SPLIT-SYSTEM AIR CONDITIONING NOTES:

QUALITY ASSURANCE

CONFIRM THAT UNITS WILL NOT INTERFERE WITH "QUIET ENJOYMENT" OF TENANT SPACES ADJACENT TO AND BELOW THE PROPOSED UNITS.

COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

COMPLIANCE: ARI 210,360; ASHRAE 15; ASME CODE.

WARRANTY: WARRANTY FOR HVAC COMPONENTS SHALL BEGIN WHEN THE UNIT IS DELIVERED.

MATERIALS

SPLIT-SYSTEM UNITS: BY CARRIER-OUTFITTED PER VERIZON SPECIFICATIONS.

COMPRESSORS: ALL COMPRESSORS USED IN THE HVAC UNITS SHALL BE SCROLL-TYPE COMPRESSORS AND SHALL BE SUITABLY EQUIPPED TO START UNDER LOW-AMBIENT TEMPERATURE CONDITIONS.

CONTACTORS: CONTRACTORS SHALL BE HEAVY-DUTY DOUBLE POLE DEVICES, DESIGNED FOR HARD STARTS.

CONTROLS: THE HVAC UNITS SHALL BE CONTROLLED BY A STANDARD LEAD-LAG CONTROLLER. THE HVAC UNITS AND THEIR CONTROLS SHALL BE CONFIGURED SUCH THAT NO CONDITION (INCLUDING FAILURE OF THE LEAD-LAG CONTROLLER) WILL ALLOW MORE THAN ONE HVAC UNIT TO START AT THE SAME TIME. CONTROLS SHALL BE DESIGNED SUCH THAT ACTIVATION OF A SMOKE DETECTOR SHALL SHUT DOWN THE ENTIRE HVAC SYSTEM.

STATUS MONITORING: THE SYSTEM SHALL PROVIDE INDICATION (NORMALLY-CLOSED CONTACTS WHICH OPEN ON ALARM CONDITION) THAT A GIVEN UNIT OR UNITS ARE INOPERATIVE.

PUMPS: PROVIDE CONDENSATE PUMPS WITH LIQUID-TIGHT DRAIN PANS ON ALL SPLIT-SYSTEM AIR HANDLERS. COMPLY WITH MANUFACTURERS RECOMMENDATIONS TO SIZE CONDENSATE PUMP BASE ON VERTICAL DISCHARGE HEIGHT AND SITE SPECIFIC CONDITIONS.

PROTECTION: THE SYSTEM SHALL INCLUDE SUITABLE PROTECTION FOR COMPRESSORS SUCH THAT NO COMPRESSOR CAN BE DAMAGED DUE TO HIGH-PRESSURE OR LOW-PRESSURE REFRIGERANT CONDITIONS, LOSS OF REFRIGERANT, OR SHORT-CYCLING.

INSULATION MATERIALS FOR PIPING:

1) FLEXIBLE ELASTOMERIC CELLULAR INSULATION: FLEXIBLE EXPANDED CLOSED-CELL STRUCTURE WITH SMOOTH SKIN ON BOTH SIDES; TUBULAR MATERIALS, ASTM C 534, TYPE 1; SHEET MATERIALS, ASTM C 534, TYPE II.
2) FIRE PERFORMANCE: TYPE SUITABLE FOR SERVICE.
3) VAPOR BARRIER: TYPE SUITABLE FOR SERVICE.
4) INSULATION ACCESSORIES: INSULATING CEMENTS, ADHESIVE JACKETS TAPE, BANDS, WIRE, AND SEALING COMPOUNDS SUITABLE FOR SERVICE AND EXPOSURE.

INSTALLATION

INSTALL MATERIALS AND SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SUBMITTALS. INSTALL MATERIALS IN PROPER RELATION WITH ADJACENT CONSTRUCTION AND WITH UNIFORM APPEARANCE FOR EXPOSED WORK. COORDINATE WITH WORK OF OTHER SECTIONS. COMPLY WITH APPLICABLE REGULATIONS AND CODE REQUIREMENTS. PROVIDE PROPER CLEARANCES FOR SERVICING.

SUPPORT PIPING PROPERLY. PITCH TO DRAIN POINTS. INSTALL WITH PIPE EXPANSION LOOPS, MECHANICAL EXPANSION JOINTS, AND ANCHORS.

