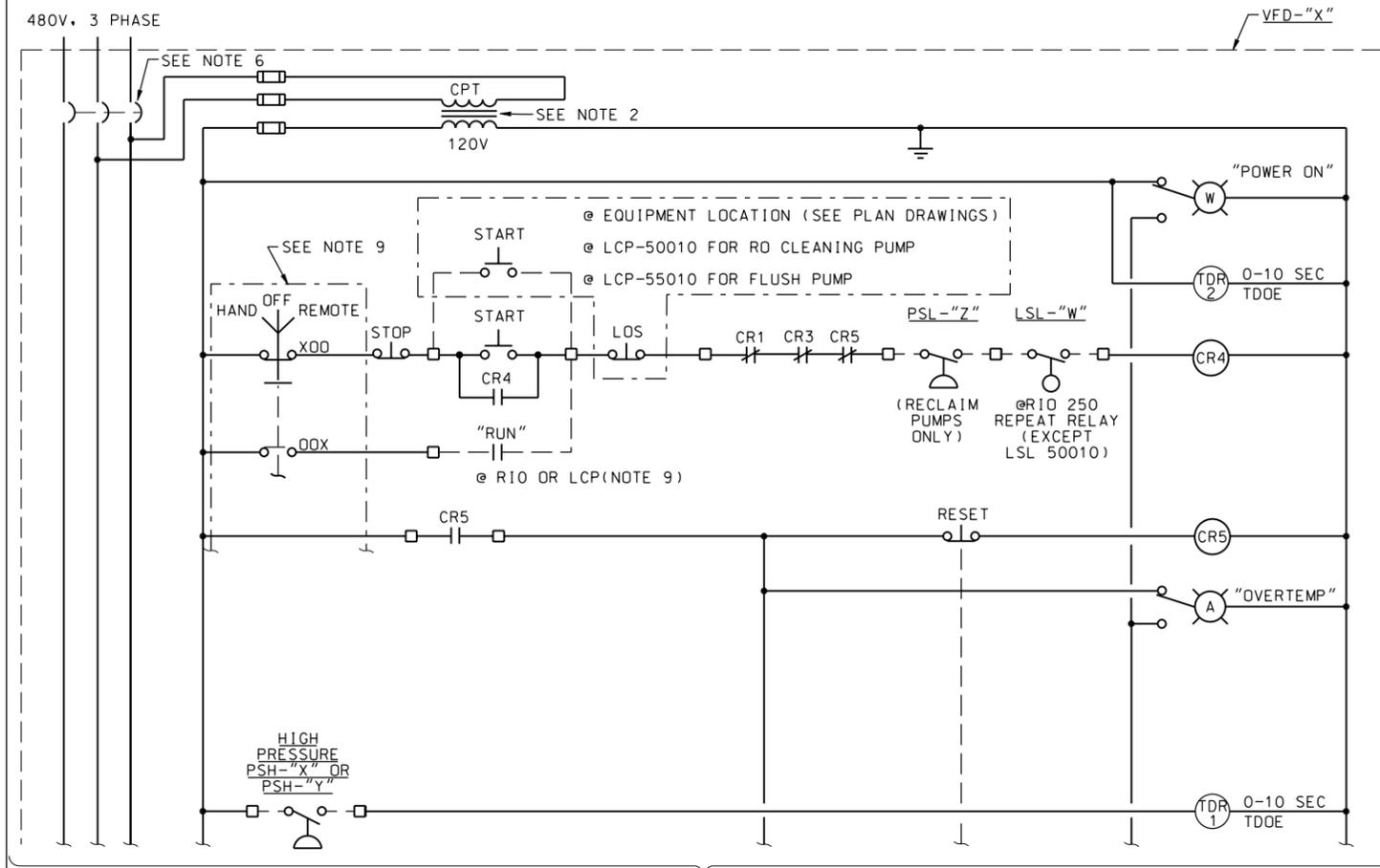
