MECHANICAL SPECIFICATIONS

THE MECHANICAL WORK INSTALLATION SHALL COMPLY WITH ASHRAE STANDARDS, AND BUILDING CODES INCLUDING PLUMBING AND MECHANICAL CODES, AND WITH STATE AND LOCAL ORDINANCES.

DUCTWORK SHALL COMPLY WITH NFPA STANDARD 90A AND SMACNA.

EQUIPMENT SHALL BE U.L. LISTED AND LABELED AS REQUIRED IN SPECIFIC EQUIPMENT SPECIFICATION SECTIONS. INSTALLATION WORK SHALL COMPLY WITH U.L. STANDARDS, WHERE APPLICABLE.

MECHANICAL WORK SHALL BE GUARANTEED AGAINST FAULTY MATERIAL OR WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. COMPRESSORS SHALL HAVE 5 YEAR REPLACEMENT WARRANTY.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF WORK WITH OTHER TRADES.

THE LAYOUT SHOWN ON THE DRAWINGS IS BASED ON A PARTICULAR MAKE OF EQUIPMENT. IF ANOTHER MAKE OF EQUIPMENT IS DESIRED, THE CONTRACTOR MUST PROVIDE SIX SUBMITTAL SETS OF SHOP DRAWINGS TO THE OWNER FOR APPROVAL PRIOR TO STARTING WORK. THESE SUBMITTALS MUST ALSO SHOW ALL REQUIRED MODIFICATIONS AND CHANGES, INCLUDING THOSE INVOLVING OTHER TRADES, AND THE COST THEREOF INCLUDED IN HIS BID. CONTRACTOR MUST RECEIVE APPROVED SUBMITTAL COPY, SIGNED BY OWNER BEFORE PROCEEDING WITH ANY MODIFICATIONS OF SPECIFICATIONS.

CONTACT THE OWNER'S REPRESENTATIVE IMMEDIATELY IF ANY DISCREPANCIES OR OMISSIONS IN DRAWINGS OR SPECIFICATIONS ARE FOUND. IF THERE ARE ANY QUESTIONS REGARDING THE INTENT THEREOF, THE OWNER'S REPRESENTATIVE SHOULD BE CONSULTED.

THE CONTRACTOR IS REQUIRED TO VISIT THE SITE AND FULLY INFORM HIMSELF CONCERNING ALL CONDITIONS AFFECTING THE SCOPE OF WORK. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY IN THE PERFORMANCE OF HIS WORK.

CONTRACTOR SHALL FILE ALL DRAWINGS, PAY ALL FEES AND OBTAIN ALL PERMITS AND CERTIFICATES OF INSPECTION RELATIVE TO THIS WORK.

TEST ALL SYSTEMS AND EQUIPMENT INSTALLED TO DEMONSTRATE PROPER OPERATION. CORRECT AND RETEST WORK FOUND DEFECTIVE WHEN TESTED.

UPON COMPLETION OF CONTRACT AND PROGRESSIVELY AS WORK PROCEEDS, CLEAN UP DIRT, DEBRIS, MATERIALS, ETC. AND REMOVE FROM SITE KEEPING PREMISES IN NEAT AND CLEAN CONDITION TO THE SATISFACTION OF THE TENANT. CLEAN ITEMS WITH FACTORY FINISHES. TOUCH UP BARE PLACES, SCRATCHES, AND OTHER MINOR DAMAGE TO FINISHES. USE ONLY FACTORY SUPPLIED PAINT OF MATCHING COLOR AND FORMULA.

THOROUGHLY CLEAN DUCTWORK BEFORE FANS AND FILTERS ARE OPERATED.

INSULATION MATERIALS SHALL BE FIRE RESISTIVE WITH A FLAME SPREAD RATING NOT OVER 25 WITHOUT EVIDENCE OF CONTINUED PROGRESSIVE COMBUSTION, AND WITH A SMOKE DEVELOPED RATING NOT HIGHER THAN 50.

