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MISSOURI STATE CERTIFICATE OF AUTHORITY #2007004004

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PIPING PLAN
CITY OF GILMAN CITY
WASTEWATER TREATMENT FACILITY
 GILMAN CITY, MISSOURI

MECHANICAL AND ELECTRICAL LEGEND	
ITEM	DESCRIPTION
MTS	MANUAL TRANSFER SWITCH
M	METER & METER BASE
SED	SERVICE ENTRANCE DISCONNECT
MB	MAIN BREAKER
VFD/CP	MOTOR CONTROL CENTER/CONTROL PANEL
RTU	REMOTE TELEMETRY UNIT (SCADA)
T	STEP DOWN TRANSFORMER (3Ø TO 1Ø)
BP	1Ø, 120/208v. BREAKER PANEL
P	IRRIGATION PUMP
FM	FLOW METER JUNCTION BOX
FL	EMERGENCY FLOAT JUNCTION BOX
H	CEILING HUNG HEATER
F	EXHAUST FAN WITH INSECT SCREEN (18 MESH)
ML	MOTORIZED LOUVER WITH INSECT SCREEN (18 MESH)
A/C	AIR CONDITIONER
D	DEHUMIDIFIER
\$	SWITCH
⊕	RECEPTACLE
⊙	EXTERIOR LIGHT
⊚	INTERIOR FLUORESCENT LIGHT

STRUCTURE AND PIPING LEGEND		
ITEM	DESCRIPTION	SIZE
1	CONCRETE WET WELL (I.D.)	10'x7'-8"
2	6" DIA. FLOOR SLEEVE W/ PVC CAP	6"DIA x 1'-2"
3	PUMP STATION BUILDING	20'-0"x11'-0"
4	DUCTILE IRON PIPE	12"
5	DUCTILE IRON PIPE	10"
6	DUCTILE IRON PIPE REDUCER	10"x8"
7	DUCTILE IRON PIPE	8"
8	90° ELBOW	8"
9	CHECK VALVE	8"
10	PLUG VALVE	8"
11	ELECTROMAGNETIC FLOW METER	8"
12	BASKET STRAINER	8"
13	AIR RELEASE - COPPER TUBING & BALL VALVE	1"
14	TEE	8"x8"x8"
15	PRESSURE GAUGE W/ SNUBBER	0-200 PSI
16	ALUMINUM ACCESS HATCH	24"x36"

GENERAL NOTES

- SHOP DRAWINGS ARE REQUIRED ON PUMPS, CONTROL PANEL, WET WELL AND VALVE VAULT COMPONENTS.
- ALL PUMP STATION EQUIPMENT AND INSTALLATION SHALL BE CERTIFIED BY THE EQUIPMENT SUPPLIER. STARTUP REPORTS SHALL BE SUBMITTED TO THE ENGINEER FOR ACCEPTANCE.
- THE CONTRACTOR, EQUIPMENT SUPPLIER, AND SYSTEM INTEGRATOR SHALL PROVIDE A TRAINING SEMINAR FOR THE OWNER'S STAFF PRIOR TO ACCEPTANCE OF THE PROJECT.
- COMPLETE OPERATION AND MAINTENANCE MANUALS AND AS-BUILT WIRING AND PIPING SCHEMATICS ARE REQUIRED PRIOR TO FINAL ACCEPTANCE.
- ALL UNDERGROUND FITTINGS SHALL BE RESTRAINED MECHANICAL JOINT.

