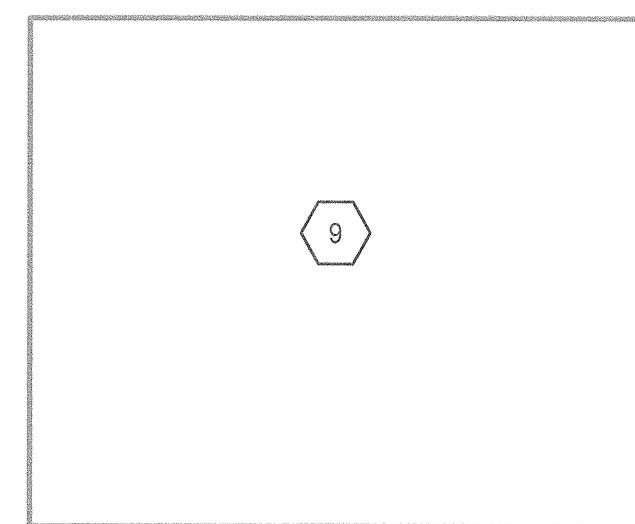
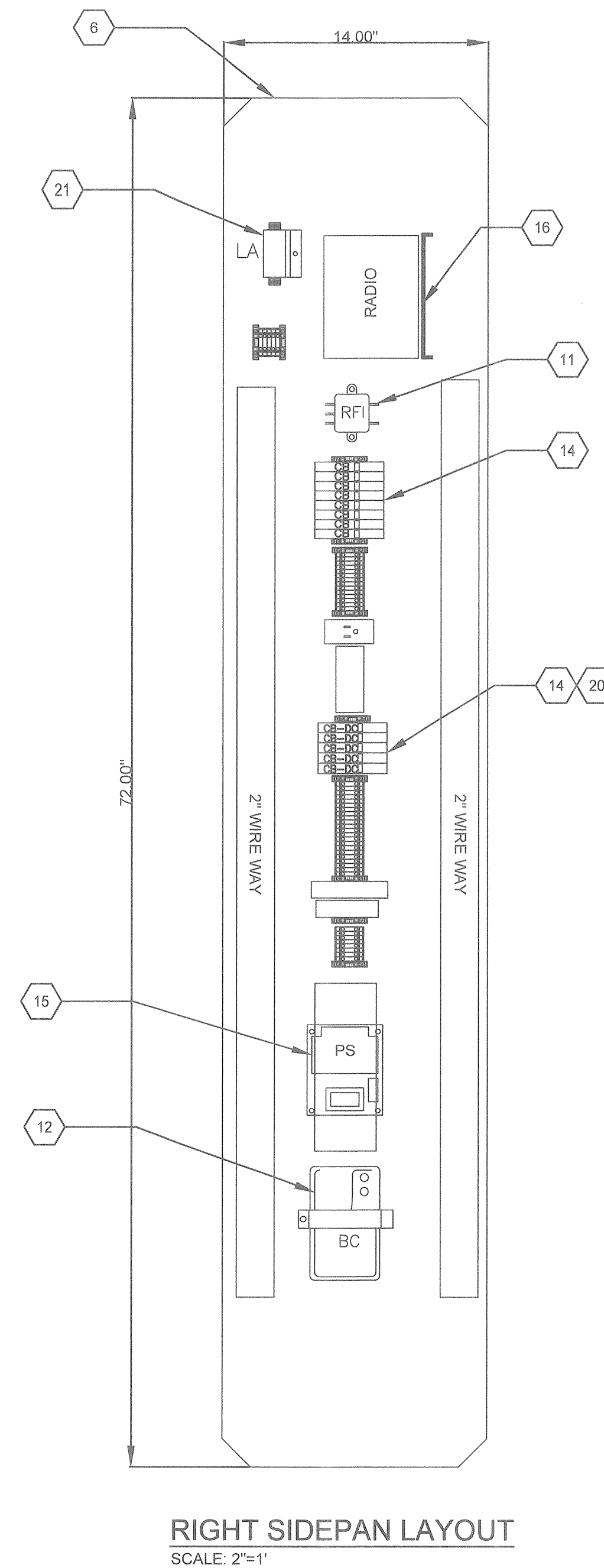
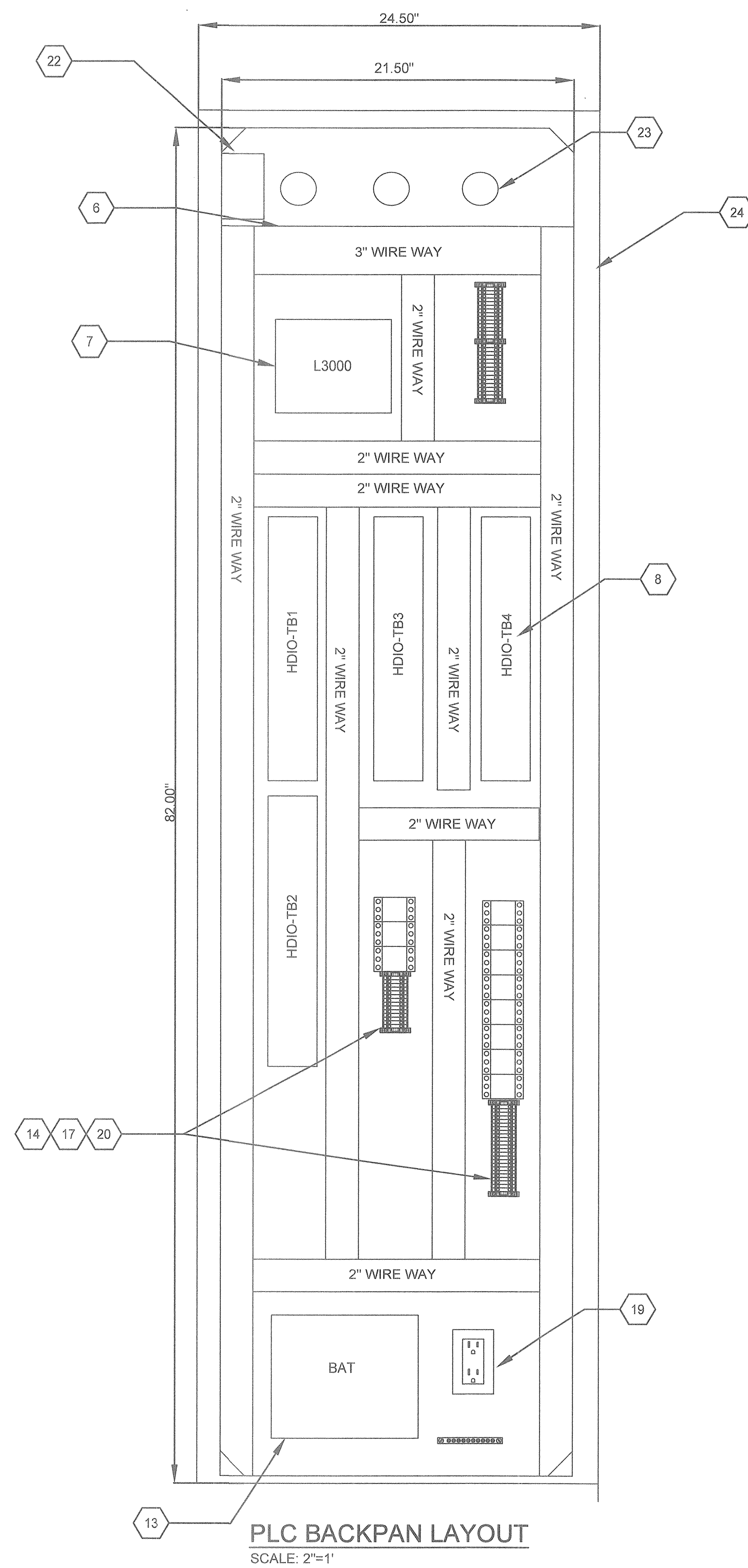