BLANKET FIBERGLASS DUCT INSULATION

THE FOLLOWING SHALL BE INSULATED WITH THREE INCH THICK, FOILFACED, FLEXIBLE FIBERGLASS DUCT INSULATION WITH MINIMUM INSULATION 'R' VALUE OF R-8: ALL SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK. BUTT EDGES OF INSULATION AND HOLD IN PLACE WITH OUTWARD CLINCHING STAPLES ON FOUR INCH CENTERS. STAPLES AND SEAMS ARE TO BE SEALED WITH A BRUSH COAT OF VAPOR BARRIER MASTIC. PRESSURE SENSITIVE TAPE SHALL NOT BE ACCEPTED. FOR ALL EXPOSED DUCTS AND BOTTOMS OF CONCEALED DUCTS OVER THIRTY INCHES WIDE, SUPPORT THE INSULATION WITH MECHANICAL FASTENERS SUCH AS STICK CLIPS LOCATED ON EIGHTEEN INCH CENTERS IN ALL DIRECTIONS. DO NOT INSULATE EXHAUST DUCTS.

AIR DISTRIBUTION SHEET METAL WORK

ALL DUCTWORK SHALL BE CONSTRUCTED ACCORDING TO THE LATEST EDITION OF SMACNA STANDARDS. DUCT DIMENSIONS ARE INSIDE CLEAR. SHEET METAL ANGLE, BAR SLIPS, HANGERS, AND STRAPS USED WITH DUCTWORK SHALL BE GALVANIZED. SCREWS SHALL BE CADMIUM PLATED. DUCTWORK SHALL BE SUPPORTED BY SUITABLE SHEARED STRIPS OF GALVANIZED METALS OR ONE INCH BY 1/8 INCH GALVANIZED STEEL BAND IRON HANGERS, ON EACH SIDE OF THE DUCT, AND SECURED TO THE STRUCTURAL PORTION OF THE BUILDING WITH APPROVED ANCHOR SHIELD AND TO THE STEEL STRUCTURE BY MEANS OF C-CLAMPS. HANGERS SHALL BE SPACED APPROXIMATELY EIGHT FEET ALONG THE DUCT. THE SLOPE FOR INCREASE-IN-AREA TRANSFORMATIONS SHALL NOT EXCEED ONE INCH IN SEVEN INCHES. THE SLOPE FOR DECREASE-IN-AREA TRANSFORMATIONS MAY BE ONE INCH IN FOUR INCHES, BUT ONE INCH IN SEVEN INCHES IS PREFERABLE. ELLS SHALL BE EITHER: UNVANED ELBOW WITH THE THROAT RADIUS EQUAL TO 3/4 OF THE WIDTH OF THE DUCT AND WITH A FULL HEEL RADIUS. SIX INCH THROAT RADIUS WITH FULL RADIUS, SINGLE THICKNESS VANES AND FULL HEEL RADIUS, OR THREE INCH SQUARE THROAT AND SQUARE HEEL, WITH DOUBLE THICKNESS TURNING VANES. TURNING VANES SHALL BE SPACED ON 2-1/8" CENTERS AND 2" RADIUS IN DUCTS UP TO 20" IN SIZE. FOR DUCTS LARGER THAN 20", TURNING VANE SPACING SHALL BE 3-1/4" AND 4-1/2" RADIUS. INSTALL VANES IN SECTIONS OR USE TIE RODS TO LIMIT THE UNBRACED VANE LENGTH. MAXIMUM LENGTH OF UNSUPPORTED VANE LENGTH SHALL BE 60" FOR SMALL DOUBLE VANE AND 72" FOR LARGE DOUBLE VANE AND 36" FOR SINGLE THICKNESS VANES. VANES SHALL BE SECURELY FASTENED TO RUNNERS. ALL VANES SHALL BE SECURE AND STABLE IN INSTALLED OPERATING POSITION. CONSTRUCT VANE EDGES TO PROJECT TANGENTS PARALLEL TO DUCT SIDES. BRANCH CONNECTIONS AND TEES SHALL BE MADE EITHER WITH A CONVERGING RADIUS ELBOW, A RADIUS TAP-IN, OR A SQUARE TAKEOFF WITH SUITABLE VANES. DUCT JOINTS SHALL BE SPACED SO THAT JOINT SHALL NOT BE CUT FOR BRANCH TAKEOFFS AND OUTLET COLLARS. DUCTWORK SHALL BE MADE OF GALVANIZED STEEL AND SHALL BE OF S AND DRIVE. SUPPLEMENTAL BRACING SHALL BE ADDED AS NECESSARY TO PREVENT SAGGING AND DRUMMING. INTERNAL TIE-RODS SHALL NOT BE AN ACCEPTED AS A FORM OF SUPPLEMENTAL BRACING. ROUND PREFABRICATED 26 GAUGE SLIP JOINT DUCT MAY BE USED ON DUCTS 12" rd. IN DIAMETER AND SMALLER. DUCT SECTIONS AND FITTINGS SHALL BE SECURED WITH SHEET METAL SCREWS. TRANSVERSE AND LONGITUDINAL SLIP JOINTS SHALL BE SEALED WITH APPROVED SEALANT. CONNECTIONS OF A ROUND DUCT TO RECTANGULAR DUCT SHALL BE MADE USING GASKET COLLARS. DRIVE SLIPS SHALL BE USED FOR NARROW SIDES OF DUCTS, THAT ARE 18 INCHES OR LESS, FOLDED OVER TO SEAL CORNERS. DRIVE SLIPS 19 INCHES TO 30 INCHES SHALL BE REINFORCED WITH ONE INCH BY ONE INCH BY 1/8 INCH ANGLE. DUCTS WHOSE LARGER SIDE IS LESS THAN 18 INCHES SHALL HAVE TRANSVERSE JOINTS AT LEAST EVERY EIGHT FEET. LONGITUDINAL JOINTS SHALL BE PITTSBURG LOCK OR GROOVED SEAMS CLOSED TIGHTLY AND EVENLY. BUTTON PUNCH SNAP LOCK LONGITUDINAL JOINT CONSTRUCTION SHALL NOT BE ALLOWED. DUCTWORK OVER TEN INCHES DIMENSION, EITHER SIDE, SHALL HAVE SIDES CROSS BROKEN. SUPPLY DUCTWORK SHALL BE CONSTRUCTED TO 2" PRESSURE CLASSIFICATION. RETURN AND EXHAUST DUCTWORK SHALL BE CONSTRUCTED TO 2" PRESSURE CLASSIFICATION. SEAL TRANSVERSE JOINTS AND LONGITUDINAL JOINTS WITH APPROVED SEALANT (HARDCAST IRONGRIP 601, OR EQUAL) IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

