

PUMP SCHEDULE													
MARK	SYSTEM AND/OR SERVICE	TYPE	BASIS OF DESIGN	CIRCULATING FLUID				ELECTRICAL MOTOR					REMARKS
				FLOW	HEAD	TEMPERATURE	SP GR	NOMINAL POWER	PHASE	VOLT	MAX RPM	SPEED CONTROL	
				GPM	FT	°F		HP					
CP-1	RECLAIM HOT WATER	CLOSE COUPLED	BELL & GOSSETT PL-36	5	35	150	1	0.167	1	120	3300	CONSTANT	1
CP-2	RECLAIM HOT WATER BOILER CIRCULATOR	CLOSE COUPLED	BELL & GOSSETT PL-36	5	35	150	1	0.167	1	120	3300	CONSTANT	2

- NOTES:
 1. PROVIDE WITH AQUA-STAT AND SET TO 145 DEGREES. REFER TO THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION.
 2. CIRCULATOR IS TO RUN ONLY WHEN THE BOILER IS ENABLED. REFER TO THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION.

STORAGE TANK SCHEDULE									
MARK	TYPE	BASIS OF DESIGN	SYSTEM TEMPERATURE RANGE		MAX OPERATING PRESSURE	MIN VOLUME	INLET PIPE SIZES	OUTLET PIPE SIZES	REMARKS
			MIN	MAX					
			°F	°F	PSIG	GAL	IN	IN	
ST-1	FACTORY JACKETED AND INSULATED	AO SMITH T JV-750A	60	150	80	750	3	3	1

- NOTES:
 1. TANK IS TO BE OPEN TO ATMOSPHERE AND NOT PRESSURIZED. PROVIDE WITH SPRAY-ON RIGID INSULATION TOP COAT. A MINIMUM OF 3 PIPING CONNECTIONS SHALL BE AVAILABLE ON THE TANK WITH A BULB WELL.

PACKAGED BOOSTER PUMP SCHEDULE															
MARK	SYSTEM AND/OR SERVICE	PUMP TYPE	CIRCULATING FLUID						PRESSURE TRANSMITTER SETPOINT	ELECTRICAL MOTOR					REMARKS
			NO PUMPS	FLOW EA. PUMP	PUMP HEAD	TEMPERATURE	SP GR	% EFF		NOMINAL POWER, EA.	PHASE	VOLT	MAX RPM	SPEED CONTROL	
				GPM	FT	°F			PSIG	HP					
BP-1	RECLAIM HOT WATER	INLINE CENTRIFUGAL	2	80	275	150	1	70	110	15	3	460	3500	VARIABLE	1 & 2

- NOTES:
 1. PUMP PACKAGE IS TO INCLUDE INTEGRAL SKID, HEADER, VARIABLE SPEED DRIVES W/ NEMA 4X ENCLOSURE. REFER TO SPECIFICATION SECTION 11215 AS WELL AS THE ELECTRICAL AND THE INSTRUMENTATION & PROCESS PLANS/SPECIFICATIONS FOR MORE INFORMATION.
 2. MOTORS SHALL BE PROVIDED WITH SHAFT GROUNDING RINGS.

HOT WATER BOILER SCHEDULE																
MARK	SYSTEM AND/OR SERVICE	TYPE	BASIS OF DESIGN	FLUID			BOILER			% EFF	GAS SUPPLY PRESSURE	FUEL	RELIEF VALVE SETTING	ELECTRICAL		REMARKS
				FLOW	EWT	LWT	POWER	OUTPUT GENERATED	MAX HEAT INPUT					PHASE	VOLT	
				GPM	°F	°F	HP	MBH	MBH	IN WG	PSIG					
B-1	RECLAIM HOT WATER	FIRE TUBE	COLUMBIA MPH-50	36.5	70	150	50	1722	2100	82%	6	LFG	45	1	120	1

- NOTES:
 1. BOILER IS TO HAVE INTEGRAL CONTROLS. REFER TO THE ELECTRICAL AND THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION.

BLOWER SCHEDULE																		
MARK	SYSTEM AND/OR SERVICE	TYPE	BASIS OF DESIGN	FLOW	ENT. TEMP	INLET PRESSURE	OUTLET PRESSURE	ELECTRICAL						REMARKS				
								POWER	PHASE	VOLT	MAX RPM	MCA	MOP		# COMP	HP	PHASE	VOLT
BL-1	LAND FILL GAS (LFG)	TRI-LOBE BLOWER	TUTHILL 3206 PD PLUS	80	120	5	50	3	3	460	1,800				1, 2 & 3			

- NOTES:
 1. BLOWER PACKAGE IS TO INCLUDE INTEGRAL SKID, INTAKE AND EXHAUST SILENCERS, INTAKE FILTER, VARIABLE SPEED CONTROLLER & DRIVE. ENTIRE PACKAGE SHALL BE RATED FOR EXTERIOR USE. REFER TO THE ELECTRICAL AND THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION.
 2. MOTOR AND ELECTRICAL COMPONENTS SHALL BE EXPLOSION PROOF.
 3. ACCEPTABLE MANUFACTURERS ARE GARDNER DENVER, UNISON SOLUTIONS, INGERSOLL RAND, AND TUTHILL (BASIS OF DESIGN).