(E) LEFT SIDEPAN
SCALE: NTS



(E) TELECOM CABINET
SCALE: NTS



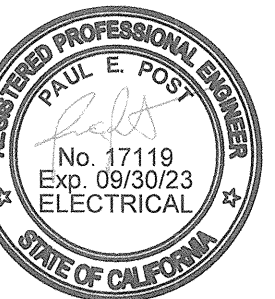
PS 5 AND W2-1 BACKPANS

GENERAL NOTES:

- 1 NOTE NOT USED.
- 2 NOTE NOT USED.
- 3 BACKPAN AND SIDE PANS SHOWN IN CONTROL PANEL LAYOUT 3 APPLIES TO THE CONTROL PANEL FOR WATER PUMP STATION PS 5.
- 4 NOTE NOT USED.
- 5 REVIEW PHOTO DRAWINGS FOR EACH WATER PUMP STATION FOR ANY ADDITIONAL REQUIREMENTS FOR NEW CONTROL PANEL BACK PANS AND SIDE PANS.
- 6 INSTALL NEW "TRIO TVIEW+ DIAGNOSTICS SOFTWARE" VERSION 3.31.0 TO ENABLE REAL TIME DATA LOGGING AND MONITORING OF REMOTE/BASE RADIO TRANSMIT AND RECEIVE STRENGTH AND INSTALL TREND CAPABILITIES WITHIN THE SCADA SYSTEM FOR HISTORICAL DATA.

KEY NOTES:

- 6 NEW BACKPAN AND NEW SIDEPANS WILL BE INSTALLED INTO THE EXISTING CONTROL PANEL ENCLOSURES.
- 7 NEW TESCO L3000 PLC, 5-SLOT CHASSIS WITH PLC PROCESSOR, POWER SUPPLY, AND THREE MIXED I/O PLC MODULES, AND ONE HIGH DENSITY DISCRETE INPUT PLC MODULE.
- 8 NEW TESCO L3000 FIELD WIRING TERMINAL BOARDS MODEL HDIO, HIGH DENSITY MIXED I/O TYPE (TYPICAL OF 4).
- 9 EXISTING MICROTREL AUTODIALER LOCATED IN EXISTING TELECOM CABINET NEXT TO PUMPS STATION ENTRY DOOR. RECONNECT COMMUNICATION CONDUCTORS BETWEEN NEW CONTROL PANEL BACKPAN AND EXISTING MICROTREL AUTODIALER.
- 10 ADJACENT TO THE CONTROL PANEL SECTION ON THE RIGHT SIDE IS THE FIBER CONVERTER TO COMMUNICATE RS.
- 11 NEW 120VAC EMURFI LINE FILTER. EATON AEGIS CATALOG NUMBER AGPH 120VAC 20A.
- 12 NEW 12 VDC BATTERY CHARGER WITH A DEDICATED SIMPLEX RECEPTACLE CONNECTION.
- 13 NEW 12 VDC 35Ah AGM BATTERY BACKPAN MOUNT.
- 14 NEW TERMINAL BLOCKS AND CIRCUIT BREAKERS AS NECESSARY. GROUP THESE COMPONENTS BY VOLTAGE.
- 15 NEW DC POWER SUPPLY WITH BATTERY BACKUP TO ACCOMMODATE PLC MODEM AND 2 RADIOS POWER REQUIREMENTS. LINEAR OR SWITCHING TO BE APPROVED BY CITY OF SANTA ROSA PERSONNEL.
- 16 NEW TRIO QR-150 RADIO (5"x6.5"). WHERE RADIOS ARE TEMPORARILY MOUNTED, REMOUNT RADIOS ON NEW BACKPAN AS REQUIRED. CONNECT EXISTING RADIO CABLE AS REQUIRED. PROVIDE NEW RADIO CONNECTORS AS REQUIRED BY RADIO MANUFACTURE.
- 17 NEW 12 VDC AND 120VAC CONTROL RELAYS AS REQUIRED.
- 18 EXISTING LEFT SIDE PAN TO REMAIN, MOUNT NEW LIGHT FIXTURE AT THE TOP PORTION OF THE EXISTING LEFT SIDE PAN.
- 19 NEW RECEPTACLE.
- 20 NEW SIGNAL ISOLATORS AS NECESSARY USE: L-COM, INC DSL/TELEPHONE LIGHTING SURGE PROTECTOR MODEL: HGLN-D1-DT
- 21 NEW COAXIAL RF SURGE PROTECTOR, POLYPHASER VHF50HN-B WITH #6 COPPER GROUND JUMPER TO TELEMETRY CABINET GROUND BAR. NEW COAXIAL FEEDLINE SHALL BE LMR-600-DB AND NEW JUMPERS RADIO TO POLYPHASER LMR-240
- 22 NEW INTERIOR LED CABINET LIGHT WITH DOOR SWITCH. CABINET LIGHT: RITTAL MODEL No.2500.200 WITH MOUNTING KIT MAGNET 2500.490, CONNECTOR CABLE INFEEED 3-POLE 100-240VAC MODEL No. 2500.500 DOOR SWITCH: EATON E47 COMPACT PREWIRED LIMIT SWITCH MODEL ET47BCC15.
- 23 EXISTING CONDUIT PENETRATIONS ARE THROUGH EXISTING BACKPAN. FIELD VERIFY DIMENSIONS AND ADJUST NEW BACKPAN HEIGHT SIZE ACCORDINGLY.
- 24 EXISTING MOTOR CONTROL CENTER SECTION.