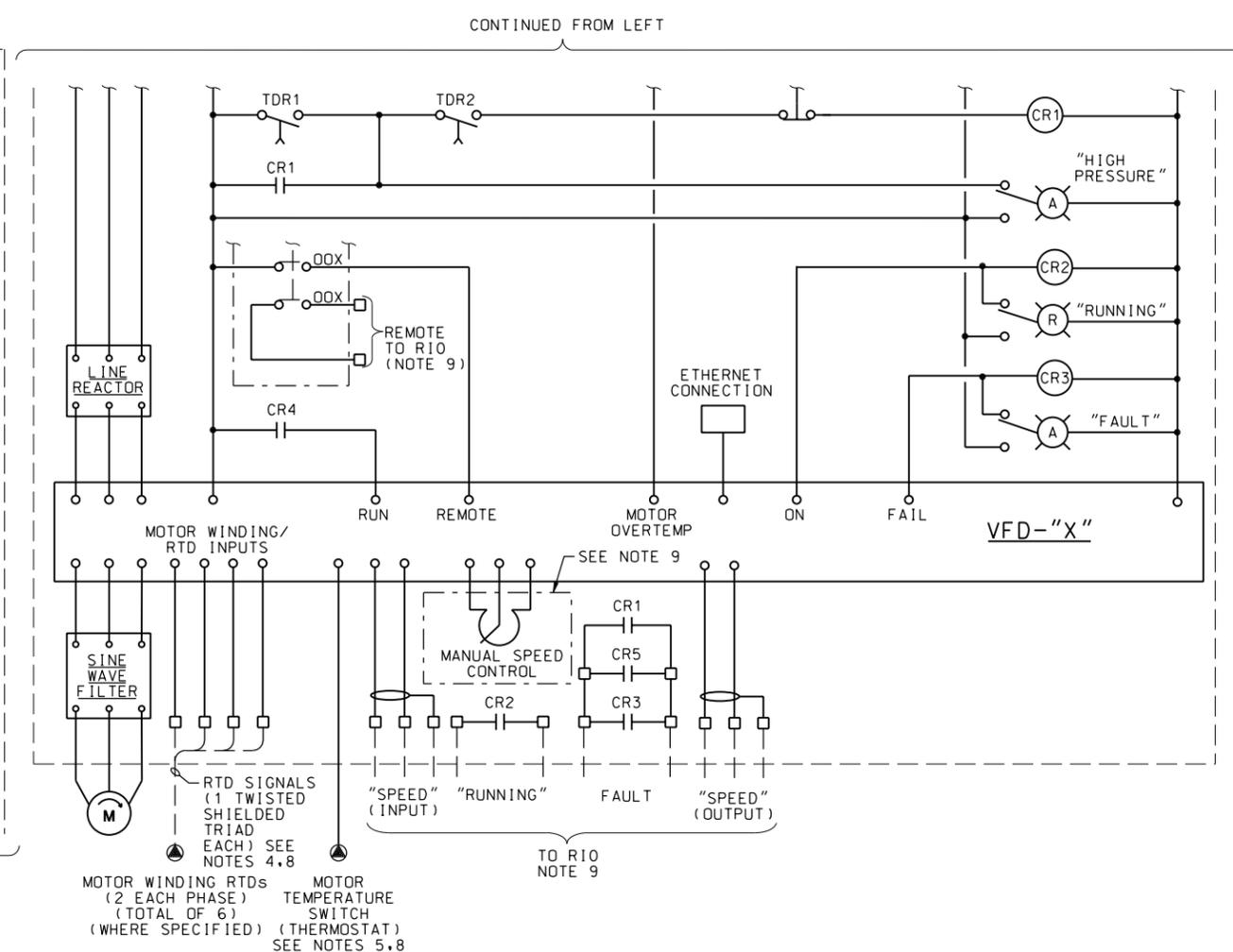


