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MEADOW VIEW ELEMENTARY
HVAC RENOVATION

RADCLIFF, KENTUCKY

OWNER:

HARDIN COUNTY PUBLIC SCHOOLS

NANNETTE JOHNSTON - SUPERINTENDENT

BOARD MEMBERS:

KAY SHARON - BOARD CHAIR

CHARLIE WISE - BOARD VICE CHAIR

JOHN EMARY

MIKE KINNEY

SUZANNE BROADWATER

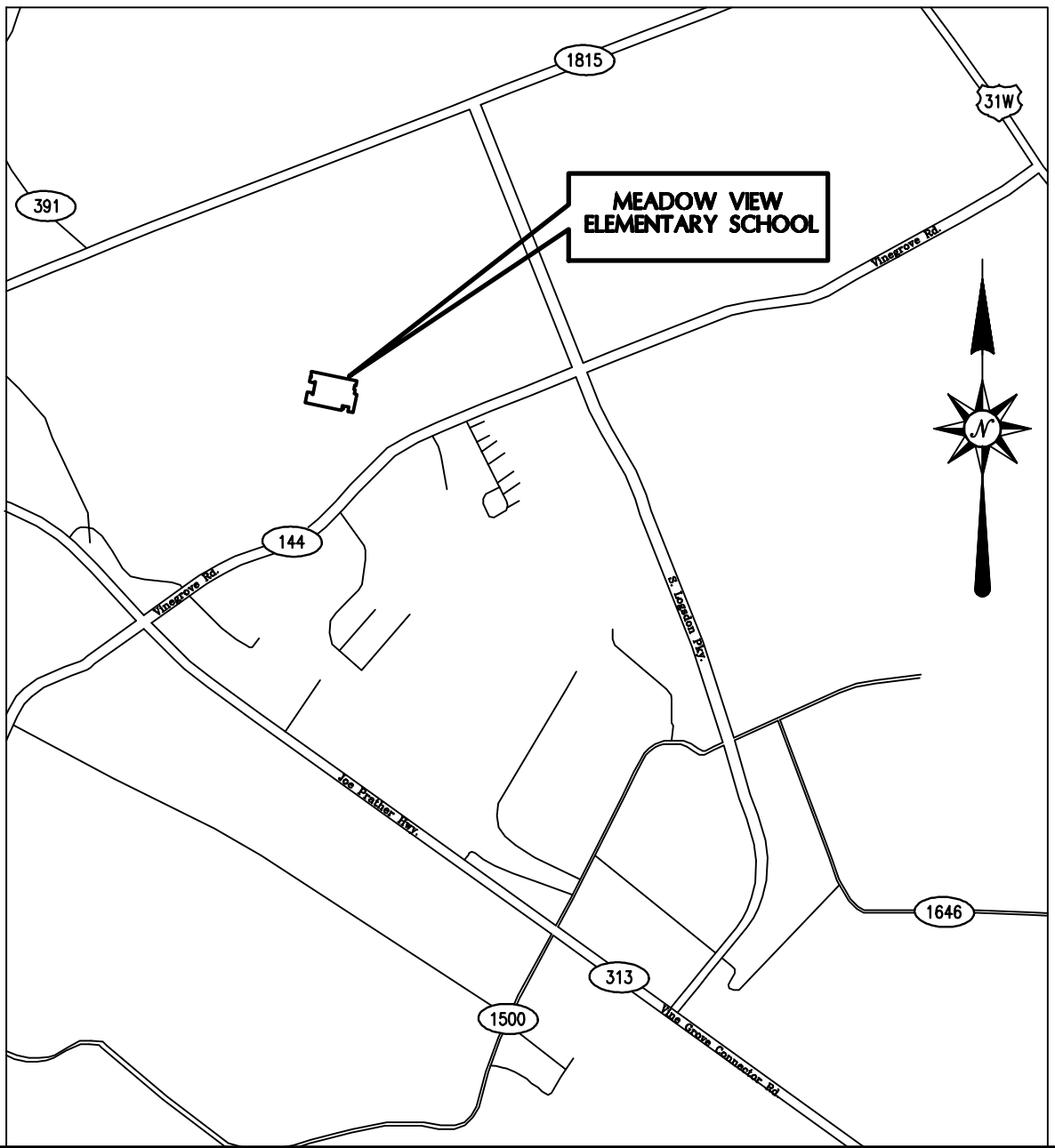
GARY MILBY - ASSOCIATE SUPERINTENDENT

DAVID WYATT - DIRECTOR, BUILDINGS AND GROUNDS

JANUARY 9, 2014

VICINITY MAP (Not To Scale)

1255 WEST VINE STREET
RADCLIFF, HARDIN COUNTY, KY.



EXISTING CODE COMPLIANCE INFORMATION

NOTE: PROJECT IS DIRECTED BY HVAC RENOVATION WORK ONLY
NO ADDITIONS OR CHANGES IN USE GROUP

GENERAL EXISTING INFORMATION:

USE GROUP: E (EDUCATIONAL)
CONSTRUCTION TYPE: IIB (NON-COMBUSTIBLE,
UNPROTECTED)
FIRE PROTECTION: FULLY SPRINKLERED
PER NFPPA 13 (SECTION 903)
FIRE BARRIERS: (SEE MINIMUM ASSUMED EXISTING
FIRE RESISTANCE RATINGS -
SHEET A0.1)

Sherman Carter Barnhart PSC

ARCHITECTURE • INTERIORS • LANDSCAPE ARCHITECTURE • ENGINEERING

100 MALLARD CREEK ROAD SUITE 151 • LOUISVILLE, KY 40207 • PHONE: 502.721.6100 • FAX: 502.721.6111

MECHANICAL/ELECTRICAL/
ENGINEER:

SHROUT TATE WILSON
CONSULTING ENGINEERS, PLLC
160 BURT ROAD
LEXINGTON, KENTUCKY 40503
(859) 277-8177

SET NO.

SELECTIVE DEMOLITION NOTES

1. REMOVE EXISTING WINDOW SHOWN DASHED. PREPARE OPENING FOR NEW DOOR AND FRAME INFILL - SEE AS.1. TURN OVER WINDOW TO OWNER. PATCH PAINT AS REQUIRED.
2. REMOVE EXISTING CEILING TILE AND EXISTING GRID. REFER TO REFLECTED CEILING PLANS. REFER TO M/E/P DRAWINGS FOR ADDITIONAL REQUIREMENTS.

HAZARDOUS MATERIALS & TOXIC SUBSTANCES NOTES





DUE TO THE AGE OF THE EXISTING BUILDINGS, IT IS POSSIBLE HAZARDOUS MATERIALS OR TOXIC SUBSTANCES / MOLDS MAY EXIST. THIS INCLUDES BUT IS NOT LIMITED TO ASBESTOS PRODUCTS, POLYCHLORINATED BIPHENYL (PCB), AND OTHER TOXIC SUBSTANCES. IF ANY WORK PERSON ENCOUNTERS ANY MATERIAL OR SUBSTANCE WHICH THEY SUSPECT MIGHT BE HAZARDOUS OR TOXIC, THEY SHALL IMMEDIATELY ADVISE THE OWNER. THE CONTRACTOR SHALL TAKE IMMEDIATE AND APPROPRIATE ACTION TO PROTECT THE BUILDING USERS AND WORKERS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS, CODES AND REGULATIONS. THE ARCHITECT AND ARCHITECT'S CONSULTANTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, PRESENCE, HANDLING, REMOVAL OR DISPOSAL OF OR EXPOSURE OF PERSONS TO HAZARDOUS MATERIALS OR TOXIC SUBSTANCES IN ANY FORM AT THE PROJECT SITE, INCLUDING BUT NOT LIMITED TO: ASBESTOS, ASBESTOS PRODUCTS, POLYCHLORINATED BIPHENYL (PCB), OTHER TOXIC SUBSTANCES, OR TOXIC MOLDS.

1. THE CONTRACTOR IS HEREBY ADVISED THAT SHERMAN-CARTER-BARNHART, PSC IS NOT A DESIGN PROFESSIONAL IN THE DETERMINATION OF THE PRESENCE OF HAZARDOUS MATERIALS, NOR IS SHERMAN-CARTER-BARNHART, PSC A DESIGN PROFESSIONAL INVOLVED IN MAKING RECOMMENDATIONS REGARDING THE TESTING, REMOVAL, ENCAPSULATION OR OTHER CORRECTIVE MEASURES PERTAINING TO HAZARDOUS MATERIALS OR TOXIC MOLDS / SUBSTANCES.
2. IF THE WORK WHICH IS TO BE PERFORMED UNDER THE CONTRACT INTERFACES IN ANY WAY WITH THE EXISTING COMPONENTS WHICH CONTAIN HAZARDOUS MATERIALS OR TOXIC SUBSTANCES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNER'S ENVIRONMENTAL CONSULTANT REGARDING THE PROPER MEANS AND METHODS TO BE UTILIZED IN DEALING WITH HAZARDOUS MATERIALS AND SUBSTANCES.
3. BY EXECUTION OF THE CONTRACT FOR CONSTRUCTION, THE CONTRACTOR HEREBY AGREES TO BRING NO CLAIM FOR NEGLIGENCE, BREACH OF CONTRACT, INDEMNITY OR OTHERWISE AGAINST THE ARCHITECT, HIS PRINCIPALS, EMPLOYEES, AGENTS OR CONSULTANTS IF SUCH A CLAIM IN ANY WAY WOULD INVOLVE THE INVESTIGATION OF OR REMEDIAL WORK RELATED TO HAZARDOUS MATERIALS OR TOXIC SUBSTANCES IN THE PROJECT.
4. BY EXECUTION OF THE CONTRACT FOR CONSTRUCTION, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE ARCHITECT, HIS PRINCIPALS, EMPLOYEES, AGENTS AND CONSULTANTS HARMLESS FROM ANY SUCH ASBESTOS, OTHER HAZARDOUS MATERIALS, OR TOXIC SUBSTANCES / MOLD RELATED CLAIMS THAT MAY BE BROUGHT BY THE CONTRACTOR'S SUBCONTRACTORS, SUPPLIERS OR OTHER THIRD PARTIES WHO MAY BE ACTING UNDER THE DIRECTION OF THE CONTRACTOR PURSUANT TO THIS PROJECT.

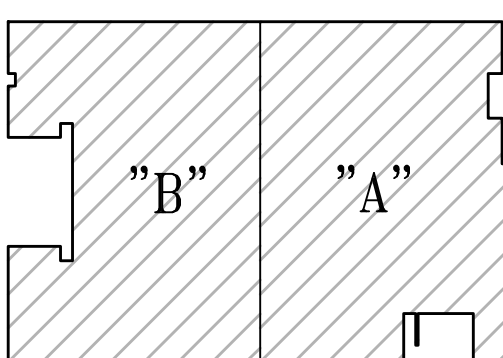
GENERAL DEMOLITION NOTES

1. DEMOLITION REFERENCE NOTES FOR THIS PROJECT ARE INTENDED TO GENERALLY IDENTIFY THE SELECTIVE REMOVAL OF EXISTING ITEMS AT LOCATIONS WHERE REQUIRED BUT, SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE FULL RESPONSIBILITY FOR EXAMINING AND VERIFYING THE FULL EXTENT OF EXISTING CONDITIONS PRIOR TO BEGINNING THE PROJECT.
2. THE INTENT OF THE DEMOLITION NOTES IS TO PROVIDE A GENERAL OUTLINE FOR THE CONTRACTOR OF ITEMS TO BE REMOVED AND/OR TURNED OVER TO THE OWNER AND TO ALLOW FOR THE NEW CONSTRUCTION AS OUTLINED ELSEWHERE IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND REMOVAL OF ITEMS TO ALLOW FOR NEW CONSTRUCTION SHOWN OR NOT SHOWN ON DEMOLITION PLANS AS MAY BE REQUIRED.
3. CAVITY WALLS AND SPACES BEHIND EXTERIOR FINISHES OR PARTIALLY REMOVED WALLS/ROOFS, ETC. SHALL BE PROTECTED FROM EXPOSURE TO WEATHER BY THE CONTRACTOR. WALLS/ROOFS, ETC. SHALL BE PROTECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGED WALLS, ROOFS, EQUIPMENT, ETC. CAUSED BY THIS DEMOLITION OR WEATHER EXPOSURE OF ITEMS THAT ARE TO REMAIN.
4. INFORMATION AND DRAWINGS INCLUDED IN THESE CONTRACT DOCUMENTS PERTAINING TO MEADOW VIEW ELEMENTARY SCHOOL HAVE BEEN OBTAINED FROM ORIGINAL DRAWINGS PROVIDED BY HARDEN PUBLIC SCHOOLS. THIS INFORMATION IS INCLUDED HEREIN WITH THE INTENT TO PROVIDE THE CONTRACTOR WITH A BASIC UNDERSTANDING OF EXISTING CONDITIONS. ACTUAL CONDITIONS AND DIMENSIONS MAY VARY FROM THOSE INDICATED ON ORIGINAL DRAWINGS.
5. REFER TO MECHANICAL AND/OR ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR SPECIFIC REQUIREMENTS PERTAINING TO THE REMOVAL, RELOCATION AND/OR MODIFICATION OF ITEMS RELATED TO EXISTING MECHANICAL AND ELECTRICAL SYSTEMS.
6. SHOULD THE CONTRACTOR ENCOUNTER ANY MATERIALS DURING SELECTIVE DEMOLITION AND NEW WORK WHICH ARE SUSPECTED BY THE CONTRACTOR TO BE OF AN UNKNOWN OR QUESTIONABLE COMPOSITION WITH RESPECT TO CONTAINING CONTAMINANTS, WHICH MAY BE HAZARDOUS TO HUMAN HEALTH, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF SUCH FINDINGS.
7. SHOULD THE CONTRACTOR ENCOUNTER ANY SUBSTANCES DURING SELECTIVE DEMOLITION AND NEW WORK WHICH ARE SUSPECTED BY THE CONTRACTOR TO BE OF AN UNKNOWN OR QUESTIONABLE COMPOSITION WITH RESPECT TO CONTAINING TOXIC MOLDS OR FUNGI WHICH MAY BE HAZARDOUS TO HUMAN HEALTH, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF SUCH FINDINGS.
8. WHERE AN EXISTING CMU WALL IS REMOVED AND NO NEW WALL IS SHOWN TO BE INSTALLED, REMOVE EXISTING CMU WALL TO 8 INCHES BELOW ADJACENT FLOOR SLAB. PATCH AND REPAIR SLAB AS REQUIRED FOR INSTALLATION OF NEW FLOOR FINISH. REFER TO NEW WORK PLANS.
9. ALL AREAS LEFT EXPOSED AS A RESULT OF DEMOLITION AND/OR EQUIPMENT REMOVAL SHALL BE PATCHED AND REPAIRED TO RESULT IN A FLUSH SMOOTH SURFACE PREPARED TO RECEIVE NEW FINISHES AS SCHEDULED. ANY AREAS / OPENINGS IN MASONRY WALLS LARGER THAN 2" EXPOSED TO VIEW SHALL BE PATCHED WITH SOAPED IN CMU UNITS TOOTHED-IN INTO EXISTING MASONRY.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PATCHING AND REPAIRING DUE TO DEMOLITION AND/OR REMOVAL OF EQUIPMENT TO CREATE A FLUSH, SMOOTH SURFACE PROPERLY PREPARED TO RECEIVE NEW FINISHES AS SCHEDULED. CONTRACTOR SHALL SOAP IN NEW CMU TO MATCH EXISTING ADJACENT AREAS.
11. THE CONTRACTOR SHALL NOT BEGIN REMOVAL OF EXISTING CEILINGS IN EXISTING PORTIONS OF BUILDING FOR ROUTING OF THE FOLLOWING SYSTEMS, UNTIL COORDINATING WORK TIMES WITH OWNER AND ARCHITECT.
 1. FIRE ALARM
 2. CAT V
 3. DATA
 4. PHONE
 5. INTERCOM
 6. SECURITY
12. THE CONTRACTOR SHALL COORDINATE SPECIFIC DATES WITH THE OWNER, REFER TO MECHANICAL / ELECTRICAL PLANS.
13. UNLESS INDICATED OTHERWISE, ALL EXISTING FLOOR SLABS SHALL MEET NEW FLOOR SLABS AT THE SAME ELEVATION WHERE NEW FINISHES SHALL BE INSTALLED FLUSH. CONTRACTOR SHALL VERIFY ALL EXISTING FLOOR SLABS FOR COMPLIANCE PRIOR TO PLACING NEW SLABS AT ASSUMED ELEVATIONS INDICATED.
14. REFER TO SHEET A0.2 FOR ROOF DEMOLITION INFORMATION.

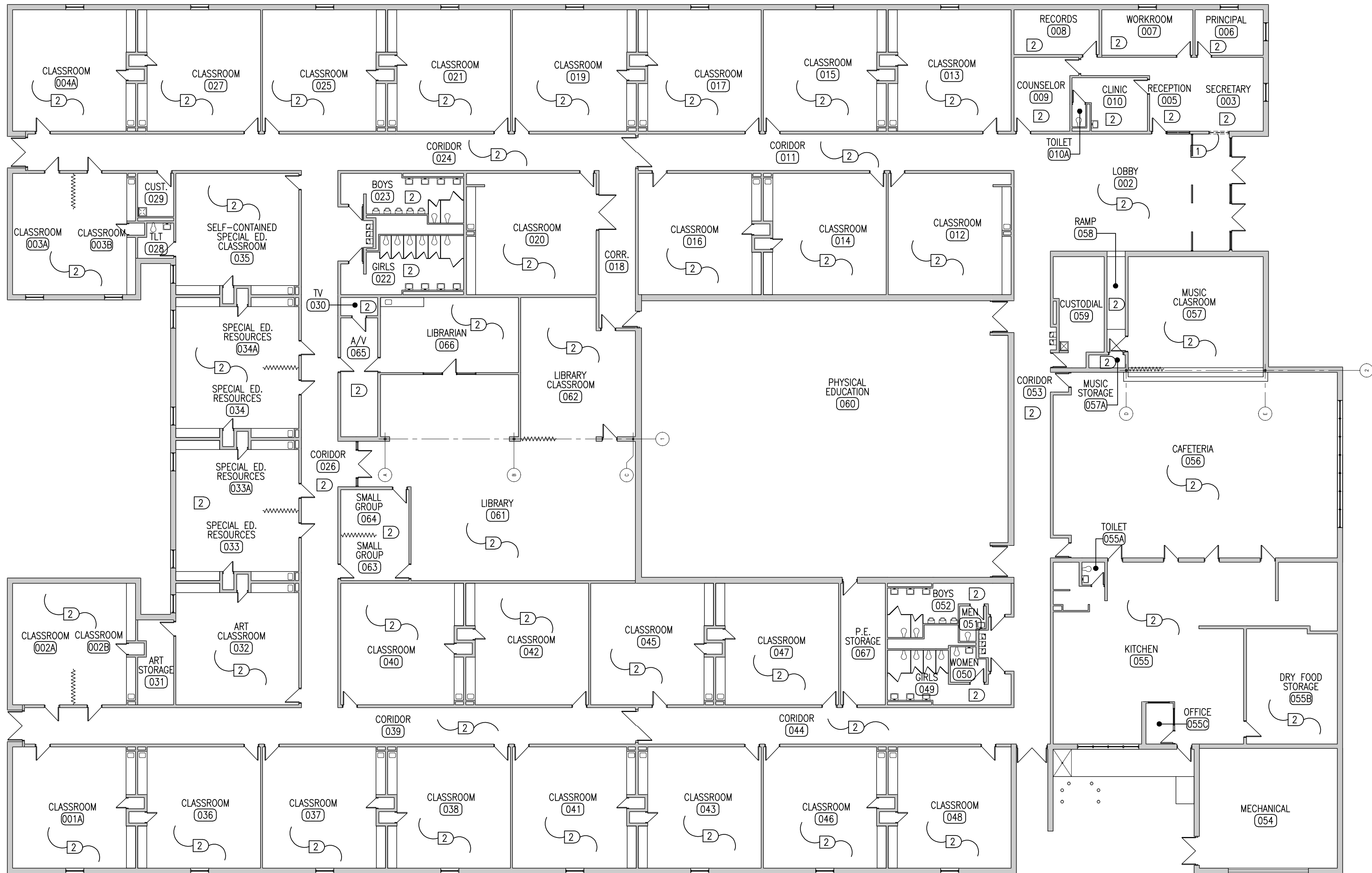
DEMOLITION SYMBOLS

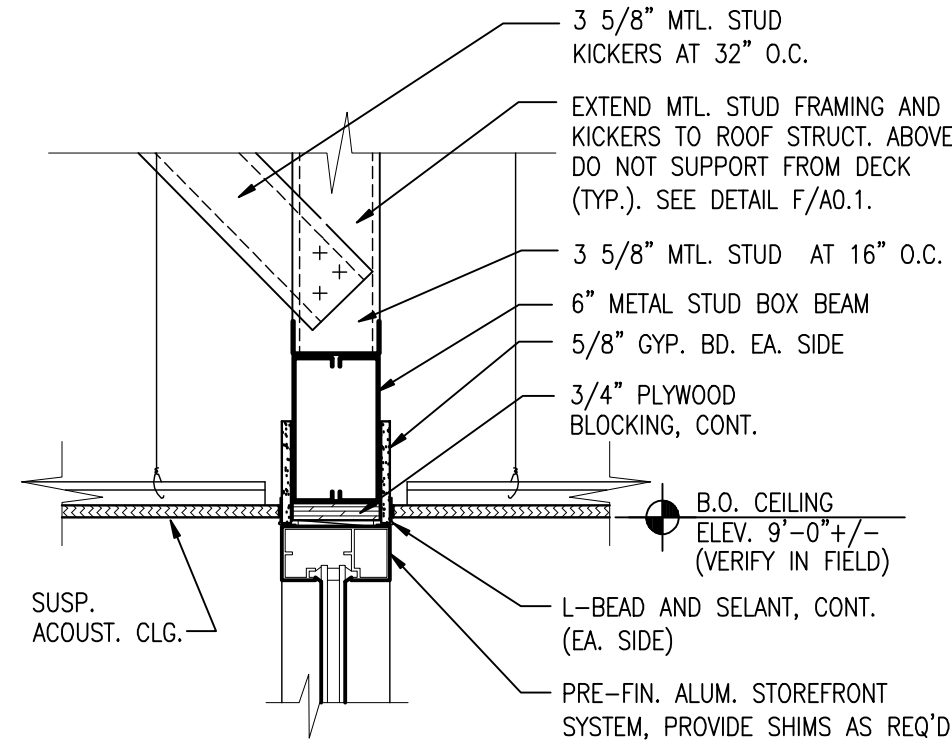
-  DEMOLITION KEY NOTE
-  EXISTING WALL / CONSTRUCTION TO REMAIN
-  EXISTING CONSTRUCTION TO BE REMOVED - SEE SELECTIVE DEMOLITION NOTES
-  EXISTING DOOR / DOOR & FRAME TO REMAIN

KEY PLAN

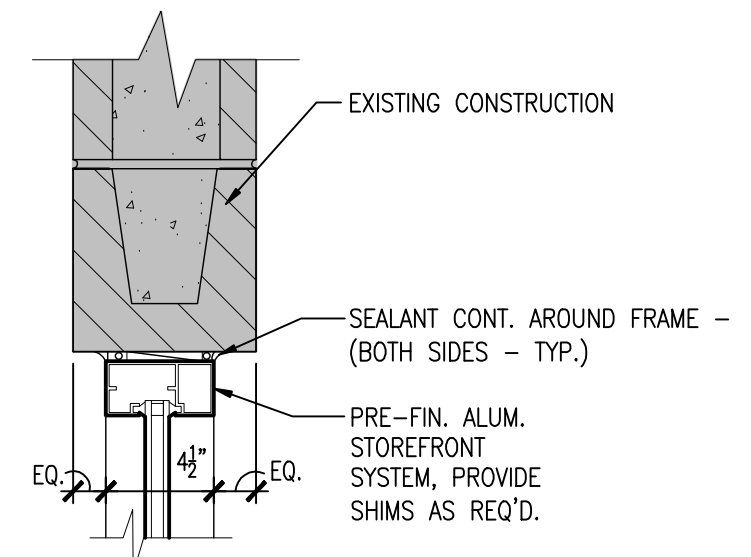


NORTH

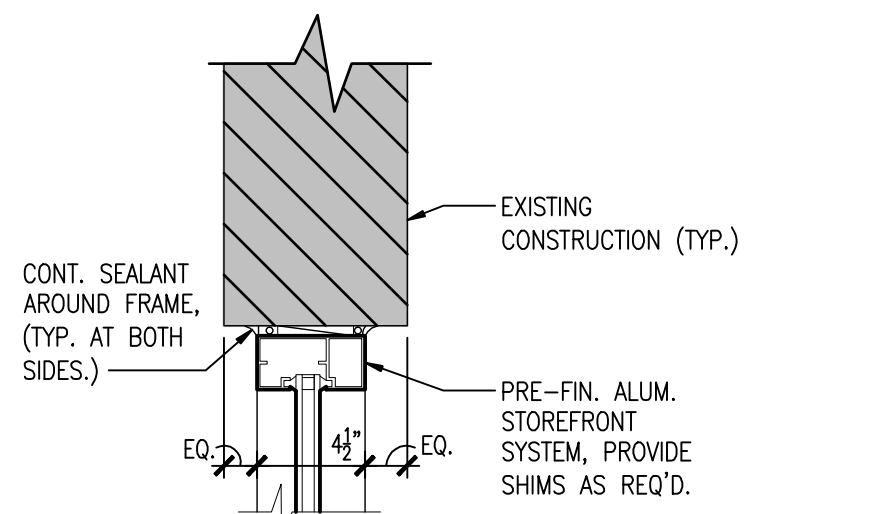




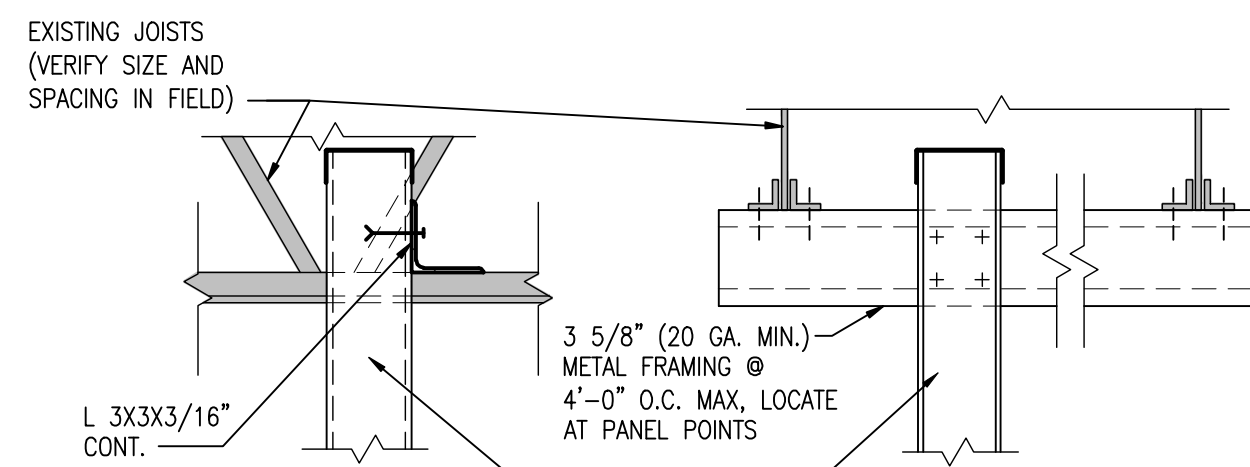
C ALUM. STOREFRONT HEAD DETAIL
1 1/2" = 1'-0"



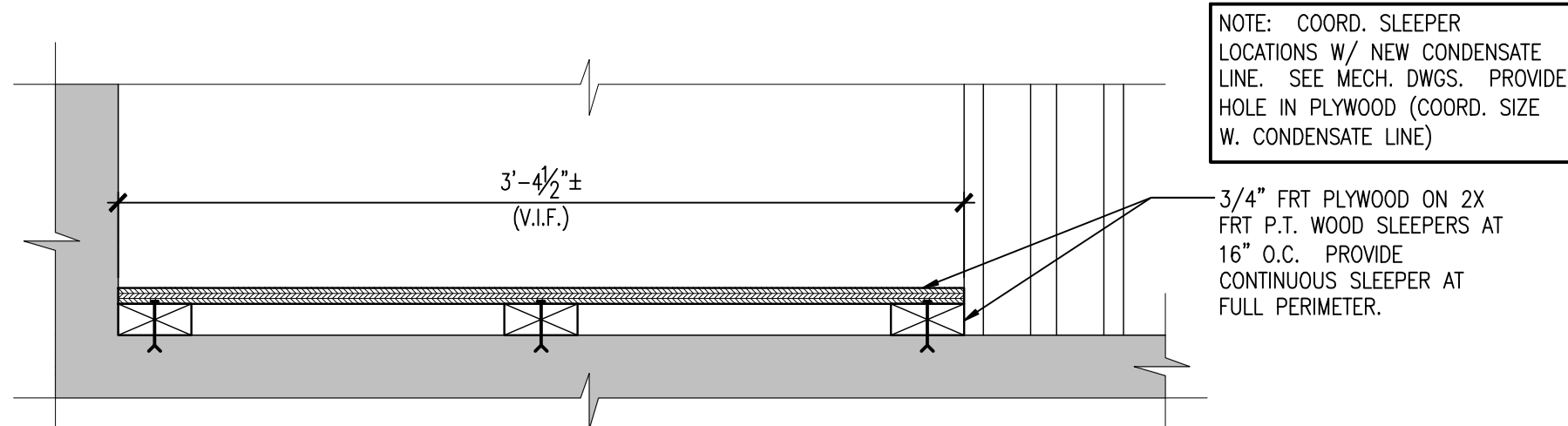
D ALUM. STOREFRONT HEAD DETAIL
1 1/2" = 1'-0"



E ALUM. STOREFRONT JAMB DETAIL
1 1/2" = 1'-0"

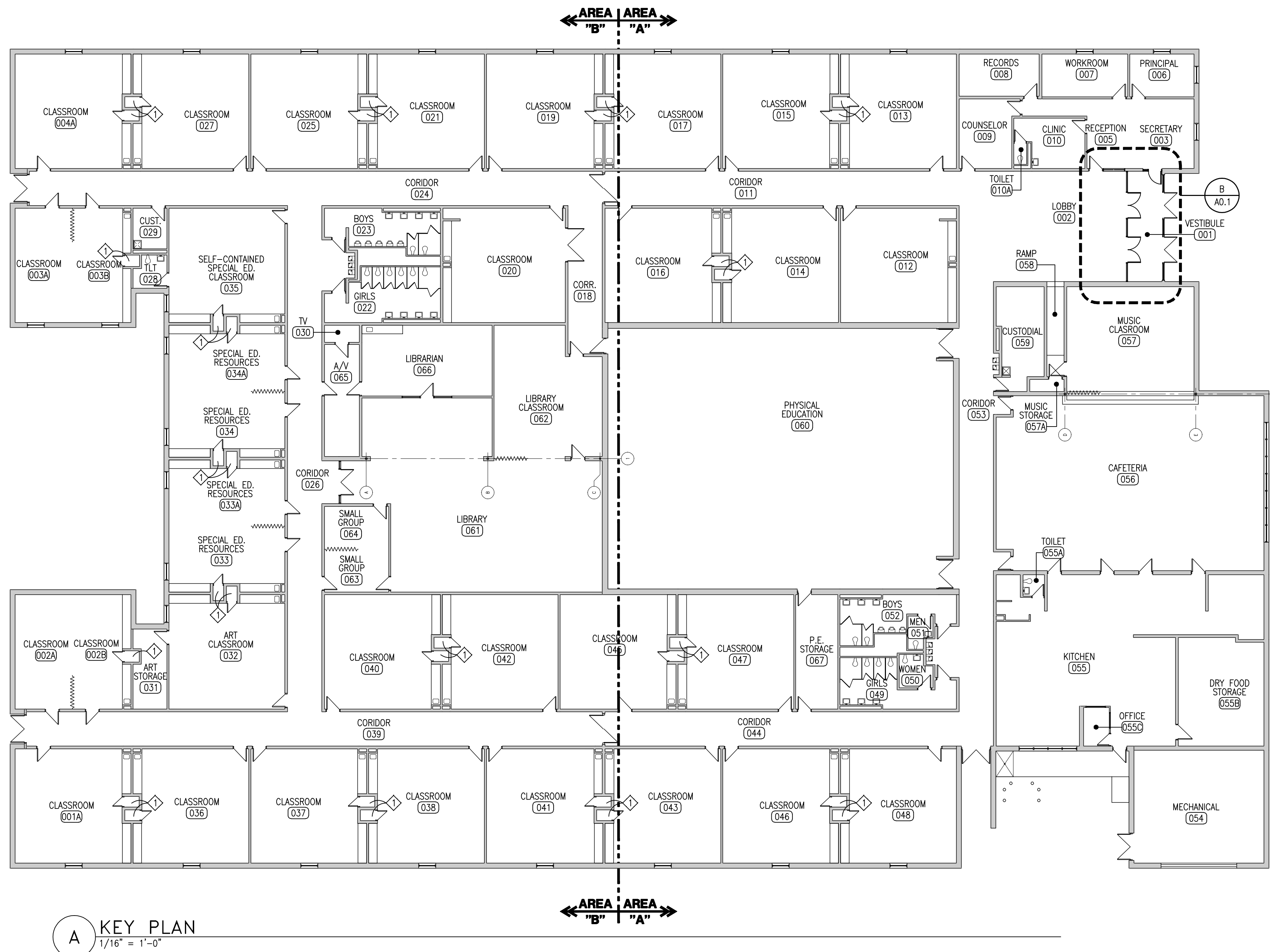


F TYPICAL DETAIL - WALL SUPPORT
1 1/2" = 1'-0"