AIR COOLED CHILLER SCHEDULE																			
MARK	SYSTEM AND/OR SERVICE	BASIS OF DESIGN	CAPACITY	REFRIGERANT	MAX IPLV (KW/TON)	EVAPORATOR				CONDENSER				ELECTRICAL				REMARKS	
						FLOW	EWT	LWT	AMBIENT OA TEMP	MCA	MOP	COMPRESSOR MOTOR		CONDENSER FAN					
												GPM	°F	°F	°F	#	HP		PHASE
CH-1	LAND FILL GAS DRYER	JOHNSON THERMAL SYSTEMS XPV5-SIA	57,920	R-410A	1.445	12	55	45	95	19	30	1	5	3	460	1	3	460	1

- NOTES:
 1. CHILLER IS A PART OF THE VAREC BIOGAS LANDFILL GAS (LFG) DRYER PACKAGE.

LANDFILL GAS (LFG) DRYER SCHEDULE										
MARK	SYSTEM AND/OR SERVICE	BASIS OF DESIGN	GAS				ELECTRICAL			REMARKS
			FLOW	EGT	LGT	PRESSURE DROP	PHASE	VOLT		
			SCFH	°F	°F	IN W.C.				
D-1	LAND FILL GAS DRYER	VAREC BIOGAS 237 SERIES	4,000	145	40	35	1	120	1	

- NOTES:
 1. PACKAGED SYSTEM IS CUSTOM DESIGNED BY VAREC BIOGAS AND SHALL INCLUDE INTEGRAL SKID AND CONTROLS. REFER TO SPECIFICATION 15715 FOR MORE INFORMATION ON THIS UNIT. REFER TO THE INSTRUMENTATION AND PROCESS PLANS FOR MORE INFORMATION ON CONTROLS INTEGRATION TO THE SCADA SYSTEM.

PLUMBING LEGEND	
	DRAINAGE (SANITARY, BELOW GRADE)
	RECLAIM WATER (COLD)
	RECLAIM HOT WATER
	RECLAIM HOT WATER RETURN
	LANDFILL GAS
	PIPING TO BE DEMOLISHED
	EXISTING PIPING TO REMAIN
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BALL VALVE
	BUTTERFLY VALVE
	MOTORIZED CONTROL VALVE
	PRESSURE REDUCING VALVE
	BALANCING VALVE
	PRESSURE RELIEF VALVE
	FLOW METER
	PIPING DOWN
	PIPING UP
	TEE UP
	TEE DOWN
	GAS REGULATOR
	LIMITS OF DEMOLITION
	POINT OF CONNECTION TO EXISTING

DRAWING SYMBOLS

	←	FIXTURE OR EQUIPMENT TAG
	←	DEMOLITION KEYED NOTE
	←	NEW WORK KEYED NOTE
	←	DETAIL NUMBER
	←	DRAWING NUMBER WHERE DRAWN
	←	SECTION LETTER
	←	DRAWING NUMBER WHERE SHOWN

PLUMBING GENERAL NOTES

- THE ENTIRE PLUMBING SYSTEM SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES.
- UPON COMPLETION OF ASSEMBLY, PIPING SYSTEMS (INCLUDING HOSES) SHALL BE TESTED AND PROVEN LEAK FREE.
- ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND SHALL PROVIDE ANY NECESSARY OFFSETS, REROUTING, ETC. REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.
- THESE PLANS ARE DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSET, TEES, ELBOWS, ETC FOR A COMPLETE WORKING PLUMBING SYSTEM.
- PROVIDE ISOLATION VALVES FOR EACH FIXTURE OR PIECE OF EQUIPMENT.
- ALL PIPING SYSTEMS SHALL BE SUPPORTED AS REQUIRED BY ALL LOCAL, STATE, AND NATIONAL CODES ALONG WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE PIPE HANGERS OF THE SAME MATERIAL AS THE PIPING SYSTEM OR USE COATED HANGERS.
- THE PLUMBING CONTRACTOR SHALL COORDINATE ALL UNDERGROUND PLUMBING PIPING WITH ALL STRUCTURAL FOUNDATIONS.
- THE PLUMBING CONTRACTOR SHALL VERIFY ALL PLUMBING EQUIPMENT PART NUMBERS PRIOR TO PURCHASING EQUIPMENT. THE ENGINEER IS NOT RESPONSIBLE FOR INVALID PART NUMBERS.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED FOR HIS WORK.
- ALL MATERIALS, EQUIPMENT AND PRODUCTS INCORPORATED IN THE WORK UNDER THE CONTRACT SHALL BE NEW, OF A SUITABLE GRADE FOR THE PURPOSES INTENDED, AND TO THE EXTENT POSSIBLE, STANDARD PRODUCTS OF THE VARIOUS MANUFACTURERS EXCEPT WHERE SPECIAL CONSTRUCTION OR PERFORMANCE FEATURES ARE CALLED FOR.
- ANY EQUIPMENT OR MATERIAL DEVIATIONS FROM THAT SPECIFIED OR DETAILED ON THIS DRAWING SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER. ALL PROPOSED EQUIPMENT DEVIATIONS SUBMITTED SHALL BE SIMILAR BOTH IN QUALITY AND CAPACITY TO THAT EQUIPMENT SPECIFIED.

