



State of Utah

JON M. HUNTSMAN, JR.  
Governor

GARY R. HERBERT  
Lieutenant Governor

Department of Administrative Services

KIMBERLY K. HOOD  
Executive Director

Division of Facilities Construction and Management

F. KEITH STEPAN  
Director

## ADDENDUM #1

Date: March 2, 2007

To: Contractors

From: Craig Wessman, Project Manager, DFCM

Reference: Utah National Guard – American Fork Armory  
Window Air Conditioning Units and Boiler Replacement  
DFCM Project No. 06142470

Subject: **Addendum No. 1**

Pages	Addendum	1	page
	<u>WHW Engineering Clarifications to Drawings</u>	<u>5</u>	<u>pages</u>
	<b>Total</b>	<b>6</b>	<b>pages</b>

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**Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.**

**1.1 SCHEDULE CHANGES – There are no project schedule changes per this Addendum.**

**1.2 GENERAL –** WHW Engineering, Inc., two (2) page clarifications to drawings and three (3) drawings: Drawing ME101a, Drawing ME601a, Drawing ME702a.

**End of Addendum #1**

# ADDENDUM

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Project Name: Utah National Guard  
American Fork Armory

Addendum No.: 1

DFCM Project # 06142470

Date: March 2, 2007

From: WHW Engineering Inc  
1354 East 3300 South Suite 200  
Salt Lake City, Utah 84106  
Phone (80) 466-4021 Fax (801) 466-8536

To: Craig Wessman

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This Addendum forms and becomes a part of the Contract Documents and modifies the original Bidding Documents dated 02/02/07 as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of 2 pages and three drawings: ME101a, ME601a, ME702 a.

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**I - CHANGES TO PRIOR ADDENDA: N/A**

**II - CHANGES TO BIDDING REQUIREMENTS: N/A**

**III - CHANGES TO AGREEMENT & OTHER CONTRACT FORMS: N/A**

**IV – CHANGES/CLARIFICATIONS TO CONDITIONS OF THE CONTRACT: N/A**

**V - CHANGES/CLARIFICATIONS TO SPECIFICATIONS: N/A**

**VI - CHANGES/CLARIFICATIONS TO DRAWINGS:**

**Item VI-1.** Drawing ME101a - Issued new drawing with the following changes:

1. Relocate fan coil unit FC-11 from storage room to garage office #2.
2. Provide new fan coil unit FC-12 with all refrigerant piping, electrical, etc. in garage office #3.
3. Combine drain lines from FC-11 and FC-12 and route to storage room, drop down in storage room, core drill through outside. Seal air and water tight.
4. Added note 21 - "Drop 3/4" drain line in storage room and route to exterior."
5. Under general notes, change note #1 to read, "Where refrigerant piping is exposed under the balcony and other areas, provide a sheet metal covering attached to the deck. Paint same color as walls.
6. Add note #3 under general notes. Note #3 shall read, "Locate the main centralized controller for new fan coil units in the boiler room. Coordinate location with owner."

**Item VI-2.** Drawings ME 601a - Issued new drawing with the following changes:

1. Split system indoor unit schedule:
  - a. Relocated FC-11 from storage room to garage office #2.
  - b. Added new Fan coil FC-12 unit in garage office #3.
2. Branch selector box schedule:
  - a. Replace BB-22 from a Mitsubishi CMB-P1013NU-G to a model CMB-P1016NU-G.

**Item VI-3.** Drawing ME702a - Issued new drawing with the following changes:

1. Replace BB-2 from a CMB-P1013NU-G to a model CMB-P1016NU-G.
2. Added new fan coil FC-12 with all associated piping, controls, electrical, etc.

**PRIOR APPROVALS**

THE FOLLOWING ITEMS, AS SUBMITTED, ARE CONSIDERED, IN GENERAL AND IN NAME ONLY, AS EQUAL TO THOSE ITEMS SPECIFIED. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR OR SUPPLIER OF THE RESPONSIBILITY OF CONFORMING TO THE DRAWINGS AND SPECIFICATIONS, NOR DOES IT RELIEVE THE CONTRACTOR OF THE REQUIREMENTS OF THE SPECIFICATIONS FOR COORDINATION WITH OTHER TRADES. ALL DIMENSIONS SHALL BE CONFIRMED AND CORRELATED AT THE JOBSITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS AND THE SUITABILITY OF "EQUAL" PRODUCTS FOR THE SPECIFIED APPLICATION.