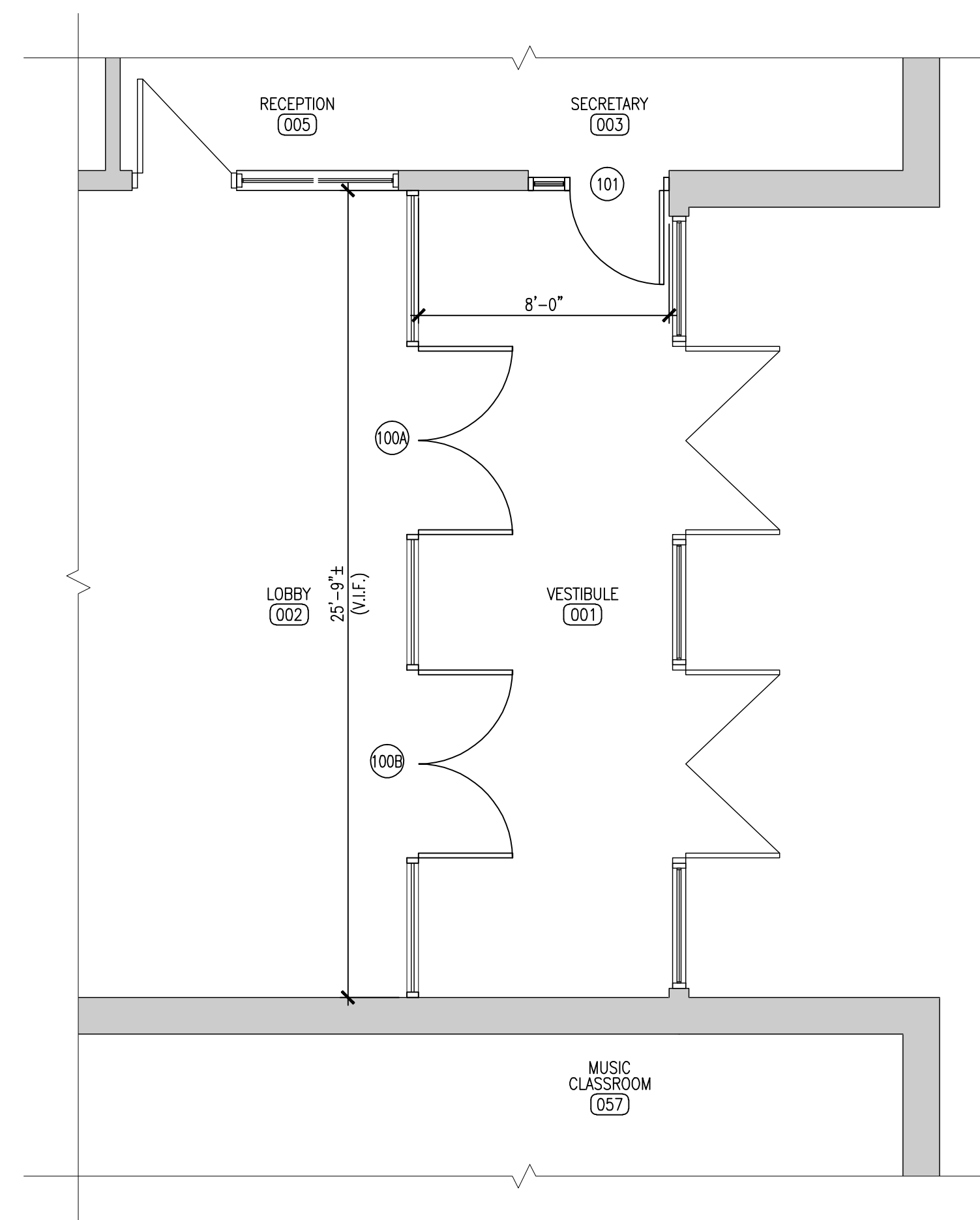


G TYPICAL CLOSET FLOOR DETAIL
1 1/2" = 1'-0"

DOOR AND FRAME SCHEDULE											
NO.	DOOR					FRAME			FIRE RATING LABEL	HARDWARE	REMARKS
	NO. LEAVES	SIZE	MATL.	TYPE	GLAZING	MATL.	TYPE	GLAZING			
INTERIOR DOORS											
100A	2	3'-0" X 7'-0"	ALUM	FG	1/4"	ALUM	A	1/4"	-	105	①②
100B	2	3'-0" X 7'-0"	ALUM	FG	1/4"	ALUM	A	1/4"	-	105	①②
101	1	3'-0" X 7'-0"	ALUM	FG	1/4"	ALUM	B	1/4"	-	105	①②
REMARKS											
① PROVIDE STL. REIN. PLATES WITHIN ALUM. FRAMES FOR ANCHORAGE OF ALL HARDWARE.											
② PROVIDE MFR. STD. DETAILS AT DOORS & FRAME. SEE NOTED DTL. FOR CONDITIONS AT FRAME AND ADJ. MATERIAL.											
DOOR AND FRAME NOTES:											
GENERAL NOTES:											
1. REFER TO TYPICAL HEAD AND JAMB DETAILS THIS SHEET UNLESS NOTED OTHERWISE.											
2. REFER TO THIS SHEET FOR ALUM. FRAME ELEVATIONS.											
GLASS AND GLAZING NOTES:											
PROVIDE FULLY TEMPERED GLASS WHERE SHOWN ON DOOR AND FRAME TYPES, OR AS REQ'D. BY CODE.											
HARDWARE NOTES:											
PROVIDE AND INSTALL ALL HARDWARE IN ACCORDANCE WITH APPLICABLE ARTICLES OF "THE AMERICANS WITH DISABILITIES ACT (A.D.A.)" & ANSI A117.1-2003											



A KEY PLAN
1/16" = 1'-0"



B ENLARGED PLAN
1/4" = 1'-0"

PLAN KEY NOTES	
NOTE: NOT ALL KEY NOTES MAY APPLY TO THIS SHEET.	
1. WOOD FLOOR ASSEMBLY AT CLOSET FLOOR, TYP. SEE DTL. G/A0.1	
SYMBOL LEGEND	
ROOM NUMBER	
DOOR NUMBER (REFER TO SCHEDULE, SHEET A0.1)	
PLAN KEY NOTES (ALL PLAN SHEETS)	
CEILING PLAN KEY NOTE (SHEET A1.1)	
KEY PLAN	
NORTH	

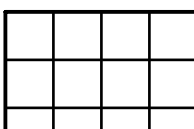


CEILING NOTES

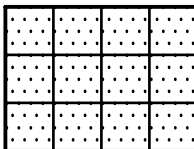
- R1 MECHANICAL AND ELECTRICAL ITEMS ARE NOT SHOWN ON REFLECTED CEILING PLANS. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION, TYPE, SIZE, AND OTHER REQUIREMENTS PERTAINING SPECIFICALLY TO THESE ITEMS.
- R2 INSTALL ALL SPRINKLER HEADS ON SWING ARM NIPPLES. REFER TO MECHANICAL DRAWINGS FOR SPECIFIC REQUIREMENTS.
- R3 INSTALL SPRINKLER HEADS IN CENTER OF 2 x 2 CEILING PANELS.
- R4 CEILING HEIGHTS SHALL MATCH EXISTING CEILING HEIGHTS U.N.D.

CEILING KEY NOTES

NOTE:
A. EXPOSED STRUCTURE - PAINT EXPOSED DUCTWORK - SEE MECH. DWGS.

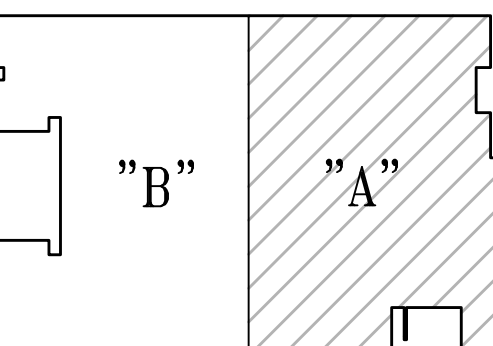


SUSPENDED 2'x2' ACOUSTICAL PANEL CEILING SYSTEM- TYPE "A". REFER TO SPECS.



SUSPENDED 2'x2' ACOUSTICAL PANEL CEILING SYSTEM- TYPE "B". REFER TO SPECS.

KEY PLAN



NORTH

MEADOW VIEW ELEMENTARY
HVAC RENOVATION

RADCLIFF, KY

PARTIAL REFLECTED CEILING PLAN
AREA "A"

Sherman Carter Barnhart PSC
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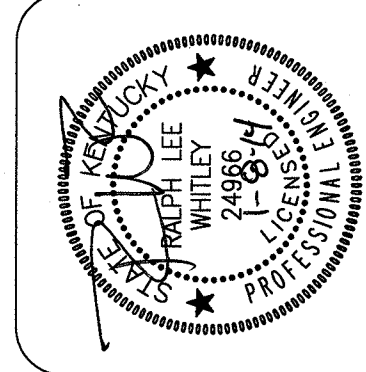
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REVISIONS

SHEET

A1.1

A1.2



MEADOWVIEW ELEMENTARY
HVAC RENOVATION
RADCLIFF, KY

SITE UTILITIES PLAN
FIRE PROTECTION
SHROUT-TATE WILSON Consulting Engineers
MECHANICAL ELECTRICAL
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REVISIONS

SHEET
SU1.1

SHEET NOTES:

1. INSTALL NEW AMES 1000DCV DETECTOR CHECK VALVE ON EXISTING 6" FIRE PROTECTION. INSTALLATION SHALL BE TO THE REQUIREMENTS OF HARDIN CO. WATER DISTRICT #1.
2. NEW POST INDICATOR VALVE ON EXISTING 6" FIRE PROTECTION LINE. CONNECT TAMPER SWITCH TO EXISTING FIRE ALARM SYSTEM
3. CONNECT NEW 6" FIRE PROTECTION TO EXISTING 6" FIRE PROTECTION.
4. NEW FIRE DEPARTMENT CONNECTION. COORDINATE WITH RADCLIFF FIRE DEPARTMENT.
5. REFER TO PP 1.1 FOR CONTINUATION.

SITE UTILITY LEGEND:

- WATER PIPING
- X10" CW- EXISTING CITY WATER PIPING
- X10" FP- EXISTING FIRE PROTECTION PIPING
- 6" FP- NEW FIRE PROTECTION PIPING
- CONNECT NEW TO EXISTING
- POST INDICATOR VALVE W/ TAMPER SWITCH
- THRUST BLOCK



"KY BUD" BEFORE YOU DIG: (811)
UNDERGROUND UTILITY LOCATIONS WERE DETERMINED FROM SITE SURVEY AND VISUAL INSPECTION OF THE PROPERTY AND SHOULD BE CONSIDERED APPROXIMATE ONLY. CONTACT ALL INDIVIDUAL UTILITY COMPANIES AND "KY BUD" PRIOR TO BEGINNING ANY EXCAVATION.

EXPECTED WATER FLOW TEST RESULTS	
STATIC PRESSURE:	80 PSI
RESIDUAL PRESSURE:	70 PSI
FLOW:	1405 GPM
FLOW TEST DATE:	11-11-2013

CONTACT INFORMATION	
HARDIN CO. WATER DISTRICT #1	(270) 351 - 3222
BRETT PYLES	
RADCLIFF FIRE DEPARTMENT	(270) 351 - 1975
JAMIE HENDERSON	

SITE UTILITY NOTES

THE UTILITIES ARE SHOWN ON THE DRAWINGS AS ACCURATELY AS THEY HAVE BEEN PROVIDED TO THE ARCHITECT/ENGINEER. THEIR LOCATIONS ARE NOT GUARANTEED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES AND TO HAVE ALL UTILITIES FIELD LOCATED, PRIOR TO STARTING CONSTRUCTION. THE UTILITIES SHOWN REPRESENT OBSERVABLE FEATURES ALONG WITH INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES, AND IS THEREFORE NOT WARRANTED. PRIOR TO CONSTRUCTION THE CONTRACTOR IS TO FIELD VERIFY ALL UTILITY LOCATIONS, SIZES, TYPE ETC. NEEDED TO COMPLETE THE WORK OF THE CONTRACT.

THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IF A PROBLEM COULD EXIST. IF THE CONTRACTOR PROCEEDS WITHOUT CONTACTING THE UTILITY COMPANIES AND DOES NOT NOTIFY THE ARCHITECT/ENGINEER OF POTENTIAL PROBLEMS HE DOES SO AT HIS OWN RISK.

ALL CONTRACTORS SHALL BE REQUIRED TO VISIT THE SITE PRIOR TO SUBMITTING A BID ON THE PROJECT. CHANGE ORDERS FOR DEMOLITION, RENOVATION OR BUILDING ADDITIONS OF ITEMS READILY NOTICEABLE OR REASONABLY INFERRED BY SITE OBSERVATION SHALL NOT BE CONSIDERED.

PRIOR TO TERMINATION AND REMOVAL OF UTILITIES, THE CONTRACTOR SHALL VERIFY THESE UTILITIES ARE NOT SERVING AREAS OUTSIDE THE DEMOLITION/NEW WORK LIMITS. IF ANY OF THESE UTILITIES ARE SERVING AREAS OUTSIDE THE DEMOLITION/NEW WORK LIMITS, THE CONTRACTOR SHALL NOT REMOVE ANY OF THESE UTILITIES. NOTIFY THE ARCHITECT/ENGINEER SO COORDINATION AND CLARIFICATION CAN OCCUR.

THE CONTRACTOR SHALL HAVE THE UTILITY COMPANY LOCATE THE BURIED LINES.

AREAS OUTSIDE THE DEMOLITION/NEW WORK LIMITS HAVE OCCUPIED BUILDINGS. ALL NECESSARY CARE SHALL BE TAKEN BY THE CONTRACTOR TO ENSURE THE SAFETY OF THE RESIDENTS AND ADJACENT PROPERTY.

PROVIDE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING STRUCTURES THAT REMAIN IN PLACE, TO BE REUSED OR TO REMAIN THE PROPERTY OF THE OWNER. ANY DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST.

ALL EXCESS DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY IN A LANDFILL APPROVED BY AN AGENCY HAVING JURISDICTION.

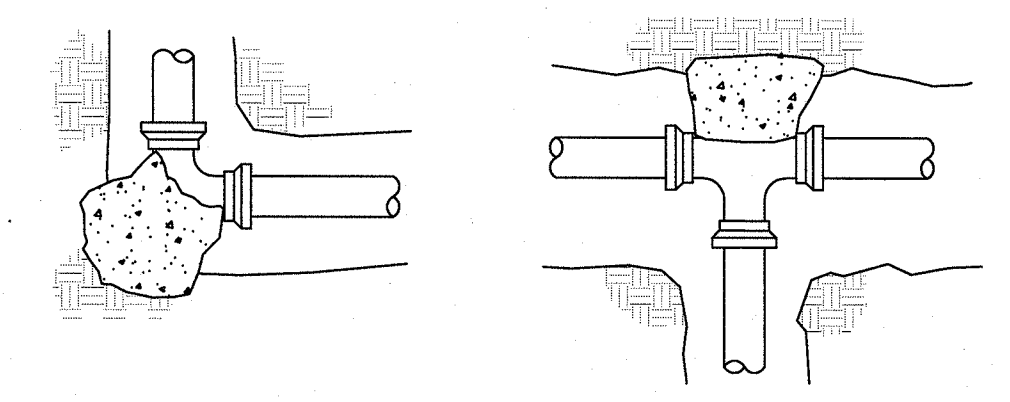
THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS NOT TO DAMAGE EXISTING PAVING, SIDEWALKS AND CURBS WHERE NOTED TO REMAIN. IF THE PAVING, SIDEWALKS AND/OR CURBS ARE DAMAGED, THE CONTRACTOR SHALL REPAIR THEM PER THE SPECIFICATIONS OF AUTHORITIES HAVING JURISDICTION.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING THE COST OF ALL PERMITS AND FEES REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER THE PROJECT. THE CONTRACTOR SHALL PAY FOR ALL HIGHWAY FEES, UTILITY SERVICE FEES (PLUMBING, ELECTRICAL, SANITARY TAP, ETC.), FOR ALL RELOCATION COSTS AND/OR RELOCATION FEES, AND FOR ALL DAMAGES TO SIDEWALKS, STREETS AND/OR OTHER PUBLIC PROPERTY.

WHERE PAVEMENT, WALKS, ETC. ARE TO BE DEMOLISHED, SAWCUT EDGE AT ALL AREAS ADJACENT TO ITEMS INDICATED TO REMAIN TO PROVIDE CLEAN, STRAIGHT EDGE.

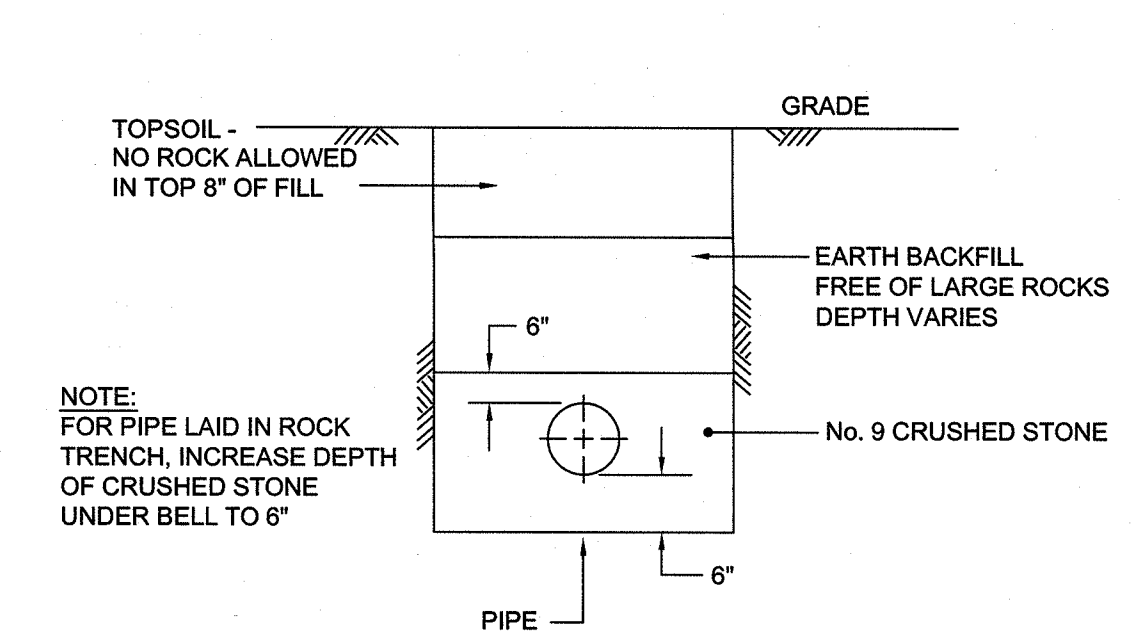
PROVIDE APPROVED PROTECTION AND COORDINATE INSTALLATION OF TEMPORARY SERVICES OR CONNECTION FOR ELECTRICAL AND MECHANICAL UTILITIES.

CONCRETE THRUST BLOCK AREAS				
PIPE SIZE	TEES & DEAD ENDS	90° BEND	45° BEND	22 1/2° BEND
6"	2 S.F.	3 S.F.	2 S.F.	1 S.F.

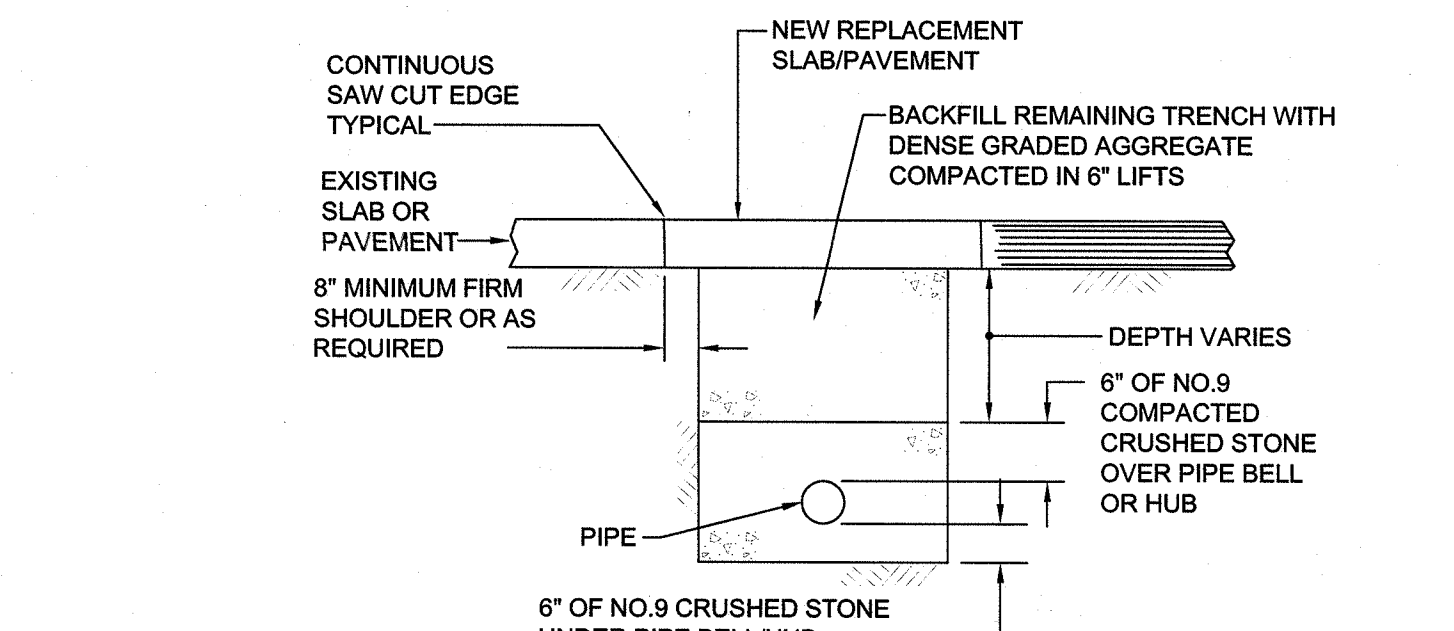


- NOTES:
1. BLOCKING SHALL BE 2,500 PSI CONCRETE (MINIMUM) AND BE PLACED AGAINST UNDISTURBED EARTH, TYPICAL.
 2. WRAP 4 MIL. PLASTIC AROUND ALL FITTING BOLTS PRIOR TO PLACING CONCRETE BLOCKING.
 3. REFER TO PLAN VIEWS FOR PIPE SIZES.

1 THRUST BLOCK DETAIL
NOT TO SCALE



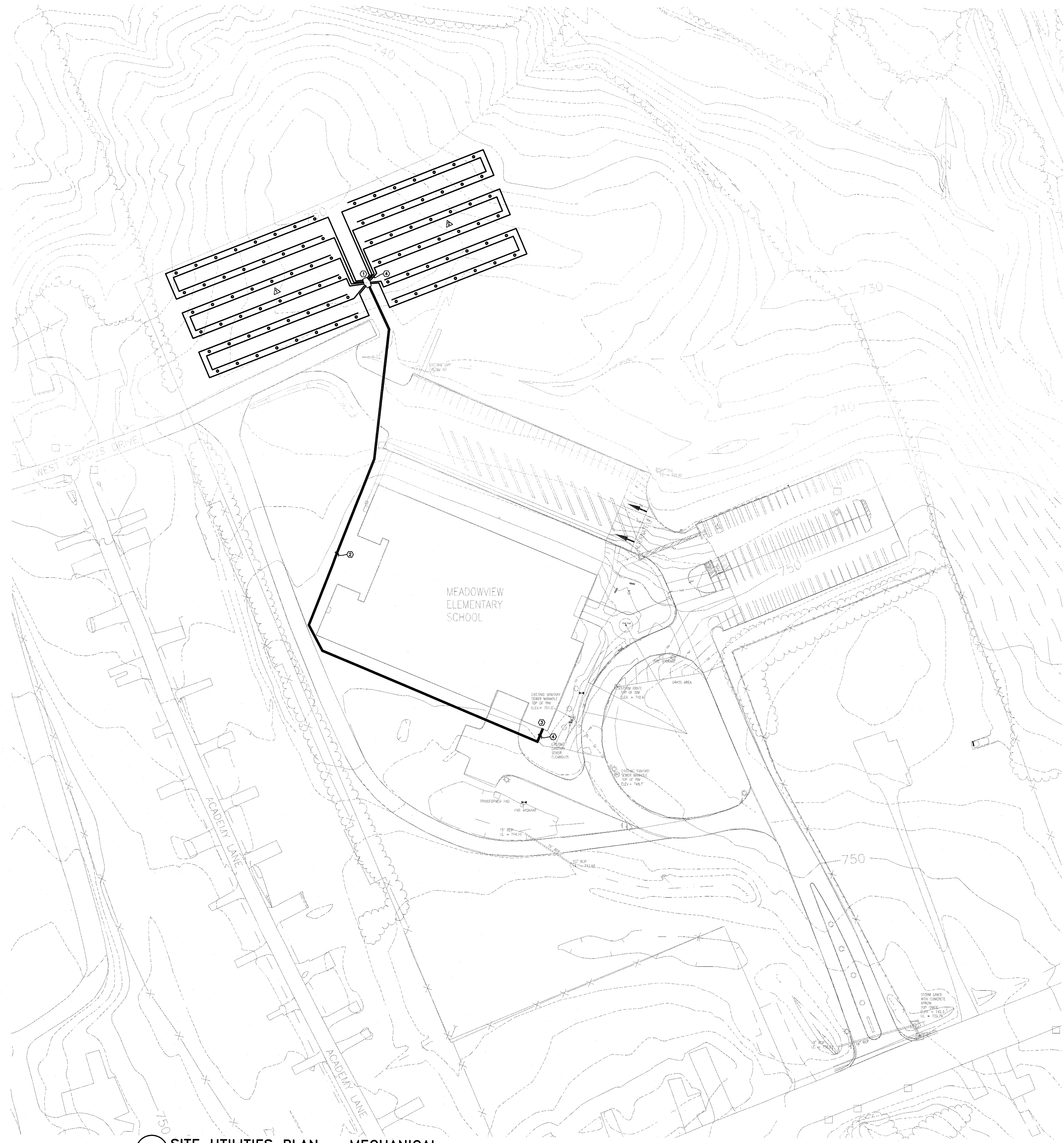
2 TRENCH DETAIL FOR EARTH COVER
NOT TO SCALE



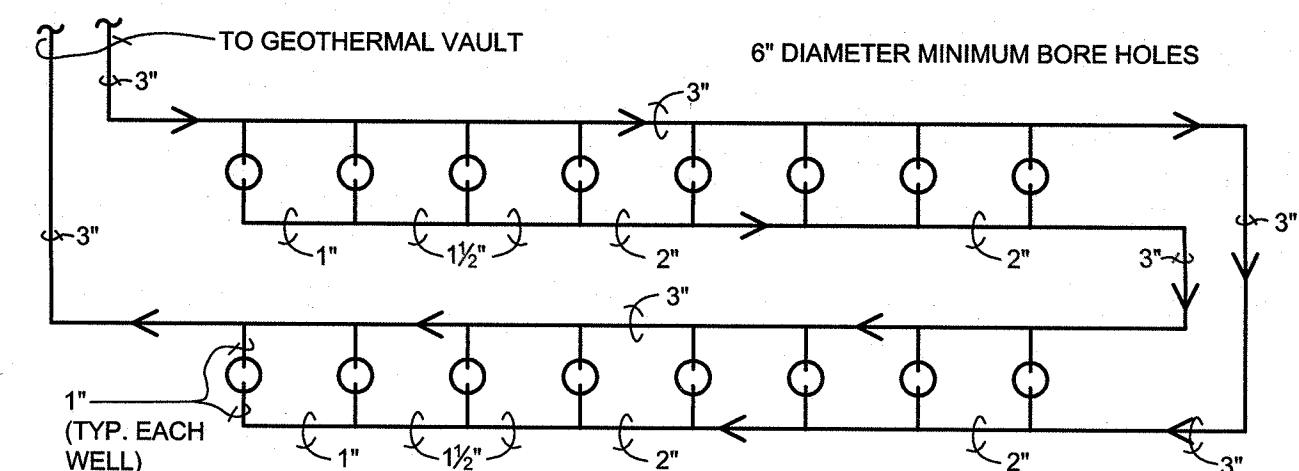
3 TRENCH DETAIL FOR EXISTING SLAB/PAVEMENT
NOT TO SCALE

A SITE UTILITIES PLAN - FIRE PROTECTION
1" = 30'-0"



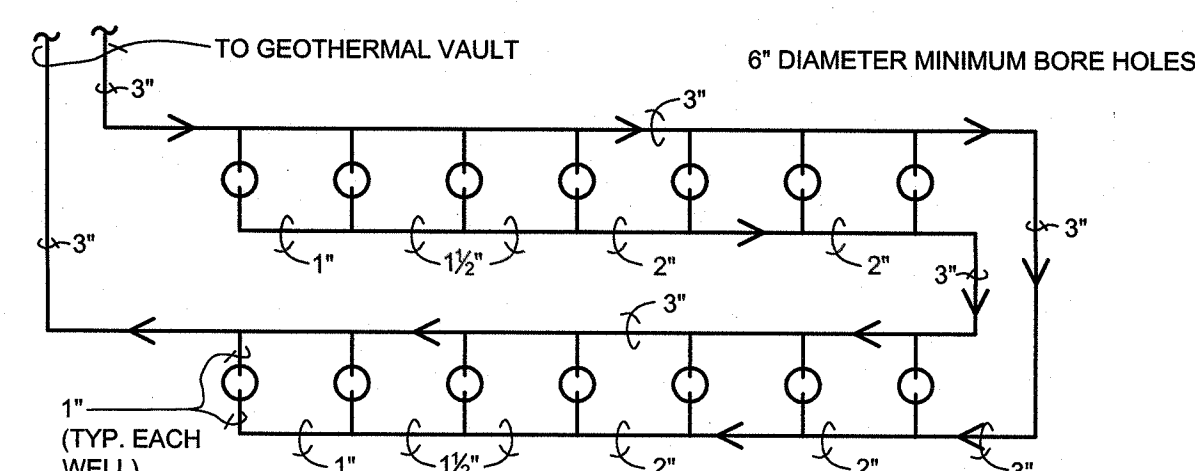


A SITE UTILITIES PLAN - MECHANICAL
1" = 50'-0"



