

PROJECT DESIGN CONDITIONS														
CLIMATE CONDITIONS														
WEATHER STATION:		2009 ASHRAE CLIMATE DATA / Prescott Love Field, AZ												
ASHRAE CLIMATE ZONE		4B												
HEATING 99.6% (F DB):		17.5 °F (99.6% H DB)												
HUMIDIFICATION 99.6% (DP) / HR / MCDB		-1.9 °F / 6.0 / 36.9 °F												
COOLING 0.4% (DB / MCWB)		94.3 °Fdb / 61.2 °Fwb												
DEHUMIDIFICATION 0.4% (DP) / HR / MCDB)		63.4 °Fdb / 105.6 / 70.9 °Fwb												
MAX. AMBIENT DB TEMP (50 YRS)		105.7 °F												
MIN. AMBIENT DB TEMP (50 YRS)		-5.9 °F												
BUILDING OPERATING HOURS (VERIFY WITH STATION):														
MONDAY - FRIDAY		7:30 a.m. - 6 p.m.												
SATURDAY		7:30 a.m. - 6 p.m.												
SUNDAY		7:30 a.m. - 6 p.m.												
SPACE / UNIT DESCRIPTIONS		SET POINTS		COOLING		HEATING		HUMIDIFICATION		SPACE OPERATING HOURS			ROOM AIR BALANCE	NOTES
										OCCUPIED / NIGHT SETBACK				
		OCC.	UNOCC.	OCC.	UNOCC.	Max	Min.	M-F	SAT.	SUN.				
		°F Db	°F Db	°F Db	°F Db	%RH	%RH					(o) (+) (-) (-) (+ +)		
HVAC DESIGN MANUAL														
PHARMACY SERVICE														
CONTROLLED SUBSTANCE VAULT AND SECURED DISPENSING/RECEIVING AREA		75	78	70	68	60%	30%					(+)	1-4	
NON PATIENT ROOMS - SUPPORT AREAS														
CONFERENCE ROOM		75	78	70	68	60%	20%					(o)	1-4	
BREAKROOM / LOUNGE		75	78	70	68	60%	20%					(-)	1-4	
OFFICES		75	78	70	68	60%	20%					(o)	1-4	
TOILETS - PUBLIC (PERIMETER)		NA	NA	NA	NA	NA	NA					(-)	1-4	
GENERAL STORAGE		NA	NA	NA	NA	NA	NA					(-)		
LOADING DOCK		NA	NA	60	NA	NA	NA					(o)		
NON PATIENT ROOMS - MISCELLANEOUS AREAS														
COPY/PRINTING ROOM (LARGE)		75	78	70	68	NA	NA					(o)	1-4	
ELECTRICAL EQUIPMENT ROOMS (EER)														
ELECTRICAL EQUIPMENT CLOSETS WITHOUT INTERNAL HEAT GAIN		NA	NA	NA	NA	NA	NA	NA	NA			(o)	1-4	
SATELLITE AND MAIN ELECTRICAL ROOMS WITH INTERNAL HEAT GAIN		86	NA	40	NA	NA	NA	NA	NA			(o)	1-4	
ELEVATOR MACHINE ROOM		77	78	NA	NA	NA	NA	NA	NA			(o)	1-4	
EXTERIOR STAIRS		NA	NA	50	NA	NA	NA	NA	NA			NA	1-4	
HOUSEKEEPING AID CLOSET (HAC)		NA	NA	NA	NA	NA	NA	NA	NA			(-)	1-4	
LOADING DOCK		NA	NA	60	NA	NA	NA	NA	NA			(o)	1-4	
MECHANICAL EQUIPMENT ROOMS		84	NA	50	NA	NA	NA	NA	NA			(o)	1-4	
WALK-IN REFRIGERATOR AND FREEZERS		NA	NA	NA	NA	NA	NA	NA	NA			NA	1-4	
WAREHOUSE (CENTRAL) WITH PHARMACY		80	NA	68	NA	60%	NA					(o)	1-4	
NOTES:														
1 ZONE LEVEL OCCUPANCY HOUR SCHEDULE SHALL BE PER BUILDING OPERATING HOURS UNLESS OTHERWISE SCHEDULED.														
2 ZONE LEVEL SET POINT CONDITIONS SHALL BE AS SCHEDULED UNLESS OTHERWISE SCHEDULED OR NOTED FOR ROOM SPECIFIC SPACE CONDITIONS.														
4 DIVISION 23 CONTRACTOR TO PROVIDE ROOM AIR BALANCE AS SHOWN. AIR BALANCE SHALL BE NEUTRAL FOR NON-CRITICAL SPACES NOT SHOWN IN SCHEDULE.														