CONTRACTOR SHALL VERIFY CLEARANCE REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT, DUCTWORK, AND DAMPERS. INDICATE ROUTING AND DUCT SIZES OF NEW DUCTWORK BEFORE FABRICATION BEGINS AS MODIFICATIONS, RISES, AND DROPS MAY BE NECESSARY. COORDINATE DUCTWORK WITH ALL OTHER TRADES.

DUCT MOUNTED SMOKE DETECTORS

FOR UNITS REQUIRING DUCT MOUNTED SMOKE DETECTORS, SHUT-DOWN AHU OPERATION UPON DETECTION OF PRODUCTS OF COMBUSTION IN AIRSTREAM. SMOKE DETECTORS PROVIDED AND WIRED BY DIV. 16. INSTALLED BY DIV. 15.

DRYER EXHAUST

DRYER EXHAUST SHALL BE JOINED VIA THE USE OF RIVETS. THE USE OF SHEET METAL SCREWS AND DUCT TAPE ON DRYER EXHAUST IS UNACCEPTABLE. ALL DRYER EXHAUST FITTINGS ARE TO BE NO-LOSS, LONG SWEEP FITTINGS. FLEXIBLE DUCTING IS PROHIBITED. PROVIDE AND INSTALL WALL CAP. MAXIMUM DRYER EXHAUST EQUIVALENT LENGTH SHALL NOT EXCEED 25'.

EXPOSED SPIRAL ROUND DUCTWORK

ALL EXPOSED DUCTWORK SHALL BE DOUBLE-WALL GALVANIZED STEEL, SPIRAL DUCTWORK AS MANUFACTURED BY UNITED MCGILL, LINDAB, OR SEMCO. INNER LINER SHALL BE PERFORATED METAL LINER, MIN 28 GA. INSULATION SHALL BE 2" THICK. DUCTWORK SHALL BE RATED FOR 2" PRESSURE CLASSIFICATION. RIBBED DUCTWORK WILL NOT BE ACCEPTED.

ELBOWS SHALL BE GORED CONSTRUCTION. MINIMUM 5 GORES FOR 90 DEGREE ELBOWS.

TAPS FOR DIFFUSERS SHALL BE SEALED WITH SHEETMETAL AS TO PREVENT INSULATION BEING EXPOSED TO AIRFLOW.