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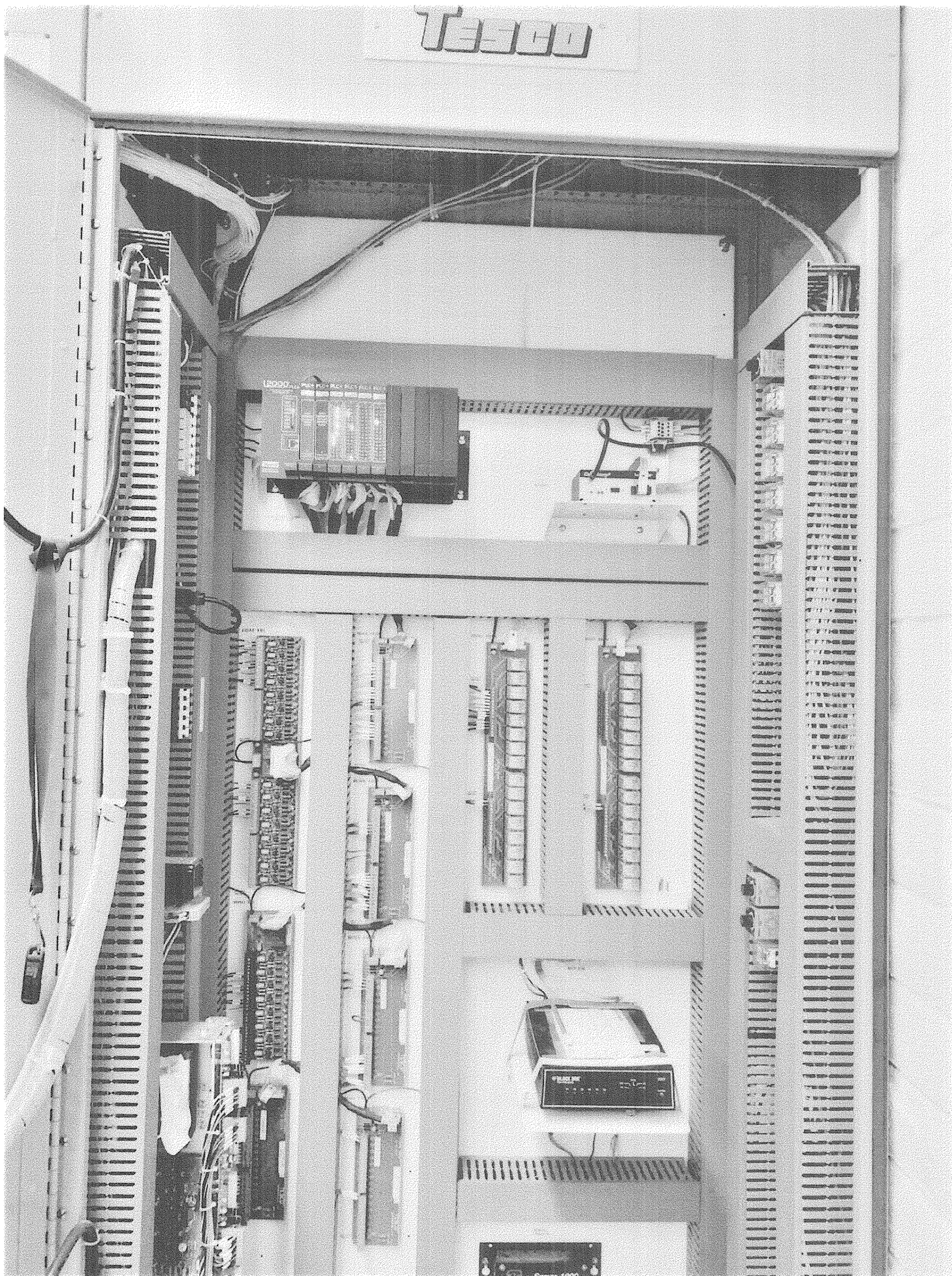
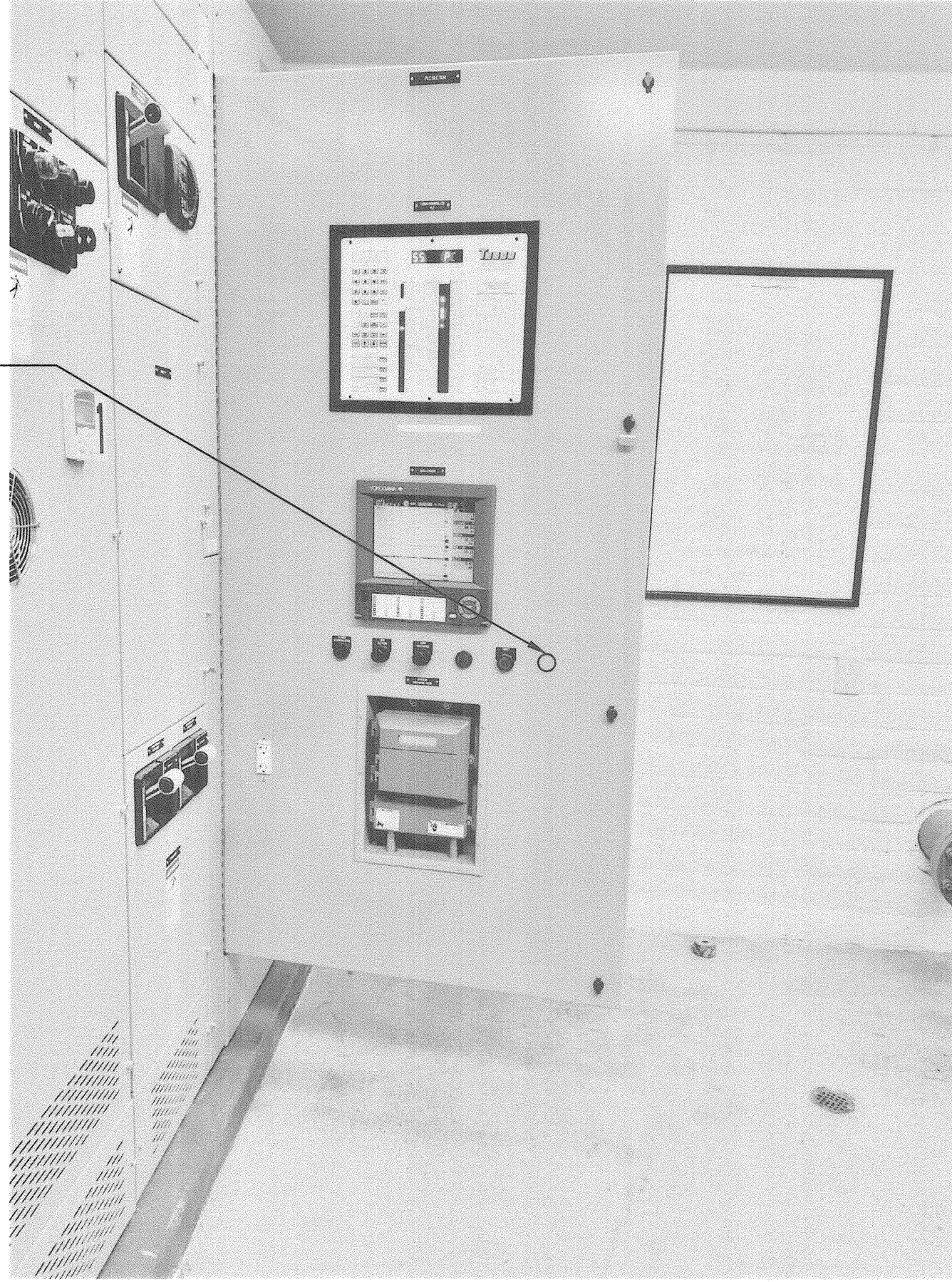


