

1 RAINWATER HARVESTING SYSTEM PIPING PLAN
 RH1.0 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

- NONPOTABLE WATER PIPING SHALL BE IDENTIFIED EITHER BY COLOR MARKING OR METAL TAGS IN ACCORDANCE WITH OPC SECTIONS 608.8.1 - 608.8.3.
- NONPOTABLE WATER HOSE BIBBS SHALL BE IDENTIFIED AT THE POINT OF USE FOR EACH OUTLET WITH THE WORDS, "NONPOTABLE-NOT SAFE FOR DRINKING".
- RAINWATER HARVESTING SYSTEM SPECIFICATIONS WITH (3) STORAGE CISTERNS ARE BASE ON RAIN BROTHERS, LLC EQUIPMENT.
 CONTACT: JONATHAN MEIER, PH. 1-814-725-4363.
 REFER TO SPECIFICATION FOR ADDITIONAL EQUIPMENT AND APPURTENANCES INFORMATION.
 REFER TO CIVIL DRAWINGS FOR STORM PIPING LAYOUT.
 REFER TO PLUMBING DRAWINGS FOR REQUIRED DRAINAGE FOR RAINWATER HARVESTING SYSTEM EQUIPMENT AND DOMESTIC COLD WATER MAKE-UP LINE.
- PROVIDE START-UP SERVICES FOR ALL EQUIPMENT.
- THE SYSTEM SHALL BE PROTECTED TO PREVENT THE ENTRANCE OF INSECTS AND VERMIN INTO STORAGE TANKS AND PIPING SYSTEM. SCREEN MATERIALS SHALL BE COMPATIBLE WITH CONTACTING SYSTEM COMPONENTS AND SHALL NOT ACCELERATE THE CORROSION OF THE SYSTEM COMPONENTS.

RAINWATER HARVESTING SYSTEM CODED NOTES:

1. REFER TO CIVIL DRAWINGS FOR CONTINUATION, STORM PIPING LAYOUT AND THE INVERTS.
2. 3/4" NONPOTABLE WATER DROP ON WALL TO CONNECT TO HOSE BIBB PER MANUFACTURER'S REQUIREMENTS. REFER TO PLUMBING DRAWINGS FOR HOSE BIBB SPECIFICATION.
3. 1" NONPOTABLE WATER UP ON WALL.
4. FLOOR SINK. COORDINATE LOCATION WITH EQUIPMENT SKID. REFER TO PLUMBING DRAWINGS FOR SPECIFICATION.
5. REFER TO PLUMBING DRAWINGS FOR DOMESTIC COLD WATER PIPING CONNECTION.
6. INSTALL EQUIPMENT SKID ON 4" HIGH CONCRETE PAD, PROVIDE CONCRETE PAD NOT LESS THAN 4" LARGER THAN EQUIPMENT SKID IN ALL DIRECTIONS. PROVIDE FINAL CONNECTIONS PER MANUFACTURER'S REQUIREMENTS.
7. REFER TO DETAIL 2/RH1.0 FOR EQUIPMENT AND APPURTENANCES.
8. PROVIDE WATTS #LF909-QT-S REDUCED PRESSURE ZONE ASSEMBLIES WITH AIR GAP FITTING AT 3'-0" AFF. EXTEND DRAIN PIPING TO SPILL OVER FLOOR SINK.
9. OVERFLOW PIPE SHALL BE PROTECTED FROM INSECTS OR VERMIN.
10. EXTEND 1" DOMESTIC COLD WATER PIPING TO CONNECT TO 3-WAY VALVE.

