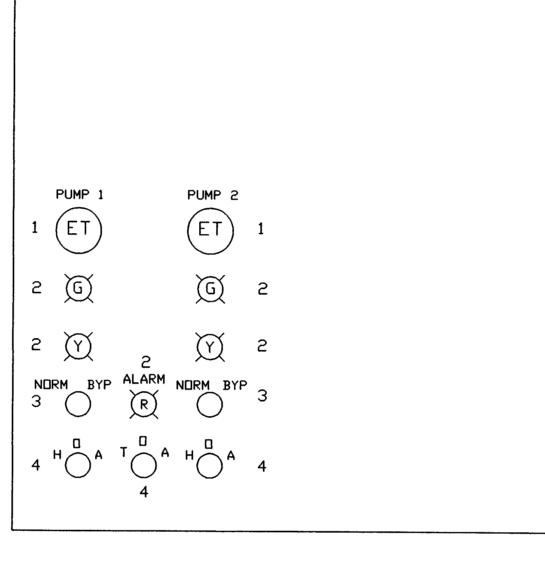


CONTROL PANEL LAYOUT



COVER PANEL LAYOUT

- 1. SQUARE D 3-POLE CIRCUIT BREAKER BQ3B050
- 2. SQUARE D 2-POLE CIRCUIT BREAKER BQ2B060
- 3. SQUARE D THERMOSTAT PART #S5
- 4. ALLEN BRADLEY 509-COD
- FULL VOLTAGE NEMA STARTERS
- 5. SQUARE D SUB BREAKER PANEL PART #Q06-12L100F/S
- 6. LIGHT SWITCH W/COVER
- 7. 30 AMP DUPLEX GFI RECEPTACLE
- 30 AMP SIMPLEX RECEPTACLE
- ALLEN BRADLEY TERMINAL STRIP 1492-F1 TERMINAL 1492 RAIL
- 10. □MR□N TIME DELAY RELAY #H3Y-4-US-120∨
- 11. OMRON S3D-CK PROGRAMMABLE CONTROLLER
- 12. AMF POTTER-BRUMFIELD RELAY KHJ17D11
- 13. ALLEN BRADLEY MULTIFUNCTION TIMING RELAY TYPE HR100-240VAC
- 14. CHROMALOX TYPE SCB-150 HEATER WITH STANDARD LAMP SOCKET
- 15. SQUARE BASE LIGHT SOCKET WITH LIGHT

NONRESETTABLE ELAPSED TIME INDICATORS

2. ALLEN BRADLEY STANDARD PILOT LIGHTS #Q10R

3. ALLEN BRADLEY 2 POSITION SELECTOR SWITCH

4. ALLEN BRADLEY 3 POSITION SELECTOR SWITCH

CRAMER AC VOLTAGE HOUR METER

UNIT 800T-J2A W/ LEGEND PLATE

UNIT 800T-H2A W/ LEGEND PLATE

16. DIVERSIFIED PHASE MONITOR MODEL # SLAXXXASA

ELECTRICAL:

- 240 VOLT, 3 PHASE, 60 HERTZ, 4 WIRE DELTA SERVICE, OR 440 VDLT, 3 PHASE, 60 HERTZ WITH 240/440 VDLT TD 120/440 VDLT 7.5
- KVA (MINIMUM) TRANSFORMER. 2. UNDERGROUND ELECTRICAL SERVICE SHALL BE INSTALLED IN 3" SCHEDULE 40 PVC CONDUIT ENCASED IN 6' (MINIMUM) CONCRETE, A NO. 2 BARE COPPER GROUND WIRE SHALL BE INSTALLED FROM THE PAD MOUNTERID TRANSFORMER TO THE PANEL, INSTALL A 24"X24"X12" WEATHERPROOF JUNCTION BOX WITH (2) 2' SCHEDULE 80 PVC CONDUITS TO THE WET WELL AND A 2 1/2' RIGID CONDUIT THROUGH THE WALL TO THE CONTROL ENCLOSURE.
- EXTERIOR ENCLOSURE NEMA 4X AND MECHANICAL BUILDING INTERIOR ENCLOSURES NEMA 12.
- MAGNETIC PUMP STARTERS, NEMA RATED NEMA 1 SIZE MINIMUM. WITH 120 VOLT CONTROL COIL, THERMAL OVERLOAD RELAYS IN EACH PHASE LEG. 'HANDS-OFF-AUTO' SELECTOR SWITCH AND 'NORMAL BYPASS' SWITCH (SWITCHES OPERABLE ON FACE OF CONTROL ENCLOSURE WITHOUT OPENING DOOR.
- 5. 30 AMP, 3 PHASE WYE, FEMALE RECEPTACLE EQUAL TO HUBBELL 3430 WITH 7424 WO LIFT COVER - WEATHERPROOF WITH COVER OPEN - FOR
- EMERGENCY ELECTRICAL PUMP CONNECTION. 6. EXTERNALLY MOUNTED NEMA 3 GLOBE - TYPE ALARM LIGHT WITH LEXAN GLOBE WIRE GUARD AND FLASHING RED LIGHT - MOUNT WERE DIRECTED
- AT SITE FOR PROPER VISIBILITY. SEALED POLYERTHANE MERCURY OR APPROVED EQUAL, FLOAT SWITCHES FOR LEVEL CONTROL AND ALARMS OR EACH PUMP - "OFF", EACH PUMP -
- "ON", LAG PUMP "ON", AND WET WELL LEVEL "HIGH".