No.	Date	Revision	By

SCALE: AS SHOWN	DATE: MARCH 2022	CHK BY: PEP
DWN BY: RM	ISSUED FOR BID	

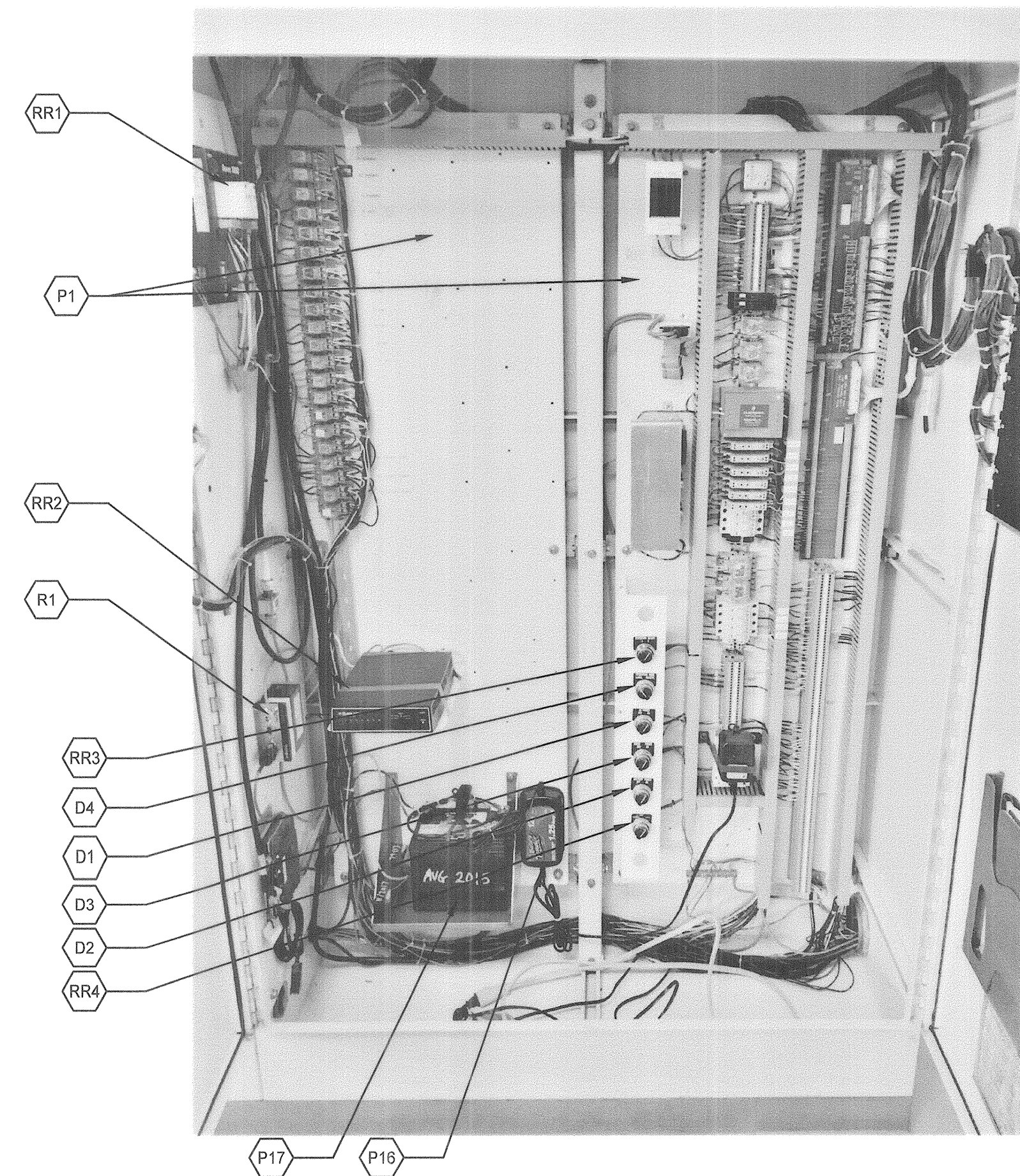
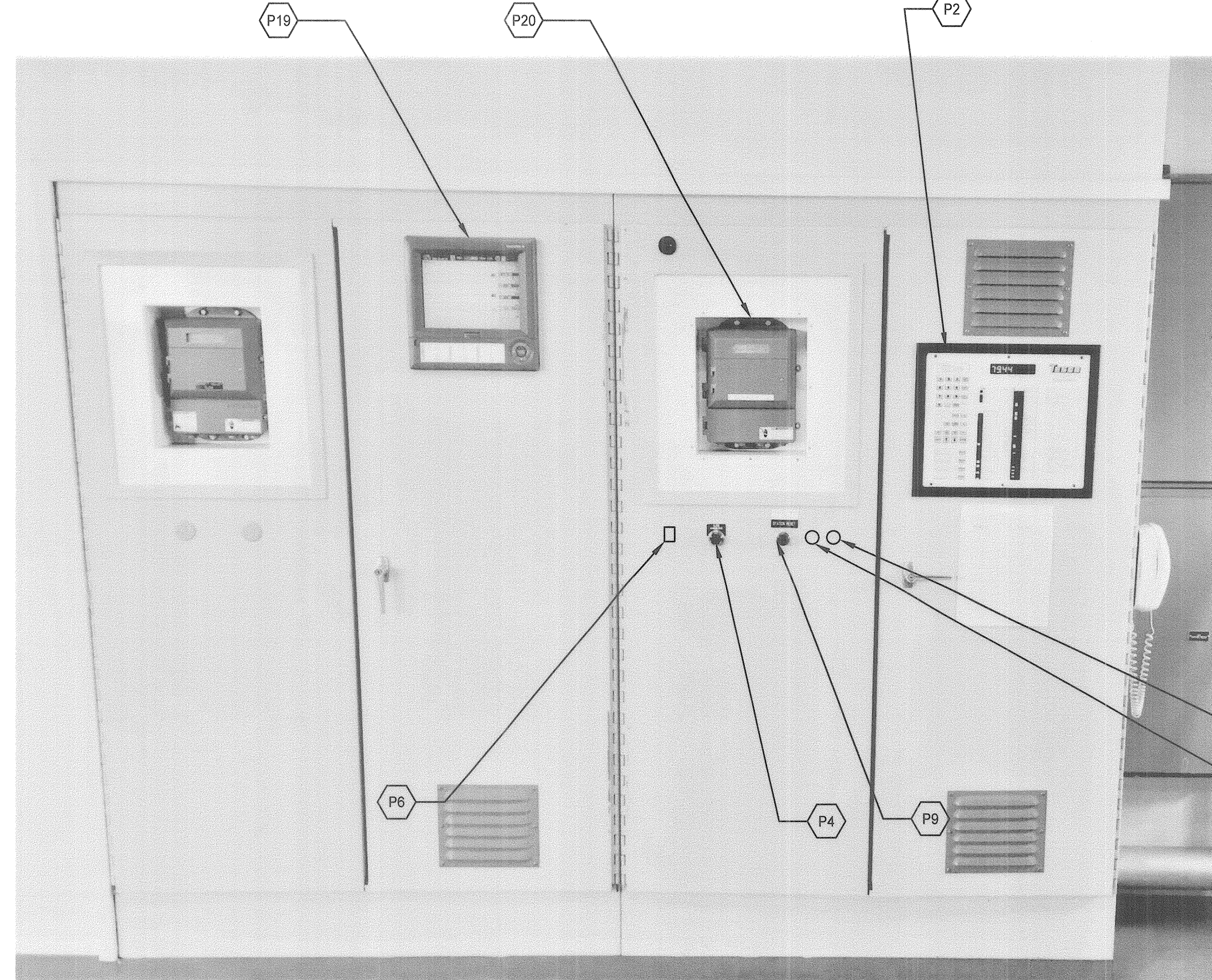
ISSUED FOR BID
City of Santa Rosa
CONTROLLER AND RADIO UPGRADES AT WATER PUMP STATIONS AND SEWER LIFT STATIONS
CONTROL PANEL LAYOUT PS 5

CONTRACT NO. C02052
SHEET 9 OF 49



NOTE:
NO NEW BACK PANELS FOR THIS CABINET. PLC
UPGRADE FROM L2000 TO L3000 PLUS NEW RADIO.

