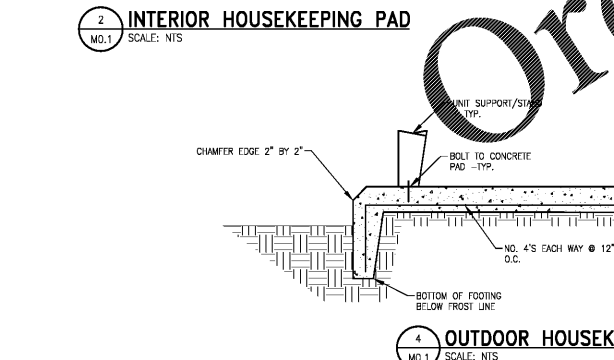
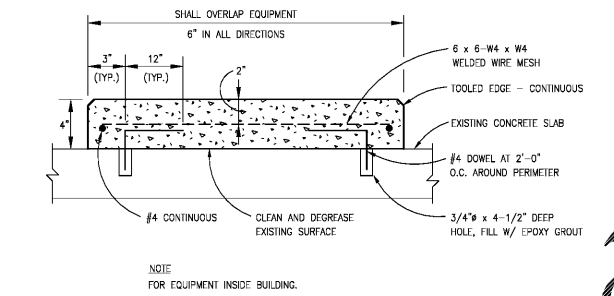
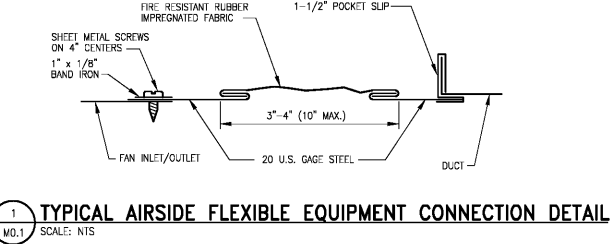


AIR HANDLING UNIT / CONDENSING UNIT SCHEDULE																
MARK	SERVICE	SUPPLY (CFM)	OUTDOOR (CFM)	ESP (IN WC)	FAN MOTOR (HP)	COOLING CAPACITY			ELECTRIC AUXILIARY HEAT			HOT GAS REHEAT DEHUMIDIFICATION			VARIABLE FREQUENCY MODEL No.	NOTES
						TOTAL (MBH)	SENSIBLE (MBH)	EAT (DB/WB °F)	EER	KW	STAGES	CAPACITY (MBH)	EAT (DB °F)	LAT (DB °F)		
AHU / CU-1	OUTDOOR WORKOUT	6,000	1,200	1.0	3.7	184.6	147.6	80/67	11.2	46.0	2	115.3	57.2	75.0	UDC-A016	1-15

BASIS OF DESIGN: VARE ULTRADRY  
 ACCEPTABLE EQUALS: TRANE, ABEYEAR, DAKIN, AMON

**NOTES:**  
 1. EER IS BASED UPON AHRI CONDITIONS.  
 2. VERTICAL AIR HANDLING EVAPORATOR UNIT MOUNTED ON MANUFACTURER'S PROVIDED SUB-BASE OPTION. PROVIDE UNIT ON 4" HIGH CONCRETE HOUSEKEEPING PAD.  
 3. OUTDOOR CONDENSING UNIT MOUNTED ON CONCRETE EQUIPMENT PAD.  
 4. COOLING CAPACITY BASED ON AHRI CONDITIONS FOR EAT LISTED AND OUTDOOR AIR AMBIENT TEMPERATURE OF 95F.  
 5. UNIT MOUNTED DISCONNECT.  
 6. SMOKE DETECTOR IN SUPPLY AIR DUCTWORK SHALL PROVIDE UNIT SHUTDOWN ON DETECTION OF SMOKE.  
 7. MULTIPLE COMPRESSORS FOR STAGED COOLING.  
 8. UNITS SHALL UTILIZE SINGLE POINT POWER CONNECTION AT THE OUTDOOR AND INDOOR UNIT LOCATIONS.  
 9. PROVIDE REFRIGERANT MANAGEMENT CONTROL.  
 10. SYSTEM CONTROLLER SHALL ALLOW OPERATION BASED ON EITHER SUPPLY AIR OR SPACE TEMPERATURE AND HUMIDITY.  
 11. PROVIDE FULLY MODULATING HOT GAS REHEAT DEHUMIDIFICATION COIL.  
 12. PROVIDE LOW AMBIENT CONTROL.  
 13. ROUTE CONDENSATE PIPING FULL SIZE OF UNIT CONDENSATE OUTLET TO THE OUTDOORS. TERMINATE WITH 90° ELBOW DOWN TO SPLASH BASK.  
 14. PROVIDE WALL MOUNTED THERMOSTAT AND HUMIDISTAT.  
 15. PROVIDE SPACE MOUNTED CO2 SENSOR TO MODULATE MOTORIZED OUTSIDE AIR INTAKE DAMPER.

