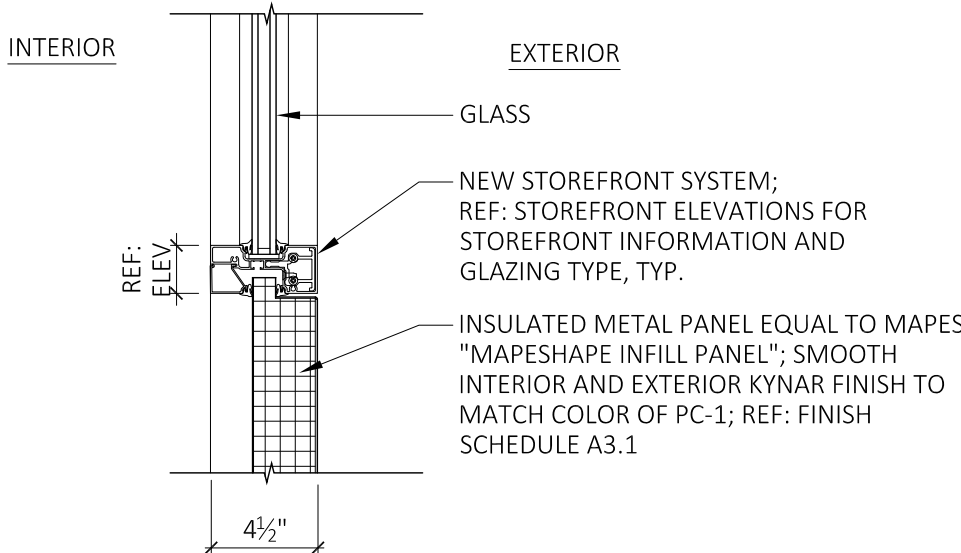
- DOOR HARDWARE SUPPLIER/MANUFACTURER MUST PROVIDE SUFFICIENT REINFORCING FOR ALL DOOR HARDWARE.
- INSTALLERS SHALL MAKE ANY FINAL ADJUSTMENTS TO ASSURE THE SMOOTH OPERATION OF THE DOOR & DOOR HARDWARE
- CONTRACTOR TO COORDINATE DOOR HARDWARE/ LOCKSMITH CONTRACTOR TO UPDATE EXISTING DOOR HARDWARE FOR OWNER AS REQUIRED FOR ART ROOM A01. KEY WAY TO MATCH OWNER'S KEYING SYSTEM
- DOOR HARDWARE BY SARGENT COMMERCIAL DOOR HARDWARE (ASSA ABLOY)
- MEDECO LOCK CYLINDERS ON MANCHESTER BOARD OF ED KEYING SYSTEM - #A00257. AVAILABLE FROM MANCHESTER SAFE & LOCK, MAIN STREET MANCHESTER, CT.
- DOOR CLOSER TO BE: SARGENT COMMERCIAL DOOR HARDWARE (ASSA ABLOY) - SARGENT 281 POWERGLIDE ADJUSTABLE CAST IRON DOOR CLOSER UO; UNIVERSAL ARM PACKAGE, TOP JAMB MOUNTED, FINISH TO BE DETERMINED.
- KICKPLATE TO BE ARMOUR PLATE BY ROCKWOOD INDUSTRIES
- DOOR STOP TO BE: WALL MOUNTED CONCAVE DOOR STOP BY ROCKWOOD MANUFACTURING
- ALL EXTERIOR DOORS TO RECEIVE GASKETING: S88D BY PEMKO MANUFACTURING CO. INC.
- DOOR BOTTOM TO BE: 412\_PKL 36 BY PEMKO MANUFACTURING CO., INC. FOR 60 MINUTE FIRE RATED DOOR
- DOOR SILENCERS TO BE: TYPICAL BY ROCKWOOD MANUFACTURING
- FINISHES FOR DOOR HARDWARE TO BE DETERMINED, ALL FINISHES TO MATCH.
- DOOR HARDWARE SUPPLIER/MANUFACTURER MUST PROVIDE SUFFICIENT REINFORCING FOR ALL DOOR HARDWARE
- CONTRACTOR TO COORDINATE WITH DOOR HARDWARE/LOCKSMITH CONTRACTOR TO UPDATE EXISTING DOOR HARDWARE FOR OWNER, AS REQUIRED



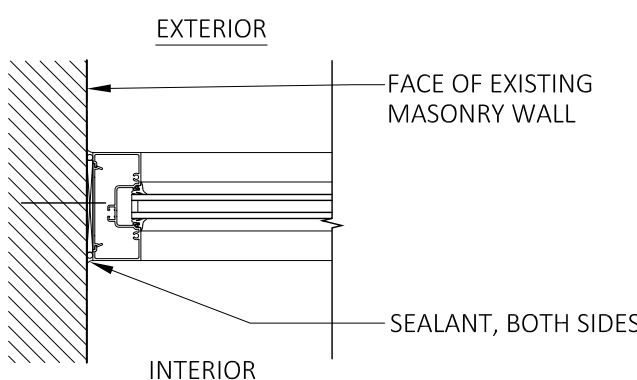
8 SF HEAD DETAIL  
SCALE: 1-1/2"=1'-0"



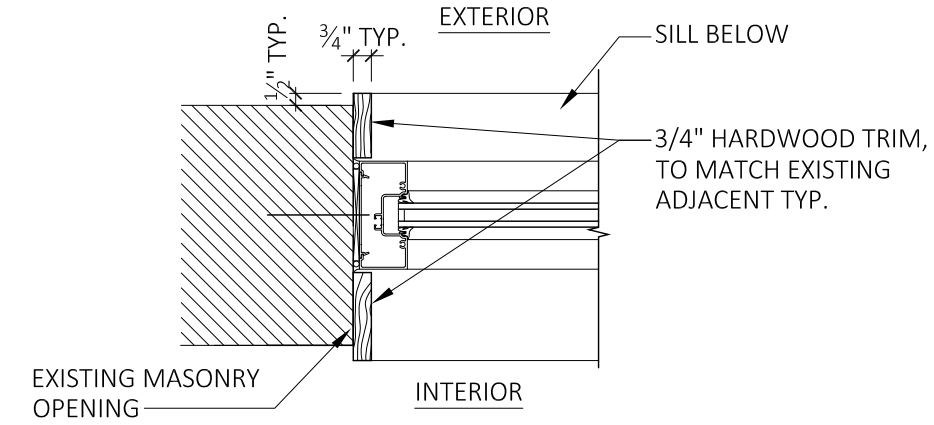
5 SF HEAD DETAIL AT DOOR  
SCALE: 1-1/2"=1'-0"



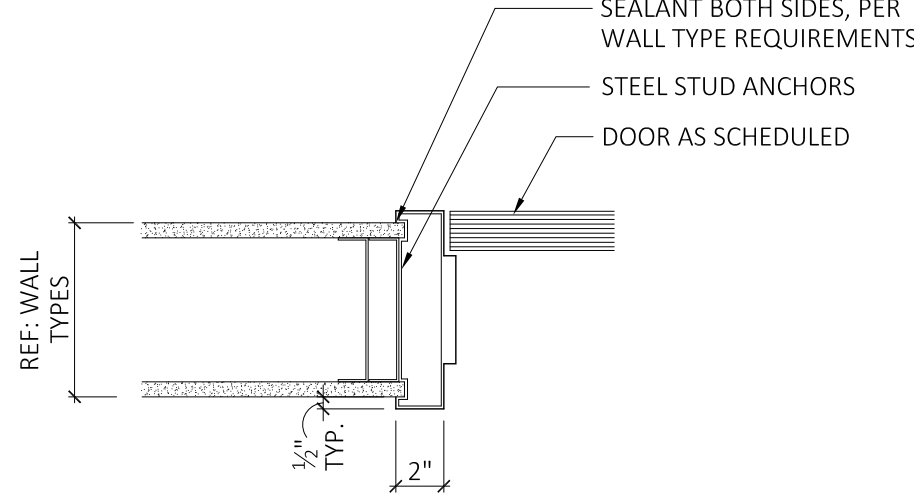
9 SF HORIZ DETAIL @ PANEL  
SCALE: 1-1/2"=1'-0"



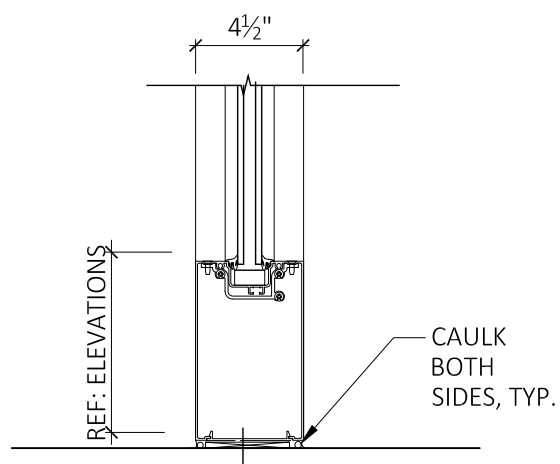
7 SF JAMB DETAIL  
SCALE: 1-1/2"=1'-0"



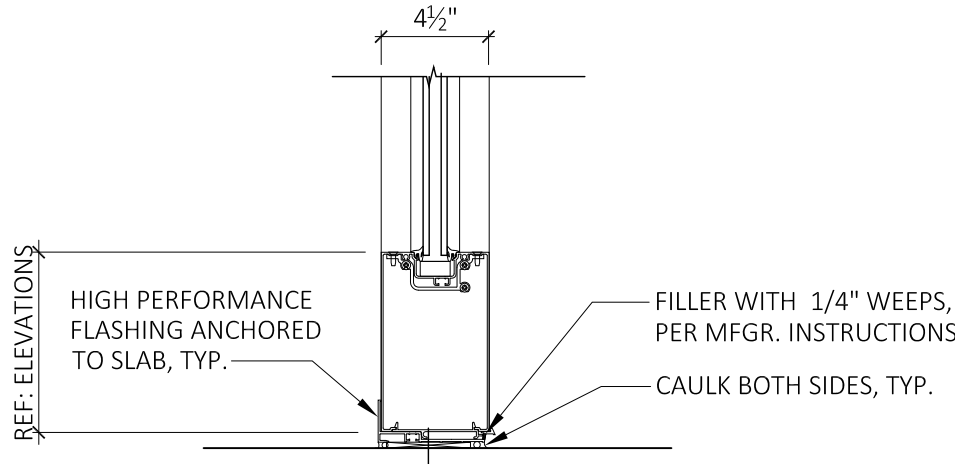
4 SF JAMB DETAIL  
SCALE: 1-1/2"=1'-0"



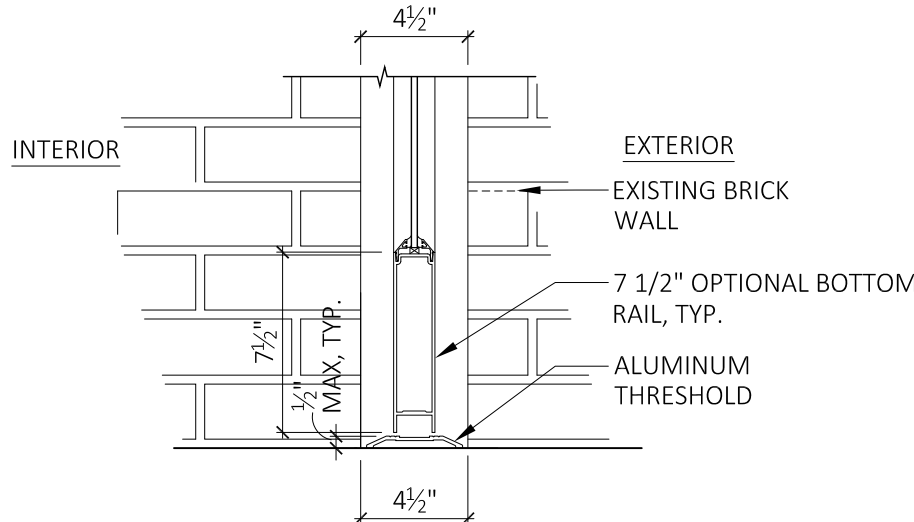
2 HM DOOR JAMB  
SCALE: 1-1/2"=1'-0"



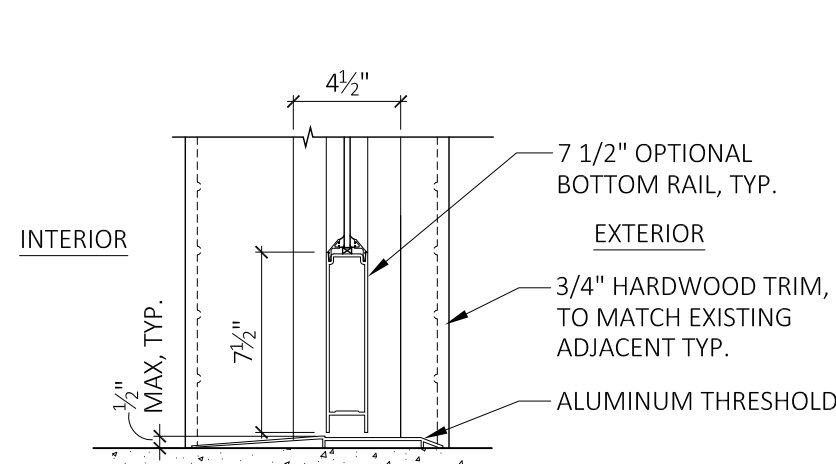
11 SF TYP. SILL DETAIL  
SCALE: 1-1/2"=1'-0"



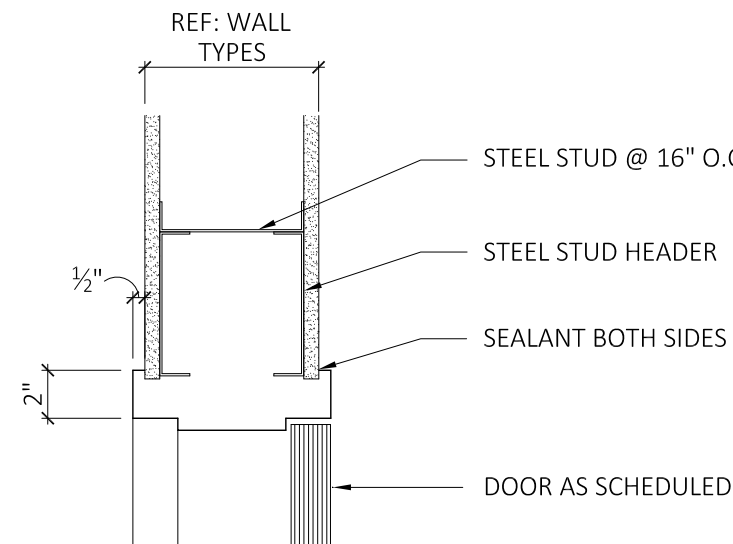
10 SF TYP. SILL DETAIL  
SCALE: 1-1/2"=1'-0"



6 SF THRESHOLD DETAIL  
SCALE: 1-1/2"=1'-0"



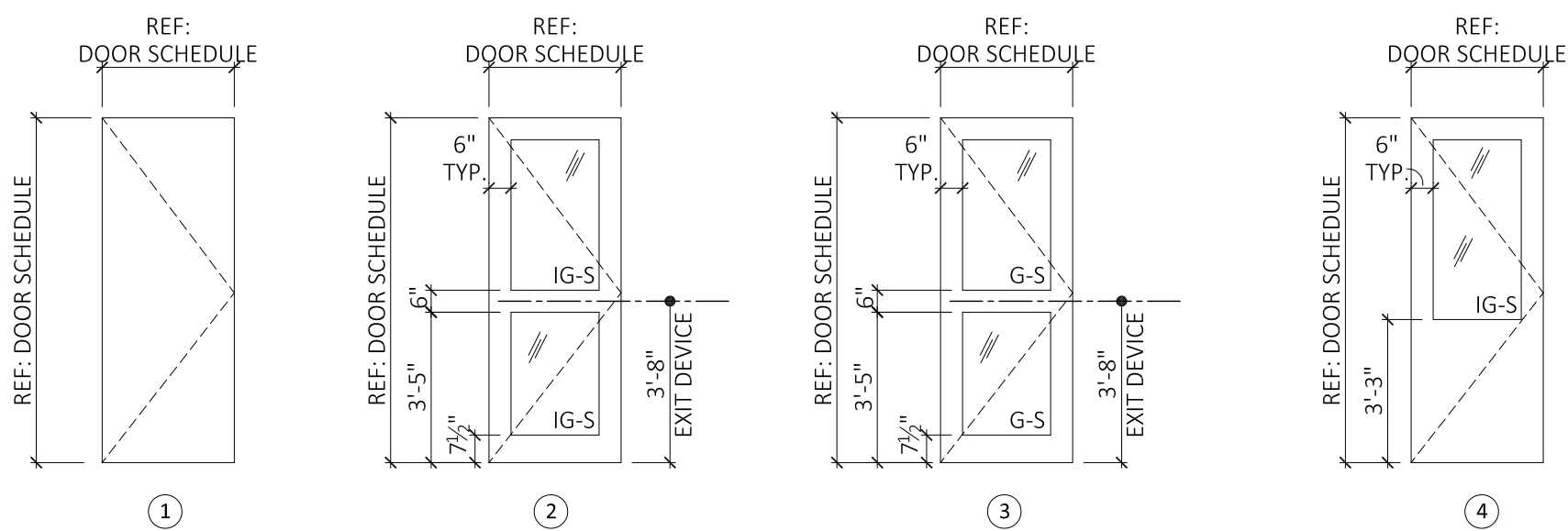
3 SF THRESHOLD DETAIL  
SCALE: 1-1/2"=1'-0"



