

LAKESWOOD ELEMENTARY SCHOOL

MECHANICAL RENOVATIONS

HORRY COUNTY SCHOOL DISTRICT

Socastee, South Carolina

SHEET INDEX:
M1 – MECHANICAL FLOOR PLAN "A"
M2 – MECHANICAL FLOOR PLAN "B"
M3 – MECHANICAL FLOOR PLAN "C"
M4 – MECHANICAL AND ELECTRICAL SCHEDULES AND DETAILS

OWENS AND ASSOCIATES, INC.
CONSULTING ENGINEERS

OWENS AND ASSOCIATES, INC.
INC. CONSULTING ENGINEERS
MT. PLEASANT, SOUTH CAROLINA

project:
LAKESWOOD
ELEMENTARY SCHOOL
MECHANICAL RENOVATIONS
SOCASTEE, SOUTH CAROLINA

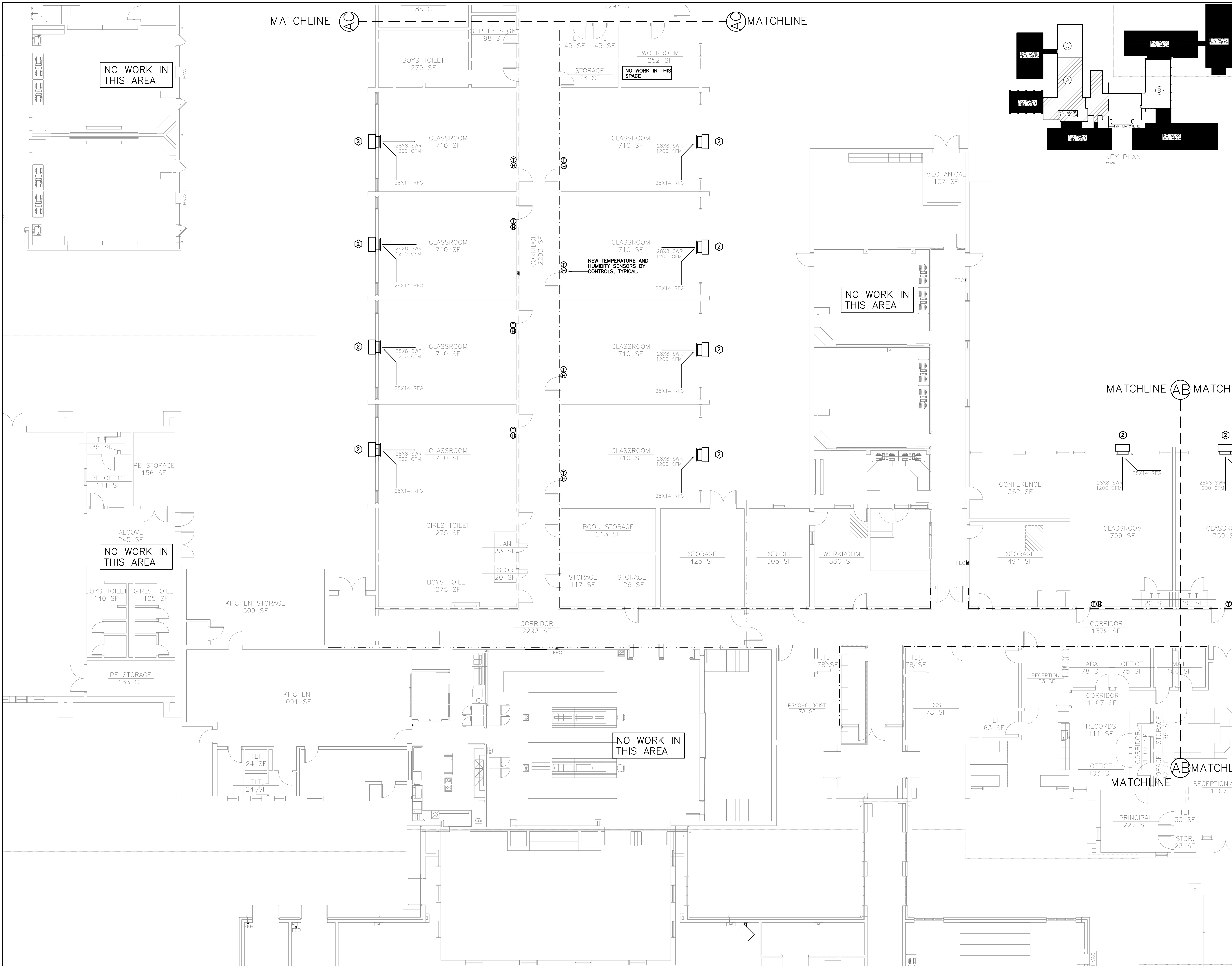
revisions

comm: 2010
date: 9-30-2020

COVER

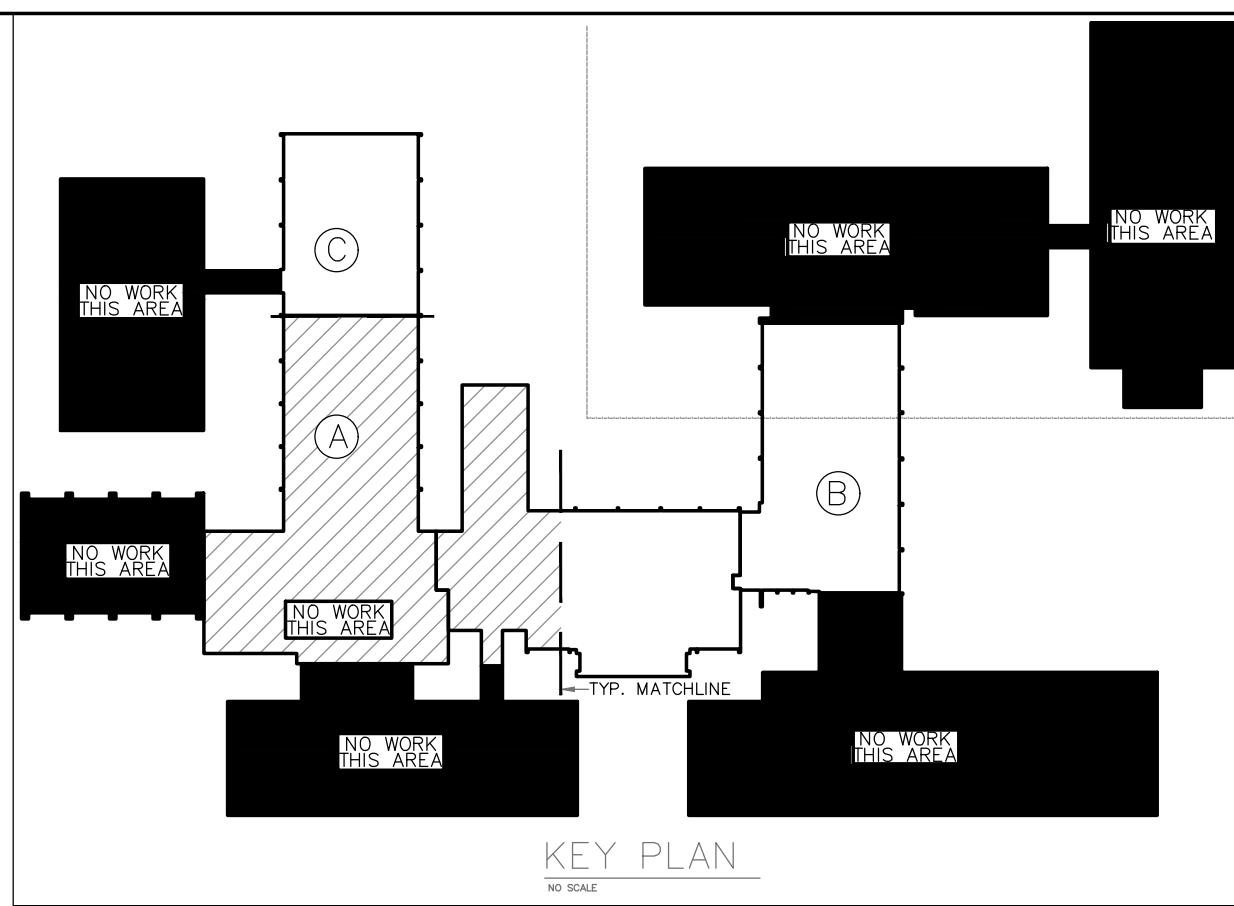
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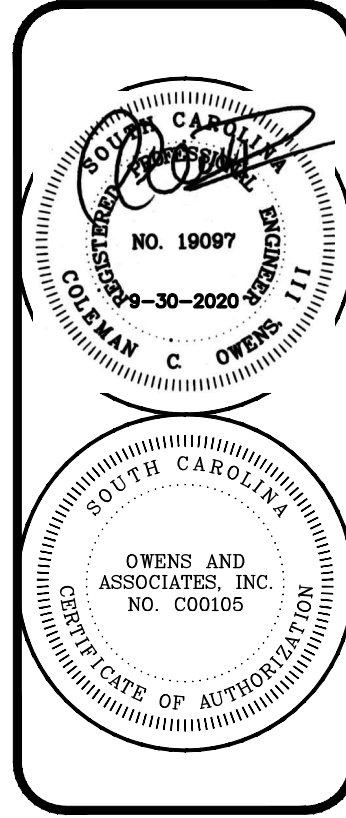


