

**WILLIAM J CLINTON
PRESIDENTIAL
CENTER**

LITTLE ROCK, ARKANSAS

Architect

POLSHEK PARTNERSHIP LLP
320 West 13th Street
New York, New York 10014
212 607 7171

Coordinating Architects

POLK STANLEY YEARY ARCHITECTS, LTD
700 South Schiller Street
Little Rock, Arkansas 72201
501 378 0878

WITSELL EVANS RASCO
801 West Third Street
Little Rock, Arkansas 72201
501 374 5300

WOODS CARADINE ARCHITECTS
2200 South Main Street
Little Rock, Arkansas 72206
501 374 4000

Landscape Architects

HARGREAVES ASSOCIATES
118 Maguire Street
Cambridge, Massachusetts 02139
617 861 0070

LANDSCAPE ARCHITECTURE, Inc.
2300 Cottondale Lane Suite 202
Little Rock, Arkansas 72202
501 374 5510

Structural Engineer

LESLIE E. ROBERTSON ASSOC. R.L.P.
30 Broad Street, 4th Floor
New York, New York 10004
212 750 9000

MEP Engineers

FLACK + KURTZ Inc.
475 Fifth Avenue
New York, New York 10017
212 532 9600

CROMWELL ARCHITECTS ENGINEERS

101 South Spring Street
Little Rock, Arkansas 72201
501 372 2900

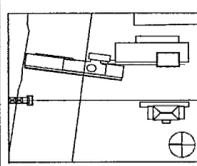
Curianwall Consultant

R. A. HEINTGES ARCHITECTS
126 Fifth Avenue 9th Floor
New York, New York 10011
212 632 2565

Seal



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COOLING TOWER														
MARK	SERVES	LOCATION	AMB WBS OF	ENT OF	LWT OF	GPM TOTAL CELL	BASIN HEAT/CELL				FAN MOTOR/CELL			REFERENCE PRODUCT
							# MAX KW	VOLTS/Ø	HP	RPM	VOLTS/Ø	VFD	DRIVE	
CT-1,2,3	CHILLERS	MECHANICAL YARD	80	95	85	900	(3)15	460/3	20	1800	460/3	YES	GEAR	MARLEY MODEL NC8305F ①

① RIGHT ANGLE SUMP OUTLET, INLET BALANCING VALVE ② HANDRAILS & LADDERS WITH 5 FT EXTENSION WITH SAFETY CAGE ACCESS PLATFORM INTERIOR MAINT WALKWAY, SAFETY VIBRATION CUTOFF SWITCH BASIN EQUALIZER FLUMES, ISOLATION, WEIR GATES

UNIT HEATER										
MARK	SERVES	MBH CAP	GPM	MAX WPD FT	CFM	HP WATT	VOLTS/Ø	ENT/LWT F	EXIT/LWT F	REFERENCE PRODUCT
UH-1	SEE PLANS	28.1	1.5	5.0	1214	1/8	120/1Ø	180/140	60/61.3	TRANE UHSA090S
UH-2	SEE PLANS	49.5	2.5	5.0	1760	1/6	120/1Ø	180/140	60/65.9	TRANE UHSA126S