WATER PUMP STATION PS 3
SCALE: NTS



WATER PUMP STATION PS 4
SCALE: NTS

GENERAL NOTES:
FOR SHEET KEYNOTES
SEE SHEET E-10(ON SHEET 11)



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No.	Date	Revision	By

SCALE: AS SHOWN	DATE: MARCH 2022
DWN BY: RM	CHK BY: PEP

ISSUED FOR BID

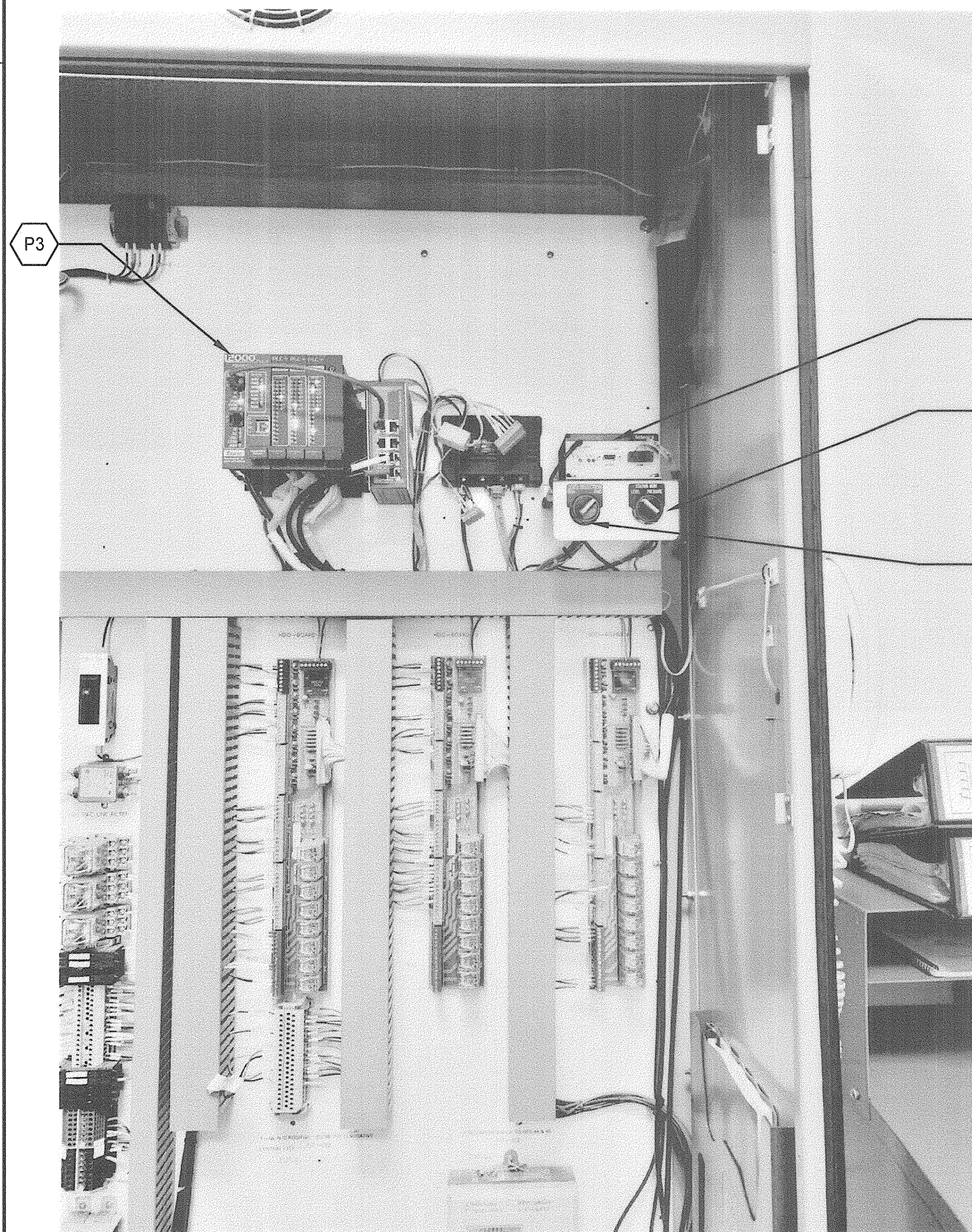
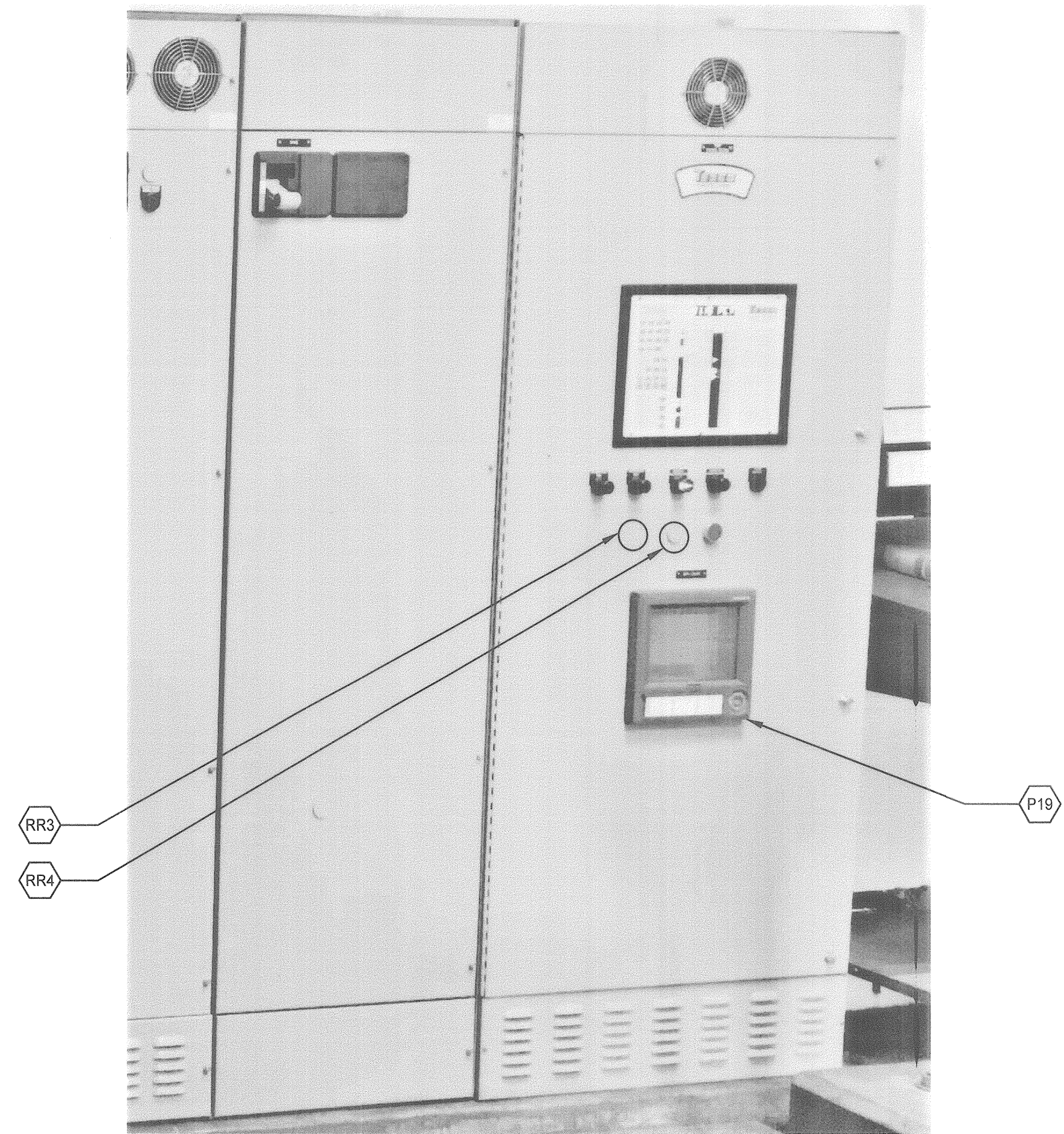
City of Santa Rosa

**CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS**

PUMP STATION 3 & 4 PHOTOS

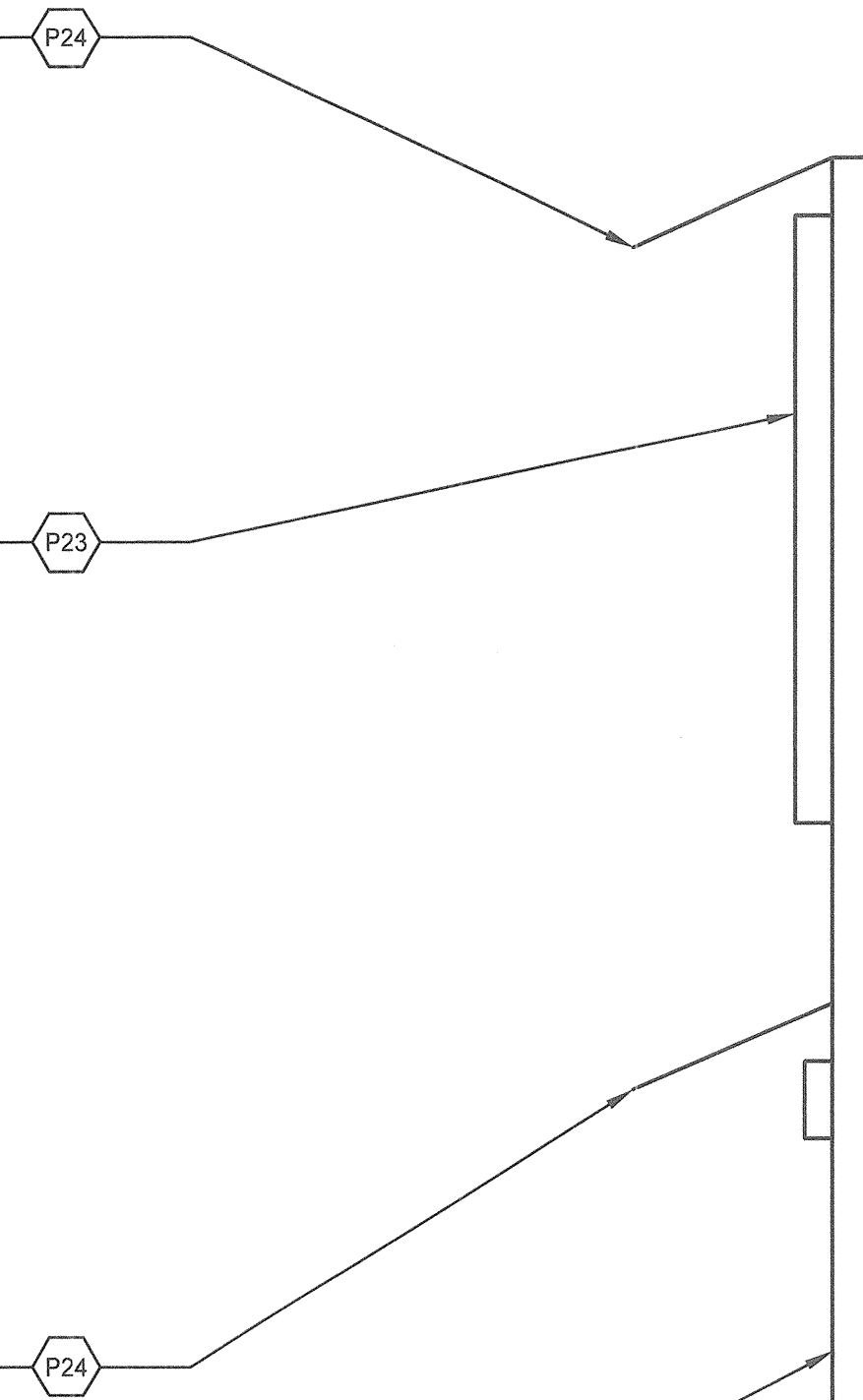
CONTRACT NO.
C02052

SHEET 13 OF 49



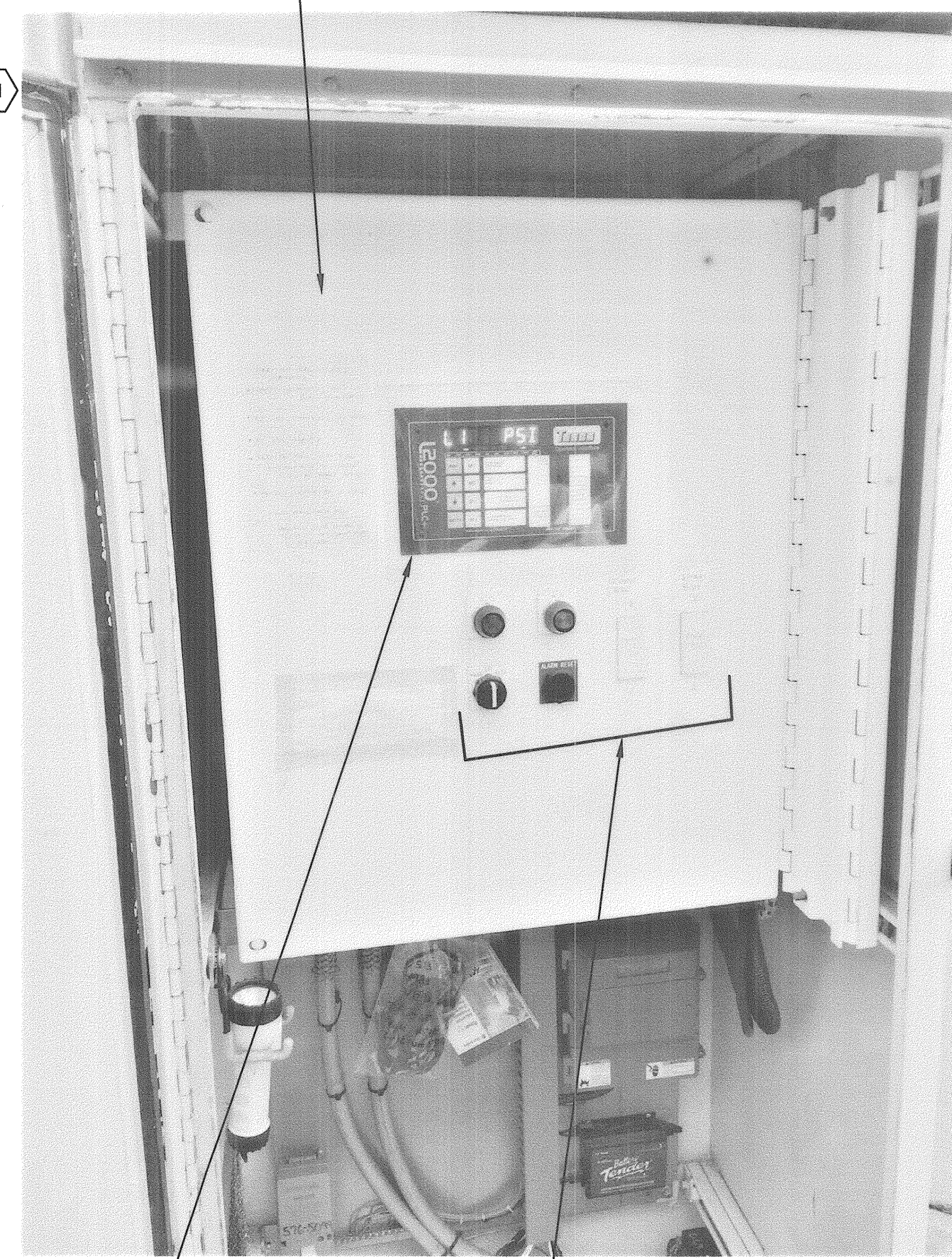
NOTE:
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UPGRADE FROM L2000 TO L3000 PLUS NEW RADIO.

