



**ISSUE/REVISION RECORD**

DATE	DESCRIPTION
01/25/19	PERMIT SET
03/16/20	REFRESH TO 2020.0113



**PROJECT NAME**

**HWY 316 @ 81**

**BETHLEHEM  
 GA 30620  
 839 LOGANVILLE HWY**

**RACETRAC STORE NUMBER**

**#1304**

**PROTOTYPE SERIES 5.5K 2.0**

**2018 LH M0 0405**

**PLAN MODIFICATION NOTICE**

**SPB NO. 0405 DATE 12/18/18**

STANDARD PLAN BULLETINS (SPB) MODIFY THE PROTOTYPE SERIES SET NOTED ABOVE. THE LISTED SPB REPRESENTS THE LATEST MODIFICATION INCORPORATED TO THIS PROTOTYPE SERIES SET AT ORIGINAL RELEASE. THE ISSUE/REVISION RECORD COLUMN ABOVE LISTS ANY REVISIONS OR SPB INCORPORATED IN THIS SET AFTER THE ORIGINAL RELEASE. CONTACT RACETRAC ENGINEERING AND CONSTRUCTION FOR ANY SUBSEQUENT BULLETINS NOT INCORPORATED HEREIN.

**PROFESSIONAL SEAL**

**PROJECT NUMBER  
 2018157.19**

**SHEET TITLE  
 MECHANICAL  
 NOTES AND  
 LEGENDS**

**SHEET NUMBER**

**M001**

**MECHANICAL NOTES**

- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE AND FUNCTIONAL HVAC SYSTEM IN ACCORDANCE WITH THESE DRAWINGS. THE INSTALLATION SHALL COMPLY WITH THE 2018 INTERNATIONAL BUILDING CODE, THE 2018 INTERNATIONAL MECHANICAL CODE AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST EDITION OF THE FOLLOWING PUBLICATIONS: SMACNA HVAC DUCT CONSTRUCTION STANDARDS; ASHRAE 15, 34, 82, NFPA 70, 72, 90A, 90B, 91, 98, 101 ANSI Z10.1, Z10.3, Z21.8, Z21.83.
- THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
- THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES.
- THE CONTRACTOR SHALL SUPPLY THE ARCHITECT/OWNER WITH "AS-BUILT" DRAWINGS.
- CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE (5) COPIES OF MANUFACTURER'S SHOP DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT.
- ALL MATERIAL SHALL BE NEW, OF GOOD QUALITY AND APPROVED FOR INTENDED PURPOSE. ALL WORK SHALL BE PERFORMED AT INDUSTRY STANDARD QUALITY LEVEL BY CERTIFIED PROFESSIONALS. ALL EQUIPMENT SHALL BE UL OR ETL LISTED.
- ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS, EXTERNAL BRACKET INSULATION (MINIMUM 1/2" THICK) SHALL BE PROVIDED FOR ALL DUCTWORK. FLEXIBLE DUCT SHALL BE RATED CLASS 1 UL-181 LISTED WITH METALIZED INNER AND OUTER FOIL LINING. MINIMUM R-3 INSULATION WITH A MAXIMUM TOTAL LENGTH NOT TO EXCEED 5'-0". UL LISTED FOR PLENUM INSTALLATION. PROVIDE EXHIBIT DUCTWORK ELBOW SUPPORTS AT EACH DIFFUSER, GRILLE, AND REGISTER EQUAL TO "FLEXFLOW ELBOW" MANUFACTURED BY "THERMAFLEX". ALL METAL DUCTS SHALL BE FABRICATED IN ACCORDANCE WITH LATEST EDITION OF SMACNA.
- CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ROOFTOP UNITS AND ALL EQUIPMENT WITH ARCHITECTURAL AND STRUCTURAL PLANS. SECURE ROOF CURBS TO BUILDING STRUCTURE FOR PROPER SUPPORT OF UNITS. ROOF CURBS SHALL BE COMPATIBLE WITH ROOFING SYSTEM AND FLASHED ACCORDING TO NRCA RECOMMENDATIONS.
- OUTSIDE AIR INTAKES SHALL NOT BE TAKEN FROM A LOCATION CLOSER THAN 10 FEET FROM ANY CHIMNEY, EXHAUST VENT OUTLET OR SANITARY SEWER VENT, UNLESS SUCH VENT IS NOT LESS THAN 3 FEET ABOVE THE OUTSIDE AIR INTAKE.
- DUCT SIZES SHOWN ARE AIRWAY INSIDE DIMENSIONS. INCREASE SIZE OF DUCTWORK FOR INTERNAL LINING IF USED.
- ALL AIR DEVICES (DIFFUSERS, REGISTERS AND GRILLES) SHALL BE MINIMUM CONSTRUCTION (UNLESS EXPLICITLY NOTED OTHERWISE ON AIR DISTRIBUTION SCHEDULE) WITH EXPOSED SURF FINISH ENAMEL FINISH OR AS SPECIFIED BY ARCHITECT. DEVICES SHALL BE SPECIFIED TO SUPPLY, EXHAUST, METALAIR OR PRICE. PROVIDE OPPOSITELY BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS AS INDICATED ON PLANS. PROVIDE BALANCING DAMPERS FOR ALL AIR DEVICES.
- THERMOSTAT TO RECEIVE REMOTE TEMPERATURE/HUMIDITY SENSOR INPUT.