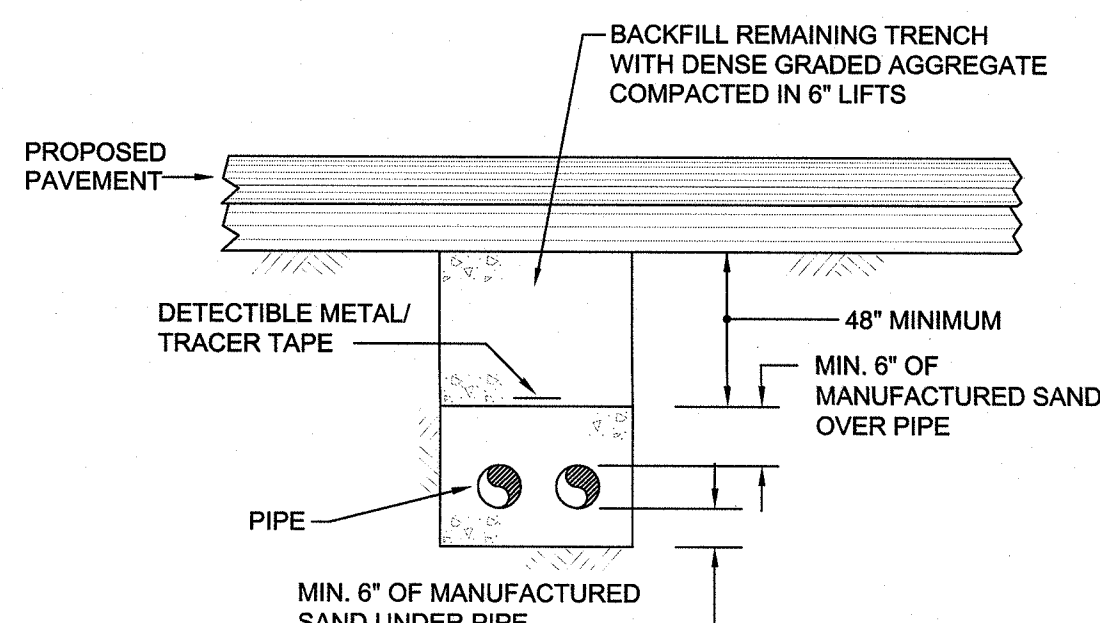
* ARROWS INDICATE DIRECTION OF FLOW

2 GEOTHERMAL LOOP PIPING DIAGRAM
N.T.S.



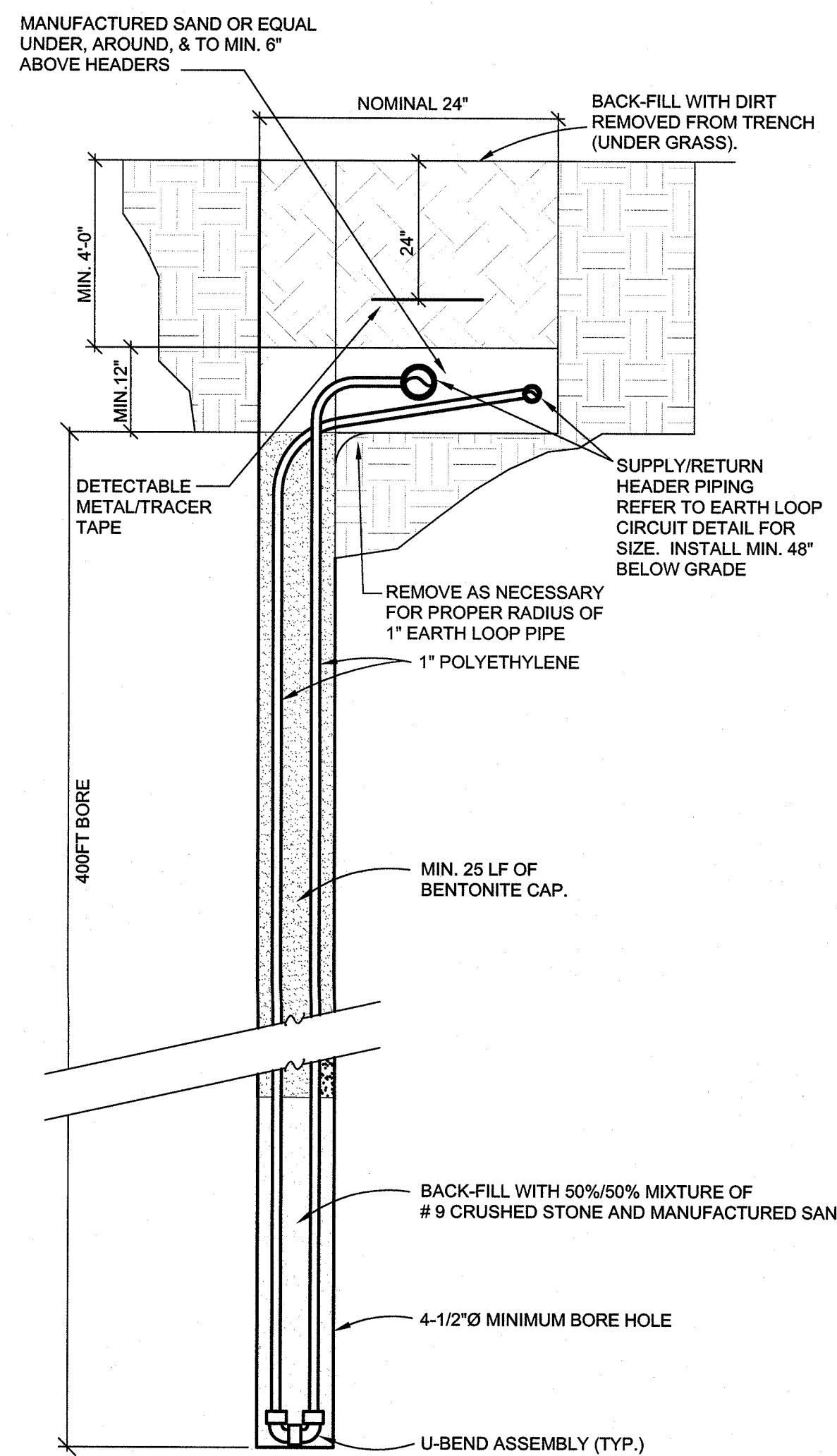
* ARROWS INDICATE DIRECTION OF FLOW

3 GEOTHERMAL LOOP PIPING DIAGRAM
N.T.S.

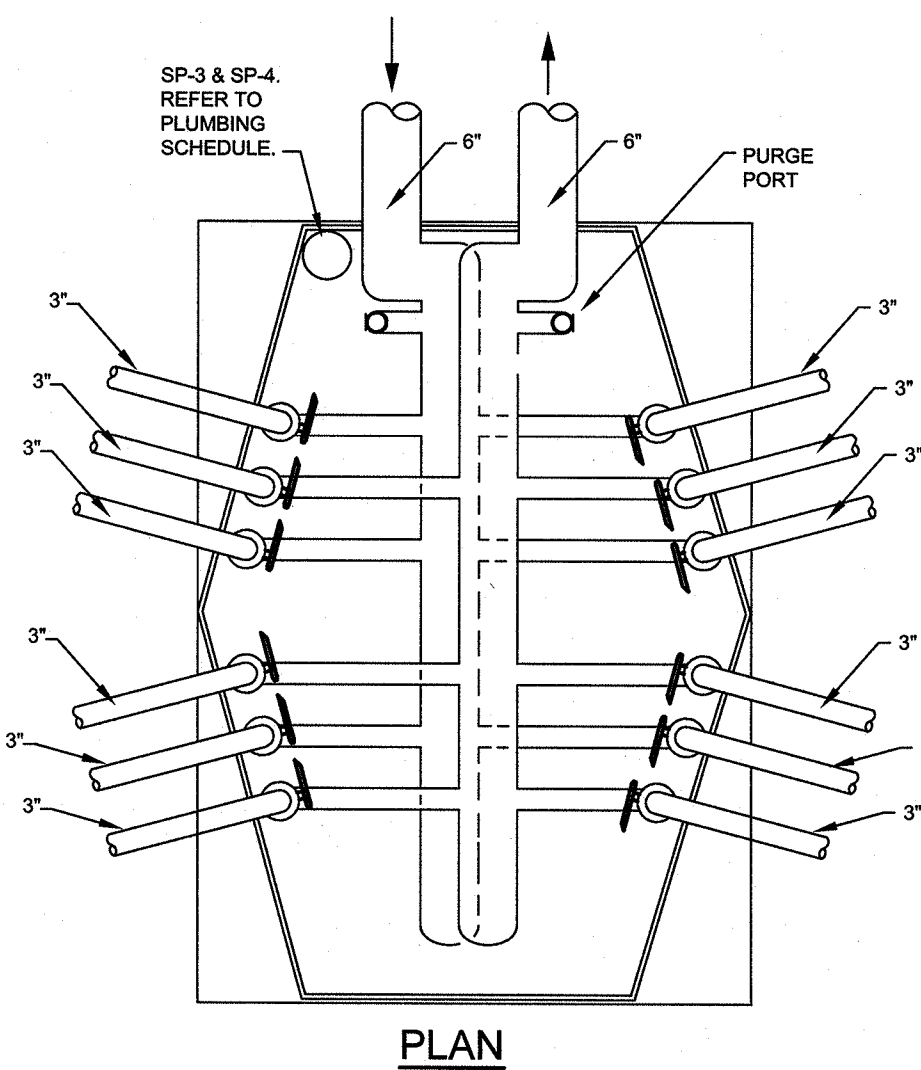


4 TRENCH DETAIL FOR UNDER PAVEMENT
N.T.S.

WELL FIELD SCHEDULE				
WELL FIELD DESIGNATION	NO. OF WELLS	EACH WELL DEPTH	WELL PIPE SIZE	GPM PER WELL
1	48	400'	1"	6.0
2	42	400'	1"	6.0

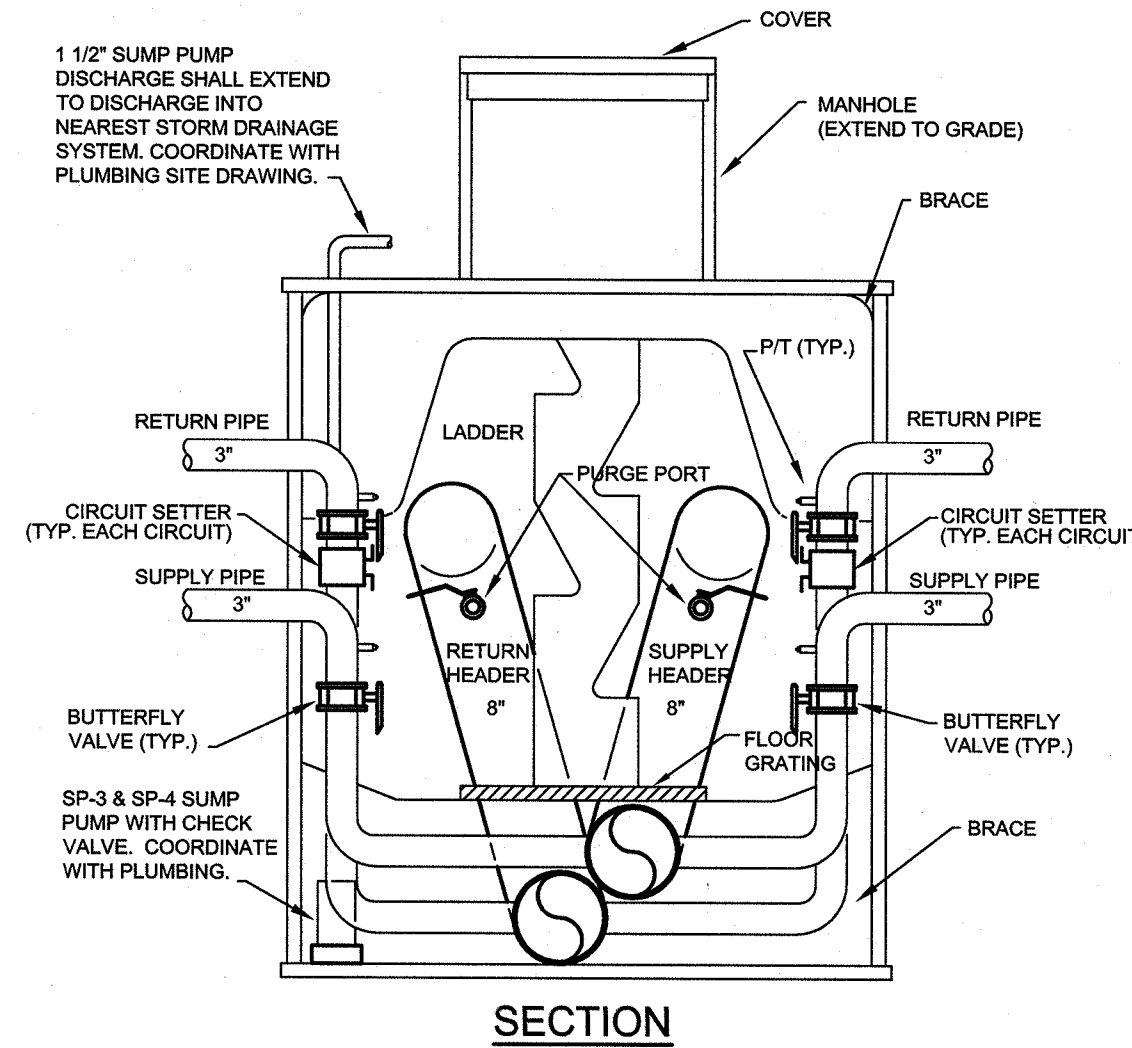


5 EARTH LOOP BORE DETAIL (TYPICAL ALL WELLS)
N.T.S.



NOTE:

AT CONTRACTOR'S OPTION, A CONCRETE VAULT MAY BE USED IN LIEU OF THE POLYETHYLENE VAULT DETAILED ABOVE. SUMP PUMP SHALL BE HYDROMATIC MODEL W-A1 OR APPROVED EQUIVALENT, 10 GPM @ 20 FT. HEAD PRESSURE. PROVIDE WITH AUTOMATIC CONTROLS, FLOAT SWITCH, CAST IRON MOTOR HOUSING AND CASING, THERMOPLASTIC VORTEX TYPE IMPELLER, STEEL MOTOR SHAFT, AND STAINLESS STEEL HARDWARE, AND 1-1/2" DISCHARGE WITH CHECK VALVE.

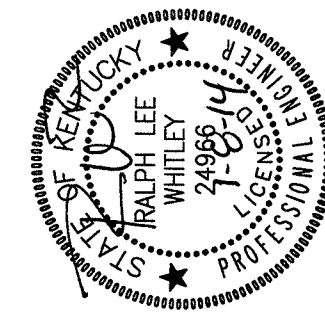


GENERAL NOTES

- THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY COMPANIES AND SHALL LOCATE AND MARK ALL UNDERGROUND UTILITIES PRIOR TO BORING. CONTRACTOR SHALL ALSO HAVE THE MEANS TO LOCATE THE UTILITIES USING HIS OWN INSTRUMENTS. ANY DAMAGE TO EXISTING UNDERGROUND UTILITIES SHALL BE REPAIRED BACK TO ORIGINAL CONDITION WITHOUT COST TO THE OWNER.
- THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE GEOTHERMAL WELL FIELD AND LATERALS WITH ALL OF THE OTHER PROPOSED SITE UTILITIES AND SITE DRAINAGE PRIOR TO INSTALLATION.
- INSTALL GEOTHERMAL WELLS MIN. 25 FT. ON CENTER AND TO THE DEPTH INDICATED IN THE WELL LOOP SCHEDULE.
- THE CONTRACTOR SHALL BRING THE DISTURBED AREAS OF THE WELL FIELD AND LATERALS BACK TO 12" OF FINAL GRADE.
- CONTRACTOR SHALL KEEP DETAILED DRILLING LOGS FOR EACH WELL DRILLED. LOG SHALL INDICATE BORE DIAMETER, GPS COORDINATES, EARTH CONDITIONS DURING DRILLING, WATER (GPM), GAS LEVELS (PPM), AND LINEAR FEET OF CASING INSTALLED.
- COORDINATE LOCATION OF LATERALS WITH NEW TREES AND SHRUBBERY. WHERE THERE IS CONFLICT IN THESE AREAS BURY LATERALS 60" DEEP.

SHEET NOTES

- PROVIDE AND INSTALL HEADER VAULT IN THIS APPROXIMATED LOCATION. SUMP PUMP AND PIPING FOR SUMP DISCHARGE BY PLUMBING CONTRACTOR. REFER TO VAULT DETAIL THIS SHEET.
- ROUTE 6" DIA. POLYETHYLENE HEAT PUMP WATER SUPPLY AND RETURN LATERALS MIN. 48" BELOW FINISHED GRADE. REFER TO DETAIL ON THIS SHEET AND SPECIFICATIONS FOR TRENCHING AND BACKFILLING INFORMATION. COORDINATE WITH EXISTING TRAILERS ON SITE.
- REFER TO SHEET M2.1 FOR CONTINUATION.
- ROUTE 6" DIAMETER POLYETHYLENE HEAT PUMP WATER SUPPLY AND RETURN LINES BELOW FOUNDATION THROUGH LOWER LEVEL WALL TO MECHANICAL ROOM.
- GEOTHERMAL LATERALS. ROUTE 48" BELOW FINISHED GRADE. PROVIDE WITH TRACE TAPE AS INDICATED ON DETAIL #5, THIS SHEET.



**MEADOW VIEW ELEMENTRY
HVAC RENOVATION**
RADCLIFF, KY

**SITE UTILITIES PLAN
MECHANICAL**

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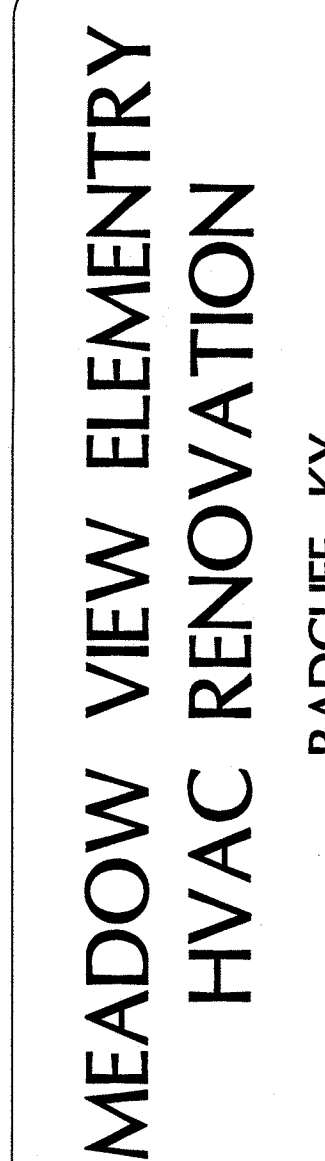
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**FLOOR PLAN
FIRE PROTECTION**

SHROUT & TATE WILSON *Consulting Engineers*
MECHANICAL ■ ELECTRICAL

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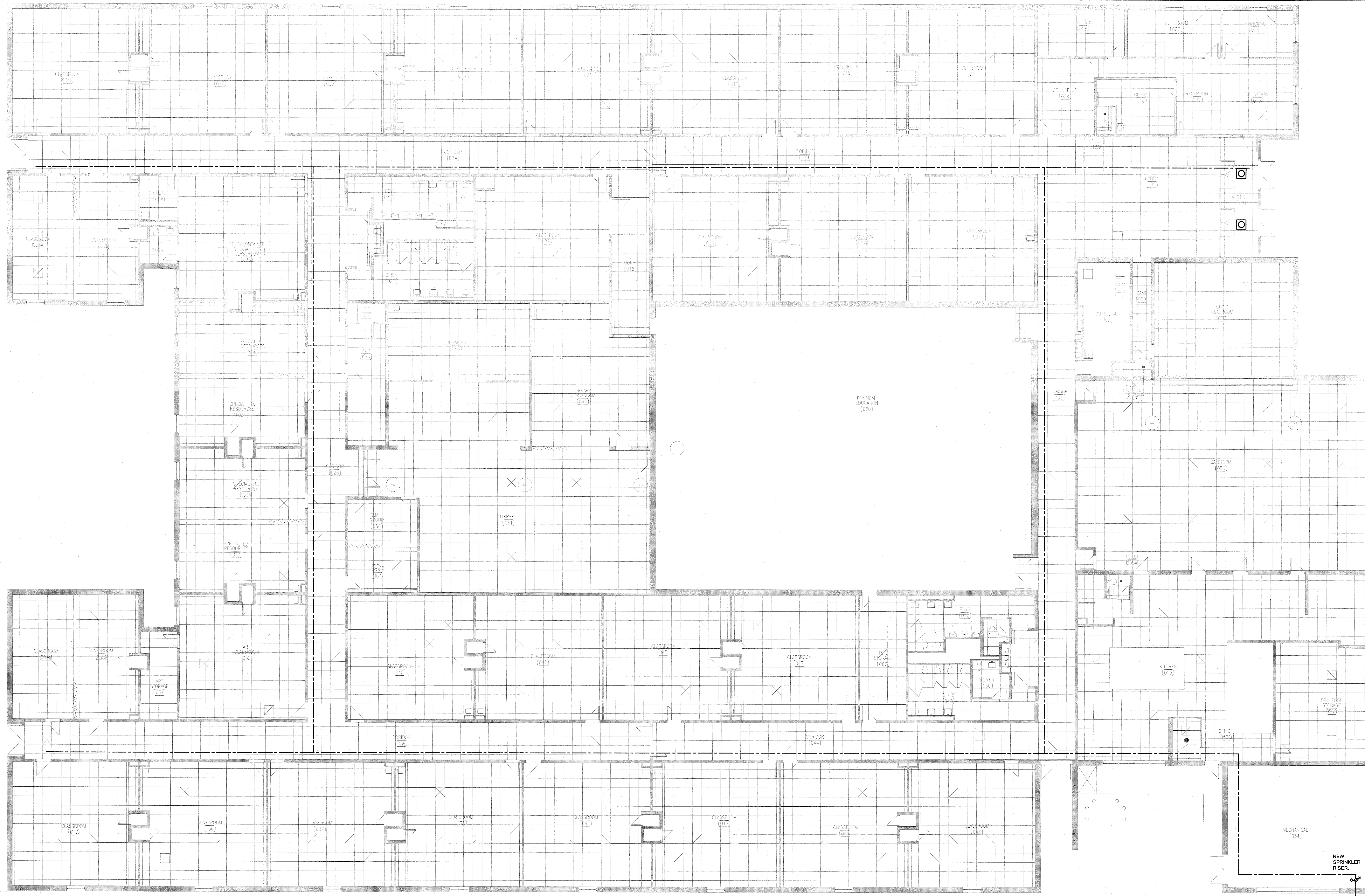
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(A) FLOOR PLAN AREA "A" - FIRE PROTECTION
1/8" = 1'-0"

GENERAL NOTES:

- | | | | |
|----|---|-----|---|
| 1. | THE SPRINKLER CONTRACTOR SHALL HYDRAULICALLY DESIGN AND SIZE THE MAIN SERVICE TO FULLY PROTECT THE ENTIRE AREA BEING RENOVATED AS WELL AS THE SYSTEM SHALL BE IN COMPLIANCE WITH BUT NOT LIMITED TO NFPA, LOCAL CODES, AND REQUIREMENTS FOR THE BUILDING USE/CLASSIFICATION. THE CONTRACTOR SHALL PROVIDE AND SUBMIT DRAWINGS AND HYDRAULIC CALCULATIONS TO THE M/E ENGINEER AND THE STATE FOR CODE APPROVAL. | 8. | NEW OPENINGS FOR FIRE PROTECTION ITEMS SHALL BE CUT BY THE FIRE PROTECTION CONTRACTOR. ALL OPENINGS SHALL BE SAW-CUT OR CORE DRILLED, "NO HAMMER DRILLING" WILL BE ALLOWED. |
| 2. | FIRE PROTECTION CONTRACTOR SHALL COORDINATE WITH THE STRUCTURE, ARCHITECTURAL, CEILING PLANS AND OTHER TRADES IN LAYING OUT OF SPRINKLER PIPING AND HEADS. STRUCTURAL MEMBERS SHALL NOT BE CUT OR COMPROMISED IN ANY WAY. | 9. | INSTALL FIRE/SMOKE STOPPING FOR ALL FIRE PROTECTION PIPING PENETRATIONS THROUGH FIRE/SMOKE RATED PARTITIONS, WALLS, ASSEMBLIES, SLABS, ETC. OPENINGS FOR PIPING, EQUIPMENT, ETC SHALL BE LIMITED TO 1/2" GREATER THAN THE PIPE OR EQUIPMENT. THE FIRE PROTECTION CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS FOR SPRINKLER PIPING WITH THE GENERAL CONTRACTOR AND OTHER TRADES AS REQUIRED. |
| 3. | COORDINATE AND SCHEDULE ALL FIRE PROTECTION WORK WITH THE GENERAL CONTRACTOR, ARCHITECTURAL, CONSTRUCTION PHASING, AND OTHER TRADES AS REQUIRED. | 10. | FIRE PROTECTION PIPING, SYSTEMS, AND EQUIPMENT SHALL BE INSTALLED TO MAINTAIN THE DEDICATED WORKING/ELECTRICAL SPACE ABOVE, BELOW, AND IN FRONT OF ELECTRICAL PANELS AND EQUIPMENT PER THE REQUIREMENTS OF THE N.E.C. (NATIONAL ELECTRICAL CODE). |
| 4. | CENTER SPRINKLER HEADS (EACH WAY) IN THE CEILING TILES. REFER TO THE REFLECTED CEILING PLANS FOR THE CEILING GRIDS. COORDINATE LOCATIONS WITH LIGHTING AND AIR DEVICES. | 11. | REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND LIGHT SHEET LOCATIONS. |
| 5. | HVAC DUCTWORK MAINS SHALL BE INSTALLED PRIOR TO FIRE PROTECTION PIPING. | 12. | REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR MECHANICAL EQUIPMENT, AIR DEVICES, LIGHTS, SENSORS, AND PROJECTOR LOCATIONS. |
| 6. | INSTALL CAPPED DRAIN VALVES IN THE FIRE PROTECTION SYSTEM WHERE NECESSARY TO COMPLETELY DRAIN THE FIRE PROTECTION SYSTEM. | | |
| 7. | INSTALL ALL REQUIRED DRAIN PIPING TO FLOW TEST POINTS. DISCHARGE ALL DRAIN PIPING TO OUTDOORS, OR TO AN APPROVED LOCATION. | | |

CONTACT INFORMATION	
HARDIN CO. WATER DISTRICT #1 BRETT PYLES	(270) 351 - 3222
RADCLIFF FIRE DEPARTMENT JAIME HENDERSON	(270) 351 - 1975

EXPECTED WATER FLOW TEST RESULTS	
STATIC PRESSURE:	80 PSI
RESIDUAL PRESSURE:	70 PSI
FLOW:	1405 GPM
FLOW TEST DATE:	11-11-2013

HEAD TYPES

ALL FIRE SUPPRESSION AREAS TO BE QUICK RESPONSE

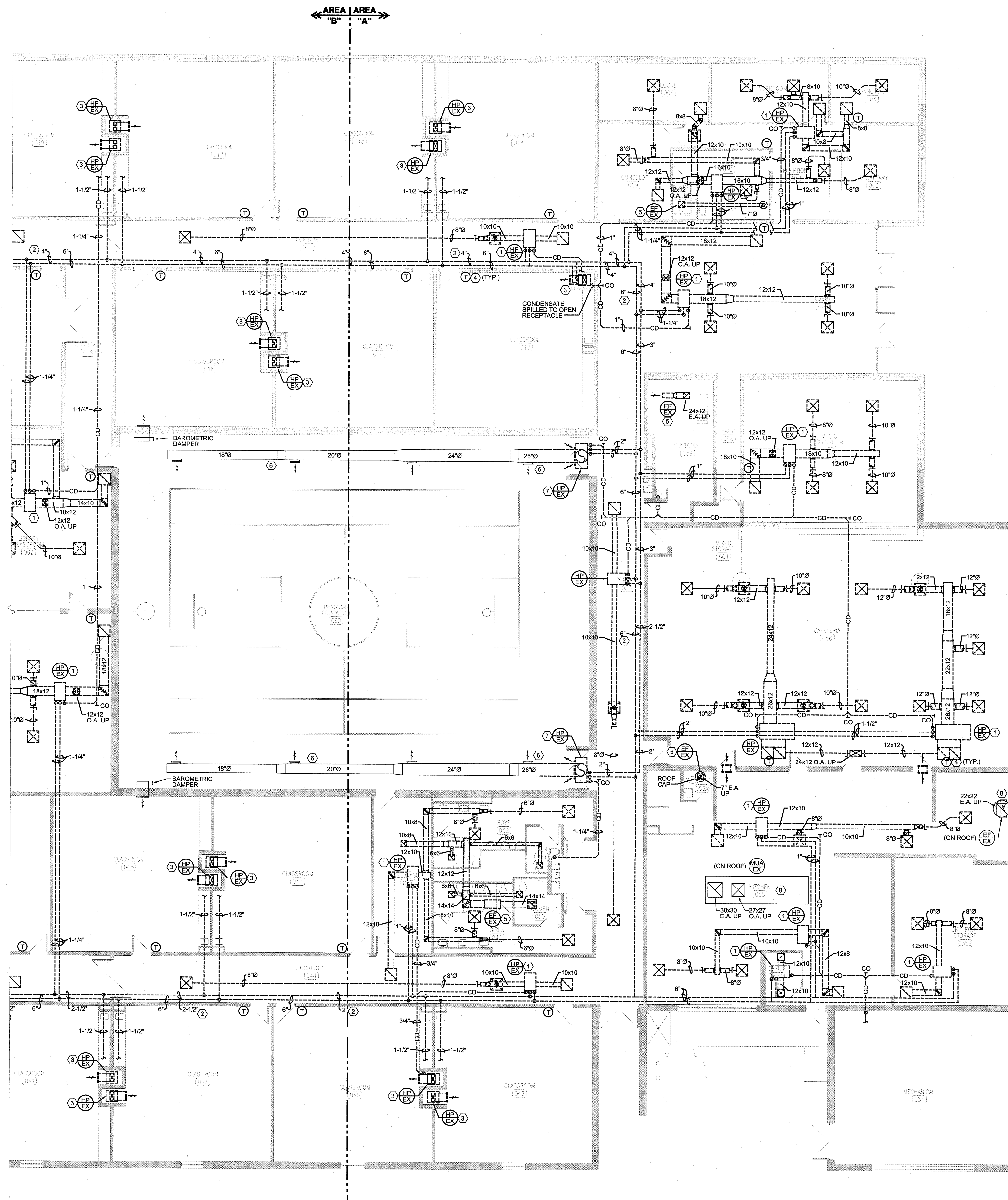
SEMI RECESSED SPRINKLER HEADS IN ALL ROOMS
WITH CEILING TILES OR DRYWALL CEILINGS

UPRIGHT SPRINKLER HEADS IN ALL ROOMS WITH NO
CEILINGS (MECHANICAL ROOMS, ETC)

REFER TO ARCHITECTURAL CEILING PLANS.
COORDINATE SPRINKLER PIPING WITH DUCTWORK,
DIFFUSERS, LIGHTING, STRUCTURAL AND ALL OTHER
TRADES PRIOR TO INSTALLATION

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FLOOR PLAN AREA "A" - MECHANICAL DEMOLITION
1/8" = 1'-0"

DEMOLITION GENERAL NOTES

REFER TO SHEET M-4.01 FOR ADDITIONAL GENERAL NOTES AND LEGEND.