SINGLE VENTILATION ZONE SYSTEM CALCULATIONS											
<b>CALCULATION NOTES:</b> 1. COMPLIANCE CALCULATIONS PROVIDED ARE IN ACCORDANCE WITH THE 2015 IMC, CHAPTER 4 REQUIREMENTS 2. ZONE POPULATION IS BASED UPON EITHER THE POPULATION DENSITY LISTED IN TABLE 403.3 OR THE ESTIMATED ACTUAL POPULATION BASED UPON THE ZONE FURNITURE LAYOUTS											
<b>VARIABLE DEFINITIONS:</b> Az = ZONE FLOOR AREA (SF): THE NET OCCUPABLE FLOOR AREA FOR THE SPACE OR SPACES IN THE ZONE. Pz = ZONE POPULATION: THE NUMBER OF PEOPLE IN THE SPACE OR SPACES IN THE ZONE. Rp = PEOPLE OUTDOOR RATE: THE OUTDOOR AIRFLOW RATE REQUIRED PER PERSON FROM TABLE 403.3 Ra = AREA OUTDOOR AIR RATE: THE OUTDOOR AIRFLOW RATE REQUIRED PER UNIT AREA FROM TABLE 403.3 Vz = BREATHING ZONE OUTDOOR AIRFLOW (Rp*Pz + Ra*Az) Ez = ZONE AIR DISTRIBUTION EFFECTIVENESS FROM TABLE 403.3.1.2 Voz = ZONE OUTDOOR AIR FLOW (Vz/Ez) Vot = SYSTEM OUTDOOR AIRFLOW (Vz+Voz)					<b>ABBREVIATIONS:</b> CSOR - CEILING SUPPLY, CEILING RETURN OFS - CEILING OR FLOOR SUPPLY OFSR - CEILING OR FLOOR SUPPLY AND FLOOR RETURN FSOR - FLOOR SUPPLY AND CEILING RETURN RA - RETURN AIR EA - EXHAUST AIR SA - SUPPLY AIR OA - OUTDOOR AIR						
<b>SYSTEM PARAMETERS</b> CALCULATION: HEATING ALL SYSTEMS MEET COMPLIANCE REQUIREMENTS: YES											
<b>ZONE OR SPACE DETAILS</b>											
SYSTEM TAG	OCCUPANCY CLASSIFICATION	Az	Pz	Rp	Ra	Vz	ZONE AIR DISTRIBUTION TYPE	Ez	Vot	DESIGN OA (CFM)	COMPLIES?
AHU/CU-1	GYM, STADIUM, ARENA (PLAY AREA)	2,850	85	0	0.3	855	HEATING - CSOR	0.8	1,069	1,200	YES

