	,										20.15.15.15.15.15.15.15.15.15.15.15.15.15.																		All	
· · · · · · · · · · · · · · · · · · ·																	CI	HILLI	ER S	SCHED	ULE									
I.D	LOCATION	CEDIAGE	AAANI ITA OTI IDED	MODEL	TVDE	CAPACITY		EVAPOR	ATOR				CONDE	NSER		ELECTF	RICAL DATA					PRIMARY	REFR	RIGERANT	SOUND		OPERATING	ANCHOR	SPECIAL SEISMIC	DEMARKS
I.D NUME	ER LOCATION	SERVICE	MANUFACTURER	MODEL	TYPE	(TON)	FLOW (GPM)	E.W.T. l	L.W.T. FOULI	NG P.D. OR (FT.)	FLOW E. (GPM)	W.T. L	.W.T. FOULIN	G P.D. R (FT.)	UNIT FLA	MCA E	MERGENCY POWER	MOCP (AMP)	VOLT	PHASE HERT	Z CONTROL	PRIMARY EFFICIENCY KW/TON	TYPE	CHARGE (LB)	(DBA)	PROJECT (MBH)	WEIGHT (LBS)	ANCHOR DETAIL	CERTIFICATION CAN 2-1708A.5	REMARKS
CH-1,	2,3 ROOF TOWER II	CHILLED WATER SYSTEM	TRANE	CVHF-1300	CENTRIFUGA	L 1300	2217	56	42 0.000	19.98	2588	78 9	0.0002	5 22.41	725.7	1218	1	2000	460	3 60	115/1/60	0.558	R-123	3 1700	90	12.39	43,000	2/M10-02	YES	
1	CHILLER COMPLET DRIVE AND DISCO	E WITH VARIABLE NNECT MEANS	SPEED																											

	a province a fragment recovery and the state of the first and a finish and a first country and the state of t																COOLI	NG	TOWER	SCI	HEDUL	E							
I.D. NUMBER	LOCATION	MANUFACTURER	MODEL	EWT F°	LWT EAT	GPM DF	OP -	HP VOLT	FAN PHASE	HZ. Q	TOWER WEIG	TOTAL	LADDE	R WEIGHT ((LBS) H	ANDRAIL WE	IGHT (LBS)	PLATF QTY	ORM WEIGHT (RNAL WALKY	/AY WEIGHT (LBS)	SERVICE PLATFO	RM WEIGHT (LBS) TOTAL	MAX OPERATION PER CELL	N WEIGHT (LBS) TOTAL	EMERGENCY POWER	ANCHORAGE DETAIL	SPECIAL SEISMIC CERTIFICATION CAN 2-1708A.5
(CT)	COOLING TOWER	BAC	31301C	92	78 72.27	2,600		100 460	3	60	46,590	139,770	2	240	480	210	630	2	200 40	3	120	360	3 570	1710	48,000	144,000	YES	1/M10-02	YES

REMARKS: 1. COMPLETE WITH VFD, LADDER AND HANDRAIL, SIDE ACCESS LADDER WITH ANTI-SKID SURFACE 2. VFD SHALL BE PROVIDED WITH PUMPING PACKAGE. 4. STAINLESS STEEL COLD WATER BASIN AND HOT WATER BASIN. 3. STANDARD CONSTRUCTION CT FAN. CTI CERTIFIED, TEFC PREMIUM EFFICIENCY MOTOR