MECHANICAL FLOOR PLAN AREA "A"

SCALE: 1/8"=1'



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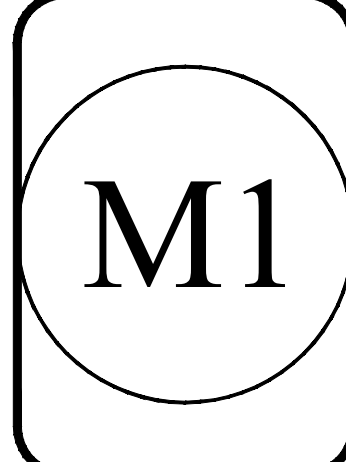


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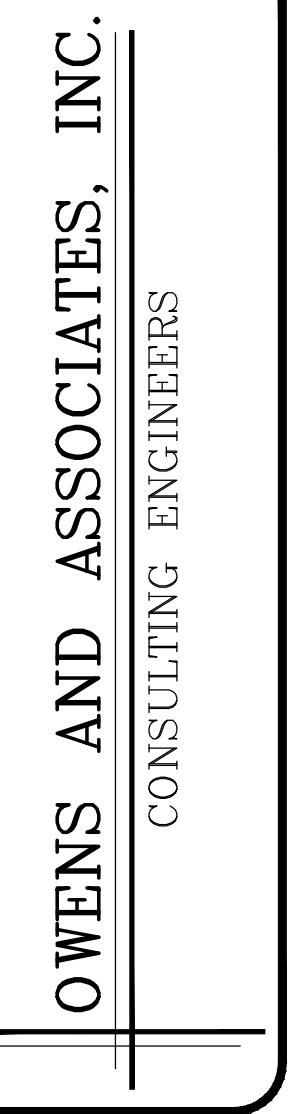
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SCALE: 1/8"=1'



