

CONSULTANTS:

CIVIL ENGINEER:
MCLELLAND ENGINEERS

LANDSCAPE ARCHITECT:
LARSON BURNS SMITH

STRUCTURAL ENGINEER:
CROMWELL ENGINEERS INC.

MECH., ELEC., PLUMB. ENGINEER
CROMWELL ENGINEERS INC.

GLOBAL VILLAGE CONSULTANT
CAMBRIDGE SEVEN ASSOCIATES

INTERIOR DESIGNER:
POLK STANLEY ROWLAND
CURZON PORTER ARCHITECTS

GENERAL CONTRACTOR:
CDI CONTRACTORS, INC.

NOTES:

ISSUE DATE:

17 SEPTEMBER 2007

REVISIONS:

#	DATE:	DESCRIPTION:
1	09/27/07	ADDENDUM 01
2	01/07/08	ASI #01
3	01/16/08	ASI #02
4	06/18/08	ASI #16
5	09/14/08	ASI #31
6	02/27/09	ASI #37

MURPHY - KELLER
EDUCATIONAL CENTER

HEIFER
INTERNATIONAL
CENTER

LITTLE ROCK, ARKANSAS

PSRCP JOB NUMBER:

431E

CONTENTS:

MECHANICAL SCHEDULE:

SHEET NUMBER:

M401

100% O.S.A. - AIR HANDLING UNIT

MARK	SERVES	LOCATION	COOLING CAPACITY		OAT		FAN					NG MODULE		ELECTRIC HEAT		MOCP	REFERENCE PRODUCT
			TOTAL MBH	SENS. MBH	DB °F	WB °F	CFM	ESP	RPM	HP	VOLTS/Ø	FREE MBH	MAX MBH	KW	VOLTS/Ø		
MAU-1	HOOD	MECH MEZZ	-	-	96"	77"	1840	.5	910	.75	208/1	-	275	-	-	-	CAPTIVEAIRE 10"-L

PROVIDE 2" PLEATED FILTERS, WITH VBI-01 V-BANK FILTER INTAKE, DUCT DISCHARGE TEMPERATURE THERMOSTAT, 18-275 MBH D1.250 DIRECT FIRED HEATING MODULE, 5.4 FLA, 82° LAT DURING HEATING CYCLE, FILTERED AIR ONLY WHEN TEMPERATURE ABOVE 62°

AIR HANDLING UNIT

MARK	SERVES	LOCATION	FAN								COILS			FILTER(S)	REFERENCE PRODUCT	
			CFM	OSA	ESP	TSP	TYPE	RPM	BHP	MHP	VOLTS/Ø	PRE HEAT	CLG			HTG
AHU-1	EXHIBIT	MEZZANINE	18600	4000	2.0	4.0	PLENUM	1095	17.16	25	460/3	HC-1	CC-1	HC-2	20	McQUAY CAH035GDDC
AHU-2	MULTI-PURPOSE	MEZZANINE	10100	3000	2.0	4.0	PLENUM	1485	9.57	15	460/3	HC-3	CC-2	HC-4	12	McQUAY CAH021GDDC
AHU-3	CAFE	MEZZANINE	4500	1215	2.0	3.86	PLENUM	3500	7.82	10	460/3	HC-5	CC-3	HC-6	6	McQUAY CAH010GDGM
AHU-4	GIFT SHOP	MECH. RM.	4000	1045	2.0	3.82	PLENUM	3042	5.74	7.5	460/3	HC-7	CC-4	HC-8	3	McQUAY CAH010GDDC

- ① PROVIDE PLEATED 30% MERV 6 TYPE FILTERS
 ② PROVIDE PRE-WIRED VARIABLE SPEED CONTROLLER FOR ALL FANS
 ③ PROVIDE MOTORIZED OPPOSED BLADE DAMPERS. MECHANICAL CONTRACTOR RESPONSIBLE FOR INSTALLING ALL INTERNAL POWER AND CONTROL WIRING AS REQUIRED TO PROVIDE FULLY OPERATIONAL FAN AND DAMPER.