1 HM DOOR HEAD  
SCALE: 1-1/2"=1'-0"

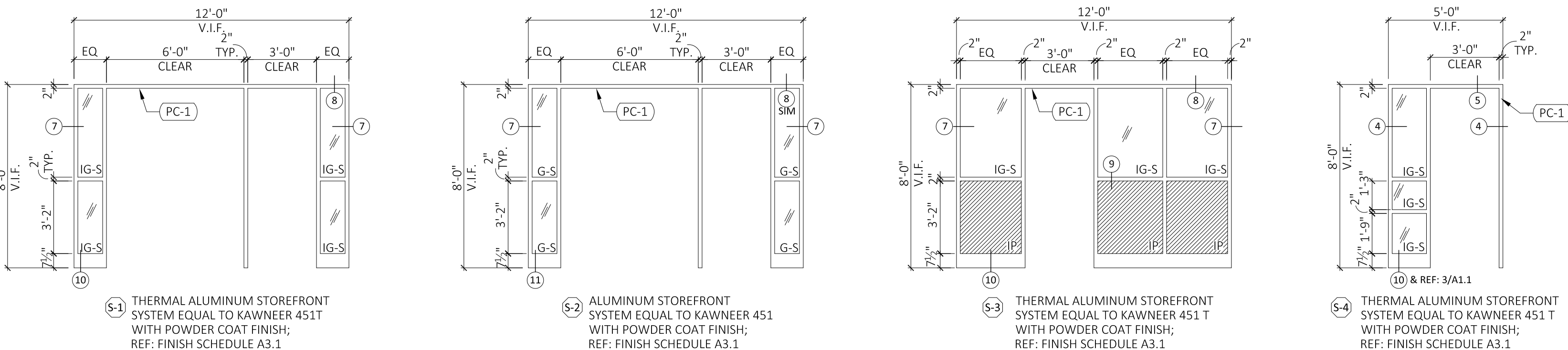
DOOR ELEVATIONS

REF: DOOR SCHEDULE AND ELEVATIONS



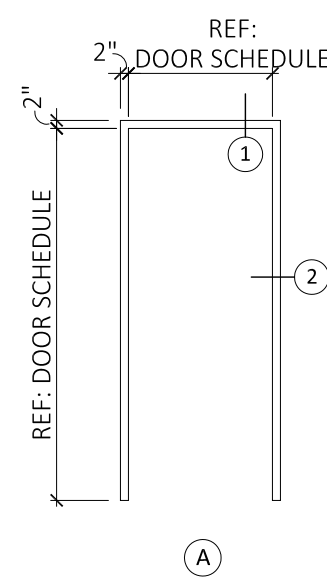
ALUMINUM STOREFRONT ELEVATIONS

REF: FLOOR PLAN AND DOOR SCHEDULE



FRAME ELEVATIONS

REF: FLOOR PLAN AND DOOR SCHEDULE



DOOR SCHEDULE

| DOOR NUMBER | DESCRIPTION OF WORK             |                            | DOOR                     |                       | FRAME            |             |            |             | FIRE RATING (DOOR & FRAME, MINUTES) | HARDWARE-SEE SPECIFICATIONS |               |               |             |                                |                        |               |             |                            |                       | NOTES |               |                 |                                       |                                     |
|-------------|---------------------------------|----------------------------|--------------------------|-----------------------|------------------|-------------|------------|-------------|-------------------------------------|-----------------------------|---------------|---------------|-------------|--------------------------------|------------------------|---------------|-------------|----------------------------|-----------------------|-------|---------------|-----------------|---------------------------------------|-------------------------------------|
|             |                                 |                            |                          |                       |                  |             |            |             |                                     | FIRE CODE                   |               | ACCESSIBILITY |             |                                |                        | DOOR CONTACTS |             |                            |                       |       |               |                 |                                       |                                     |
|             |                                 |                            |                          |                       |                  |             |            |             |                                     |                             |               |               |             |                                |                        |               |             |                            |                       |       |               |                 |                                       |                                     |
|             | EXISTING DOOR & FRAME TO REMAIN | DOOR & FRAME TO BE REMOVED | EXISTING FRAME, NEW DOOR | NEW FRAME, REUSE DOOR | NEW DOOR & FRAME | DOUBLE DOOR | DOOR WIDTH | DOOR HEIGHT |                                     | TYPE/MATERIAL               | TYPE/MATERIAL | HEAD DETAIL   | JAMB DETAIL | PANIC RELEASE LATCH            | AUTOMATIC HOLD/RELEASE | SPRING HINGE  | AUTO CLOSER | POSITIVE LATCHING HARDWARE | DELAYED ACTION CLOSER |       | LEVER HANDLES | TACTILE WARNING | 7" HIGH SS KICK PLATE @ INTERIOR SIDE | H.C. ACCESSIBLE THRESHOLD           |
| 101         |                                 |                            |                          | X                     | 3'-0"            | 7'-10"      | 4/ALUM     | S-3/ALUM    | 8/A3.2                              | 7/A3.2                      |               | 6/A3.2        | ●           |                                |                        | ●             | ●           |                            |                       |       | ●             | ●               | ●                                     | EXTERIOR DOOR                       |
| 102         |                                 |                            |                          | X                     | 3'-0"            | 7'-0"       | 1/HM       | A/HM        | 1/A3.2                              | 2/A3.2                      | 45            | NOTED         |             |                                |                        | ●             | ●           |                            | ●                     |       |               | ●               | ●                                     | RUBBER THRESHOLD TO MATCH NEW VCT   |
| 103         | X                               |                            |                          |                       | X                | 7'-0"       | 7'-0"      | EXTG        | EXTG                                | EXTG                        | EXTG          | 90            | EXTG        | EXISTING HARDWARE TO BE REUSED |                        |               |             |                            |                       |       |               |                 |                                       | EXISTING DOOR, SWING TO BE REVERSED |
| 104         |                                 |                            |                          | X                     | 3'-0"            | 7'-10"      | 2/ALUM     | S-4/ALUM    | 5/A3.2                              | 4/A3.2                      |               | 3/A3.2        | ●           |                                |                        | ●             | ●           |                            |                       |       | ●             | ●               | ●                                     | EXTERIOR DOOR                       |
| 105         |                                 |                            |                          | X                     | X                | 6'-0"       | 7'-10"     | 3/ALUM      | S-2/ALUM                            | 8/A3.2 SIM                  | 7/A3.2        |               | 6/A3.2      |                                |                        | ●             | ●           |                            |                       |       | ●             | ●               | ●                                     |                                     |
| 106         |                                 |                            |                          | X                     | 3'-0"            | 7'-10"      | 3/ALUM     | S-2/ALUM    | 8/A3.2 SIM                          | 7/A3.2                      |               | 6/A3.2        | ●           |                                |                        | ●             | ●           |                            |                       |       | ●             | ●               | ●                                     |                                     |
| 107         |                                 |                            |                          | X                     | X                | 6'-0"       | 7'-10"     | 2/ALUM      | S-1/ALUM                            | 8/A3.2                      | 7/A3.2        |               | 6/A3.2      |                                |                        | ●             | ●           |                            |                       |       | ●             | ●               | ●                                     | EXTERIOR DOOR                       |
| 108         |                                 |                            |                          | X                     | 3'-0"            | 7'-10"      | 2/ALUM     | S-1/ALUM    | 8/A3.2                              | 7/A3.2                      |               | 6/A3.2        | ●           |                                |                        | ●             | ●           |                            |                       |       | ●             | ●               | ●                                     | EXTERIOR DOOR                       |

ABBREVIATIONS

|      |              |
|------|--------------|
| ALUM | ALUMINUM     |
| HM   | HOLLOW METAL |
| WD   | WOOD         |
| EXTG | EXISTING     |
| SF   | STOREFRONT   |

GENERAL NOTES

- VERIFY DIMENSIONS IN FIELD, PRIOR TO FABRICATION.
- ALL SAFETY GLAZING SHALL BE PROVIDED AS INDICATED ON THESE DRAWINGS, AND AS REQUIRED BY CODE; SAFETY GLAZING SHALL BE LABELED AND SHALL MEET THE REQUIREMENTS OF IBC SECTION 2406.
- STOREFRONT TO BE INSTALLED PER MANUFACTURER INSTRUCTIONS, BY A CERTIFIED INSTALLER.
- REFERENCE ELEVATIONS A3.1 FOR ADDITIONAL DOOR AND FRAME FINISH INFORMATION

GLAZING SCHEDULE

NOTE: GLAZING COLORS TO MATCH EXISTING, TYP.

|      |                                                                                                      |
|------|------------------------------------------------------------------------------------------------------|
| G    | 1/4" GLASS                                                                                           |
| G-S  | 1/4" SAFETY GLASS                                                                                    |
| IG   | 1" INSULATING GLASS                                                                                  |
| IG-S | 1" INSULATING SAFETY GLASS                                                                           |
| IP   | 1" INSULATED METAL PANEL, REF: 9/A3.2 FOR PANEL INFO. COLOR TO MATCH PC-1; REF: FINISH SCHEDULE A3.1 |

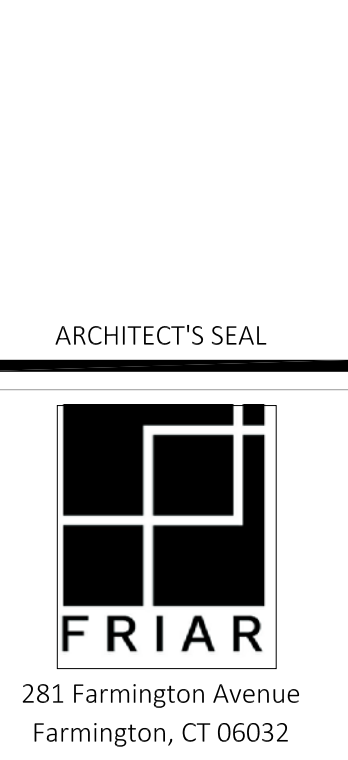
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| DRAWN BY:    |           | AS NOTED |  |
| SCALE:       |           |          |  |
| REVIEWED BY: |           | RWR      |  |
| PROJECT NO.  | 2016-077a |          |  |

| NO. | REVISIONS |                |
|-----|-----------|----------------|
|     | DATE      | DESCRIPTION    |
|     | 03.27.17  | ISSUED FOR BID |

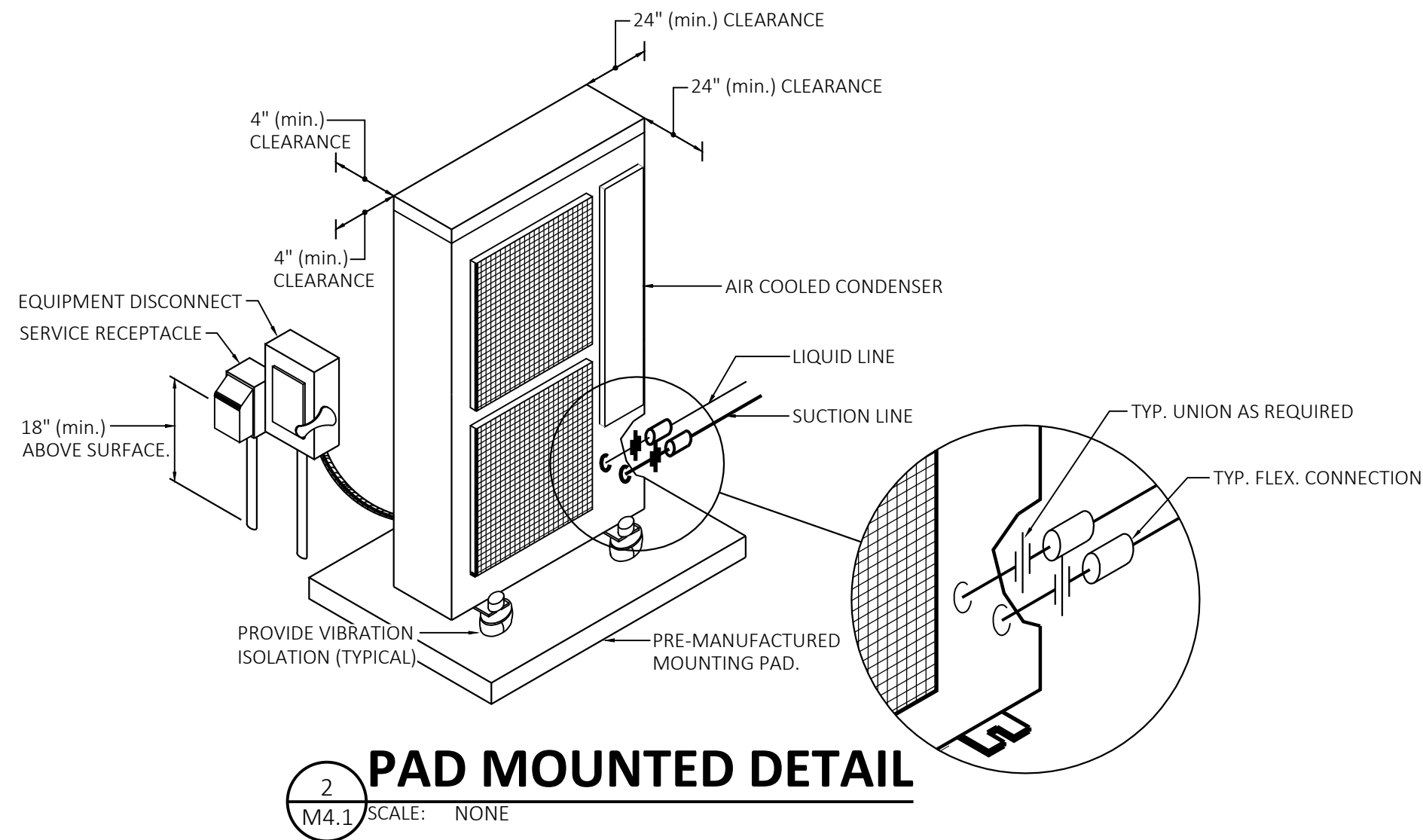
STOREFRONT & DOOR  
ELEVATIONS AND DETAILS

OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

ARCHITECT'S SEAL

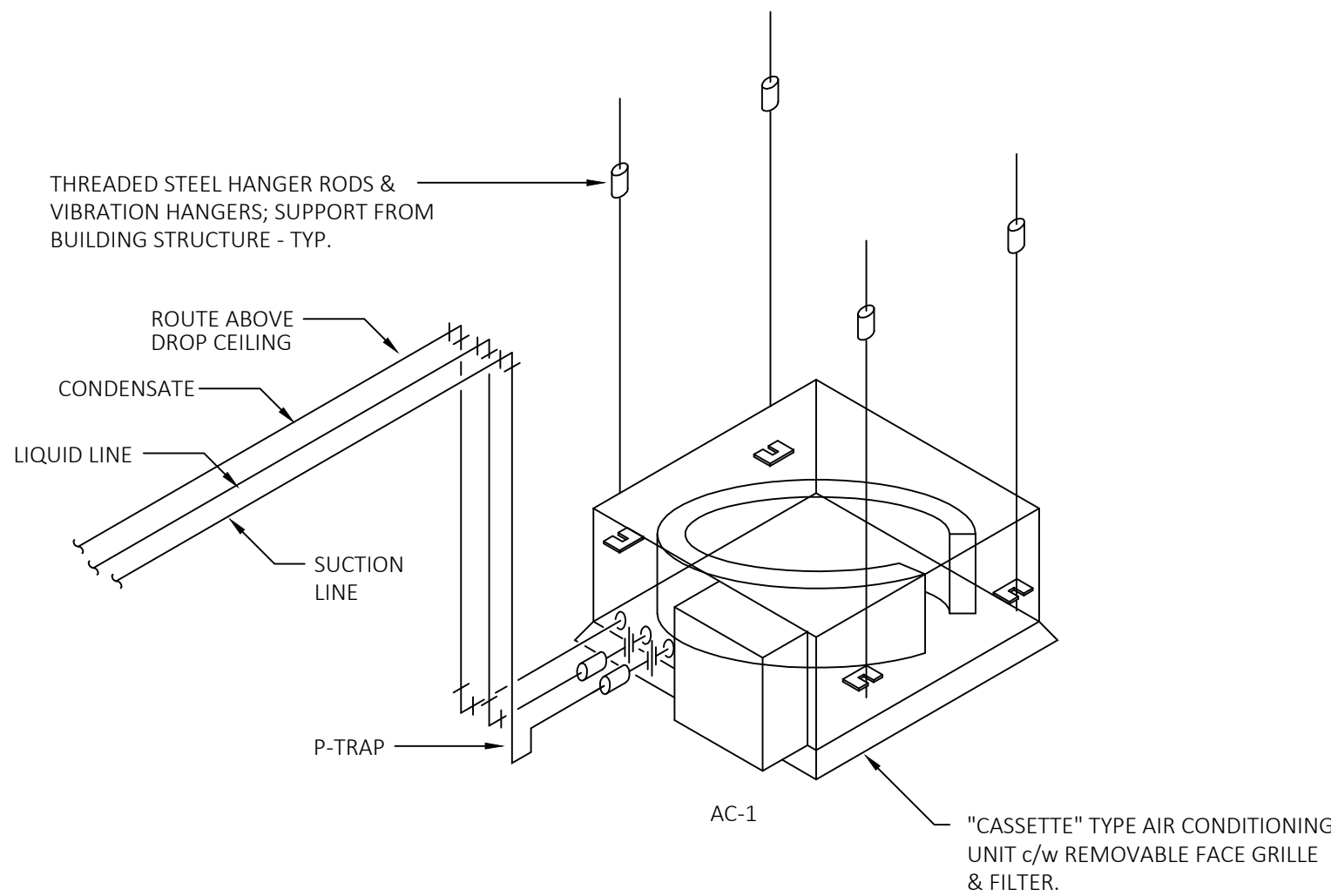


SHEET NO.  
A3.2



NOTES:

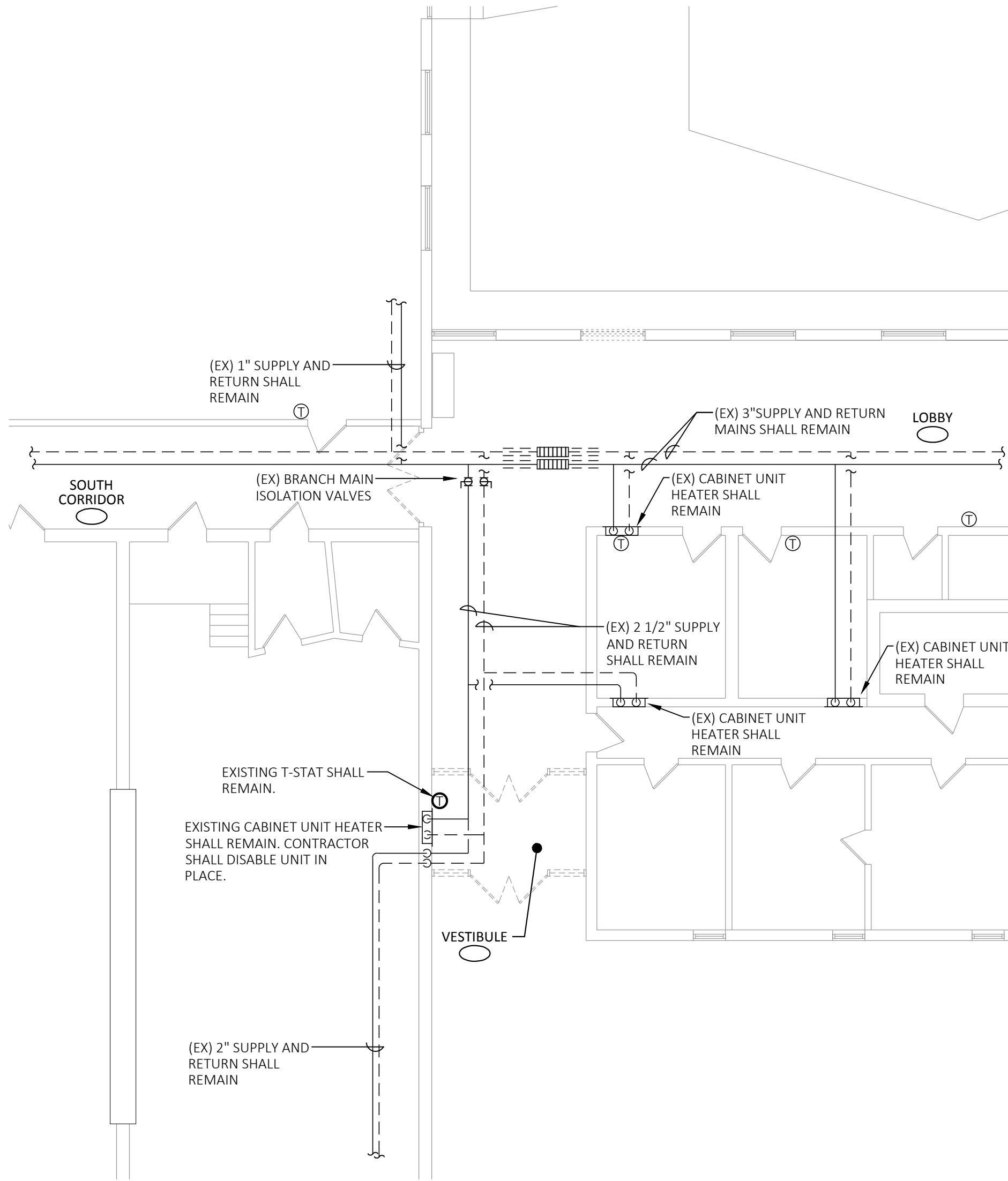
- LOCATE THE AIR COOLED CONDENSER ON SURFACE THAT IS ADEQUATE TO BEAR THE WEIGHT OF THE UNIT. REFER TO PHYSICAL DATA SECTION OF INSTALLATION MANUAL FOR WEIGHT AND DIMENSIONS.
- UNIT SHALL BE MOUNTED LEVEL TO ENSURE RELIABLE OPERATION.
- MAINTAIN CLEARANCES TO ENSURE PROPER AIR FLOW. AIR INLETS AND OUTLETS SHOULD NOT BE RESTRICTED.
- WHEN CONDENSER IS MOUNTED ON A ROOF TOP SURFACE, CONTRACTOR SHALL PROVIDE PROPER DUNNAGE / CURB RAILS TO PROVIDE THE PROPER INSTALLATION.
- THIS DIAGRAM IS SCHEMATIC ONLY, EXACT ROUTING OF PIPING AND MOUNTING OF UNITS TO BE DETERMINED ON SITE.
- REFRIGERANT TUBING & FITTINGS SHALL BE PROCESSED TUBING SUITABLE FOR THIS APPLICATION; DEOXIDIZED, DEHYDRATED & SEALED, TYPE ACR w BRAZED JOINTS. INSULATED SUCTION LINE w 25mm THICK ELASTOMER PIPE INSULATION.



NOTES -

- THIS DIAGRAM IS SCHEMATIC ONLY. EXACT ROUTING OF PIPING AND MOUNTING OF UNITS TO BE DETERMINED ON-SITE.
- REFRIGERANT TUBING & FITTINGS SHALL BE PROCESSED TUBING SUITABLE FOR THIS APPLICATION; DEOXIDIZED, DEHYDRATED & SEALED, TYPE ACR w BRAZED JOINTS. INSULATED SUCTION LINE w 25mm thk ELASTOMER PIPE INSULATION.

DUCTLESS SPLIT DETAIL



PIPING DEMOLITION FLOOR PLAN

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

DUCTLESS SPLIT AIR COOLED CONDENSER SCHEDULE

| UNIT No. | MANUFACTURER & MODEL #  | COMPRESSOR      | MCA  | FAN MOTOR MOCP | SOUND LEVEL dB (A) | WEIGHT lbs. | REFRIGERANT TYPE | REMARKS |
|----------|-------------------------|-----------------|------|----------------|--------------------|-------------|------------------|---------|
| ACC-1    | CARRIER RAV-SP240AT2-UL | ROTARY INVERTER | 24.0 | 40.0           | 50                 | 145.0       | R410A            | 1, 2    |

NOTES :

- PROVIDE DISCONNECT.
- ROOF MOUNTED, PROVIDE ROOF RAILS.

INDOOR DUCTLESS SPLIT UNIT SCHEDULE

| UNIT No. | MANUFACTURER & MODEL # | SERVING        | CFM HI - LOW | COOLING BTU/H | HEATING BTU/H | ELEC. DATA |    |    | DIMENSIONS ( W x D x H ) | WEIGHT lbs. | REMARKS |
|----------|------------------------|----------------|--------------|---------------|---------------|------------|----|----|--------------------------|-------------|---------|
|          |                        |                |              |               |               | VOLTS      | PH | HZ |                          |             |         |
| AC-1     | CARRIER RAV-SP240UT-UL | CONFERENCE RM. | 400 - 610    | 25,000        | 26,000        | 208        | 1  | 60 | 2'-9" x 10" x 2'-9"      | 44.0        | 1, 2    |

NOTES :

- PROVIDE WIRELESS REMOTE.
- PROVIDE DISCONNECT.

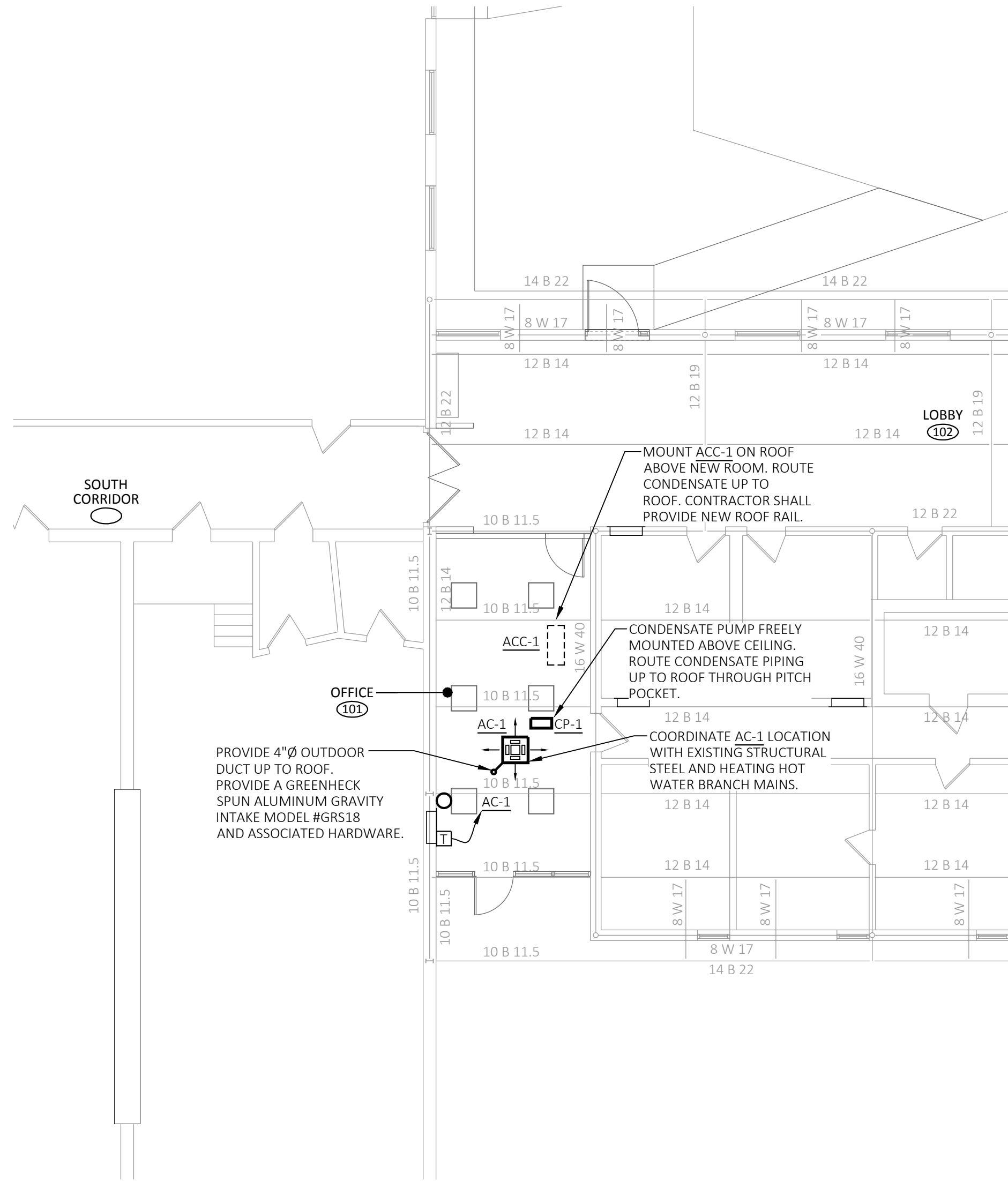
- NOTE:
- CARRIER IS THE BASES OF DESIGN ONLY. CONTRACTOR MAY SUBSTITUTE FOR FUJITSU OR DAIKEN EQUIPMENT.
  - ALL EQUIPMENT MUST MEET PERFORMANCE CALLED OUT IN SCHEDULES ABOVE.

CONDENSATE PUMP SCHEDULE

| UNIT No. | MANUFACTURER MODEL & SIZE | SERVING | LOCATION      | GPH | HEAD FT. | FLUID | PSI | HP   | ELECTRICAL DATA |    |       |     | REMARKS |
|----------|---------------------------|---------|---------------|-----|----------|-------|-----|------|-----------------|----|-------|-----|---------|
|          |                           |         |               |     |          |       |     |      | Hz              | PH | VOLTS | RPM |         |
| CP-1     | LITTLE GIANT VCC-20ULS    | AC-1    | ABOVE CEILING | 45  | 10       | COND. | 8.6 | 1/30 | 60              | 1  | 115   | -   | 1       |

NOTES :

- PROVIDE A GALVANIZED OVERFLOW PAN UNDER PUMP.

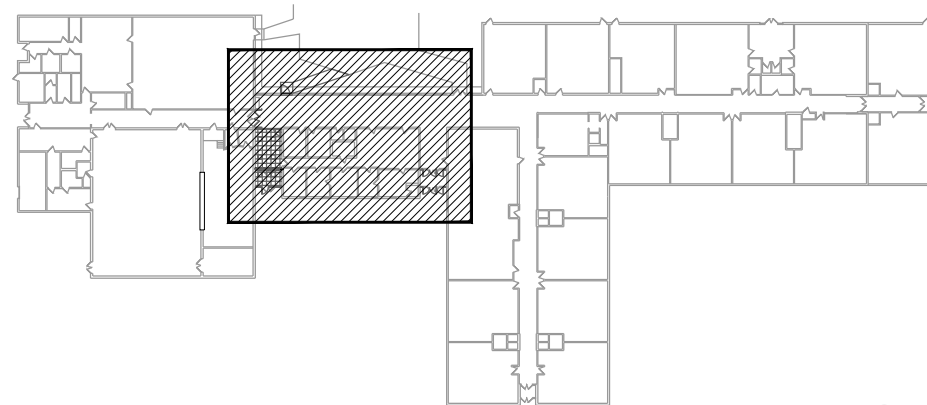


NEW WORK FLOOR PLAN

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

MECHANICAL NOTES

- THE CONTRACTOR FOR THIS DIVISION OF WORK IS REQUIRED TO READ THE SPECIFICATIONS AND REVIEW DRAWINGS FOR ALL DIVISIONS OF WORK AND IS RESPONSIBLE FOR THE COORDINATION OF THIS WORK AND THE WORK OF ALL HIS/HER SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO INSTALL A COMPLETE SYSTEM AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY STATE AND LOCAL BUILDING CODES.
- THE CONTRACTOR SHALL INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, THE CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, PLUMBING, ELECTRICAL WORK, ETC. SHOWN OR SPECIFIED ON OTHER CONTRACT DOCUMENTS.
- THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS THAT ARE NOT DIMENSIONED ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS SHALL BE BASED UPON PROJECT SITE CONDITIONS. DO NOT SCALE DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL CONDITIONS PRIOR TO FINAL BID INCLUDING ALL EXISTING STUB-INS AND TAPS FOR MECHANICAL SYSTEMS WITHIN THE SPACE.
- NO FIBERGLASS DUCTBOARD ALLOWED.
- COORDINATE DIFFUSER AND GRILLE LOCATIONS WITH ARCHITECTURAL CEILING PLAN, LIGHTING, AND FIRE PROTECTION PLANS.
- CONTRACTOR SHALL COORDINATE LEAD TIMES WITH LOCAL EQUIPMENT REPRESENTATIVE AND ADVISE OWNER OF ANY DELAYS ON EQUIPMENT. IF LEAD TIMES ARE GOING TO IMPEDE ON THE SCHEDULE, THE CONTRACTOR SHALL SUBMIT AN ENGINEER APPROVED ALTERNATE MANUFACTURER TO MAINTAIN OWNERS' SCHEDULE.
- CONTRACTOR MUST SUBMIT CERTIFIED SUBMITTALS FOR A HVAC EQUIPMENT WHICH MUST BE APPROVED PRIOR TO PURCHASE.
- CONTRACTOR SHALL FOLLOW MANUFACTURERS RECOMMENDATIONS FOR VENTING AND COMBUSTION AIR INTAKE INSTALLATION.



KEY PLAN

|              |           |
|--------------|-----------|
| DATE:        | 03.03.17  |
| DRAWN BY:    | GMR       |
| SCALE:       | AS NOTED  |
| REVIEWED BY: | REJ       |
| PROJECT NO.  | 2016-077a |

| REVISONS | DATE     | DESCRIPTION    |
|----------|----------|----------------|
| NO.      | 03.27.17 | ISSUED FOR BID |

MECHANICAL  
PLANS, SCHEDULES & DETAILS

OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

ENGINEERS SEAL



SHEET NO.  
M1.1

SECTION 232300 - REFRIGERANT PIPING

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. This Section includes refrigerant piping used for air-conditioning applications.

1.3 PERFORMANCE REQUIREMENTS

- A. Line Test Pressure for Refrigerant R-410A:

- Suction Lines for Air-Conditioning Applications: 300 psig (2068 kPa).
- Suction Lines for Heat-Pump Applications: 535 psig (3689 kPa).
- Hot-Gas and Liquid Lines: 535 psig (3689 kPa).

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of valve and refrigerant piping specialty indicated. Include pressure drop, based on manufacturer's test data, for the following:

- Thermostatic expansion valves.
- Pressure-regulating valves.

1.5 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."
- B. Comply with ASHRAE 15, "Safety Code for Refrigeration Systems."
- C. Comply with ASME B31.5, "Refrigeration Piping and Heat Transfer Components."

1.6 PRODUCT STORAGE AND HANDLING

- A. Store piping in a clean and protected area with end caps in place to ensure that piping interior and exterior are clean when installed.

1.7 COORDINATION

- A. Coordinate size and location of roof curbs, equipment supports, and roof penetrations. These items are specified in Section 077200 "Roof Accessories."

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

- A. Copper Tube: ASTM B 88, Type K or L (ASTM B 88M, Type A or B).
- B. Wrought-Copper Fittings: ASME B16.22.
- C. Wrought-Copper Unions: ASME B16.22.
- D. Solder Filler Metals: ASTM B 32. Use 95-5 tin antimony or alloy HB solder to join copper socket fittings on copper pipe.
- E. Brazing Filler Metals: AWS A5.8.

2.2 VALVES AND SPECIALTIES

- A. Thermostatic Expansion Valves: Comply with ARI 750.
- Body, Bonnet, and Seal Cap: Forged brass or steel.
  - Diaphragm, Piston, Closing Spring, and Seat Insert: Stainless steel.
  - Packing and Gaskets: Non-asbestos.
  - Capillary and Bulb: Copper tubing filled with refrigerant charge.
  - Suction Temperature: 40 deg F (4.4 deg C).
  - Reverse-flow option (for heat-pump applications).
  - End Connections: Socket, flare, or threaded union.
  - Working Pressure Rating: 700 psig (4820 kPa).

2.3 REFRIGERANTS

- A. ASHRAE 34, R-410A: Pentafluoroethane/Difluoromethane.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS FOR REFRIGERANT R-410A

- A. Hot-Gas and Liquid Lines, and Suction Lines for Heat-Pump Applications: Copper, Type L (B), annealed- or drawn-temper tubing and wrought-copper fittings with brazed joints.
- B. Hot-Gas and Liquid Lines, and Suction Lines for Heat-Pump Applications: Copper, Type K (A), annealed- or drawn-temper tubing and wrought-copper fittings with brazed joints.

3.2 VALVE AND SPECIALTY APPLICATIONS

- A. Install thermostatic expansion valves as close as possible to distributors on evaporators.
- Install valve so diaphragm case is warmer than bulb.
  - Secure bulb to clean, straight, horizontal section of suction line using two bulb straps. Do not mount bulb in a trap or at bottom of the line.
  - If external equalizer lines are required, make connection where it will reflect suction-line pressure at bulb location.

3.3 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems; indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Shop Drawings.
- B. Install refrigerant piping according to ASHRAE 15.
- C. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- F. Install piping adjacent to machines to allow service and maintenance.
- G. Install piping free of sags and bends.
- H. Install fittings for changes in direction and branch connections.
- I. Select system components with pressure rating equal to or greater than system operating pressure.
- J. Install piping as short and direct as possible, with a minimum number of joints, elbows, and fittings.
- K. Install refrigerant piping in protective conduit where installed belowground.
- L. Install refrigerant piping in rigid or flexible conduit in locations where exposed to mechanical injury.
- M. Slope refrigerant piping as follows:
- Install horizontal hot-gas discharge piping with a uniform slope downward away from compressor.