**Description**

**Manufacturer**

15185 - Hydronic Pumps

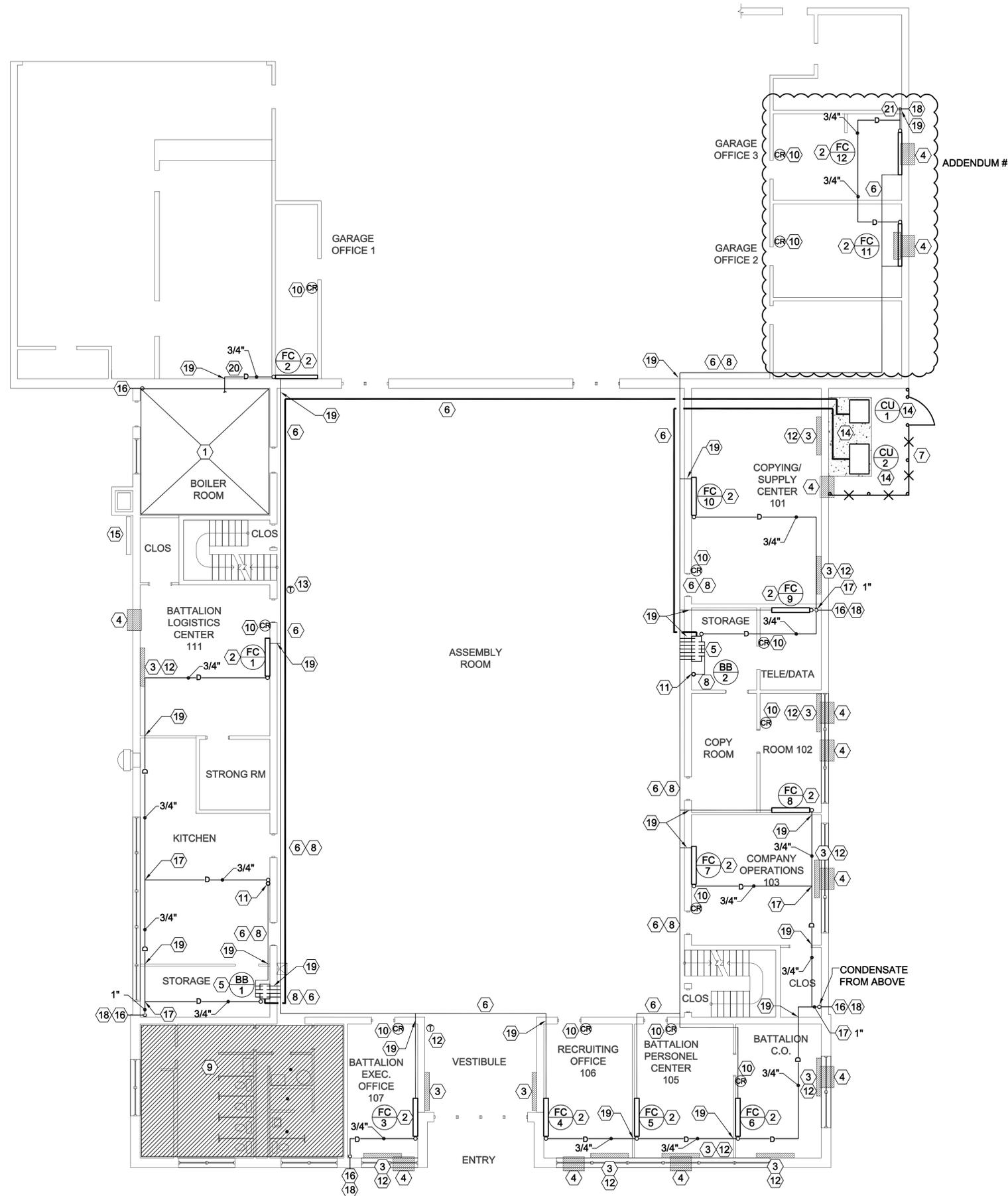
Patterson

15515 - Boiler

Unilux

15762 - Unit Heaters

Rittling



**MAIN FLOOR PLAN**  
SCALE: 1/8" = 1'-0"



**SHEET NOTES**

- ① SEE LARGE SCALE SHEET ME401 FOR THIS AREA.
- ② CONFIRM WITH OWNER / USER THE EXACT LOCATION OF NEW WALL HUNG FAN COIL UNITS.
- ③ EXISTING HOT WATER CONVECTORS SHALL REMAIN.
- ④ EXISTING WINDOW MOUNT A/C UNITS SHALL REMAIN AT THIS TIME.
- ⑤ BRANCH SELECTOR BOX FOR LOAD SHARING FAN COIL UNITS. ROUTE PUMPED CONDENSATE DRAIN LINE TO OUTSIDE. SEE SHEET ME503 FOR FLOW SHEET.
- ⑥ SEE ME702 FOR REFRIGERANT PIPING SIZING REQUIREMENTS. FOLLOW MANUFACTURERS RECOMMENDED INSTALLATION INSTRUCTIONS. PROVIDE WITH PIPING COVER WHERE EXPOSED TO VIEW. COVER FURNISHED BY HEAT PUMP MANUFACTURER WITH FACTORY FINISH AND INSTALLED BY MECHANICAL CONTRACTOR. COLOR SELECTED BY OWNER.
- ⑦ PROVIDE 6'-0" HIGH CHAIN LINK FENCE WITH LOCKING GATE AND VINYL SLATS AROUND NEW CONDENSING UNITS.
- ⑧ GROUP OF REFRIGERANT PIPING.
- ⑨ THIS AREA NOT IN CONTRACT.
- ⑩ PROVIDE AND INSTALL NEW REMOTE CONTROLLER FOR FAN COIL UNIT AND CONVECTOR. COORDINATE EXACT LOCATION WITH EXISTING WALLS.