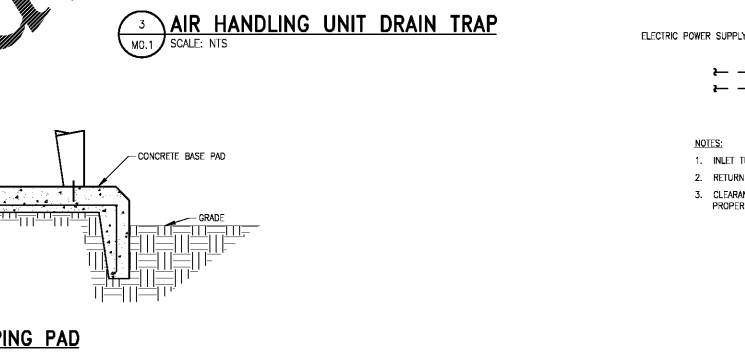
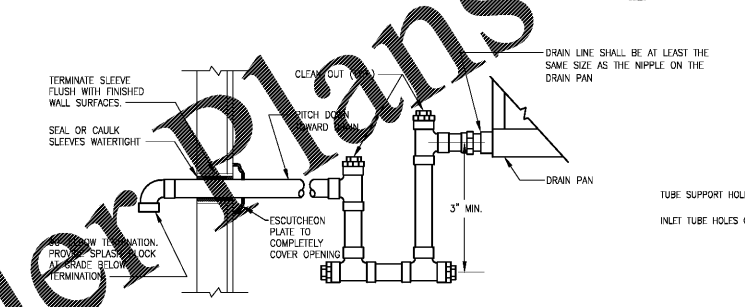


AIR DISTRIBUTION SCHEDULE							
MARK	SERVICE	FACE SIZE (IN)	NECK SIZE (IN)	BORDER TYPE	MAX IC	BASIS OF DESIGN	NOTES
A	SUPPLY	34 X 10	30 X 8	DUCT MOUNTED	30	TITUS 272 RL	1, 2, 5
B	RETURN	46 X 38	42 X 34	SURFACE MOUNTED	30	TITUS 350 RL	1-4

**BASIS OF DESIGN: TITUS**  
 ACCEPTABLE EQUALS: PRICE, KRUEGER, METALAIR, CARNES

**GENERAL NOTES APPLICABLE TO ALL:**  
 A FACE AND NECK SIZES ARE NOMINAL DIMENSIONS. ACTUAL DIMENSIONS SHALL BE VERIFIED WITH MANUFACTURER'S LITERATURE.  
 B IC VALUES ARE BASED UPON MAXIMUM CFM SHOWN ON FLOOR PLANS.

**NUMBERED NOTES:**  
 1. SIEEL CONSTRUCTION.  
 2. PROVIDE OPPOSED-BLADE DAMPER WITH SCREWDRIVER OPERATOR ACCESSIBLE THROUGH THE DISORGAVE OPENING.  
 3. 3/4" BLADE SPACING, BLADES PARALLEL TO LONG DIMENSION.  
 4. 30° BLADE DEFLECTION.  
 5. DOUBLE DEFLECTION.