MAINTAIN INDICATED FIRE RATINGS OF WALLS, PARTITIONS, CEILINGS AND FLOORS AT PENETRATIONS. SEAL WITH FIRESTOPPING TO MAINTAIN FIRE RATING.

INSTALL REFRIGERANT LINES ON SPLIT-SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSULATE LINES. FOR EXTERIOR APPLICATIONS, USE ULTRAVIOLET-RESISTANT INSULATION. USE PRESSURE-TREATED SLEEPERS TO SUPPORT LINES, A MAXIMUM OF 4 FEET ON CENTER ACROSS ROOFS AND FLAT SURFACES.

CHARGE THE HVAC SYSTEM, TEST FOR LEAKS, AND VERIFY THE UNIT IS FULLY OPERATIONAL. CLEARLY LABEL AND TAG ALL COMPONENTS. TEST AND BALANCE ALL SYSTEMS FOR PROPER OPERATION. REMOVE AND REPLACE UNITS WHICH DO NOT OPERATE PROPERLY AT NO ADDITIONAL EXPENSE TO COMPANY.

RESTORE DAMAGED FINISHES. CLEAN AND PROTECT WORK FROM DAMAGE.

SUBMITTALS

PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR EACH MATERIAL AND PRODUCT USED.

OPERATION AND MAINTENANCE DATA: SUBMIT MANUFACTURER'S OPERATION AND MAINTENANCE DATA, INCLUDING OPERATING INSTRUCTIONS, LIST OF SPARE PARTS AND MAINTENANCE SCHEDULE.

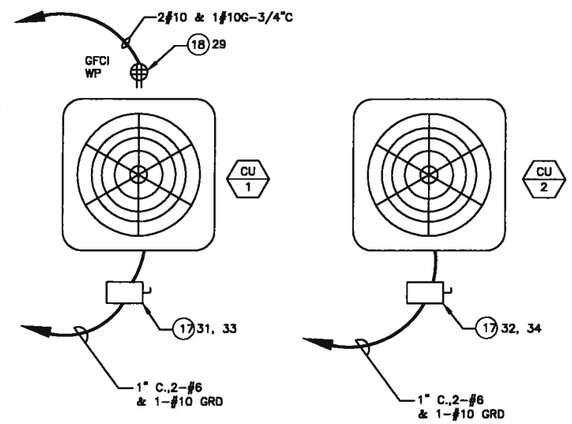
VERIZON WIRELESS HVAC EQUIPMENT SCHEDULE SPLIT-SYSTEM 1 PHASE B.O.M.

AIR HANDLER	
MANUFACTURER:	CARRIER
MODEL:	FK4DNB006
SYMBOL:	AHU-1 & AHU-2
COOLING (BTU/HR):	60,000
NOMINAL TONS:	5
VOLTAGE:	240
CIRCUIT BREAKER*:	15
CONDENSING UNIT	
MANUFACTURER:	CARRIER
MODEL:	24ABR3-60
SYMBOL:	CU-1 & CU-2
COOLING (BTU/HR):	60,000
NOMINAL TONS:	5
ACCESSORIES:	HARD START KIT
VOLTAGE:	240
CIRCUIT BREAKER*:	50
CONDENSATE PUMP	
VENDOR:	McMASTER-CARR
MODEL:	99575K41
SYMBOL:	CP-1 & CP-2
VOLTAGE:	120
CIRCUIT BREAKER*:	N/A

*CONTRACTOR SHALL VERIFY BREAKER SIZES WITH MANUFACTURER'S SPECIFICATIONS

MECHANICAL NOTES:

1. DRAIN PANS SHALL BE CAPABLE OF SUPPORTING AIR-HANDLER UNITS (APPROX. 200# EACH). PANS SHALL SUPPORT CONDENSATE PUMP - PUMP TO BE MOUNTED PER MFGR. SPECIFICATIONS TO SUCCESSFULLY PUMP OUT DRAIN PAN THRU 3/4" CWT DISCHARGE WITH CHECK VALVE. DRAIN PAN SHALL BE DETAILED BY SUBCONTRACTOR BUT SHALL MEASURE APPROXIMATELY 4'X3'X4" HIGH.
2. CONTRACTOR SHALL INSTALL 3/4" CWT DRAIN LINE FROM DRAIN CONNECTION OF EACH AIR HANDLER THROUGH A SEAL TRAP (W/PLUG) TO THE CONDENSATE PUMP.
3. INDIVIDUAL 3/4" CWT DISCHARGES FROM EACH CONDENSATE PUMP SHALL BE RUN (PITCHED DOWN) TO EQUIPMENT ROOM EXTERIOR IN A COMMON 1" CWT DRAIN LINE TO BUILDING ROOF DRAIN NEAR GENERATOR.
4. COMMON 1" CWT DRAIN LINE SHALL BE RUN ALONG WALL BASE (W/ PROPOSED AIR GAPS PER MASS PLUMBING CODE) TO EXTERIOR. EXACT RUN TO BE FIELD DETERMINED WITH OWNER APPROVAL.
5. CONTRACTOR SHALL FURNISH/INSTALL (2) AIR HANDLERS WITH MINIMUM 18" ANGLE STEEL ELEVATED SUPPORT STRUCTURE INSIDE VERIZON WIRELESS ROOM WALLS AS SHOWN - EXACT LOCATION TO BE FIELD DETERMINED WITH OWNER APPROVAL. UNITS TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS INCLUDING CONDENSATE DRAINAGE OF NOTE (4).
6. CONTRACTOR SHALL INSTALL 22" X 10" SUPPLY DUCTWORK FROM AIR HANDLERS TOP DISCHARGE TO BRING IN CONDITIONED AIR THRU SUBCONTRACTOR SPECIFIED SUPPLY AIR REGISTER EXACT LOCATIONS TO BE FIELD DETERMINED INCLUDING CONSIDERATION OF EQUIPMENT INSIDE VERIZON WIRELESS ROOM. SUPPLY DUCT WORK TO BE A MINIMUM OF 20 GAUGE GALVANIZED AND SHALL BE INSULATED WITH A MINIMUM OF 1 1/2" THICK FIBERGLASS INSULATION.
   * AIR HANDLERS SHALL NOT HAVE ELECTRIC HEAT OR OTHER TYPE OF HEATING UNLESS STATED OTHERWISE BY OWNER, I.E. UNITS ARE FOR AIR CONDITIONING ONLY.
7. RETURN AIR SHALL BE INTRODUCED BACK TO AIR HANDLERS (BOTTOM ENTRANCE) THRU 24" X 24" DUCT WORK LOCATED APPROXIMATELY 12" ABOVE FLOOR ELBOWED UP INTO AIR HANDLER. EXACT LOCATION TO BE FIELD DETERMINED.
8. CONTRACTOR SHALL FURNISH/INSTALL CONDENSING UNITS, MATCHED TO EACH AIR HANDLER. UNITS SHALL BE MOUNTED ON PRESSURE TREATED WOOD BLOCKS ON RUBBER MATS & RIBBED NEOPRENE VIBRATION INSULATORS ON THE ROOF OF THE BUILDING. CONDENSERS ARE BEING INSTALLED ARE AT A COMPLETELY DIFFERENT LOCATION. UNITS TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS. SUBCONTRACTOR SHALL INSTALL 7/8" VAPOR AND 3/8" LIQUID REFRIGERANT TUBING FROM AIR HANDLERS TO CONDENSING UNITS - EXACT LOCATIONS INCLUDING REQUIRED WALL/CEILING PENETRATIONS (WITH PROPER SEALING) SHALL BE FIELD DETERMINED WITH OWNER APPROVAL. 1" THICK ARMAFLEX INSULATION SHALL BE INSTALLED ON LIQUID REFRIGERANT COOLING LINE.
9. CONTRACTOR SHALL INSTALL THERMOSTATS. BOXES, SMOKE DETECTORS, TIME CLOCK, AND ASSOCIATED TO CONTROL AIR HANDLER OPERATIONS IN MAINTAINING REQUIRED VERIZON WIRELESS ROOM TEMPERATURE. ALL WORK OF UTILIZING STRAIGHT THRU, ONE-ON-ONE THERMOSTATS TO BE DONE ONLY WITH OWNER APPROVAL.
10. ALL A/C PIPING IN EQUIPMENT ROOM MUST BE INSULATED TO PREVENT SWEATING.
11. CONTRACTOR TO VERIFY ALL PIPING SIZE WITH MANUFACTURER PRIOR TO INSTALLATION.
12. SEE SHEET G-1 FOR SPLIT-SYSTEM GENERAL NOTES.
13. DUCTWORK TO BE CONSTRUCTED OF GALVANIZED SHEETMETAL IN ACCORDANCE W/ "SMACNA" 2" PRESSURE CLASS.