PLUMBING ABBREVIATIONS

A/E	ARCHITECT / ENGINEER	LWT	LEAVING WATER TEMPERATURE
AFF	ABOVE FINISH FLOOR	M	METER
AFG	ABOVE FINISH GRADE	NC	NORMALLY CLOSED
AG	AIR GAP	NIC	NOT IN CONTRACT
AP	ACCESS PANEL	NOM.	NOMINAL
ASME	AMERICAN SOCIETY MECHANICAL ENGINEERS	NTS	NOT TO SCALE
ASPE	AMERICAN SOCIETY PLUMBING ENGINEERS	OC	ON CENTER
B	BOILER	OD	OUTSIDE DIAMETER
CP	CIRCULATING PUMP	PDI	PLUMBING AND DRAINAGE INSTITUTE
DN	DOWN	PRV	PRESSURE REDUCING VALVE
DWG	DRAWING	PSIG	POUNDS PER SQUARE INCH GAUGE
EGT	ENTERING GAS TEMPERATURE	RHW	RECLAIM HOT WATER
EL	ELEVATION	RW	RECLAIM WATER
ET	EXPANSION TANK	RWR	RECLAIM WATER RETURN
EWS	EYE WASH STATION	SAN	SANITARY SEWER
EWT	ENTERING WATER TEMPERATURE	SCFH	STANDARD CUBIC FEET PER HOUR
EX	EXISTING	SCFM	STANDARD CUBIC FEET PER MINUTE
F	FAHRENHEIT	SP GR	SPECIFIC GRAVITY
FD	FLOOR DRAIN	SOFT	SQUARE FEET
GAL	GALLON	SS	STAINLESS STEEL
GPH	GALLONS PER HOUR	ST	STORAGE TANK
GPM	GALLONS PER MINUTE	TD	TEMPERATURE DIFFERENCE
HD	HUB DRAIN	TEMP	TEMPERATURE
HP	HORSEPOWER	TYP.	TYPICAL
IPC	INTERNATIONAL PLUMBING CODE	VTR	VENT THROUGH ROOF
LFG	LAND FILL GAS	W.G.	WATER GAUGE
LGT	LEAVING GAS TEMPERATURE	WHS	WASH HOSE STATION

PLUMBING FIXTURE CONNECTION/SPECIFICATION SCHEDULE

ITEM #	MANUFACTURER	MODEL	DESCRIPTION	WASTE	VENT	CW	HW	SPECIFICATION
FD-1	WATTS	FD-100-B	HEAVY DUTY FLOOR DRAIN	SEE PLANS	-	-	-	6" DIA. HEAVY DUTY FLOOR DRAIN WITH NICKEL BRONZE GRATE AND NO HUB CONNECTION. MATERIAL SHALL BE COATED CAST IRON.
FD-2	WATTS	FD-200-WB	FLOOR DRAIN W/ DOMED STANDPIPE	SEE PLANS	-	-	-	DUTY FLOOR DRAIN WITH NO HUB CONNECTION, CHROME PLATED SECURED DOME AND ADJUSTABLE STANDPIPE. MATERIAL SHALL BE COATED CAST IRON.
WHS	T&S BRASS	MV-1907-12CW	SINGLE TEMPERATURE WASH DOWN STATION	-	-	-	3/4"	SINGLE CHROME PLATED WASHDOWN STATION W/ 3/4" GLOBE VALVE, 50' RUBBER HOSE W/ REAR TRIGGER WATER GUN, INTEGRAL THERMOMETER AND SS HOSE RACK.

REV. NO.	DESCRIPTION	DATE
1	ADDENDUM 2 REVISIONS	7/17/2020

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SEAL

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**SEWRf
GREASE FACILITY MODIFICATIONS**

PLUMBING NOTES, LEGEND, AND SCHEDULES

DATE: APRIL 2020	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0173	HORIZONTAL: NA	REVISION:
DRAWN: JMB	VERTICAL: NA	P-01
DESIGNED: JMB/DNM		
CHECKED: SN		
PROJ. MGR: MDN		
STATUS: ISSUED FOR BID		