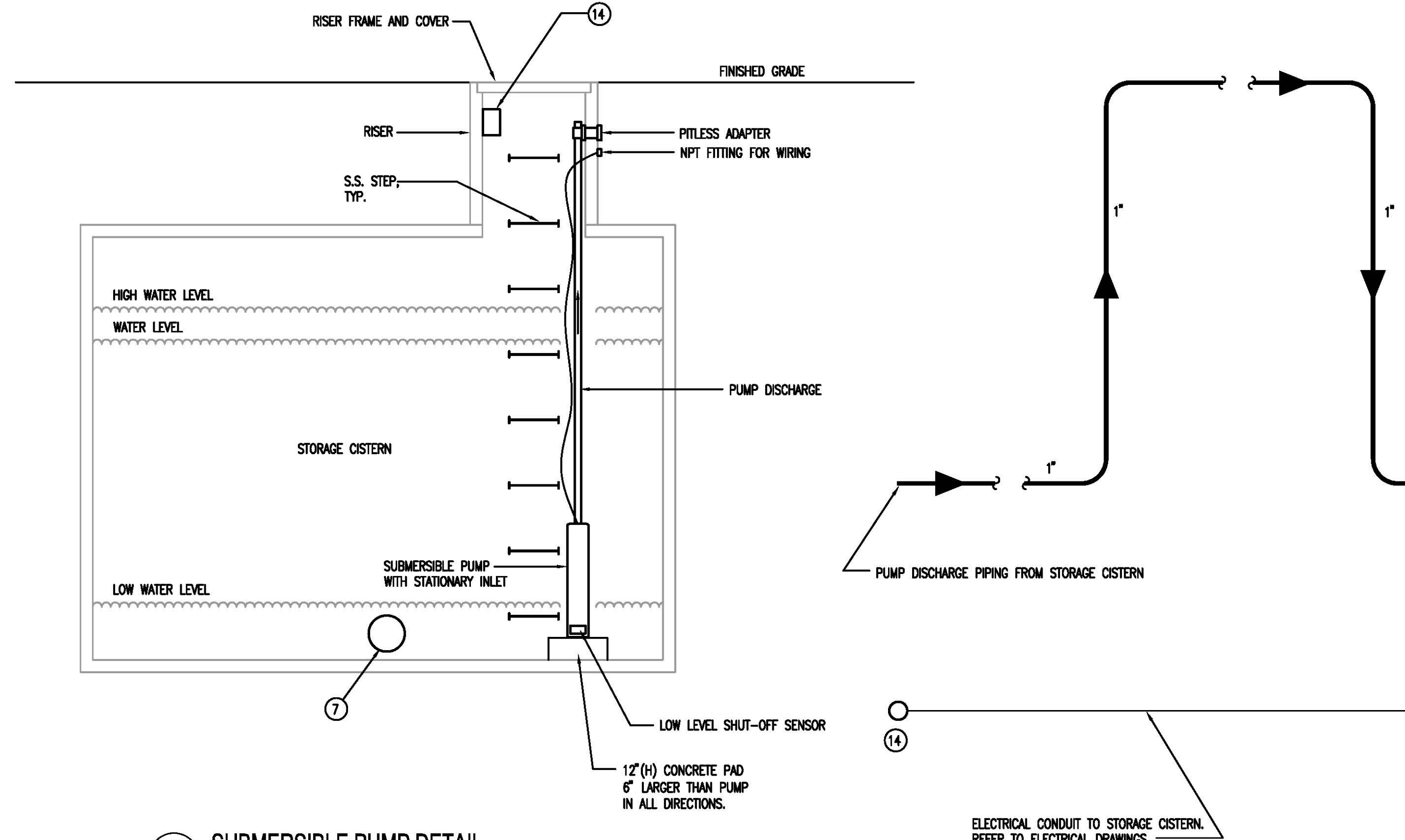
PIPING SCHEDULE:

- NONPOTABLE WATER PIPING SHALL BE BELOW GROUND:
 SOFT COPPER TUBE: ASTM B88, TYPE K, WATER, ANNEALED TEMPER WITH COPPER PRESSURE FITTINGS ASME B16.22 WROUGHT-COPPER.
- ABOVE GROUND:
 HARD COPPER TUBE: ASTM B88, TYPE L, WATER TUBE, DRAWN TEMPER WITH COPPER PRESSURE FITTINGS ASME B16.22 WROUGHT-COPPER, SOLDER-JOINT OR CRIMPED FITTINGS BY VEGA, NIBCO, ELKHART.

