

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE 1 OF 3 PAGES
2. AMENDMENT/MODIFICATION NO. AMENDMENT NO. 0006		3. EFFECTIVE DATE 06/16/09	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable) 09-0085	
6. ISSUED BY CODE		CODE mks	7. ADMINISTERED BY (If other than Item 6) CODE See Item 6		
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			(X)	9A. AMENDMENT OF SOLICITATION NO. N40085-09-R-0085	
			X	9B. DATED (SEE ITEM 11) 06/11/09	
				10A. MODIFICATION OF CONTRACT/ORDER NO.	
				10B. DATED (SEE ITEM 11)	
CODE		FACILITY CODE			

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.
 Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted;
 or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

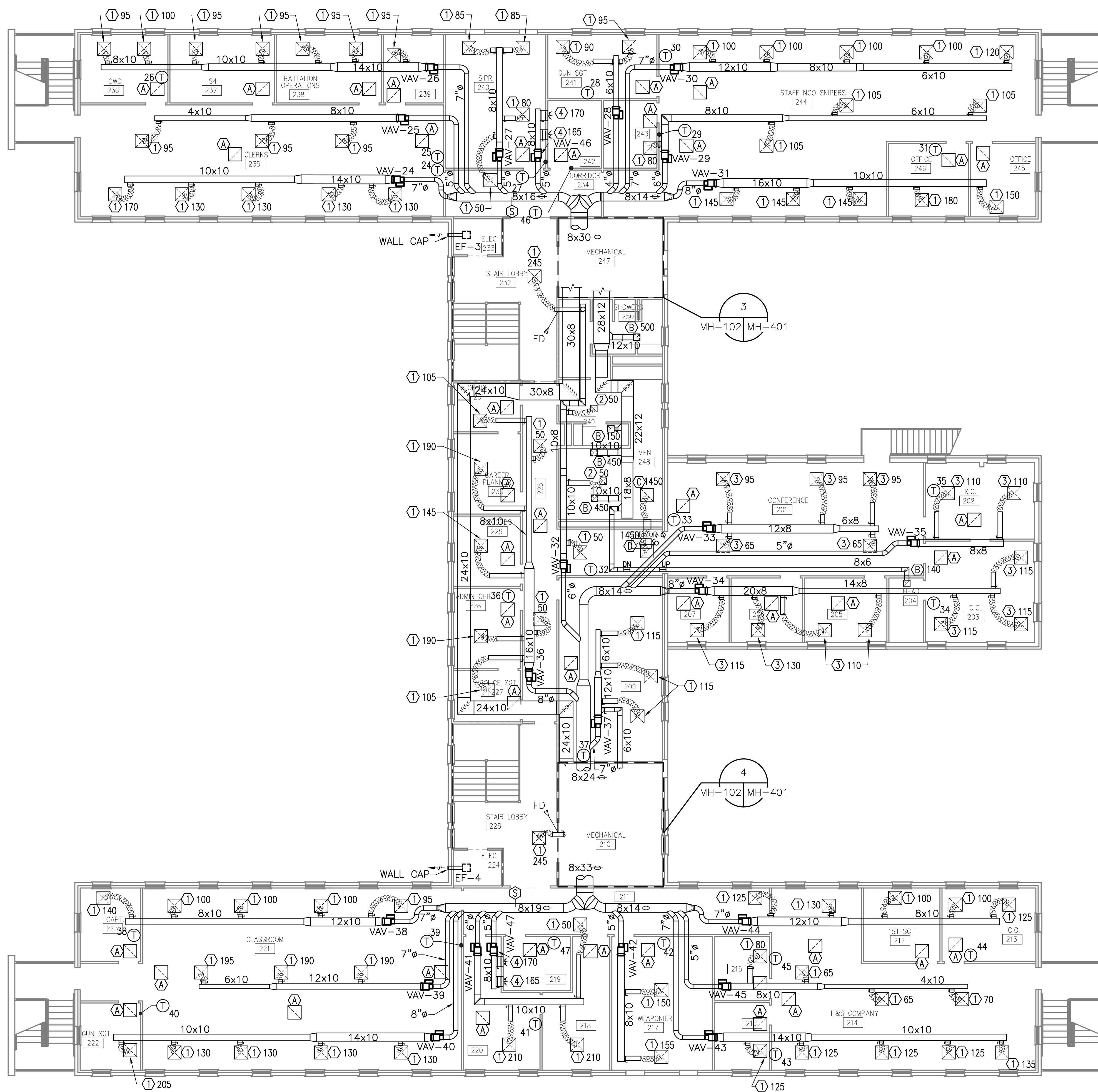
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