- ⑪ REFRIGERANT PIPING TO BALCONY FLOOR. SEE SHEET ME102 FOR CONTINUATION. PROVIDE COVERING OVER PIPING WHERE EXPOSED TO VIEW. PAINT SAME COLOR AS WALLS
- ⑫ PROVIDE NEW THERMOSTAT AND NEW CONTROL VALVES FOR EXISTING CONVECTORS.
- ⑬ PROVIDE NEW THERMOSTAT AND CONTROLS AS NECESSARY FOR EXISTING AIR HANDLING UNIT. FIELD VERIFY AND SITE COORDINATE EXACT LOCATION.
- ⑭ PROVIDE NEW 11'-2"x 6'-1" CONCRETE PAD FOR NEW CONDENSING UNITS. EXTEND MIN. 4" FROM EDGE OF EQUIPMENT. MOUNT CONDENSING UNITS ON RUBBER ISOLATORS.
- ⑮ EXISTING GAS METER SHALL REMAIN.
- ⑯ ROUTE PUMPED CONDENSATE FROM EACH FAN COIL UNIT TO EXTERIOR. GROUP TOGETHER AND RUN TO EXTERIOR. EXIT EXTERIOR WALL CLOSE TO GROUND LEVEL TO MINIMIZE VISIBILITY FROM OUTSIDE AND WATER STAINS ON THE BUILDING.
- ⑰ COMBINE CONDENSATE LINES INTO A SINGLE 3/4" LINE. MINIMIZE EXPOSED PIPING WHERE POSSIBLE. CONFIRM ROUTING WITH BUILDING OWNER AND SITE CONDITIONS.
- ⑱ CORE DRILL THROUGH EXISTING WALL. SEAL BOTH SIDES AIR AND WATER TIGHT. PROVIDE ESCUTCHEON PLATE ON INTERIOR SIDE OF WALL PENETRATION.
- ⑳ ALL INTERIOR WALL PENETRATIONS SHALL BE SEALED. IF FIRE WALL USE FIRE CAULKING. PROVIDE ESCUTCHEON PLATES BOTH SIDES OF WALL.
- ㉑ ROUTE PUMPED CONDENSATE FROM FAN COIL TO FLOOR DRAIN IN BOILER ROOM.
- ㉒ DROP 3/4" DRAIN LINE IN STORAGE ROOM AND ROUTE TO EXTERIOR.