CHILLED WATER COOLING COIL

MARK	LOCATION	CFM	FACE VEL.	WIDTH	LENGTH	ROWS	FINS/INCH	TOTAL MBH	SENS. MBH	EDB °F	LDB °F	EWB °F	LWB °F	APD	EWT °F	LWT °F	GPM	WPD	REFERENCE PRODUCT
CC-1	AHU-1	18600	502	30	89	8	10	828	578	79.7	51.3	66.1	51.1	1.5	45	57.1	137	11.9	McQUAY 5W51008C
CC-2	AHU-2	10100	502	42	69	8	10	480	326	81.3	51.8	67.3	51.6	1.6	45	56.6	83.0	8.4	McQUAY 5W51008C
CC-3	AHU-3	4500	408	30	45	8	10	205	148	82.6	52.7	67.4	52.5	1.4	45	56.0	37.3	2.7	McQUAY 5W51008C
CC-4	AHU-4	4000	418	27	51	8	10	202	135	81.3	50.1	67.1	50.2	1.2	45	55.2	39.5	7.1	McQUAY 5W51008C

HOT WATER HEATING COIL

MARK	LOCATION	CFM	FACE VEL.	WIDTH	LENGTH	ROWS	FINS/INCH	MBH	EDB °F	LDB °F	APD	EWT °F	LWT °F	GPM	WPD	REFERENCE PRODUCT
HC-1	PRE-HEAT AHU-1	18600	577	27	86	1	10	690	58.0	92	0.21	180	148	43.4	8.1	McQUAY 5WQ1001C
HC-2	RE-HEAT AHU-1	18600	577	27	86	1	6	500	51.3	75.9	0.16	180	148	32.1	4.6	McQUAY 5WQ0601C
HC-3	PRE-HEAT AHU-2	10100	525	42	66	1	10	402	54.1	90.5	0.18	180	149	26.4	6.0	McQUAY 5WQ1001C
HC-4	RE-HEAT AHU-2	10100	525	42	66	1	6	275	51.8	76.7	0.13	180	148	17.1	2.6	McQUAY 5WQ0601C
HC-5	PRE-HEAT AHU-3	4500	514	30	42	1	10	172	54.9	89.8	0.18	180	150	11.5	1.5	McQUAY 5WQ1001C
HC-6	RE-HEAT AHU-3	4500	514	30	42	1	6	118	52.2	76.2	0.13	180	148	7.5	0.7	McQUAY 5WQ0601C
HC-7	PRE-HEAT AHU-4	4000	444	27	48	1	10	158	55.8	92.0	0.14	180	148	10.0	1.4	McQUAY 5WQ1001C
HC-8	RE-HEAT AHU-4	4000	444	27	48	1	6	114	50.4	76.5	0.10	180	148	7.2	0.8	McQUAY 5WQ0601C

CHILLER - WATER COOLED

MARK	LOCATION	CAPACITY (TONS)	EVAPORATOR				CONDENSER				COMPRESSORS				AMB TEMP °F	ELECTRICAL			MAX IPLV	REFERENCE PRODUCTS
			EWT °F	LWT °F	GPM	MAX. P.D.	EWT °F	LWT °F	GPM	MAX. P.D.	25%	50%	75%	100%		MCA	MOCP	VOLTS/Ø		
CH-2	1ST FLOOR MECH RM. HEADQUARTERS	83	54	42	199.4	15.1	83	93	249.3	9.6	0.879	1.759	2.638	3.517	100	111.3	150	460/3	0.523	CARRIER 30HXC086

- ① PROVIDE PRE-WIRED FACTORY MOUNTED INTEGRAL DISCONNECT DEVICE
 ② PROVIDE HOT GAS BY-PASS ON ANY ONE 15 TON CIRCUIT
 ③ PROVIDE 60 MESH BASKET STRAINER
 ④ PROVIDE (1) 30TON MODULE WITH (2) 15TON SCROLL COMPRESSORS AND (1) 50TON MODULE WITH (2) 25TON COMPRESSORS