09-0085, ARRA, Interior/Exterior Repairs to Building 417

1. Incorporate the attached Revised Drawings into the project/contract:
NAVFAC Drawing Numbers 60003746 and 60003456. Delete previous versions of these sheets.
2. The same individual may serve as project superintendent, QC, and SSHO if that person is duly qualified for all three positions.

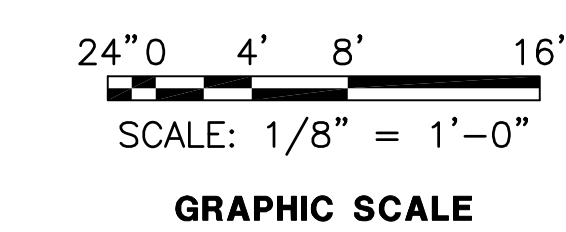
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR		16B. UNITED STATES OF AMERICA	
15C. DATE SIGNED		16C. DATE SIGNED	
(Signature of person authorized to sign)		(Signature of Contracting Officer)	



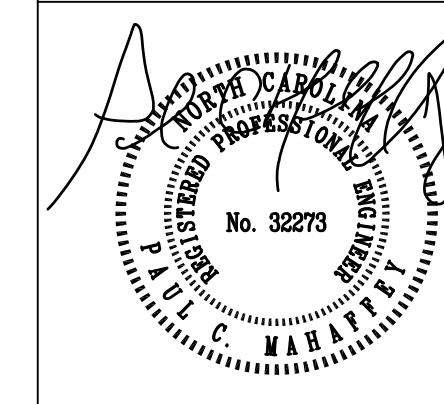
- LEGEND:**
- SUPPLY DIFFUSER
 - EXHAUST GRILLE
 - RETURN GRILLE
 - 45° TAKE OFF
 - TURNING VANES
 - FLEXIBLE DUCT
 - MANUAL VOLUME DAMPER
 - SQUARE TO ROUND TRANSITION
 - EXHAUST FAN
 - THERMOSTAT
 - STATIC PRESSURE SENSOR
 - VARIABLE AIR VOLUME BOX
 - FLAT OVAL DUCT MEDIUM PRESSURE
 - 1-HOUR FIRE WALL
 - VERTICAL FIRE DAMPER

SECOND FLOOR MECHANICAL NEW WORK PLAN
SCALE: 1/8" = 1'-0"



MH-102

CEMS Engineering Inc. <small>3509 Iron Horse Drive Laddon, SC 29456 Phone: (843)875-3637 Fax: (843)875-4509 CEMS Project# 08158E Project Mgr: R. Avlar</small>		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA	
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY:		INTERIOR/EXTERIOR REPAIRS BUILDING 417	
DESIGN DIR.		SECOND FLOOR MECHANICAL NEW WORK PLAN	
APPROVED: PWO OR OICC	DATE	SIZE CODE IDENT NO. F 80091	NAVFAC DRAWING NO. 60003746
SATISFACTORY TO:	DATE	CONST. CONTR. NO. N40085-09-B-0025 SCALE: AS NOTED SPEC. 09-B-0025 SHEET 38 OF 71	