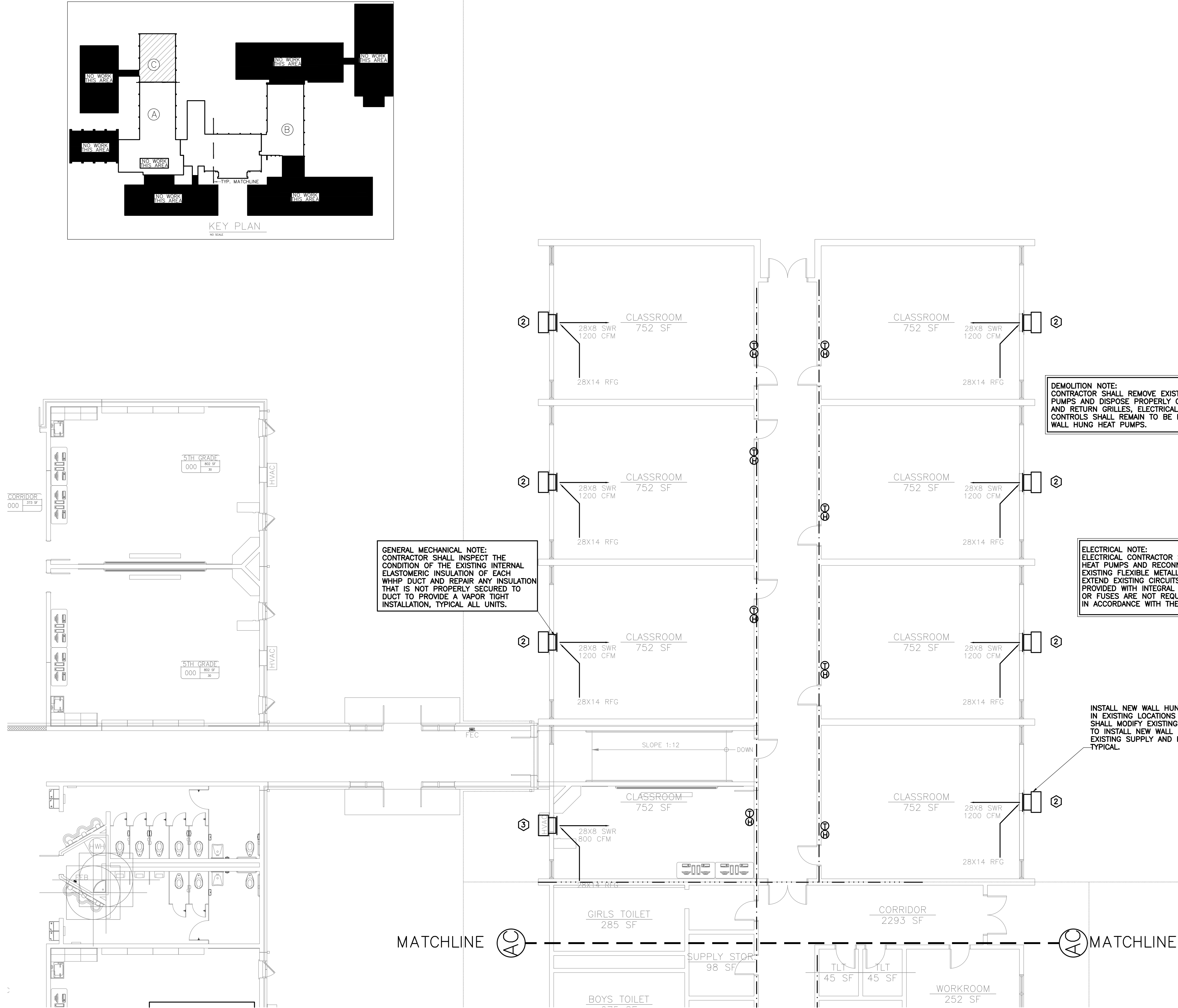
M2



**LAKEWOOD
ELEMENTARY SCHOOL
MECHANICAL RENOVATIONS:
SOCASTEE, SOUTH CAROLINA**

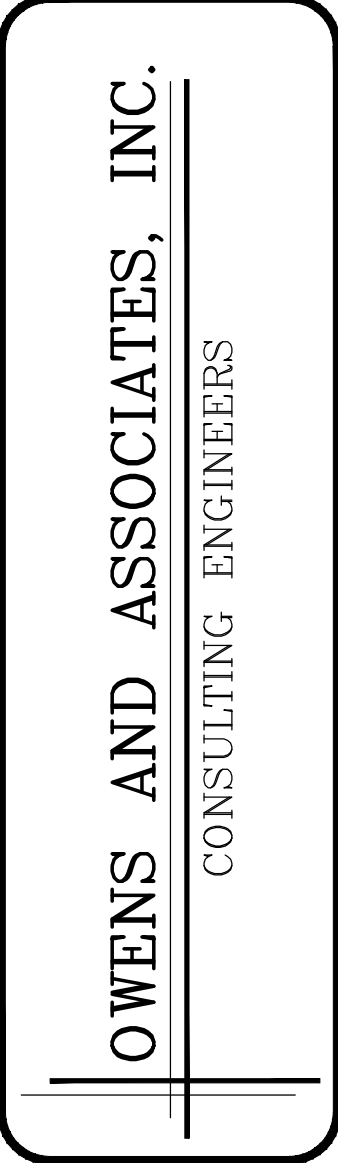
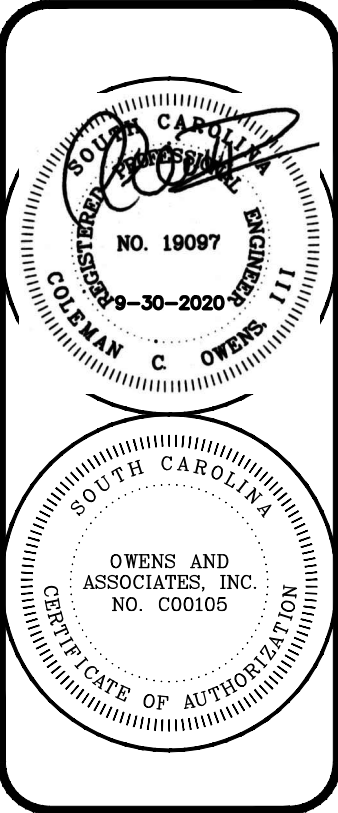
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MECHANICAL FLOOR PLAN AREA "C"