**GENERAL NOTE:**

1. WHERE REFRIGERANT PIPING IS EXPOSED UNDER THE BALCONY AND OTHER AREAS, PROVIDE SHEET METAL COVERING ATTACHED TO THE DECK, PAINT TO MATCH THE DECK.
2. ALL CONCEALED CONTROL WIRING SHALL BE ROUTED IN CONDUIT. WHERE EXPOSED TO VIEW, PROVIDE WIRE MOLDING.
3. LOCATE THE MAIN CENTRALIZED CONTROLLER FOR NEW FAN COIL UNITS IN THE BOILER ROOM. COORDINATE LOCATION WITH OWNER.



Internet: <http://www.dfcm.state.ut.us>

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**PROJECT NAME & ADDRESS**  
**AMERICAN FORK ARMORY,**  
**REPLACEMENT OF WINDOW AIR CONDITIONER UNITS AND BOILER**  
**DFCM No. 06142470**  
American Fork, Utah

MARK	DATE	REVISION

PROJECT MANAGER: **SLW**  
DRAWN BY: **LGD**  
CHECKED BY: **WP**  
DATE: **2/02/07**  
WHW JOB NO.: **06022**

SHEET TITLE  
**MAIN FLOOR PLAN**  
SHEET NO.  
**ME101a**

ADDENDUM #1  
ADDENDUM #1  
ADDENDUM #1

CONSULTANTS



PROJECT NAME & ADDRESS

**AMERICAN FORK  
ARMORY,  
REPLACEMENT OF  
WINDOW AIR  
CONDITIONER UNITS  
AND BOILER**  
DFCM No. 06142470  
American Fork, Utah

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PROJECT MANAGER:  
**SLW**  
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**WP**  
DATE:  
**2/02/07**  
WHW JOB NO.:  
**06022**

SHEET TITLE  
**MECHANICAL SCHEDULES**

SHEET NO.  
**ME601a**

**BOILER SCHEDULE**

SYMBOL	MBH INPUT	MBH OUTPUT	WATER TEMP		GPM	DELTA P FT	FAN MOTOR	SHIPPING WEIGHT LBS	MAKE AND MODEL #	SCHEDULE NOTES
			IN	OUT						
$\frac{B}{1}$	900	765	190	170	77	0.75	1/3	2110	BRYAN HECLM-90	1,2,3,4

1. BOILER RATINGS ARE FOR SEA LEVEL.
2. SEE SPECIFICATION FOR OTHER APPROVED MANUFACTURERS.
3. VERIFY FLUE SIZING AND MATERIAL WITH EACH BOILER MANUFACTURER AND INSTALL ACCORDINGLY.
4. PROVIDE 120V CONTROL CIRCUIT, AND 120V BURNER FAN MOTOR CIRCUIT.

**AIR COOLED CONDENSING UNIT SCHEDULE**

SYMBOL	AREA SERVED	COOLING CAPACITY	HEATING CAPACITY	SOUND LEVEL	WEIGHT (LBS)	FLA	MCA	MOCP	MNUF. & MODEL #	SCHEDULE NOTES
$\frac{CU}{1}$	NORTH SIDE	96,000	108,000	57 dBA	600	4.6 KW	34	50	MITSUBSHI ELECTRIC PURY-P96	1,2,3,4,5
$\frac{CU}{2}$	SOUTH SIDE	144,000	160,000	61 dBA	675	9.7 KW	55	75	MITSUBSHI ELECTRIC PURY-P144	1,2,3,4,5

1. REFRIGERANT R-410A
2. VARIABLE SPEED HERMETIC SCROLL
3. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
4. ELECTRIC SERVICE: 208/3Ø/60HZ
5. OPERATING TEMPERATURE RANGES:  
COOLING UP TO OUTDOOR TEMP OF 109° F DB  
HEATING OUTDOOR TEMP DOWN TO -4° F WB  
SIMULTANEOUS OUTDOOR OPERATION BETWEEN 23° F DB TO 69° F DB.