FLEXIBLE DUCT

FLEXIBLE DUCT CONNECTORS SHALL BE WIREMOLD, MODEL WCK, OMNIAIR, MODEL 1200 THERMAFLEX OR H.K. PORTER COMPANY, UL-181 APPROVED, MEETING NFPA 90A STANDARDS. FLEXIBLE DUCT SHALL BE RATED AT 4000 FPM VELOCITY FOR 10 INCHES W.C. THROUGH 10 INCH DIAMETER AND 6 INCHES W.C. 12 INCHES THROUGH 20 INCHES DIAMETER. OPERATING TEMPERATURE RANGE SHALL BE 140 DEGREES F. (CONTINUOUS) AT MAXIMUM RATED PRESSURE, 180 DEGREES F. (CONTINUOUS AT 2 INCHES W.C. POSITIVE PRESSURE, AND -20 DEGREES TO 250 DEGREES F. (INTERMITTENT) AT 1/2 INCH W.C. POSITIVE PRESSURE. CORE FABRIC SHALL BE REINFORCED ALUMINUM FOIL/POLYESTER LAMINATE. EXTERIOR FACING AND VAPOR BARRIER SHALL BE ALUMINUM METALIZED POLYESTER FILM LAMINATED TO GLASS MESH. FLEXIBLE DUCT USING POLYESTER FILM WITHOUT ALUMINUM FOIL OR METALIZED ALUMINUM WILL NOT BE ACCEPTED. FLEXIBLE DUCT SHALL NOT EXCEED FIVE FEET LONG. FLEXIBLE DUCT SHALL BE KEPT TO A MINIMUM LENGTH AND SHALL BE INSTALLED TO GO DIRECT, WITH AS FEW TURNS AS POSSIBLE.

ALL FLEXIBLE DUCT SHALL BE FACTORY PRE-INSULATED WITH FIBERGLASS INSULATION SHALL BE 3 INCHES THICK WITH MINIMUM INSULATION 'R" VALUE OF R-8

BLANKET WITH A MINIMUM "K" FACTOR OF .28 AT 75 DEGREES F. FLEXIBLE DUCT SHALL BE ATTACHED TO METAL CONNECTIONS BY SELF-LOCKING, NYLON PANDUIT ADJUSTABLE DIAMETER CLAMPS USING PROPER INSTALLATION TOOL. TENSION OF THE CLAMPS BY HAND IS NOT ACCEPTABLE.

HVAC CONTROLS

ALL LOW VOLTAGE WIRING IN CONCEALED LOCATIONS SHALL BE ROUTED IN CONDUIT BY DIVISION 15. ALL LOW VOLTAGE WIRING IN RETURN PLENUM SHALL EITHER BE PLENUM RATED OR ROUTED IN CONDUIT. ROOM THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH DOOR SWINGS, FAN SWITCHES, AND OTHER WALL MOUNTED ITEMS AND SHALL BE APPROVED BY THE ARCHITECT. THERMOSTATS SHALL BE MOUNTED 48 INCHES ABOVE FINISH FLOOR, UNLESS OTHERWISE NOTED. ALL THERMOSTATS TO BE DIGITAL, 7-DAY PROGRAMMABLE.

AIR DISTRIBUTION BALANCE AND ADJUST

CONTRACTOR SHALL BALANCE SUPPLY, RETURN, OUTSIDE, AND EXHAUST AIR TO WITHIN TEN PERCENT (10%) OF DESIGN. AIR BALANCE SHALL BE PERFORMED BY QUALIFIED AIR BALANCE PERSONNEL, AND THE PROCEDURE FOLLOWED AND FORMS USED SHALL BE PER AABC STANDARDS. PROVIDE ENGINEER WITH ONE COPY OF TEST AND BALANCE REPORT.

CENTRIFUGAL EXHAUST FAN

CERTIFY FANS PERFORMANCE IN ACCORDANCE WITH AMCA CERTIFIED AIR AND SOUND RATING CRITERIA, STANDARD 210, 300, AND 301.

ACCEPTABLE MANUFACTURERS: GREENHECK, LOREN-COOK, OR APPROVED EQUAL.

FANS SHALL BE U.L. LISTED.

FANS SHALL BE STATICALLY AND DYNAMICALLY BALANCED.

INSTALL FANS IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.