- THERMOSTAT/HUMIDISTAT LOCATION SHALL BE APPROVED BY OWNER AND ENGINEER BEFORE INSTALLATION. INSTALL THERMOSTAT/HUMIDISTAT 8" A.F.F. IN ACCORDANCE WITH A.D.A. REQUIREMENTS. MECHANICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL CONTROL REQUIREMENTS FOR JUNCTION BOXES, CONDUITS, CONTROL WIRING, POWER, ETC. AND DEFINE RESPONSIBILITY AND SCOPE OF WORK FOR EACH TRADE PRIOR TO ANY INSTALLATION, WHEN POSSIBLE, WHENEVER THERE ARE MORE THAN ONE TRADES TO BE INSTALLED SIDE BY SIDE THEY SHALL BE GANGED TOGETHER WITHIN THE SAME COVER PLATE.
- REFRIGERANT LINES SHALL BE COPPER, TYPE "ACR" HARD DRAWN WITH WROUGHT COPPER BRAZING-JOINT TYPE FITTINGS. USE BRAZING MATERIALS FOR HIGH PRESSURE PIPING PER AWS A5.8 BCuP SERIES COPPER-PHOSPHORUS ALLOY OR BA1 SILVER ALLOY. REFRIGERANT LINES SHALL BE SIZED PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. ALL EXPOSED INSULATION SHALL BE PROTECTED WITH UV RESISTANT PAINT OR ALUMINUM SHIELD.
- 1" THICK PIPE INSULATION FOR REFRIGERANT SUCTION PIPING SMALLER THAN 1" SIZE, 1" THICK PIPE INSULATION FOR PIPING 1" AND LARGER. PIPE INSULATION SHALL BE ARMACELL, "ARMAFLEX" CLOSED CELL ELECTROMETRIC INSULATION, 0.27 THERMAL CONDUCTIVITY AT 75°F, PER THE INTERNATIONAL ENERGY CODE, TABLE C403.11.3 FOR MINIMUM PIPING INSULATION THICKNESS. PROVIDE FILTER/DRYER AND SIGHT GLASS IN ALL LIQUID LINES.
- ALL BRANCH TAKE-OFFS TO BE PROVIDED WITH MANUAL VOLUME DAMPERS. PROVIDE LONG RADIUS ELBOWS (1.5X DIAMETER) WHERE FEASIBLE. SQUARE ELBOWS AND TEES SHALL BE FURNISHED WITH SINGLE WALL TURNING VANES. PROVIDE MANUAL VOLUME DAMPERS WITH EXTRACTOR AT ALL FLEX TAKE-OFFS. PROVIDE REMOTE, CABLE OPERATED VOLUME DAMPERS IN INACCESSIBLE AND HARD CEILING AREAS, "YOUNG REGULATOR" MODEL 270.
- PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE AIR BALANCING. REPLACE AIR FILTERS PRIOR TO FINAL ACCEPTANCE BY OWNER. ALL FILTERS SHALL BE CHANGED TO 2" PLEATED PRIOR TO START-UP.
- PROVIDE SMOKE DETECTORS FOR HVAC UNITS GREATER THAN 2000 CFM AIRFLOW. SMOKE DETECTORS SHALL BE FURNISHED WITH REMOTE ANNUNCIATION/TEST STATION AS REQUIRED BY AUTHORITY HAVING JURISDICTION, COORDINATION PRIOR TO INSTALLATION. DETECTORS SHALL BE BY ONE MANUFACTURER, COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM IF REQUIRED BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHALL SHUTDOWN ASSOCIATED AIR MOVING EQUIPMENT AND SOUND ALARM.
- HVAC CONTRACTOR SHALL PROVIDE A TESTING AND AIR BALANCING REPORT PER I.M.C. 2012. FOR ALL MECHANICAL EQUIPMENT, AIR DEVICES, DAMPERS, AHU'S AND FANS. THE TESTING AND AIR BALANCING AGENT SHALL BE AABC ACCREDITED. THE TESTING AND AIR BALANCING REPORT SHALL BE IN ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL (AABC) STANDARDS AND SHALL INCLUDE AIR QUANTITIES FOR ALL SUPPLY, RETURN AND EXHAUST GRILLES AND THE ENTERING, LEAVING AIR DBWB TEMPERATURES (F) FROM AIR HANDLING UNITS AND EVAPORATORS.
- ALL DUCTWORK AND PIPING INSULATION WILL HAVE A FIRE/SMOKE RATING EQUAL TO OR LESS THAN 25/50.
- MECHANICAL PLANS IN GENERAL ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL, FIRE SPRINKLER, AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS SHALL BE REQUIRED TO BE PROVIDED AND INSTALLED FOR A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CHANGES IN DUCTWORK SIZE AND ROUTE WILL BE REQUIRED TO AVOID STRUCTURAL, PLUMBING, FIRE SPRINKLER AND ARCHITECTURAL BUILDING FEATURES. DUCTWORK CHANGES MAY BE MADE BY CONTRACTOR USING EQUIVALENT SIZED DUCT. CONTACT ENGINEER IF DUCT AREA WILL NOT FIT.
- CONTRACTOR'S WARRANTY: CONTRACTOR SHALL PROVIDE A WARRANTY FOR A PERIOD OF (1) ONE YEAR, AFTER BUILDING OCCUPANCY. FOR ALL MECHANICAL SYSTEMS, DUCTWORK, CONTROLS, ACCESSORIES AND ALL OTHER EQUIPMENT, PARTS AND LABOR UNDER THESE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL PROVIDE WARRANTY FOR COMPRESSORS FOR (5) FIVE YEARS. ANY REPAIRS REQUIRING SYSTEM SHUTDOWN SHALL BE DONE DURING NON-OPERATIONAL PERIODS OR AS AGREED WITH OWNER.