**PUMP SCHEDULE**

SYMBOL	TYPE	GPM	FT. HEAD	SUCTION SIZE	DISCHARGE SIZE	MOTOR			SIZE	SERVICE	COMMENTS	SCHEDULE NOTES
						V - Ø - HZ	HP	RPM				
$\frac{P}{1}$	BASE MTD.	77	40	2	1.5	220/3/60	2	1750	1-1/2 AL	HEATING WATER	BELL & GOSSETT 1510	1,2,3,4
$\frac{P}{2}$	BASE MTD.	77	40	2	1.5	220/3/60	2	1750	1-1/2 AL	HEATING WATER	BELL & GOSSETT 1510	1,2,3,4

1. PROVIDE REMOVABLE INSULATION KIT AROUND AND SUCTION
2. ALL PUMPS SHALL BE SIZED IN THE MIDDLE OF THE CURVE.
3. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS.
4. VFD BY DIVISION 16.

**AIR ELIMINATOR SCHEDULE**

SYMBOL	CAPACITY GPM	MAX PRESSURE DROP FT.	INLET / OUTLET SIZE	SHIPPING WEIGHT LBS.	MAKE & MODEL	SCHEDULE NOTES
$\frac{AE}{1}$	76.5	0.3	3.0	95	BELL & GOSSETT RL-3	1

1. FOR OTHER APPROVED MANUFACTURERS SEE SPECIFICATIONS.

**EXPANSION TANK SCHEDULE**

SYMBOL	ACCEPTANCE VOLUME/ TANK VOLUME (GAL.)	HEIGHT	DIAMETER	APPROXIMATE FLOOD WEIGHT LBS	COMMENTS	SCHEDULE NOTES
$\frac{ET}{1}$	22.6/55.7	69"	16"	632	BELL & GOSSETT D-100V	1,2

1. FOR OTHER APPROVED MANUFACTURERS SEE SPECIFICATIONS.
2. PROVIDE WITH ACCESSORIES PER DETAIL B3/ME501.

**SPLIT SYSTEM INDOOR UNIT SCHEDULE**

SYMBOL	ROOMS SERVED	CFM COOLING	MCA	MOCP	VOLTAGE-PHASE-HZ	FAN F.L.A.	MANUF. & MODEL #	SCHEDULE NOTES
1ST LEVEL								
$\frac{FC}{1}$	BATTALION LOGISTICS CENTER 111	530	.55	15	230/1/60	45 W	MITSUBISHI PKFY-P18	1,2
$\frac{FC}{2}$	GARAGE OFFICE 1	220	.19	15	230/1/60	17 W	MITSUBISHI PKFY-P08	1,2
$\frac{FC}{3}$	BATTALION EXEC. OFFICE 107	265	.19	15	230/1/60	17 W	MITSUBISHI PKFY-P08	1,2
$\frac{FC}{4}$	RECRUITING OFFICE 106	335	.43	15	230/1/60	30 W	MITSUBISHI PKFY-P12	1,2
$\frac{FC}{5}$	BATTALION PERSONEL CENTER 105	370	.43	15	230/1/60	30 W	MITSUBISHI PKFY-P12	1,2
$\frac{FC}{6}$	BATTALION C.O.	345	.43	15	230/1/60	30 W	MITSUBISHI PKFY-P12	1,2
$\frac{FC}{7}$	COMPANY OPERATIONS 103	510	.5	15	230/1/60	30 W	MITSUBISHI PKFY-P15	1,2
$\frac{FC}{8}$	RM 102	225	.19	15	230/1/60	17 W	MITSUBISHI PKFY-P08	1,2
$\frac{FC}{9}$	SERVER	200	.19	15	230/1/60	17 W	MITSUBISHI PKFY-P08	1,2
$\frac{FC}{10}$	COPYING/ SUPPLY CENTER 101	850	.73	15	230/1/60	30 W	MITSUBISHI PKFY-P30	1,2
$\frac{FC}{11}$	GARAGE OFFICE 2	280	.19	15	230/1/60	17 W	MITSUBISHI PKFY-P08	1,2
$\frac{FC}{12}$	GARAGE OFFICE 3	280	.19	15	230/1/60	17 W	MITSUBISHI PKFY-P08	1,2
2ND LEVEL								
$\frac{FC}{20}$	BATTALION MEDIC CENTER 202	460	.5	15	230/1/60	30 W	MITSUBISHI PKFY-P15	1,2
$\frac{FC}{21}$	BATTALION OPERATIONS CENTER 206 A	515	.55	15	230/1/60	45 W	MITSUBISHI PKFY-P18	1,2
$\frac{FC}{22}$	BATTALION OPERATIONS CENTER 206 B	515	.55	15	230/1/60	45 W	MITSUBISHI PKFY-P18	1,2
$\frac{FC}{23}$	OFFICE	475	.5	15	230/1/60	30 W	MITSUBISHI PKFY-P15	1,2
$\frac{FC}{24}$	BATTALION COMMAND SERGANT MAJOR 205	275	.19	15	230/1/60	17 W	MITSUBISHI PKFY-P08	1,2
$\frac{FC}{25}$	COMMANDER 204	275	.19	15	230/1/60	17 W	MITSUBISHI PKFY-P08	1,2
$\frac{FC}{26}$	CLASS ROOM 203	465	.5	15	230/1/60	30 W	MITSUBISHI PKFY-P15	1,2
$\frac{FC}{27}$	OFFICE	435	.5	15	230/1/60	30 W	MITSUBISHI PKFY-P15	1,2
$\frac{FC}{28}$	ROOM 208	700	.55	15	230/1/60	45 W	MITSUBISHI PKFY-P24	1,2

