

Order Plans @ WWWW

SYMBOLS AND LEGENDS		
SYMBOL	ABBREVIATIONS	DESCRIPTION
	AIR COND	AIR CONDITIONING
	AFF	ABOVE FINISHED FLOOR
	AHU-1	AIR HANDLING UNIT & NUMBER
	BAS	BUILDING AUTOMATED SYSTEM
	BTU	BRITISH THERMAL UNIT
	CFM	CUBIC FEET PER MINUTE
	CLG	CEILING
	CLR	CLEAR
	CM	CONSTRUCTION MANAGER
	COND	CONDENSATE LINE
	DB	DRY BULB
	DIFF	DIFFUSER
	DD	DUCT-MOUNTED SMOKE DETECTOR
	EAT	ENTERING AIR TEMPERATURE
	E., EXIST.	EXISTING
	EC	ELECTRICAL CONTRACTOR
	EF-1	EXHAUST FAN & NUMBER
	EFF	EFFICIENCY
	EL	ELEVATION
	EWT	ENTERING WATER TEMPERATURE
	FA	FACE AREA
	GC	GENERAL CONTRACTOR
	HP	HORSE POWER
	LAT	LEAVING AIR TEMPERATURE

SYMBOLS AND LEGENDS		
SYMBOL	ABBREVIATIONS	DESCRIPTION
	MBH	1000 BTU PER HOUR
	MC	MECHANICAL CONTRACTOR
J	MD	MANUAL DAMPER (OPPOSED BLADE)
	N/A	NOT APPLICABLE
	NTS	NOT TO SCALE
	OA	OUTSIDE AIR
	PC	PLUMBING CONTRACTOR
	PSI	POUNDS PER SQUARE INCH
	RA, RET	RETURN AIR
	RH	RELATIVE HUMIDITY
	RPM	REVOLUTIONS PER MINUTE
	RTU	ROOFTOP UNIT
	SA, SUP	SUPPLY AIR
	SP	STATIC PRESSURE
	SPEC	SPECIFICATION
	TEMP	TEMPERATURE
	TSTAT	THERMOSTAT - TEMPERATURE SENSOR
	TYP	TYPICAL
	UON	UNLESS OTHERWISE NOTED
	VEL	VELOCITY
	WB	WET BULB
		FLEXIBLE DUCT
		20" DIAMETER ROUND DUCT
		40"x20" RECTANGULAR DUCT

MECHANICAL SHEET INDEX

M0.1	MECHANICAL COVER SHEET
M0.2	MECHANICAL SCHEDULES
M0.3	MECHANICAL DETAILS
M1.0	MECHANICAL FIRST FLOOR PLAN
M1.1	MECHANICAL MEZZANINE FLOOR PLAN

ENERGY CODE DATA	
MECHANICAL SYSTEMS, SERVICE SYSTEMS, AND EQUIPMENT	
METHOD OF COMPLIANCE	
Prescriptive	<input checked="" type="checkbox"/> Energy Code Book <input type="checkbox"/>
THERMCLIMATE	
Zone 3A	Robeson County
EXTERIOR DESIGN CONDITIONS	
Dry Bulb	22°F
Summer Dry Bulb	93°F
Summer Wet Bulb	75°F
INTERIOR DESIGN CONDITIONS	
Winter Dry Bulb	72°F
Summer Dry Bulb	75°F
Relative Humidity	50%
HEATING LOAD	524,000 BTUH
COOLING LOAD	32,000 BTUH
MECHANICAL SPACING CONDITIONING SYSTEM	
GAS FURNACE WITH A/C:	
Heating Capacity	88,000 BTUH
Cooling Capacity	36,000 BTUH
RADIANT HEATERS:	
Heating Capacity	450,000 BTUH
DESIGNER STATEMENT:	
To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems, and equipment requirements of the latest volume of the North Carolina Energy Conservation Code.	
NAME:	WILLIAM L. ALDRIDGE, PE
TITLE:	Mechanical Engineer

