## GENERAL NOTES

1. ALL WORK SHALL CONFORM WITH ALL STATE AND LOCAL CODES.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND TAXES.
3. EACH ITEM OF EQUIPMENT SHALL BE MOUNTED AND CONNECTED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS & SHALL BE U.L. LISTED, AS SPECIFIED.
4. CONTRACTOR SHALL MAKE AN ON-SITE INSPECTION TO DETERMINE FULLY THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION.
5. LOCATION OF EQUIPMENT AND OTHER MECHANICAL WORK IS INDICATED DIA-GRAMMATICALLY BY THE DRAWINGS. DETERMINE EXACT LOCATIONS ON THE JOB SITE, SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF OTHER CONTRACTORS.
6. AFTER INSTALLATION AND START-UP, EACH ITEM OF EQUIPMENT SHALL BE THOROUGHLY CHECKED FOR VIBRATION TRANSMISSION TO THE STRUCTURE OR EXCESSIVE NOISE, AND IF EITHER OCCURS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING THE FAULTY SITUATION IMMEDIATELY.
7. ALL EXISTING EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE OWNER AND SHALL BE REMOVED, STORED, OR DISPOSED OF AT THE DIRECTION OF THE OWNER.
8. ALL OPENINGS IN ROOF, WALLS, CEILINGS AND FLOORS RESULTING FROM DEMOLITION SHALL BE CLOSED AND FINISHED TO MATCH THE SURROUNDING AREAS.
9. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF MECHANICAL EQUIPMENT'S ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. CON-TRACTOR ORIGINATED MODIFICATIONS TO THE MECHANICAL EQUIPMENT'S ELECTRICAL INSTALLATION, DUE TO DEVIATIONS FROM THE MECHANICAL EQUIPMENT "BASIS OF DESIGN" OR "PROTOTYPE" ELECTRICAL DATA, SHALL BE AT A COST TO THE MECHANICAL CONTRACTOR.

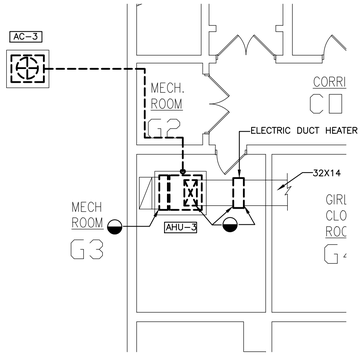
## SYMBOLS AND ABBREVIATIONS

- LPS — LOW PRESSURE STEAM PIPE
- LPC — LOW PRESSURE CONDENSATE PIPE
- CONTROL VALVE
- ISOLATION VALVE
- CHECK VALVE
- UNION
- CAPPED PIPE END
- PIPE DROP
- PIPE RISE
- DEMO
- EXISTING TO REMAIN
- NEW
- AC- OUTDOOR CONDENSING UNIT
- AHU- INDOOR AIR HANDLING UNIT
- POINT OF CONNECTION OF NEW TO EXISTING
- POINT OF TERMINATION OF DEMOLITION

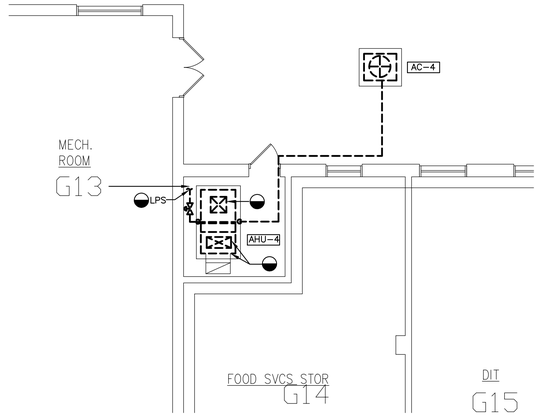
THE FOLLOWING ITEMS MUST BE COMPLETED BY THE CONTRACTOR BEFORE ANY WORK COULD BE PERFORMED AT THE SCHOOL.