WATER PUMP STATION PS 4B
SCALE: NTS



P23 P25

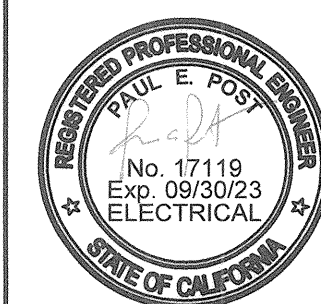
WATER PUMP STATION PS 4R
SCALE: NTS



P23

P26

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10 (ON SHEET 11)



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No.	Date	Revision	By

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DWN BY: RM

DATE: MARCH 2022
CHK BY: PEP

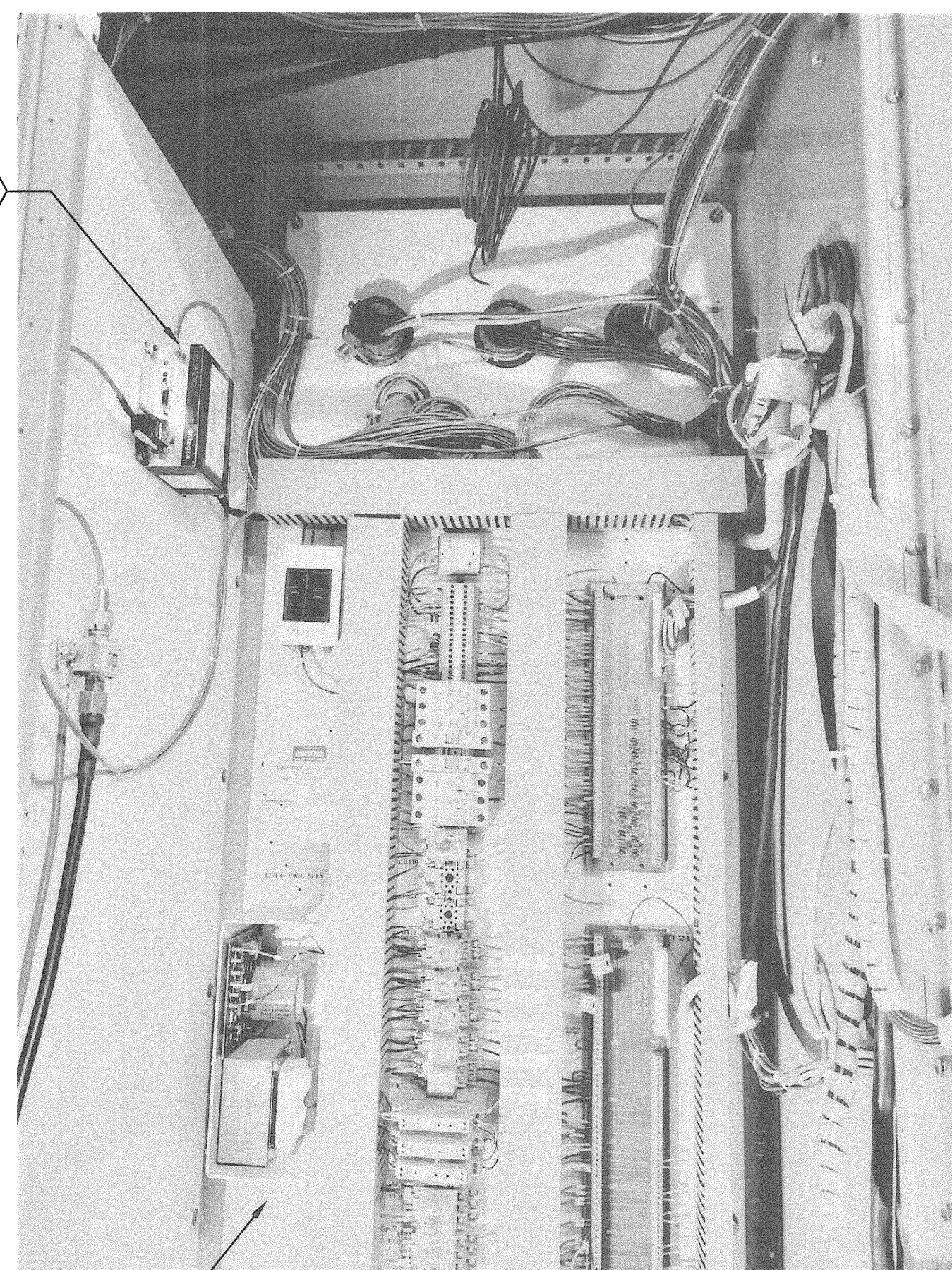