CONNECT AND TEST ELECTRICAL CONNECTIONS.

START-UP FANS AFTER CHECKOUT TO ENSURE PROPER ALIGNMENT AND PHASED ELECTRICAL CONNECTIONS.

TEST FANS INDIVIDUALLY AND AS PART OF A SYSTEM.

OWNER TRAINING

DEMONSTRATE AND INSTRUCT OPERATION OF NEW EQUIPMENT IN PROJECT SCOPE TO MAINTENANCE PERSONNEL. PROVIDE A MINIMUM OF 3 HRS TRAINING. COORDINATE TRAINING WITH OWNER. PROVIDE 2 BOUND COPIES, MINIMUM, OF OPERATIONS AND MAINTENANCE MANUALS WITH SPARE PARTS LISTS OF ALL MECHANICAL EQUIPMENT SHOWN IN MECHANICAL CONTRACT DOCUMENTS.

NATURAL GAS PIPING

NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL LISTED FOR USE WITH FUEL GAS. PIPING LESS THAN OR EQUAL TO 2 INCHES IN DIAMETER MAY HAVE SCREWED FITTINGS EXCEPT AS PROHIBITED BELOW IN CONCEALED LOCATIONS. NATURAL GAS PIPING LARGER THAN 2 INCHES IN DIAMETER SHALL BE FULLY WELDED. PAINT EXTERIOR PIPING WITH CORROSION AND RUST RESISTANT PAINT. COLOR SHALL BE SELECTED PER ARCHITECT FOR EXTERIOR PIPING INSTALLED ON WALLS. EXTERIOR PIPING INSTALLED ON ROOF SHALL BE PAINTED GREY.

CONCEALED GAS PIPING

GAS PIPING IN CONCEALED LOCATIONS SHALL ONLY BE JOINED BY FITTINGS SUCH AS ELBOWS, TEES, AND COUPLINGS. THE GAS PIPING SHALL BE JOINED BY BRAZING. THE FITTINGS SHALL BE LISTED FOR USE IN A CONCEALED SPACE. WHERE UNAVOIDABLE TO ADD A FITTING, THE PIPE SHALL BE RECONNECTED BY WELDING, FLANGES, OR USE OF A GROUND JOINT UNION WITH THE NUT CENTER PUNCHED TO PREVENT LOOSENING BY VIBRATION. UNIONS, TUBE FITTINGS, RIGHT AND LEFT COUPLINGS, BUSHINGS, SWING JOINTS, AND COMPRESSION COUPLINGS MADE BY COMBINATIONS OF FITTINGS SHALL NOT BE USED IN CONCEALED SPACES.

REFRIGERANT PIPING

REFRIGERANT PIPING SHALL BE TYPE "L" COPPER, SILVER SOLDER JOINTS, AND 1" AP ARAMAFLEX INSULATION ON SUCTION PIPING ONLY. HEAT PUMP UNITS SHALL HAVE BOTH LIQUID AND SUCTION LINES INSULATED WITH 1/2" AP ARAMAFLEX INSULATION. ROUTE AND SIZE ALL REFRIGERANT PIPING PER MANUFACTURER'S INSTRUCTIONS.

PIPE HANGERS

PIPE HANGERS SHALL BE GRINNELL OR EQUAL WITH HANGER TYPE MATCHING THE REQUIREMENT. MAXIMUM ALLOWABLE SPACING SHALL BE AS FOLLOWS:

3/4" to 1-1/4" dia. PIPE — 8 FOOT ON CENTER SPACING

1-1/2" to 2-1/2" dia. PIPE — 10 FOOT ON CENTER SPACING

3" to 5" dia. PIPE — 12 FOOT ON CENTER SPACING

6" to 8" dia. PIPE — 14 FOOT ON CENTER SPACING

CONDENSATE PIPING

CONDENSATE PIPING SHALL BE TYPE "L" COPPER, EXCEPT WHERE NOTED DIFFERENT ON DRAWINGS WITH 1/2" AP ARAMAFLEX INSULATION. INDIRECT WASTE TO NEAREST DRAIN PER MECHANICAL DRAWINGS. SLOPE CONDENSATE PIPING MINIMUM OF 1/8" PER LINEAR FOOT. ROUTE SECONDARY DRAIN FROM PAN TAPPING EITHER SIDE OR BOTTOM AND ROUTE TO NEAREST CONSPICUOUS LOCATION OVER CORRIDOR OR SINK AND STUB FLUSH THROUGH CEILING WITH CHROME NIPPLE AND ESCUTCHEON PLATE. MOUNT EQUIPMENT HIGH ENOUGH TO FACILITATE REQUIRED FALL.