AIR HANDLING UNIT SCHEDULE															
MARK	INDOOR SECTION					COOLING CAPACITY							SYS. VOLTS	FILTER	REMARKS
	TOTAL CFM	O.A. CFM	AIR ENTERING, °F	FAN HP	E.S.P. I.W.G.	TOTAL SP. I.W.G.	CHILLED WATER								
							TOTAL	SENS.	G.P.M.	EWT	ΔT(°F)	ΔP(ftHD)			
AHU-1	3350	552	76.3 DB/62.7 WB	5.0	2.0	3.33	79,000	77,100	15.8	45	10	3.3	208/3/60	2" PLEATED THROWAWAY	SEE NOTES BELOW
AHU-2	6055	1038	76.3 DB/62.7 WB	7.5	2.0	3.54	140,500	139,300	28.1	45	10	7.0	208/3/60	2" PLEATED THROWAWAY	SEE NOTES BELOW
AHU-3	3910	526	76.3 DB/62.7 WB	5.0	2.0	3.42	90,200	89,900	18.0	45	10	5.3	208/3/60	2" PLEATED THROWAWAY	SEE NOTES BELOW
AHU-4	7320	1313	76.3 DB/62.7 WB	7.5	2.0	3.37	171,200	168,400	34.2	45	10	10.6	208/3/60	2" PLEATED THROWAWAY	SEE NOTES BELOW

NOTES:

- DELIVER AHU WITH FACTORY INSTALLED WIRING FOR SINGLE POINT POWER CONNECTION.
- PROVIDE FLAT FILTER SECTION.
- INSTALL AHU TO PERMIT ACCESSIBILITY FOR SERVICING AS RECOMMENDED BY MANUFACTURER.
- AIR HANDLERS SHALL BE FURNISHED WITH A VARIABLE FREQUENCY DRIVE (VFD) FOR REMOTE INSTALLATION. SEE DRAWINGS FOR VFD LOCATION. DRIVE SHALL BE CAPABLE OF TURN DOWN TO 25% OF TOTAL AIR FLOW.
- UNIT SHALL BE PROVIDED WITH FAN SECTION IN THE TOP DISCHARGE CONFIGURATION ENSURING THAT FAN SCROLLS WITH DIRECTION OF DUCTWORK.
- UNIT SHALL BE SHIPPED TO SITE IN SECTIONS FOR FIELD ASSEMBLY IN MECHANICAL ROOMS COORDINATE WITH UNIT MANUFACTURER. CONTRACTOR TO PROVIDE BASE RAILS TO MINIMIZE UNIT FOOT PRINT. CONTRACTOR SHALL PROVIDE SECONDARY DRAIN PAN.
- PROVIDE DUCT MOUNTED SMOKE DETECTOR IN SUPPLY DUCTS OF EACH AIR HANDLING UNIT. DETECTOR FURNISHED BY ELECTRICAL CONTRACTOR INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR.
- UNIT ACCESS DOORS SHALL BE PROVIDED WITH HANDLES.
- PROVIDE UNIT WITH MIXING BOX SEGMENT.
- PROVIDE UNIT WITH HIGH EFFICIENCY MOTORS.