[1] PROVIDE TRADE PERMITS TO THE OWNER AND POST THEM IN A WINDOW FACING A PUBLIC STREET.

[2] SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE PRINCIPAL AND OWNER.




1 ME-1 AHU-3 DEMO PLAN
NTS




2 ME-1 AHU-4 DEMO PLAN
NTS

## DRAWING DEMOLITION NOTES:

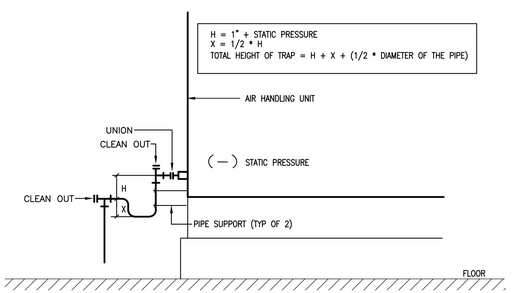
(A) REMOVE EXISTING AIR HANDLING UNITS (AHU-3 AND AHU-4), ASSOCIATED OUTDOOR CONDENSING UNITS (AC-3 AND AC-4) AND REFRIGERANT PIPING, ELECTRIC DUCT HEATER (AHU-3), AND MOTOR STARTERS. EXISTING LOAD SIDE CONDUCTORS AND CONDUITS SHALL BE REMOVED TO THE DISCONNECT. REMOVE EXISTING FUSED SAFETY SWITCH.

(B) DISCONNECT STEAM PIPING FOR AHU-4 AND REMOVE ASSOCIATED STEAM TRAP AND CONTROL VALVE.

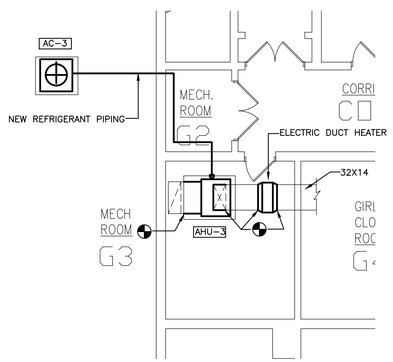
(C) DISCONNECT DUCTWORK ON AHU-3 AND AHU-4. SAVE ANY CONTROL DEVICES AND RE-INSTALL THEM IN NEW DUCTWORK.

(D) REMOVE EXISTING VIBRATION ISOLATION RAIL UNDER AHU IF ANY.

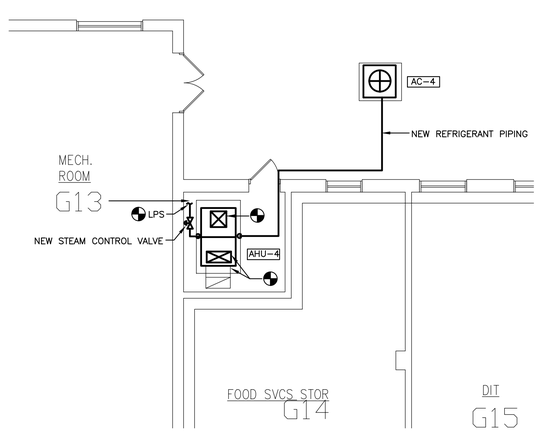
(E) CONTROL CONTRACTOR SHALL COORDINATE ALL CONTROL DEMOLITION/INSTALLTION WORK WITH FCPS ENERGY MANAGEMENT DEPT. 48 HOURS BEFORE ANY WORK BEGINS, PLEASE CONTACT SERGHEI MALCOV @703.764.4373




5 ME-1 CONDENSATE DRAIN DETAIL




3 ME-1 AHU-3 NEW PLAN
NTS




4 ME-1 AHU-4 NEW PLAN
NTS

## DRAWING NEW WORK NOTES:

(A) MOUNT NEW AIR HANDLING UNITS AND REMOTE CONDENSING UNITS ON THE EXISTING CONCRETE PADS. NEW AIR HANDLING UNITS SHALL FIT ON THE EXITING CONCRETE PADS. EXISTING CONCRETE PADS SHALL BE CLEAN AND PAINTED.