**MECHANICAL LEGEND**

	S/A CEILING DIFFUSER		CEILING EXHAUST FAN
	R/A CEILING GRILLE		ROOF EXHAUST FAN
	E/A CEILING GRILLE		SUPPLY AIR DIFFUSER OR GRILLE DESIGNATION
	DUCTWORK UP THRU ROOF		RETURN/EXHAUST AIR GRILLE DESIGNATION
	SLOT / LINEAR DIFFUSER		EQUIPMENT TAG
	WALL LOUVER / WALL DIFFUSER		REMOTE TEMPERATURE SENSOR
	VOLUME CONTROL DAMPER		REMOTE HUMIDITY SENSOR
	REDUCER OR INCREASER		THERMOSTAT
	FLEX DUCT		SUPPLY AIR
	DUCTWORK		RETURN AIR
	ROUND UP		DOOR UNDER CUT
	MANUAL VOLUME DAMPER WITH EXTRACTOR		PIPE UP
	DUCT SMOKE DETECTOR		PIPE DOWN

WWW.LDPLANS.COM

Order Plans @

OUTSIDE AIR CALCULATIONS								
AREA SERVED OR UNIT TAG	NET OCCUPYABLE AREA SQ. FT.	MAX. OCCUPANCY PER 1000 SQ. FT.	TOTAL NO. OF PEOPLE	VENTILATION RATE		TOTAL CFM OIA REQUIRED	TOTAL CFM OIA PROVIDED	NOTES
				CFM/P	SQ. FT.			
OCCUPIABLE STORAGE	15	2	6	5	0.12	285		1
SALES	210	15	42	7.5	0.12	814		1
RTU-1							800	
RTU-2							800	
RTU-3							210	
RTU-4							110	
<b>TOTALS</b>						<b>1,099</b>	<b>1,920</b>	

NOTES:  
 1. CALCULATIONS ARE BASED ON ESTIMATED MAXIMUM OCCUPANCY RATES PER ARCHITECTURAL PLANS AND ASHRAE 62.1-2010 VENTILATION RATES.

AIR BALANCE SCHEDULE					
AREA SERVED	EQUIPMENT TAG	SUPPLY AIR (CFM)	RETURN AIR (CFM)	OUTSIDE AIR (CFM)	EXHAUST AIR (CFM)
SALES	RTU-1	4,000	3,200	800	X
SALES	RTU-2	4,800	4,000	800	X
STORAGE	RTU-3	2,100	1,890	210	X
FOOD PREP	RTU-4	3,000	2,890	110	X
MENS RESTROOM	EF-1	X	X	X	210
WOMENS RESTROOM	EF-2	X	X	X	210
FOOD PREP	EF-3	X	X	X	600
FROZEN CARBONATED BEVERAGE	EF-4	X	X	X	600
<b>TOTALS</b>		<b>13,900</b>	<b>11,980</b>	<b>1,920</b>	<b>1,620</b>

NOTES:  
 1. BUILDING IS (1,920 CFM OA - 1,620 CFM EA) 300 CFM POSITIVE WHEN ALL EXHAUST FANS ARE OPERATING.