HEAT EXCHANGER SCHEDULE										
ID	SERVICE	CONDENSING CAPACITY	STEAM PSIG	WATER				TUBING	REMARKS	
				GPM	PSIG	PSID	EWT			
BLDG HEX	BUILDING HEAT	480 MBTH	150	60	30	2	160°F	SINGLE WALL	-VERTICAL SHELL AND TUBE, TWO PASS. -TOTAL TUBE LENGTH IS CONDENSING SURFACE AREA PLUS 70% FOR SUBCOOLING AREA. -SHELL MAY BE FACTORY OR SHOP FABRICATED. -TUBE SHEET SHALL BE SERRATED AND DOUBLE REAMED, OR BRAZED. -SHALL BE MOUNTED SUCH THAT IT MAY BE PIVOTTED FROM A CENTER MOUNTING POINT TO PULL THE TUBE BUNDLE AFTER DISCONNECTING STEAM, CONDENSATE, AND WATER UNIONS.	
DOM HEX	DOMESTIC HOT WATER	225 MBTH	150	10	55	2	50°F	VENTED DOUBLE WALL	-VERTICAL SHELL AND TUBE, TWO PASS. -TOTAL TUBE LENGTH IS CONDENSING SURFACE AREA PLUS 50% FOR SUBCOOLING AREA. -SHELL MAY BE FACTORY OR SHOP FABRICATED. -TUBE SHEET SHALL BE SERRATED AND DOUBLE REAMED, OR BRAZED. -SHALL BE MOUNTED SUCH THAT IT MAY BE PIVOTTED FROM A CENTER MOUNTING POINT TO PULL THE TUBE BUNDLE AFTER DISCONNECTING STEAM, CONDENSATE, AND WATER UNIONS. -TUBE SIDE SHALL BE SUITABLE FOR POTABLE WATER.	

AIR COOLED WATER CHILLER SCHEDULE										
MARK	TYPE	TONS	EER	OUTSIDE AMB-°F	GPM	EWT	LWT	ΔP (ftHD)	V/ø/HZ	REMARKS
CH-1	PACKAGE	60	9.8	95	127	55	45	6.2	208/3/60	SEE SPECIFICATIONS

DESIGN CONDITIONS		
	OUTDOOR	INDOOR
SUMMER	90°DB/79°WB	75°DB/50%RH
WINTER	23°DB	68°DB

PUMP SCHEDULE											
TAG	SERVICE	TYPE	FLOW (GPM)	HEAD (FT)	RPM	PUMP MIN. (EFF)	MOTOR DATA				REMARKS
							HP	VOLTS	PHASE	HZ	
P-1, P-1A	CHILLED WATER CONSTANT SPEED	FLOOR MOUNTED INLINE PUMPS	127	65	1750	60%	5	208	3	60	ALTERNATING REDUNDANT PUMPS
P-2, P-2A	HOT WATER CONSTANT SPEED	FLOOR MOUNTED INLINE PUMPS	60	65	1750	50%	3	208	3	60	ALTERNATING REDUNDANT PUMPS
P-3, P-3A	DOMESTIC HOT WATER CIRCULATING	INLINE PUMPS	10	17.5			1/6	120	1	60	SUCH AS B&G PL-36 PUMPS TO RUN CONCURRENTLY
P-4	DOMESTIC HOT WATER RETURN	INLINE PUMPS	10	17.5			1/6	120	1	60	

FAN SCHEDULE										
MARK	AREA SERVED	TYPE	CFM	SP. IN. WATER	FAN RPM	MOTOR	V/ø/HZ	DRIVE	CONTROL	NOTES
EF-1,2,3 & 4	ELECTRICAL ROOMS	CEILING CABINET	100	0.10	700	50 W	120/1/60	DIRECT	THERMOSTAT	①②③④
EF-5	MECHANICAL BUILDING	ROOF	400	0.10	1550	1/25 HP	120/1/60	DIRECT	THERMOSTAT	①②③

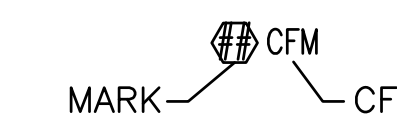
NOTES:

- PROVIDE WITH INTEGRAL BACKDRAFT DAMPERS.
- PROVIDE WITH SINGLE POINT POWER CONNECTION.
- PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
- PROVIDE WITH LOUVER AND BACKDRAFT DAMPER.