(B) FURNISH AND INSTALL NEW VFD (AHU-3 AND 4) AND 30AMP FUSED DISCONNECT SWITCH FOR NEW AIR HANDLING UNITS AND CONDENSING UNITS WITH NEW FUSES SIZED PER MANUFACTURER'S RECOMMENDATIONS. ROUTE NEW 3 #12 THHN PLUS GROUND IN NEW 3/4" IMC CONDUIT FROM FUSED SAFETY SWITCH TO NEW AIR HANDLING UNITS AND CONDENSING UNITS. PROVIDE RIGID CONDUIT WITH A SHORT LENGTH (36") OF LIQUIDTIGHT CONDUIT CLOSE TO THE EQUIPMENT. EXTEND EXISTING POWER TO NEW F.S.S. AS NECESSARY.

(C) AHU-3:
INSTALL NEW DUCT MOUNTED ELECTRIC HEATING COIL IN THE EXISTING DUCTWORK. TIE INTO THE EXISTING CONTROLS.

(D) AHU-4:
PROVIDE NEW STEAM CONTROL VALVE TO MATCH WITH EXISTING. RECONNECT THE STEAM PIPING AND INSTALL INSULATION TO MATCH EXISTING, SEE PIPING DETAIL ON DRAWING ME-2.

(E) RECONNECT THE DUCTWORK TO THE NEW AIR HANDLING UNITS. NEW DUCTWORK SHALL MATCH WITH EXISTING AND PROVIDE SOUND LINING.

(F) ALL OPENINGINGS IN WALLS RESULTING FROM DEMOLITION SHALL BE CLOSED AND FINISHED TO MATCH THE SURROUNDING AREAS.

(G) PROVIDE NEW CONDENSATE DRAIN AND TRAP FOR NEW AIR HANDLING UNITS. PROVIDE OVERFLOW SWITCH IN CONDENSATE DRAIN PAN IN BOTH AIR HANDLING UNITS FOR EMERGENCY SHUT DOWN. SEE CONDENSATE DRAIN DETAIL ON THIS DRAWING.

(H) CONTROLS: REPLACE TWO DUAL SET POINT THERMOSTATS AND MWU IN EACH UNIT AND CALIBRATE THEM AFTER INSTALL. REPLACE STEAM VALVE FOR AHU-4. RECONNECT ALL THE PNEUMATIC CONTROLS TO THE NEW UNITS. SEE WIRING DIAGRAMS IN THE TECHNICAL SPECIFICATION.

(I) CONTRACTOR SHALL TIE DUCT SMOKE DETECTOR TO UNIT SHUTDOWN FOR AIR HANDLING UNITS. CONTRACTOR SHALL INFORM AND COORDINATE WITH FCPS FIRE ALARM SPECIALIST (GREG ROSE 703.898.5734) PRIOR TO STARTUP THE NEW AHUS.

(J) BALANCING CONTRACTOR SHALL BALANCE THE OUTDOOR AIR AND SUPPLY AIR QUANTITY FOR AIR HANDLING UNITS PER SCHEDULE, BALANCING CONTRACTOR SHALL CONTACT THE CONTRACTOR AND OWNER IF DESIGNED AIRFLOW CAN'T BE ACHIEVED ON SITE.

(K) NEW AIR HANDLING UNITS, CONDENSING UNITS AND FUSED DISCONNECTS (WITH THE NAME OF THE ELECTRICAL PANELS) SHALL BE IDENTIFIED BY ENGRAVED NAME TAG WITH THE TITLE OF THE EQUIPMENT AS TAKEN FROM THE PLANS IN A POSITION THAT IS CLEARLY VISIBLE. WARRANTY TAGS SHALL BE PROVIDED ON THE UNITS PER SPECIFICATIONS. THE LETTERS SHALL BE NOT LESS THAN 1/2" HIGH. THE TITLES SHALL BE SHORT AND CONCISE.