- Install horizontal suction lines with a uniform slope downward to compressor.
  - Install traps and double risers to entrain oil in vertical runs.
  - Liquid lines may be installed level.
- N. When brazing or soldering, remove solenoid-valve coils and sight glasses; also remove valve stems, seats, and packing, and accessible internal parts of refrigerant specialties. Do not apply heat near expansion-valve bulb.
- O. Install piping with adequate clearance between pipe and adjacent walls and hangers or between pipes for insulation installation.

3.4 PIPE JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Fill pipe and fittings with an inert gas (nitrogen or carbon dioxide), during brazing or welding, to prevent scale formation.
- D. Soldered Joints: Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook."
- E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," Chapter "Pipe and Tube."
- Use Type BcuP, copper-phosphorus alloy for joining copper socket fittings with copper pipe.
  - Use Type BAG, cadmium-free silver alloy for joining copper with bronze or steel.

3.5 HANGERS AND SUPPORTS

- A. Hanger, support, and anchor products are specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."
- B. Install the following pipe attachments:
- Adjustable steel clevis hangers for individual horizontal runs less than 20 feet (6 m) long.
  - Roller hangers and spring hangers for individual horizontal runs 20 feet (6 m) or longer.
  - Pipe Roller: MSS SP-58, Type 44 for multiple horizontal piping 20 feet (6 m) or longer, supported on a trapeze.
  - Spring hangers to support vertical runs.
  - Copper-clad hangers and supports for hangers and supports in direct contact with copper pipe.
- C. Install hangers for copper tubing with the following maximum spacing and minimum rod sizes:
- NPS 1/2 (DN 15): Maximum span, 60 inches (1500 mm); minimum rod size, 1/4 inch (6.4 mm).
  - NPS 5/8 (DN 18): Maximum span, 60 inches (1500 mm); minimum rod size, 1/4 inch (6.4 mm).
  - NPS 1 (DN 25): Maximum span, 72 inches (1800 mm); minimum rod size, 1/4 inch (6.4 mm).
  - NPS 1-1/4 (DN 32): Maximum span, 96 inches (2400 mm); minimum rod size, 3/8 inch (9.5 mm).
  - NPS 1-1/2 (DN 40): Maximum span, 96 inches (2400 mm); minimum rod size, 3/8 inch (9.5 mm).
  - NPS 2 (DN 50): Maximum span, 96 inches (2400 mm); minimum rod size, 3/8 inch (9.5 mm).
  - NPS 2-1/2 (DN 65): Maximum span, 108 inches (2700 mm); minimum rod size, 3/8 inch (9.5 mm).
  - NPS 3 (DN 80): Maximum span, 10 feet (3 m); minimum rod size, 3/8 inch (9.5 mm).
  - NPS 4 (DN 100): Maximum span, 12 feet (3.7 m); minimum rod size, 1/2 inch (13 mm).
- D. Install hangers for steel piping with the following maximum spacing and minimum rod sizes:
- NPS 2 (DN 50): Maximum span, 10 feet (3 m); minimum rod size, 3/8 inch (9.5 mm).
  - NPS 2-1/2 (DN 65): Maximum span, 11 feet (3.4 m); minimum rod size, 3/8 inch (9.5 mm).
  - NPS 3 (DN 80): Maximum span, 12 feet (3.7 m); minimum rod size, 3/8 inch (9.5 mm).
  - NPS 4 (DN 100): Maximum span, 14 feet (4.3 m); minimum rod size, 1/2 inch (13 mm).
- E. Support multifloor vertical runs at least at each floor.

END OF SECTION 232300

SECTION 236313 - AIR-COOLED REFRIGERANT CONDENSERS

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 packaged, air-cooled refrigerant condensers for outdoor installation.

1.3 ACTION SUBMITTALS

- A. Product Data: For each air-cooled refrigerant condenser. Include rated capacities, operating characteristics, furnished specialties, and accessories. Include equipment dimensions, weights and structural loads, required clearances, method of field assembly, components, and location and size of each field connection.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Fabricate and label refrigeration system according to ASHRAE 15, "Safety Standard for Refrigeration Systems."

1.5 COORDINATION

- A. Coordinate location of refrigerant piping and electrical rough-ins.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

- A. Description: Factory assembled and tested; consisting of casing, condenser coils, condenser fans and motors, and unit controls.
- B. Refrigerant: R-410A.
- C. Condenser Fans and Drives: Propeller fans with aluminum or galvanized-steel fan blades, for horizontal air discharge; directly driven with permanently lubricated ball-bearing motors with integral current- and thermal-overload protection.
- Weather-proof motors with rain shield and shaft slinger.

- Extend grease lines to outside of casing.
- D. Operating and Safety Controls: Include condenser fan motor thermal and overload cutouts; 115-V control transformer, if required; magnetic contactors for condenser fan motors and a nonfused factory-mounted and -wired disconnect switch for single external electrical power connection.
- E. Casings: Galvanized or zinc-coated steel treated and finished with manufacturer's standard paint coating, designed for, and with the following: outdoor installation with weather protection for components and controls

2.2 MOTORS

- A. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors for HVAC Equipment."

- Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.

2.3 SOURCE QUALITY CONTROL

- A. Verification of Performance: Rate air-cooled refrigerant condensers according to ARI 460.
- B. Testing Requirements: Factory test sound-power-level ratings according to ARI 270.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of air-cooled refrigerant condensers.
- B. Examine roughing-in for refrigerant piping systems to verify actual locations of piping connections before equipment installation.
- C. Examine walls, floors, and roofs for suitable conditions where air-cooled condensers will be installed.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.
- 3.2 INSTALLATION
- A. Install units level and plumb, firmly anchored in locations indicated; maintain manufacturer's recommended clearances.
- B. Equipment Mounting:
- Comply with requirements for vibration isolation and seismic control devices specified in Section 230548 "Vibration and Seismic Controls for HVAC."
- C. Maintain manufacturer's recommended clearances for service and maintenance.
- D. Loose Components: Install electrical components, devices, and accessories that are not factory mounted.

END OF SECTION 236313

SECTION 230548.13 - VIBRATION CONTROLS FOR HVAC

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:
- Vibration isolation equipment bases.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- Include rated load, rated deflection, and overload capacity for each vibration isolation device.
  - Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of vibration isolation device type required.

1.4 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

PART 2 - PRODUCTS

2.1 VIBRATION ISOLATION EQUIPMENT BASES

- A. Steel Rails: Factory-fabricated, welded, structural-steel rails.
- Design Requirements: Lowest possible mounting height with not less than 1-inch (25-mm) clearance above the floor. Include equipment anchor bolts and auxiliary motor slide rails.
  - Structural Steel: Steel shapes, plates, and bars complying with ASTM A 36/A 36M. Rails shall have shape to accommodate supported equipment.
  - Support Brackets: Factory-welded steel brackets on frame for outrigger isolation mountings and to provide for anchor bolts and equipment support.
- B. Concrete Inertia Base: Factory-fabricated, welded, structural-steel bases and rails ready for placement of cast-in-place concrete.

- Design Requirements: Lowest possible mounting height with not less than 1-inch (25-mm) clearance above the floor. Include equipment anchor bolts and auxiliary motor slide bases or rails.
  - Include supports for suction and discharge elbows for pumps.
- Structural Steel: Steel shapes, plates, and bars complying with ASTM A 36/A 36M. Bases shall have shape to accommodate supported equipment.
- Support Brackets: Factory-welded steel brackets on frame for outrigger isolation mountings and to provide for anchor bolts and equipment support.
- Fabrication: Fabricate steel templates to hold equipment anchor-bolt sleeves and anchors in place during placement of concrete. Obtain anchor-bolt templates from supported equipment manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and equipment to receive vibration isolation control devices for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in of reinforcement and cast-in-place anchors to verify actual locations before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

END OF SECTION 230548.13

|              |          |     |          |     |             |           |
|--------------|----------|-----|----------|-----|-------------|-----------|
| DATE:        | 03.03.17 | GMR | AS NOTED | REJ | PROJECT NO. | 2016-077a |
| DRAWN BY:    |          |     |          |     |             |           |
| SCALE:       |          |     |          |     |             |           |
| REVIEWED BY: |          |     |          |     |             |           |

| NO. | REVISIONS |                |
|-----|-----------|----------------|
|     | DATE      | DESCRIPTION    |
|     | 03.27.17  | ISSUED FOR BID |

# MECHANICAL SPECIFICATIONS

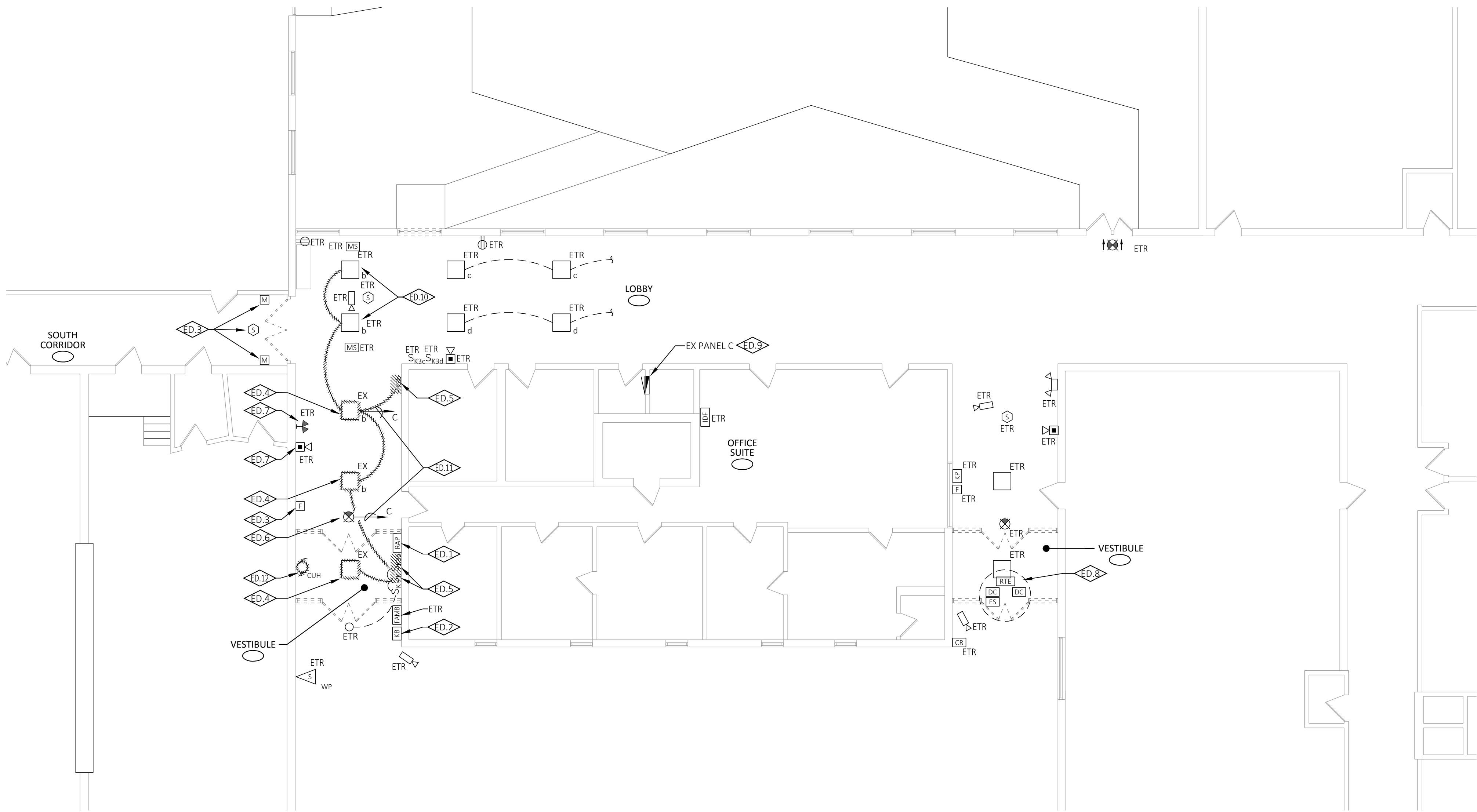
OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT



ENGINEERS SEAL

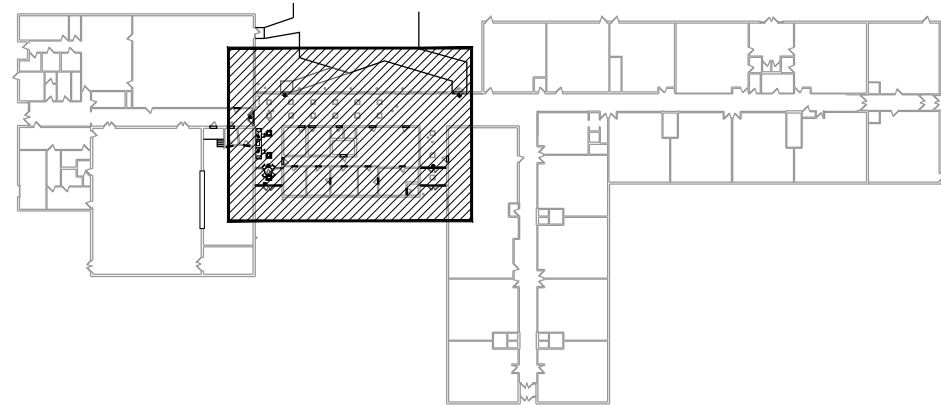


SHEET NO.  
M2.1



DEMOLITION FLOOR PLAN

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



KEY PLAN

ELECTRICAL  
DEMOLITION FLOOR PLAN

OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

|              |           |
|--------------|-----------|
| DATE:        | 03.03.17  |
| DRAWN BY:    | GMR       |
| SCALE:       | AS NOTED  |
| REVIEWED BY: | BAD       |
| PROJECT NO.  | 2016-077a |

| NO. | DATE     | DESCRIPTION    |
|-----|----------|----------------|
|     | 03.27.17 | ISSUED FOR BID |

ELECTRICAL LEGEND

|  |                                   |  |                                              |
|--|-----------------------------------|--|----------------------------------------------|
|  | EXIT SIGN WITH EMERGENCY LIGHTING |  | SMOKE DETECTOR                               |
|  | EXIT SIGN WITH CHEVRONS AS NOTED  |  | CEILING MOUNT FIRE ALARM NOTIFICATION DEVICE |
|  | EMERGENCY LIGHT SWITCH            |  | JUNCTION BOX                                 |
|  | 2X2 LIGHTING FIXTURE              |  | EMERGENCY BATTERY WITH 90 MINUTE BACK-UP     |
|  | DOWN LIGHT                        |  | DOOR CONTACT                                 |
|  | SINGLE POLE SWITCH                |  | NETWORK CABINET                              |
|  | SWITCH WITH THERMAL OVERLOADS     |  | FIRE ALARM MASTER BOX                        |
|  | KEY SWITCH                        |  | REQUEST TO EXIT DEVICE                       |
|  | FIRE ALARM HORN/STROBE            |  | FIRE ALARM REMOTE ANNUNCIATOR PANEL          |
|  | FIRE ALARM STROBE                 |  | KEY PAD                                      |
|  | FIRE ALARM PULL STATION           |  | SECURITY MOTION SENSOR                       |
|  | MOTOR                             |  | MAGNETIC DOOR HOLDER                         |
|  | DISCONNECT SWITCH                 |  | ELECTRIC STRIKE                              |
|  | SIMPLEX RECEPTACLE                |  | MAGNETIC CARD READER                         |
|  | DUPLEX RECEPTACLE                 |  | KNOX BOX                                     |
|  | QUAD RECEPTACLE                   |  | NEW LOCATION                                 |
|  | 120/208 ELECTRICAL PANEL          |  | WEATHERPROOF                                 |
|  | BRANCH CIRCUIT HOMERUN            |  | GROUND FAULT INTERRUPTER                     |
|  | SWITCHED LIGHTING CIRCUIT         |  | EXISTING                                     |
|  | SPEAKER - HORN TYPE               |  | EXISTING TO REMAIN                           |
|  | SECURITY CAMERA                   |  |                                              |
|  | TELE-DATA OUTLET                  |  |                                              |

DEMOLITION NOTES: KEYED INTO PLAN

- EXISTING FIRE ALARM REMOTE ANNUNCIATOR PANEL SHALL BE RELOCATED TO MAIN ENTRY VESTIBULE; EXTEND ALL EXISTING WIRING TO NEW LOCATION IN ACCORDANCE WITH MANUFACTURER'S (GAMEWELL) REQUIREMENTS.
- EXISTING KNOX BOX SHALL BE RELOCATED TO MAIN ENTRY EXTERIOR. EXTEND EXISTING WIRING TO NEW LOCATION IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- RELOCATE EXISTING FIRE ALARM DEVICE; EXTEND EXISTING WIRING TO NEW LOCATION IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- DISCONNECT AND REMOVE EXISTING LIGHTING FIXTURE & ASSOCIATED WIRING. (RELOCATE (2) OF 3 FIXTURES AS NOTED ON E1.1.
- DISCONNECT AND REMOVE EXISTING KEY SWITCH.
- DISCONNECT AND RELOCATE EXISTING EXIT SIGN. EXTEND EXISTING WIRING TO NEW LOCATION.
- DISCONNECT, REMOVE & REINSTALL AT EXISTING LOCATION TO ALLOW FOR ARCHITECTURAL WALL COVERING INSTALLATION.
- EXISTING SECURITY DOOR CONTACTS AND ELECTRIC STRIKE SHALL BE DISCONNECTED AND REMOVED & RE-INSTALLED AT NEW STORE FRONT DOORS BY OWNER'S VENDOR.
- EXISTING PANEL SHALL BE REMOVED AND REPLACED REFER TO DRAWINGS E1.1 AND E2.1.
- EXISTING FIXTURE SHALL REMAIN AND BE RE-WIRED AS SHOWN ON E1.1.
- RETAIN BRANCH CIRCUIT FOR REUSE IN THIS AREA.
- DISCONNECT & REMOVE CUH BRANCH CIRCUIT BACK TO SOURCE.