- ### MECHANICAL GENERAL NOTES
- CONSTRUCTION DOCUMENTS ARE BASED UPON A FIELD EXAMINATION OF THE SITE AND AVAILABLE EXISTING BUILDING PLANS, AND THEREFORE, MAY NOT INDICATE ALL EXISTING ITEMS AND SITE CONDITIONS. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE WORK AREAS AND SCOPE OF WORK OF THE PROJECT PRIOR TO BID. ADDITIONALLY, PRIOR TO THE INSTALLATION OF ANY NEW WORK, THE CONTRACTOR SHALL EXAMINE THE PREMISES OF WHERE THE WORK WILL BE DONE AND VERIFY IF EXISTING CONDITIONS WILL IN ANY MANNER AFFECT THE WORK UNDER THIS CONTRACT. ANY EXISTING CONDITIONS WHICH ARE APPARENT OR COULD BE REASONABLY INFERRED FROM A VISIT TO THE SITE SHALL NOT BE THE BASIS OF A CHANGE IN THE CONTRACT AMOUNT.
  - CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES, CODES, AND REGULATIONS OF ALL GOVERNMENTAL AUTHORITIES HAVING JURISDICTION AND THE NATIONAL FIRE PROTECTION ASSOCIATION.
  - THE DRAWINGS SHALL BE CONSIDERED AS DIAGRAMMATIC. ATTENTION IS CALLED TO THE FACT THAT WHILE THE DRAWINGS ARE GENERALLY TO SCALE AND ARE ACCURATE AS THE SCALE WILL PERMIT, DO NOT SCALE DRAWINGS. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. CUTTING OR ALTERING ANY STRUCTURAL MEMBERS MUST NOT BE PERMITTED WITHOUT WRITTEN APPROVAL OR ARCHITECT OR STRUCTURAL ENGINEER, AS APPLICABLE. ADDITIONALLY, THE DRAWINGS DO NOT INDICATE EVERY FITTING, ELBOW, OFFSET, OR SIMILAR COMPONENTS WHICH ARE REQUIRED TO COMPLETE THE WORK.
  - ALL MATERIALS AND EQUIPMENT SHALL BE NEW (UNLESS OTHERWISE INDICATED), AND THE CURRENT MODEL FOR WHICH REPLACEMENT PARTS ARE AVAILABLE. SUBSTITUTIONS WILL ONLY BE ACCEPTED AT THE DISCRETION OF THE ENGINEER.
  - PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
  - IF THE CONTRACTOR SUBSTITUTES AN EQUAL EQUIPMENT DIFFERENT FROM THE EQUIPMENT SPECIFIED, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY CHANGES OR INCREASE IN COSTS TO INCLUDING BUT NOT LIMITED TO ELECTRICAL DISTRIBUTION SYSTEMS, STRUCTURAL SUPPORTS, ARCHITECTURAL CHANGES, ETC. TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT.
  - COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS. ALL REQUIRED CLEARANCES SHALL BE PROVIDED.
  - WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
  - THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
  - PROVIDE EQUIPMENT & MATERIALS SUBMITTALS FOR APPROVAL INDICATING COMPLIANCE WITH CONTRACT REQUIREMENTS. THE OWNER SUBMITTALS SHALL BE APPROVED PRIOR TO PURCHASE OF SUBMITTED ITEMS. PRODUCT INFORMATION FOR EQUIPMENT SCHEDULED ON THE DRAWINGS SHALL BE SUBMITTED FOR REVIEW. SUBMITTALS SHALL INCLUDE MANUFACTURER AND MODEL NUMBER, SCHEDULE INFORMATION, ELECTRICAL CHARACTERISTICS, ACCESSORIES AND OPTIONS, INSTALLATION INSTRUCTIONS, AND DEPARTS FROM REQUIREMENTS.
  - THE SUBMISSION OF A BID OR PROPOSAL WILL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTOR IS FAMILIAR WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND / OR LABOR DUE TO DIFFICULTIES ENCOUNTERED WILL NOT BE CONSIDERED, UNLESS THESE DIFFICULTIES COULD NOT HAVE BEEN FORESEEN EVEN THOUGH PROPER INVESTIGATION HAD BEEN MADE.
  - THE CONTRACTOR SHALL WARRANT TO THE OWNER THAT ALL WORK SHALL BE FREE FROM DEFECTS AND WILL CONFORM TO THE CONTRACT DOCUMENTS. THIS WARRANTY SHALL EXTEND NOT LESS THAN ONE YEAR FROM THE DATE OF BENEFICIAL OCCUPANCY OR WORKMANSHIP AND MATERIALS DEFECTORS SHALL INCLUDE MANUFACTURER'S EXTENDED WARRANTY YEAR WARRANTY IN ADDITION TO ORIGINAL CONTRACTOR ONE (1) YEAR WARRANTY.
  - THE CONTRACTOR SHALL PROVIDE OPERATING & MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT. MANUFACTURER'S NAME AND ADDRESS, LOCATION OF LOCAL PART SUPPLIER, MANUFACTURER'S PUBLISHED OPERATION AND MAINTENANCE INSTRUCTIONS, DATA SHEETS HIGHLIGHTING EQUIPMENT DESIGNATIONS AND MODEL NUMBERS, DATA SHEETS FOR FANS SHALL INCLUDE FAN CURVE OR PERFORMANCE DATA FOR THE FULL RANGE OF STATIC PRESSURE AND CFM CAPABILITIES.
  - UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE CONTRACT AREA AND ALL OTHER AREAS USED FOR STORAGE, STAGING, ETC. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, WASHING AND POLISHING ALL SURFACES, REMOVING SPOTS AND STAINING, CLEANING ALL FIXTURES AND WASHING ALL FLOOR SURFACES AND CEILING (IF APPROPRIATE).
  - ANY BUILDING SURFACE, INCLUDING BUT NOT LIMITED TO WALL, FLOOR, DOORS, WINDOWS, AND CEILING, DAMAGED DURING THE INSTALLATION, FABRICATION, OR MOVING OR MECHANICAL EQUIPMENT AND ACCESSORIES SHALL BE REPAIRED TO MATCH NEW OR EXISTING CONDITIONS.
  - WORK OF EXTERIOR PENETRATIONS (I.E. LOUVERS OR WALLCAPS) AND INDOOR EXPOSED MECHANICAL EQUIPMENT AND ACCESSORIES SHALL BE FACTORY COATED TO MATCH BUILDING EXTERIOR FINISH, COLOR SHALL BE APPROVED BY THE ARCHITECT AND/OR OWNER REPRESENTATIVE, AS APPLICABLE, PRIOR TO PURCHASE.
  - ALL MATERIALS INSTALLED WITHIN HVAC AIR PLENUMS OR SPACES USED AS A RETURN AIR PLENUM SHALL BE RATED WITH A MAXIMUM FLAME-SPREAD INDEX OF 25 AND A MAXIMUM SMOKE-DEVELOPED INDEX OF 50.
  - CONTRACTOR SHALL INSTALL THERMOSTAT AT 48" ABOVE THE FINISHED FLOOR UNLESS OTHERWISE STATED, AND CAREFULLY COORDINATE ALL THERMOSTAT LOCATIONS WITH INTERIOR FINISHES AND ELEVATIONS.
  - ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS REQUIRED TO PROVIDE A VIBRATION FREE INSTALLATION.
  - ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND DIVISION 16 REQUIREMENTS.
  - WHERE TEMPORARY SHUTDOWN OF SERVICES IS NEEDED FOR AREAS THAT WILL BE OCCUPIED DURING CONSTRUCTION, THE SHUTDOWN SHALL BE CLOSELY COORDINATED WITH OWNER. ARRANGE WORK TO ASSURE THAT ANY SHUTDOWN OF SERVICES TIME IS AS MINIMAL AS POSSIBLE.
  - FOR SUPPLY AIR SYSTEMS THAT PROVIDE GREATER THAN 2,000 CFM, A SMOKE DETECTOR SHALL BE INSTALLED IN THE SUPPLY AIR STREAM, DOWNSTREAM OF ALL FILTERS, MOTORS, AND OUTDOOR AIR CONNECTIONS, AND UPSTREAM OF ANY BRANCH CONNECTIONS. SMOKE DETECTOR TO BE WIRED TO SHUTDOWN FAN UPON DETECTION OF SMOKE.