 8. LOGIC PROGRAMMABLE CONTROLLER (LPC) EQUAL TO OMRON S3D SERIES, DRY CONTACT INPUT TYPE, WITH OPTICALLY DC POWER SOURCE, EIGHT (8) INPUTS (MINIMUM), FOUR (4) OUTPUTS 9MINIMUM) AND EEPROM
- 9. AUTOMATICALLY RESETTING PHASE MONITORS ON EACH PHASE.
 10. AUTOMATICALLY RESETTING ALARM RELAYS WITH ADJUSTABLE TIME DELAYS AS LISTED FOR SPECIFIC APPLICATIONS AND COMPATIBLE WITH
- MONITORING SYSTEM. 11. POWER DISTRIBUTION PANEL WITH CIRCUIT BREAKERS FOR EACH INDIVIDUAL CIRCUIT MOUNTED IN CONTROL ENCLOSURE.
- 12. 'HIGH WET WELL LEVEL' ALARM WITH 0 -15 MINUTE (ADJUSTABLE) TIME DELAY PRIOR TO ALARMING IN OR ON CONTROL ENCLOSURE DOOR.
- 13. 0-13 SECONDS (ADJUSTABLE) 4PDT TIME DELAY RELAY FOR FLOATS
- 14. ACCUMULATIVE, NON-RESETTABLE, TYPE ELAPSED RUN TIME METER WITH ONE TENTH (1/10TH) HOUR INCREMENTS FOR EACH PUMP.
- 15. 1P-20A, 120 VOLT GFCI DUPLEX RECEPTACLE MOUNTED INSIDE LPC ENCLOSURE.
- 16. 150 WATT SCREW BASE, ELECTRIC HEATER WITH ADJUSTABLE THERMOSTAT MOUNTED IN LPC ENCLOSURE.
- PUMP SEAL FAILURE ALARM WITH LIGHT.
- 18. MONITORING SYSTEM EQUAL TO MOTOROLA INTRAC 2000 MRTU+ WITH ALARM COMPONENTS COMPATIBLE TO THE EXISTING TELEMETRY SYSTEM INSTALLED AT THE EVANSVILLE WESTSIDE WASTE WATER TREATMENT PLANT, FIVE (50 (MINIMUM) CONTACT STATUS - TYPE ALARM POINTS FOR MONITORING LIFT STATION ALARMS.
- 19. YAGI-TYPE RADIO ANTENNA, EXTERNALLY MOUNTED WITH CONNECTION TO THE TELEMETRY SYSTEM.
- 20. CONTROL ENCLOSURE, DEAD FRONT TYPE, MOUNTING CONTROL COMPONENTS AND DEVICES LISTED PLUS FRONT OR FACE MOUNTED ELAPSED TIME METERS, INDICATING LIGHTS - EACH PUMP 'ON/OFF' LABELED 'PUMP-X-RUN', 'HIGH WET WELL LEVEL', 'SEAL FAILURE PUMP' - WITH IDENTIFICATION, 'TEST-OFF-AUTO' SWITCH FOR ALL ALARM LIGHTS AND OTHER SWITCHES AND OR PUSH BUTTONS. EACH DEVICE OR LIGHT SHALL BE IDENTIFIED BY A 1/16' THICK BLACK GRAVOPLY NAMEPLATE WITH 3/16' WHITE LETTERS, BEVELED EDGES AND 3/8' HOLES FOR MOUNTING SCREWS - VERIFY NOMENCLATURE BEFORE MAKING NAMEPLATE.

GENERAL WIRING NOTES:

- MINIMUM CONDUIT SIZE IS 3/4' EXCEPT FOR COMMUNICATION USING BOLDEN, PENN OR SIMILAR CABLE.
- MINIMUM WIRE SIZE IS NO. 12 AWG COPPER, NO. 10 AND SMALLER WIRE SHALL BE SOLID NI. 8 AND LAGER MAY BE SOLID OR STRANDED. INSULATION SHALL BE UL LABELED FOR 600 VOLTS 75° F (16°C) MOISTURE AND HEAT RESISTENT THERMOPLASTIC TYPE THWN, THHN OR THW. 90% CONDUCTIVE COPPER - NO ALUMINUM. NO SPLICES ARE PERMITTED IN WET WELL. SEAL SPACE BETWEEN CONDUCTORS AND CONDUIT IN PANELS.
- IDENTIFY EACH CONDUCTOR IN EVERY J-BOX, PANEL, PULL BOX, ETC. IN ADDITION TO COLOR CODING AS SPECIFIED OR AS NOTED
- ELSEWHERE. 4. A GROUND WIRE IS REQUIRED FOR ALL MOTOR AND EQUIPMENT CIRCUITS