PLOT DATE: 2/19/2010 PLOT TIME: 11:10:12 AM

NDM-SCO-EMWD USACE PERRIS II/ PDF e631d.dgn



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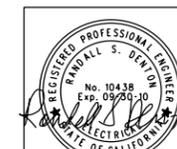
CONTINUED FROM LEFT

**RO FEED, FINISHED WATER, CONCENTRATE, AND RO CLEANING, RO FLUSH, AND FE/MN RECLAIM PUMPS**

- "X" = 10210, "X" = 10220 (RO FEED)
- "X" = 70010, "Y" = 70011, "X" = 70020, "Y" = 70021, "X" = 70030,
- "Y" = 70031, (FINISHED WATER)
- "W" = 70110
- "X" = 80010, "Y" = 80011, "X" = 80020, "Y" = 80021, "X" = 80030, "Y" = 80031, (CONCENTRATE)
- "W" = 80103
- "X" = 50020, "Y" = 50021, (RO CLEANING PUMP)
- "W" = 50010
- "W" = 55010, "X" = 55020, "Y" = 55010 (RO FLUSH PUMP)
- "X" = 95110, "Y" = 95111, "Z" = 95110, "X" = 95120, "Y" = 95121, "Z" = 95120,
- "X" = 95130, "Y" = 95131, "Z" = 95130 (FE/MN RECLAIM)

**NOTES:**

1. SCHEMATICS ARE TYPICAL AND ARE MEANT TO SHOW THE NUMBER AND FUNCTION OF THE VARIOUS COMPONENTS AND SIGNALS WITHIN THE MOTOR CONTROLLERS AND BETWEEN FIELD DEVICES, MOTOR CONTROLLERS AND OTHER DEVICES (E.G. PLC'S). THE CONTRACTOR SHALL COORDINATE THE FINAL REQUIREMENTS AND MAKE ALL ADJUSTMENTS NECESSARY AS REQUIRED BY THE ACTUAL EQUIPMENT SUPPLIED. SEE SPECIFICATIONS FOR ADDITIONAL VFD REQUIREMENTS REQUIRED BUT NOT SHOWN.
2. PROVIDE CPT SIZED TO MEET REQUIREMENTS OF ACTUAL EQUIPMENT SUPPLIED. COORDINATE REQUIREMENTS WITH MOTOR AND/OR PUMP/BLOWER SUPPLIER. MINIMUM SIZE SHALL BE 150VA.
3. FOR ADDITIONAL REQUIREMENTS NOT SHOWN HERE, SEE SPECIFICATION SECTION 26 29 23 VARIABLE FREQUENCY DRIVE SYSTEMS.
4. PROVIDE INPUTS TO RECEIVE MOTOR WINDING RTD INPUTS (100 OHM PLATINUM, WIRE), TOTAL OF SIX (6) FOR FINISHED WATER PUMPS, RO FEED PUMPS, AND CONCENTRATE PUMPS. GROUND THE SHIELD OF EACH TRIAD AT THE VFD ONLY BY CONNECTING TO ITS RESPECTIVE GROUND TERMINAL.
5. PROVIDE INPUTS TO RECEIVE MOTOR TEMPERATURE SWITCH (BI-METAL THERMOSTAT, "KLIXON") FOR RO FLUSH PUMP AND RO CLEANING PUMP.
6. PROVIDE INTEGRAL DRIVE MOUNTED CIRCUIT BREAKER FOR FE/MN RECLAIM AND RO CLEANING/FLUSHING PUMPS ONLY.
7. ADD FACILITY NUMBER "D0010" PREFIX TO ALL TAG NUMBERS.
8. FE/MN RECLAIM PUMPS DO NOT HAVE AUXILIARY TEMPERATURE DETECTION, DELETE ALL ASSOCIATED INPUT AND ALARM FUNCTIONS.
9. THESE CONTROL FUNCTIONS FOR RO FLUSH AND RO CLEANING PUMPS ARE LOCATED IN LCP-50010 AND LCP-55010 RESPECTIVELY, SEE I-13, I-14 FOR COORDINATION.



DATE: 10/05/09

**CH2MHILL**  
U.S. ARMY ENGINEER DISTRICT  
LOS ANGELES  
CORPS OF ENGINEERS

DESIGNED BY: A. MATHEWS  
DRAWN BY: J. HANMER  
CHECKED BY: R. DENTON

ART. JUNG, P.E.  
CHIEF, DESIGN BRANCH

L.A. DISTRICT FILE NO. XXX-XXXX  
SPEC. NO.: NOT APPLICABLE  
CAD FILE NAME: PDFe631d.dgn

EASTERN MUNICIPAL WATER DISTRICT PERRIS II DESALINATION FACILITY PERRIS, CALIFORNIA		<b>MOTOR CONTROL SCHEMATICS 1</b>	
SYMBOL	DESCRIPTIONS	DATE	APPROVAL