1. R410A REFRIGERANT
2. PROVIDE CONDENSATE PUMP, ROUTE CONDENSATE LINE TO EXTERIOR OF BUILDING.

**VERTICAL HOT WATER UNIT HEATER SCHEDULE**

SYMBOL	BTU OUTPUT	GPM	CFM	PRESS. DROP PSI	MOTOR HP/ SERVICE	SHIPPING WEIGHT	MAKE AND MODEL #	SCHEDULE NOTES
$\frac{UH}{1}$	212,600	22.2	5460	2.1	1/2	112	MODINE V-279	1,2,3,4

1. SIZE BASED ON 190°F EWT, 60°F EAT, 20°F WATER DROP.
2. PIPE PER DETAIL C1/ME502.
3. PROVIDE SPRING ISOLATORS WITH VERTICAL LIMIT STOPS.
4. SEE SPECIFICATION FOR APPROVED MANUFACTURERS.
5. PROVIDE WITH TRUNCONE OUTLET DIFFUSER OR EQUAL.

**BRANCH SELECTOR BOX**

SYMBOL	MCA	MOCP	MAKE/MODEL	V/φ/HZ	BRANCHES	WEIGHT	NOTE
$\frac{BB}{1}$	1.04A	15A	MITSUBISHI CMB-P1010NU-G	208/1/60	10	95 lbs.	1,2
$\frac{BB}{2}$	1.63A	15A	MITSUBISHI CMB-P1016NU-G	208/1/60	16	140 lbs.	1,2

1. PROVIDE CONDENSATE PAN AND PUMP.
2. INSTALL INSIDE BLDG, WHERE SHOWN ON DWGS.

ADDENDUM #1

ADDENDUM #1

REFRIG. PIPE SIZE		
SYMBOL	LIQUID SIZE	GAS SIZE
P-1	3/4"	7/8"
P-2	1/4"	1/2"
P-3	7/8"	1-1/8"
P-4	3/8"	5/8"