DEMOLITION PLAN HAS BEEN DEVELOPED FROM VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWORK, REGISTERS AND PIPING SIZES MAY NOT BE INDICATED.

IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS, AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.

CONTRACTOR UNDER THIS DIVISION SHALL COORDINATE REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF WITH GENERAL CONTRACTOR.

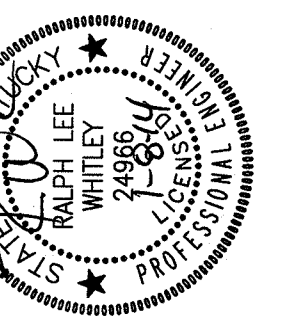
IF THE EXISTING HVAC SYSTEM SHALL EVER REQUIRE SHUTTING DOWN TEMPORARILY IN OCCUPIED AREAS DURING CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE THE TIMING OF THE SHUT DOWN PERIOD WITH THE OWNER AND ARCHITECT PRIOR TO DISABLING THE EXISTING SYSTEM. THE EXISTING HVAC SYSTEM SHALL REMAIN FUNCTIONAL IN ALL OCCUPIED AREAS DURING NORMAL SCHOOL OPERATION PERIODS.

SHEET NOTES

1. REMOVE EXISTING HORIZONTAL HEAT PUMP UNIT AND ALL ASSOCIATED CONTROLS, PIPING, DUCTWORK AND HANGERS WHERE INDICATED. ALL OUTSIDE AIR DUCT ASSOCIATED WITH THESE UNIT SHALL BE REMOVED. CAP DUCT WHERE IT PENETRATES ROOF AND SEAL WEATHER TIGHT.
2. EXISTING HYDRONIC PIPING AND HANGERS TO BE REMOVED. FIELD VERIFY EXACT LOCATION OF PIPING.
3. EXISTING VERTICAL HEAT PUMP UNITS IN CLOSET ALONG WITH ALL ASSOCIATED PIPING, GRILLES, DUCT AND CONTROLS SHALL BE REMOVED. CAP OUTSIDE AIR DUCT WHERE IT PENETRATES THE ROOF AND SEAL WEATHER TIGHT.
4. REMOVE EXISTING THERMOSTATS, NEW THERMOSTATS SHALL BE INSTALLED IN THIS LOCATION.
5. EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCT SHALL BE REMOVED. CAP DUCT WHERE IT PENETRATES ROOF AND SEAL WEATHER TIGHT.
6. EXISTING DOUBLE WALL ROUND DUCT SHALL BE REUSED AS INDICATED.
7. REMOVE EXISTING VERTICAL WATER SOURCE HEAT PUMP AND ALL ASSOCIATED DUCT, PIPING AND CONTROLS WHERE INDICATED.
8. EXISTING KITCHEN HOOD AND EXHAUST SHALL REMAIN.

LEGEND

- EXISTING PIPING OR DUCT TO REMAIN
- EXISTING EQUIPMENT, PIPING, DUCT, GRILLES AND ETC. TO BE REMOVED



**MEADOW VIEW ELEMENTRY
HVAC RENOVATION**
RADCLIFF, KY

**FIRST FLOOR PLAN AREA "A"
MECHANICAL DEMOLITION**
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DEMOLITION GENERAL NOTES

REFER TO SHEET M-4.01 FOR ADDITIONAL GENERAL NOTES AND LEGEND.

DEMOLITION PLAN HAS BEEN DEVELOPED FROM VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWORK, REGISTERS AND PIPING SIZES MAY NOT BE INDICATED.

IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS, AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.

CONTRACTOR UNDER THIS DIVISION SHALL COORDINATE REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF WITH GENERAL CONTRACTOR.

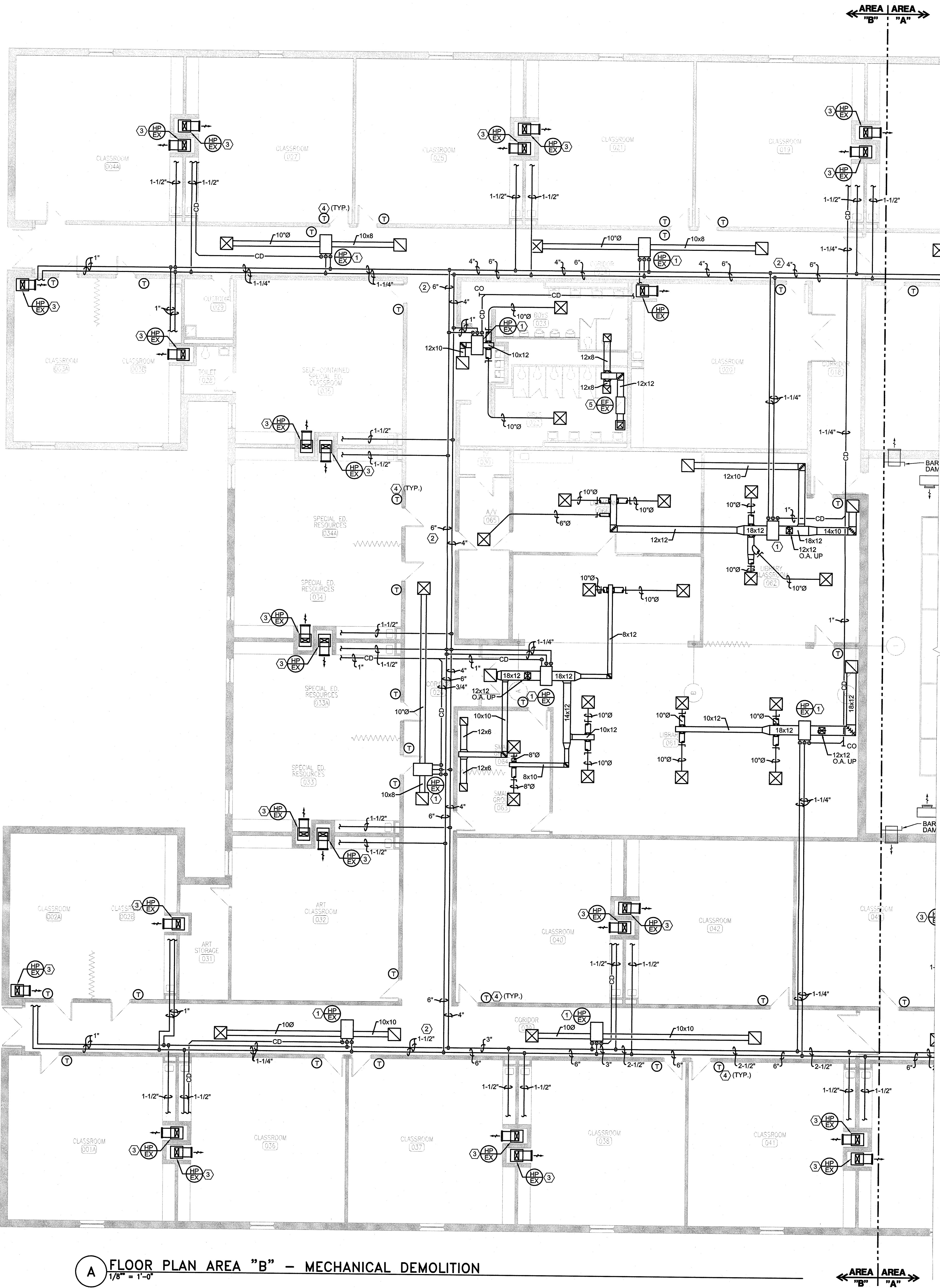
IF THE EXISTING HVAC SYSTEM SHALL EVER REQUIRE SHUTTING DOWN TEMPORARILY IN OCCUPIED AREAS DURING CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE THE TIMING OF THE SHUT DOWN PERIOD WITH THE OWNER AND ARCHITECT PRIOR TO DISABLING THE EXISTING SYSTEM. THE EXISTING HVAC SYSTEM SHALL REMAIN FUNCTIONAL IN ALL OCCUPIED AREAS DURING NORMAL SCHOOL OPERATION PERIODS.

SHEET NOTES

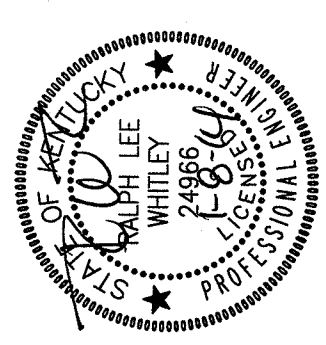
1. REMOVE EXISTING HORIZONTAL HEAT PUMP UNIT AND ALL ASSOCIATED CONTROLS, PIPING, DUCTWORK AND HANGERS WHERE INDICATED. ALL OUTSIDE AIR DUCT ASSOCIATED WITH THESE UNIT SHALL BE REMOVED. CAP DUCT WHERE IT PENETRATES ROOF AND SEAL WEATHER TIGHT.
2. EXISTING HYDRONIC PIPING AND HANGERS TO BE REMOVED. FIELD VERIFY EXACT LOCATION OF PIPING.
3. EXISTING VERTICAL HEAT PUMP UNITS IN CLOSET ALONG WITH ALL ASSOCIATED PIPING, GRILLES, DUCT AND CONTROLS SHALL BE REMOVED. CAP OUTSIDE AIR DUCT WHERE IT PENETRATES THE ROOF AND SEAL WEATHER TIGHT.
4. REMOVE EXISTING THERMOSTATS. NEW THERMOSTATS SHALL BE INSTALLED IN THIS LOCATION.
5. EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCT SHALL BE REMOVED. CAP DUCT WHERE IT PENETRATES ROOF AND SEAL WEATHER TIGHT.

LEGEND

- EXISTING PIPING OR DUCT TO REMAIN
- EXISTING EQUIPMENT, PIPING, DUCT, GRILLES AND ETC. TO BE REMOVED



FLOOR PLAN AREA "B" - MECHANICAL DEMOLITION
1/8" = 1'-0"



MEADOW VIEW ELEMENTARY
HVAC RENOVATION
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FIRST FLOOR PLAN AREA "B"
MECHANICAL DEMOLITION
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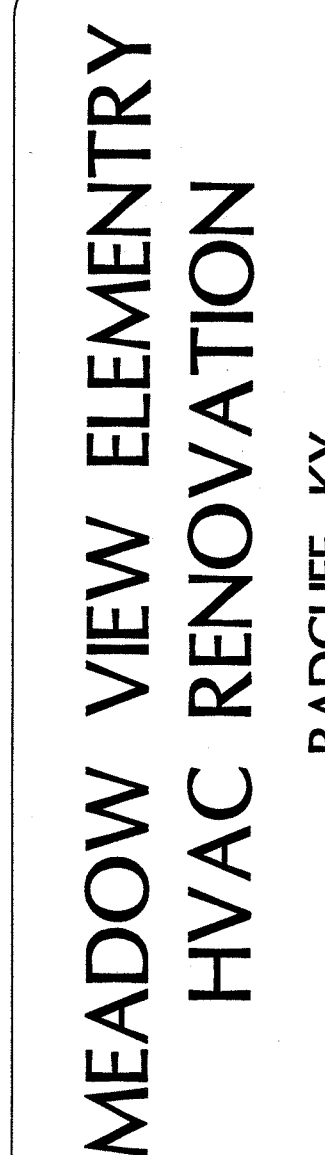
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**FIRST FLOOR PLAN AREA "A"
MECHANICAL**

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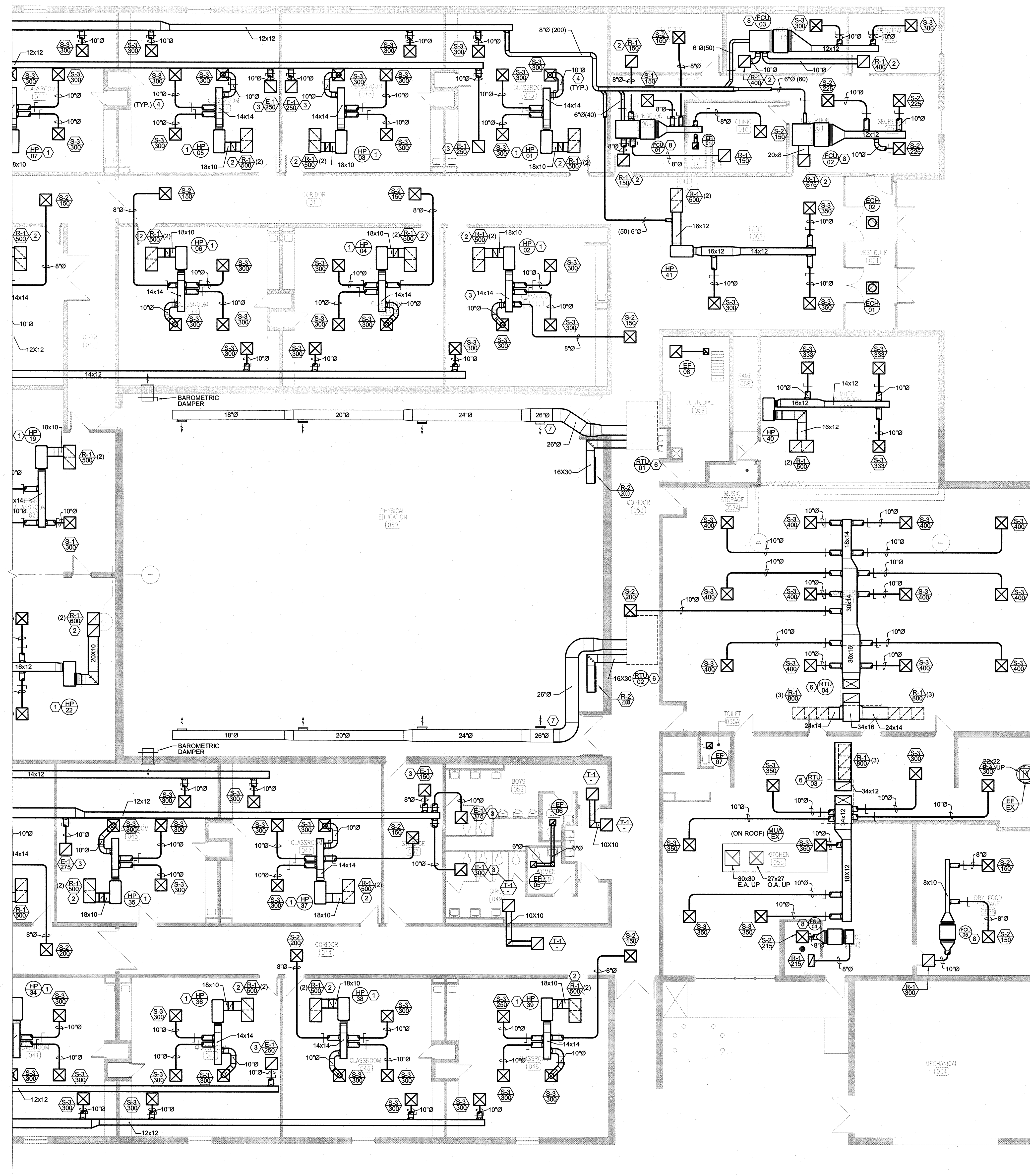
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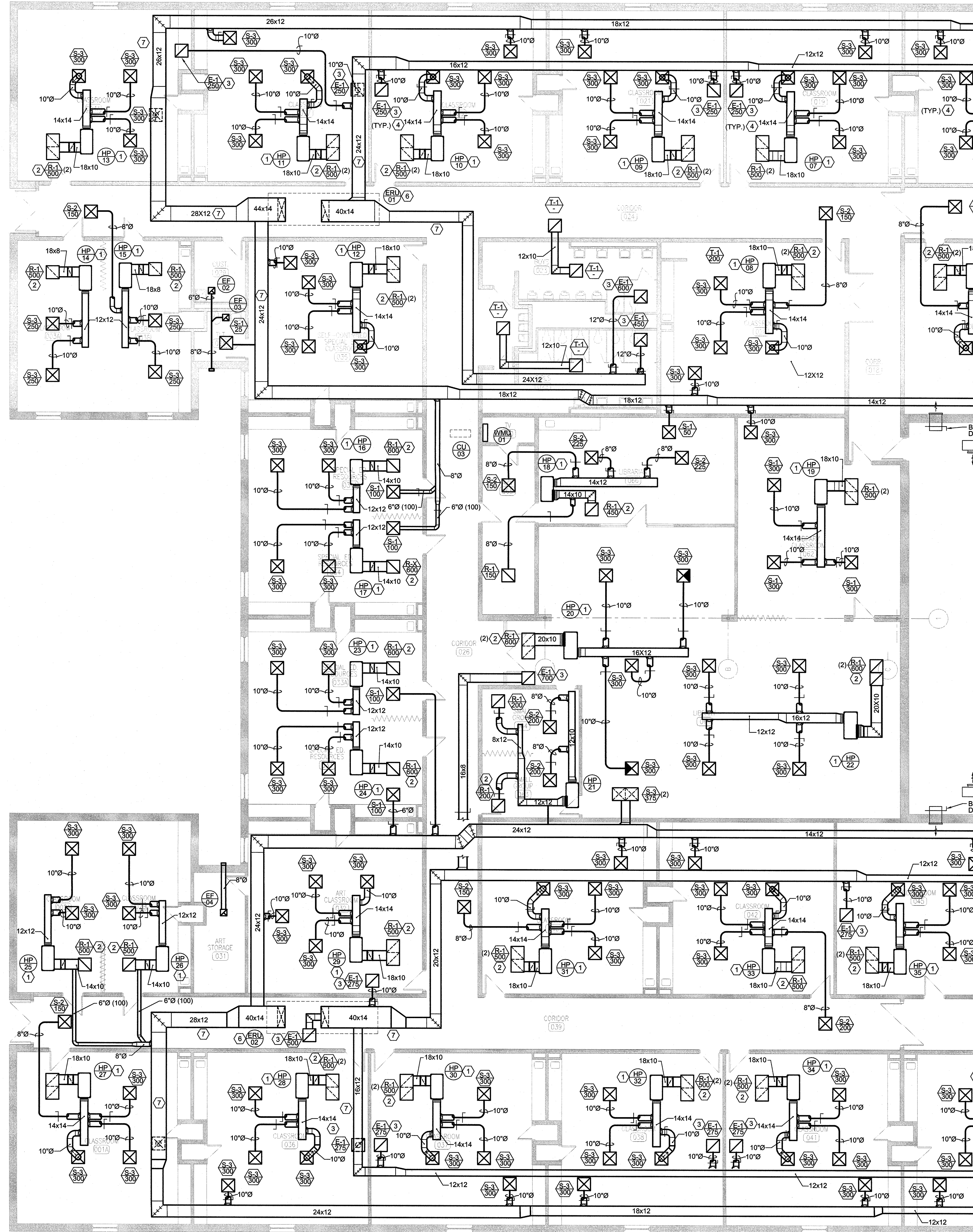
M1.1

1. REFER TO SHEET M-4.01 FOR GENERAL NOTES, LEGEND AND SCHEDULES.

1. PROVIDE AND INSTALL AN HORIZONTAL WATER-SOURCE HEAT PUMP MFR'S INSTRUCTIONS WHERE INDICATED. HEAT PUMP SHALL BE SUPPORTED FROM BOTH STRUCTURE AND FLEXIBLE CONNECTIONS ON DUCT. APPROXIMATE SERVICE CLEARANCES HAVE BEEN INDICATED. CONTRACTOR SHALL VERIFY THAT ALL SERVICE REQUIREMENTS ARE MET FOR THE INSTALLATION. REFER TO THE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PROVIDE A HINGED FILLER GRILLE RETURN AIR DEVICE WHERE INDICATED. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLANS. PROVIDE A SHEET METAL PLENUM BEHIND THE RETURN GRILLE. THE PLENUM OR DUCT SHALL REFER TO AIR DEVICE SCHEDULE ON SHEET M-3.1 FOR ADDITIONAL INFORMATION. (TYPICAL FOR ALL CLASSROOMS AND OFFICES)
3. PROVIDE AND INSTALL EXHAUST AIR GRILLE WITH MINIMUM 4" DEEP PLENUM BEHIND GRILLE. INSIDE OF PLENUM SHALL BE PAINTED BLACK.
4. ROUTE DUCT IN JOIST SPACING.
5. ROUTE RETURN AIR DUCT DOWN BELOW JOIST TO CONNECT R/A GRILLE AND INSTALL. SEE DETAIL THIS SHEET.
6. PROVIDE AND INSTALL ROOF TOP WATER SOURCE HEAT PUMP WHERE INDICATED PER MFR'S INSTRUCTIONS. ROUTE DUCT THROUGH WALL AS INDICATED. PROVIDE AND FITTING TRANSITIONS AS NECESSARY.
7. THE NEW DUCT INTO EXISTING ROUND DOUBB WALL AT THIS LOCATION. PROVIDE FITTING TRANSITIONS AS NECESSARY TO MAKE THIS FINAL CONNECTION.
8. PROVIDE AND INSTALL FAN COIL UNITS WHERE INDICATED PER MFR'S INSTRUCTIONS. PROVIDE FLEXIBLE CONNECTIONS ON RETURN AND SUPPLY AIR. RETURN AIR DUCT SHALL BE PLENUM



(A) FLOOR PLAN AREA "A" - MECHANICAL
1/8" = 1'-0"



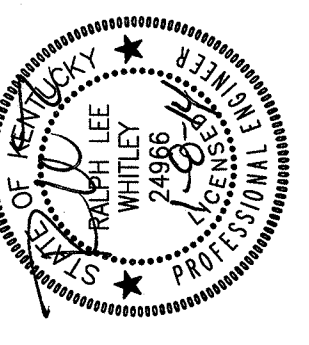
A FLOOR PLAN AREA "B" - MECHANICAL
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET M-4.01 FOR GENERAL NOTES, LEGEND AND SCHEDULES.

SHEET NOTES

1. PROVIDE AND INSTALL AN HORIZONTAL WATER-SOURCE HEAT PUMP PER MFR'S INSTRUCTIONS WHERE INDICATED. HEAT PUMP SHALL BE SUPPORTED FROM FROM STRUCTURE. PROVIDE FLEXIBLE CONNECTIONS ON DUCT. APPROXIMATE SERVICE CLEARANCES HAVE BEEN INDICATED. CONTRACTOR SHALL VERIFY THAT ALL SERVICE REQUIREMENTS ARE MET PRIOR TO INSTALLATION. REFER TO SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PROVIDE A HINGED FILTER GRILLE RETURN AIR DEVICE WHERE INDICATED. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLANS. PROVIDE A SHEET METAL PLENUM BEHIND GRILLE. PLENUM SHALL EXTEND A MINIMUM OF 10'. REFER TO AIR DEVICE SCHEDULE ON SHEET M-3.1 FOR ADDITIONAL INFORMATION. (TYPICAL FOR ALL CLASSROOMS AND OFFICES.)
3. PROVIDE AND INSTALL EXHAUST AIR GRILLE WITH MINIMUM 4" DEEP PLENUM BEHIND GRILLE. INSIDE OF PLENUM SHALL BE PAINTED BLACK.
4. ROUTE DUCT IN JOIST SPACING.
5. ROUTE RETURN AIR DUCT DOWN BELOW JOIST TO CONNECT TO R/A GRILLE AS INDICATED. SEE DETAIL THIS SHEET.
6. PROVIDE AND INSTALL ENERGY RECOVERY UNIT WHERE INDICATED PER MFR'S INSTRUCTIONS. ROUTE DUCT DOWN THROUGH ROOF AS INDICATED AS INDICATED. PROVIDE FITTINGS/TRANSITIONS AS NECESSARY.
7. ROUTE DUCT AS HIGH AS POSSIBLE. COORDINATE ROUTING WITH OTHER TRADES AND EXISTING STRUCTURE PRIOR TO FABRICATION.



MEADOW VIEW ELEMENTARY HVAC RENOVATION

RADCLIFF, KY

FIRST FLOOR PLAN AREA "B" MECHANICAL

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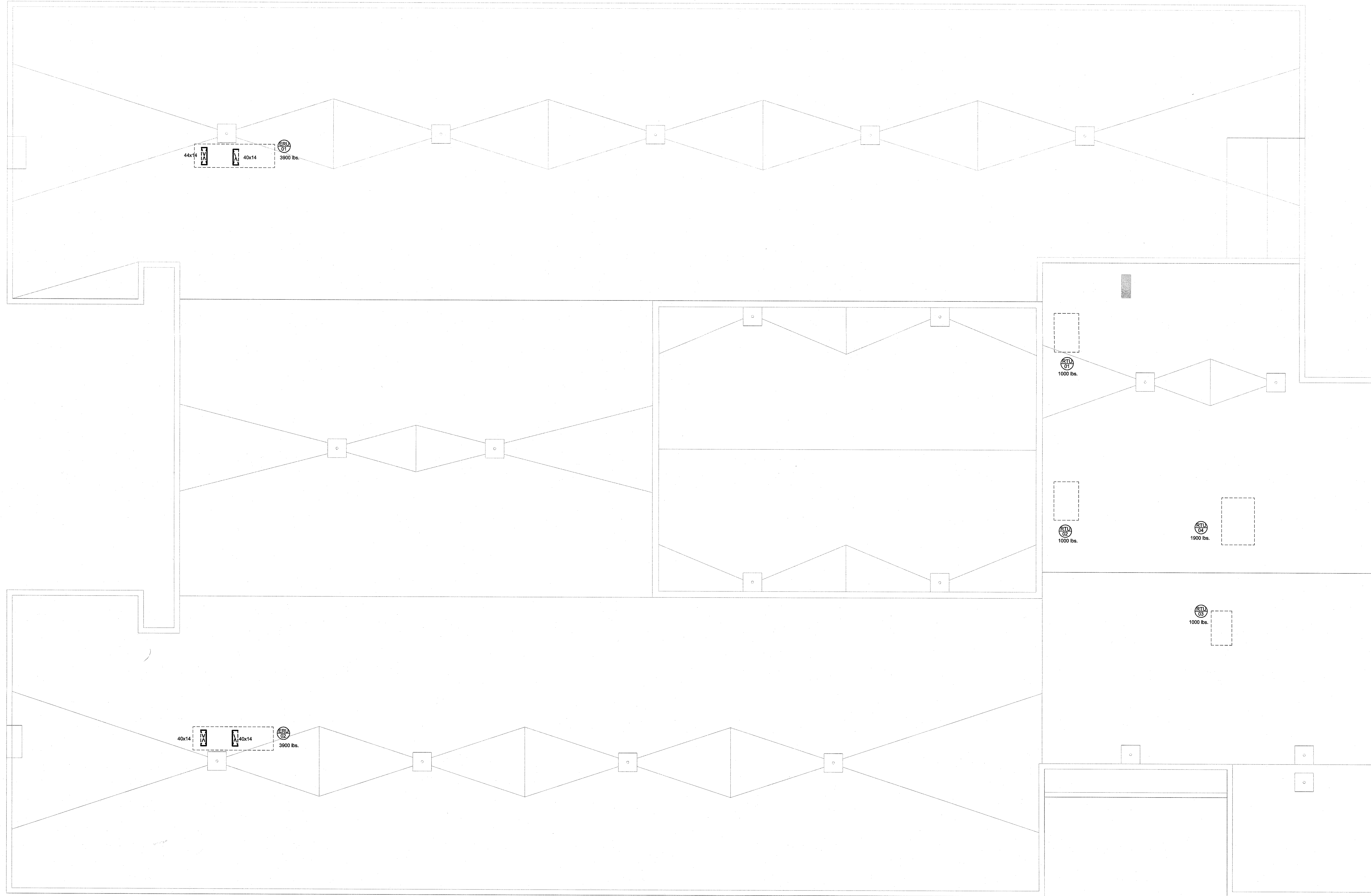
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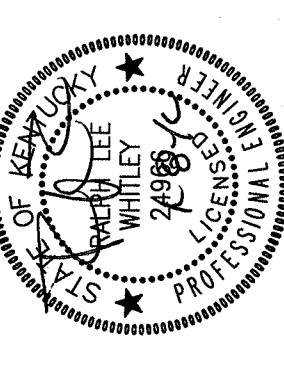
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M1.2



A ROOF PLAN - MECHANICAL
3/32" = 1'-0"



MEADOW VIEW ELEMENTRY
HVAC RENOVATION
RADCLIFF, KY

ROOF PLAN MECHANICAL
SHROUT TATE WILSON
MECHANICAL ENGINEERING
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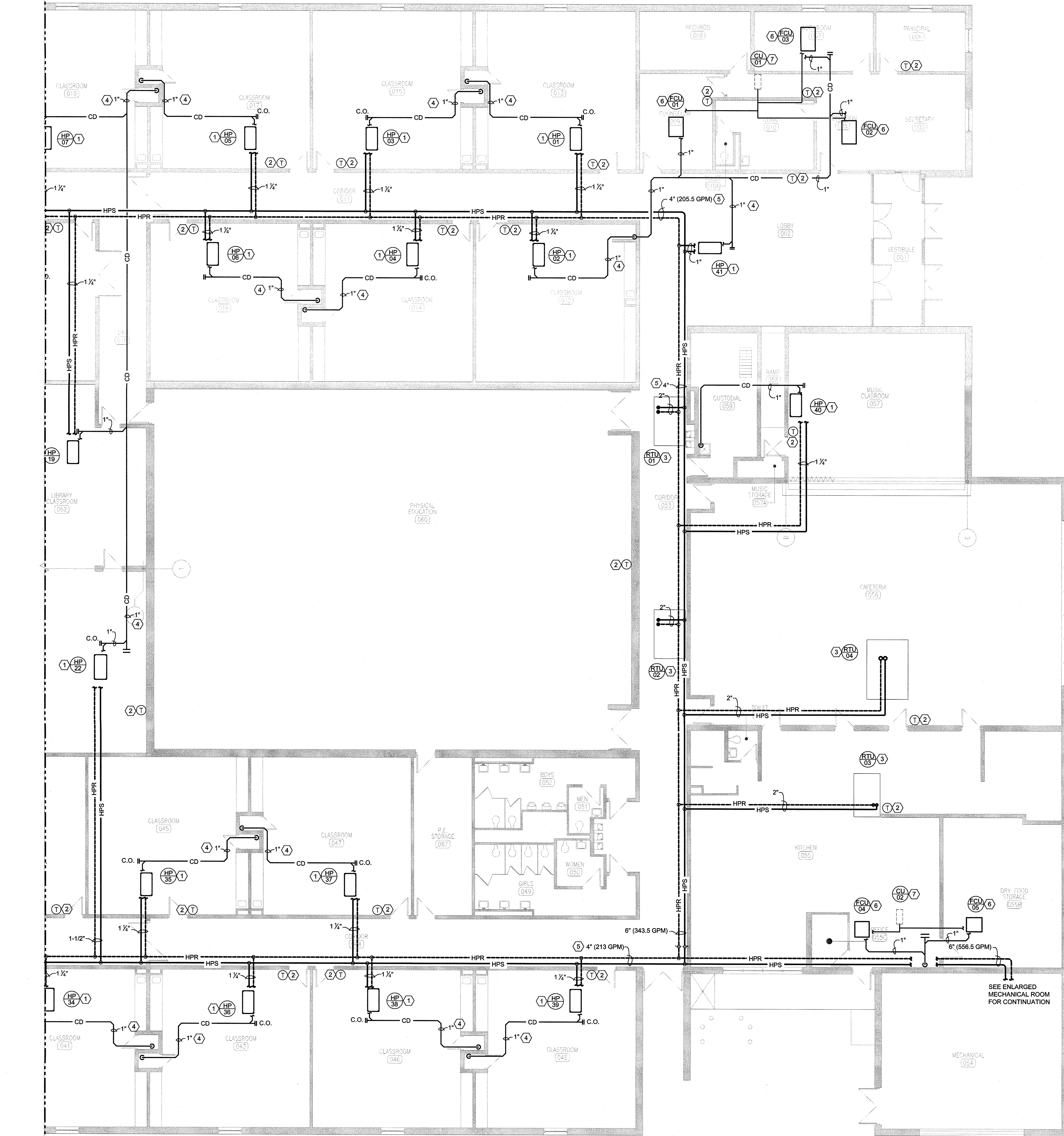
Sherman Carter Barnhart PSC
ARCHITECTURE - INTERIORS - LANDSCAPE - ARCHITECTURE - ENGINEERING
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REVISIONS

