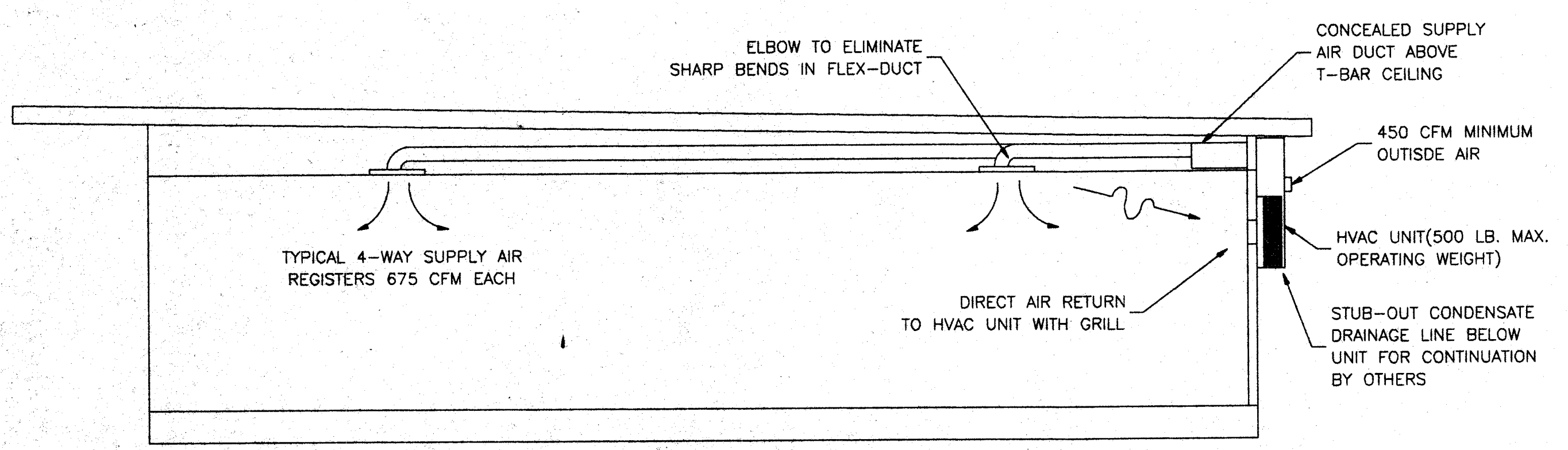


B
M1 HEAT/SUPPLY AIR DUCT LAYOUT
SCALE: 1/4"=1'-0"

TITLE 24 ENERGY COMPLIANCE SUMMARY	
PC # 02-104915	BUILDING DESCRIPTION: 24x40 Relocatable Building
Note: See Title 24 Energy Compliance Report Booklet for More Details	Manufacturer: American Modular Systems
	Zones: 14, 15 & 16
Envelope Measures	
INSULATION	GLAZING
Roof: R-19 (Batt)	Panes: Dual U-Factor: 0.85
Wall: R-11 (Batt)	Frames: Metal SHGC: 0.34
Floor: R-11 (Batt)	Tinting: Solarban 60
Lighting Measures	
Code:	Quantity: Description: Lamp/Ballast: Total Watts:
A	8 (3) 4ft fluorescent TB Elec Tandem F32T8 / Electronic 704
b	2 (3) 4ft fluorescent TB Elec F32T8 / Electronic 226
Controls for Credit: Occ Sensor > 250 sq ft	
Mechanical Measures	
Modular: Type: Qty: OSA: Cooling Eff.: Heating Eff.:	
24x40 BARD WH602-A 1 710 10.20 SEER 7.00 HSPF	
HP T-Stat: <input checked="" type="checkbox"/> Electric Heat (KW): 0.0 kw Duct Location: Conditioned Space	
Economizer: <input type="checkbox"/> Duct Insulation: R-4.2	