SCALE: 1/8"=1'

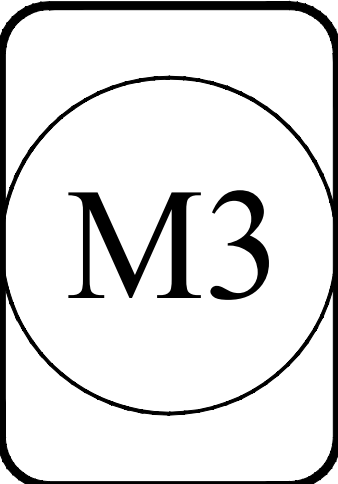


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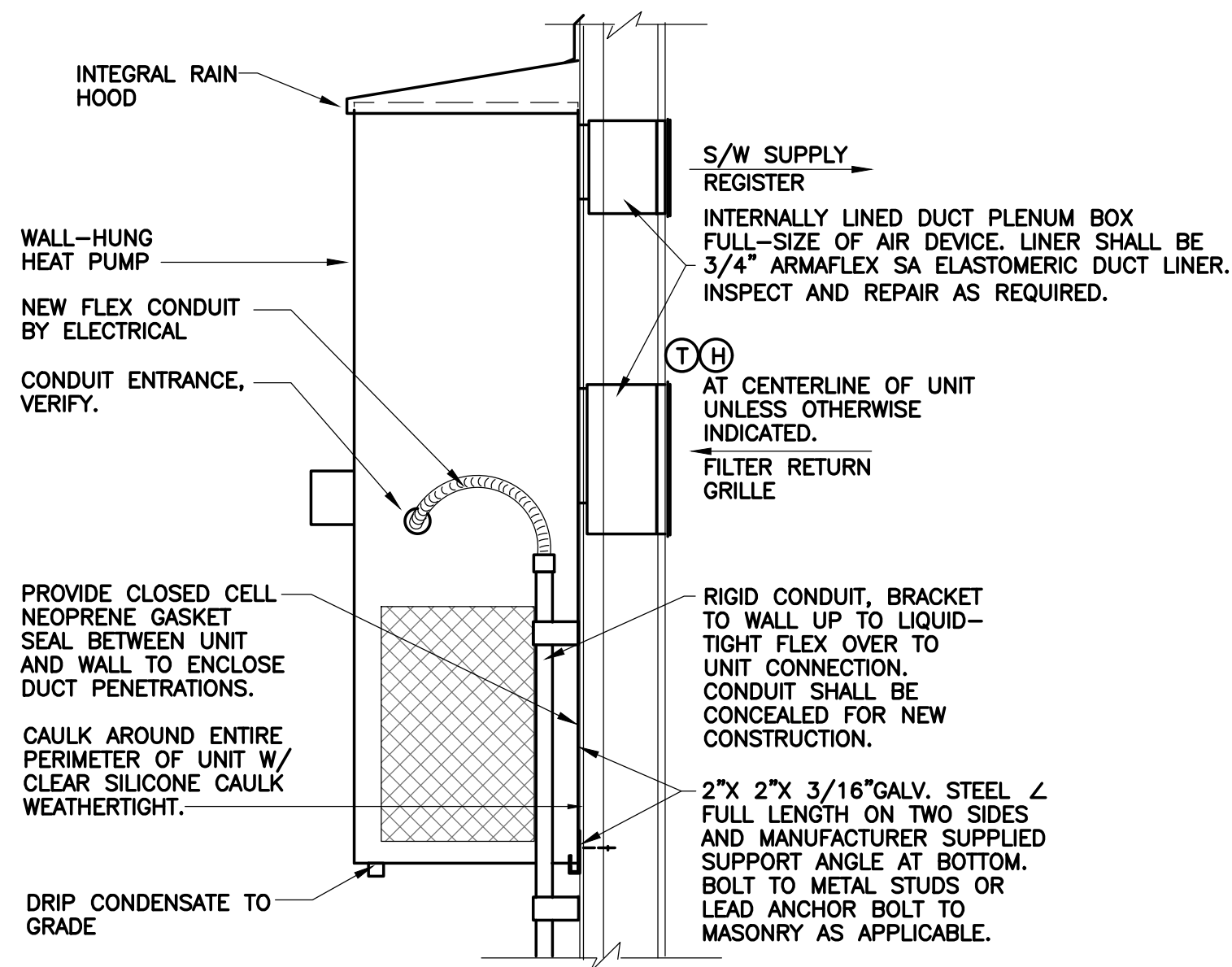
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GENERAL MECHANICAL NOTES