DEMOLITION GENERAL NOTES

- ALL EQUIPMENT SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE OWNER AND SHALL EITHER BE STORED ON-SITE OR PROPERLY DISPOSED OF BY THE CONTRACTOR PER THE OWNER'S DIRECTION.
- COORDINATE ALL REQUIRED ELECTRICAL SHUTDOWNS WITH OWNER PRIOR TO COMMENCING WORK.
- WHERE REMOVAL OR RELOCATION OF AN ELECTRICAL DEVICE INTERRUPTS EXISTING CIRCUIT CONTINUITY, MAINTAIN CIRCUIT CONTINUITY TO ALL EQUIPMENT OR DEVICES THAT ARE TO REMAIN.
- EXTEND WIRING AND CONDUIT AS REQUIRED TO ALL ELECTRICAL DEVICES RELOCATED AS PART OF DEMOLITION WORK, UNLESS NOTED OTHERWISE.
- REMOVE ALL EXISTING WIRING AND CONDUIT LOCATED ABOVE CEILING AND IN WALLS THAT ARE NOT TO BE REUSED. ALL WIRING AND CONDUIT TO BE REMOVED SHALL BE REMOVED IN ITS ENTIRETY BACK TO SOURCE PANEL. REMOVE ALL ASSOCIATED MOUNTING HARDWARE. WHERE REMOVAL OR RELOCATION OF EXISTING CONDUIT PASSES THROUGH EXISTING WALLS, THE OPENINGS SHALL BE SEALED AND PAINTED TO MATCH THE EXISTING SURROUNDING AREA. SEAL ALL ELECTRICAL PENETRATIONS THROUGH FIRE RATED PARTITIONS.
- EXISTING WIRINGS SHALL NOT BE REUSED, UNLESS OTHERWISE NOTED.
- ALL EXISTING FIXTURES, RECEPTACLES, SWITCHES AND OTHER RELATED ELECTRICAL DEVICES SCHEDULED TO BE REMOVED UNDER DRAWING DEMO NOTES, SHALL BE FIELD VERIFIED FOR EXACT QUANTITY.
- REMOVE ALL ELECTRICAL DEVICES AND/OR EQUIPMENT LOCATED IN WALLS OR CEILINGS BEING DEMOLISHED. WIRING OR DEVICES THAT HAVE BEEN DISCONNECTED SHALL NOT BE ABANDONED IN PLACE UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES FOR DISCONNECTION OF ANY EQUIPMENT BEING REMOVED BY OTHERS. CONTRACTOR SHALL REMOVE ALL WIRING AND CONDUIT BACK TO SOURCE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPERLY DISPOSE OF ALL ELECTRICAL EQUIPMENT, LIGHT FIXTURES, BALLASTS, LAMPS, WIRE, CONDUIT AND ASSOCIATED HARDWARE FROM THE SITE NOT DESIRED BY THE OWNER.
- DRAWING DOES NOT INDICATE ALL ELECTRICAL OR OTHER TRADE EQUIPMENT TO BE REMOVED. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AND EQUIPMENT PRIOR TO BID.
- EQUIPMENT, WIRING, CONDUIT, ETC. SHALL NOT BE ABANDONED IN-PLACE UNLESS NOTED OTHERWISE. EXISTING RACEWAYS REUSED UNDER THIS RENOVATION WORK SHALL HAVE EXISTING BRANCH WIRING REMOVED.
- EQUIPMENT SCHEDULED FOR RE-USE SHALL BE CAREFULLY REMOVED AS NOTED. CONTRACTOR SHALL REPLACE EXISTING EQUIPMENT SCHEDULED TO BE REUSED THAT MAY BECOME DAMAGED DUE TO REMOVAL AT NO COST TO OWNER.

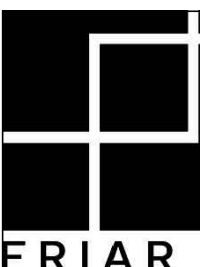
GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL NATIONAL, STATE, LOCAL CODES & ORDINANCES.
- DEMOLISHED MATERIAL SHALL BE CONSIDERED TO BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE COMPLETELY REMOVED FROM THE JOB SITE, UNLESS NOTED OTHERWISE OR REQUESTED BY OWNER.
- THIS DRAWING DOES NOT DEPICT THE FULL EXTENT OF DEMOLITION. ADDITIONAL ITEMS SCHEDULED FOR DEMOLITION MAY BE FOUND ON OTHER DRAWINGS. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THIS WORK WITH ALL PARTIES INVOLVED.
- DEMOLITION CONTRACTOR MUST VERIFY LOCATIONS OF ALL EXISTING STRUCTURAL, MECHANICAL, PLUMBING & ELECTRICAL ELEMENTS PRIOR TO START OF DEMOLITION.
- CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL EXISTING ITEMS TO REMAIN THROUGHOUT THE DURATION OF THE JOB.
- ALL NOISE PRODUCING DEMOLITION MUST OCCUR BEFORE OR AFTER NORMAL BUSINESS HOURS. CONTACT BUILDING MANAGEMENT FOR FURTHER DIRECTION.
- REMOVE ALL EXISTING LIGHTING FIXTURES, ELECTRICAL RUNS, ASSOCIATED DEVICES AS NOTED.
- IF, DURING THE COURSE OF DEMOLITION, ANY HAZARDOUS MATERIAL IS SUSPECTED, ALL WORK IS TO STOP IMMEDIATELY AND THE OWNER AND THE ARCHITECT ARE TO BE NOTIFIED.
- THE CONTRACTOR FOR THIS WORK IS REQUIRED TO READ THE SPECIFICATIONS AND REVIEW DRAWINGS OF ALL DIVISIONS OF WORK AND IS RESPONSIBLE FOR THE COORDINATION OF THIS WORK AND THE WORK OF ALL SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS. LIGHTING SHALL BE CIRCUITED EXACTLY AS SHOWN ON PLANS.
- ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS AS REQUIRED FOR A FULLY COMPLETE AND OPERABLE SYSTEM.
- THE ABBREVIATION "AHJ" REPRESENTS THE AUTHORITY HAVING JURISDICTION. THIS SHALL INCLUDE BUT NOT BE LIMITED TO NATIONAL, STATE AND LOCAL CODES. THE ULTIMATE AUTHORITY SHALL REST WITH THE LOCAL BUILDING OFFICIALS.

CONTRACTOR NOTES

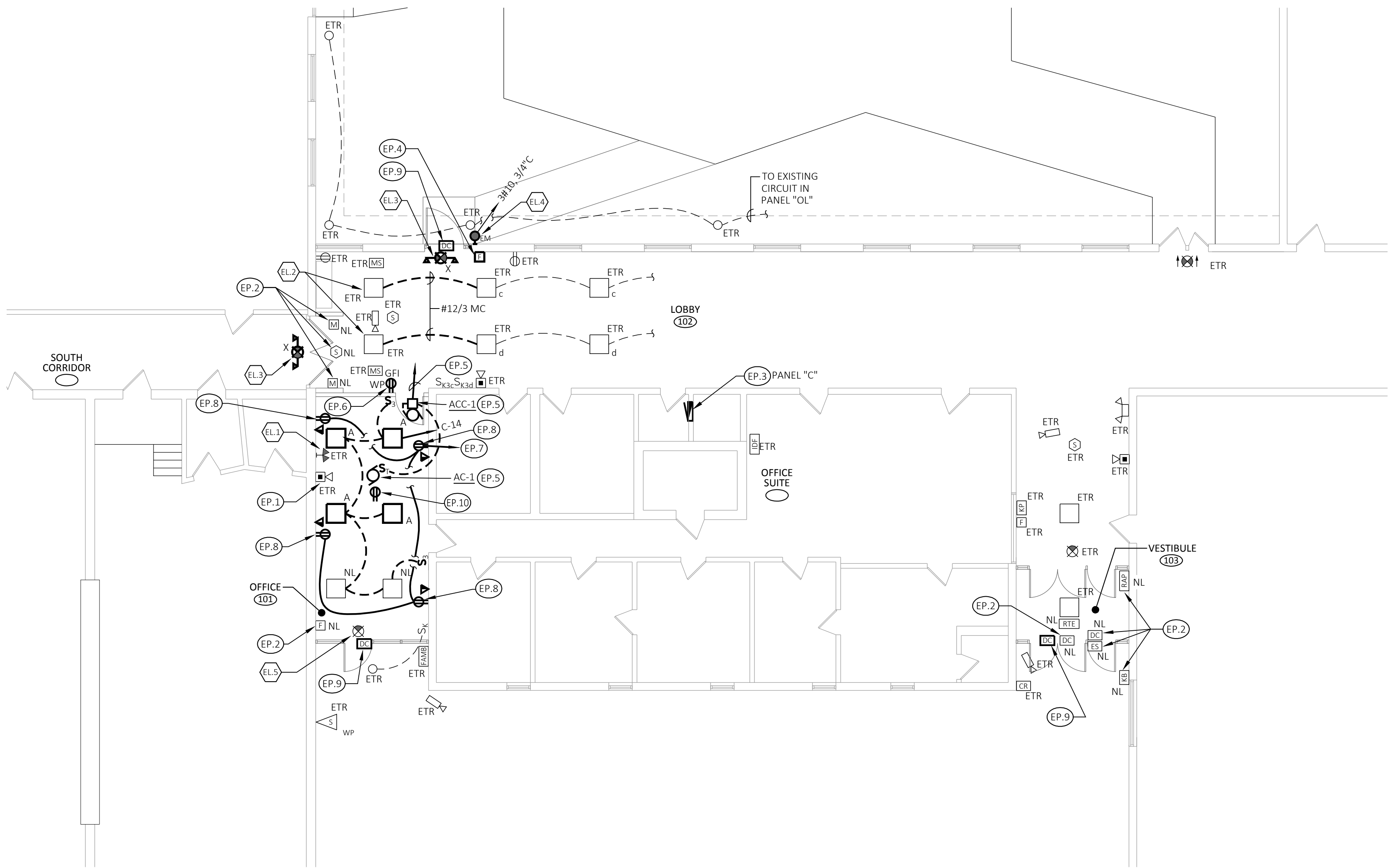
- VERIFY LIMITS OF DEMOLITION AND REQUIREMENTS WITH OWNER AND ARCHITECT.
- COORDINATE ALL DEMOLITION WITH OWNER.
- ANY RE-USED MATERIAL AND EQUIPMENT MUST BE REFURBISHED TO A "LIKE NEW" CONDITION. WIRING SHALL NOT BE REUSED.
- DO NOT ABANDON ANY UTILITIES OR MATERIALS WITHIN THE CONSTRUCTION SPACE. REMOVE BACK TO THE SOURCE.

ENGINEERS SEAL



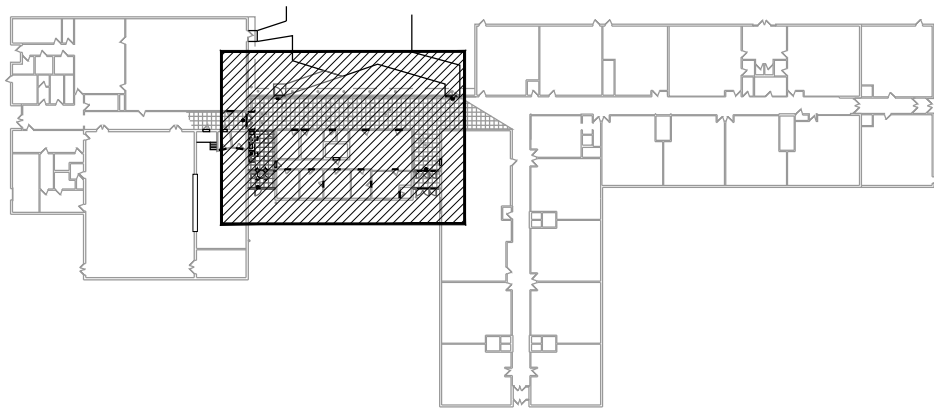
281 Farmington Avenue  
Farmington, CT 06032

SHEET NO.  
ED1.1



FLOOR PLAN

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



KEY PLAN

| LIGHTING FIXTURE SCHEDULE |         |           |                                                                                                                                                                                             |              |             |                                                |
|---------------------------|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|------------------------------------------------|
| Type                      | Voltage | Lamp/QTY  | Description                                                                                                                                                                                 | Manufacturer | Input watts | Catalog Number                                 |
| A                         | 120     | LED 3500K | 2'x2' ARCHITECTURAL RECESSED FIXTURE                                                                                                                                                        | COLUMBIA     | 35          | #LJT22-35ML-FSA12-EDU OR ACCEPTABLE EQUIVALENT |
| EM                        | 120     | LED       | WET LOCATION WALL MOUNT LED EMERGENCY FIXTURE WITH 90 MINUTE RUN-TIME, SELF DIAGNOSTICS                                                                                                     | DUAL LITE    | 15.2        | #PGZ-HTR OR ACCEPTABLE EQUIVALENT              |
| X                         | UNV     | LED       | UNIVERSAL MOUNT EXIT SIGN WITH EMERGENCY HEADS, 90 MINUTE RUN TIME. G.C. TO VERIFY MOUNTING REQUIRED & CHEVRON DIRECTION PRIOR TO ORDER. WIRE TO LIGHTING CIRCUIT AHEAD OF LOCAL SWITCHING. | DUAL LITE    | 3           | #LXURWEI OR ACCEPTABLE EQUIVALENT              |

\*\* REFER TO FLOOR PLAN DRAWINGS FOR LOCATIONS AND QUANTITIES OF FIXTURES

| Panel: NEW PANEL C                   | Location: Custodial Closet                            |
|--------------------------------------|-------------------------------------------------------|
| Amperage/Mains: 100 MCB              | Mouting: Flush                                        |
| Voltage / Phase: 208/120V 3Ø; 4W; G. | Feeder: Existing 4#10, 2"Ø                            |
| AIC: 10k                             | Comments: Replace Existing Panel/Reterminate Branches |

| CIRCUIT BREAKER                        |     |       |                                |     |                           |      |     |     |     | CIRCUIT BREAKER                       |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
|----------------------------------------|-----|-------|--------------------------------|-----|---------------------------|------|-----|-----|-----|---------------------------------------|-----|-----|-----------------------------|-----|-------|-------------|-----|-----|------|---|---|---|--|--|--|--|--|--|
|                                        | AMP | POLES | DESCRIPTION                    | LTG | REC                       | MISC | A   | B   | C   | MISC                                  | REC | LTG |                             | AMP | POLES | DESCRIPTION | LTG | REC | MISC | A | B | C |  |  |  |  |  |  |
| 1                                      | 20  | 1     | General Office Lighting        |     | EX                        |      | 0.0 |     |     |                                       | EX  |     | Office Receptacle           | 20  | 1     | 2           |     |     |      |   |   |   |  |  |  |  |  |  |
| 3                                      | 20  | 1     | Emergency & Hall Lighting      |     | EX                        |      |     |     |     |                                       | EX  |     | Comm. Box Receptacle        | 20  | 1     | 4           |     |     |      |   |   |   |  |  |  |  |  |  |
| 5                                      | 20  | 1     | Office Hall Lighting           |     | EX                        |      |     |     | 0.0 |                                       | EX  |     | Princ., Conf. Room Lighting | 20  | 1     | 6           |     |     |      |   |   |   |  |  |  |  |  |  |
| 7                                      | 20  | 1     | Nurse Ltg, Princ.Off Recept    |     | EX                        |      | 0.0 |     |     |                                       | EX  |     | Entrance Lighting           | 20  | 1     | 8           |     |     |      |   |   |   |  |  |  |  |  |  |
| 9                                      | 20  | 1     | Nurse Receptacles              |     | EX                        |      |     | 0.0 |     |                                       | EX  |     | Office Heat Pump A/H        | 20  | 1     | 10          |     |     |      |   |   |   |  |  |  |  |  |  |
| 11                                     | 20  | 1     | Entrance Corr. & Em. Lts       |     | EX                        |      |     |     | 0.0 |                                       | EX  |     | Office Heat Pump CU         | 30  | 2     | 12          |     |     |      |   |   |   |  |  |  |  |  |  |
| 13                                     | 20  | 1     | Hall and Exit Lighting         |     | EX                        |      | 0.0 |     |     |                                       | EX  |     |                             |     |       | 14          |     |     |      |   |   |   |  |  |  |  |  |  |
| 15                                     | 20  | 1     | Fan                            |     | EX                        |      |     | 0.0 |     |                                       | EX  |     | Master Clock                | 20  | 1     | 16          |     |     |      |   |   |   |  |  |  |  |  |  |
| 17                                     | 20  | 1     | Vault Ltg. Recept at Off. Desk |     | EX                        |      |     |     | 0.0 |                                       | EX  |     | Hall Heater                 | 20  | 1     | 18          |     |     |      |   |   |   |  |  |  |  |  |  |
| 19                                     | 20  | 1     |                                |     | EX                        |      | 0.0 |     |     |                                       |     |     | Toilet Room Lighting        | 20  | 1     | 20          |     |     |      |   |   |   |  |  |  |  |  |  |
| 21                                     | 20  | 1     | Drinking Fountain              |     | EX                        |      |     | 0.0 |     |                                       | EX  |     | Fan                         | 20  | 1     | 22          |     |     |      |   |   |   |  |  |  |  |  |  |
| 23                                     | 20  | 1     | Hall Recept                    |     | EX                        |      |     |     | 0.0 |                                       | EX  |     |                             | 20  | 1     | 24          |     |     |      |   |   |   |  |  |  |  |  |  |
| 25                                     | 20  | 1     | Fire Alarm                     |     | EX                        |      | 0.0 |     |     |                                       | EX  |     | H&V unit                    | 20  | 1     | 26          |     |     |      |   |   |   |  |  |  |  |  |  |
| 27                                     | 30  | 2     | HVAC UNIT                      |     | EX                        |      |     | 0.0 |     |                                       | EX  |     | Attendance Off, Power Pole  | 20  | 1     | 28          |     |     |      |   |   |   |  |  |  |  |  |  |
| 29                                     |     |       |                                |     | EX                        |      |     |     | 0.0 |                                       | EX  |     | Copier                      | 20  | 1     | 30          |     |     |      |   |   |   |  |  |  |  |  |  |
| 31                                     | 20  | 1     |                                |     |                           |      |     |     |     |                                       |     |     | NEW DUCTLESS SPLIT          | 40  | 2     | 32          |     |     |      |   |   |   |  |  |  |  |  |  |
| 33                                     | 20  | 1     |                                |     |                           |      |     | 0.0 |     |                                       |     |     | ACC-1                       |     |       | 34          |     |     |      |   |   |   |  |  |  |  |  |  |
| 35                                     | 20  | 1     |                                |     |                           |      |     |     | 0.0 |                                       |     |     |                             | 20  | 1     | 36          |     |     |      |   |   |   |  |  |  |  |  |  |
| 37                                     | 20  | 1     |                                |     |                           |      |     |     |     | 0.0                                   |     |     |                             | 20  | 1     | 38          |     |     |      |   |   |   |  |  |  |  |  |  |
| 39                                     | 20  | 1     |                                |     |                           |      |     |     |     |                                       |     |     |                             | 20  | 1     | 40          |     |     |      |   |   |   |  |  |  |  |  |  |
| 41                                     | 20  | 1     |                                |     |                           |      |     |     |     |                                       |     |     |                             | 20  | 1     | 42          |     |     |      |   |   |   |  |  |  |  |  |  |
| Connected (kVA):                       |     |       |                                | 0.0 | 0.0                       | 0.0  | 0.0 | 0.0 | 0.0 | 0.0                                   | 0.0 |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
| Demand * (kVA):                        |     |       |                                | 0.0 | 0.0                       | 0.0  |     |     |     |                                       |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
| Total Connected Load (kVA):            |     |       |                                | 0.0 | Total Connected Load (A): |      |     |     | 0.0 |                                       |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
| Total Demand Load * (kVA):             |     |       |                                | 0.0 | Total Demand Load (A):    |      |     |     | 0.0 |                                       |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
| connected load per Ø = (total load/3): |     |       |                                | 0.0 | 125% of Total Demand (A): |      |     |     | 0.0 |                                       |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
| demand load per Ø = (total load/3):    |     |       |                                | 0.0 |                           |      |     |     |     |                                       |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
|                                        |     |       |                                |     |                           |      |     |     |     | * Demand Factor:                      |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
|                                        |     |       |                                |     |                           |      |     |     |     | Lighting loads: 100%                  |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
|                                        |     |       |                                |     |                           |      |     |     |     | Receptacle loads, 10kVA or less: 100% |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
|                                        |     |       |                                |     |                           |      |     |     |     | Receptacle loads, over 10kVA: 50%     |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |
|                                        |     |       |                                |     |                           |      |     |     |     | Miscellaneous loads: 100%             |     |     |                             |     |       |             |     |     |      |   |   |   |  |  |  |  |  |  |

|              |           |
|--------------|-----------|
| DATE:        | 03.03.17  |
| DRAWN BY:    | GMR       |
| SCALE:       | AS NOTED  |
| REVIEWED BY: | BAD       |
| PROJECT NO.  | 2016-077a |

| REVISIONS | DATE     | DESCRIPTION    |
|-----------|----------|----------------|
| NO.       | 03.27.17 | ISSUED FOR BID |

# ELECTRICAL LIGHTING & POWER FLOOR PLAN

OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

## ELECTRICAL MOUNTING HEIGHTS

ALL DIMENSIONS ARE TO THE CENTER OF THE DEVICE UNLESS OTHERWISE NOTED. SEE ELECTRICAL DRAWINGS FOR TYPES AND LOCATIONS.