PACKAGED DESICCANT DEHUMIDIFICATION UNIT (CARGOCAIRE AS STANDARD)																													
DESIGNATION	SERVICE	LOCATION	DESICCANT OPTION	PROCESS AIR						REACTIVATION AIR						WATER SIDE VALUES				MODEL	REMARKS								
				TOTAL AIR QUALITY (CFM)	ENT AIR (CFM)	LVT AIR (CFM)	MAX TSPESP (PPM)	MAX FAN HP	SPECIFICATION TYPE	MINIMUM EFFICIENCY %	TOTAL AIR QUALITY (CFM)	ENT AIR (CFM)	MAX TSPESP (PPM)	MAX FAN HP	SPECIFICATION TYPE	MINIMUM EFFICIENCY %	HEAT SOURCE	MIN GAS SUPPLY PRESSURE (INCHES OF W.C.)	MAX HEAT INPUT (MBTUH)			CHILLED WATER FLOW RATE (GPM)	MAXIMUM PRESS DROP (FT OF WATER)	ENT TEMP (DEGREES F)	LVT TEMP (DEGREES F)	HOT WATER FLOW RATE (GPM)	MAXIMUM PRESS DROP (FT OF W.C.)	ENT TEMP (DEGREES F)	LVT TEMP (DEGREES F)
DU B-1	BASEMENT	BASEMENT	SILICA GEL	1,800	58/42	99/6	5.86/2.31	3	"A"	30%	600	244	6.56/2.86	2	"A"	30%	GAS	-	107.3	10	9.5	42	56	2	15	180	140	MUNTERS HCD-2250-DGA-SFCMBP-1	DIRECT FIRED
DU B-2	GROUND LEVEL	BASEMENT	SILICA GEL	2,400	53/49	110/6	3.62/1.22	3	"A"	30%	1,050	250	4.93/1.98	2	"A"	30%	GAS	-	194.9	24	23.4	42	56	4.75	15	180	140	MUNTERS HCD-4500-DGBA-SFCMBF-1	DIRECT FIRED
DU B-3	STAND-BY	BASEMENT	SILICA GEL	2,400	53/49	110/6	3.62/1.22	3	"A"	30%	1,050	250	4.93/1.98	2	"A"	30%	GAS	-	194.9	24	23.4	42	56	4.75	15	180	140	MUNTERS HCD-4500-DGBA-SFCMBF-1	DIRECT FIRED
DU M-1	MUSEUM	2ND LEVEL	SILICA GEL	2,250	50/51.3	94/6.8	7.79/4.3	3	"A"	30%	600	250	6.56/2.85	2	"A"	30%	GAS	-	116.2	15	12.9	42	56	N/A	N/A	N/A	N/A	MUNTERS HCD-2250-DGA-PLUS	DIRECT FIRED

HOT WATER BOILER													
MARK	SERVES	LOCATION	FUEL	MBH INPUT	MBH OUTPUT	ENT	LWT	GPM	PH	VOLTS/Ø	FLA	MARK	MANUFACTURER & MODEL NO
B-12.3,4	HOT WTR.	MEP-4	NGAS	2000	1740	180	140	87	②	460/3	6	20	AERCO BENCHMARK (BMK) 2.0 GWB ①

① PROVIDE MODEL 168 AESCO BOILER MANAGEMENT SYSTEM VENTING MATERIAL SHALL BE AL29-4C STAINLESS STEEL
② 10.1 FT @ 170 GPM

PUMPS														
MARK	SERVES	LOCATION	FLUID	TYPE	GPM	TOTL FT	NPSH FT	IMPELLER DIA.	RPM	BHP	HP	VOLTS/Ø	MIN EFF %	REFERENCE PRODUCT
CP-1,2,3	CHILLED WATER	MEP4	H2O	END SUCT	515	125	10.4	11.0625	1750	22.0	25	460/3	74	AURORA 3x4x12 ① ③
CP-4,5,6	COND WATER	MEP4	H2O	END SUCT	900	125	12.6	8.75	1750	16.2	20	460/3	86	AURORA 5x6x11 ① ③
CP-7	HX-1	MEP4	H2O	END SUCT	630	60	11.4	8.0	1750	10.2	15	460/3	80	AURORA 4x5x9 ① ③
CP-8,9	HEATING WATER	MEP4	H2O	END SUCT	260	115	15.7	10.9375	1750	12.3	15	460/3	64	AURORA 2x2.5x12 ① ③
CP-10	RADIANT SYSTEM (EAST)	MEP1	H2O	END SUCT	150	100	7.6	10.125	1750	3.86	10.0	460/3	65.1	B+G 1531-2E ② ④
CP-11	RADIANT SYSTEM (EAST)	MEP1	H2O	END SUCT	150	100	7.6	10.125	1750	3.86	10.0	460/3	65.1	B+G 1531-2E ② ④
CP-12	RADIANT SYSTEM (WEST)	MEP1	H2O	END SUCT	175	100	7.8	10.25	1750	6.62	10.0	460/3	67.3	B+G 1531-2E ② ④
CP-13	RADIANT SYSTEM (WEST)	MEP1	H2O	END SUCT	175	100	7.8	10.25	1750	6.62	10.0	460/3	67.3	B+G 1531-2E ② ④
CP-14	RADIANT SYSTEM (G HALL)	MEP1	H2O	END SUCT	50	100	7.1	9.5	1750	2.47	5.0	460/3	50.9	B+G 1531-1-1/4 BC ② ④
CP-15	RADIANT SYSTEM (G HALL)	MEP1	H2O	END SUCT	50	100	7.1	9.5	1750	2.47	5.0	460/3	50.9	B+G 1531-1 1/4 BC ② ④
CP-16	KITCHEN CONDENSER	MEP1	H2O	IN-LINE	4.5	20	-	-	2650	-	1/12	120/1	-	B+G PL-30 ⑤
CP-17	KITCHEN CONDENSER	MEP1	H2O	IN-LINE	4.5	20	-	-	2650	-	1/12	120/1	-	B+G PL-30 ⑤