COOLING W/ELEC HEAT ROOF TOP UNIT SCHEDULE - HIGH EFFICIENCY

UNIT NO. (6) (7)	RTU-1	RTU-2	RTU-3	RTU-4
MANUFACTURER (3)	TRANE	TRANE	TRANE	TRANE
MODEL #	THC060	THC060	4TCY4030	4TCY4024
NOMINAL TONNAGE	5	5	2.0	2.5
COOLING CAPACITY**				
TOTAL CAPACITY -B.T.H.	63,500	63,500	23,500	30,700
SENSIBLE CAPACITY - B.T.H.	47,300	47,300	17,100	22,300
EADB/EAWB	80/67	80/67	80/67	80/67
O.A.D.B.	95	95	95	95
EXT. S.P. IN. H2O	-	-	-	-
MIN SEER (EER) @ AHRI	15.0	15.0	14.0	14.0
H.P.	1.0	1.0	0.25	0.5
CFM	2,000	2,000	800	1,000
MIN/MAX OUTSIDE AIR	400	350	125	175
REFRIGERANT	R-410A	R-410A	R-410A	R-410A
HEATING CAPACITY**				
ELECTRIC HEAT - KW	11.27	11.27	7.5	7.5
VOLTAGE	208/1/60	208/1/60	208/1/60	208/1/60
MIN. CIR. AMPS	68	68	45	45
MAX. FUSE SIZE	70	70	45	45
HACR BREAKER SIZE	70	70	45	45
OPERATING WEIGHT-LBS.	750	750	350	350
ACCESSORIES**				
FILTERS	2" 30%	2" 30%	2" 30%	2" 30%
DISCONNECT SWITCH (1)	YES	YES	NO	NO
CONVENIENCE OUTLET (2)	YES	YES	DIV 16	DIV 16
MOTORIZED OA DAMPER (4)	YES	YES	YES	YES
LOW AMBIENT	NO	NO	NO	NO
CONDENSER COIL HAIL GUARD	YES	YES	YES	YES
100% ECONOMIZER	YES	YES	NO	NO
POWER RELIEF (5)	YES	YES	NO	NO
HOT GAS REHEAT (ONLY IN HIGH EFF)	YES	YES	YES	YES

(1) DISCONNECT SWITCH TO BE FACTORY MOUNTED AND WIRED. DISCONNECT SWITCH TO PROVIDE OVERCURRENT PROTECTION FOR UNIT
(2) FACTORY MOUNTED, NON-POWERED GFI CONVENIENCE OUTLET
(3) ALTERNATE MANUFACTURERS: LENNOX, CARRIER, OTHER APPROVED BY ENGINEER
(4) MOTORIZED OUTDOOR AIR DAMPER SHALL BE CAPABLE OF MAINTAINING MINIMUM REQUIRED OUTDOOR AIR AT ALL FAN SPEEDS (WHERE APPLICABLE). TEST AND BALANCE CONTRACTOR SHALL BALANCE DAMPER POSITION TO PROVIDE MINIMUM REQUIRED OUTDOOR AIR AT ALL FAN SPEEDS.
(5) POWER RELIEF FAN ENABLE SHALL BE ADJUSTABLE. TEST AND BALANCE CONTRACTOR SHALL ADJUST ENABLE SETPOINT TO MAINTAIN PROPER BUILDING PRESSURIZATION DURING ECONOMIZER OPERATION.
(6) PROVIDE UNIT WITH HURRICANE TIE-DOWNS PER FLORIDA BUILDING CODES.
(7) EVAPORATOR AND CONDENSER COILS SHALL BE COATED WITH SEACOAST COATING.