													HEP	A FILT	ER FOI	R ISOLA	ATIO	N EI	SCI	HED	ULE			
				CONTAINMENT	HOUSING				PRI	E-FILTER 3	0% EFFIC	IENCY				HEPA-FILT	ER 99.9	7% EFFICII	ENCY			MAX TOTAL		
I.D. NUMBER	LOCATION	SERVING	MFG	MODEL	NOMINALSIZE HxWxD (IN)	WEIGHT	MFG	MODEL MERV-7	NOMINAL SIZE			RATION CA		MFG	MODEL	NOMINAL SIZE		· · · · · · · · · · · · · · · · · · ·	PERATION			OPERATION WEIGHT	ANCHOR DETAIL	REMARKS
					(IN)	(LBS)	W V		HxWxD	QTY	FPM (CFM P	D WEIGHT EA. (LBS) "" •		HxWxD	QTY	FPM	CFM	PD	WEIGHT EA. (Lbs)			
HEPA E1	PENTHOUSE LEVEL 3	E1	FLANDER	BF1-3H3W 4GGF-304-D3	90X51X38	480	FLANDERS	PRE-PLEATED 40	24X24X4	9	500	2000 0	.25 3	FLANDERS	SUPERFLOW 2K SF2K-8 FI-YY	24X24X12	9	500	2000	1.00	40	1000	7/M10.07	STATIC PRESSURE TAPS, MAGNEHELIC GAGES, SMIVEL DOOR LATCH. DUCT TRANSITION, HEAVY DUTY GAS TIGHT OPPESED BLADE, ISOLATION DAMPER & LIFTING LUGS.
HEPA E2	TOWER II ROOF	E2	FLANDER	BF1-2H1W 4GGF-304-D3	60X27X25	150	FLANDERS	PRE-PLEATED 40	24X24X4	2	375	1500 0	.25 3	FLANDERS	SUPERFLOW 2K SF2K-8 FI-YY	24X24X12	2	375	1500	1.00	40	700	7/M10.07	STATIC PRESSURE TAPS, MAGNEHELIC GAGES, SWVEL DOOR LATCH. DUCT TRANSITION, HEAVY DUTY GAS TIGHT OPPESED BLADE, ISOLATION DAMPER & LIFTING LUGS.
HEPA W1	PANCAKE ROOF	(IEF W1)	FLANDER	BF1-2H2W 4GGF-304-D3	60X51X38	290	FLANDERS	PRE-PLEATED 40	24X24X4	4	375	1500 0	.25 , 3	FLANDERS	SUPERFLOW 2K SF2K-8 FI-YY	24X24X12	4	375	1500	1.00	40	700	7/M10.07	STATIC PRESSURE TAPS, MAGNEHELIC GAGES, SWIVEL DOOR LATCH. DUCT TRANSITION, HEAVY DUTY GAS TIGHT OPPESED BLADE, ISOLATION DAMPER & LIFTING LUGS.
HEPA W2	PANCAKE ROOF	HLEF W1	FLANDER	BF1-2H1W 4GGF-304-D3	60X27X38	150	FLANDERS	PRE-PLEATED 40	24X24X4	2	375	1500 0	.25 3	FLANDERS	SUPERFLOW 2K SF2K-8 FI-YY	24X24X12	4	375	1500	1.00	40	700	7/M10.07	STATIC PRESSURE TAPS, MAGNEHELIC GAGES, SWIVEL DOOR LATCH. DUCT TRANSITION, HEAVY DUTY GAS TIGHT OPPESED BLADE, ISOLATION DAMPER & LIFTING LUGS.