RECEPTACLES: 18" A.F.F. (AT LOCATIONS ABOVE CASEWORK, MOUNT BOTTOM OF RECEPTACLE AT 2" ABOVE BACKPLASH. AT LOCATIONS BELOW CASEWORK, MOUNT AT 24" A.F.F.)

EXTERIOR RECEPTACLES: 24" A.F.G. (20" A.F.F.)

SWITCHES: 48" A.F.F.

BOILER EMERGENCY SWITCHES : 60" A.F.F.

DATA / PHONE OUTLETS: 18" A.F.F.

WALL PHONE: 48" A.F.F. TO CENTER OF EARPIECE.

SECURITY KEYPAD: 48" A.F.F.

EMERGENCY SHUT-OFF SWITCH / PUSH BUTTON: 48" A.F.F.

EMERGENCY CALL SWITCH: 36" A.F.F.

EMERGENCY CALL BELL / LIGHT: +/- 7'-6" A.F.F., CENTER ABOVE DOOR.

WALL MOUNTED EXIT SIGNS: 7'-6" A.F.F.

## CONTRACTOR NOTES

1. VERIFY LIMITS OF DEMOLITION AND REQUIREMENTS WITH OWNER AND ARCHITECT.
2. COORDINATE ALL DEMOLITION WITH OWNER.
3. ANY RE-USED MATERIAL AND EQUIPMENT MUST BE REFURBISHED TO A "LIKE NEW" CONDITION. WIRING SHALL NOT BE REUSED.
4. DO NOT ABANDON ANY UTILITIES OR MATERIALS WITHIN THE CONSTRUCTION SPACE. REMOVE BACK TO THE SOURCE.

## LIGHTING NOTES: KEYED INTO PLAN

- EL.1 RE-INSTALL EXISTING DEVICE AT EXISTING LOCATION.
- EL.2 WIRE EXISTING FIXTURES TO EXISTING CORRIDOR LIGHTING CIRCUIT.
- EL.3 PROVIDE NEW FIXTURE WIRE TO EXISTING NON-SWITCHED LEG OF LOCAL LIGHTING BRANCH.
- EL.4 PROVIDE NEW BATTERY UNIT WITH REMOTE HEADS; WIRE TO NON-SWITCHED LEG OF EXTERIOR LIGHTING CIRCUIT.
- EL.5 INSTALL EXISTING FIXTURE AT NEW LOCATION, EXTEND EXISTING WIRING; PROVIDE ALL MOUNTING HARDWARE.

## GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL NATIONAL, STATE, LOCAL CODES & ORDINANCES.
2. DEMOLISHED MATERIAL SHALL BE CONSIDERED TO BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE COMPLETELY REMOVED FROM THE JOB SITE, UNLESS NOTED OTHERWISE OR REQUESTED BY OWNER.
3. THIS DRAWING DOES NOT DEPICT THE FULL EXTENT OF DEMOLITION. ADDITIONAL ITEMS SCHEDULED FOR DEMOLITION MAY BE FOUND ON OTHER DRAWINGS. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THIS WORK WITH ALL PARTIES INVOLVED.
4. DEMOLITION CONTRACTOR MUST VERIFY LOCATIONS OF ALL EXISTING STRUCTURAL, MECHANICAL, PLUMBING & ELECTRICAL ELEMENTS PRIOR TO START OF DEMOLITION.
5. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL EXISTING ITEMS TO REMAIN THROUGHOUT THE DURATION OF THE JOB.
6. ALL NOISE PRODUCING DEMOLITION MUST OCCUR BEFORE OR AFTER NORMAL BUSINESS HOURS. CONTACT BUILDING MANAGEMENT FOR FURTHER DIRECTION.
7. REMOVE ALL EXISTING LIGHTING FIXTURES, ELECTRICAL RUNS, ASSOCIATED DEVICES AS NOTED.
8. IF, DURING THE COURSE OF DEMOLITION, ANY HAZARDOUS MATERIAL IS SUSPECTED, ALL WORK IS TO STOP IMMEDIATELY AND THE OWNER AND THE ARCHITECT ARE TO BE NOTIFIED.
9. THE CONTRACTOR FOR THIS WORK IS REQUIRED TO READ THE SPECIFICATIONS AND REVIEW DRAWINGS OF ALL DIVISIONS OF WORK AND IS RESPONSIBLE FOR THE COORDINATION OF THIS WORK AND THE WORK OF ALL SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS. LIGHTING SHALL BE CIRCUITED EXACTLY AS SHOWN ON PLANS.
10. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS AS REQUIRED FOR A FULLY COMPLETE AND OPERABLE SYSTEM.
11. THE ABBREVIATION "AHJ" REPRESENTS THE AUTHORITY HAVING JURISDICTION. THIS SHALL INCLUDE BUT NOT BE LIMITED TO NATIONAL, STATE AND LOCAL CODES. THE ULTIMATE AUTHORITY SHALL REST WITH THE LOCAL BUILDING OFFICIALS.

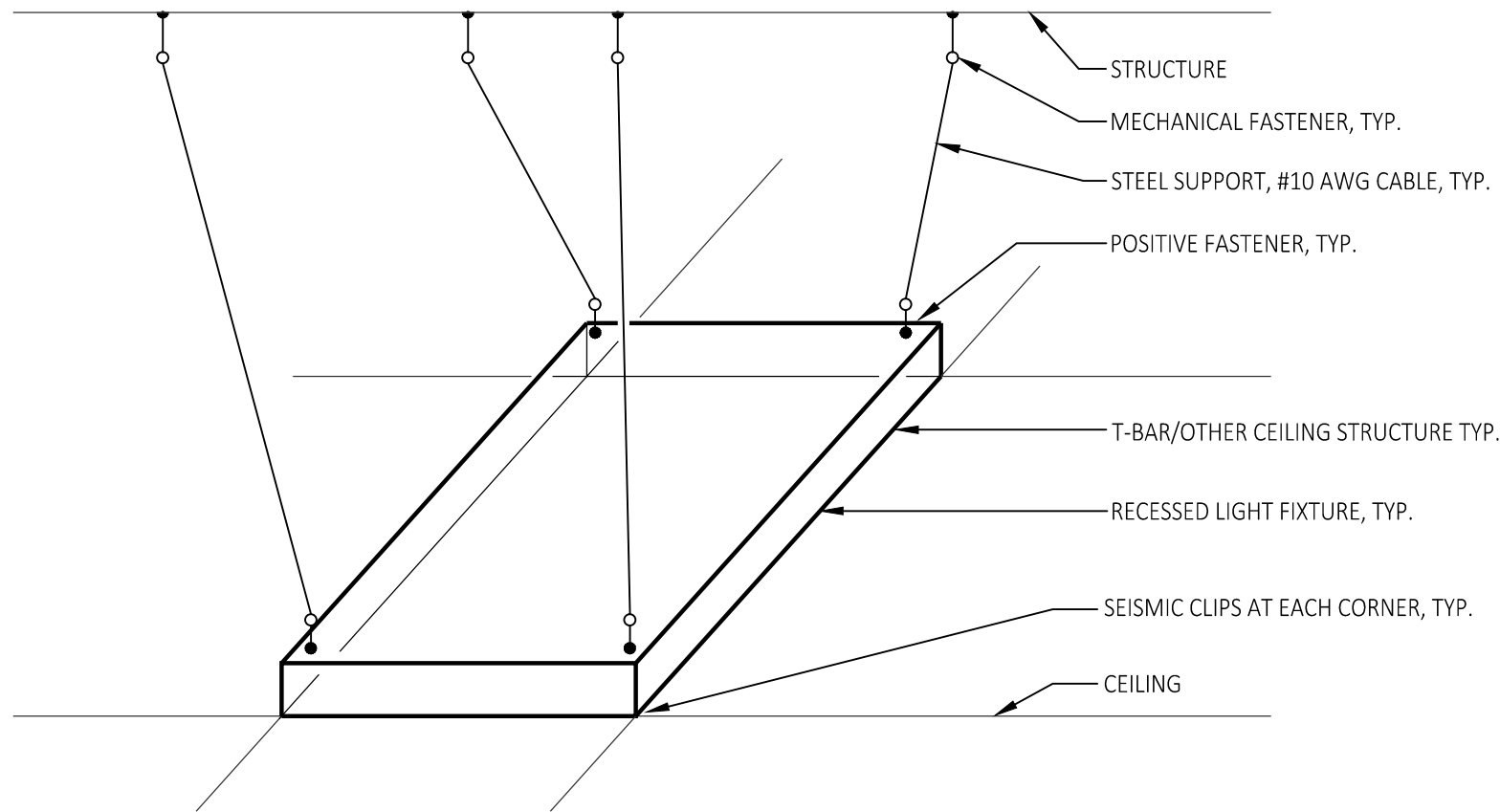
## POWER NOTES: KEYED INTO PLAN

- EP.1 RE-INSTALL EXISTING DEVICE AT EXISTING LOCATION.
- EP.2 INSTALL EXISTING DEVICE AT NEW LOCATION, PROVIDE ALL MOUNTING HARDWARE AND EXTEND WIRING PER MANUFACTURER'S REQUIREMENTS.
- EP.3 PROVIDE NEW 42-POLE 208/120V PANEL AT EXISTING PANEL LOCATION; RE-TERMINATE ALL EXISTING BRANCH CIRCUITS AND FEEDER CONDUCTORS.
- EP.4 PROVIDE NEW FIRE ALARM DEVICE COMPATIBLE WITH EXISTING SYSTEM.
- EP.5 DUCTLESS SPLIT AC UNIT; ACC-1 MOUNTED AT ROOF, COORDINATE FINAL LOCATION IN FIELD. PROVIDE 2#10, 1#10G, 3/4"Ø TO 40A/2P CIRCUIT BREAKER IN PANEL "C". INDOOR AC-1 WIRED TO OUTDOOR UNIT, PROVIDE WIRING PER MANUFACTURER'S REQUIREMENTS.
- EP.6 PROVIDE NEW WEATHERPROOF GFCI RECEPTACLE AT ROOF. PROVIDE 3#12, 3/4"Ø TO 20A/1P CIRCUIT BREAKER IN PANEL "C".
- EP.7 PROVIDE 3#12, 3/4"Ø TO 20A/1P CIRCUIT BREAKER IN PANEL "C".
- EP.8 PROVIDE NEW DUPLEX & TELECOM OUTLETS IN MULTI-SERVICE RACEWAY. REFER TO DETAIL 4 DWG E2.1.
- EP.9 NEW SECURITY DOOR CONTACT PROVIDED BY OWNER'S VENDOR.
- EP.10 PROVIDE NEW RECEPTACLE FOR AC-1 CONDENSATE PUMP. WIRE 3#12, 3/4"Ø TO SAME CIRCUIT FEEDING ROOF SERVICE RECEPTACLE.