AIR DISTRIBUTION SCHEDULE										
MARK	1	2	3	4	A	B	C	D		
DESCRIPTION	LOUVER FACE DIFFUSER	LOUVER FACE DIFFUSER	LOUVER FACE DIFFUSER	SIDEWALL DIFFUSER	RETURN GRILLE	EXHAUST GRILLE	RETURN GRILLE	RETURN GRILLE		
MATERIAL	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.		
FINISH	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE		
DUCT CONNECTION SIZE	8"ø	6"ø	6"ø	18x6	8"ø	10x10	14"ø	14"ø		
FACE SIZE	24x24	12x12	24x24	18x6	24x24	12x12	24x24	24x24		
MAXIMUM NC	30	30	30	30	30	30	30	30		
FACE STYLE	SQUARE	SQUARE	SQUARE	RECT.	SQUARE	SQUARE	SQUARE	SQUARE		
FACE BLADE ARRANGEMENT (grilles & registers only)	N/A	N/A	N/A	N/A	PERF-ORATED	PERF-ORATED	PERF-ORATED	PERF-ORATED		
MOUNTING	LAY-IN	SURFACE	LAY-IN	SURFACE	LAY-IN	SURFACE	SURFACE	LAY-IN		
PATTERN (diffusers only)	FOUR WAY	FOUR WAY	FOUR WAY	TWO WAY	N/A	N/A	N/A	N/A		
DAMPERS	N/A	OBD	N/A	N/A	N/A	OBD	OBD	N/A		

NOTES:

- A LIMITED AMOUNT OF AVAILABLE CEILING AREA MAY REQUIRE THE CEILING BE CUT TO ACCOMMODATE A SMALL GRILLE FACE IN LAY-IN AS WELL AS SURFACE MOUNT. CONTRACTOR IS RESPONSIBLE FOR VERIFYING CEILING TYPE AND AVAILABLE SPACE WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.
- AIR DISTRIBUTION CALL-OUT



ENERGY RECOVERY UNIT																						
MARK	CFM		SUPPLY FAN		EXHAUST FAN		ROTARY HEAT WHEEL				CHILLED WATER COIL				HOT WATER COIL				ELECT V/ø/HZ	REMARKS		
	SUPPLY	EXHAUST	HP	ESP IN WG	HP	ESP IN WG	SUPPLY		EXHAUST		L.A.T.	ΔT	CAPACITY	WATER- FLOW	WPD	E.W.T.	L.W.T.	CAPACITY			WATER- FLOW	WPD
	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	°FDB/°FWB	°FDB/°FWB	°F	°F	MBH	GPM	FT WG	°F	°F	MBH	GPM	FT WG				
ERU-1	3429	3429	2.0	0.5	1.5	0.5	90.0/79.0	23.0/18.0	75.0/50%	68.0/35%	53.4/52.9	10	157	31.5	10.4	180.0	160	129	12.9	6	208/60/3	SEE NOTES BELOW

NOTES:

- PROVIDE SINGLE POINT POWER CONNECTION.
- UNIT SHALL BE FURNISHED WITH PREMIUM EFFICIENCY MOTORS.
- UNIT SHALL BE FACTORY ASSEMBLED COMPLETE WITH ALL APPURTENANCES INTEGRAL. EACH UNIT SHALL INCLUDE OUTSIDE AIR AND EXHAUST AIR DAMPERS WITH ACTUATORS. UNIT CASING SHALL BE INTERNALLY INSULATED WITH A MINIMUM R VALUE OF 7 AND SHALL HAVE AN INTERNAL METAL LINER.

M-604	
CEMS Engineering Inc. 3509 Iron Horse Drive Phone: (843)875-3637 Laddon, SC 29456 Fax: (843)875-4509 CEMS Project# 08158E Project Mgr: R. Avar	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA INTERIOR/EXTERIOR REPAIRS BUILDING 417
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR.	MECHANICAL SCHEDULES APPROVED: PWO OR OICC DATE: F 80091 SIZE CODE IDENT NO: 60003756 SATISFACTORY TO: DATE: CONST. CONTR. NO. N40085-09-B-0025 SCALE: NONE SPEC. 09-B-0025 SHEET 48 OF 71