													P	ACK	AGED	CE	NTR	AL F	PLAN	T CH	HILL	ED W	ATE	R PU	MP S	CHEDU	JLE												
			CAT	ALOG DATA	CENTRIFL	JGAL CI	HILLERS CH	IILLED WA	TER VAF	RIABLE PI	RIMARY I	PUMPS		CONDE	NSER WAT	ER CON	STANT F	RIMARY	PUMPS		Al	IR SEPARA	TOR	E	XPANSION TA	NK	RATED		COOLIN	IG TOWER	FAN VFD'S			SYSTEM				TOTAL PACKAGE	
TAG NO.	LOCATION	SERVICE	COMPANY NAME	MODEL TYPE	TYPE	QTY	GPM PER PUMP	TOTAL HEAD (FT. WG.)	MOTOR (HP)	RPM	EFF (%)	VFD	TYPE		PUMP (I	TOTAL HEAD FT. WG.)	MOTOR (HP)	RPM	EFF (%)	VFD	TYPE	CAPACITY (GPM)	SIZE DIA. x H (IN)	TYPE	CAPACITY (GAL)	SIZE DIA. x H (IN)	OPERATING PRESSURE (PSIG)	HP Q	1 T 1	OLTAGE Г/РН/НZ	CT VFD SSPC (FLA)	CT VFD SSPC (FLA)	CT VFD SSPC (FLA)	SYSTEM VOLTAGE VOLT/PH/HZ	PUMPS FLA	PUMPS MCA	PUMPS MOCP	TOTAL PACKAGE OPERATING WEIGHT (LBS.)	ANCHORAGE DETAIL
CHWA 1	CENTRAL PLANT CHILLER ROOM	CHILLED WATER	SYSTECON SI	VCH7200V104P18X1	VERTICAL IN-LINE	3	2,400	180	200	1800	77	YES									CENT	9600	54X124	BLADDER	528	48X84	125							460-3-60	726	786	900	63,000	3/M10.02
CWP 2	CENTRAL PLANT CHILLER ROOM	CONDENSER WATER	SYSTECON SII	PC007800VI0N18X1									VERTICAL IN-LINE	3	2,600	100	100	1800	84	YES							125	100	3 46	0-3-60	378	409	500	460-3-60	378	409	500	53,100	4/M10.02

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REMARKS

CHWP-1 SHALL BE EQUIPPED WITH SINGLE POINT POWER CONNECTION, ETL LISTING AS A COMPLETE PACKAGE, COMPLETE DDC CONTROL SYSTEM WITH GRAPHIC USER INTERFACE PANEL AND BAS INTERFACE.

2. CDWP-1 SHALL BE EQUIPPED WITH A SINGLE POINT POWER CONNECTION FOR CDW PUMP

PROVIDED BY SYSTECON INSTALLED BY CONTRACTOR

SYSTEM AND ANOTHER SINGLE POINT CONNECTION FOR COOLING TOWER FAN VFD'S, ETL LISTING AS A COMPLETE PACKAGE. COMPLETE DDC CONTROL SYSTEM WITH GRAPHIC USER INTERFACE AND BAS INTERFACE.

- 3. BOTH PUMP PACKAGES SHALL INCLUDE PROVISION FOR THE INSTALLATION OF A FUTURE 4TH PUMP. THE 4TH PUMP SHALL BE FOR STANDBY.
- 4. SYSTEM SHALL BE FLOW TESTED AS A COMPLETE PACKAGE AT FACTORY AND IN NECESSARY, SPLIT FOR SHIPPING. INSTALLING CONTRACTOR SHALL REASSEMBLE SYSTEM

AT JOB SITE PER MANUFACTURER'S INSTRUCTION AND TECHNICIAN OBSERVATION.

- 4. VARIOUS PRESSURE AND TEMPERATURE TRANSMITTERS, FLOW METERS, VALVES, ETC SHALL BE PROVIDED BY PUMP PACKAGE SYSTEM MANUFACTURE TO BE INSTALLED REMOTELY AND WIRED BACK, BY INSTALLING CONRTACTOR, TO PACKAGED SYSTEM CONTROLLER.
- 5. CONTROL WIRING TO AND FROM ALL CHILLER SHALL BE INSTALL BY BUILDING AUTOMATION SYSTEM CONTROL CONTRACTOR UNDER PUMP PACKAGE MANUFACTURE'S
- 6. COORDINATE WITH COOLING TOWER MANUFACTURER FOR COMPATIBILITY.