① BASE MOUNTED, FLEXIBLE COUPLED, END SUCTION PUMP ② PART OF PUMPING PACKAGE ③ PERMANENTLY LUBRICATED IRON BODY BOOSTER PUMP
④ BASE MOUNTED, CLOSE-COUPLED END SUCTION PUMP ⑤ PROVIDE SUCTION DIFFUSER, TRIPLE DUTY VALVE

HEAT EXCHANGERS															
MARK	SERVES	LOCATION	TONS /MBH	HOT LOOP					COOL LOOP					REFERENCE PRODUCT	REMARKS
				FLUID	ENT/F	LWT/F	GPM	WPD PSI	FLUID	ENT/F	LWT/F	GPM	WPD PSI		
HX-1	CHILLED WATER SYSTEM	MEP4		CH WTR	56	44	420	3.9	COND WTR	42	50	630	8.0	MEULLER AT 40MH	B-20 FRAME ①
HX-2	RADIANT COOLING (EAST)	MEP1		LOOP WTR	51	48	150	4.0	CH WTR	42	50	56.25	0.7	MEULLER AT 20PH	C-20 FRAME ①
HX-3	RADIANT COOLING (WEST)	MEP1		LOOP WTR	51	48	175	7.8	CH WTR	42	50	65.6	1.4	MEULLER AT 20PH	C-20 FRAME ①
HX-4	RADIANT COOLING (G HALL)	MEP1		LOOP WTR	51	48	50	7.3	CH WTR	42	50	18.75	1.3	MEULLER AT 4FG	C-20 FRAME ①
HX-5	RADIANT COOLING (EAST)	MEP1		HOT WTR	180	140	37.5	0.6	LOOP WTR	80	90	150	7.4	MEULLER 10G	C-20 FRAME ①
HX-6	RADIANT COOLING (WEST)	MEP1		HOT WTR	180	140	43.75	0.7	LOOP WTR	80	90	175	7.0	MEULLER 402 V	C-20 FRAME ①
HX-7	RADIANT COOLING (G HALL)	MEP1		HOT WTR	180	140	12.5	0.6	LOOP WTR	80	90	50	7.4	MEULLER 4G	C-20 FRAME ①

① 304 S S PLATES

EXPANSION TANK											
MARK	SERVES	TANK VOLUME	TANK ACCEPT VOLUME	TYPE	LOCATION	MIN TEMP	MAX TEMP	MIN PRESS. PSIG	MAX PRESS. PSIG	INITIAL TANK PRESS. PSIG	REFERENCE PRODUCT
ET-1	CHILLED WATER SYSTEM			BLADDER	MEP4	42	70	60	135		B&G -
ET-2	HOT WATER SYSTEM			BLADDER	MEP4	60	180	60	135		B&G -
ET-3	EAST RADIANT SYSTEMS			DIAPHRAM	MEP1	47	100				B&G -
ET-4	WEST RADIANT SYSTEM			DIAPHRAM	MEP1	47	100				B&G -
ET-5	G HALL RADIANT SYSTEM			DIAPHRAM	MEP1	47	100				B&G -