SHEET
M1.3

AREA "B" AREA "A"



A FLOOR PLAN AREA "A" - MECHANICAL PIPING
1/8" = 1'-0"

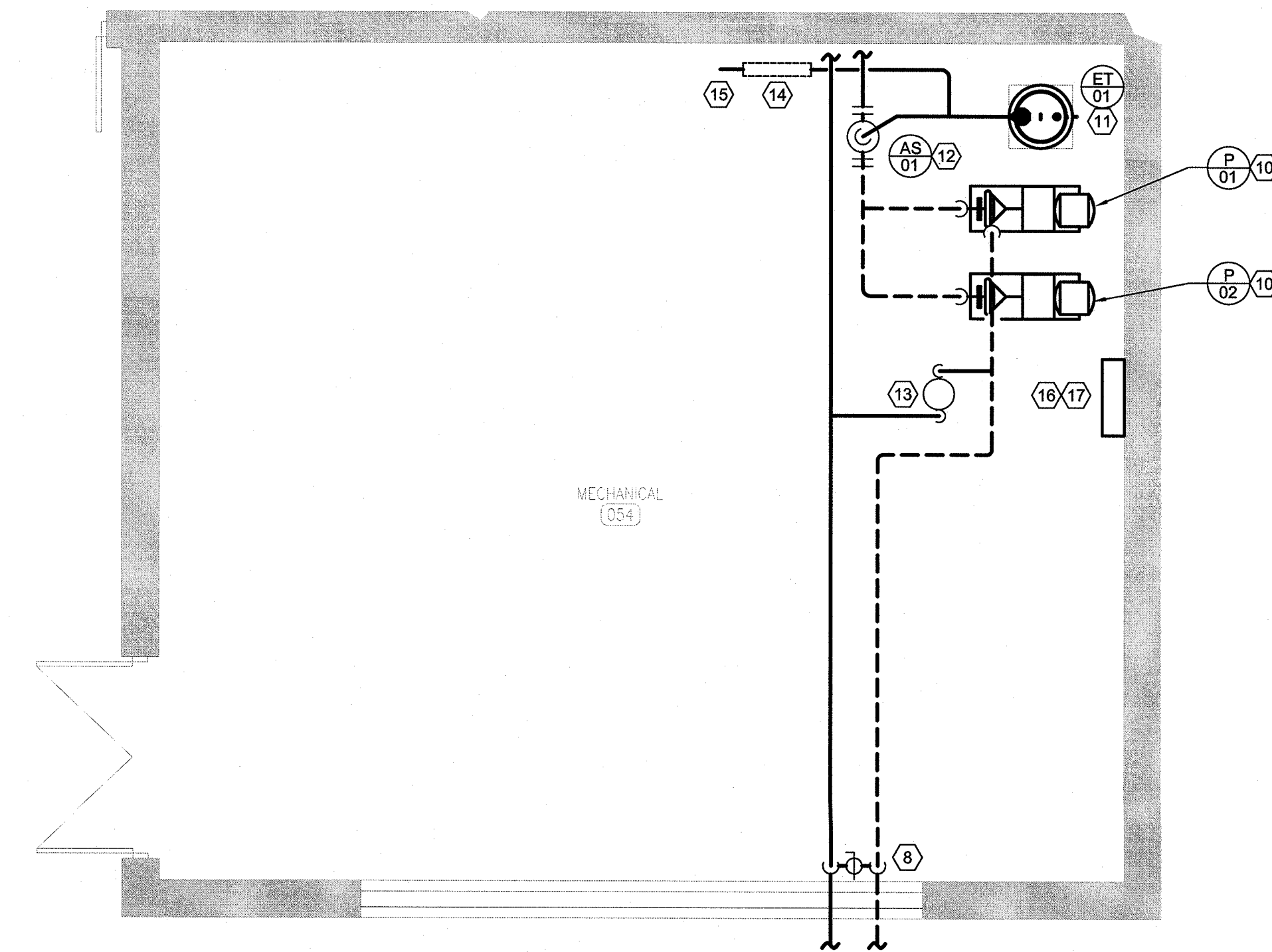
AREA "B" AREA "A"

GENERAL NOTES

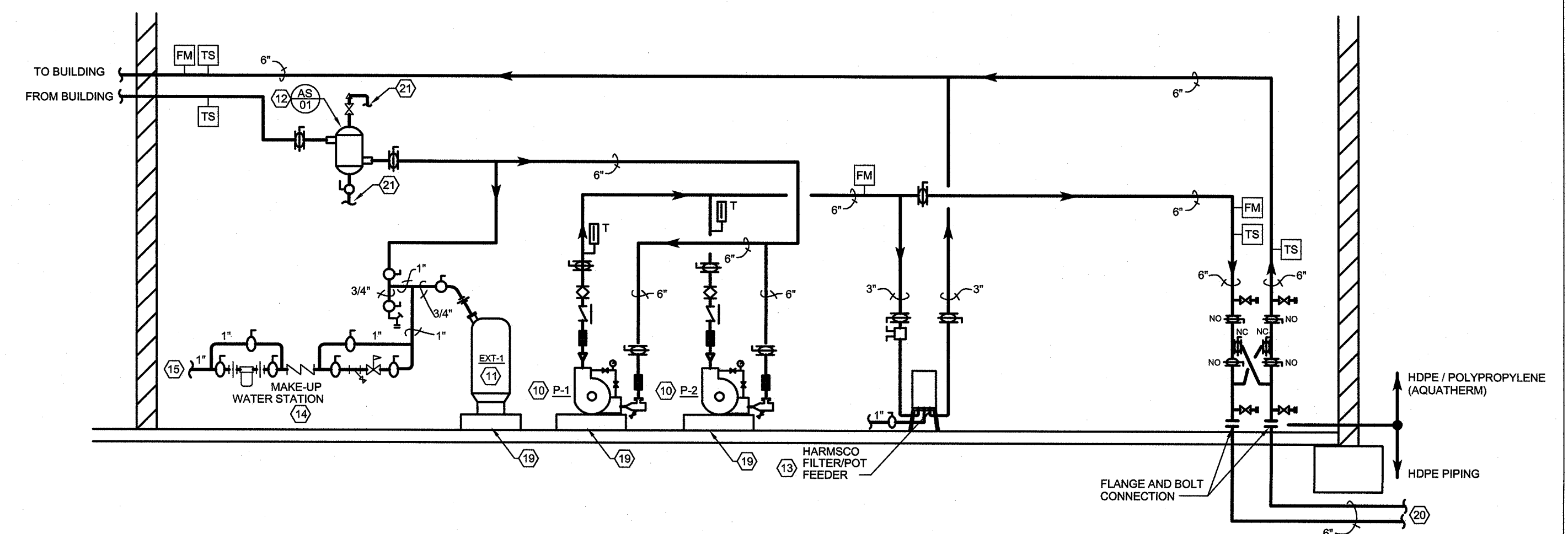
- DUCTWORK AND PIPING SHOWN ON THE PLANS ARE DIAGRAMMATIC, AND MIGHT NOT SHOW ALL BENDS, OFFSETS, ROUTING, AND FITTINGS NECESSARY FOR THE INSTALLATION OF THE WORK AS INTENDED. ANY SUCH ADDITIONAL BENDS, OFFSETS, ROUTING, OR FITTINGS SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL COOPERATE AND COORDINATE WITH ALL OTHER TRADES IN THE LAYING OUT AND INSTALLATION OF THE WORK, PRIOR TO INSTALLING THE EQUIPMENT.
- DUCT DIMENSIONS INDICATED ARE INSIDE CLEAR. ALLOW EXTRA SHEET METAL ON LINED DUCTWORK.
- WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEER BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIORS, SECTIONS, EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS, AND OTHER DETAILS OF THESE DOCUMENTS.
- INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORD WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN THE CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION.

SHEET NOTES

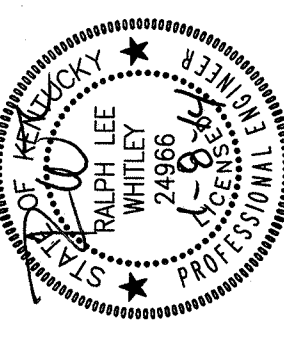
- HORIZONTAL WATER-SOURCE HEAT PUMP. PROVIDE AND AUXILIARY DRAIN PAN BELOW HEAT PUMP. PROVIDE OVERFLOW SWITCH IN DRAIN PAN TO DISABLE UNIT IF DRAIN PAN FILLS UP. REFER TO HEAT PUMP PIPING DETAIL ON SHEET M3.2 FOR HPS AND HPR PIPING DETAILS.
- MOUNT THERMOSTAT IN THE SAME LOCATION OF THE EXISTING THERMOSTAT. ROUTE CONTROL WIRING BACK TO UNIT.
- PROVIDE HPS AND HPR PIPING CONNECTIONS TO RTU AS REQUIRED. ROUTE PIPING UP THROUGH CURB PER MFR'S INSTRUCTIONS.
- ROUTE CONDENSATE LINE AS INDICATED AS HIGH AS POSSIBLE WITH PROPER SLOPE. CONDENSATE SHALL ROUTE TO BACK OF CLOSET THEN DOWN AND OVER TO EXISTING OPEN RECEPTACLE.
- HOLD HPS AND HPR PIPING AS HIGH AS POSSIBLE.
- PROVIDE AND INSTALL VRF FAN COIL UNITS PER MFR'S RECOMMENDATIONS. ROUTE REFRIGERANT PIPING TO CONNECT TO CONDENSING UNIT PER MFR'S INSTRUCTIONS. ROUTE CONDENSATE AS INDICATED.
- PROVIDE AND INSTALL CONDENSING UNIT ON EQUIPMENT RAILS PER MFR'S INSTRUCTIONS. ROUTE REFRIGERANT PIPING DOWN THROUGH ROOF WHERE INDICATED.
- ROUTE HPS/HPR PIPING DOWN THROUGH FLOOR (PROVIDE SLEEVING) SEE THIS SHEET FOR PIPING CONTINUATION.
- ROUTE PIPING HIGH THROUGH WALL TO ABOVE CORRIDOR CEILING. SEE SHEET M2.1 FOR PIPING CONTINUATION.
- PROVIDE AND INSTALL A BASE MOUNTED PUMP PER MANUFACTURER'S INSTRUCTIONS ON A 3" CONCRETE PAD WHERE INDICATED. REFER TO PUMP SCHEDULE ON SHEET M4.1 FOR ADDITIONAL INFORMATION. SEE DETAIL ON SHEET M4.3.
- PROVIDE AND INSTALL A VERTICAL BLADDER TYPE EXPANSION TANK PER MFR'S INSTRUCTIONS. PROVIDE 3" CONCRETE HOUSEKEEPING PAD AS INDICATED. REFER TO SCHEDULE ON SHEET M4.2 FOR ADDITIONAL INFORMATION.
- PROVIDE AND INSTALL A CHEMICAL POT FEEDER / FILTER SIMILAR TO HARMSCO MODEL VB 90SC-2. REFER TO SHEET M4.3 FOR POT FEEDER/FILTER DETAIL.
- PROVIDE AND INSTALL MAKE-UP WATER STATION ASSEMBLY. REFER TO MAKE-UP WATER STATION DETAIL ON SHEET M4.3. PROVIDE DRAIN LINE FROM RP2 TO NEAREST FLOOR DRAIN.
- 1" DOMESTIC MAKE-UP WATER CONNECTION. REFER TO PLUMBING DRAWINGS FOR CONTINUATION. COORDINATE EXACT LOCATION OF MAKE-UP WATER CONNECTION WITH PLUMBING CONTRACTOR.
- VARIABLE SPEED DRIVES FOR BUILDING LOOP PUMPS (P-04 AND P-05) DRIVES SHALL BE PROVIDED AND INSTALLED BY TEMPERATURES CONTROLS CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO VFD AND SHALL MAKE CONNECTION FROM VFD TO PUMPS.
- MAIN PUMP CONTROL PANEL. PANEL SHALL BE PROVIDED AND INSTALLED BY TEMPERATURE CONTROLS CONTRACTOR.
- PROVIDE AND INSTALL AN ELECTRIC UNIT HEATER PER MFR'S INSTRUCTION WHERE INDICATED. REFER TO SCHEDULE ON SHEET M4.1 FOR ADDITIONAL INFORMATION.
- 3" CONCRETE HOUSEKEEPING PAD.
- SEE SHEET SU2.1 FOR CONTINUATION.
- ROUTE TO NEAREST FLOOR DRAIN.



B ENLARGED MECHANICAL ROOM
1/4" = 1'-0"



C MECHANICAL ROOM PIPING SCHEMATIC
WTS



MEADOW VIEW ELEMENTARY
HVAC RENOVATION
RADCLIFF, KY

FIRST FLOOR PLAN AREA "A"
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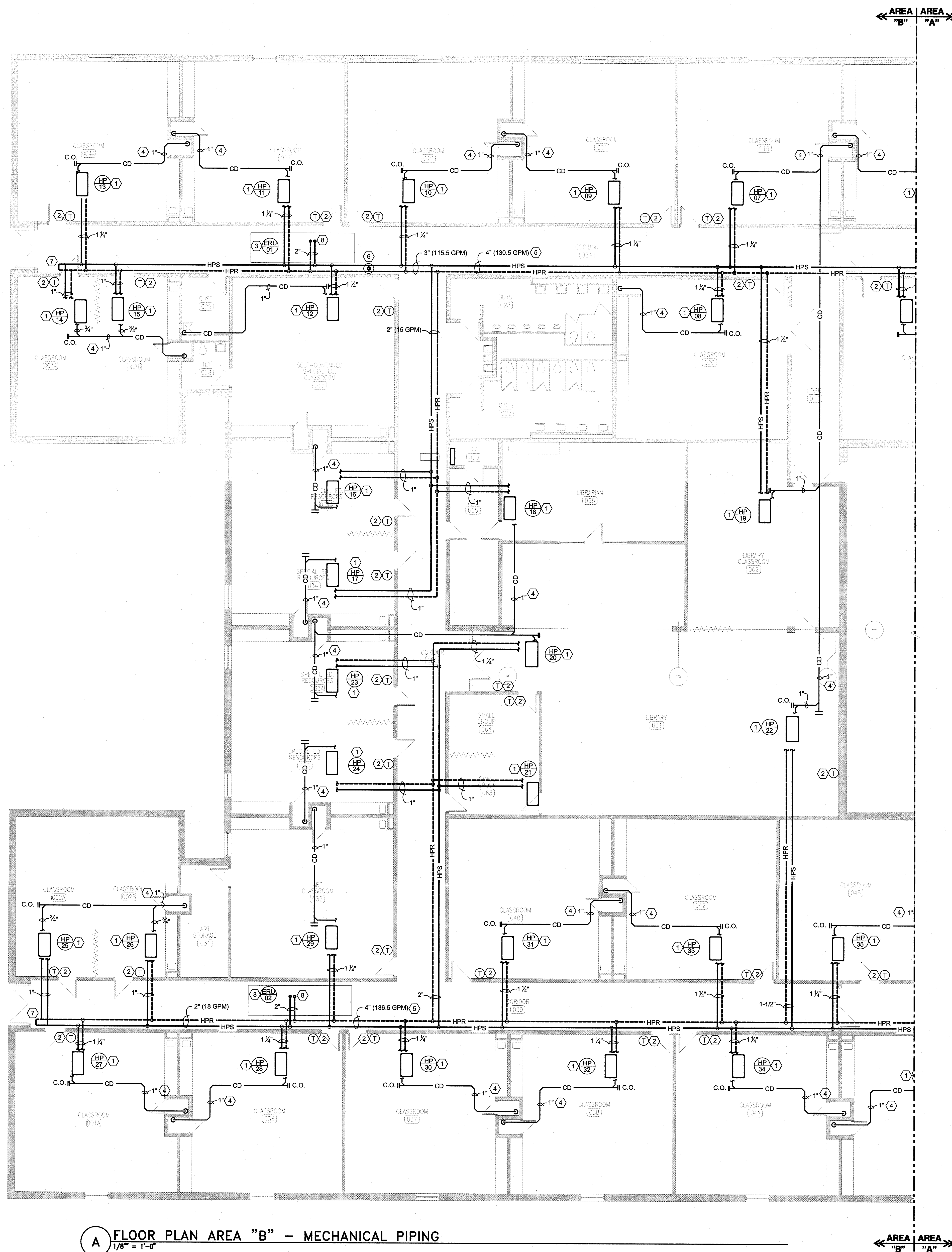
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SHEET

M2.1



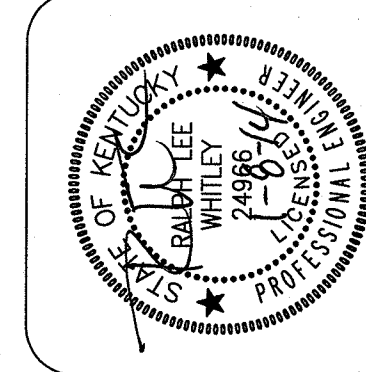
A FLOOR PLAN AREA "B" - MECHANICAL PIPING
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET M-4.01 FOR GENERAL NOTES.

SHEET NOTES

1. HORIZONTAL WATER-SOURCE HEAT PUMP. PROVIDE AND AUXILIARY DRAIN PAN BELOW HEAT PUMP. PROVIDE OVERFLOW SWITCH IN DRAIN PAN TO DISABLE UNIT IF DRAIN PAN FILLS UP. REFER TO HEAT PUMP PIPING DETAIL ON SHEET M-3.2 FOR HPS AND HPR PIPING DETAILS.
2. MOUNT THERMOSTAT IN THE SAME LOCATION OF THE EXISTING THERMOSTAT. ROUTE CONTROL WIRING BACK TO UNIT.
3. PROVIDE HPS AND HPR PIPING CONNECTIONS TO ERU AS REQUIRED. REFER TO ENERGY RECOVERY UNIT PIPING CONNECTION DETAIL ON SHEET M-3.2. PROVIDE 3-WAY CONTROL VALVES AS INDICATED ON DETAIL.
4. ROUTE CONDENSATE LINE AS INDICATED AS HIGH AS POSSIBLE WITH PROPER SLOPE. CONDENSATE SHALL ROUTE TO BACK OF CLOSET THEN DOWN AND OVER TO EXISTING OPEN RECEPTACLE.
5. HOLD HPS AND HPR PIPING AS HIGH AS POSSIBLE.
6. PROVIDE A DIFFERENTIAL PRESSURE TRANSDUCER AT THIS APPROXIMATE LOCATION. REFER TO DETAIL ON SHEET M-3.2.
7. PROVIDE AN END OF LINE BYPASS AT THIS APPROXIMATE LOCATION. REFER TO DETAIL ON M-3.2.
8. ROUTE PIPING UP THROUGH CURB TO ERU, CONFIRM EXACT LOCATION OF PIPING LOCATION ON ERU.



**MEADOW VIEW ELEMENTARY
HVAC RENOVATION**
RADCLIFF, KY

FIRST FLOOR PLAN AREA "B"

MECHANICAL PIPING

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SHEET
M2.2

AIR DEVICE SCHEDULE							
Mark	Manufacturer	** Model	Module	Air Pattern	Max CFM	Neck Size	Remarks
S-1	Krueger	1400	24x24	4-Way	100	6"ø	1,3,4,5
S-2	Krueger	1400	24x24	4-Way	240	8"ø	1,3,4,5
S-3	Krueger	1400	24x24	4-Way	400	10"ø	1,3,4,5
R-1	Krueger	S80	24x24	-	-	22x22	1,3,5,8
R-2	Krueger	S80	38x16	-	-	36x14	2,3,5
E-1	Krueger	S80	24x24	-	-	22x22	1,3,5
T-1	Krueger	S80H	24x24	-	-	22x22	1,3,5
Remarks: 1. Lay-in 2. Surface Mounted 3. Provide with white finish. 4. Round neck. 5. Coordinate all diffuser and grille locations with reflected ceiling plans prior to installation. Lighting has priority over HVAC items. 6. Linear slot diffuser with (2) 3/4" slots. 7. Provide insulated plenum. 8. Hinged filter grille. 9. Round plaque diffuser. * Refer to specifications for additional information about air devices. ** Krueger Air Deivs and Ruskin Louver model no.'s are used as basis of design. Other acceptable manufacturers include: Tilus Reliable Armestost Greenheck							

EXPANSION TANK SCHEDULE	
Mark	ET-01
Manufacturer	Bell & Gossett
Model	B-400
Type	Replaceable Bladder
Service	
Connection Size	Heat Pump Loop
Accept. Volume (gal.)	106
Total Volume (gal.)	106
Air Pressure Charge (psi)	18
Bell & Gossett model no.'s are used as basis of design. Other acceptable manufacturers include: Armstrong Wessels Patterson Wheatley	

MINI-SPLIT SYSTEM SCHEDULE													
Mark	Manufacturer	Model	CFM	SEER	Electrical			Total Cooling at ARI (MBH)	Cooling Capacity Range	Nominal Heating Capacity (MBH)	Heating HSPF	FLA Cooling/ Heating	Remarks
					Volt/Phase	MCA	MOP						
Outdoor Unit													
CU-01	MITSUBISHI	MXZ-4B39NA	-	16.5	208/1	23	25	36	12,600-35,400	22.2	9	10.7	2,3,4,8
CU-02	MITSUBISHI	MXZ-4B39NA	-	16.5	208/1	23	25	36	12,600-35,400	22.2	9	10.7	2,3,4,8
Indoor Unit													
FCU-01	MITSUBISHI	SEZ-KD09NA4	250	-	208/60/1	-	-	-	-	-	-	-	1,3,5,6,7,8
FCU-02	MITSUBISHI	SEZ-KD09NA4	300	-	208/60/1	-	-	-	-	-	-	-	1,3,5,6,7,8
FCU-03	MITSUBISHI	SEZ-KD18NA4	600	-	208/60/1	-	-	-	-	-	-	-	1,3,5,6,7,8
CAS-01	MITSUBISHI	PLA-A18BA4	840	-	208/60/1	-	-	-	-	-	-	-	1,3,5,6,8
CAS-02	MITSUBISHI	SLZ-KA09NA	350	-	208/60/1	-	-	-	-	-	-	-	1,3,5,6,8
CAS-03	MITSUBISHI	SLZ-KA09NA	350	-	208/60/1	-	-	-	-	-	-	-	1,3,5,6,8
CAS-04	MITSUBISHI	SLZ-KA12NA	390	-	208/60/1	-	-	-	-	-	-	-	1,3,5,6,8
Remarks: 1. Furnish with wired remote controller/thermostat. 2. W/ low ambient control and washable filter 3. Install per mfr.'s Instructions. 4. R-410A refrigerant 5. Indoor unit powered from outdoor unit. 6. Field-installed condensate pump 7. Ducted unit. 6. Refer to specifications for additional information.													
* Mitsubishi model numbers are used as basis of design. Other acceptable manufacturers include: Samsung Daikin													

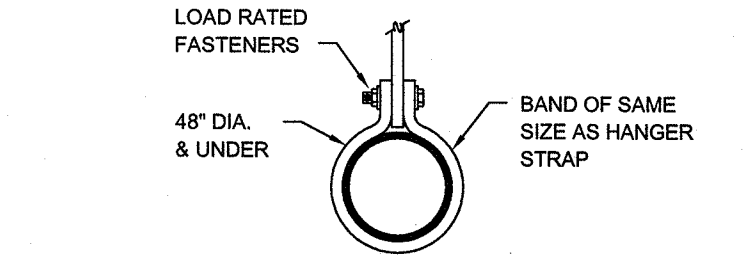
CIRCULATING PUMP SCHEDULE									
UNIT	MANUFACTURER	* MODEL NO.	GPM	TOTAL HEAD FT.	HP	VOLT/PH	RPM	SERVICE	REMARKS
P-1	BELL & GOSSETT	4GB - 1510 Series	400	120	20	208/3	1750	GEO THERMAL FIELD	1,2,3
P-1A	BELL & GOSSETT	4GB - 1510 Series	400	120	20	208/3	1750	GEO THERMAL FIELD	1,2,3
REMARKS: 1. BASE MOUNTED CENTRIFUGAL PUMP W/ FABRICATED, HEAVY-DUTY BASEPLATE. 2. FURNISH WITH 150 PSI FLANGED CONNECTIONS. 3. PREMIUM EFFICIENCY MOTORS FOR VARIABLE SPEED DRIVE. * BELL & GOSSETT MODEL NO.'S ARE USED AS BASIS OF DESIGN. OTHER ACCEPTABLE MANUFACTURERS ARE: ARMSTRONG, PATTERSON									

WATER SOURCE HEAT PUMP UNIT SCHEDULE																										
Unit Tags (HP)	Manufacturer	Model Number	Baseunit																				Remarks			
			Design airflow	Nominal capacity	Configuration	External static pressure	Cooling					Heating					Electrical									
							Total cooling capacity	Net sensible capacity	EDB	EWB	LDB	LWB	Heat of Rejection	Total heating capacity	EDB	LDB	Heat of Absorption	Fluid flow rate	Fluid PD	EER @ ARI	COP @ ARI	Unit voltage		Blower	MCA	MOP
							(cfm)	(tons)	(in of H ₂ O)	(MBh)	(MBh)	(°F)	(°F)	(°F)	(°F)	(MBh)	(MBh)	(°F)	(°F)	(MBh)	(gpm)	(ft of H ₂ O)				(V/Hz/Ph)
14-17, 21, 23-26	Trane	GEH018	600	1.5	Horizontal	0.578	17.33	12.26	75	64	56.3	54.2	21.77	14.1	68	69	9.6	4.5	8.6	13.3	4.8	208/60/1	1/8	12.9	20	
18	Trane	GEH024	800	2	Horizontal	0.503	23.67	15.75	75	64	57	54	29	19.8	68	90	13.7	6	13.6	14.4	4.7	208/60/1	1/3	18.1	30	
1-12, 19, 28-39, 44	Trane	GEH030	1000	2.5	Horizontal	0.274	29.27	20.06	75	64	56	54.1	36	23.3	68	89	16.6	7.5	16.3	13.8	4.6	208/60/1	1/3	19.73	30	
13, 20, 22, 27, 40	Trane	GEH036	1200	3	Horizontal	0.68	34.66	23.11	75	64	57.4	54.2	41.2	29	68	90	22.5	9	16	14.2	4.6	208/60/1	1/2	24.48	40	
Remarks: 1. Capacities based on EWT of 77 F summer and 32 F winter. ARI 2. Contains 20% Excoendosol 101 heat transfer fluid. 3. Furnish with supply/return pipe size hose kits. 4. Furnish with Neoprene Isolators. 5. Install unit per manufacturer's written instructions. 6. Capacities Based on Ent. Air - 75 Deg F./64 Deg. F. DB/WB (Cooling); 68 Deg. F. (Heating) 7. Extended Range Type Units / R410A Refrigerant 8. Provide with hot gas reheat option. 9. Filter rack on unit to be used during construction. Upon factory start-up the factory filter rack shall be emptied and access shall be sealed completely. Filters shall be installed in the hinged filter grilles when owner occupies building. 10. Dual Compressor Unit 11. Single Stage Unit 12. Refer to specifications for additional requirements. Acceptable Manufacturers include: Trane, Climatmaster, Water Furnace																										

ERU SCHEDULE		
Unit		
Tag	ERU-01	ERU-02
Manufacturer	Valent	Valent
* Model	VPRE-210-25H	VPRE-210-25H
** Unit Weight (lbs)	3848	3848
Electrical		
Voltage/Phase	208/3	208/3
MCA (A)	129.2	129.2
MOCP (A)	175	175
Efficiency		
EER	15	15
Supply Fan		
Airflow (CFM)	5000	5200
ESP (in H ₂ O)	2	2
Motor Size (HP)	(2) 3	(2) 3
Return/Exhaust Fan		
Airflow (CFM)	4700	4900
ESP (in H ₂ O)	2	2
Motor Size (HP)	(1) 5	(1) 5
Cooling		
EAT		
EDB (°F)	83.6	83.6
EWB (°F)	75	75
LAT (Unit)		
LDB (°F)	57.20	57.20
LWB (°F)	56.70	56.70
Capacity		
Total Capacity (MBH)	321.9	321.9
Sensible Capacity (MBH)	142.8	142.8
Ambient DB/WB (°F)	95/78	95/78
Compressor		
Stages	1 Mod / 1 on/off	1 Mod / 1 on/off
Quantity	2	2
Refrigerant	R-410a	R-410a
Heat Pump Heating		
Total Capacity (MBH)	186.8	186.8
O/A Temp DB/WB (°F)	0/-1	0/-1
EAT DB (°F)	40	40
LAT DB (°F)	74.5	74.5
Cooling Coil		
Rows / FPI	4	4
EWT (°F)	90	90
LWT (°F)	101.5	101.5
GPM	75	75
Glycol %	20	20
WPD (ft. H ₂ O)	18.2	18.2
Heating Coil		
EWT (°F)	40.0	40.0
LWT (°F)	35.9	35.9
GPM	75.0	75.0
Glycol %	20.0	20.0
WPD (ft. H ₂ O)	18.2	18.2
Re-Heat Coil		
Capacity (MBH)	102.6	102.6
UNIT LDB/LWB	79.3/64.8	79.3/65.4
RH (%)	56	56
Energy Recovery Module		
Winter outside EDB (°F)	0.00	0.00
Winter outside EWB (°F)	-1.00	-1.00
Winter Supply LDB (°F)	41.60	41.60
Winter Supply LWB (°F)	36.40	36.40
Winter Return EDB (°F)	70.00	70.00
Winter Return EWB (°F)	54.40	54.40
Summer outside EDB (°F)	95.00	95.00
Summer outside EWB (°F)	78.00	78.00
Summer Supply LDB (°F)	80.00	80.00
Summer Supply LWB (°F)	69.70	69.70
Summer Return EDB (°F)	75.00	75.00
Summer Return EWB (°F)	62.50	62.50
* Note: Valent model numbers are used as basis of design. Acceptable manufacturers include: Venmar, SEMCO, Addison Refer to specifications for additional information.		
Remarks: 1. Water source heat pump. 2. Modulating heat pump 3. Energy recovery wheel. 4. High and low pressure switch. 5. Compressor short-cycle timer. 6. Double-wall R-13 foam injected panels. 7. Two independent refrigeration circuits. 8. Modulating hot gas reheat with humidistat control. 9. Provide 2 complete sets of filters to the owner upon completion of project. 10. Refer to specifications for more information.		