						001	The		\						
						CON	IIKOL	. V <i>F</i>	AL VE	= 5(CHEDU	JLE			
I.D. NUMBER	BER (IN) (GPM) CONTROL STYLE POSITION (PSI) 90° 60° V/P/HZ														
$\langle V \rangle$	CHILLER ROOM	CHILLED WATER SYSTEM	12	2217	MODULATE	2-WAY	IN PLACE	4	4428	2319	120/1/60				
⟨VI / 2	CHILLER ROOM	BYPASS	8	1000	MODULATE	2-WAY	IN PLACE	4	1911	1001	120/1/60				
$\frac{\sqrt{V}}{3}$	CHILLER ROOM	CONDENSER WATER SYSTEM	12	2588	ON-OFF	2-WAY	IN PLACE	4	4428	2319	120/1/60				
NOTE:															

			S	PLIT-	TYPI	E HE	AT I	PUMP	OU.	TDOOF	R PUMP	UNIT S	CHEDUL			
		CAT	ALOG DATA		anna ann an t-ann an	COC	LING DA	TA	nganasani na na taona na na taona na n	ELECTR	RICAL DATA	OPERATING	Martin description	ANCHORAGE	SPECIAL	
I. D. NUMBER	LOCATION	COMPANY NAME	MODEL TYPE	NOMINAL TONS	TOTAL (MBH)	SENS. (MBH)	L.A.T. DB/WB (°F)	AMBIENT AIR TEMP. (°F)	SEER	MCA (AMP)	VOLT/PH/HZ	WEIGHT (LB.)	REFRIG. PIPE LIQUID-VAPOR (IN.)		SEISMIC REQ'D (SSC)	REMARKS
DX0 1&2	OUTDOOR	CARRIER	38QRF-036	3	30.3	28.2	53.8/49.8 (F)	105 (°F)	13	8.3	460/3/60	250	3/8 & 3/4	-		WIRED CONTROL REQUIRED FOR DUCT FREE SYSTEM
DXO 3	OUTDOOR	CARRIER	38QRF-036	3	30.3	28.2	53.8/49.8	105	13	8.3	460/3/60	250	3/8 & 3/4		PRE-APPROVAL #OSP-125-10	WRED CONTROL REQUIRED FOR DUCT FREE SYSTEM

				SP	LIT-	ГҮРЕ	HEA.	T P	PUMP	INDO	OR	U	TIV	SCH	<u> IEDI</u>	JLE						
			CATALO	OG DATA	MAX	HEA	ATING		COOLI	NG					IFM				٥٥٢٥			
1. D.	LOCATION	SERVICE	COMPANY	MODEL	S.A.	FNTERING	HEATING	FAT	TOTAL	SENSIBLE	L	AT	aganno monte de la composição de la comp		nga garawan ang mga garawan an			Ο Δ	OPER. WT.	ANCHORAGE	SPECIAL SEISMIC REQ'D	REMARKS
NUMBER NAME TYPE AIR TEMP MBH WB COOLING (MBH) COOLING (MBH) DB WB QTY WATTS MCA (MOCP (AMP) (AMP) (AMP) WATTS MCA (AMP) (CFM) (CFM) (LB.) DETAIL REFERENCE																(SSC)						
DX1 1&2	INDOOR	FIRE PUMP ROOM		40QNQ-36	900	62	35.5	62	30.3	28.2	53.8	49.8	1	74	0.55	15	208/230 -1-60	0	60		PRE-APPROVAL #OSP-125-10	WIRED CONTROL REQUIRED FOR DUCT FREE SYSTEM
DXI 3	INDOOR	RADIO ROOM	CARRIER	40QNQ-36	900	62	35.5	62	30.3	28.2	53.8	49.8	1	74	0.55	15	208/230 -1-60	O	60		PRE-APPROVAL #OSP-125-10	WIRED CONTROL REQUIRED FOR DUCT FREE SYSTEM

						FLC	OW ME	ETER		
I.D. NUMBER	LOCATION	SERVICE	CATAL		LINE ŞIZE	RANGE FLOW RATE	RANGE VELOCITY	ACCURACY	ELECTRICAL	REMARKS
NUMBER			MANUFACTURER	MODEL	(IN)	(GPM)	(FPS)	(%)	(V/P/HZ)	
FM 1	CHILLER ROOM	CHILLED WATER SYSTEM	ONICON, INCORP.	F-3200	18	675-7,200	1.0-11.0	0.2	120/1/60	316 S.S OUTER BODY AND 304 SS FLOW TUBE ANSI CLASS 300 FLANGE CONNECTION
NOTE: PROVID	ED BY SYSTEC	ON INSTALLED BY	CONTRACTOR					·		