### MECHANICAL LEGEND

	12x6	NEW DUCTWORK (FIRST FIGURE = SIDE SHOWN) DIMENSIONS SHOWN ARE CLEAR INSIDE DUCT REQUIREMENTS
		DUCT UNDER POSITIVE PRESSURE
		DUCT UNDER NEGATIVE PRESSURE
		POSITIVE PRESSURE DUCT TURNING UP
		NEGATIVE PRESSURE DUCT TURNING UP
		POSITIVE PRESSURE DUCT TURNING DOWN
		NEGATIVE PRESSURE DUCT TURNING DOWN
		RISE IN DUCT (ARROW INDICATES AIRFLOW DIRECTION)
		DROP IN DUCT (ARROW INDICATES AIRFLOW DIRECTION)
		TRANSITION IN DUCT, SQUARE TO SQUARE
		TRANSITION IN DUCT, SQUARE TO ROUND
		SQUARE THROAT ELBOW WITH TURNING VANES
		SQUARE THROAT ELBOW WITHOUT TURNING VANES
		FULL RADIUS ELBOW
		45 DEGREE TAP WITHOUT BALANCING DAMPER
		45 DEGREE TAP WITH BALANCING DAMPER
		CONICAL TAP WITHOUT BALANCING DAMPER
		SPIN-IN RUNOUT FITTING WITH BALANCING DAMPER AND SCOOP
		FLEXIBLE DUCT CONNECTION
		MANUAL BALANCING DAMPER
		COUNTERBALANCED BACKDRAFT DAMPER
		FIRE DAMPER
		COMBINATION FIRE AND SMOKE DAMPER
		MOTOR OPERATED DAMPER
		SUPPLY AIR DIFFUSER
		RETURN AIR GRILLE
		ROOM OR SPACE THERMOSTAT
		ROOM OR SPACE HUMIDISTAT
		SMOKE DETECTOR, DUCT OR EQUIPMENT MOUNTED
		DIFFUSER/GRILLE AIR QUANTITY & TYPE DESIGNATION SYMBOL (IN CFM)
		EQUIPMENT TAG
		POINT OF CONNECTION, NEW TO EXISTING
		POINT OF LIMIT OF DEMOLITION
		PIPE ELBOW DOWN
		PIPE ELBOW UP