 SEE NEC FOR SIZE IF NOT SHOWN, PROVIDE INSULATED GROUNDING BUSSING WITH ATTACHED GROUND LUG IN ALL PANELS (RIGID & IMC). EMT CONNECTORS SHALL HAVE DOUBLE LOCKNUTS AND BONDS MADE TO
- BARE METAL IN PANELS, J-BOX AND PULL BOXES. IDENTIFY EVERY PANEL, DISCONNECT, COMBINATION STARTER, FTC. WITH LAMINATED PLASTIC NAMEPLATE AS SPECIFIED AND/OR DETAILED.
- TORQUE ALL ELECTRICAL CONNECTIONS. MATCH LUG/SCREW/NUT SIZE TO RECOMMENDED TORQUE, USING EITHER UL'S OR MANUFACTURES RECOMMENDATIONS. BEFORE TORQUING, CLEAN CONNECTION TO REMOVE DIRT, CORROSION, CARBON DEPOSITS, ETC., EXECUTE THE SPECIFIED TORQUE ON THE CONNECTIONS AND DO NOT RE-TORQUE WHEN COMPLETE. OBTAIN MANUFACTURES PUBLISHED TORQUE REQUIREMENTS, IF POSSIBLE.

CONDUIT AND FITTINGS:

- CONDUITS SHALL BE PVC, SCHEDULE 40. ELECTRICAL METAL TUBING (EMT) SHALL BE FS WW-C-563 GALVANIZED TUBING WITH ANSI/NEMA FB-1, STEEL COMPRESSION FITTINGS AND CONDUIT BODIES.
- 3. FLEXIBLE METAL CONDUITS SHALL BE STEEL FS-WW-C-556 WITH ANSI/NEMA FB-1 FITTINGS AND CONDUIT BODIES.
- LIQUIDTIGHT FLEXIBLE CONDUIT SHALL BE FLEXIBLE METAL CONDUIT WITH PVC JACKET, FITTINGS AND CONDUIT BODIES SHALL BE ANSI/NEMA FB 1.
- SIZE CONDUIT AND CONDUCTOR TYPE INSTALLED (3/4" MINIMUM SIZE). ROUTE EXPOSED CONDUIT PARALLEL TO FLOOR, CEILINGS, ETC. AND PERPENDICULAR TO WALLS.
- ARRANGE CONDUIT SUPPORTS TO PREVENT DISTORTION OF ALIGNMENT BY WIRE PULLING OPERATION. FASTEN CONDUITS USING GALVANIZED STRAPS, LAYOIN ADJUSTABLE HANGERS, CLEVIS HANGERS OR BOLTED STRIP STAMPED GALVANIZED HANGERS, GROUP CONDUITS IN PARALLEL RUNS WHERE PRACTICAL AND USE CONDUIT RACKS CONSTRUCTED OF STEEL CHANNEL WITH CONDUIT STRAPS AND CLAMPS, PROVIDE SPACE FOR 25% ADDITIONAL CONDUIT. DO NOT FASTEN CONDUIT WITH WIRE OR PERFORATED PIPE STRAPS. REMOVE ALL WIRE USED FOR TEMPORARY CONDUIT SUPPORT DURING CONSTRUCTION, BEFORE CONDUCTORS ARE
- CUT CONDUIT SQUARE USING A SAW OR PIPE CUTTER AND DE-BURR CUT ENDS. CONDUIT SHALL BE TO THE SHOULDER OF FITTINGS AND COUPLING BEFORE FASTENING. USE CONDUIT HUBS FOR FASTENING CONDUIT TO CAST BOXES AND FOR FASTENING CONDUIT TO SHEET METAL
- USE CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION, AS
- AVOID MOISTURE TRAPS WHERE POSSIBLE, WHERE UNAVOIDABLE, PROVIDE JUNCTION BOX WITH DRAIN FITTING AT LOW POINT, USE CONDUIT CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND MOISTURE, CAP ALL CONDUITS INSTALLED FOR FUTURE USE.
- 11. ALL CONDUIT SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE N.E.C.

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BOXES IN DAMP OR WET LOCATIONS, INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN BOXES.

AROUND BEAMS.

10. INSTALL EXPANSION JOINTS WHERE CONDUITS TRAVERSES BUILDING EXPANSION JOINTS.

12. SECURE BOXES AND CONDUITS TO METAL STUDS AND TEE BARS. FASTENERS EQUAL TO CADDY 512, AT-1-41, MS, CRS 12, ETC.