- FURNISH ALL LABOR, MATERIAL, AND EQUIP. REQUIRED FOR THE COMPLETION & OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES, ASHRAE, SMACNA, NFPA, EPA, ETC.
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- REFER TO ALL PROJECT DRAWINGS FOR DETAILS OF CONSTRUCTION AND INSTALLATION REQUIREMENTS.
- CONTRACTOR SHALL BECOME, PRIOR TO BID, THOROUGHLY FAMILIAR WITH THE REQUIREMENTS OF THESE NOTES AS WELL AS OTHER NOTES SHOWN ON THE CONTRACT DOCUMENTS.
- THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIC REFERENCE PRODUCTS (SEE SCHEDULES). THE SELECTION OF WHICH HAS INFLUENCED THE DESIGNS OF OTHER TRADES (ELECTRICAL, STRUCTURAL, ETC.). IF SUBSTITUTE MANUFACTURERS, SIZES, OR MODEL NUMBERS ARE BID, SUBMITTED OR INSTALLED, IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR AND ALL HIS SUBCONTRACTORS TO COORDINATE ALL DIFFERENCES PRIOR TO BID. ALL COSTS OF ALL TRADES ASSOCIATED WITH THE SUBSTITUTION SHALL BE INCLUDED IN THE BID.
- COORDINATION OF ALL MODIFICATIONS TO EACH DISCIPLINE WHICH RESULT FROM SUBSTITUTION OF EQUIPMENT OR MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS WHICH ARE INSTALLED AND SUBSEQUENTLY ARE PROVEN UNSATISFACTORY BY OWNER AND/OR ENGINEER, WITHIN THE WARRANTY PERIOD, SHALL BE REMOVED COMPLETELY BY THE CONTRACTOR AND REPLACED WITH THE ORIGINAL DESIGN OR CORRECTED AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER.
- ALL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRICAL RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, SEQUENCE, DEVICE, OPTION, FITTING, VALVE, OR COMPONENT.
- INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS OR DETAILS, BUT NOT SHOWN ON PLANS, AND VICE VERSA, SHALL BE PROVIDED AS IF EXPRESSLY REQUIRED BY BOTH.
- CONTRACTOR SHALL NOT SCALE DRAWINGS. DRAWINGS SPECIFIC TO THIS DISCIPLINE DO NOT LIMIT THE RESPONSIBILITY OF WORK REQUIRED BY THE CONTRACT DOCUMENTS.
- EXACT LOCATIONS OF ALL EQUIPMENT, DUCTS, DIFFUSERS, ETC. SHALL BE COORDINATED WITH OTHER TRADES. CEILING MOUNTED LIGHTING, AND ELECTRICAL REQUIREMENTS TAKE PRECEDENCE OVER CEILING MOUNTED MECHANICAL REQUIREMENTS. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING GRID AND LIGHTING LAYOUT FOR COORDINATION OF FINAL DIFFUSER LOCATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES. REFER TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND OTHER DRAWINGS FOR COMPLETE INFORMATION PRIOR TO BID.
- ALL MECHANICAL CONSTRUCTION DETAILS SHALL BE AS SHOWN AND AS REQUIRED TO MAINTAIN "UL" ASSEMBLY RATINGS AS SHOWN ON ARCHITECTURAL SHEETS. SEAL AROUND ALL PENETRATIONS THROUGH ALL "UL" RATED ASSEMBLIES, FIRE, AND SMOKE WALLS. COORDINATE WITH GENERAL CONTRACTOR.
- NO OTHER TRADES, I.E., ELECTRICAL, CEILING, PLUMBING, ETC., SHALL BE SUSPENDED, HUNG, OR SUPPORTED FROM DUCTWORK OR PIPING.
- ALL BUILDING PENETRATIONS MUST BE COORDINATED WITH ARCHITECT AND SHALL BE FLASHED AND SEALED WEATHERTIGHT. ALL MATERIALS AND COLORS MUST BE PRE-APPROVED BY ARCHITECT.
- ROUTE DUCTWORK AS HIGH AS POSSIBLE TO FACILITATE ACCESS TO ABOVE CEILING SPACE. COORDINATE ROUTING WITH OTHER SERVICES AND TRADES.
- ALL DUCTWORK AND PIPING SHALL BE SUPPORTED FROM STRUCTURE.
- ALL AIR DEVICES LOCATED ABOVE GYPSOBOARD CEILINGS SHALL HAVE ACCESSIBLE BALANCING DAMPERS.
- ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
- MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 5'-0". ALL FLEXIBLE DUCT SHALL CONFORM TO THE REQUIREMENTS OF U.L. 181 FOR CLASS 1 FLEXIBLE AIR DUCTS. SUPPORT TO ELIMINATE SAGGING & KINKING.
- ALL HVAC EQUIPMENT TO BE INSTALLED PER MFG. REQUIREMENTS AS SHOWN. UTILIZE FACTORY FILTERS DURING CONSTRUCTION.
- ALL PIPING, DUCTS, VENTS, ETC., EXTENDING THROUGH WALLS SHALL BE FLASHED, COUNTERFLASHED IN WATERPROOF MANNER W/LEAD ROOF JACK.
- CONTRACTOR TO COORDINATE DUCTWORK WITH OTHER TRADES, OFF-SET AS REQUIRED, RUN DUCTWORK BETWEEN JOIST WHERE POSSIBLE.
- CONTRACTOR SHALL VISIT THE JOB SITE & BE FAMILIAR WITH ALL PROJECT CONDITIONS PRIOR TO FABRICATING ANY EQUIPMENT, DUCTWORK, ETC., NO ALLOWANCES WILL BE MADE FOR CONTRACTOR UNFAMILIARITY WITH PROJECT CONDITIONS.
- MECHANICAL CONTRACTOR SHALL BALANCE SYSTEM TO AIR QUANTITIES INDICATED ON PLANS AND PROVIDE OWNERS REPRESENTATIVES WITH COMPLETE NEBB/AABC BALANCE REPORT.
- ALL SQUARE ELBOWS SHALL HAVE TURNING VANES.
- PROVIDE A MANUAL VOLUME DAMPER AT ALL BRANCH TAKE-OFFS.
- ALL DUCT DIMENSIONS SHOWN ARE INTERIOR DUCT DIMENSIONS.
- ALL CONTROL WIRING & CONDUIT SHALL COMPLY WITH NEC.
- PIPE AND DUCT ROUTING SHOWN IS SCHEMATIC. HVAC CONTRACTOR SHALL PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS, INCLUDING DIVIDED DUCTS, REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES AS ENCOUNTERED IN THE FIELD.
- MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND DRAWINGS FOR CONNECTIONS AND LOCATION OF ALL EQUIPMENT.

MECHANICAL LEGEND	
	SUPPLY AIR DIFFUSER (FOUR-WAY, THREE-WAY, TWO-WAY, ONE-WAY)
	SUPPLY AIR DIFFUSER (ROUND)
	RETURN / EXHAUST GRILLE
	FLEXIBLE CONNECTION
	LINED DUCT
	SUPPLY AIR DUCT (UP-, DOWN)
	RETURN AIR DUCT (UP-, DOWN)
	SPLITTER DAMPER
	MANUAL VOLUME CONTROL BALANCE DAMPER
	MOTORIZED DAMPER
	COMBINATION - FIRE / SMOKE DAMPER
	ELBOW WITH VANES
	ELBOW
	CAP OR PLUG
	GATE VALVE (HORIZ. - VERT.)
	GLOBE VALVE (HORIZ. - VERT.)
	BUTTERFLY VALVE (HORIZ. - VERT.)
	BALL VALVE (HORIZ. - VERT.)
	CONTROL VALVE (2-WAY, 3-WAY)
	PRESSURE GAUGE
	TEMPERATURES GAUGE OR THERMOMETER
	PRESSURE REDUCING VALVE
	STRAINER
	CHECK VALVE
	FLOW INDICATOR
	FLOW SET
	BALANCE VALVE
	COMBINATION FLOW INDICATOR / BALANCING
	FLEXIBLE CONNECTION
	UNION
	INDICATES FLOW DIRECTION
	PIPE ANCHOR
	PIPE DOWN, PIPE UP
	INCREASER / REDUCER
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	ROOM THERMOSTAT OR DUCT STAT
	SMOKE DETECTORS
	TEMPERATURE SENSOR
	FLOW M



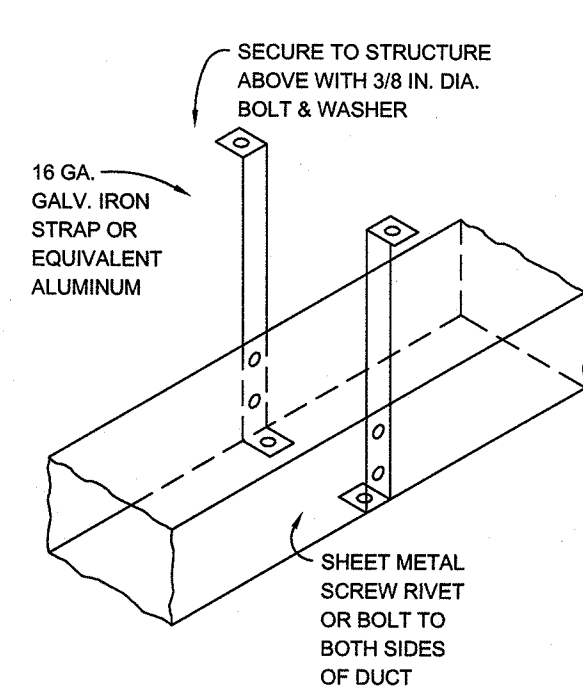
HANGER STRAPS OR RODS			
MAX. DUCT DIA.	HANGER	MAX. LOAD lb.	MAX. SPACING FT.
26"	ONE 1"x 22 GA STRAP	280	12

NOTE:
1. TABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

ROUND DUCT HANGER DETAIL

N.T.S.

R

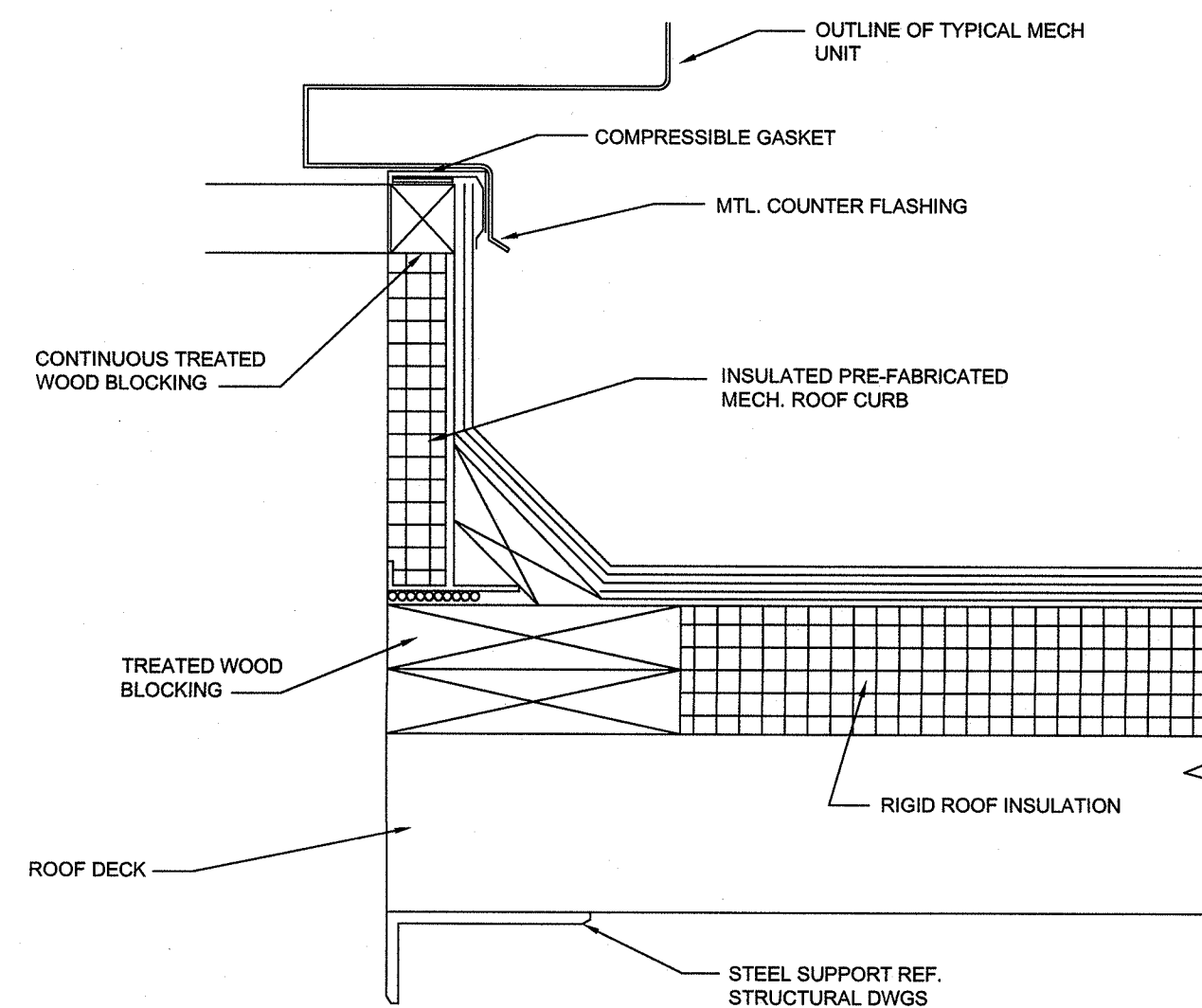


(8 FT. MAX. HANGER SPACING)
ALSO PROVIDE 3 HANGERS AT EACH TAKE-OFF OR BRANCH

RECTANGULAR DUCT HANGER DETAIL

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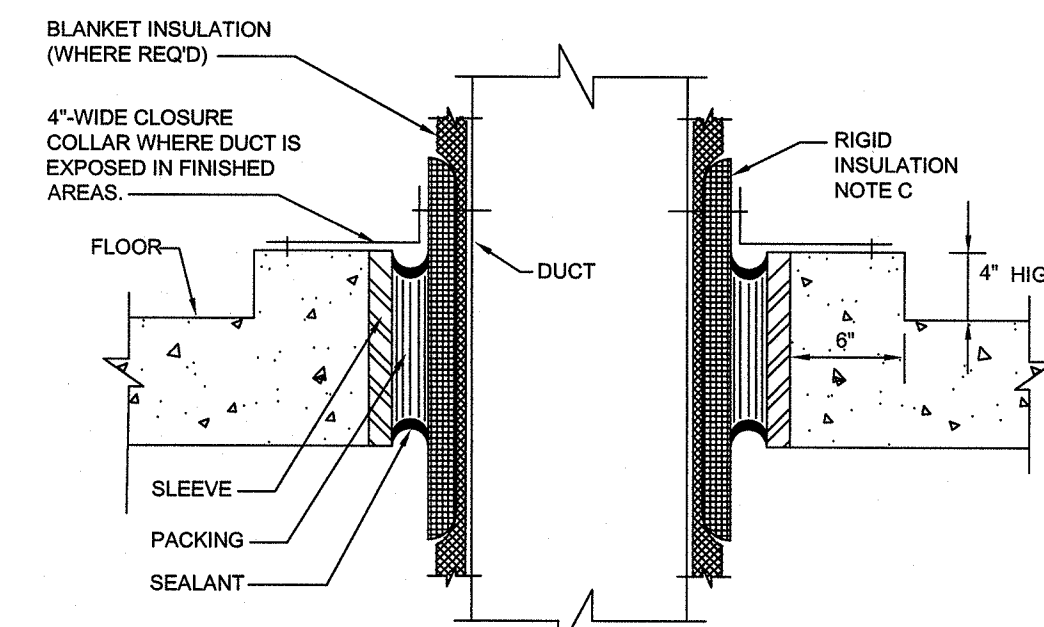
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TYPICAL ROOF TOP UNIT CURB

N.T.S. (ROUND AND OVAL)

T

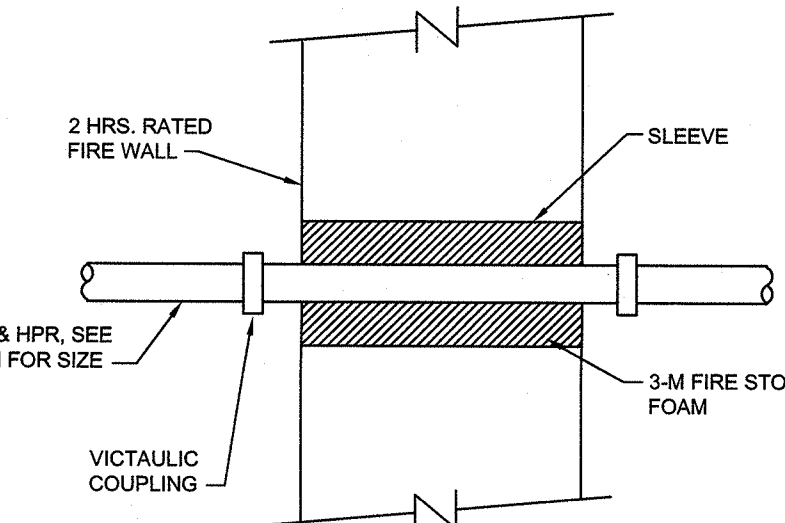


- NOTE:
- EXTERNALLY INSULATED DUCT SHALL BE CAULKED TO PROVIDE A COMPLETE SEAL BETWEEN THE INSULATION AND CLOSURE COLLAR
 - THIS DETAIL IS FOR NONFIRE-RATED CONSTRUCTION. DUCT PENETRATIONS IN FIRE-RATED CONSTRUCTION WHERE FIRE DAMPER IS NOT REQUIRED SHALL BE FIRESSTOPPED WITH A UL-CLASSIFIED SYSTEM.
 - RIGID INSULATION SHALL BE SAME THICKNESS AS FLEXIBLE BLANKET INSULATION

TYPICAL DUCT PENETRATION THROUGH FLOOR DETAIL

N.T.S.

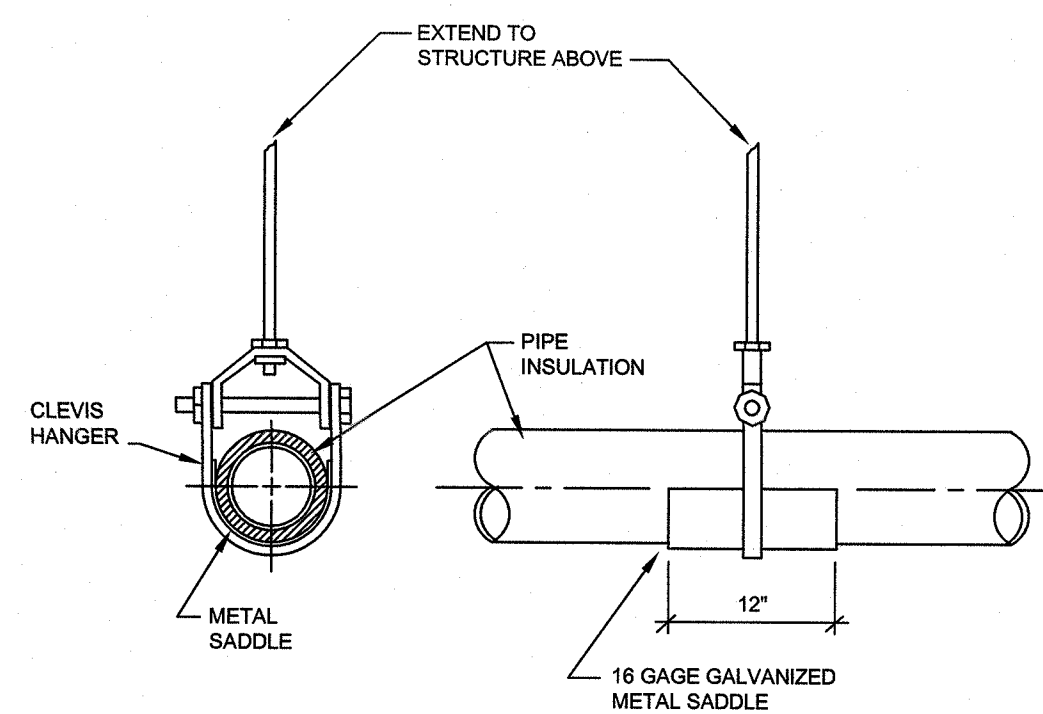
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FIRE WALL PIPING PENETRATION DETAIL

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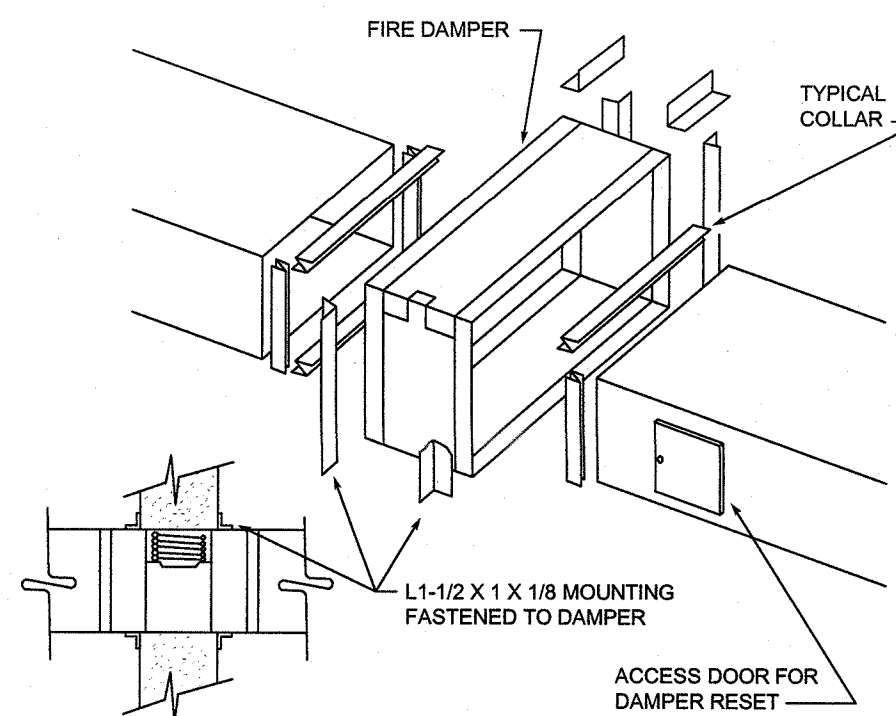
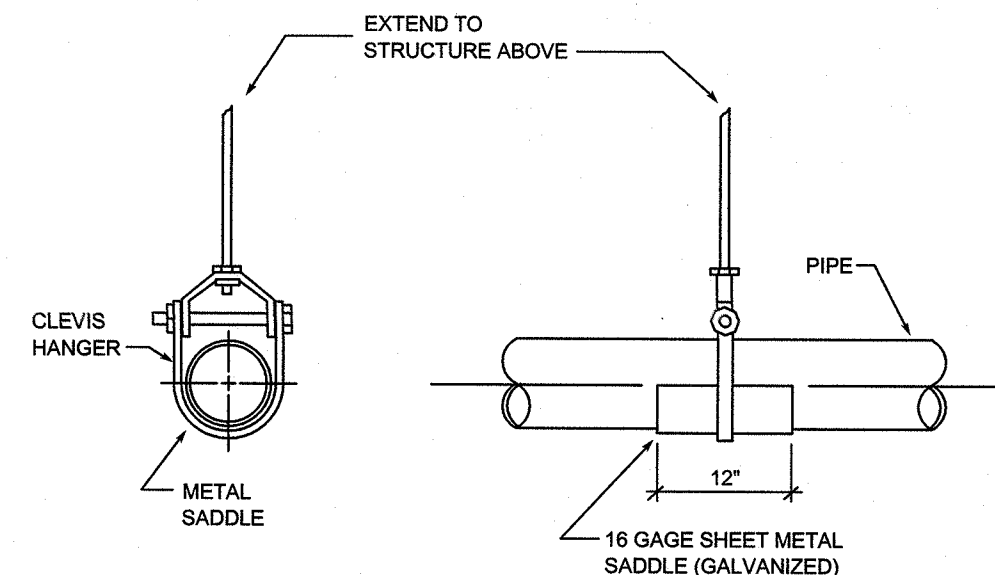
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HEAT PUMP WATER PIPE HANGER DETAIL

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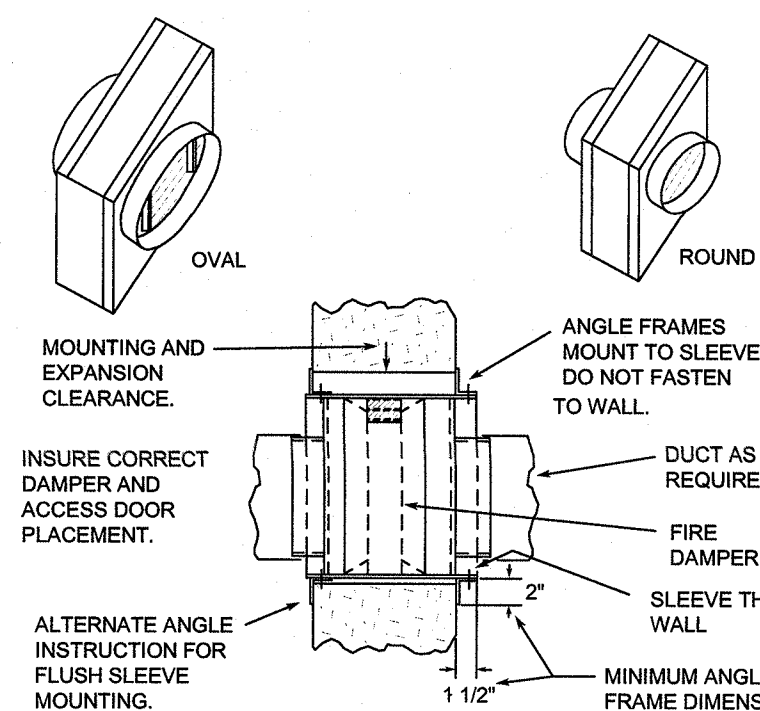
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FIRE DAMPER DETAIL

N.T.S.

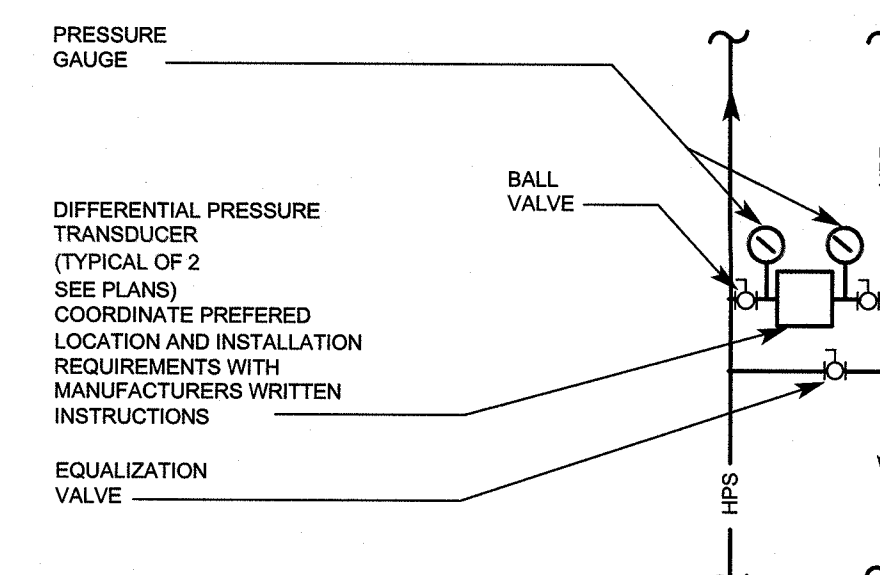
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FIRE DAMPER DETAIL

N.T.S. (ROUND AND OVAL)

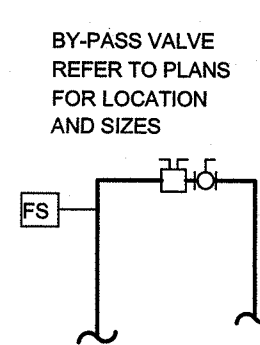
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DIFFERENTIAL PRESSURE TRANSDUCER DETAIL

N.T.S.

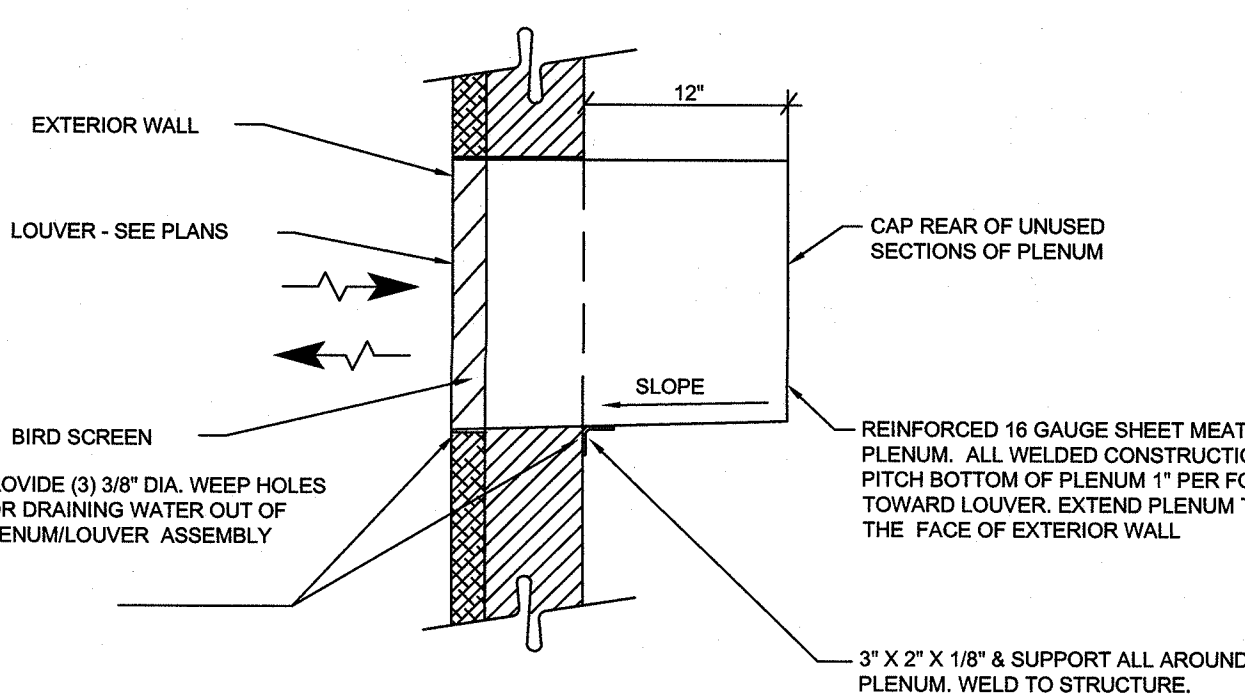
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END OF LINE BYPASS VALVE DETAIL

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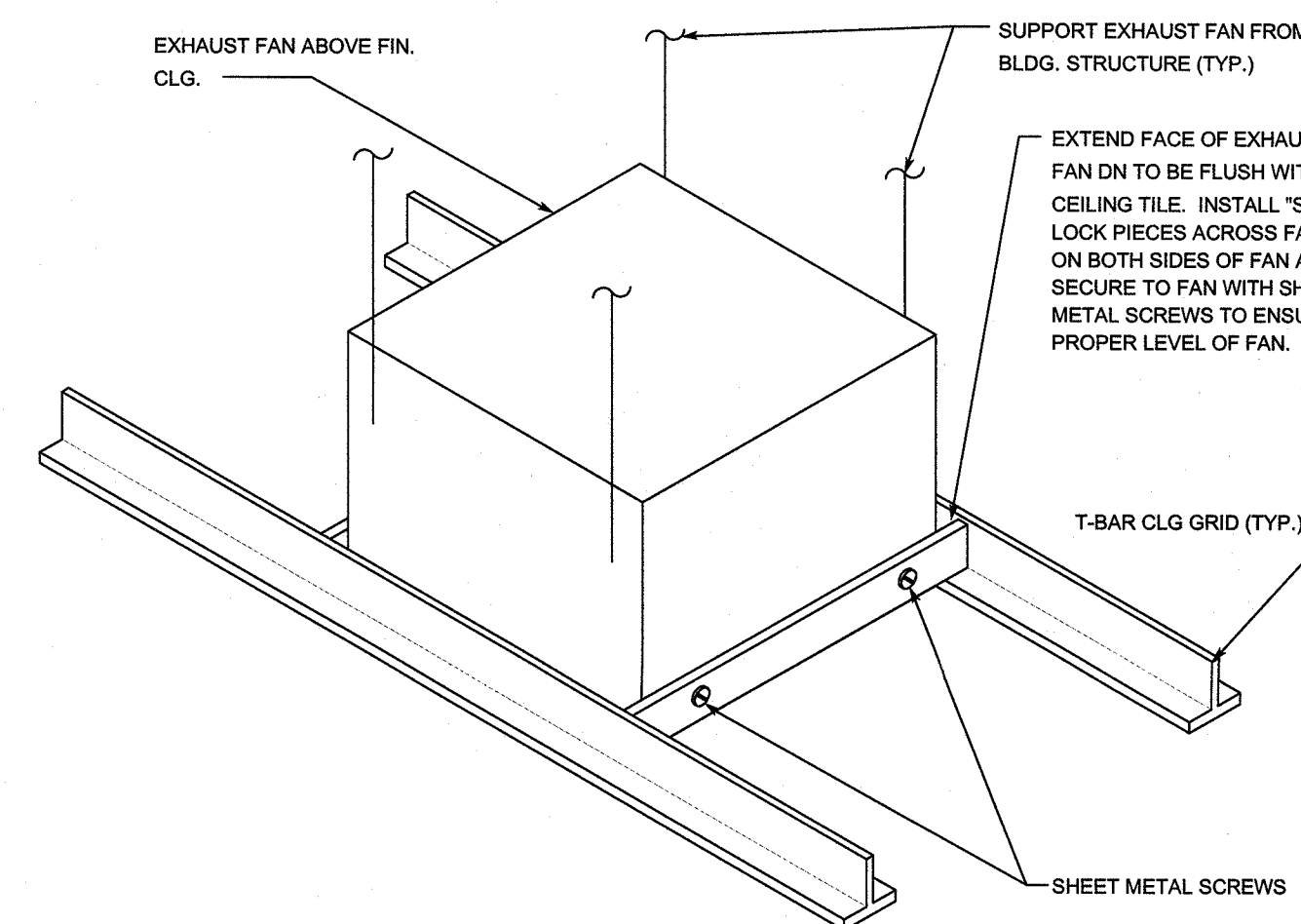
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LOUVER DETAIL

N.T.S.