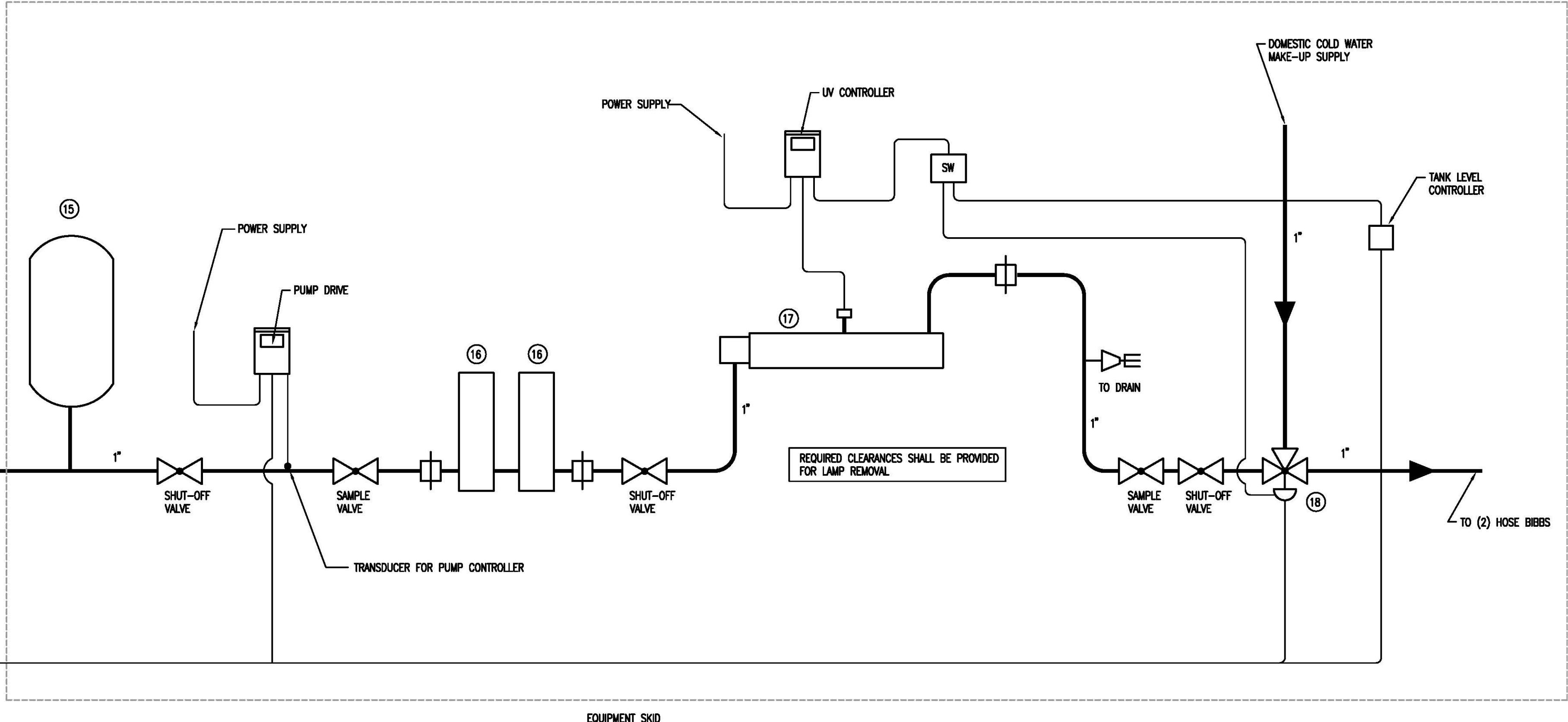
VARIABLE FREQUENCY DRIVE BUILT-IN DIAGNOSTIC AND PROTECTION:

- SURGE PROTECTION
- SHORT CIRCUIT
- UNDERLOAD
- OVERHEATED CONTROLLER
- UNDERVOLTAGE
- BROKEN PIPE DETECTION
- LOCKED PUMP
- USER-CONFIGURABLE UNDERLOAD OFF TIME
- OPEN CIRCUIT