- GENERAL NOTES**
HEATING VENTILATING AND AIR CONDITIONING (HVAC)
- Heat Pump: Single package wall mounted air to air electric heat pump unit shall be rated in accordance with ARI Standard 240-77.
Reference Brands: BARD WH421A-XXXXXX
BARD WH482A-XXXXXX
BARD WH60A-XXXXXX
MAXIMUM AC SIZE FOR THIS BUILDING WILL BE A 5-TON UNIT
- All units shall be 230/208 volt, 1 phase system, UL tested & approved or comparable and meet current energy standards.
- The system shall maintain an automatically controlled indoor classroom temperature of 78 degrees F. When the outdoor dry bulb temperature varies between 100 degrees F. in the summer
 - The system must maintain the above temperature when the damper is adjusted to use approximately one third fresh air.
- Ductwork.
 - Construct all ductwork of galvanized sheet metal in accordance with C.M.C., Ashrae Guide Equipment volume and Smacna Low Velocity Duct Construction manual latest editions. All ductwork shall be insulated with 1" thick fiberglass duct wrap with vapor barrier. Provide 1" duct attenuation at all ductwork within 2'-0" of HVAC unit.
 - Non-metallic ductwork option: In accessible concealed portions of duct system rigid 1" fiberglass or insulated flex-duct with vapor barrier may be substituted for sheet metal ductwork. All ductwork within 2' of the HVAC unit and all interface connections shall be metal. Ductwork and reinforcement shall be designed for 2" static pressure. Reference Brands: Owens-Corning fiberglass ductboard, 1" thick, and Micro-aire, TYPE 475. Non-metallic ductwork shall conform to NFPA 90-A and SMACNA Class 1 rating.
 - Air duct insulation and linings shall comply with flame spread less than or equal to 25, smoke generation less than or equal to 50.
 - Supply air diffusers shall be 675 CFM max. 12" round. 1" fiberglass or flexduct ductwork specifically designed to provide air thermal cooling systems. 24"x8"x1" Micro-Aire type #475 Owens-Corning, Knauf, Certainteed, or equal and 90- B: UL #131 test, class 1 rating with "SMACNA".
 - Registers and diffusers: Provide three (Min) 4-way throw air diffusers as manufactured Carnes, Titus, Hart and Cooley, Metalaire, Shoemaker, Barber-Coleman or Krueger commercial grade grills and registers
 - Air conditioning controls.
 - Thermostat: Provide electronic programmable thermostat. Thermostat shall have the following functions.
 - 5 and 2 weekday/weekend programming with 4 separate time/temperature setting for 24-hour period.
 - Key board lockout switch.
 - Programmable display.
 - 2-hour override minimum.
 - Status Indicated Led's.
 - Battery back-up.
 Provide locking clear thermostat cover with thermostat cover with access hole for program override. White Rodgers IF92-371 @ +60" SEALED.
 - Thermal insulation
 - Roof Insulation: R-19 Unfaced.
 - Walls Insulation: R-11 Kraft Faced.
 - Floors Insulation: R-11 Kraft Faced.
 Flame spread and smoke development shall conform to California Building Code sec. 707.
 - Factory-made air ducts. Factory-made air ducts shall be approved for the use intended or shall conform to the requirements of U.M.C. Standard No. 6-1. Each portion of a factory-made air duct system shall be identified by the manufacturer with a label or other suitable identification indicating compliance with U.M.C. Standard No. 6-1 and its class designation. These ducts shall be listed and shall be installed in accordance with the terms of their listing and the requirements of UMC STD. 6-1.



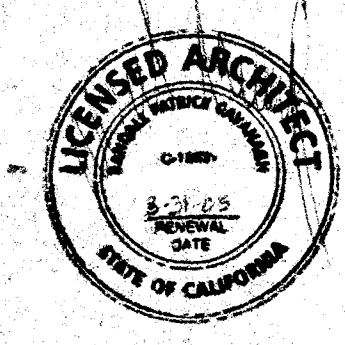
A
M1 HEAT/SUPPLY AIR DUCT CROSS SECTION
SCALE: 1/4"=1'-0"

NOTE
STUB OUT LOCATIONS FOR WATER, WASTE AND GAS ARE DIAGRAMITICAL ONLY. EXACT LOCATIONS MAY VARY +/- SEVERAL FEET. PLEASE CONTACT AMERICAN MODULAR SYSTEMS FOR EXACT LOCATIONS. POINT OF CONNECTION WILL BE AT THE FACE OF THE BUILDING.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPROD. 107512
AC FLS 24 03
DATE JUN 21 2004
FILE NO.
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
AC FLS SS
DATE

BASED ON PC# 02-104915

24 X 40
RELOCATABLE
CLASSROOMS



CUSTOMER:
BAKERSFIELD CITY CITY SCHOOL DISTRICT

DATE: 11-18-03
SCALE: NONE
DRAWN BY: M.H.
CHECKED BY:
CHECKED BY:
SERIAL NO.

REVISIONS					
NO	DATE	DESCRIPTION	NO	DATE	DESCRIPTION
△			△		
△			△		
△			△		
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PROJECT No.
SHEET No.
M1

MECHANICAL PLAN & NOTES