DUCTLESS SPLIT SYSTEM

MARK	SERVES	COOLING MBH	HEATING MBH	CFM	ELECTRICAL			SEER	REFERENCE PRODUCT	
					FLA	MOCP	VOLTS/Ø			
MAC-1	MHP-1	SERVER RM.	9.0	12.2	200	10.3	20	120/1	16	SANYO INDOOR KHS0671 SANYO OUTDOOR CH0871

- ① MAC-1 AND MCU-1 COMPRISE A SINGLE AIR CONDITIONING SPLIT SYSTEM AND INCLUDES MICROPROCESSOR CONTROLS, WALL MOUNT FOR WIRELESS REMOTE, ON/OFF 24 HOUR TIMER, AND WASHABLE AIR FILTER.

UNIT HEATER - HOT WATER

MARK	LOCATION	CFM	MBH	GPM	WPD FT.	HP	RPM	VOLTS/Ø	REFERENCE PRODUCT
UH-1	WATER ROOM	340	12.8	1.3	0.5	1/60	1550	230/1	McQUAY UH-18
UH-2	MEZZANINE	1120	47	4.7	0.8	1/12	1550	230/1	McQUAY UH-63

- ① PROVIDE PRE-WIRED FACTORY MOUNTED INTEGRAL DISCONNECT DEVICE
 ② PROVIDE FACTORY LINE VOLT, HEAVY DUTY TYPE THERMOSTAT

EXHAUST FAN

MARK	SERVES	CFM	ESP	RPM	HP	VOLTS/Ø	MAX SONES	DRIVE	TYPE	CONTROL	WEIGHT	REMARKS	REFERENCE PRODUCT
EF-1	BATHROOM	700	0.5	1600	327w	120/1	4.2	DIRECT	IN-LINE	BAS	36	b,c	COOK GN-740
EF-2	MECH RM	350	0.25	1050	87.1w	120/1	5.5	DIRECT	CENTRIFUGAL	LINE VOLT T-STAT	30	a,b	COOK 100C100H
EF-3	MECH MEZZ	1400	0.25	1075	167	120/1	8.2	DIRECT	CENTRIFUGAL	LINE VOLT T-STAT	72	a,b	COOK T35C10D
EF-12	HEADQUARTERS	1250	0.50	933	221	460/3	7.0	BELT	IN-LINE	REFRIG. ALARM PANEL	150	b,c	COOK 150SQNB
EF-13	MECH MEZZ	2300	1.0	1120	1.5	208/1	14.5	BELT	CENTRIFUGAL	HOOD MOUNTED SWITCH	195	d	CAPTIVEAIRE NCA18HPFA

- ① PROVIDE PRE-WIRED FACTORY MOUNTED INTEGRAL DISCONNECT DEVICE (NEMA 3R FOR EXTERIOR)
 ② PROVIDE PRE-WIRED VARIABLE SPEED CONTROLLER ON DIRECT DRIVE FANS
 ③ PROVIDE ROOF CURB TO MATCH ROOF TYPE AND SLOPE AT ALL ROOF MOUNTED FANS
 ④ PROVIDE MOTORIZED DAMPER WITH TIME DELAY FAN START. MECHANICAL CONTRACTOR RESPONSIBLE FOR INSTALLING FAN, ROOF CURB, BACK DRAFT DAMPER, AND ALL INTERNAL POWER AND CONTROL WIRING TO PROVIDE FULLY OPERATIONAL FAN AND DAMPER
 ⑤ PROVIDE BIRD SCREEN
 ⑥ PROVIDE BACK DRAFT DAMPER
 ⑦ 700" MAX TEMPERATURE EXHAUST FAN, PROVIDE WITH MINIMUM 16 GAUGE GREASE DUCT CONNECTION TO TYPE 1 HOOD CONNECTION

INTAKE VENTILATOR

MARK	SERVES	CFM	PD	THROAT SIZE IN. x IN.	THROAT VELOCITY	TYPE	WEIGHT	REFERENCE PRODUCT
IV-1	EF-1	700	0.1	16x16	420	TIERED	50	COOK TRE
IV-2	AHU-4	1040	0.1	18x18	500	TIERED	50	COOK TRE