RAINWATER HARVESTING SYSTEM EQUIPMENT SCHEDULE		
MARK	DESCRIPTION	REMARKS
1	GRAF OPTIMAX FILTER PRODUCT NUMBER 340036 SELF-CLEANING, BELOW GROUND FILTRATION SYSTEM. FLUSH INSTALLATION AT GROUND LEVEL, VEHICLE-LOADING CAST IRON LID, MESH FILTER, OPTICLEAN SPRAYHEAD.	INSTALL FILTER PER MANUFACTURER'S REQUIREMENTS.
2	RAIN BROTHERS, LLC PRECAST CONCRETE CISTERN, 3,300 GALLONS, 180" x 102" x 42" (H) SIZE.	PERFORM ALL EXCAVATING, PROPER BEDDING, COMPACTING, BACKFILLING, ETC. PER MANUFACTURER'S REQUIREMENTS. PROVIDE SURGE BLOCKER AT INLET TO PREVENT EXCESSIVE WATER TURBULENCE.
3	3/4" SQ. OPENING WITH HEAVY DUTY ENTER BY E.A. OR APPROVED EQUIPMENT.	PROVIDE STAINLESS STEEL REINFORCED STEPS AT 18" CENTERS. REFER TO PLAN FOR PIPING AND ELECTRICAL CORD LAYOUT.
4	6" WATER INLET FROM GRAF FILTER	REFER TO CIVIL DRAWINGS FOR PIPING MATERIAL.
5	6" OVERFLOW TO STORM CATCH BASIN.	REFER TO CIVIL DRAWINGS FOR PIPING LAYOUT AND MATERIAL.
6	6" PIPING BETWEEN TANKS AT THE BOTTOM OF THE CISTERN	REFER TO CIVIL DRAWINGS FOR PIPING MATERIAL.
7	6" PIPING (RAIN WATER INPUT FROM ROOF 11,722 SQ.FT)	REFER TO CIVIL DRAWINGS FOR PIPING LAYOUT AND MATERIALS.
8	6" PIPING (DEBRIS FLUSHED OUT FROM GRAF FILTER TO STORM CATCH BASIN).	REFER TO CIVIL DRAWINGS FOR PIPING LAYOUT AND MATERIALS.
9	FERCO TYPE FLEXIBLE COUPLER	INSTALL PER MANUFACTURER'S REQUIREMENTS
10	TANK PENETRATION FOR 1" PUMP DISCHARGE PIPING WITH FLEXIBLE CONNECTOR	INSTALL PIPE TO PREVENT FROM FREEZING.
11	TANK PENETRATION FOR ELECTRICAL CONNECTIONS WITH FLEXIBLE CONNECTOR.	PROVIDE CONDUIT CONNECTION FROM EACH TANK TO PUMP ROOM 066 WITH PULLWIRE FOR WIRING PER MANUFACTURER'S RECOMMENDATION. PULL ALL WIRING FOR CONTROLS AS REQUIRED AT EACH TANK.
12	FRANKLIN QUICKPAK #15SDQP-1.5HP-3R VFD SUBMERSIBLE PUMP 15 GPM @ 80 PSI, 230/60/3, 1.5 HP, NEMA 3R, BLACK-BOOST TRANSFORMER, VARIABLE SPEED, BALANCED FLOW PUMP CONTROLLER WITH TRANSDUCER, (2) WIRE GROUNDING SYSTEM. INSTALL PUMP ON 12" HIGH CONCRETE PAD. PROVIDE PUMP SUPPORTS. #SD15 CONSTANT PRESSURE CONTROLLER, SINGLE-PHASE (3-WIRE) INPUT, THREE-PHASE MOTOR CONTROL, 0.75 HP, UL LISTED, NEMA 3R	INSTALL IN STORAGE CISTERN. 3 #10, #10G, 1" C. CIRCUITED TO 20A/2P CIRCUIT BREAKER LP3-35,35 PROVIDE PROVISIONS FOR PUMP REMOVAL WITHOUT ENTERING THE TANK.
13	FLOWLINE #LUB1 ULTRASONIC LEVEL TRANSMITTER, PMP TRANSDUCER, NEMA 4X ENCLOSURE WITH LEVEL CONTROLLER FOR LEVEL MONITORING AND SYSTEM OPERATION. INSTALL FITTINGS.	INSTALL IN STORAGE CISTERN. REFER TO ITEM 12 FOR CONTROLS REQUIREMENT.
14	AMTROL WELL-X-TROL #MX-255 PRESSURE TANK 81 GAL., 22"x 57" (H) SIZE.	1-1/4" CONNECTION SIZE
15	(2) SHELDO #4FS1-316 MULTI-CARTRIDGE HOUSING FOR 4(10") CARTRIDGES, 316L STAINLESS STEEL FILTER	2" CONNECTION SIZE, 1/2" DRAIN
16	NOVA #E4 ULTRAVIOLET (UV) WATER DISINFECTION SYSTEM FOR CONTINUOUS DISINFECTION.	WIRE TO 20A/1P CIRCUIT LP3-36, PROVIDE OUTLET PER MANUFACTURER'S REQUIREMENTS.
17	BONOMO BALL VALVE WITH VALBIA ELECTRIC ACTUATOR FOR MOTORIZED 3-WAY VALVE AND CONTROLS. 115/60/1.	1" DOMESTIC COLD WATER MAKE-UP SUPPLY. WIRE TO 20A/1P CIRCUIT LP3-34, PROVIDE GFCI PROTECTION PER MANUFACTURER'S REQUIREMENTS.
18	2" TANK VENT WITH MUSHROOM CAP	COORDINATE LOCATION WITH OWNER. REFER TO CIVIL DRAWINGS FOR PIPE MATERIAL.



3 SUBMERSIBLE PUMP DETAIL
 RH1.0 SCALE: NO SCALE



2 RAINWATER HARVESTING SYSTEM EQUIPMENT AND CONTROLS COMPONENTS DETAIL
 RH1.0 SCALE: NO SCALE