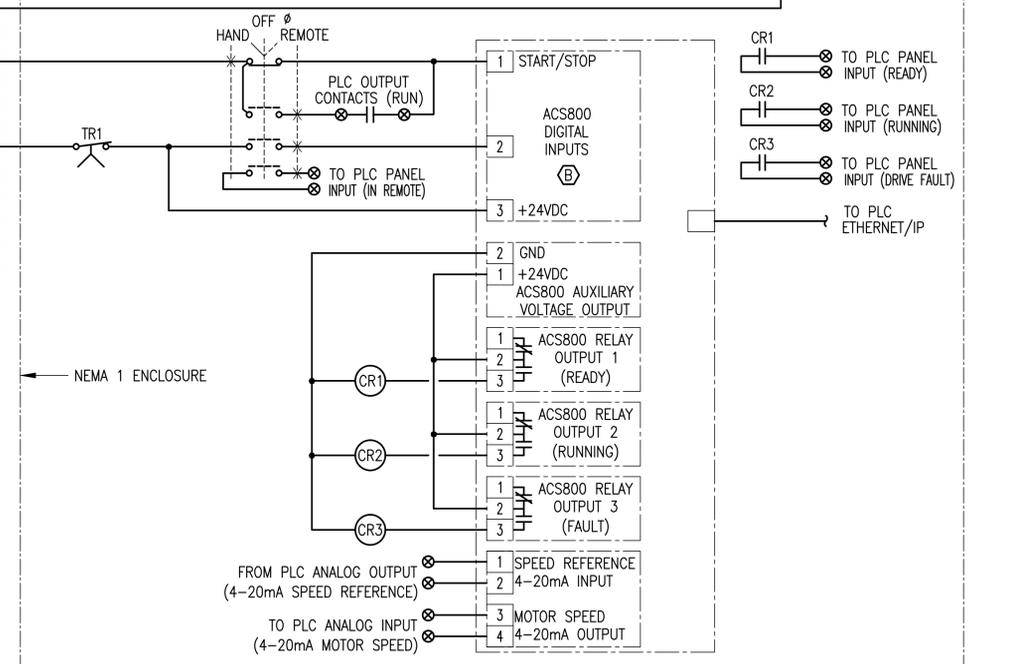
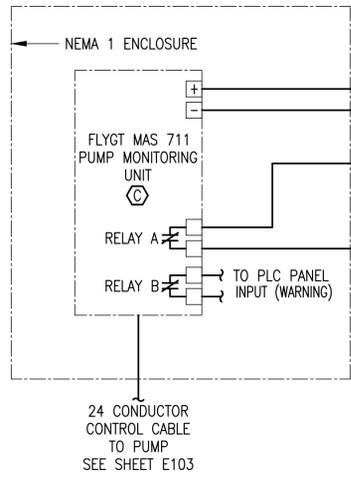
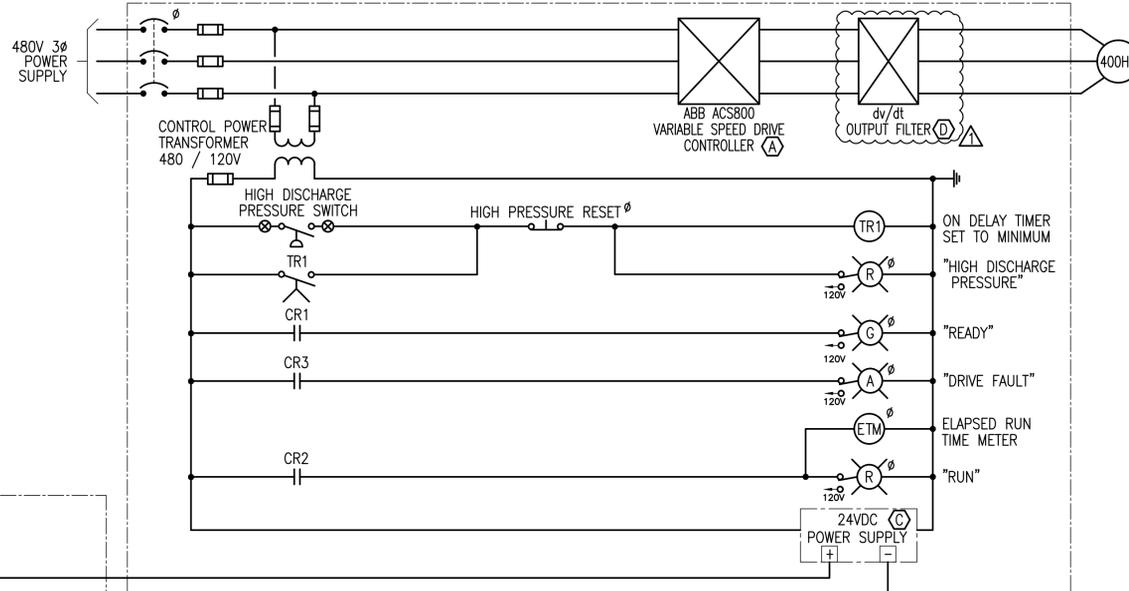


2 WET WELL MIXER CONTROLS (TYP. OF 2) A
NOT TO SCALE

WET WELL MIXER CONTROL PANEL KEYNOTES

A. PUMP CONTROL PANEL SHALL BE A 480 VOLT, 3 PHASE NEMA 4X STAINLESS STEEL COMBINATION PUMP CONTROL PANEL WITH A NEMA SIZE 2 STARTER AND A CIRCUIT BREAKER MAIN DISCONNECT SWITCH WITH ENCLOSURE DOOR MOUNTED OPERATION HANDLE INTERLOCKED WITH THE ENCLOSURE DOOR, RATED FOR AN AVAILABLE FAULT CURRENT OF 50,000 AMPERES, ASSEMBLED AND LABELED PER UL508 REQUIREMENTS.



