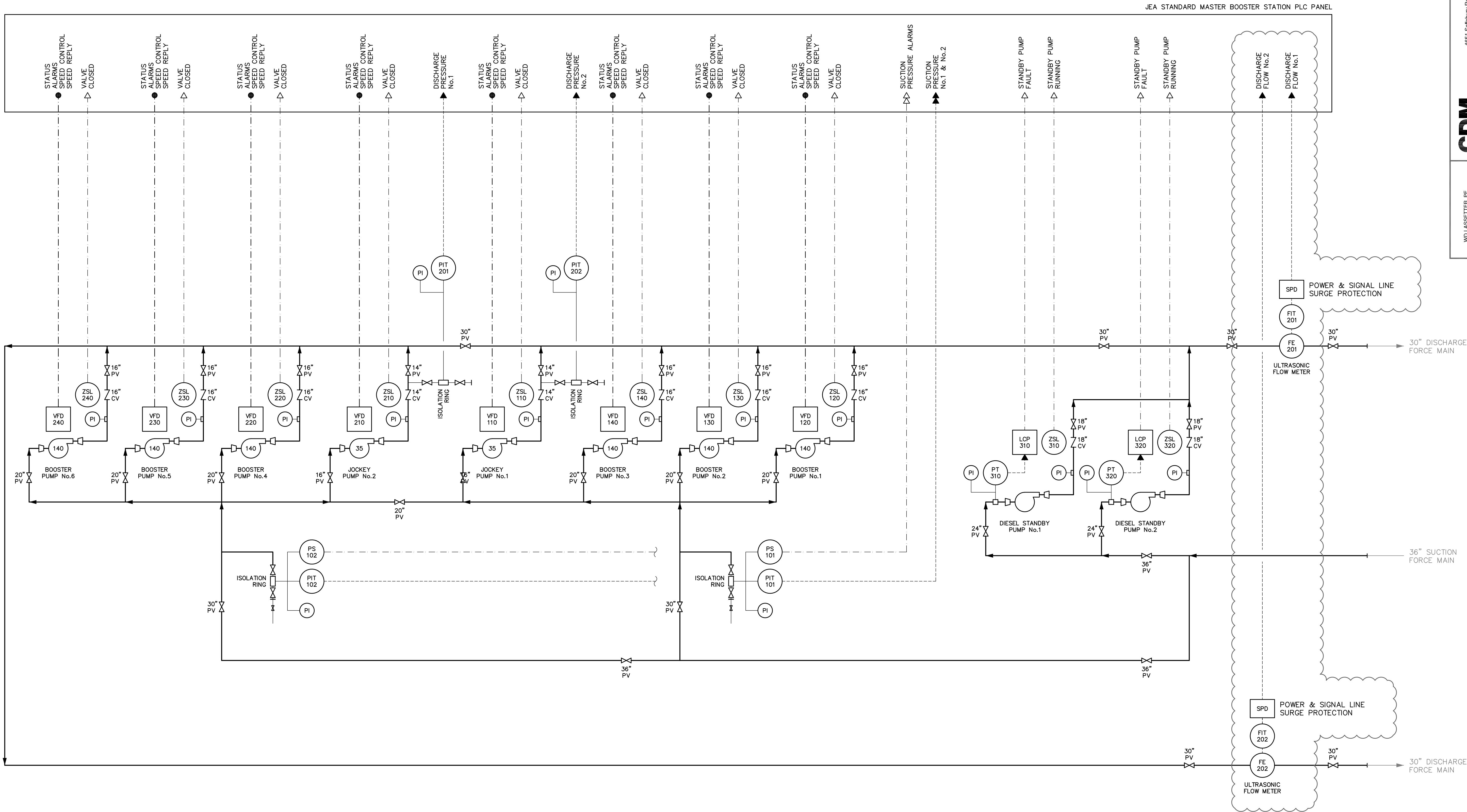




CONTROL NARRATIVE:

NOTE: THE FULL CONTROL REQUIREMENTS FOR THE STATION ARE PROVIDED IN SECTION 16950 OF THE SPECIFICATIONS. A SUMMARY OF THE BASIC STATION OPERATION IS AS FOLLOWS: CONTROL OF ALL PUMPS WILL BE ON THE BASIS OF MAINTAINING A CONSTANT SUCTION PRESSURE OF 50-FT NGVD OR APPROXIMATELY 2 PSI ON THE SUCTION OF THE PUMPS. UNDER LOW FLOW CONDITIONS, (1,000 GPM TO 5,555 GPM) ONE OF THE SMALLER HORSEPOWER JOCKEY PUMPS WILL BE OPERATING. WHEN FLOWS BEGIN TO APPROACH THE HIGH END VALUE OF THIS PUMP'S OPERATING RANGE, A PRIMARY BOOSTER PUMP WILL BE STARTED IN ORDER TO MAINTAIN THE SUCTION SET POINT, AND THE JOCKEY PUMP WILL BE STOPPED. THE LEAD JOCKEY PUMP DUTY WILL THEN ALTERNATE. AS FLOWS INCREASE AT THE STATION, THE PRIMARY BOOSTER PUMP'S SPEED WILL INCREASE TO THE "SINGLE PUMP MAXIMUM SPEED LIMIT", AND AS REQUIRED TO MAINTAIN THE SET SUCTION PRESSURE, ADDITIONAL PRIMARY BOOSTER PUMPS WILL BE BROUGHT ON LINE MATCHING THE SPEED OF THE OPERATING PUMPS AND WORKING IN UNISON. AS FLOWS TEND TO DECREASE, THE PUMPS WILL BE SLOWED AND/OR STOPPED IN REVERSE ORDER TO MAINTAIN THE SUCTION SET POINT, WITH A JOCKEY PUMP RESTARTED TO HANDLE THE LOW FLOW CONDITION. THE LEAD PRIMARY BOOSTER PUMP SEQUENCE WILL THEN ROTATE. ON POWER FAIL, OR ON HIGH SUCTION PRESSURE WITH THE BOOSTER PUMP STATION IN OPERATION, THE AUXILIARY DIESEL PUMPS WILL BE CALLED TO RUN. EACH AUXILIARY DIESEL PUMP WILL HAVE ITS OWN PRESSURE SET POINT RANGE, CALLING FOR ONE PUMP INITIALLY, AND AS SUCTION PRESSURE INCREASES, THE SECOND AUXILIARY DIESEL PUMP WILL BE CALLED TO RUN. THE ENGINE SPEED GOVERNOR OF EACH DIESEL PUMP WILL PACE THE EFFLUENT FLOW BASED ON MAINTAINING THE SUCTION PRESSURE SET POINT. AS FLOWS DECREASE BELOW THE MINIMUM RANGE FOR ONE DIESEL PUMP, THE SECOND DIESEL PUMP WILL CYCLE OFF.

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DESIGNER:
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CHECKED BY:
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DATE:
MAY 2019

DESIGN ENGINEER
W. DAVID LASSETTER
FLORIDA REGISTRATION NO.
37871

NO. BY DATE

REVISIONS

JEA
Building Communitysm

JEA, BRADLEY ROAD
WASTEWATER BOOSTER PUMP STATION
INSTRUMENTATION SCHEMATIC DIAGRAM

PROJ. NO. 6103-108860

DATE: MAY 2019

SCALE: AS SHOWN

NO. SHEETS
61

SHEET NO.
61

DRAWING NO.
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ISSUED FOR BID - MAY 2019