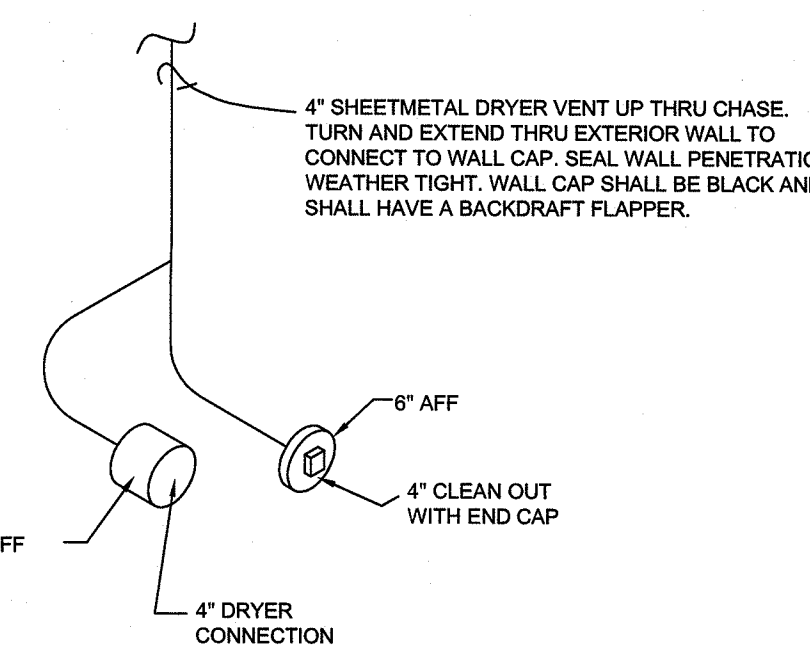
BB



CEILING-MOUNTED EXHAUST FAN INSTALLATION DETAIL

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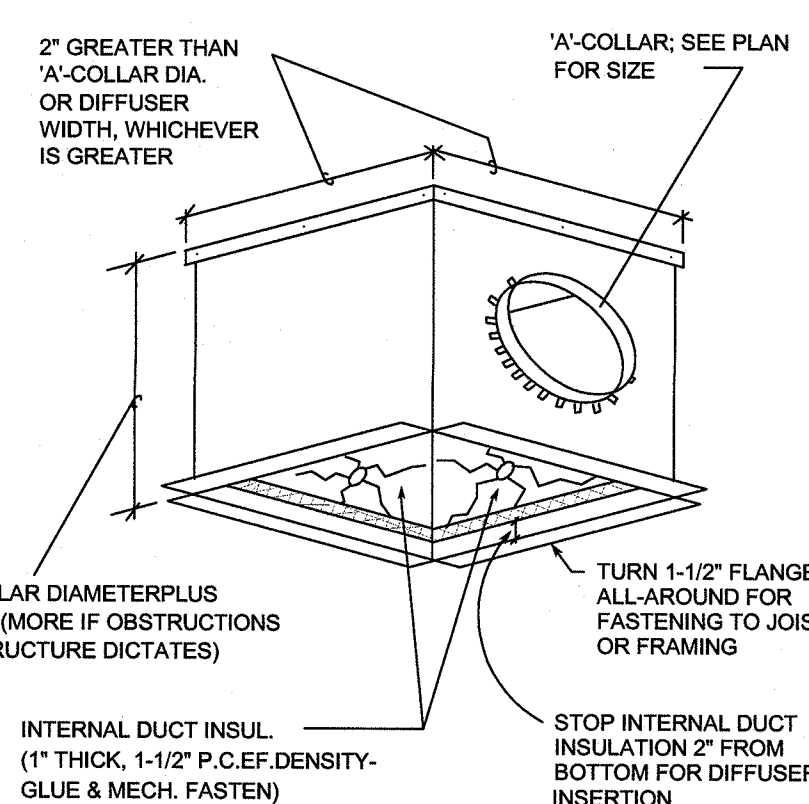
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DRYER VENT DETAIL

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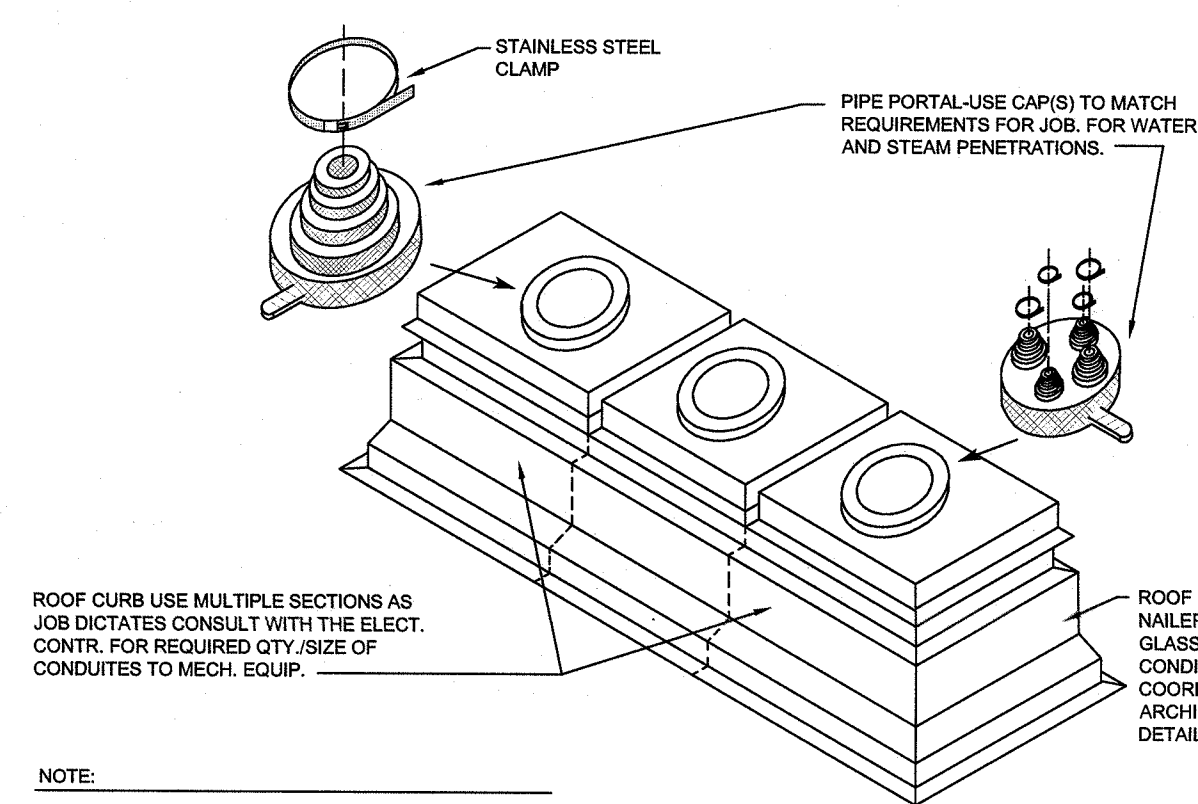
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SHEET METAL BOOT DETAIL

N.T.S.

EE



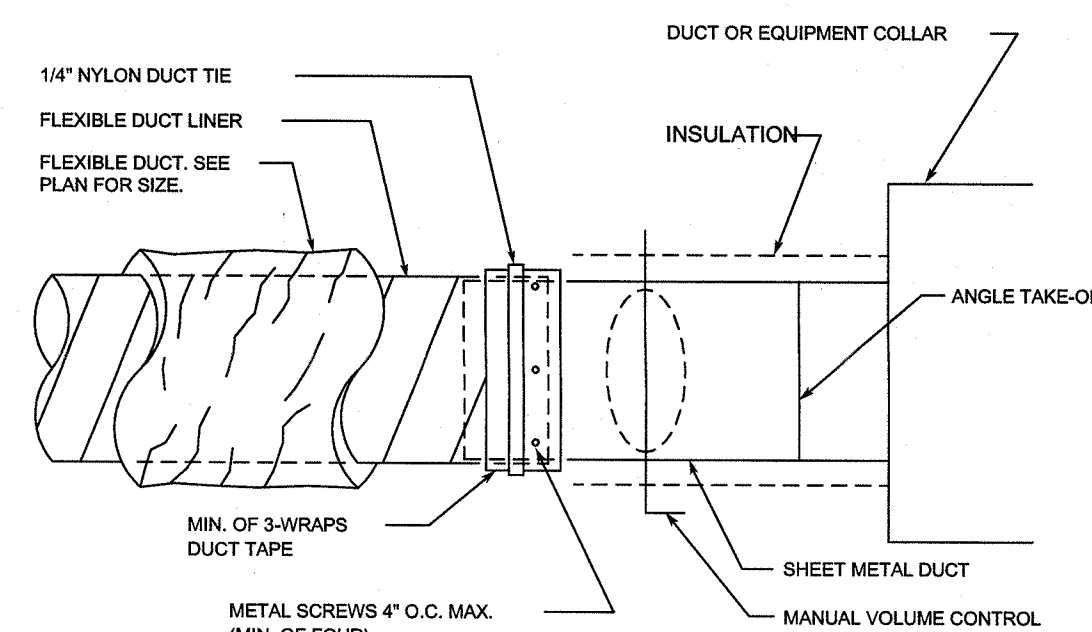
NOTE:
SYSTEM AS MANUFACTURED BY RPS CORPORATION, BEVISENVILLE, IL. OR EQUIVALENT.

ROOF PENETRATION PIPING DETAIL

N.T.S.

FF

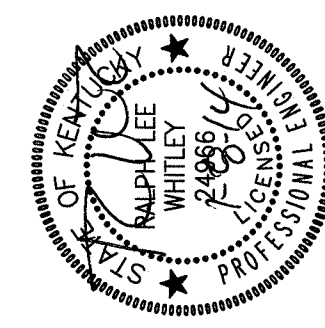
NOTE:
PROVIDE A MIN. OF FOUR (4) SHEET METAL THRU 3-WRAP(S) OF DUCT TAPE TO SECURE FLEXIBLE DUCT TO THE SHEET METAL PRIOR TO INSTALLING THE 1/4\"/>



FLEXIBLE DUCT CONNECTION

N.T.S.

GG



MEADOW VIEW ELEMENTRY HVAC RENOVATION

RADCLIFF, KY

MECHANICAL DETAILS

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GENERAL NOTES

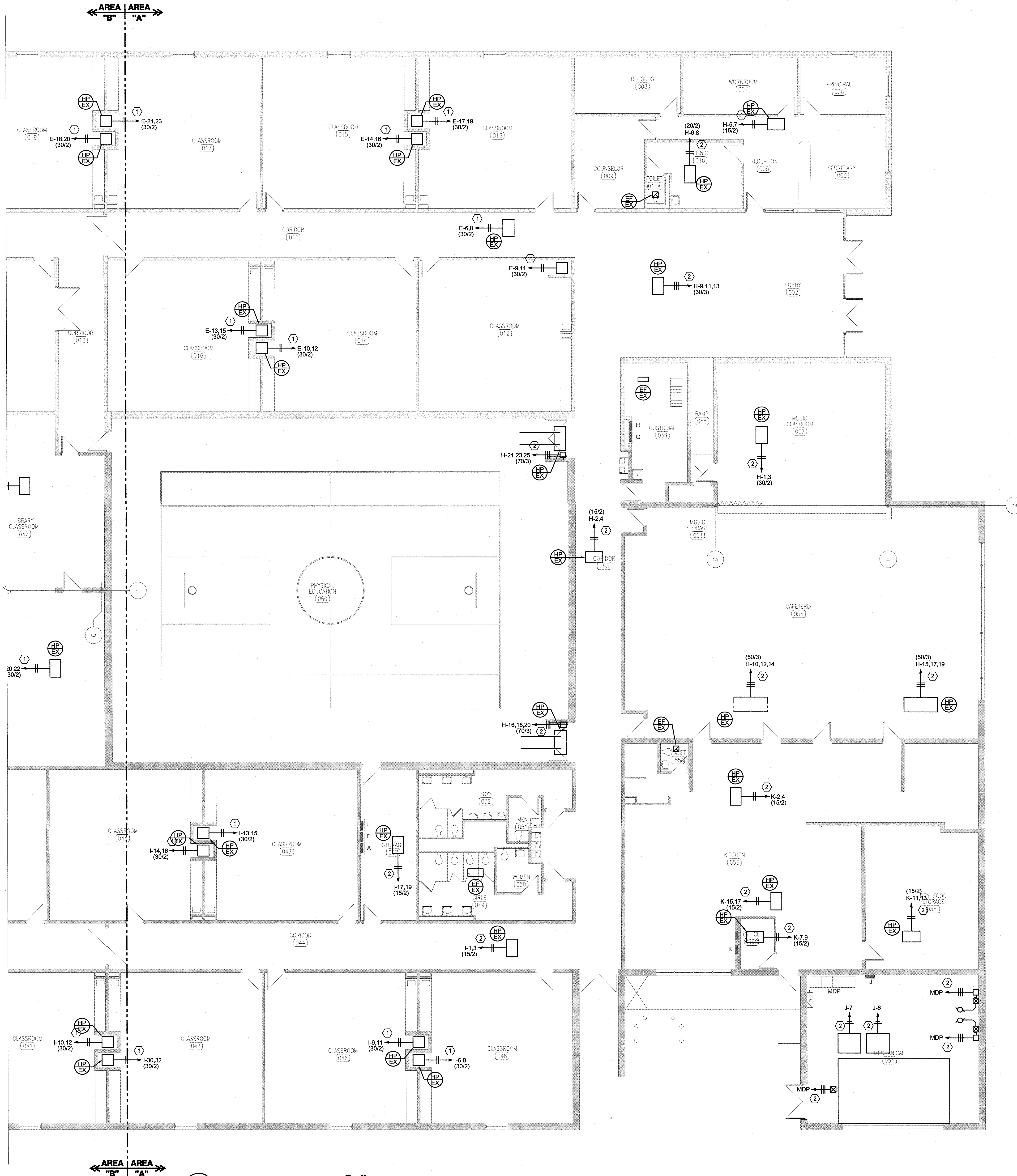
- ALL ELECTRICAL DEVICES SHOWN IN DARK LINE WEIGHT SHALL BE REMOVED UNLESS OTHERWISE INDICATED. CONDUCTORS FOR REMOVED DEVICES AND EXPOSED CONDUIT SHALL BE REMOVED. DEVICES SHOWN IN LIGHT LINE WEIGHT SHALL REMAIN.
- THE ELECTRICAL CONTRACTOR IS ADVISED THAT HE IS RESPONSIBLE FOR PATCHING AND REPAIR OF HOLES, CRACKS, OPENINGS, ETC. IN CONSTRUCTION THAT WILL BE EXPOSED, RESULTING FROM DEMOLITION AND/OR INSTALLATION OF NEW CONSTRUCTION WITH APPROPRIATE MATERIAL THAT MATCHES ADJACENT SURFACES. OF SAME TEXTURE, DEPTH, AND QUALITY. ALL PATCHED SURFACES SHALL RESULT IN A SMOOTH OR MATCHING SURFACE THAT IS PROPERLY PREPARED FOR INSTALLATION OF NEW FINISHES. IN THE ABSENCE OF OTHER CONTRACT REQUIREMENTS, PROVIDE NEW HIGH QUALITY FINISHES AS NEEDED.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED DEMOLITION, REFEED OF EXISTING CIRCUITS THAT MUST REMAIN DURING THE PHASING PROCESS NOTED IN THE ARCHITECTURAL PHASING SCHEDULE. TEMPORARY HEAT AND/OR POWER, CUTTING AND PATCHING, LAWFUL DISPOSAL OF REMOVED MATERIALS, SHOP DRAWINGS, MEASUREMENTS, ETC. AS NEEDED FOR THE WORK.
- COORDINATE WITH THE MECHANICAL CONTRACTOR FOR TIMING/SEQUENCE OF ELECTRICAL DEMOLITION ASSOCIATED WITH MECHANICAL EQUIPMENT.
- THE INTENT OF THE DEMOLITION PLANS AND NOTES, WHERE SHOWN, ARE TO PROVIDE GENERAL INFORMATION FOR THE ELECTRICAL CONTRACTOR ON THE PROPOSED EXTENT OF DEMOLITION AND MAY NOT INDICATE EVERY ITEM THAT WILL NEED TO BE REMOVED FOR THE NEW CONSTRUCTION. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL ELECTRICAL DEMOLITION AND REMOVAL OR RELOCATION OF ITEMS SHOWN OR NOT SHOWN ON THE DRAWINGS TO ALLOW FOR THE NEW CONSTRUCTION. FIELD VERIFY ALL REQUIREMENTS PRIOR TO BIDDING THE WORK AND INCLUDE ALL ITEMS IN THE PROPOSAL.
- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN THE ELECTRICAL SYSTEMS IN ALL OCCUPIED AREAS PRIOR TO THEIR SCHEDULED DEMOLITION AND IN ALL NEWLY COMPLETED AREAS UNTIL THE COMPLETION OF THE PROJECT. THE ELECTRICAL CONTRACTOR SHALL COORDINATE, SCHEDULE, AND SEQUENCE ALL RELATED WORK WITH THE ARCHITECTURAL PHASING SCHEDULE. THE GENERAL CONTRACTOR, ALL SUB-CONTRACTORS, AND ALL OTHER TRADES.
- ALL ACCESSORIES RELATED TO ITEMS TO BE DEMOLISHED (I.E. ANCHORS, SUPPORTS, TRIM PIECES, ETC.) SHALL ALSO BE REMOVED.
- REMOVAL OF ASBESTOS IS NOT PART OF THIS CONTRACT.
- CIRCUITRY WITHIN AN AREA OF DEMOLITION SERVING EQUIPMENT LOCATED OUTSIDE THE BOUNDARIES OF THE SPECIFIED AREA OF WORK SHALL BE MAINTAINED. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THESE CIRCUITS AND RELOCATE THEM TO EXISTING OR NEW PANELBOARDS OF PROPER VOLTAGE AND PHASE TO KEEP THE EQUIPMENT OPERATIONAL.
- THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL POWER WIRING OR EQUIPMENT AS NECESSARY TO COMPLETE THE NEW WORK AS SHOWN ON THE ARCHITECTURAL AND MECHANICAL DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING THE WORK AND VERIFY THE FULL EXTENT OF DEMOLITION WORK.
- THE EXISTING BUILDING SYSTEMS (I.E. FIRE ALARM, INTERCOM, CLOCK, CCTV, ETC.) SHALL BE MAINTAINED IN ALL BUILDING AREAS PRIOR TO AND DURING CONSTRUCTION UNTIL THE COMPLETION OF THE PROJECT. INTERRUPTION OF ANY SYSTEM WILL NOT BE ALLOWED. EXTEND SYSTEM WIRING AS REQUIRED TO CONNECT ANY NEW DEVICES SHOWN.
- ELECTRICAL DEVICES AND CIRCUITRY WITHIN AN AREA OF DEMOLITION SHOWN TO REMAIN (LIGHT LINE WEIGHT) SHALL BE MAINTAINED UNLESS NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THE DEVICES AND CIRCUITS AND RELOCATE THE CIRCUITS TO EXISTING OR NEW PANELBOARDS OF PROPER VOLTAGE AND PHASE AS REQUIRED TO KEEP THE DEVICES OPERATIONAL.
- THE CONTRACTOR, AT HIS OPTION, MAY RE-USE EXISTING CONDUITS FOR NEW FEEDER/CIRCUIT CONDUCTORS ASSOCIATED WITH THE NEW MECHANICAL EQUIPMENT TO BE INSTALLED. PRIOR TO THE BID, THE CONTRACTOR SHALL VERIFY THE ACTUAL LOCATION, CONDITION, AND SIZE OF ANY EXISTING CONDUIT(S) PROPOSED TO BE RE-USED. THE CONTRACTOR SHALL ALSO ENSURE THAT THE INSTALLATION MEETS THE LATEST EDITION OF THE NEC.

DEMOLITION LEGEND

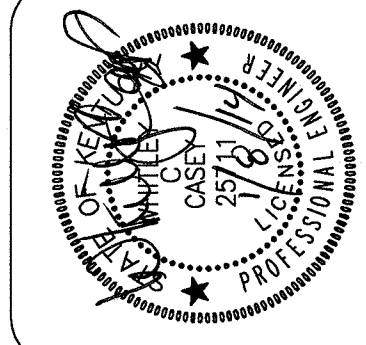
	TO BE REMOVED
	TO REMAIN

SHEET NOTES

- DISCONNECT POWER TO EXISTING MECHANICAL EQUIPMENT SCHEDULED FOR REMOVAL (COORDINATE WITH MECHANICAL DEMOLITION DRAWINGS). REMOVE ASSOCIATED DISCONNECT SWITCH, SUPPORTS, CONNECTORS, FASTENERS, ETC. TO ABOVE CEILING AND PROVIDE JUNCTION BOX FOR CIRCUIT EXTENSION AS INDICATED ON NEW WORK PLAN.
- DISCONNECT POWER TO EXISTING MECHANICAL EQUIPMENT SCHEDULED FOR REMOVAL (COORDINATE WITH MECHANICAL DEMOLITION DRAWINGS). REMOVE ASSOCIATED DISCONNECT SWITCH, SUPPORTS, CONNECTORS, FASTENERS, ETC. EXISTING POWER AND CONTROL WIRING SHALL BE REMOVED BACK TO ITS SOURCE. EXPOSED CONDUIT TO BE REMOVED TO ABOVE THE CEILING. CONDUIT(S) ABOVE CEILINGS CAN BE ABANDONED IN PLACE.
- EXISTING LIGHT FIXTURES, SPEAKERS, CAMERAS, PROJECTORS, ETC. WITHIN THE AREA OF CONSTRUCTION ARE TO REMAIN. THE ELECTRICAL CONTRACTOR SHALL SUPPORT ALL EXISTING ELECTRICAL ITEMS, WITHIN THE CONSTRUCTION AREA, IN PLACE FROM THE EXISTING STRUCTURE USING JACK CHAIN OR SUPPORT WIRE. ELECTRICAL ITEMS ARE TO BE RE-INSTALLED IN THE NEW CEILING SYSTEM FOLLOWING THE INSTALLATION OF THE NEW MECHANICAL EQUIPMENT. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS TO VERIFY THE EXTENT OF THE CEILING AREA(S) TO BE DEMOLISHED.



A FLOOR PLAN AREA "A" - ELECTRICAL DEMOLITION
1/8" = 1'-0"



MEADOW VIEW ELEMENTARY
HVAC RENOVATION
RADCLIFF, KY

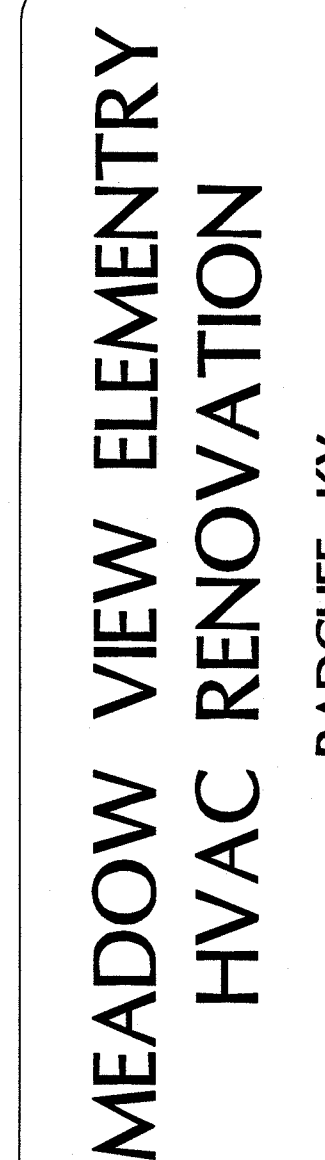
FIRST FLOOR PLAN AREA "A"
ELECTRICAL DEMOLITION
SHROUT TATE WILSON Consulting Engineers
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FIRST FLOOR PLAN AREA "B"