ENGINEERS SEAL

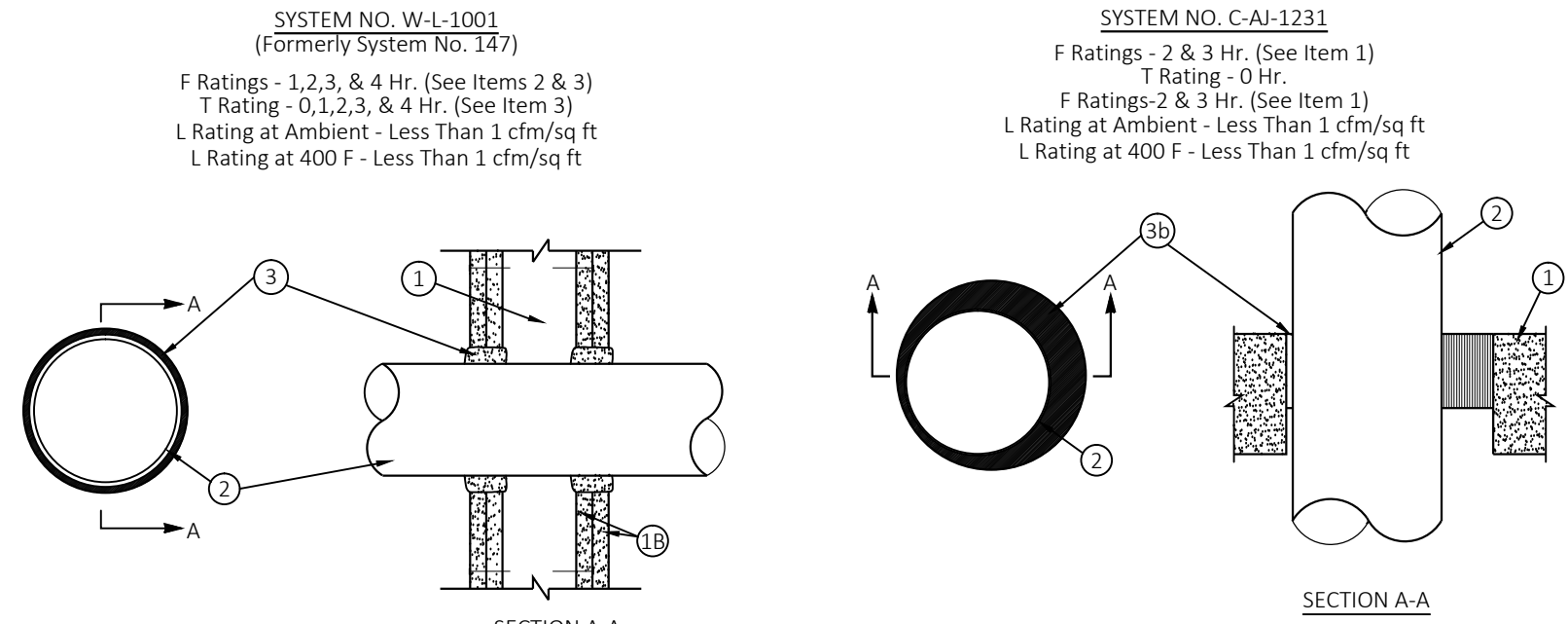


SHEET NO.  
E1.1



## 1 TYPICAL INDEPENDENT LIGHTING FIXTURE SUPPORT DETAIL

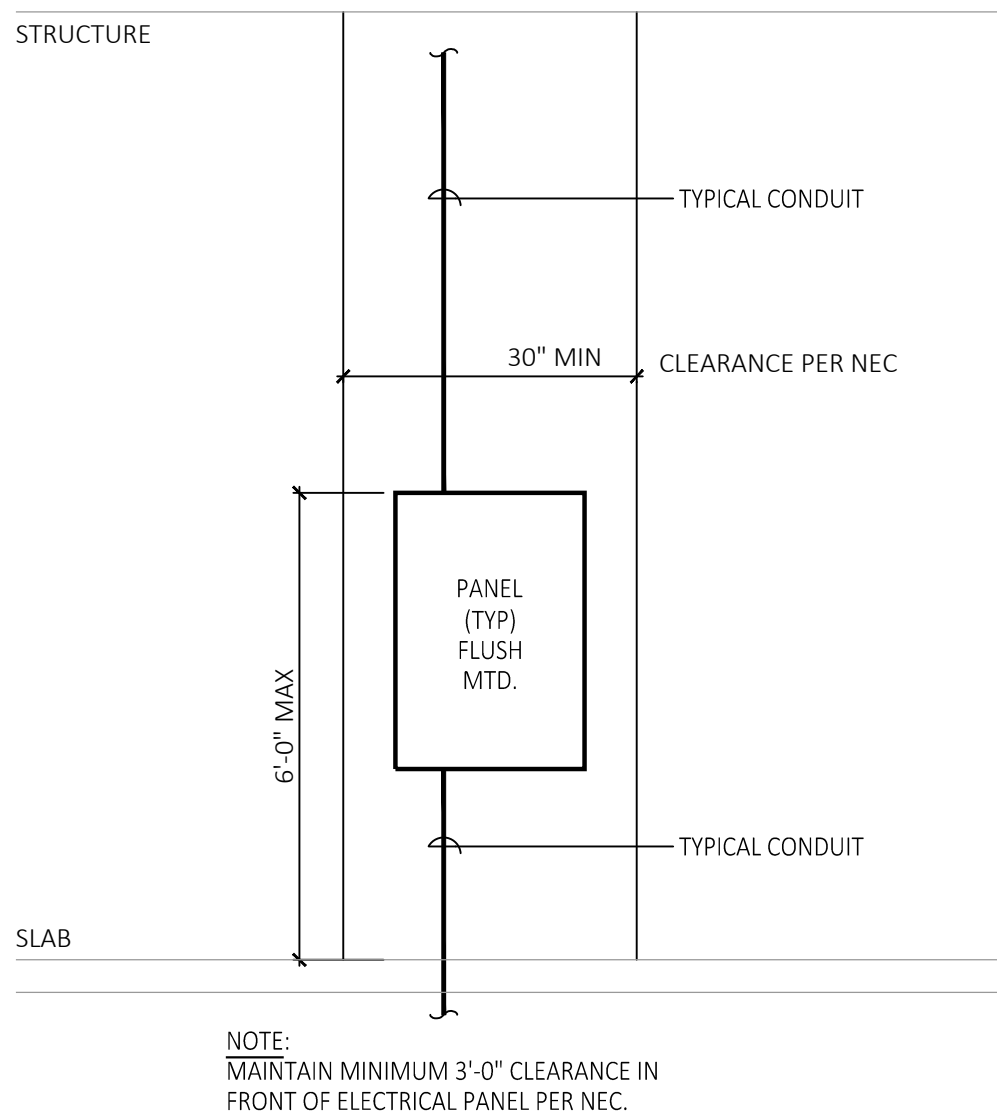
SCALE: NONE



1. Wall Assembly - the 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
- A. Studs - wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. in OC.
- B. Wallboard\* - Gypsum - Nom 1/2 or 5/8 in. thick, 4ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 13-1/2 in.
2. Pipe or Conduit - Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe, nom 12 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) Class 50 (or heavier) ductile iron pressure pipe, nom 6 in. diam (or smaller) steel conduit, nom 4 in. diam (or smaller) steel electrical metallic tubing, nom 6 in. diam (or smaller) Type L (or heavier) copper tubing or nom 1 in. diam (or smaller) flexible steel conduit. When copper pipe is used, max F rating of firestop system. Pipe or conduit to be installed near center of stud cavity width and to be rigidly supported on both sides of wall assembly.
3. Fill, Void or Cavity Material\* - Caulk - caulk fill material installed to completely fill annular space between pipe or conduit and gypsum wallboard and with a min 1/4 in. diam bead of caulk applied to perimeter of pipe or conduit at its egress from the wall. Caulk installed symmetrically on both sides of wall assembly. The hourly F rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:
- | Max Pipe or Conduit Diam. (in.) | Annular Space (in.) | F Rating (Hrs.) | T Ratings (Hrs.) |
|---------------------------------|---------------------|-----------------|------------------|
| 1                               | 0 to 3/16           | 1 or 2          | 0+ 1 or 2        |
| 1                               | 1/4 to 1/2          | 3 or 4          | 3 or 4           |
| 4                               | 0 to 1/4            | 1 or 2          | 0                |
| 4                               | 0 to 1-1/2#         | 1 or 2          | 0                |
| 6                               | 1/4 to 1/2          | 3 or 4          | 0                |
| 12                              | 3/16 to 3/18        | 1 or 2          | 0                |
- + When copper is used, T Rating is 0 h.  
# 0 to 1-1/2 in. annular space applies only when Type CP-25 WB caulk is used and only when the min. thickness of the gypsum wallboard is 5/8 in. for 1 hr rated walls and 1-1/4 in. for 2 hr rated walls.  
Minnesota Mining & Manufacturing Co. - CP 25WB  
\* Bearing the UL Classification Marking

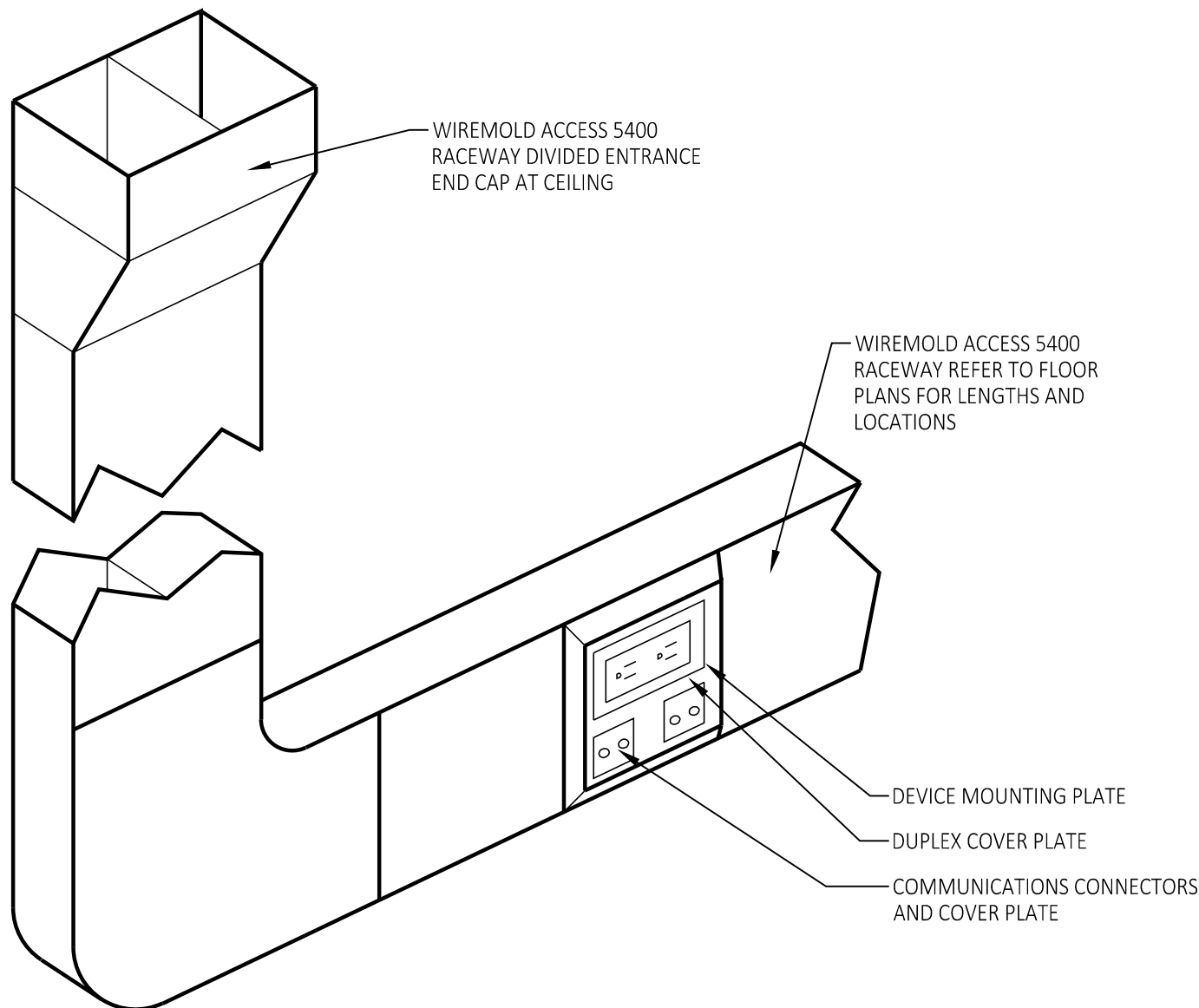
## 2 CONDUIT/SLEEVE WALL PENETRATION DETAILS

SCALE: NONE



## 3 PANEL MOUNTING DETAIL

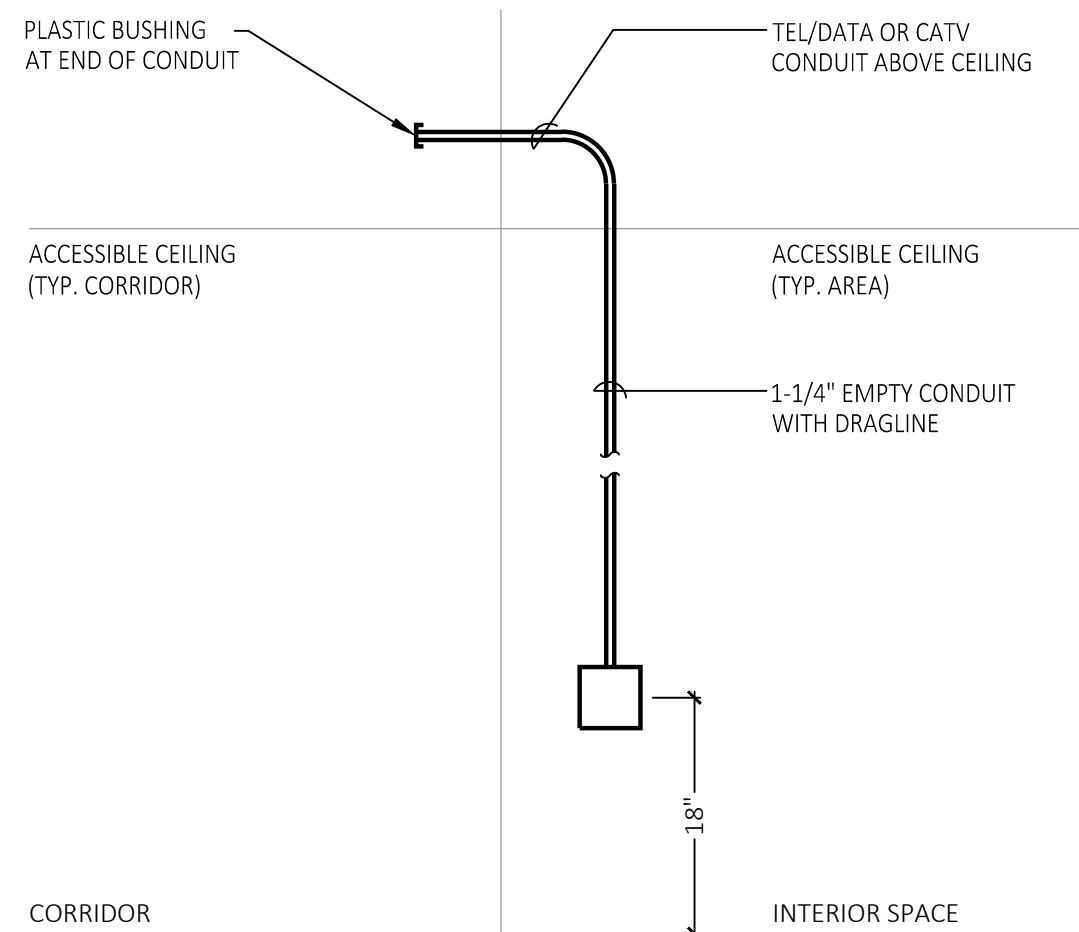
SCALE: NONE



- NOTES:
- COORDINATE FINAL COLOR AND FINISH WITH ARCHITECT.
  - PROVIDE DUPLEX RECEPTACLES AND COMMUNICATION OUTLETS AS INDICATED ON PLANS. COORDINATE ALL COMMUNICATION ACTIVATION INSERTS WITH OWNER'S TECHNOLOGY REPRESENTATIVE.

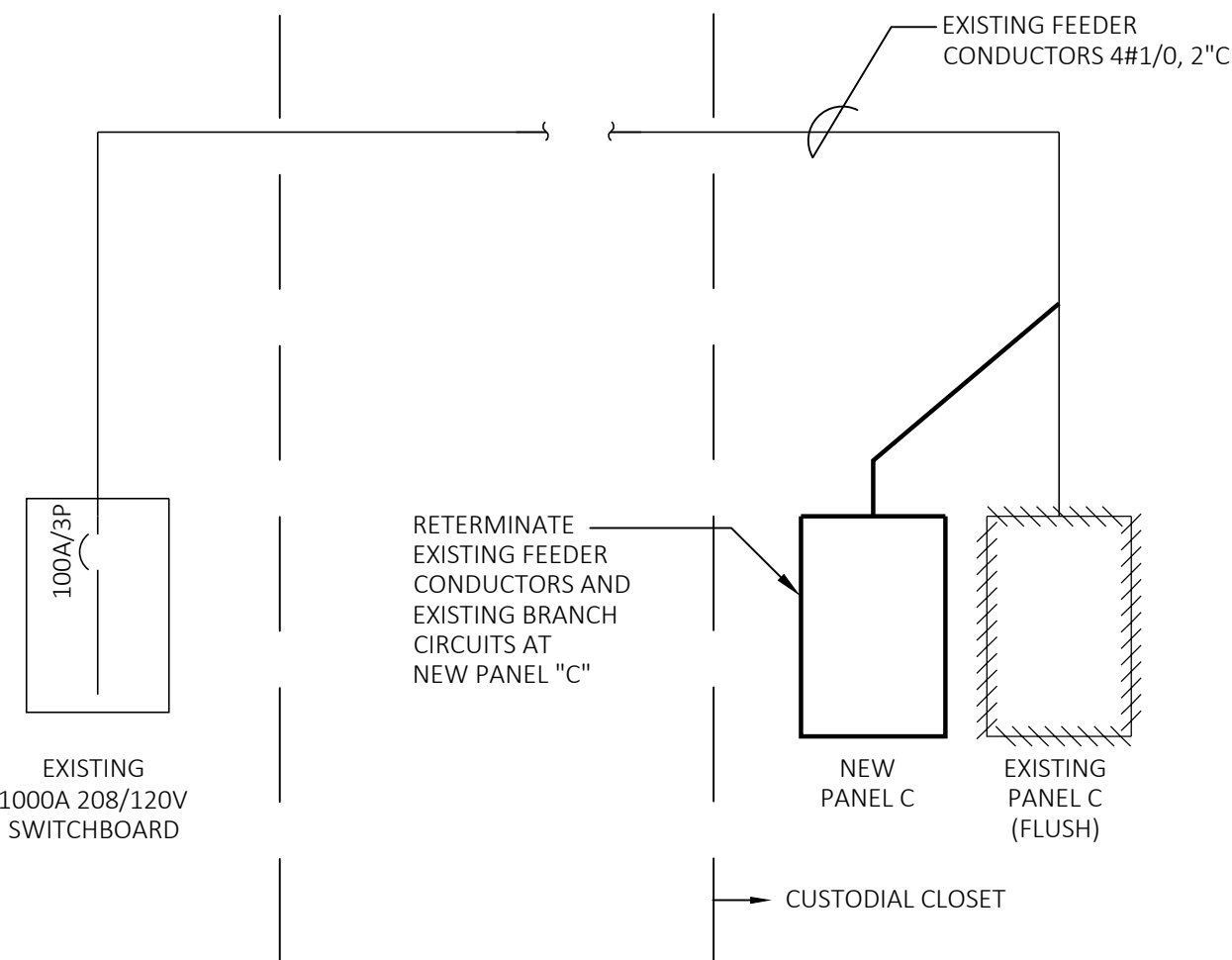
## 4 TYPICAL WIREMOLD SURFACE RACEWAY 5400 DETAIL

SCALE: NONE



## 5 TELE/DATA OR CATV OUTLET & CONDUIT DETAIL TYP. OF FINISHED CEILING AREA

SCALE: NONE



## 6 PARTIAL RISER DIAGRAM

SCALE: NONE

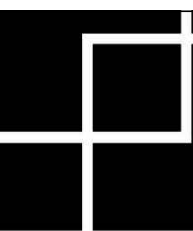
|              |           |
|--------------|-----------|
| DATE:        | 03.03.17  |
| DRAWN BY:    | GMR       |
| SCALE:       | AS NOTED  |
| REVIEWED BY: | BAD       |
| PROJECT NO.  | 2016-077a |

|           |                |
|-----------|----------------|
| REVISIONS | DESCRIPTION    |
| NO.       | ISSUED FOR BID |
| DATE      | 03.27.17       |

# ELECTRICAL DETAILS

OFFICE RENOVATION  
FOR  
MARTIN ELEM. SCHOOL  
140 DARTMOUTH ROAD  
MANCHESTER, CONNECTICUT

ENGINEERS SEAL



281 Farmington Avenue  
Farmington, CT 06032

SHEET NO.  
E2.1

PROJECT SPECIFICATIONS

PART 1 - GENERAL

1.1 GENERAL

- A. Architect's General Conditions are a part of this Division. All work shall be done in strict accordance with all applicable Codes and Regulations of local and State Agencies, Owner's insurance underwriter, IRI or FM, local Fire Marshal and utility companies. This Contractor shall bear the cost of all fees, permits, licenses and taxes and any utility company charges in connection with the work. All equipment installed shall be UL listed.

1.2 SCOPE

A. Demolition:

- The Contractor shall reference architectural, and electrical plans and remove or relocate existing electrical materials as shown or which exist on walls and partitions being removed. Removal of wiring that is no longer in service shall be complete back to source. Existing conduit may be reused when in suitable condition. Wiring for branch circuits shall not be reused unless otherwise noted. Circuits that remain shall be left in operating condition.
- Existing electrical materials shall NOT be reused unless so indicated on the Drawings. Existing flush-mounted boxes in good condition may be reused if located as shown for new boxes on Drawings. Flush-mounted boxes not being reused shall be covered with suitable cover plates, surface boxes and raceways shall be removed.
- All materials removed under these divisions and not scheduled for reuse or requested by the Owner, shall be properly disposed of off site meeting all applicable regulations of local State Agencies.

B. New Work:

- Provide complete electrical lighting, power and special systems as indicated on the Contract Drawings. Electrical systems shall be complete in all respects, tested, approved and ready for operation.
- Provide all electrical work necessary to power Owner-supplied equipment. Provide all receptacles, power wiring, core drills, etc., necessary for a complete installation.
- Main existing receptacles on existing walls to remain, where indicated, reconnect circuits that are interrupted.

C. Work by Others:

- Other Trade Contractors and Owner's equipment vendors shall install all motors for equipment provided under their trade work contracts; motors shall be ready for wiring by the Electrical Contractor. Other Trade Contractors and Owner's equipment vendors shall furnish and deliver to the Electrical Contractor wiring diagrams for all electrically operated equipment. Other trade Contractors shall furnish relays and control equipment to the Electrical Contractor who shall install and wire these devices. The Electrical Contractor shall provide motor starters and disconnect switches.
- The General Contractor shall provide excavation, backfill, chases, openings, cutting, patching, painting and finish work.
- The General Contractor shall install all access doors where required; doors needed for access to mechanical and electrical systems shall be furnished by the specific trade Contractor.
- The HVAC Contractor shall install all motors provided under the HVAC Contract ready for wiring by the Electrical Contractor and shall furnish and deliver to the Electrical Contractor wiring diagrams for all motor starters for installation and wiring. The HVAC Contractor shall furnish motor starters, relays and all temperature control equipment to the Control Contractor's Electrical Subcontractor for installation and wiring.