POINTS LIST - BUILDING MONITORING																
POINT ID	POINT DESCRIPTION	HARDWARE POINT				SOFTWARE POINTS				DISPLAY	DEFAULT	TRENDING	TRENDING	ALARM	NOTES	
		AI	AO	BI	BO	AV	BV	LOOP	SCHED.							TREND
ADVANCED UTILITY METERING																
	ELECTRICITY	X									X			X		A,B
	STEAM	X									X			X		A,B
	CONDENSATE	X									X			X		A,B
	DOMESTIC WATER FLOW	X									X			X		A,B
	CHILLED WATER	X									X			X		A,B
	OUTSIDE AIR TEMPERATURE				X						X			X		A,B
	OUTSIDE AIR RELATIVE HUMIDITY				X						X			X		A,B
WEATHER STATION																
BDP	BUILDING DIFFERENTIAL PRESSURE	X									X	0.03 INWG	15 MIN.	X	X	
OAT	OUTSIDE AIR TEMPERATURE	X									X	-	15 MIN.	X		A,B
OAH	OUTSIDE AIR HUMIDITY	X									X	-	15 MIN.	X		A,B
OADP	OUTSIDE AIR DEWPOINT			X							X	-	15 MIN.	X		A,B
SPACE TEMPERATURE MONITORING																
	STAIR-1	X									X				X	
	STAIR-2	X									X				X	
	ELEVATOR SHAFT	X									X				X	
	MECH. STORAGE 115	X									X				X	
ALARM MONITORING																
	SUMP PUMP - ELEVATOR - COMMON ALARM			X							X				X	
	SUMP PUMP - PIPE ENTRANCE - COMMON ALARM			X							X				X	
	STEAM CONDENSATE PUMP - COMMON ALARM			X							X				X	
NOTES:																
A. SEE SPECIFICATION SECTION 251010 - ADVANCED UTILITY METERING SYSTEM																
B. TCC SHALL COORDINATE ENERGY MONITORING POINTS WITH SECTION 25010.																

POINT LIST - STANDARD TREND DATA			
POINT TYPE	TREND INTERVAL	OPERATIONAL TREND DURATION	TESTING TREND DURATION
AI	15 MIN.	24 HOURS	3 DAYS
BI	CHANGE OF VALUE	24 HOURS	3 DAYS
AO	15 MIN.	24 HOURS	3 DAYS
BO	CHANGE OF VALUE	24 HOURS	3 DAYS
CALC	1 HOUR	30 DAYS	N/A
NOTES:			
1 SEE EQUIPMENT POINT LISTS FOR EQUIPMENT SPECIFIC TRENDING REQUIREMENTS			