AIR DEVICE				
MARK	TYPE	DESCRIPTION	SIZE	REFERENCE PRODUCT
A	SUPPLY	SQUARE PLAQUE	SEE PLANS	TITUS "OMINI" ①
B	RETURN	PERFORATED FACE	SEE PLANS	TITUS "8F" ②
C	EXHAUST	EGG GRATE FACE	SEE PLANS	TITUS "50F" ③
D	SUPPLY	SQUARE PLAQUE	SEE PLANS	TITUS "OMINI" ④
E	RETURN	PERFORATED FACE	SEE PLANS	TITUS "8F" ⑤
F	SUPPLY	LINEAR SLOT	SEE PLANS	TITUS "TBD-30" ⑥
G	SUPPLY	SIDEWALL	SEE PLANS	TITUS "300RS" ⑦
H	RETURN	SIDEWALL	SEE PLANS	TITUS "350ZR" ⑧
J	SUPPLY	SIDEWALL LINEAR SLOT	SEE PLANS	TITUS "ML-39" ⑨
K	SUPPLY	LINEAR BAR	SEE PLANS	TITUS "CT-480" ⑩
L	SUPPLY	LINEAR SLOT	SEE PLANS	TITUS ML-39 ⑪
M	RETURN	HEAVY DUTY BAR RETURN GRILLE	SEE PLANS	TITUS 33RL ⑫
N	RETURN	LINEAR SLOT	SEE PLANS	TITUS MRL-39 ⑬
P	SUPPLY	ROUND ADJUSTABLE	SEE PLANS	TITUS "TMR" ⑭
R	SUPPLY	LOUVERED FACE	SEE PLANS	TITUS "TDCA" ⑮
S	SUPPLY	LINEAR BAR	SEE PLANS	TITUS CT-PP0 ⑯
T	SUPPLY	FLOW BAR	SEE PLANS	TITUS FL-HT ⑰