1.3 SHOP DRAWING SUBMITTALS

- A. Submit shop drawings on equipment and materials, in sextuplet (6 copies), to the Architect for approval. The Drawings shall include ratings, performance information, operating data and wiring diagrams. The Contractor shall assume full responsibility for work performed or equipment supplied that is not in agreement with approved shop drawings.
- B. The following list of electrical items must be submitted by Contractor for approval:
- Panelboards.
  - Circuit Breakers.
  - Safety Switches.
  - Starters.
  - Wiring devices and plates.
  - Lighting fixtures
- C. Submit for record an itemized list detailing electrical systems and components to be seismically restrained and associated seismic restraint system to be used.

1.4 RECORD DRAWINGS

- A. Neatly and accurately record all changes to Contract Documents on record set of drawings furnished by the General Contractor. These record "as-built" drawings shall include locations of specific items as listed in the various specification DIVISIONS. Upon project completion, these record drawings shall be turned over to the Engineer.

1.5 DEFINITIONS

- A. As used on Contract Drawings, the term "to provide" shall mean "to furnish", install and connect completely in the specified or approved manner the item or material described.

1.6 GUARANTEE

- A. Materials, equipment and workmanship shall have standard warranty against defects in material and workmanship. Failures due to defective or improper material, equipment, workmanship or design shall be made good, forthwith, by and at the expense of the Contractor, including damage done to areas, materials and other systems resulting from such failures. Guarantee period shall extend for one year from the Date of Acceptance.

1.7 INSPECTION

- A. Contract Drawings are diagrammatic and do NOT show every required fitting, etc. The Contractors shall examine the architectural and MEP Drawing and Specifications to determine the scope of work and familiarize themselves with existing site conditions prior to submitting a bid, and shall include all equipment and accessories necessary for complete and operational systems.

1.8 ARRANGEMENT OF WORK

- A. Work shall be coordinated between trades to prevent interference. Work shall present a neat coordinated appearance. Install work as necessary to provide maximum possible headroom, adequate clearance and ready access for inspection, operation, safe maintenance and repair and Code conformance. Where space appears inadequate, consult the Architect before proceeding with installation.

1.9 WORKMANSHIP

- A. Equipment and materials shall be new, of first quality, selected and arranged to fit properly into spaces indicated. Install equipment and materials in accordance with manufacturer's recommendations.

1.10 COORDINATION WITH OWNER

- A. Work shall be scheduled with the Owner. Interruptions in Owner's access to the site shall be subject to Owner limitations of date and duration.

1.11 OPERATION OF SERVICES AND UTILITIES

- A. Shutdown of existing services and utilities shall, without exception, be coordinated with the proper utility and with the Owner as to date, time of day, and duration before any service is interrupted. Notify the Owner of estimated duration of shutdown period at least ten days in advance of proposed shutdown. .

1.12 PROTECTION

- A. Close open ends of work with temporary covers or plugs during construction to prevent entry of foreign material. Protect existing property, equipment and finishes from damage. Repair, to original condition, existing property that has been damaged during execution of the work.

1.13 CLEANING

- A. Work site must be kept clean. Rubbish, debris and leftover or excess materials shall be removed daily.

1.14 LUBRICATION

- A. No equipment shall be operated for temporary service or testing without proper lubrication. Items requiring lubrication shall be left freshly and fully lubricated at time of substantial completion. Furnish Owner with one complete new set of any special lubrication devices required for servicing, e.g., grease guns, fittings and adapters.

1.15 PAINTING

- A. Equipment and materials shall have standard manufacturer's finish except where otherwise noted.

1.16 CUTTING AND PATCHING

- A. Cutting and patching to be performed by General Contractor/this Contractor. Painting of finished surfaces after patching shall be as specified by Architect or shall match adjacent finishes.

1.17 WATERPROOFING

- A. Provide necessary sleeves, caulking and flashing required to make openings waterproof.

1.18 FIREPROOFING

- A. At closing of each working day, provide temporary firestopping in every opening cut between floors and through fire-rated partitions. Permanent firestops shall be provided around sleeves and at other permanent openings through fire-rated partitions and floors, as required. Materials used for firestopping shall be Class A "Incombustible" with firestopping capabilities equal to that of adjacent construction.

1.19 BASES AND SUPPORTS

- A. Provide necessary supports, pads, bases and piers for equipment. Equipment shall be securely attached to building structure in acceptable manner in compliance with BOCA 1113 Seismic Code. Attachments shall be of strong and durable nature, as determined by the Owner.

1.20 SEISMIC REQUIREMENTS

- A. Submit six (6) copies of a final inspection report which includes: Sealed certification by a Structural Engineer with P.E. registration in the State of Connecticut.
- Engineer has reviewed the project.
  - Engineer has approved the use of the devices for the particular applications.
  - The devices satisfy specification- and Code-mandated seismic criteria.
- B. Refer to individual Divisions for specific requirements.

1.21 ACCESS

- A. Provide adequately sized access doors, for access to concealed equipment and components requiring servicing or inspection. Doors shall have fire ratings equal to construction in which they are located.

1.22 TESTS

- A. Perform tests required by the Owner, legal authorities and agencies. Each piece of equipment, including motors and controls, shall be operated continuously for minimum one-hour test. Correct all defects appearing during tests, and repeat tests until no defects are disclosed. Final tests shall be made in the Owner's presence.

1.23 SYSTEMS OPERATION AND MAINTENANCE

- A. Upon completion of the work and at a time designated by the Engineer, the Contractor shall furnish (3) instruction manuals including data, warranties, etc., and shall instruct the Owner or his representative as to the arrangement, location and operation of all equipment and systems furnished and installed under the Mechanical and Electrical Contract.

1.24 PERMITS, LAWS, ORDINANCES, CODES AND STANDARDS

- A. Obtain and pay for permits, inspections, licenses and certificates required. Work of this Contract shall meet State Building Code, State Fire Safety Code and other laws, rules and regulations of local, State and Federal authorities; National Electrical Code, 2014 Edition. Equipment, materials and components listed UL Product Directories, shall bear UL labels.

1.25 INSURANCE

- A. Furnish insurance certificates required by the Owner.

PART 2 - PRODUCTS

2.1 WIRE, CABLE AND RACEWAY

- A. Rigid galvanized steel conduit (RGS) shall be used for all exterior wiring and where subject to dampness, except as noted below or as specifically noted on the Drawing.
- B. Electrical Metallic Tubing (EMT) shall be used for feeders run above ground in dry areas, and all exposed branch circuit wiring.
- C. EMT or RGS shall be used for all circuit homeruns.
- D. Flexible Metallic Conduit (FMC) or liquid-tight flexible metallic conduit (LFMC) shall be used for connections to vibrating equipment and furniture partitions.
- Grey/tan Type LA liquid-tight flexible metal conduit (LFMC) shall be used for final connections to vibrating equipment.
- E. Type (MC) metal-clad cable may be used for branch wiring to light fixtures, receptacles and switches where concealed. Wherever (MC) cable is used for light fixture wiring, leave sufficient slack for future removal or servicing of fixtures in finished ceilings. The (MC) cable shall be UL listed, 600V, 90 degree C rated, metal clad with THHN insulation and green insulated ground wire. All cables shall be rigidly supported from the building structure at least 4' O.C. and within 12" from every fitting and shall run in lines parallel or perpendicular to building structure members. Cable shall not rest on the ceiling structure. Type (MC) cable shall not be used for homeruns. Type NM or AC armored cable shall not be permitted on the job.
- F. Minimum sizes shall be as follows:
- Conduit and EMT: 3/4" unless otherwise noted.
  - Flexible Metal Conduit: 1/2".
- G. Wiring that must be run along the surface of the existing walls shall be run in Wiremold #500 surface metal raceway, Wiremold #2100 surface metal raceway or as otherwise specified on the drawings.
- H. Wire #10 and smaller shall be solid conductor with THWN/THHN insulation, Size #8 and larger shall be stranded conductors with THWN/THHN insulation. Size #3 and larger shall be stranded conductors with XHHW insulation. Minimum size wire for light and power circuits shall be #12 AWG. The Contractor shall include an individual code sized green insulated ground conductor for all circuits; the use of the conduit system or cable covering as the sole means of grounding will not be permitted.
- I. Common neutrals shall not be used for receptacle circuits, unless otherwise noted on plans. When used, common neutral conductor ampere rating shall be double the phase conductor rating.
- J. All conduit and wiring shall be run concealed inside walls where possible. Exposed conduits where allowed shall be run neatly in lines parallel or perpendicular to building walls.
- K. All splices for #10 or smaller shall be made with "Scotchlok" spring connectors or equal. Splices for #8 or larger shall be made with UL approved compression connectors.
- L. Provide nylon pull lines for all empty conduits.

2.2 PANELBOARDS

- A. Panelboards shall be by Square D, General Electric, Butler-Hammer or equal. Refer to Contract Drawings for requirements on special ratings and auxiliary devices such as relays, contactors and time switches.
- B. Panelboard shall have mains and branches as scheduled. Unless otherwise noted, breakers shall have minimum interrupting rating consistent with series-connected ratings for breakers and fuses as published in UL Recognized Component Directory or as listed in manufacturer's published literature. Panelboards shall be as follows:
- 120/208V lighting and small panelboards shall be Square D "NQOD" or equal with ratings as indicated on plans.
- C. Panelboards shall confirm to standards of NEMA PB-1. Panelboards shall have distribution phase bussing throughout. Unless noted otherwise, panels shall be surface-mounted and main lugs shall be at top or bottom. Panels shall include ground bus.
- D. Each cabinet shall have hinged locking metal door and card holder for directory. All locks shall be fitted to same key. Panelboards card directories shall be completely filled out (typewritten) upon completion of project.
- E. Cover trims for panelboards shall be hinged to box with full height semi-concealed piano hinges and be fastened to box lip with screws. Trim clamps may only be used on opening part of trim. Trim door shall also be hinged. Trim shall be UL labeled.
- F. Provide oversize gutter for taps where wiring runs through to floor above. Through-fed lugs will NOT be accepted for continuation of risers.

2.3 SAFETY SWITCHES

- A. Safety switches shall be 600 VAC, heavy-duty type in NEMA enclosures suitable for the environment in which they shall be installed. Switches shall be Square D, General Electric or Cutler-Hammer equivalent .

2.4 FUSES

- A. Fuses for circuit protection shall be UL listed, non-renewable, low peak, dual-element, time delay fuses. Bussman Type FRN-RK (250 Volt) or FRS-RK (460 Volt) UL Class RK5 or approved equal.

2.5 MOTOR STARTERS

- A. Provide starters for all motors unless noted otherwise. Starters shall be Allen-Bradley or equal by Square D, General Electric or Cutler-Hammer, as follows:
- Manual for 120 Volt or 208 Volt, 1-phase: Allen Bradley Bulletin 600.
  - Magnetic across-the-line: Allen Bradley Bulletin 509.
  - Combination starter disconnects: Allen Bradley Bulletin 512.
- B. Manual starters shall have NEMA 1 enclosure.
- C. Magnetic starters shall have the following features:
- NEMA 1 enclosure.
  - Two N.O. and two N.C. auxiliary contacts.
  - HOA switch.
  - Neon run pilot light.
  - Three overload heaters (not required if built into motor).
  - Control power transformer.

2.6 OUTLET AND JUNCTION BOXES

- A. Switch and receptacle outlet boxes in partitions where wiring is concealed shall be standard 4 inches square, 1-1/2 inches deep, hot-dipped, galvanized steel, with device ring for boxes installed in sheetrock walls. Use 1-1/2 inch deep square corner tile wall extension for boxes installed in tile, exposed brick or exposed block masonry walls.
- B. Boxes shall be securely fastened to the building structure. Suitable means shall be provided to support outlet boxes to take the weight of fixtures. Recessed outlet boxes or their extension covers shall be set flush with face of finished wall, but in no case set greater than 1/4 inch behind finished face of wall. The Contractor shall check with the Architect Drawings for possible box interference.
- C. Junction boxes shall be sized in accordance with Code requirements.
- D. Junction and outlet boxes were exposed to the weather and wet locations shall be threaded hub type and provided with watertight screw-on covers and gaskets.

2.7 SWITCHES, RECEPTACLES AND PLATES

- A. Switches and receptacles shall be as manufactured by Hubbell, Arrow-Hart, Leviton or Pass and Seymour and equivalent to the following specification grades, with color matching Building Standard:
- Single-pole switches shall be Hubbell #1221.
  - 3-way switches shall be Hubbell #1223.
  - Duplex grounding type receptacles shall be 20 Ampere Hubbell #5362.
  - Ground fault type receptacles shall be Hubbell #GF5362 feed-through receptacles.

- B. Provide wall plates equal to building standard on all switches and receptacles. When no standard exists provide specification grade stainless steel (Type 302).

- C. Where there are multiple devices in one location, devices shall be ganged under one cover plate. All wall switches shall be flush mounted, where applicable.

- Receptacles shall be mounted 18 inches above finished floor with U ground up unless otherwise indicated.
- Wall switches shall be mounted 48 inches above finished floor, on strike side of door, unless otherwise indicated.

2.8 LIGHTING FIXTURES

- A. The Contractor shall furnish and install all lighting equipment as shown on the drawings and specified on drawings complete with lamps ready for operation.
- B. All existing lighting fixtures to remain in the construction area shall be re-lamped with new lamps to match building standard for type and color and clean all reflecting surfaces, diffusers and louvers.
- C. Existing fixtures in the space shall be reused where noted on the Drawings. The fixtures shall be disconnected, removed and stored by the Electrical Contractor and then be cleaned and relamped prior to reinstallation. The Electrical Contractor shall document, in writing, any damage noted on the fixtures prior to removing them and submit a copy to the General Contractor and the Engineer. The Electrical Contractor shall be held responsible for damage caused by work under this project.
- D. Fixtures not noted as being reused will be turned over to the Building Owner, or disposed of per the Owner's direction during construction.
- E. Installation of lighting fixtures:
- Fixtures shall be securely attached to the building structure by mechanical means and by safety wire. Provide box-mounted studs and additional structural supports as required. Provide two safety wires per fixture. Each safety wire shall be capable of supporting four times the weight of the fixture. Safety wire shall be adjusted to be in slack tension.

2.9 COMMUNICATIONS

- A. The contractor shall furnish and install all communications devices and wiring shown on drawings and specified herein.

2.10 SEISMIC RESTRAINT

- A. Provide seismic bracing and restraint on wiring systems where conduit or cable tray is supported by hangers longer than 12" measured from bottom of supporting structure to top of conduit or cable tray.
- B. Restraints shall be as follows:
- Light fixtures; fixtures shall be securely attached to the building structure by mechanical means and by safety wire. Provide box-mounted studs and additional structural supports as required. Provide two safety wires per fixture. Each safety wire shall be capable of supporting four times the weight of the fixture. Safety wire shall be adjusted to be in slack tension.
  - Panelboards; Mason Industries Type PB.
  - Conduits, 2 1/2" and larger; Mason Industries Type SCB/SSB, conduit racks/cable tray; Mason Industries Type SCB/SSB.
  - Certified seismic anchor bolt: M.I. Type SAB.
  - Certified seismic anchor stud: M.I. Type SAB.
  - Bolt isolation washer bushing: M.I. Type HG.
  - Seismic cable brace anchor and assembly: M.I. Type SLB.
  - Seismic cable brace hook anchor assembly: M.I. Type SCBH.
  - Seismic solid brace swivel anchor assembly: M.I. Type SSB.

2.11 CIRCUIT BREAKERS

- A. All new circuit breakers shall match existing in style, manufacturer and interrupting rating for panel in which they are being installed, unless noted otherwise.

PART 3 - EXECUTION

3.1 LOAD BALANCE

- A. The Electrical Contractor shall balance the loads on the three phases in the electrical panelboard in which he does work insofar as physically possible, and report each panel loading to the Engineer.

3.2 GENERAL WIRING TESTS

- A. At the time of final inspection and test, all wiring and connections throughout the renovation areas must be completed, devices and equipment properly operating, lighting fixtures installed, and power and lighting circuit and control wiring clearly identified with approved tags ready for acceptance. Each system shall test free from short circuit and grounds.
- B. Insulation resistance for low voltage cables and wiring shall be performed at 1000 Volt D.C. for one-half (1/2) minute. When insulation resistance must be determined, switchboards, panelboards, fuse holders, switches and overcurrent devices shall be in place, and the insulation resistance when tested at 500 Volts D.C. shall be no less than 100,000 ohms for #14 and #12 wire and 250,000 ohms for #10 wire and larger.

3.3 OPERATIONAL TESTS

- A. Each piece of electrical equipment, including lighting fixtures, motors and controls shall be operated continuously for minimum test period of one hour.
- B. Demonstrate by operating equipment that circuits and devices are in good operating condition. Each item of control equipment shall be operated minimum of five times. Demonstration shall be performed after wiring tests.

3.4 LABELING

- A. Label all new disconnects, starters, motors, furniture feeder boxes, in a manner acceptable to the Architect. Provide updated panel schedules in all panelboards within the scope of work.
- B. All manufacturer's nameplates shall be kept clean and free of paint.
- C. Data/communications wiring done under this Contract shall be recorded on cable management drawings. Each outlet shall be assigned a number which shall be keyed to its punchdown location.

END OF SECTION

DATE: 03.03.17

DRAWN BY: GNR

SCALE: AS NOTED

REVIEWED BY: BAD

PROJECT NO. 2016-078

REVISIONS

| NO. | DATE     | DESCRIPTION | ISSUED FOR BID |
|-----|----------|-------------|----------------|
|     | 03/27/17 |             |                |

ELECTRICAL

SPECIFICATION

OFFICE RENOVATION

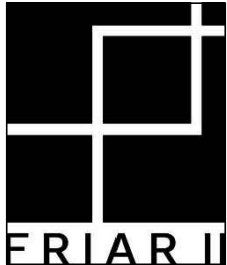
FOR

MARTIN ELEM. SCHOOL

140 DARTMOUTH ROAD

MANCHESTER, CONNECTICUT

ENGINEERS SEAL



FRIAR II

281 Farmington Avenue

Farmington, CT 06032

SHEET NO.

E3.1