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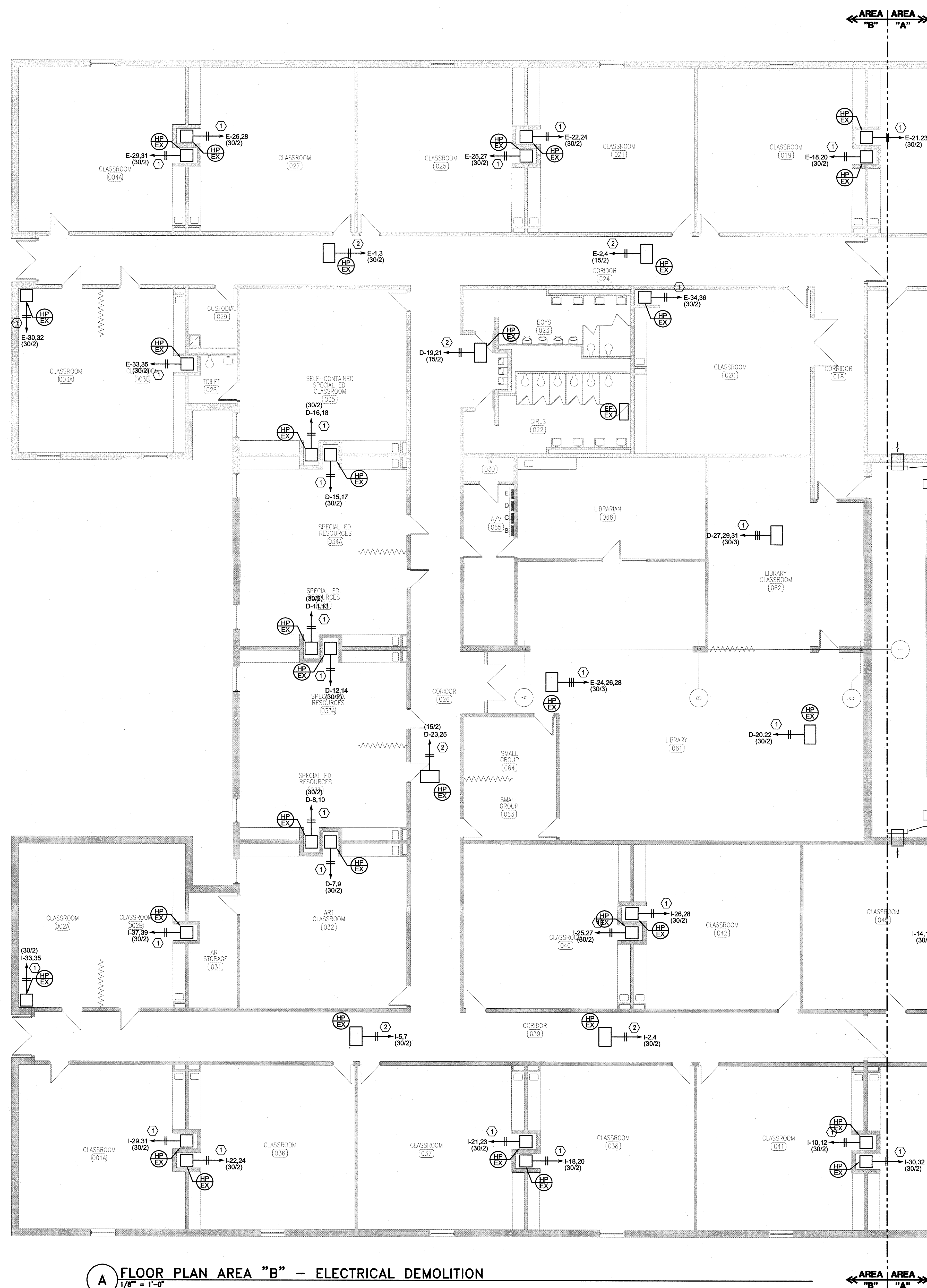
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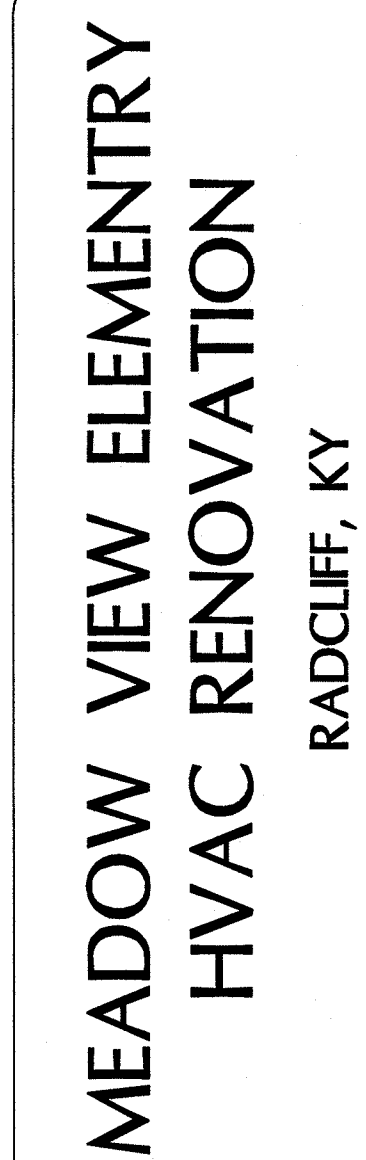
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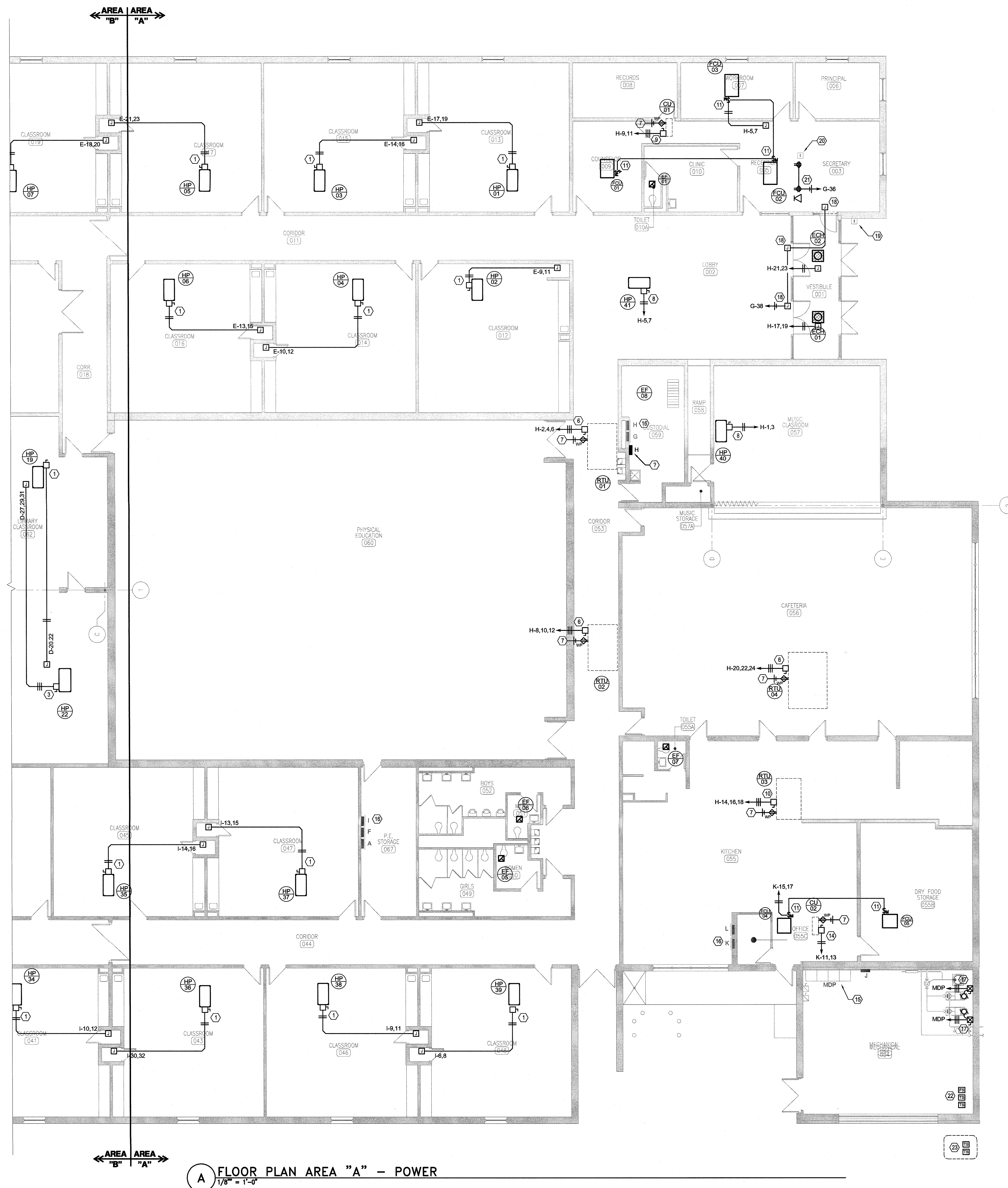
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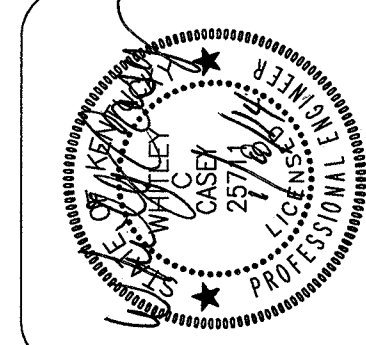
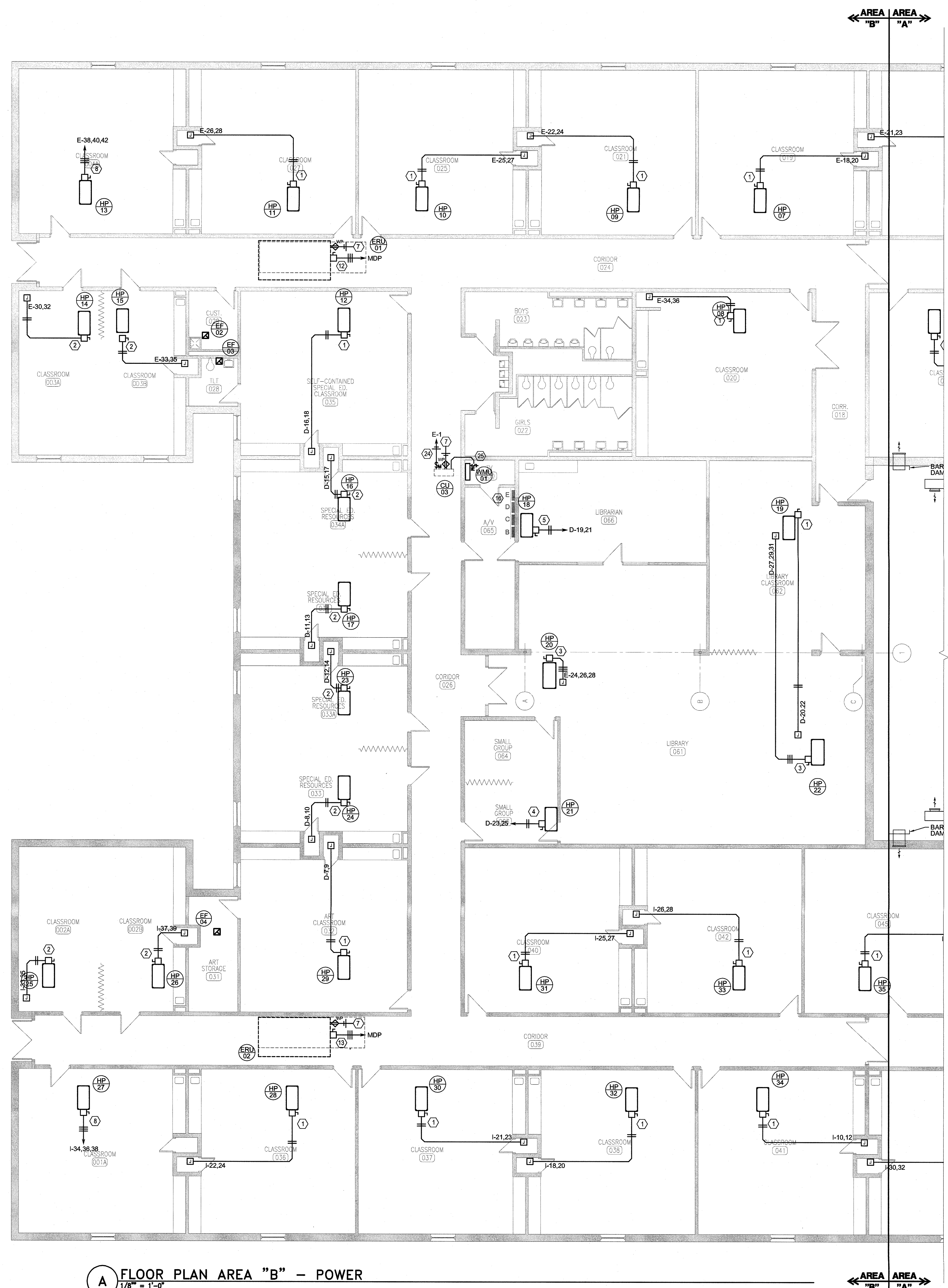
E1.1

1. PROVIDE 30A/2P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT, EXTEND FROM EXISTING CIRCUIT AS INDICATED WITH #310, 3/4"
2. PROVIDE 30A/2P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT, EXTEND FROM EXISTING CIRCUIT AS INDICATED WITH #312, 3/4". REPLACE EXISTING BREAKER IN PANEL WITH NEW 20A/2P
3. PROVIDE 30A/3P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT, EXTEND FROM EXISTING CIRCUIT AS INDICATED WITH #410, 3/4". REPLACE EXISTING BREAKER IN PANEL WITH NEW 25A/3P
4. PROVIDE 30A/2P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT. PROVIDE #312, 3/4" TO NEW 20A/2P BREAKER IN AVAILABLE SPACE OF EXISTING PANEL AS INDICATED.
5. PROVIDE 30A/2P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT. PROVIDE #310, 3/4" TO NEW 20A/2P BREAKER IN AVAILABLE SPACE OF EXISTING PANEL AS INDICATED (EXISTING 30A/2 BREAKER REMOVED/REPLACED IN KEYED NOTE 2 MAY BE REUSED).
6. PROVIDE 100A/3P, NEMA 3R DISCONNECT SWITCH WITH CONNECTION TO NEMA 3R PANEL IN MECH. SPACE OF HVAC UNIT ON ROOF ABOVE. PROVIDE TO #363, #66, 1 1/4" TO PANEL AS INDICATED
7. PROVIDE GFCI SERVICE RECEPTACLE WITH CONNECTION TO NEW OUTDOOR VRF HVAC UNIT ADJACENT TO NEW HVAC EQUIPMENT, CONNECT TO NEAREST GENERAL POWER RECEPTACLE CIRCUIT.
8. PROVIDE 30A/2P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT. PROVIDE #310, 3/4" TO EXISTING PANEL AS INDICATED
9. PROVIDE 60A/2P NEMA 3R DISCONNECT SWITCH AND CONNECTION TO NEW OUTDOOR VRF HVAC UNIT ON ROOF ABOVE. PROVIDE 2#8, #106, 1" TO PANEL AS INDICATED
10. PROVIDE 60A/3P, 250V NON FUSED NEMA 3R DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT ON ROOF ABOVE. PROVIDE 3#8, #106, 1" TO PANEL AS INDICATED
11. PROVIDE 2 POLE FUNCTIONAL HORSEPOWER MOTORIZED SWITCH WITH CONNECTION TO NEW INDOOR VRF UNIT, EXTEND FROM EXISTING CIRCUIT AS INDICATED WITH #312, 3/4"
12. PROVIDE 200A/3P NEMA 3R NON FUSED DISCONNECT SWITCH AND CONNECTION TO NEW HVAC UNIT ON ROOF ABOVE. PROVIDE 3#10, 1 1/2" TO EXISTING PANEL AS INDICATED. FUSE SWITCH UNIT IN EXISTING MDP, SEE NOTE 15.
13. PROVIDE 200A/3P NEMA 3R NON FUSED DISCONNECT SWITCH AND CONNECTION TO NEW HVAC UNIT ON ROOF ABOVE. PROVIDE 3#10, #66, 2" TO EXISTING 200A/3P DISCONNECT SWITCH IN MECH. SPACE OF BUILDING (BY COOLING TOWER DEMOLITION), FUSE SWITCH PER UNIT NAMEPLATE
14. PROVIDE 30A/2P NEMA 3R DISCONNECT SWITCH AND CONNECTION TO NEW OUTDOOR VRF HVAC UNIT ON ROOF ABOVE. PROVIDE #312, 3/4" TO PANEL AS INDICATED.
15. REFER TO ELECTRICAL RISER SHEET E-2.1 FOR WORK REQUIRED AT EXISTING SWITCHBOARD
16. EXISTING FLUSH MOUNTED GENERAL ELECTRIC A-SERIES CIRCUIT BREAKERS, 120 TO 240 VOLT, 15 AMP AND 25 AMP BREAKER REQUIREMENTS, MATCH EXISTING BREAKER RATINGS.
17. PROVIDE CONNECTION TO LOOP PUMP, INSTALL VFD CONTROLLER PROVIDED BY OTHERS, EXTEND #363 TO EXISTING 120 TO 240 VOLT, 15 AMP BREAKER
18. PROVIDE CONNECTION TO DOOR HARDWARE POWER SUPPLY(S), COORDINATE ROUGH-IN AND WIRING REQUIREMENTS WITH SUPPLIER.
19. EXISTING EXTERIOR INTERCOM AND CALL STATION TO BE REMOVED
20. RELOCATE EXISTING INTERCOM MASTER STATION AND DOOR RELEASE.
21. PROVIDE RECEPTACLES MOUNTED IN NEW CASEWORK.
22. PROVIDE CONNECTION TO EXISTING BUILDING FIRE ALARM SYSTEM FROM NEW FIRE SUPPRESSION SYSTEM FLOW CONTROL/SUPERSVVISORY SWITCHES; COORDINATE LOCATION WITH INSTALLER.
23. PROVIDE CONNECTION FROM SUPERVISORY SWITCHES FIRE PROTECTION VAULT AND POST INDICATOR VALVE A-SERIES TO EXISTING 120 TO 240 VOLT, 15 AMP BREAKER. REFER TO PLUMBING SITE PLAN FOR LOCATION. ALL UNDERGROUND WIRING SHALL BE RATED FOR DIRECT BURIAL, INSTALLED IN BUILDING 1" AND PROVIDED WITH RIGID POLYESTER BUILT UP INSULATION.



1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN:
 - a. EXISTING LIGHT FIXTURES SHALL BE TEMPORARILY SUPPORTED AS REQUIRED FOR CEILING REMOVAL AND REPLACEMENT. FIXTURE SHALL BE RE-INSTALLED IN PLACE OR AS A MINIMUM, PROVIDE TWO (2) SUPPORT WIRES AT OPPOSITE CORNERS OF EACH FIXTURE SECURED TO THE EXISTING STRUCTURE. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR NEW CEILING DETAILS AND LOCATIONS.
 - b. EXISTING LIGHTS, SPEAKERS, PROJECTORS, AND CAMERAS ARE TO REMAIN AND SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE. ELECTRICAL ITEMS SHALL BE RE-INSTALLED IN PLACE OR AS A MINIMUM, INSTALLATION OF THE NEW CEILING SYSTEM AND NEW MECHANICAL EQUIPMENT UNLESS NOTED OTHERWISE.
2. COORDINATE THE MOUNTING LOCATION OF ALL DISCONNECT SWITCHES TO AVOID MECHANICAL DUCTWORK AND PIPING. PROVIDE THE REQUIRED WORKING CLEARANCES AROUND THE SWITCH.
3. FOR BRANCH CIRCUITS 100' OR LONGER, THE WIRE SIZE SHALL BE INCREASED TO COMPENSATE FOR VOLTAGE DROP IN THE CIRCUIT.
4. WHERE WIRE SIZES ARE SHOWN LARGER THAN THAT REQUIRED FOR THE LOAD, IT IS DONE SO FOR VOLTAGE DROP AND OTHER PROTECTIVE DEVICES ARE SHOWN. LARGER SIZE LUGS SHALL BE INSTALLED ON EQUIPMENT WHICH WILL ACCEPT THE WIRE SIZE INDICATED.
5. PROVIDE SURFACE MOUNTED DEVICES ON EXISTING WALLS WHICH WILL NOT RECEIVE ARCHITECTURAL IMPROVEMENTS. PROVIDE FLUSH MOUNTED DEVICES IN ALL NEW WALLS AND EXISTING WALLS WHICH WILL BE REFINISHED. COORDINATE THE LOCATION OF DEVICES, OR FINISHES SHOWN ON ARCHITECTURAL DRAWINGS. APPROVED SURFACE RACEWAYS ABOVE CEILINGS SHALL BE CONDUIT TYPE EMT OR RIGID PVC, OR WIREMOLD 2000 SERIES AS DIRECTED. VERTICAL DEPTHS OF SURFACE RACEWAY SHALL BE LOCATED IN CORNERS OF WALLS IF POSSIBLE. SURFACE RACEWAY INSTALLATION SHALL BE COORDINATED AND APPROVED BY THE ARCHITECT PRIOR TO ROUGH-IN.
6. COORDINATE ROUTING OF ALL BELOW CEILING EXPOSED ELECTRICAL RACEWAYS, INCLUDING WIREMOLD, WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS SHOWN ON THE ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.

1. PROVIDE 30A/2P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT. EXTEND FROM EXISTING CIRCUIT AS INDICATED WITH 3#12, 3/4"
2. PROVIDE 30A/2P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT. EXTEND FROM EXISTING CIRCUIT AS INDICATED WITH 3#12, 3/4"
3. PROVIDE 30A/3P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT. EXTEND FROM EXISTING CIRCUIT AS INDICATED WITH 4#10, 3/4"
4. REPLACE EXISTING BREAKER IN PANEL WITH NEW 25A/3P, 250V, 120/240V DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT. PROVIDE 3#12, 3/4" TO NEW 20A/2P BREAKER IN AVAILABLE SPACE OF EXISTING PANEL AS INDICATED.
5. PROVIDE 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT. PROVIDE 3#10, 3/4" TO NEW 20A/2P BREAKER IN AVAILABLE SPACE OF EXISTING PANEL AS INDICATED (EXISTING 30A/2P BREAKERS TO REMAIN IN PLACE UNLESS OTHERWISE NOTED OR RE-PLACED BY THE CONTRACTOR. NOTE 2 MAY BE REUSED).
6. PROVIDE 100A/3P, NEMA 3R DISCONNECT SWITCH FUSED PER UNIT NAMEPLATE AND CONNECTION TO NEW HVAC UNIT ON ROOF ABOVE. PROVIDE TO 3#3, #8G, 1-1/4" TO SWITCHBOARD WITH 3#12, 3/4" TO PANEL AS INDICATED.
7. PROVIDE GFCI SERVICE RECEPTACLE WITH WEATHERPROOF IN USE COVER ON ROOF ADJACENT TO NEW HVAC EQUIPMENT. CONNECT TO NEAREST GENERAL SERVICE RECEPTACLE.
8. PROVIDE 30A/2P, 250V NON FUSED DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT. PROVIDE 3#10, 3/4" TO PANEL AS INDICATED.
9. PROVIDE 60A/2P NEMA 3R DISCONNECT SWITCH AND CONNECTION TO NEW OUTDOOR VRF HVAC UNIT ON ROOF ABOVE. PROVIDE 2#8, #10G, 1" TO PANEL AS INDICATED.
10. PROVIDE 60A/3P, 250V NON-FUSED NEMA 3R DISCONNECT SWITCH WITH CONNECTION TO NEW HVAC UNIT ON ROOF ABOVE. PROVIDE 3#10, #6G, 2-1/2" TO NEW 20A/3P FUSED SWITCH UNIT IN EXISTING RHO. SEE NOTE 15.
11. PROVIDE 2 POLE FRACTIONAL HORSEPOWER MOTOR RATED SWITCH WITH CONNECTION TO NEW INDOOR VRF HVAC UNIT. EXTEND FROM EXISTING CIRCUIT AS INDICATED WITH 3#12, 3/4"
12. PROVIDE 200A/3P NEMA 3R NON FUSED DISCONNECT SWITCH AND CONNECTION TO NEW HVAC UNIT ON ROOF ABOVE. PROVIDE 3#40, #6G, 2-1/2" TO NEW 20A/3P FUSED SWITCH UNIT IN EXISTING RHO. SEE NOTE 15.
13. PROVIDE 200A/3P NEMA 3R NON FUSED DISCONNECT SWITCH AND CONNECTION TO NEW HVAC UNIT ON ROOF ABOVE. PROVIDE 3#30, #6G, 2" TO EXISTING 20A/3P FUSED SWITCH UNIT IN EXISTING RHO. PROVIDE AVAILABLE COOLING TOWER DRAINAGE, FUSE SWITCH PER UNIT NAMEPLATE.
14. PROVIDE 30A/2P NEMA 3R DISCONNECT SWITCH AND CONNECTION TO NEW OUTDOOR VRF HVAC UNIT ON ROOF ABOVE. PROVIDE 3#12, 3/4" TO PANEL AS INDICATED.
15. REFER TO ELECTRICAL RISK SHEET E-2.1 FOR WORK REQUIRED AT EXISTING SWITCHBOARD.
16. EXISTING FLUSH MOUNTED GENERAL ELECTRIC A-SERIES CIRCULAR BREAKERS. RISK SHEET E-2.1 REQUIRED FOR NEW BREAKER REQUIREMENTS, MATCH EXISTING BREAKER RATINGS.
17. PROVIDE CONNECTION TO LOOP PUMP. INSTALL VFD IN ELECTRICAL RISK SHEET E-2.1. EXTEND 3#3, #6G, 1-1/4" TO SWITCHBOARD AS INDICATED.
18. PROVIDE CONNECTION TO ROOF HARDWARE POWER SUPPLY(S). COORDINATE ROUGH-IN AND WIRING REQUIREMENTS WITH SUPPLIER.
19. EXISTING EXTERIOR INTERCOM AND CALL STATION TO REMAIN.
20. RELOCATE EXISTING INTERCOM MASTER STATION AND DOOR RELEASE.
21. PROVIDE RECEPTACLES MOUNTED IN NEW CASEWORK.
22. PROVIDE CONNECTION TO EXISTING BUILDING FIRE ALARM SYSTEM. COORDINATE NEW VALVE AND POST-INDICATOR VALVE ON STREET TO EXISTING BUILDING FIRE ALARM SYSTEM. REFER TO PLUMBING SITE PLAN FOR LOCATION. ALL WIRING TO BE UNDERGROUND WITH CONDUIT. PROVIDE DIRECT BURIAL, INSTALLED IN MINIMUM 1" PLAN FOR PROTECTION WITH LOOP ISOLATORS AT BUILDING ENTRANCE.
23. PROVIDE 30A/1P SWP SWITCH AND CONNECTION TO NEW 30A/1P SWP SWITCH ON ROOF ABOVE. PROVIDE 3#12, 3/4" TO PANEL AS INDICATED.
24. PROVIDE 30A/1P SWITCH AND CONNECTION TO INDOOR VRF UNIT. EXTEND CIRCUIT, 3#12,3/4" TO OUTDOOR UNIT ON ROOF ABOVE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.



MEADOW VIEW ELEMENTARY
HVAC RENOVATION
RADCLIFF, KY

FIRST FLOOR PLAN AREA "B"
POWER

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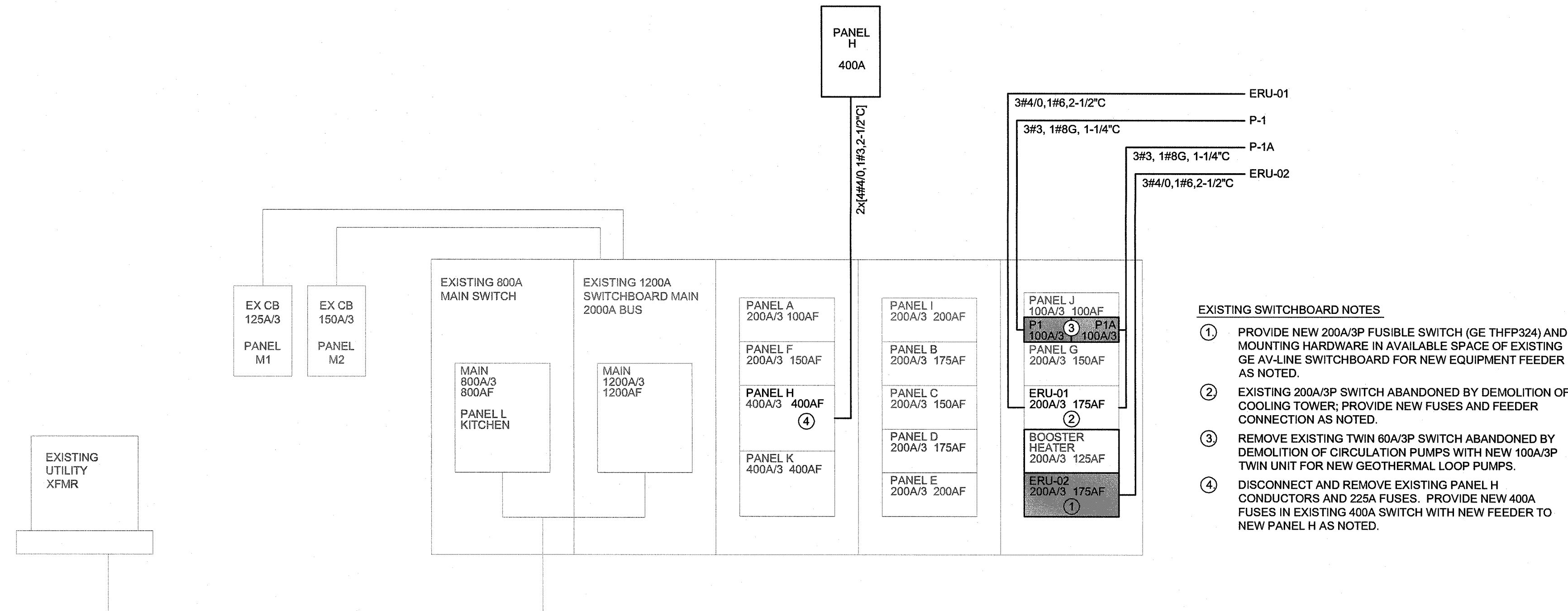
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REVISIONS

SHEET

E1.2

	:		SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE (NORMAL & EMERGENCY)
			RECESSED FLUORESCENT LIGHT FIXTURE (NORMAL & EMERGENCY)
	:		WALL MOUNTED LIGHT FIXTURE (NORMAL AND EMERGENCY)
	:		RECESSED LIGHT FIXTURE (NORMAL AND EMERGENCY)
	:		SURFACE MOUNTED LIGHT FIXTURE (NORMAL AND EMERGENCY)
			FLUORESCENT WALL BRACKET LIGHT FIXTURE (NORMAL AND EMERGENCY)
	:		INDUSTRIAL FLUORESCENT STRIP LIGHT (NORMAL AND EMERGENCY)
			TRACK LIGHT
			EMERGENCY EXIT SIGN - SINGLE FACE ARROWS AS INDICATED
			EMERGENCY EXIT SIGN - DOUBLE FACE
			PHOTOCELL
			EMERGENCY BYPASS RELAY
			BATTERY PACK
			LOW VOLTAGE LIGHTING RELAY
			LOW VOLTAGE, DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR (SENSORSWITCH, WATTSTOPPER, HUBBELL EQUIVALENT).
			COMBINATION LINE VOLTAGE SINGLE POLE WALL SWITCH/OCCUPANCY SENSOR (SENSORSWITCH, WATTSTOPPER, HUBBELL EQUIVALENT). 2 - INDICATES TWO POLE SWITCH
			CEILING FAN
			LIGHT SWITCH - SINGLE POLE, 3-WAY, 4-WAY, KEY OPERATED, DIMMER
			LOW VOLTAGE, MOMENTARY, TOGGLE TYPE SWITCH
			MANUAL SWITCH WITH HANDLE GUARD KIT WITH PADLOCK PROVISION
			DUPLEX RECEPTACLE
			4-PLEX RECEPTACLE
			SINGLE RECEPTACLE
			GFCI TYPE DUPLEX RECEPTACLE
			GFCI TYPE DUPLEX RECEPTACLE WITH CAST ALUMINUM WEATHERPROOF WHEN IN USE COVER

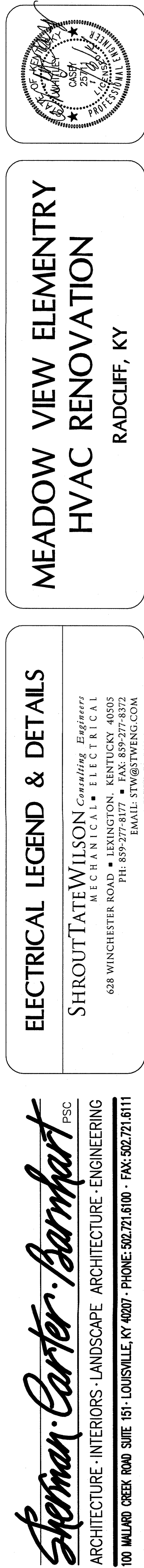


NTS

PANEL 'H'																
VOLTAGE 120/208			3 PHASE 4 WIRE		POLES 42		MAIN AMPS 400			MAIN TYPE MLO		A. I. RATING 10,000			MOUNTING SURFACE	
POLE NO.	BREAKER	TRIP	P	LOAD SERVED	PHASE LOADS				LOAD SERVED	BREAKER	TRIP	P	POLE NO.			
					KVA	A	B	KVA								
1	15	2		HP-40	1.0	11.4			10.4	RTU-01	3	100	2			
3					1.0		11.4		10.4				4			
5	20	2		HP-41	1.6				10.4				6			
7					1.6	12.0			10.4	RTU-02	3	100	8			
9	15	2		CU-01	0.0		10.4		10.4				10			
11					0.0			10.4	10.4				12			
13	15	2		FCU-01,02,03 (CU-01)	0.4	4.4			4.0	RTU-03	3	50	14			
15					0.4		4.4		4.0				16			
17	15	2		ECH-01 VESTIBULE	1.0			5.0	4.0				18			
19					1.0	8.3			7.3	RTU-04	3	80	20			
21	15	2		ECH-02 VESTIBULE	1.0		8.3		7.3				22			
23					1.0			8.3	7.3				24			
25	20	1		WATER HEATER	1.5	1.5							26			
27	20	1		REC ON ROOF	1.1		1.1						28			
29	20	1		SPARE				0.0					30			
31					0.0								32			
33							0.0						34			
35								0.0					36			
37						0.0							38			
39							0.0						40			
41								0.0					42			
PHASE TOTALS:					37.6	35.6	35.7	TOTAL:		108.84	KVA					

1. MINIMUM STANDARDS FOR ALL ELECTRICAL WORK SHALL BE THE LATEST REVISION OF THE NATIONAL ELECTRICAL CODE (NEC). WHENEVER AND WHEREVER OSHA, FEDERAL AND STATE LAWS, REGULATIONS, ORDINANCES, OR OTHER REQUIRE HIGHER STANDARDS THAN NEC, THESE LAWS, REGULATIONS, AND DESIGN CRITERIA SHALL BE FOLLOWED.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ELECTRICAL SYSTEMS. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ANY WORK RELATING TO THOSE CONDITIONS IS PERFORMED.
3. ALL WORK SHALL BE PROVIDED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE OR NATIONAL CODES AND THE LOCAL AUTHORITY HAVING JURISDICTION (A.N.J.). CONTRACTOR SHALL NOTIFY THE INSPECTOR IMMEDIATELY UPON COMPLETION OF WORK. CONTRACTOR SHALL FURNISH AN ELECTRICAL INSPECTION BY AGENCY AUTHORIZED BY THE LOCAL AUTHORITY. THE COST OF THIS INSPECTION SHALL BE BORNE BY THE CONTRACTOR. CERTIFICATES OF APPROVAL BY THE ELECTRICAL INSPECTOR SHALL BE OBTAINED.
4. ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED FOR THE APPLICATION FOR WHICH IT UTILIZED. ALL MATERIALS SHALL BE NEW UNLESS OTHERWISE SPECIFIED. ALL EQUIPMENT SHALL CONFORM TO THE LATEST STANDARDS OF THE N.E.C. (N.E.M.A. AND I.E.E.E.).
5. CHECK WITH OTHER TRADES ON SCOPE OF THEIR WORK AND COORDINATE ON ALL LOCATIONS OF EQUIPMENT AND UTILITIES BEFORE THEY ARE PLACED AND CONNECTED. THE SCOPE OF THE WORK OF EACH TRADE SHALL BE DETERMINED BY FAILURE TO COORDINATE WORK SHALL BE AT NO COST TO OWNER.
6. GENERAL CIRCUITING AND ARRANGEMENT OF HOMERUNS SHALL BE NOTED AND APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL EXTEND CIRCUITS AS REQUIRED FROM ALL EQUIPMENT, DEVICES, LIGHT FIXTURES, ETC., BACK TO THE PANELBOARD, UNLESS OTHERWISE INDICATED. THE MINIMUM CONDUCTOR SIZE FOR ALL WORK SHALL BE #12 WITH CONDUCTOR SIZE INCREASED AS NECESSARY TO MATCH BREAKER SIZE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) FOR 60 DEGREE CELSIUS TERMINATIONS.

SWITCHES	48 INCHES TO TOP
INTERIOR RECEPTACLES	18 INCHES TO BOTTOM
EXTERIOR RECEPTACLES	24 INCHES TO BOTTOM
COMMUNICATIONS / DATA OUTLETS	18 INCHES TO BOTTOM
FIRE ALARM MANUAL PULL STATIONS	48 INCHES TO TOP
FIRE ALARM HORN/STROBE SIGNAL	80 INCHES TO BOTTOM
FIRE ALARM STROBE SIGNAL	80 INCHES TO BOTTOM
WALL TELEPHONES	48 INCHES TO TOP
TELEVISION OUTLETS	72 INCHES TO BOTTOM
CLOCKS	96 INCHES TO TOP



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E2.1