- ① PROVIDE ROOF MOUNTED EQUIPMENT CURB

PUMPS

MARK	SERVES	LOCATION	FLUID	TYPE	GPM	TDH FT.	IMPELLER DIA.	RPM	HP	VOLTS/Ø	MIN EFF.	REFERENCE PRODUCT
CHP-1	CHILLERS	HEADQUARTERS	WATER	CENTRIFUGAL	500	100	10.4	1750	20	460/3	77.2	PACO PUMPS 30127
CHP-2	CHILLERS	HEADQUARTERS	WATER	CENTRIFUGAL	500	100	10.4	1750	20	460/3	77.2	PACO PUMPS 30127

- ① PROVIDE NEW VARIABLE FREQUENCY DRIVE
 ② PROVIDE NEW SUCTION DIFFUSER WITH STRAINER

LOUVERS

MARK	SERVES	DESCRIPTION	SIZE (W/L)	MAX PD (IN W.G.)	MIN FREE AREA (SQFT)	VELOCITY (FT/MIN)	REFERENCE PRODUCT
LV-1	AHU-1 & AHU-2	INTAKE	54/86	0.25	16.96	412	RUSKIN ELF 6375D
LV-2	AHU-3	INTAKE	54/22	0.25	3.00	404	RUSKIN ELF 6375D
LV-3	MECH MEZZ	INTAKE	54/26	0.25	3.54	395	RUSKIN ELF 6375D

AIR DEVICE

MARK	TYPE	DESCRIPTION	SIZE	REFERENCE PRODUCT
A	SUPPLY DIFFUSER	ALUMINUM LINEAR BAR 0" DEFLECTION, 1/8" FIXED BARS, 1/4" SPACING WIDTH WALL MOUNTED	4' x 4'	TITUS CT-480-4-01-N-AG35
B	SUPPLY DIFFUSER	ALUMINUM LINEAR BAR 0" DEFLECTION, 7/32" FIXED BARS, 7/16" SPACING WIDTH FLOOR MOUNTED	4' x 2-1/2'	TITUS CT-PP-0-5-01-A-AG35
C	SUPPLY DIFFUSER	ALUMINUM LINEAR BAR 0" DEFLECTION, 7/32" FIXED BARS, 7/16" SPACING WIDTH FLOOR MOUNTED	3' x 3-1/2'	TITUS CT-PP-0-5-01-A-AG35
D	SUPPLY DIFFUSER	ALUMINUM LINEAR BAR 0" DEFLECTION, 7/32" FIXED BARS, 7/16" SPACING WIDTH FLOOR MOUNTED	4'x5'	TITUS CT-PP-0-5-01-A-AG35
E	SUPPLY DIFFUSER	ALUMINUM LINEAR SLOT 3/4" SLOT WIDTH DUCT MOUNTED	3 SLOT	TITUS ML-38-48-16-3-01-20
F	SUPPLY DIFFUSER	ALUMINUM LINEAR SLOT 3/4" SLOT WIDTH DUCT MOUNTED	2 SLOT	TITUS ML-38-48-16-2-01-12
G	SUPPLY DIFFUSER	ALUMINUM ADJUSTABLE SPOT DIFFUSER	12"	AIR CONCEPTS APLD
H	SUPPLY DIFFUSER	ALUMINUM LAYIN CEILING DIFFUSER	2' x 2'	TITUS "OMNI"
X	EXHAUST GRILLE	LAYIN CEILING EGGRATE GRILLE	2' x 2'	TITUS "50F"
Y	RETURN GRILLE	HEAVY DUTY SIDE WALL RETURN GRILLE 1/2" O.C. SPACING, 38" DEFLECTION BLADES PARALLEL TO LONG DIMENSION	54"x26"	TITUS "33R"
Z	RETURN GRILLE	LAYIN CEILING EGGRATE GRILLE	2' x 2'	TITUS "50F"
J	RETURN GRILLE	SIDEWALL RETURN GRILLE 1/2" SPACING, 0" DEFLECTION BLADES PARALLEL TO LONG DIMENSION	42" x 20"	TITUS "355ZFL"