				SE	PARA	ΓOR	FILT	ER F	PACK	AGE	SCHE	EDUL			
I.D.	LOCATION	CATALO	3	FLOW RATE	WATER VOL.	PIPE	CONNECT	ON (IN)		ELECTRI	CAL		WEIGHT	ANCHORAGE	REMARKS
NUMBER		MANUFACTURER	MODEL	GPM	(GAL)	INLET	OUTLET	PURGE	PUMP HP	VOLT	PHASE	HZ.	LBS.	DETAIL	
SF E-1	COOLING TOWER AREA	PUROFLUX	PF64-060	880	40	6	6	1-1/2	20	460	3	60	1369	5/M10.02	
REMARKS	FM SHALL INCL	IDE SEPARATOR PI	IMP AND CON	ITROI PANFI					LED, END S REMOVABL				VITH 5		JTOMATIC PURGE WITH TIMER AND LY ACTUATED VALVE.

CAST IRON PRE-STRAINER AND REMOVABLE STAINLESS STEEL BASKET. 1. SYSTEM SHALL INCLUDE SEPARATOR, PUMP AND CONTROL PANEL. 4. NEMA 4X FIBERGLASS ENCLOSURE FOR ELECTRICAL CONTROLS. CONTROL PANEL SHALL BE MOUNTED IN THE CHILLER ROOM. PROVIDE DISCONNECTED AT THE PUMP. 2. SEPARATOR SHALL BE A FUSION BONDED POLYESTER COATED VESSEL. PROVIDE 0-160 PSI GAUGE.

				IS	OLATION	VIBRA	TION JOI	NT FOR PIPE							
I.D.	D. LOCATION SERVICE CATALOG ALLOWABLE MOVEMENTS MER LOCATION SERVICE ASIAL AXIAL LATERAL REMARKS														
NUMBER	LOCATION	SERVICE	MFG	MODEL	AXIAL COMPRESSION (IN)	AXIAL EXTENSION	LATERAL DEFLETION (IN)	REMARKS							
(IWJ)	TOWER II ROOF	CHILLERS & COOLING TOWER PIPING	MASON/MERCER	ARCH453	5 1/4	2 5/8	3	1. SEE FLOOR PLAN AND PIPING DIAGRAM BY LINE SIZES. 2. INSTALLATION ON VERTICAL POSITION ONLY.							
22		•	SFDEJ MODEL FOR												

			REI	FRIGEF	RANT LEA	K DETECTI	ON MO	NITORIN	IG SYS	TEM
1.D.	LOCATION	SERVICE	CATALOG		REPRIBERAINI	NO. PROGRAMMABLE ALARM LEVEL	AUDIBLE SIGNAL	VISUAL SIGNAL	ELECTRICAL	REMARKS
NUMBER			MFG	MODEL	GAS SENSOR	PER SENSOR	1	LENS COLOR	V/P/HZ	
(RLD)	TOWER II CHILLER ROOM	REFRIGERANT MONITORING SYSTEM	GENESIS INTERNATIONAL	SHERLOCK 404	INFRARED R123	3	105	BLUE	120/1/60	PROVIDE OPTION 4 CHANNEL ANALOG OUTPUT SIGNAL.