1 SEWAGE PUMP CONTROL PANEL (TYP. OF 3) A
NOT TO SCALE

SEWAGE PUMP CONTROL PANEL KEYNOTES

- A. PUMP CONTROL PANEL SHALL BE A 480 VOLT, 3 PHASE COMBINATION PUMP CONTROL PANEL BUILT AROUND AN ABB MODEL ACS800-U4-0400-5+E210+P901 VARIABLE SPEED DRIVE UNIT WITH ETHERNET/IP COMMUNICATIONS MODULE RETA-01-KIT AND ENCLOSURE DOOR MOUNTED REMOTE OPERATOR KEYPAD MODEL RPMP-13, AND SHALL HAVE THE FOLLOWING FEATURES:
- NEMA 1 ENCLOSURE.
 - CIRCUIT BREAKER MAIN DISCONNECT INTERLOCKED WITH THE ENCLOSURE DOOR.
 - RATED FOR AN AVAILABLE FAULT CURRENT OF 30,000 AMPERES
 - SUITABLE FOR INSTALLATION IN AN AIR CONDITIONED ROOM, WITH ENCLOSURE VENTILATION PER MANUFACTURER'S RECOMMENDATION.
 - RATED FOR OPERATION OF PROVIDED 400 HORSEPOWER PUMP MOTOR.
 - MAXIMUM SUPPLY CABLE LENGTH OF 70 FEET FROM TRANSFORMER.
 - MAXIMUM LOAD CABLE LENGTH OF 80 FEET TO MOTOR.
 - FIELD VERIFY EXISTING CABLE ENTRY EXIT LOCATIONS.
 - ETHERNET/IP COMMUNICATIONS TO AN ALLEN-BRADLEY CONTROLLOGIX 1756 PLC VIA A STRATIX 8000 SWITCH.
 - PUMPS TO CONTROL LEVEL IN WET WELL BASED ON 4-20mA SPEED SIGNAL FROM PLC PID CONTROLLER.
 - 11.4-20mA MOTOR SPEED SIGNAL TO PLC.
 - 12.DRIVE KEYPAD CONTROLLER INTERFACE MOUNTED ON FRONT OF CABINET DOOR.
 - 13.PUSH-TO-TEST LED PILOT LIGHTS.
 - 14.CONTROLS CONFIGURED AS SHOWN ON THIS SHEET.
 - 15.ASSEMBLED AND LABELED PER UL508 REQUIREMENTS.
 - 16.PROVIDE FACTORY AUTHORIZED STARTUP SERVICE FOR THE INSTALLED DRIVES.
- B. CONFIGURE DIGITAL INPUTS TO THE ACS800 AS FOLLOWS (NOTE THAT ACS800 TERMINAL NUMBERS SHOWN HERE ARE NOT NECESSARILY THE TERMINALS ACTUALLY PROVIDED WITH THE DRIVE):
- POWER TO TERMINAL 1: UNIT STARTS, RAMP UP AND SPEED IS CONTROLLED BY LOCAL MANUAL DRIVE SPEED CONTROL IF IN "HAND", AND BY PLC SPEED REFERENCE SIGNAL IF IN "AUTO". UNIT RAMP DOWN SLOWLY AND STOPS TO MINIMIZE WATER HAMMER WHEN POWER IS REMOVED FROM TERMINAL 1.
 - POWER TO TERMINAL 2: UNIT RECOGNIZES SYSTEM IS IN "AUTO" AND SPEED IS CONTROLLED BY PLC SPEED REFERENCE SIGNAL (SEE ITEM 1 ABOVE).
- C. PROVIDE FLYGT MAS 711 PUMP MONITORING UNIT IN A SEPARATE NEMA 1 ENCLOSURE MOUNTED ADJACENT TO THE VFD ENCLOSURE. PROVIDE MAS 711 OPERATOR PANEL MOUNTED ON THE FACE OF THE ENCLOSURE, AND A 24VDC POWER SUPPLY PER FLYGT RECOMMENDATIONS MOUNTED IN THE VFD ENCLOSURE AS SHOWN.
- D. PROVIDE A dv/dt MOTOR PROTECTION OUTPUT FILTER MOUNTED INSIDE THE VFD ENCLOSURE AS SHOWN. OUTPUT FILTER SHALL BE YCI MODEL V1K480A00, OR EQUAL.

DESIGNED BY:	R.P.C.
DRAWN BY:	R.P.C.
CHECKED BY (DESIGN):	M.F.T.
CHECKED BY (FIELD ENG):	
FIELD BOOK NO.:	
NO.	
REVISIONS DURING BIDDING	
REVISION	
APPLY'D.	
RPC	7/18/16
DATE	

DESIGNED BY: R.P.C.
DRAWN BY: R.P.C.
CHECKED BY (DESIGN): M.F.T.
CHECKED BY (FIELD ENG):
FIELD BOOK NO.:

14502
RICHARD P. CANNY
CHARTERED PROFESSIONAL ENGINEER
REGISTERED IN THE STATE OF ARIZONA
EXPIRES 07/31/15

PIMA COUNTY
REGIONAL WASTEWATER
RECLAMATION DEPARTMENT

PIMA COUNTY
WASTEWATER RECLAMATION
201 North Stone Avenue * Tucson, Arizona 85701-1207 * Phone: (520) 740-6500

CONTINENTAL RANCH
REGIONAL PUMP STATION
UPGRADE DESIGN
ELECTRICAL
CONTROL DIAGRAMS - 1

R-2014-079
G-2014-078

Date: SEPT. 8, 2015

HORIZ. : 1"=10'
VERT. : N/A

SHEET NO. : E20
62 OF 91

RCE
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