- SEE GENERAL SECTIONS OF SPECIFICATIONS FOR DESCRIPTIONS OF ALTERNATES.
- DUCTS TO ROOF MOUNTED EXHAUST FANS SHALL BE ROUTED FULL-SIZE OF EXHAUST GRILLE, WHERE APPLICABLE. COORDINATE INSTALLATION WITH ALL STRUCTURAL MEMBERS. PROVIDE DUCT EASEMENTS AS REQUIRED.
- REFER TO PLANS, COORDINATE EXACT LOCATIONS FOR ROOF-TOP EQUIPMENT WITH STRUCTURAL PLANS. HEIGHT OF ALL MECHANICAL ROOF CURBS SHALL BE COORDINATED WITH THEMIMUM HEIGHT REQUIREMENTS OF THE ROOFING BOND. SEE PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH TO OWNER AT COMPLETION OF PROJECT, A COMPLETE SET OF WRITTEN OPERATING INSTRUCTIONS FOR ALL SYSTEMS.
- REFER TO REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING PLANS TO COORDINATE CEILING AIR DEVICE LOCATIONS.
- PROVIDE 2-1/2"x2-1/2"x1/4" GALVANIZED STEEL ANGLES, 3/8" THREADED HANGER ROD, AND OTHER SUPPLEMENTAL STEEL AS REQUIRED TO SUPPORT MECHANICAL EQUIPMENT FROM THE STRUCTURE; DUCTWORK, UNIT HEATERS, EXHAUST FANS, ETC.
- ALL RETURN DUCT CONNECTIONS TO AIR DEVICES SHALL BE RECTANGULAR UNLESS OTHERWISE INDICATED ON PLANS. USE OF FLEXIBLE DUCT FOR RETURN IS NOT PERMISSIBLE.
- REFER TO FLOOR PLANS FOR LOCATIONS OF FIRE-RATED ASSEMBLIES. CONTRACTOR SHALL COMPLETELY FILL AROUND ALL OPENINGS REQUIRED FOR HIS WORK IN ACCORDANCE WITH DETAILS WITH APPROVED FIRE-PROOF MATERIALS.
- CEILING AIR DEVICE INSTALLATIONS SHALL CONFORM TO THE APPROPRIATE UL ASSEMBLY NUMBER PER THE CODE ANALYSIS DATA FOR THIS PROJECT.
- CONTRACTOR SHALL SEAL ALL DUCTWORK WITH DUCT SEALANT PER SPECIFICATIONS. DUCT TAPE SHALL NOT BE USED TO SEAL DUCTWORK.
- THE CONTRACTOR IS INSTRUCTED TO VISIT THE SITE PRIOR TO SUBMITTING A BID TO FAMILIARIZE HIMSELF WITH ALL WORK TO BE ENCOUNTERED. NO EXTRA CHARGE WILL BE APPROVED AFTER START OF CONSTRUCTION FOR FAILURE TO FOLLOW THESE INSTRUCTIONS.
- CONTRACTOR SHALL PROVIDE THREADED RODS, 1/4", OR OTHER APPROVED MEANS TO LATEROALLY SUPPORT ALL SUSPENDED MECHANICAL EQUIPMENT, DUCTS, ETC. IN ACCORDANCE WITH THE SEISMIC DESIGN REQUIREMENTS IN CHAPTER 16 OF THE INTERNATIONAL BUILDING CODE, LATEST EDITION.
- ALL ROOF WORK INVOLVED IN THE INSTALLATION OF NEW MECHANICAL UNITS AND ASSOCIATED CURBS SHALL BE PERFORMED BY A BONDED ROOFING CONTRACTOR. CURBS SHALL BE FLASHED WEATHER TIGHT AND NEW FINISHES/MATERIALS SHALL MATCH EXISTING.