MECHANICAL CONTROLS LEGEND		
ABBREVIATIONS	SYMBOLS	
A AI ANALOG INPUT AO ANALOG OUTPUT AV ANALOG VIRTUAL AFS AIRFLOW STATION AF AFTER FILTER ACV AIRFLOW CONTROL VALVE AHU AIR HANDLING UNIT	EQUIPMENT CHILLED WATER COIL DIRECT EXPANSION COIL HOT WATER COIL HOT WATER INTEGRAL FACE-AND-BYPASS COIL ELECTRIC HEATING COIL GAS FURNACE HUMIDIFIER DISPERSION GRID MODULATING OPPOSED BLADE DAMPER MODULATING PARALLEL BLADE DAMPER SMOKE DAMPER BACKDRAFT DAMPER VAV ATU MODULATING DAMPER 2-POSITION OPPOSED BLADE DAMPER 2-POSITION PARALLEL BLADE DAMPER FILTER BLOWER FAN PLENUM FAN PUMP CURRENT TRANSMITTER 2-WAY MODULATING CONTROL VALVE 3-WAY MODULATING CONTROL VALVE THERMOSTATIC MIXING VALVE POINT TYPE POINT NAME	SENSORS & DEVICES DUCTWORK AIRFLOW STATION AIRFLOW SENSOR SMOKE DETECTOR TEMPERATURE SENSOR FREEZESTAT HUMIDITY SENSOR DAMPER POSITION INDICATOR DIFFERENTIAL PRESSURE SENSOR RETURN/EXHAUST AIR DUCT STATIC PRESSURE SENSOR SUPPLY AIR DUCT STATIC PRESSURE SENSOR PIPING TEMPERATURE SENSOR PRESSURE SENSOR FLOW METER AQUASTAT ZONE ZONE TEMPERATURE SENSOR ZONE HUMIDITY SENSOR ZONE OCCUPANCY SENSOR POSITIVE SPACE DIFFERENTIAL PRESSURE SENSOR NEGATIVE SPACE DIFFERENTIAL PRESSURE SENSOR
B BAC BUILDING AUTOMATION CONTROL BI BINARY INPUT BO BINARY OUTPUT BV BINARY VIRTUAL BP BUILDING PRESSURE BPC BUILDING PRESSURE CONTROL		
C CC COOLING COIL CHW CHILLED WATER CP CIRCULATING PUMP CT CURRENT TRANSMITTER		
D DD DIRECT DRIVE DX DIRECT EXPANSION DP DIFFERENTIAL PRESSURE		
E EA EXHAUST AIR EAT ENTERING AIR TEMPERATURE ECM ELECTRONICALLY COMMUTATED MOTER EF EXHAUST FAN ER ENERGY RECOVERY EWT ENTERING WATER TEMPERATURE		
F FF FINAL FILTER FSD FIRE SMOKE DAMPER		
G GF GAS FURNACE		
H HC HEATING COIL HGB HOT GAS BYPASS HW HOT WATER		
I IFB INTEGRAL FACE AND BYPASS		
L LAT LEAVING AIR TEMPERATURE HGB HOT GAS BYPASS LWT LEAVING WATER TEMPERATURE		
M MAT MIXED AIR TEMPERATURE MOA MINIMUM OUTSIDE AIR		
N NG NATURAL GAS		
O OA OUTSIDE AIR OCC OCCUPANCY OX OXYGEN OXS OXYGEN SENSOR		
P PCC PRECOOLING COIL PF PREFILTER PHC PREHEAT COIL		
R RA RETURN AIR RHC REHEAT COIL R/E RETURN/EXHAUST R/R RETURN/RELIEF		
S SA SUPPLY AIR SF SUPPLY FAN SD SMOKE DAMPER		
T TCP TEMPERATURE CONTROL PANEL TA TRANSFER AIR TMV THERMOSTATIC MIXING VALVE TCV TEMPERATURE CONTROL VALVE		
U UV ULTRAVIOLET		
V VFD VARIABLE FREQUENCY DRIVE VOC VOLITILE ORGANIC COMPOUND VOC VOLITILE ORGANIC COMPOUND		

1

SHEET REVISED
AND REISSUED.

CONSULTANT INFORMATION		ARCHITECT		Office of Construction and Facilities Management		PROJECT PHASE BID DOCUMENTS		PROJECT TITLE CONSTRUCT REPLACEMENT WAREHOUSE		VA PROJECT NUMBER 649-414	
STRUCTURAL / CIVIL ENGINEER H2B, INC. 1225 N. LOOP WEST, SUITE 800 HOUSTON, TX 77008 (713) 864-2900		COMMISSIONING GLHN ARCHITECTS & ENGINEERS, INC. TUCSON, AZ 85716 (520) 881-4546		MECH. / ELEC. / PLUMB. / TECH. ENGINEER SPUR DESIGN 11020 KING STREET, SUITE 350 OVERLAND PARK, KS 66210 (405) 842-6100		PROJECT LOCATION 500 AZ-89, PRESCOTT, AZ 86301		BUILDING NUMBER 165		DRAWING NUMBER 165-M-701	
FIRE PROTECTION ENGINEER POOLE FIRE PROTECTION, INC. 19910 W. 161ST STREET OLATHE, KS 66062 (913) 820-8550		LANDSCAPE ARCHITECT ARC STUDIOS INC. 3117 E. FLOWER STREET TUCSON, AZ 85716 (520) 882-9555		SHEET TITLE MECHANICAL CONTROLS I		APPROVED: PROJECT DIRECTOR		DATE 04/23/2019		CHECKED BY JES	
ASI #1		Revision #		Date		FULLY SPRINKLERED		DRAWN BY JAD		Dwg. 111 OF 145	