GENERAL NOTES

- DO NOT SCALE DRAWINGS. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK (HVAC, PLUMBING, AND FIRE PROTECTION) ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. 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.
- COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DRAWINGS. FIXED WORK SUCH AS DUCTWORK AND PLUMBING SHALL BE INSTALLED PRIOR TO ANY TRADE WORK THAT CAN BE EASILY RELOCATED OR OFFSET SUCH AS ELECTRICAL CONDUIT, SMALL WATER PIPING, FIRE PROTECTION, ETC.
- LOCATE ALL TEMPERATURE, PRESSURE AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTION OF PIPE OR DUCT UP- AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY.
- MECHANICAL EQUIPMENT:
 - INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, APPLICABLE CODES AND REGULATIONS.
 - COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS.
 - PROVIDE DUCT TRANSITIONS AT EQUIPMENT CONNECTIONS.
 - COORDINATE CONNECTIONS WITH WATER SUPPLY EQUIPMENT.
 - LOCATE ALL EQUIPMENT FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROL AND VALVING.
- CONCRETE HOUSEKEEPING PADS:
 - PROVIDE UNDER MECHANICAL EQUIPMENT.
 - EXTEND 4" IN ALL DIRECTIONS BEHIND EQUIPMENT FOOTPRINT.
 - EXTEND 4" ABOVE FINISHED FLOOR OR GRADE. PROVIDE ANCHOR BOLTS AND FINISH LEVEL.
- DUCTWORK:
 - INSTALL DUCTWORK OVERHEAD, TIGHT TO STRUCTURE FOR INSULATION.
 - COVER DOORS AND WINDOWS.
 - DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS.
 - INCREASE DUCT SIZE TO COMPENSATE FOR DUCT LINING THICKNESS.
 - DRAWINGS DO NOT SHOW ALL VERTICAL ELEVATION CHANGES OF DUCTS REQUIRED TO AVOID STRUCTURAL AND OTHER INTERFERENCES. VERTICAL ELEVATION CHANGES ARE TO BE MADE WITHOUT CHANGES TO CROSS SECTIONAL AREAS AND WITH MAX. ANGLES OF 30°.
 - GROUND ALL DUCTS ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS. BOLTED OR SOLDERED GROUNDING STRAPS TO BOTH THE EQUIPMENT AND THE DUCT.
 - PROVIDE DUCT MOUNTED ACCESS DOORS FOR INSPECTION AND REPAIR AT ALL DUCT MOUNTED FIRE DAMPERS, SMOKE DAMPERS, SMOKE DETECTORS, MOTOR OPERATED DAMPERS. PROVIDE ACCESS DOORS IN DUCTWORK FOR OPERATION, ADJUSTMENT AND MAINTENANCE OF ALL FANS, VALVES, AND MECHANICAL EQUIPMENT. SIZE DOORS 2" SMALLER THAN LARGEST DUCT DIMENSION IN WHICH INSTALLED, UP TO 24" MAX.
 - LOCATE REDUCERS DOWNSTREAM OF AIRFLOW DIVERGENCE AND UPSTREAM OF AIRFLOW CONVERGENCE.
 - ALL EXPOSED DUCTWORK SHALL BE PAINTED, UON. COLOR SHALL BE SELECTED BY ARCHITECT.
- INSULATION:
 - ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT INSULATION IS APPLIED.
 - RUN ALL DUCTWORK INSULATION CONTINUOUSLY THROUGH FLOORS AND PARTITIONS, UNLESS NOTED OR SHOWN OTHERWISE.
- WALL, FLOOR, AND ROOF PENETRATIONS FOR EQUIPMENT, DUCTWORK AND CONDUIT:
 - COORDINATE SIZE AND LOCATION WITH ALL OTHER TRADES INVOLVED.
 - WEATHERPROOF ALL PENETRATIONS TO EXTERIOR.
 - COORDINATE LINTEL REQUIREMENTS.
- SUPPORTS:
 - SUPPORT ALL DUCTWORK AND EQUIPMENT FROM STRUCTURAL STEEL.
 - DO NOT SUPPORT ANY MECHANICAL FROM SUSPENSION SYSTEMS.
 - PROVIDE ADDITIONAL SUPPORTS ON BOTH SIDES AND WITHIN 1' OF WALL. DUCTWORK SHALL NOT BE SUPPORTED FROM A WALL.
- WALL MOUNTED THERMOSTATS:
 - COORDINATE LOCATION WITH INTERCOM AND LIGHT SWITCHES.
 - PROVIDE JUNCTION BOX BEHIND THERMOSTATS.
 - SECURE THERMOSTAT TO JUNCTION BOX.
 - ENCLOSE CONTROL WIRING LOCATED WITHIN WALLS IN CONDUIT.
 - COORDINATE THERMOSTAT LOCATIONS WITH OTHER TRADES.
 - PROVIDE ANY DEVICE REQUIRING A THERMOSTAT FOR CONTROL WITH A THERMOSTAT WHETHER INDICATED ON DRAWING OR NOT.
 - SUBMIT THERMOSTAT LOCATION DRAWINGS FOR OWNER AND ARCHITECT REVIEW.
- ADJUSTMENT DEVICES:
 - BALANCING DAMPERS SHALL BE INSTALLED WHERE THE BRANCH JOINS THE MAIN FOR ALL BRANCHES THAT CONNECT TO OUTLETS AND INLETS WHETHER THE DAMPER IS SHOWN ON THE DRAWING OR NOT.
 - LOCATIONS OF DUCT MOUNTED ADJUSTMENT DEVICES SHALL BE INDICATED FOR THE TEST AND BALANCE CONTRACTOR VIA A 24" LONG COLORED FABRIC "FLAG". ATTACH "FLAG" TO THE ADJUSTMENT DEVICE AND EXTEND THROUGH DUCT INSULATION.
 - FINAL SETTINGS ON ALL BALANCING FITTINGS SHALL BE PERMANENTLY MARKED.
- PROVIDE ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN DETAILS FOR DUCTWORK AND EQUIPMENT (UNLESS OTHERWISE NOTED).
- ALL EQUIPMENT SUBSTITUTIONS SHALL BE APPROVED BY ENGINEER PRIOR TO BIDDING. NO SUBSTITUTIONS WILL BE ALLOWED AFTER BIDDING.

BIDDING DOCUMENTS
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DESIGNED BY:
FACILITIES DESIGN
ARCHITECTS & ENGINEERS
PROFESSIONAL MANAGEMENT CONSULTANTS, INC.
1050776 3000 AMERICAN DRIVE
Raleigh, NC 27609
PHONE: 919-777-8640 FAX: 919-776-8888

CONSULTANT:
DEVITA
ARCHITECTS & ENGINEERS
1000 S. WILSON ROAD, SUITE 100
Raleigh, NC 27609
Phone: 919-876-4242

DRAWING TITLE / DESCRIPTION:
MECHANICAL COVER SHEET

PROJECT TITLE:
LUMBERTON EQUIPMENT SHOP
NCDOT HIGHWAY DIVISION 6
872 NC 711 HIGHWAY
LUMBERTON, NORTH CAROLINA 28360

STATE CONSTRUCTION ID.# 16-12916-01A

ASSET NUMBER:
CO.# SITE.# BLDG.#
78 06 00

REVISIONS
NO. DATE

DATE ISSUED: 12/15/2017
DRAWN BY: JML
CHECKED BY: WLA
SHEET NO.

M0.1