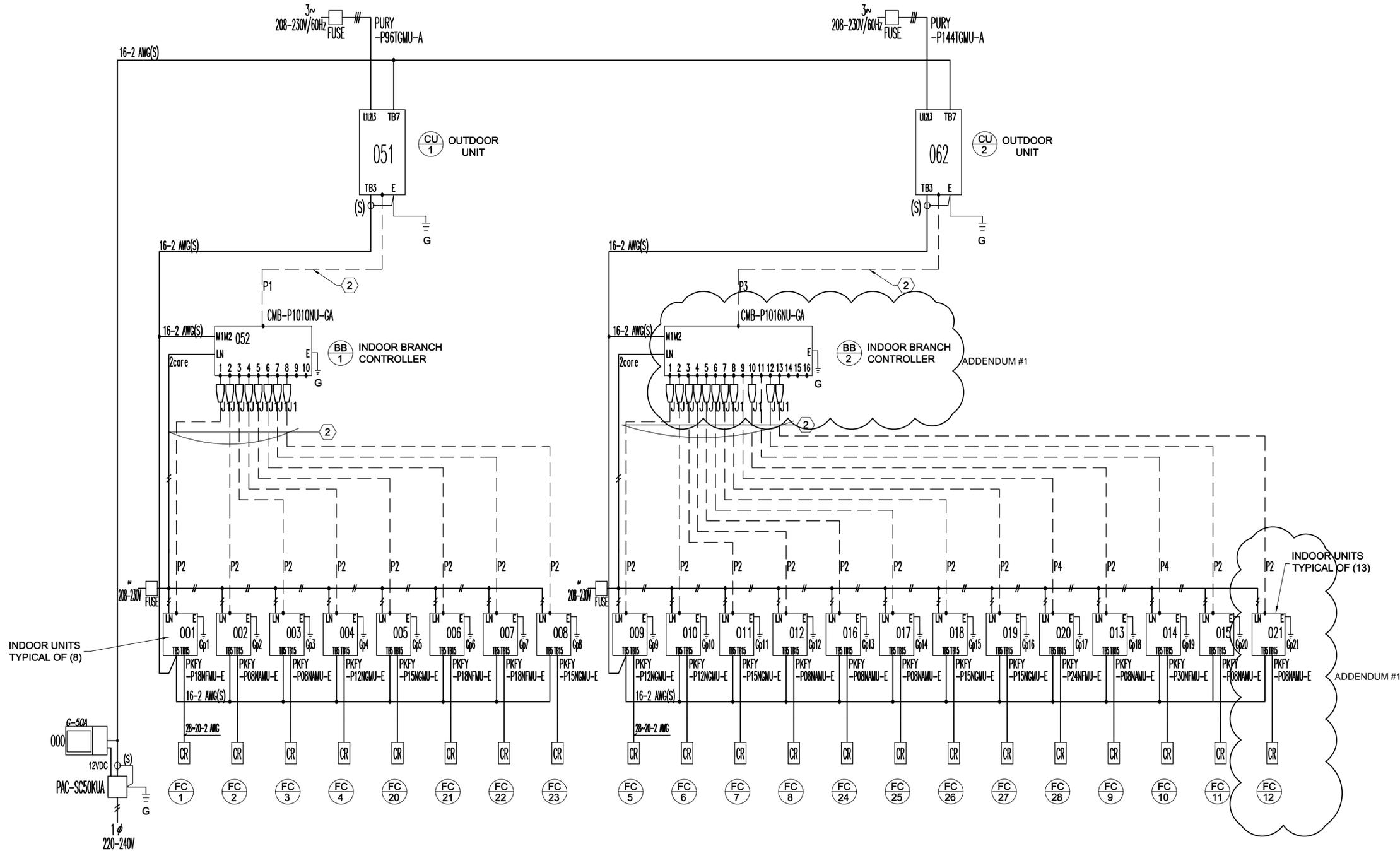
SCHEMATIC LEGEND	
SYMBOL	DESCRIPTION
—//—	POWER WIRING
—	CONTROL WIRING
ⓄCR	REMOTE CONTROLLERS
FC	FAN COIL
— — —	REFRIG. PIPE
Jl ∇	REDUCER
⊥	GROUND

**SHEET NOTES:**

- ① ALL POWER WIRING SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- ② ALL REFRIGERANT PIPING SHOWN REPRESENTS TWO PIPES, LIQUID AND GAS.
- ③ 16 AWG: 16 AWG OR MORE.
- ④ 20 AWG: 24 AWG & 20 AWG.

**GENERAL NOTES:**

- 1. COORDINATE WITH 15738, 15900, AND DIVISION 16.
- 2. SCHEMATIC DRAWING BASED ON CITY MULTI MITSUBISHI ELECTRIC SYSTEM.
- 3. CONTRACTOR RESPONSIBLE FOR COMPLYING WITH MANUFACTURERS RECOMMENDATIONS FOR REFRIGERANT CHANGE REQUIREMENTS.



MARK	DATE	REVISION

PROJECT MANAGER:	SLW
DRAWN BY:	LGD
CHECKED BY:	WP
DATE:	2/02/07
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**HEAT PUMP SPLIT SYSTEM**  
**SCHEMATIC**