AIR HANDLING UNIT AND AIR-COOLED CONDENSING UNIT REPLACEMENT

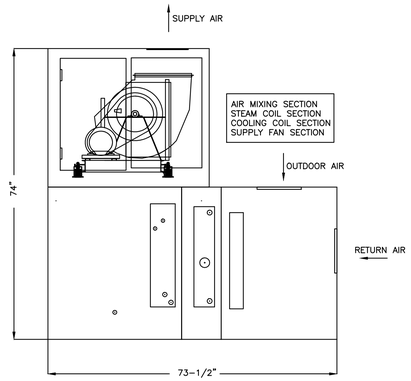
GRAHAM ROAD COMMUNITY CENTER
3036 GRAHAM ROAD
FALLS CHURCH, VA 22042

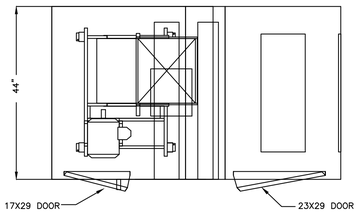
DATE: 1/15/2021
DRAWN BY: LQD

Fairfax County Public Schools
DEPARTMENT OF FACILITIES MANAGEMENT
5925 SIDEBURN ROAD
FAIRFAX, VIRGINIA 22032-2637
703-764-2423