WALL HUNG HEAT PUMP INSTALLATION DETAIL
NO SCALE

DESIGN CONDITIONS		
	COOLING	HEATING
OUTSIDE	95F DB,80F WB	27F DB
INSIDE	78F DB,65F WB	72F DB

SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
Ⓡ	THERMOSTAT WITH LOCK COVER
Ⓢ	HUMIDISTAT WITH LOCK COVER
Ⓢ	CO2 SENSOR WITH LOCK COVER
Ⓢ	EXHAUST FAN
TR GR/EX GR	TRANSFER GRILLE / EXHAUST GRILLE
↔ S	AIR TURNING VANE
→ S	SPLITTER DAMPER
FD/-	FIRE DAMPER / HOUR RATING
SD	SMOKE DAMPER
FSD	COMBINATION FIRE/SMOKE DAMPER
Ⓢ	INDICATION OF ROOF MOUNTED EQUIPMENT
Ⓢ	MANUAL DAMPER (O.B.M.D.)

HEAT PUMP SCHEDULE			
SYMBOL	①	②	③
COOLING CAP.(ARI)	30000	36000	24000
HEATING CAP.(17F)	20400	24500	16500
SUP. HTR.(KW)	9	9	6
CFM	1000	1200	800
EXT. SP. IN. H2O	0.35	0.35	0.35
FAN HP	1/3	1/3	1/3
VOLTS	208		
PHASE	3		
HERTZ	60		
REMARKS	SEE DETAILS		
M.O.C.P.(AMPS)	50	60	40
MANUFACTURER	SEE SPECIFICATIONS		
MODEL	WHHP#++		
VENT. AIR (CFM)	400	450	200

- # UNITS SHALL BE PROVIDED WITH HEAT RECOVERY SECTION AND HOT GAS REHEAT HUMIDITY CONTROL PER SPECIFICATIONS.
- + BASIS OF EQUIPMENT DESIGN IS BARD. ANY ADDITIONAL REQUIREMENTS ELECTRICAL OR OTHERWISE TO USE OTHER APPROVED EQUIPMENT ARE THE RESPONSIBILITY OF THIS CONTRACTOR. UNITS SHALL BE PROVIDED WITH INTERNAL CIRCUIT BREAKERS.
- ++ ELECTRIAL CONTRACTOR IS RESPONSIBLE FOR DISCONNECTING THE OLD WALL HUNG HEAT PUMPS AND RECONNECTING TO THE NEW UNITS. CONTRACTOR SHALL REPLACE OLD FLEXIBLE METALLIC CONDUIT WITH NEW FMC AND EXTEND EXISTING BRANCH CIRCUITS AS REQUIRED TO CONNECT TO NEW UNITS. UNITS ARE PROVIDED WITH INTERNAL CIRCUIT BREAKERS. MATCH EXISTING WIRE SIZES WHEN EXTENDING EXISTING CIRCUITS.

GENERAL ELECTRICAL NOTES:

- DUE TO THE NATURE OF WORK COVERED UNDER THESE PLANS AND SPECIFICATIONS, ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING VISITED THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID.
- ALL CONDUIT PENETRATIONS OF FIRE RATED WALLS AND/OR CEILINGS SHALL BE FIRESTOPPED AS PER UL STANDARDS.
- ALL CONDUIT PENETRATIONS OF EXTERIOR WALLS SHALL BE SEALED AND MADE WEATHERPROOF.
- CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CEILING TILES AS NECESSARY FOR THE INSTALLATION OF NEW CONDUITS AND DEVICES. CONTRACTOR SHALL REPLACE ANY TILE DAMAGED BY THIS WORK. NEW CEILING TILES TO MATCH EXISTING.
- ALL CONDUIT RUNS SHOWN ON THESE DRAWINGS ARE APPROXIMATE. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY LENGTH AND LOCATION.
- ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS AND THE SPECIFICATIONS, FOR ALL BID ALTERNATES AND ALL PHASING INFORMATION, PRIOR TO SUBMITTING HIS BID.
- ALL BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR TYPE.
- THE MECHANICAL EQUIPMENT BASIS OF DESIGN IS AS INDICATED ON THE MECHANICAL DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE ELECTRICAL REQUIREMENTS OF THE MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR PRIOR TO ORDERING MATERIALS. MODIFICATIONS TO ANY ELECTRICAL SYSTEM REQUIRED FOR MECHANICAL EQUIPMENT WHICH DIFFERS FROM THE MECHANICAL BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE MECHANICAL AND ELECTRICAL CONTRACTORS. IN NO CASE SHALL SUBSTITUTION OF MECHANICAL EQUIPMENT RESULT IN ADDITIONAL COSTS TO THE OWNER.
- ELECTRICAL CONTRACTOR SHALL USE LOCATOR SERVICE TO IDENTIFY ALL UNDERGROUND UTILITIES. DAMAGE TO ANY EXISTING UTILITIES RESULTING FROM INSTALLATION OF NEW ELECTRICAL EQUIPMENT SHALL BE REPAIRED BY THE ELECTRICAL CONTRACTOR.
- ALL FEEDERS SHALL BE ROUTED CONCEALED. ELECTRICAL CONTRACTOR SHALL SAW CUT AND PATCH EXISTING CONCRETE AS NECESSARY TO ROUTE UNDERGROUND CONDUITS. ABOVE CEILING CONDUITS SHALL BE ROUTED CONCEALED.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR BRINGING THE SITE BACK TO ORIGINAL CONDITIONS AFTER THE COMPLETION OF UNDERGROUND ELECTRICAL WORK. THIS IS INCLUSIVE OF SAW CUT ASPHALT AND CONCRETE SURFACES, EXISTING VEGETATION, GRASS, SITE GRADING ETC. THIS CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE SITE/FACILITY CAUSED BY ELECTRICAL CONSTRUCTION.
- ELECTRICAL CONTRACTOR SHALL SAW CUT EXISTING CONCRETE AND ASPHALT DRIVES AS REQUIRED TO INSTALL BELOW GRADE CONDUITS. AFTER INSTALLATION OF WORK, CONTRACTOR SHALL BACKFILL AND BRING SOIL TO INITIAL COMPACTION LEVELS AND REPAIR SAW CUT AREAS OF CONCRETE AND ASPHALT DRIVES. PATCHING SHALL MATCH EXISTING WITH REGARD TO REINFORCING AND THICKNESS. ALL SAW CUT TRENCHES SHALL BE MADE IN A WORKMANLIKE FASHION.
- ANY EXISTING ELECTRICAL EQUIPMENT NOT BEING REMOVED OR RELOCATED BUT ON THE SAME CIRCUIT AS ANY ELECTRICAL EQUIPMENT BEING REMOVED OR RELOCATED SHALL BE RECONNECTED TO ALLOW FOR NORMAL OPERATION UNLESS SHOWN OTHERWISE ON THE NEW WORK DRAWINGS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS AND LABOR FOR THE RECONNECTION OF SAID DEVICES.
- ELECTRICAL CONTRACTOR SHALL RELOCATE ANY EXISTING ELECTRICAL EQUIPMENT, CIRCUITRY, OR CONDUIT THAT INTERFERES WITH DEMOLITION OR INSTALLATION WORK AND PROVIDE ALL NECESSARY MATERIALS AND LABOR NEEDED TO RETURN THE RELOCATED EQUIPMENT TO A SAFE AND OPERATING CONDITION THAT CONFORMS TO THE CURRENT EDITION OF THE N.E.C. AND ALL LOCAL REGULATIONS. COORDINATE ALL WORK WITH THE OWNER'S REPRESENTATIVE AND ALL OTHER TRADES.
- ANY DEVICE INTERFERING WITH DEMOLITION OR INSTALLATION, NOT BEING REMOVED OR RELOCATED, SHALL NOT BE MOVED WITHOUT WRITTEN CONSENT FROM THE OWNER'S REPRESENTATIVE.
- ALL WORK SHALL BE IN COMPLIANCE WITH THE CODES AND STANDARDS LISTED IN THE ARCHITECTURAL CODE ANALYSIS FOUND ELSEWHERE IN THESE CONTRACT DOCUMENTS.