### MECHANICAL ABBREVIATIONS

A/C	ABOVE CEILING	LAT	LEAVING AIR TEMPERATURE
AG	ABOVE GRADE	LBS	POUNDS
AFF	ABOVE FINISHED FLOOR	LWT	LEAVING WATER TEMPERATURE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS	MAX	MAXIMUM
BFT	BELOW FINISHED FLOOR	MBH	ONE THOUSAND BTU'S PER HOUR
BLDG	BUILDING	MECH	MECHANICAL
BTUH	BRITISH THERMAL UNITS PER HOUR	MHP	MOTOR HORSEPOWER
CFM	CUBIC FEET PER MINUTE	MIN	MINIMUM
CD	CLEANOUT	NTS	NOT TO SCALE
COND	CONDENSATE	OA	OUTSIDE AIR
DB	DECEBEL	OC	ON CENTER
DEG	DEGREE	PD	PRESSURE DROP
DIAMETER		PH	PHASE
DN	DOWN	RA	RETURN AIR
DWG	DRAWING	RPM	REVOLUTIONS PER MINUTE
EA	EXHAUST AIR OR EACH (AS APPLICABLE)	RTU	ROOFTOP UNIT
EAT	ENTERING AIR TEMPERATURE	SA	SUPPLY AIR
EER	ENERGY EFFICIENCY RATING	SEER	SEASONAL ENERGY EFFICIENCY RATIO
ESP	EXTERNAL STATIC PRESSURE	SMACNA	SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
FT	FEET	SP	STATIC PRESSURE
FFE	FINISHED FLOOR ELEVATION	SS	STAINLESS STEEL
FBM	FEET PER MINUTE	TYP	TYPICAL
FT	FOOT OR FEET	UL	UNDERWRITER'S LABORATORIES
GA	GAUGE	VD	VOLUME DAMPER
HAP	HIGH AS POSSIBLE	VFD	VARIABLE FREQUENCY DRIVE
HP	HORSEPOWER	VIF	VERIFY IN FIELD
HZ	HERTZ	W/	WITH
IN	INCH OR INCHES	WB	WET BULB
KW	KILOWATT	WG	WATER GAUGE

**Pate Design Group, Inc.**  
 Architecture / Interiors  
 1640 Powers Ferry Rd SE  
 Bld. 16, Ste. 300  
 Marietta, Georgia 30067  
 (p) 770-814-0885  
 (f) 770-814-0886  
 kirby@patedesigngroup.com

**ONELIFE FITNESS**  
**PORCH ENCLOSURE**  
 4512 HOLLY SPRINGS PKWY  
 HOLLY SPRINGS, GA 30115

### Revisions:

No.	Date	Description
	9/23/19	PERMIT

### MECHANICAL LEGEND, SCHEDULES, AND DETAILS

Drawn  
**JMF**  
 Checked  
**CLG**  
 Contract No.  
 19-30  
 Scale  
 AS INDIC  
 Date  
 080619  
 Last Rev.

**MO.1**  
 1 of 2 sheets

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