			/96	FAN	COII	L UN	IT S	CHE	EDULE	(FOF	R C	ATH	ILA	ВЕ	QUII	PME	NT	ROC	M)							
,		APEA	A CONTRACTOR OF THE CONTRACTOR	140051	Notice of the Control	S	UPPLY FA	N	Se option in the second				CO	OLING C	OIL		_					ELECTRIC	CAL DATA	OPERATING	ANCHORAGE	SPECIAL SEISMIC
	LOCATION SERVED MFG NUMBER TYPE BLOWER EXT FAN CAPACITY CAPACITY EAT LAT ROWS FINS WATER WATER RATE V/PH/HZ EMERGENCY WEIGHT REFERENCE CERTIFICATION WATER RATE CAPACITY CAPAC																									
140%	DEN						S.P. WG		TOTAL	SENSIBLE	DB F°	WB F*	DB F°	WB F	RUWS	/IN.	F*	F°	(GPM)	AIR	WATER		POWER	LBS	DETAIL	
S (F	LEVEL WAZ AREA	3 ELECTRONIC	TRANE	BCHC072G2	CHILLED	2,000	1.5	1-1/2	91	59	80	67	53	52	6	11	42.0	56	13.5	0.6	8.0	460/3ø/60	YES	400	D4/S5.2	YES
V	Y	CATH LAB #: EQUIPMENT ROOM	2 TRANE	BCHC072G2	CHILLED WATER	2,000	1.5	1-1/2	91	59	80	67	53	52	6	11	42.0	56	13.5	0.6	8.0	460/3ø/60	YES	400	D4/S5.2	YES

		HEATING COIL SCHEDULE																		
ſ			SERVICE	MANUFACTURE	MODEL TYPE	COIL CAPACITY								MINIMUM COIL		MAX PD		COIL	OPERATING	
	ID	LOCATION				FLOW ENT AIR		AIR F	LV AIR F		WATER F		TOTAL LOAD	ROW	FIN	WTR	R AIR	WORK PRESS	WEIGHT	
	NUMBER					CFM	DB	WB	DB	WB	ENT	LV	GPM	MBH	NO	/IN	FT	IN	PSI	(LB)
	HC-FCU-B9	LOWER LEVEL	FCU B9	MCQUAY	BUILT-IN	3500	60		90	-	140	180	10	120	2	8	2.5	0.1	125	1
1	HC-FCU-N1	BOILER ROOM	FCU N1	MCQUAY	BUILT-IN	3000	60	-	92.68		140	180	7.0	138	2	12	3.59	0.22	125	1
1	1) INCLU	1) INCLUDED WITH AIR HANDLER UNIT																		

 STRUCTURAL MECHANICAL ELECTRICAL

FKP Architects

ARCHITECT OF RECORD

"Achitect of Record signature line only; this drawing was not prepared under the direct supervision of the Architect of Record. The direct responsibility for preparation of this sheet lies with its corresponding professional stamp and signature. The signature of the Architect of Record in general responsible charge of the project is provided as required by Title 24, Part 1 Section 7-115 (a)".

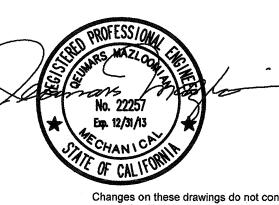
ARCHITECT - PAUL C. GLORIOD

CONSULTANT

TM AD &G AINES

CIVIL 100 South Anaheim Boulevard, Suite 150

Anaheim, California 92805 Phone: 714.490.5555 Fax: 714.490.5560 Project No. 2305-163-07



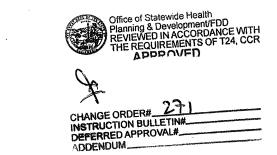
Changes on these drawings do not consist of materially altered changes to approved drawings and don't require a change order. OSHPD review ACO __ OSHPD review FLSO ____ OSHPD review DSE _____

REVISIONS								
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47	06/04/2010	ASI #11						
96	09/02/2010	CHANGE ORDER #81						
<u> </u>	10/01/2010	CHANGE ORDER #86						
<u>/69</u>	02/24/2011	CHANGE ORDER #141						
628	08/22/2011	CHANGE ORDER #256						
<u>843</u>	11/02/2011	CHANGE ORDER #271						

SPECIAL SEISMIC CERTIFICATION

CAN 2-1708A.5

YES



CHILDREN'S HOSPITAL OF ORANGE COUNTY

Orange, CA 92868-3874

TOWER II

455 S. Main St.



PROJECT NUMBER

12011.00 Increment #7

OSHPD - PROJECT NUMBER IL 072072-30

OSHPD PERMIT

01/27/2010

NONE

EQUIPMENT SCHEDULES