PUMP STATION NOTES

- PUMP SHALL HAVE INTAKE SCREEN AND HAVE A NON-OVERLOADING MOTOR.
- CONTRACTOR SHALL PROVIDE THE NECESSARY DUCTILE IRON PIPE (CLASS 350psi), COUPLINGS, FITTINGS, VALVES, AND ALL NECESSARY APPURTENANCES, EXCAVATING, BACK FILL, ETC. TO COMPLETE THE PUMP STATION CONNECTION AND CONSTRUCTION.
- INTERIOR FORCEMAIN PIPING AND STEEL SURFACES SHALL HAVE 6 MILS EPOXY ENAMEL PAINT COATING. COLOR SHALL BE GRAY TO INDICATE WASTEWATER LINE.
- ALL BOLTS, NUTS, MISCELLANEOUS FASTENERS, BRACKETS, MOUNTS, LIFTING MECHANISMS AND NECESSARY APPURTENANCES IN WET WELL SHALL BE STAINLESS STEEL.
- FLOATS SHALL BE PROVIDED FOR BACKUP OPERATION AND EMERGENCY NOTIFICATION AND SHUT DOWN.
- ALL PENETRATIONS AND CONDUIT INTO THE WET WELL SHALL BE SEALED WITH GASKETS, ELECTRICAL DUCT SEAL PUTTY, OR AS REQUIRED, TO PREVENT GAS MIGRATION.
- ALL ELECTRICAL COMPONENTS AND WORK SHALL BE IN ACCORDANCE TO THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AND COMPLY WITH ALL REQUIREMENTS AND REGULATIONS AS INDICATED BY ANY LOCAL CODE OR BUILDING AUTHORITY.
- ALL ELECTRIC WORK FROM POWER COMPANY SUPPLY POLE AND TRANSFORMER TO PUMP STATION (METER BASE, DISCONNECT, CONDUIT AND WIRES) SHALL COMPLY WITH NEC AND LOCAL POWER SUPPLY COMPANY'S SPECIFICATIONS AND SHALL BE COORDINATED BY THE CONTRACTOR.
- SHOP DRAWINGS AND LOADING CALCULATIONS FOR MANUFACTURED TRUSSES SHALL BE PROVIDED TO THE ENGINEER. DRAWINGS AND CALCULATIONS MUST BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI.
- PRESSURE GAUGE SHALL BE 4 1/2" DIA. FACE, 0-200 PSI, GLYCERIN FILLED.
- ONE LINE PIPING DIAGRAMS, DRAWN TO SCALE, SHALL BE SUBMITTED FOR REVIEW PRIOR TO CONSTRUCTION.
- LOCKABLE, ALUMINUM ACCESS HATCH SHALL HAVE SAFETY NET FALL PROTECTION.

PUMP AND OPERATION CRITERIA

IRRIGATION PUMP:

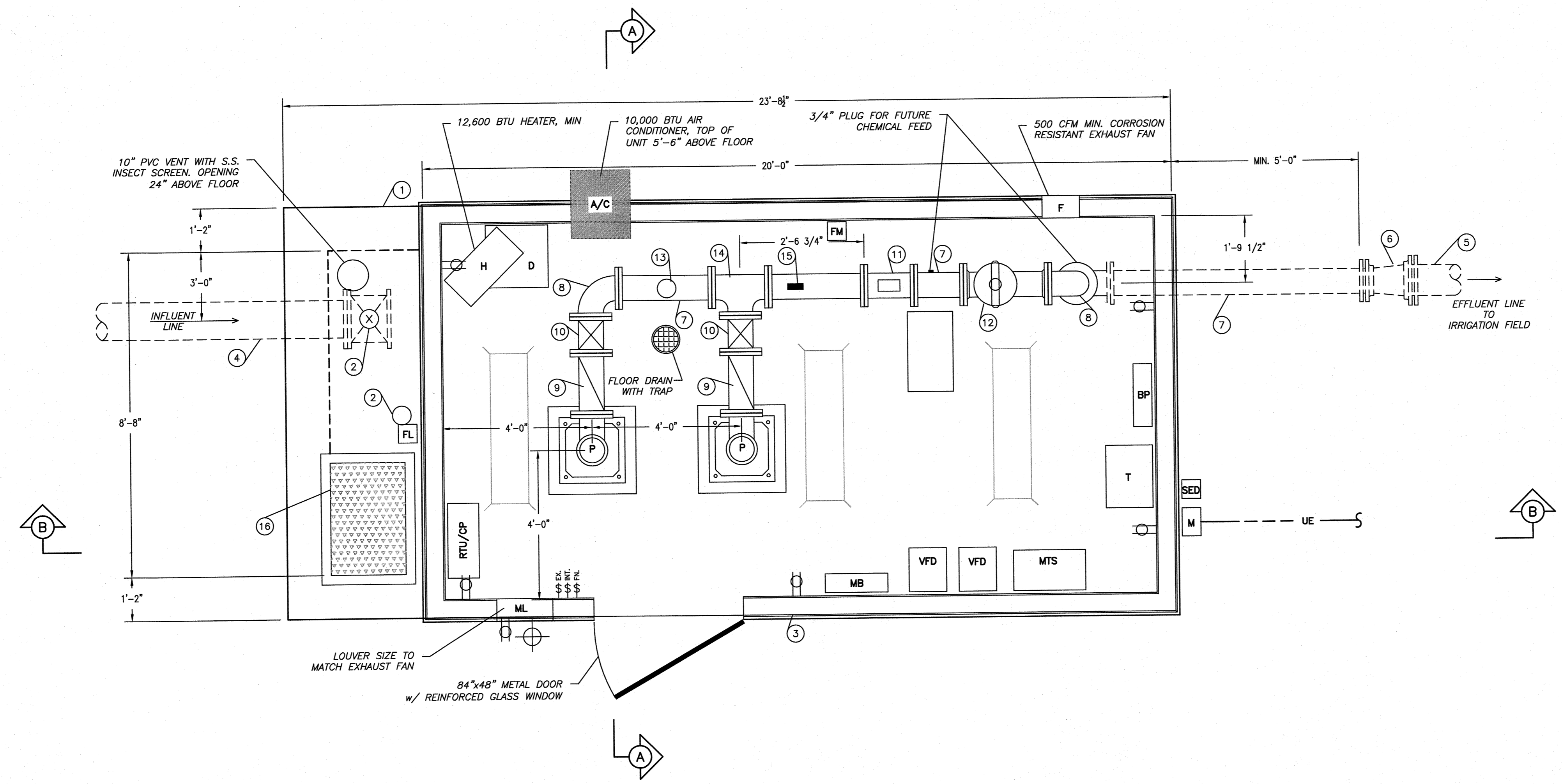
AURORA MODEL 11EH-SS, GORMAN-RUPP K12HC OR APPROVED EQUIVALENT - (2) REQUIRED
 HORSE POWER: 125 H.P.
 POWER REQUIREMENTS: 3ø/60Hz/240v.

DUTY POINT:

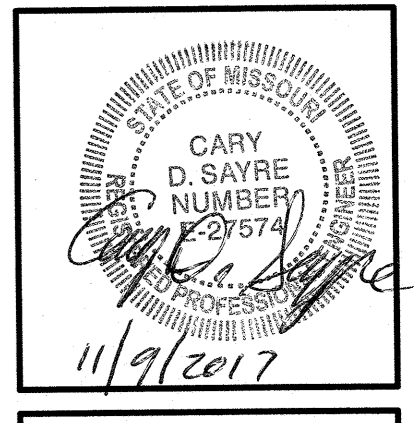
PUMP MUST MEET THE FOLLOWING OPERATION POINTS FOR EACH ZONE:
 -ZONE 1: 1253 GPM @ 232'
 -ZONE 2: 1337 GPM @ 236'
 -ZONE 3: 1182 GPM @ 243'
 -ZONE 4: 1295 GPM @ 253'

LEVEL OPERATION:

PUMP STATION OPERATION	
SWITCH SETTING	ELEVATION
NORMAL OPERATING HIGH LEVEL	939.9
NORMAL OPERATING LOW LEVEL, OFF	930.33
BACK-UP FLOAT OFF	930.33
BACK-UP FLOAT EMERGENCY OFF	929.83
TOP WET WELL	942.5
FL GRAVITY-IN (W)	929.0
BOTTOM WET WELL	926.83



PLAN VIEW
 SCALE: 1/2" = 1'



DATE
 JULY 2017

REVISED:
 11-9-17 10" PVC TO DIP, OPERATING LEVEL

JOB NUMBER
 13147.01

SCALE
 1/2" = 1'

SHEET
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