- ① FOR LAY-IN CEILING (24"x24" NOMINAL FRAME TYPE 3) SQUARE PANEL FACE
- ② FOR LAY-IN CEILING (24"x24" NOMINAL, BORDER TYPE 3) PERFORATED SCREEN WITH 3/16" Ø HOLES ON 1/4" STAGGERED CENTERS ALUMINUM CONSTRUCTION PROVIDE SQUARE TO ROUND TRANSITION AS REQUIRED
- ③ SURFACE MOUNT (BORDER TYPE 1) 1/2"x1/2"x1/2" EGG GRATE ALUMINUM CONSTRUCTION SQUARE TO ROUND TRANSITION AS REQUIRED PROVIDE OPPOSED BLADE DAMPER
- ④ FOR LAY-IN CEILING, NOMINAL 24"x24" OR 12"x12" FACE (AS INDICATED ON PLANS) PROVIDE MODEL "TRM" TRIM FRAME FOR HARD CEILING APPLICATION
- ⑤ FOR LAY-IN CEILING (SIZE AS SHOWN ON PLANS, BORDER TYPE 3) PERFORATED SCREEN WITH 3/16" Ø HOLES ON 1/4" STAGGERED CENTERS ALUMINUM CONSTRUCTION PROVIDE SQUARE TO ROUND TRANSITION AS REQUIRED PROVIDE MODEL "TRM" TRIM FRAME FOR HARD CEILING APPLICATION
- ⑥ ADJUSTABLE MODULINEAR PLENUM SLOT DIFFUSER FOR LAY-IN CEILINGS, PROVIDE 11" TALL INSULATED PLENUM, MODEL "PF" MOUNTING FRAME FOR HARD CEILING APPLICATION, SEE PLANS FOR LENGTH & INLET SIZE. SLOT SIZE & COUNT ARE AS FOLLOWS:
UP TO 100 CFM 3/4" SLOT, 2 SLOTS (2'-0" LONG, 8" Ø INLET)
UP TO 100 CFM 3/4" SLOT, 1 SLOT (4'-0" LONG, 6" Ø INLET)
UP TO 200 CFM 1" SLOT, 2 SLOTS (4'-0" LONG, 8" Ø INLET)
UP TO 300 CFM 1" SLOT, 3 SLOTS (4'-0" LONG, 10" Ø INLET)
UP TO 350 CFM 1" SLOT, 4 SLOTS (4'-0" LONG, 10" Ø INLET)
UP TO 400 CFM 1" SLOT, 4 SLOTS (4'-0" LONG, 12" Ø INLET)
UP TO 600 CFM 1" SLOT, 4 SLOTS (5'-0" LONG, 12" Ø INLET)
- ⑦ DOUBLE DEFLECTION GRILLE (BORDER TYPE 1) BLADES 3/4" O C, FRONT BLADES PARALLEL TO SHORT DIMENSION PROVIDE OPPOSED BLADE DAMPER, FOAM GASKET
- ⑧ SINGLE DEFLECTION GRILLE (BORDER TYPE 1) 0 DEGREE FIXED BLADES 3/4" O C, FRONT BLADES PARALLEL TO LONG DIMENSION PROVIDE OPPOSED BLADE DAMPER, FOAM GASKET
- ⑨ MODULINEAR SLOT DIFFUSER FOR SURFACE MOUNTING (BORDER TYPE 1A) PROVIDE TYPE "X-X" END BORDER 1" SLOTS. SEE PLANS FOR SLOT COUNT
- ⑩ ALUMINUM FIXED BAR GRILLE, FINISH BY ARCHITECT, 1/8" BARS, 1/4" O C, 0 DEGREE DEFLECTION BORDER TYPE "6" (NO FLANGE FLOOR MOUNT) CORE SHALL BE REMOVABLE FROM FRAME FOR DAMPER ADJUSTMENT PROVIDE MODEL AG-35 DAMPER AT PLENUM CONNECTION, MITER CORNERS WHERE SHOWN ON PLANS & MODEL BLKS BLANK-OFFS FOR UNUSED PORTIONS OF GRILLES
- ⑪ MODULINEAR SLOT DIFFUSER, FLUSH BORDER/CONCEALED MOUNTING (TYPE "3") 4-1" SLOTS TYPE "Z" END CAP AT ENDS OF LONG CONTINUOUS RUNS (SEE ARCH PLANS FOR LENGTH) PROVIDE MITERED CORNERS WHERE SHOWN ON PLANS PROVIDE "BLKS" BLANK-OFFS AS REQUIRED FOR UNUSED SECTIONS
- ⑫ HEAVY DUTY BAR GRILLE FORMED 16 GAUGE BORDER 38 DEGREE FIXED DEFLECTIONS 14 GAUGE BLADES 1/2" O C, HIDDEN MULLIONS, BLADES PARALLEL TO LONG DIMENSION PROVIDE FOAM GASKET
- ⑬ MODULINEAR SLOT RETURN TO MATCH SUPPLY FLUSH BORDER/CONCEALED MOUNTING (TYPE "3") 4-1" SLOTS TYPE "Z" END CAPS ON END OF LONG CONTINUOUS RUNS (SEE ARCH PLANS FOR LENGTH)
- ⑭ DUCT MOUNTED ROUND CEILING DIFFUSER 360 DEGREE DISCHARGE PATTERN, 3 CONES, STEEL CONSTRUCTION 2-POSITION HORIZONTAL DISCHARGE SETTINGS
- ⑮ FOR LAY-IN CEILING (24x24 NOMINAL BORDER TYPE "3") 2-WAY "S2" PATTERN, ADJUSTABLE DISCHARGE ROUND NECK
- ⑯ ALUMINUM FIXED BAR GRILLE, (FINISH BY ARCHITECT) 7/32" BARS 7/16" O C BORDER TYPE "11"
- ⑰ LINEAR FLOWBAR SYSTEM

INTAKE VENTILATOR						
DESIGNATION	SERVES/LOCATION	CFM	HOOD VELOCITY FPM	P/D IN	FREE AREA SF	REFERENCE PRODUCT
IV-5-1	AH-5-1.2,3	4720	315	0.053	15	COOK 30x36 V1 ①

① PROVIDE ROOF CURB (COORDINATE WITH ROOF TYPE) BIRDSCREEN