CEILING FAN SCHEDULE

UNIT NO.	EF-1
MANUFACTURER	GREENHECK
MODEL #	SP-B70
TYPE	CEILING
CFM	50
WATTS	15
S.P. IN. H20	0.25
MAX SONES OR (LwA)	1.0
VOLTAGE	120/1/60
ACCESSORIES**	
OUTLET DAMPER-TYPE	B'DRAFT
INLET DAMPER-TYPE	NO
LIGHT	NO
DISCONNECT. SWITCH	YES
RADIATION DAMPER	NO

(1) ACCEPTABLE ALTERNATE MANUFACTURER: COOK, OTHER APPROVED BY ENGINEER.
(2) MANUFACTURERS INTEGRAL CEILING RADIATION DAMPER WITH UL555C LISTING INSTALLED PER MANUFACTURERS INSTRUCTIONS.

EXHAUST FAN SCHEDULE

UNIT NO.	EF-2
MANUFACTURER	GREENHECK
MODEL #	SQ-80-D
TYPE	INLINE
CFM	300
HP	1/12
S.P. IN. H20	7.0
MAX SONES OR (LwA)	4.5
VOLTAGE	120/1/60
ACCESSORIES**	
OUTLET DAMPER-TYPE	B'DRAFT
INLET DAMPER-TYPE	NO
DISCONNECT. SWITCH	YES
SPEED CONTROLLER	YES

(1) ACCEPTABLE ALTERNATE MANUFACTURER: COOK, OTHER APPROVED BY ENGINEER.
(2) REFER TO ELECTRICAL FOR FAN ACTIVATION METHOD.

CEILING DIFFUSER SCHEDULE

UNIT NO.	SA	SB	SC	SD	SE	SF
MANUFACTURER	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL #	ASCD	ASCD	ASCD	ASCD	ASCD	ASCD
ADAPTOR TO NECK SIZE	6"rd	8"rd	8"rd	10"rd	12"rd	14"rd
MODULE SIZE	12" x 12"	12"X12"	24" x 24"	24" x 24"	24" x 24"	24" x 24"
CFM	150	240	240	380	520	700
S.P. IN. H20	0.03	0.06	0.02	0.03	0.03	0.04
MAX. NC	15	18	15	17	18	19
RUNOUT SIZES	6"rd/8"x6"	8"rd/10"x6"	8"rd/10"x6"	10"rd/10"x8"	12"rd/16"x8"	14"rd/22"x8"

(1) CONTRACTOR SHALL PROVIDE FRAMES FOR GRILLS LOCATED IN GYPSUM BOARD CEILINGS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATIONS OF GYPSUM BOARD CEILINGS.
(2) SUPPLY GRILLS SHALL BE OF ALUMINUM CONSTRUCTION

RETURN/EXHAUST REGISTER SCHEDULE

SYMBOL	RA EA	RB EB	RC EC	RD ED	RE EE	RF EF	RG EG	RH EH	RI EI	RJ EJ
MAXIMUM CFM	80	140	220	320	480	730	950	1300	2000	2800
RUNOUT SIZE	6" 6"X6"	8" 8"X6"	8" 10"X6"	10" 12"X8"	12" 12"X10"	14" 12"X12"	14" 14"X12"	16" 16"X14"	24"X12"	24"X16"
MAXIMUM S.P.	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
MAXIMUM N.C.	15	15	15	15	15	15	15	15	15	15
FACE SIZE	8"X8"	10"X10"	12"X12"	14"X14"	20"X14"	20"X20"	24"X20"	24"X24"	36"X24"	48"X24"
NECK SIZE	6"X6"	8"X8"	10"X10"	12"X12"	18"X12"	18"X18"	22"X18"	22"X22"	36"X22"	46"X22"

(1) RETURN AIR GRILLES TO BE SIMILAR TO PRICE 80 1/2" GRID DESIGN.
(2) REFER TO MECHANICAL FLOOR PLANS FOR LOCATIONS AND QUANTITIES.
(3) CONTRACTOR SHALL PROVIDE FRAMES FOR GRILLS LOCATED IN GYPSUM BOARD CEILINGS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATIONS OF GYPSUM BOARD CEILINGS.
(4) RETURN/EXHAUST GRILLES SHALL BE OF ALUMINUM CONSTRUCTION

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CLIENT NAME
HUTTON DEVELOPMENT

PROJECT NAME
ROCKLEDGE FLATS - BUILDING C
220 Barton Boulevard
Rockledge, FL 32955

SHEET TITLE
Mechanical Schedules, Specs, & Legend

NOV 15, 2019

Revision Schedule		
No.	Description	Date

PROJECT NO. 0540-19-0010
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CHECKED Checker

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