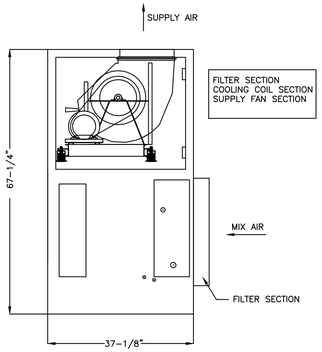
SHEET: ME-1

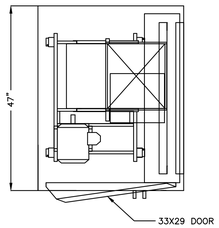
MMB-057-21



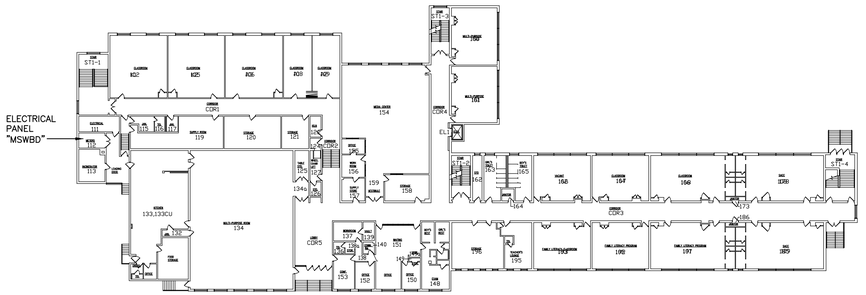




1 ME-2 AHU-4 SECTION AND TOP VIEW
NTS

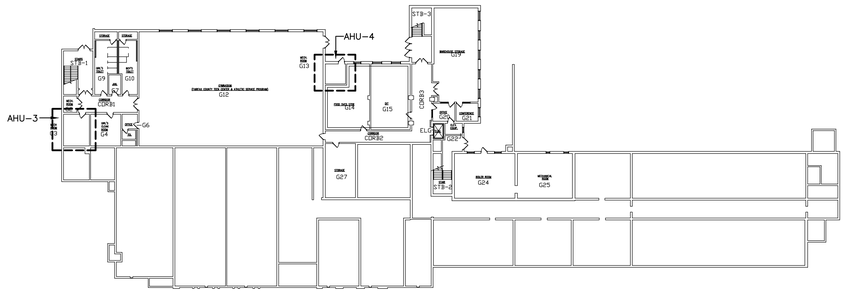



2 ME-2 AHU-3 SECTION AND TOP VIEW
NTS




FIRST FLOOR




GROUND FLOOR

## AIR HANDLING UNITS SCHEDULE

| GENERAL | | | | FAN | | | | | | DX COIL | | | | HEATING COIL (ELECTRIC OR STEAM) | | | BASIS OF DESIGN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIT NO | SERVES | LOCATION | MIN. O.A. CFM | TOTAL SUPPLY AIR CFM | ESP (in W.G.) | RPM | MOTOR (1) | | | EAT | | TOTAL CAP. MBH | SENS. CAP. MBH | EAT | MBH | KW OR LB/HR | TRANE |
| | | | | | | | HP | VOLTS | PH | TDB | TWB | | | | | | |
| AHU-3 | GYM | G3 | 250 | 2400 | 0.75 | 1057 | 2 | 480 | 3 | 76.9 | 63.9 | 86 | 63 | 65.5 | | 20 KW (DUCT MOUNTED COIL) | CSAA (3) |
| AHU-4 | GYM | G13 | 250 | 2400 | 0.75 | 1552 | 3 | 480 | 3 | 76.9 | 63.9 | 86 | 63 | 65.5 | 63.8 | 65.7 LB/HR (2) | CSAA (3) |

NOTES:

(1) PROVIDE VFD FOR EACH AIR HANDLING UNIT AND MOUNT THEM ON THE WALL INSIDE THE MECHANICAL ROOMS.

(2) AHU-4: HEATING COIL SHALL BE NON-FREEZE STEAM COIL AND IS BASED ON A SATURATED STEAM PRESSURE OF 2 PSIG. MAX FIN SPACING SHALL BE 8 FINS PER INCH. COIL MAX FACE VELOCITY SHALL BE 550 FEET PER MINUTE. MAX DISCHARGE VELOCITY SHALL BE 1500 FEET PER MINUTE.

(3) PROVIDE 6" BASERAIL FOR EACH AIR HANDLING UNIT

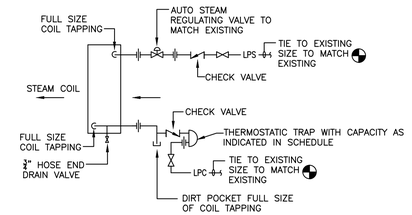
## AIR-COOLED CONDENSING UNITS SCHEDULE

| SERVES | LOCATION | TONS | AIR-COOLED CONDENSING UNITS | | | | |
|---|---|---|---|---|---|---|---|
| | | | MCA (AMPS) | MOCP (AMPS) | ELECTRICAL | WEIGHT (LB) | MODEL # TRANE |
| AC-3, AC-4 | GROUND | 7.5 | 15 | 20 | 460/3/60 | 400 | TTA090E44DAA |

DESIGN CONDITIONS:

COOLING OUTDOOR AMBIENT - 95F D.B./78F W.B.
FAN DATA INCLUDES LOSSES FOR FILTERS AND WET COILS
COOLING CAPACITIES LISTED ARE GROSS CAPACITIES AND DO NOT DEDUCT FAN MOTOR HEAT

1. FURNISH AND INSTALL REFRIGERANT PIPING, SIGHT GLASS, TIME DELAY RELAY AND FILTER DRYER SIZED AND ROUTED PER THE MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE UNIT WITH LOSS OF CHARGE SWITCH, INTERNAL PRESSURE RELIEF VALVE AND HIGH PRESSURE SWITCH.
3. PROVIDE UNIT WITH ENLARGED REFRIGERANT LINES FOR LONG REFRIGERANT RUNS AS SPECIFIED BY MANUFACTURER.
4. PROVIDE UNIT WITH THERMOSTATIC EXPANSION VALVE (TXV, INDOOR AIR HANDING UNIT) AND LOW AMBIENT OPERATION TO 20°F
5. PROVIDE UNIT WITH THERMAL OVERLOAD PROTECTION AND HAIL GUARD.
6. MAINTAIN MANUFACTURER'S MINIMUM RECOMMENDED CLEARANCES.




3 ME-2 STEAM COIL DETAIL PIPING CONNECTION

MMB-057-21

AIR HANDLING UNIT AND AIR-COOLED CONDENSING UNIT REPLACEMENT

GRAHAM ROAD COMMUNITY CENTER
3036 GRAHAM ROAD
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