NOTE:

(#) : - REFER TO THIS SHEET BILL OF MATERIALS FOR HVAC SPECIFICATIONS.

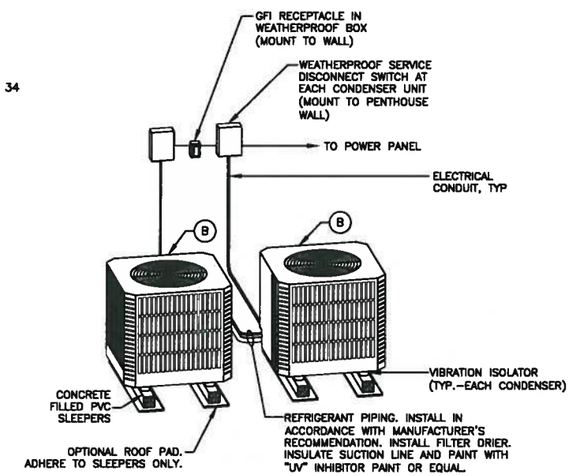
: - REFER TO E-2 SHEET FOR POWER PANEL LAYOUT.

NOTES:

1. MOUNT GFCI RECEPTACLE AND WEATHERPROOF SERVICE DISCONNECTS TO BUILDING PENTHOUSE WALL.
2. REFRIGERANT PIPING. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. INSTALL FILTER DRIER. INSULATE SUCTION LINE & PAINT WITH "UV" INHIBITOR PAINT OR EQUAL".

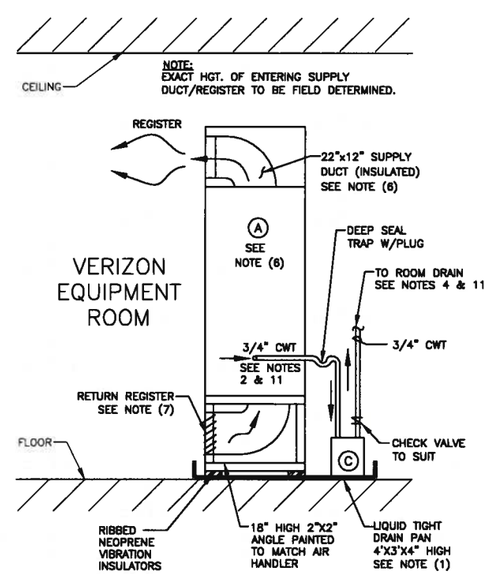
CONDENSER POWER PLAN (1)

SCALE: N.T.S.



TYPICAL CONDENSER UNIT LAYOUT (ROOF INSTALLATION) (2)

SCALE: N.T.S.



AIR HANDLER WITH CONDENSATION DRAIN (3)

SCALE: N.T.S.

HVAC EQUIPMENT SPECIFICATIONS

(A) AIR HANDLER, CARRIER FK4DNB006, 5 TONS, WITH ASSOCIATED COOLING COIL, 240 VOLTS, SINGLE PHASE, VERTICAL UPRIGHT FLOOR MOUNTED TYPES 2000 CFM NORMAL AIR FLOW (APPROX. 200LBS) (OR EQUAL).

(B) CONDENSING UNIT, CARRIER 24ABR3-60, 5 TONS, 240 VOLTS, SINGLE PHASE, OUTDOOR PAD MOUNTED TYPE.

(C) CONDENSATE PUMP, MCMASTER-CARR 99575K41. 120 VOLT, SINGLE PHASE.

FOR FURTHER HVAC SPECIFICATIONS SEE THE SPLIT-SYSTEM AIR CONDITIONING NOTES THIS SHEET.

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

WE

Date: 07/19/13

PORTLAND 2 ME

CONSTRUCTION DRAWINGS		
1	06/05/13	FOR SUBMITTAL
0	05/02/13	FOR SUBMITTAL
A	04/18/13	FOR COMMENT

Dewberry

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CHECKED BY:	PPB
PROJECT NUMBER:	50002925
JOB NUMBER:	50055368

SITE ADDRESS

202 WOODFORD STREET
PORTLAND, ME 04103

SHEET TITLE

MECHANICAL DETAILS

SHEET NUMBER

M-1