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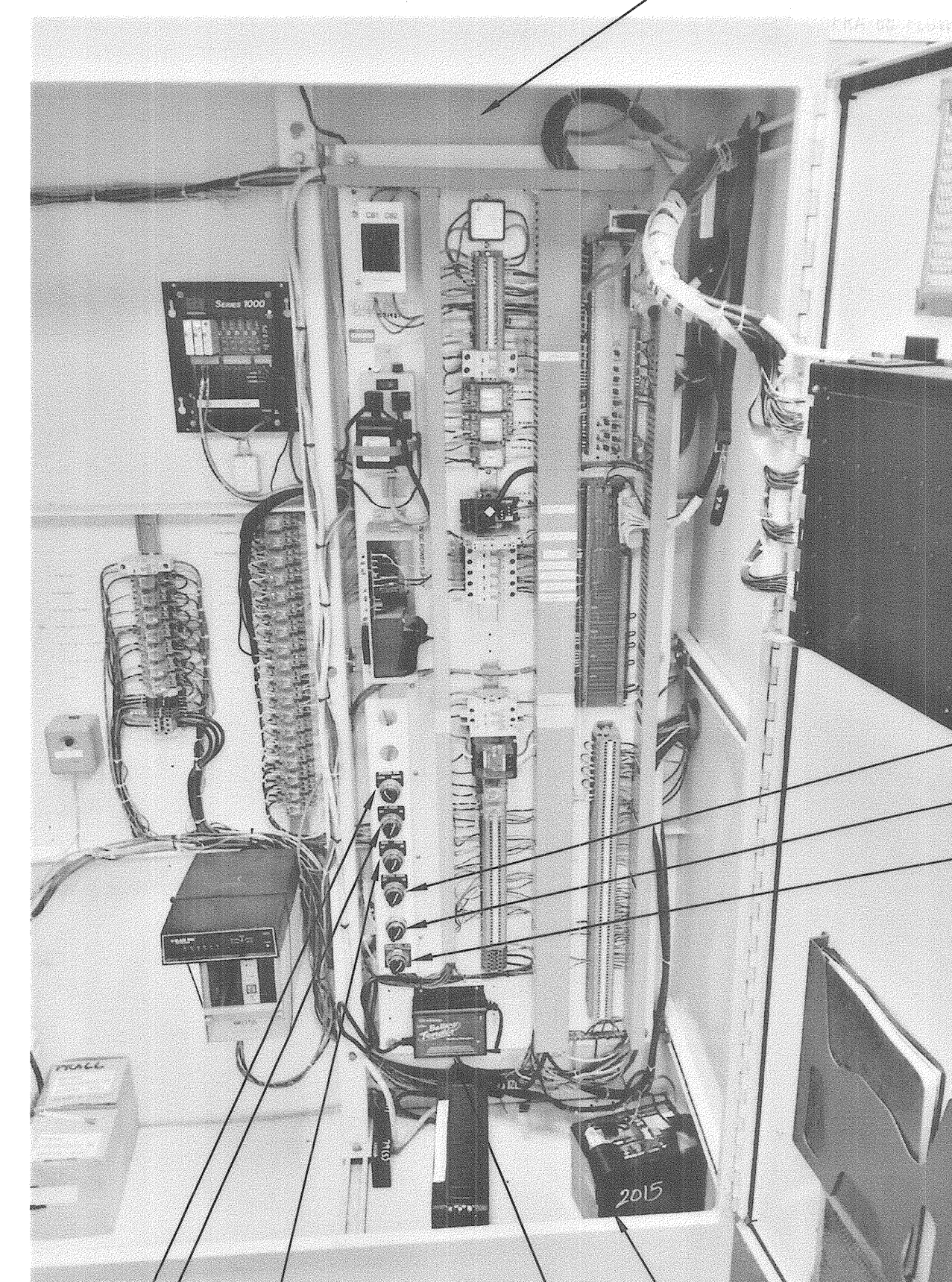
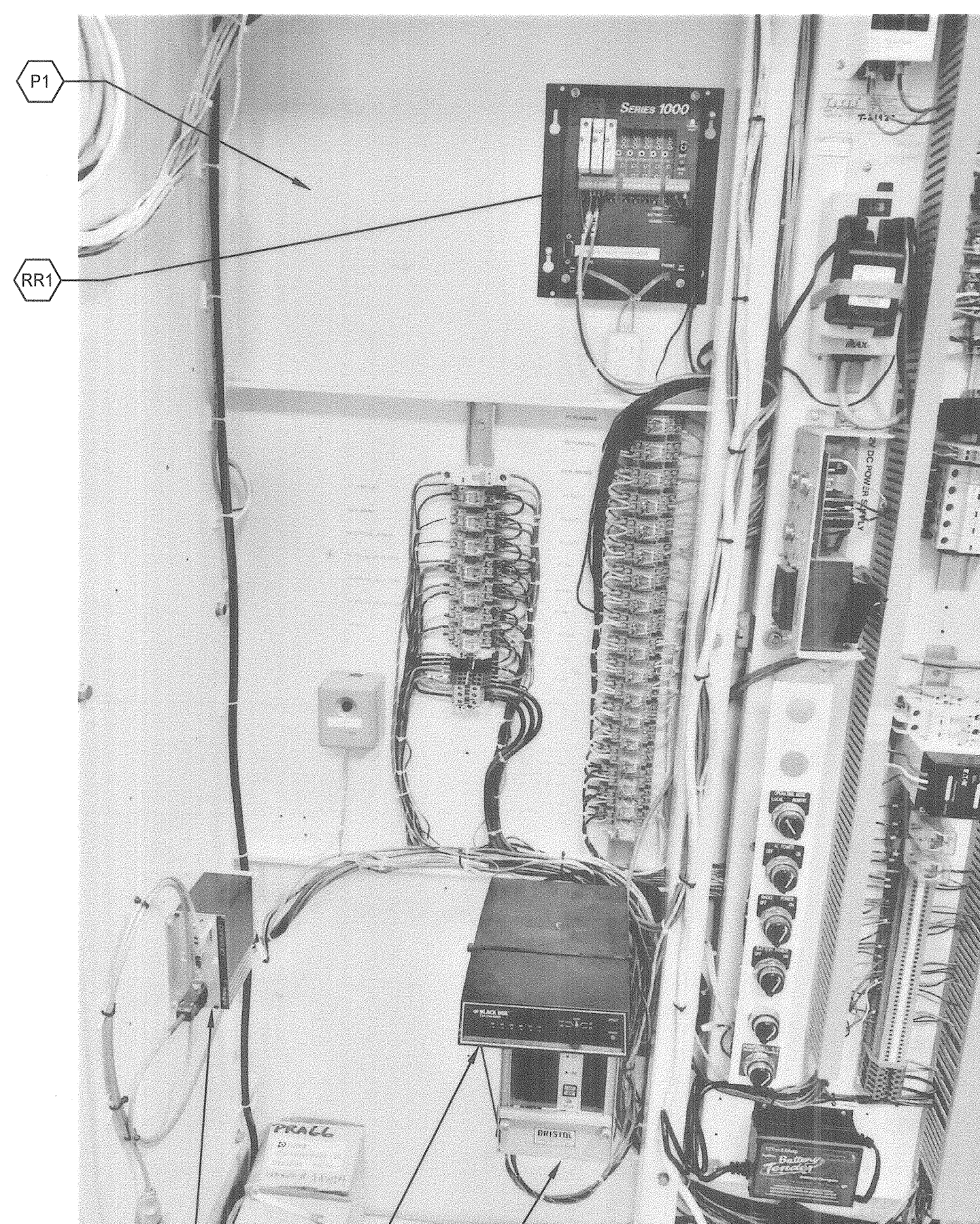
ISSUED FOR BID

CONTRACT NO.
C02052

SHEET 14 OF 49

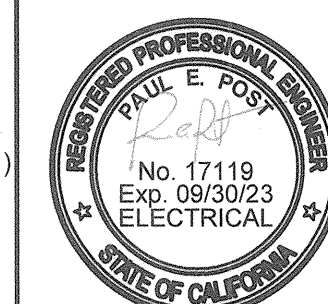


WATER PUMP STATION PS 5
SCALE: NTS



WATER PUMP STATION PS 6
SCALE: NTS

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10 (ON SHEET 11)



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No.	Date	Revision	By

SCALE: AS SHOWN
DATE: MARCH 2022

DWN BY: RM
CHK BY: PEP

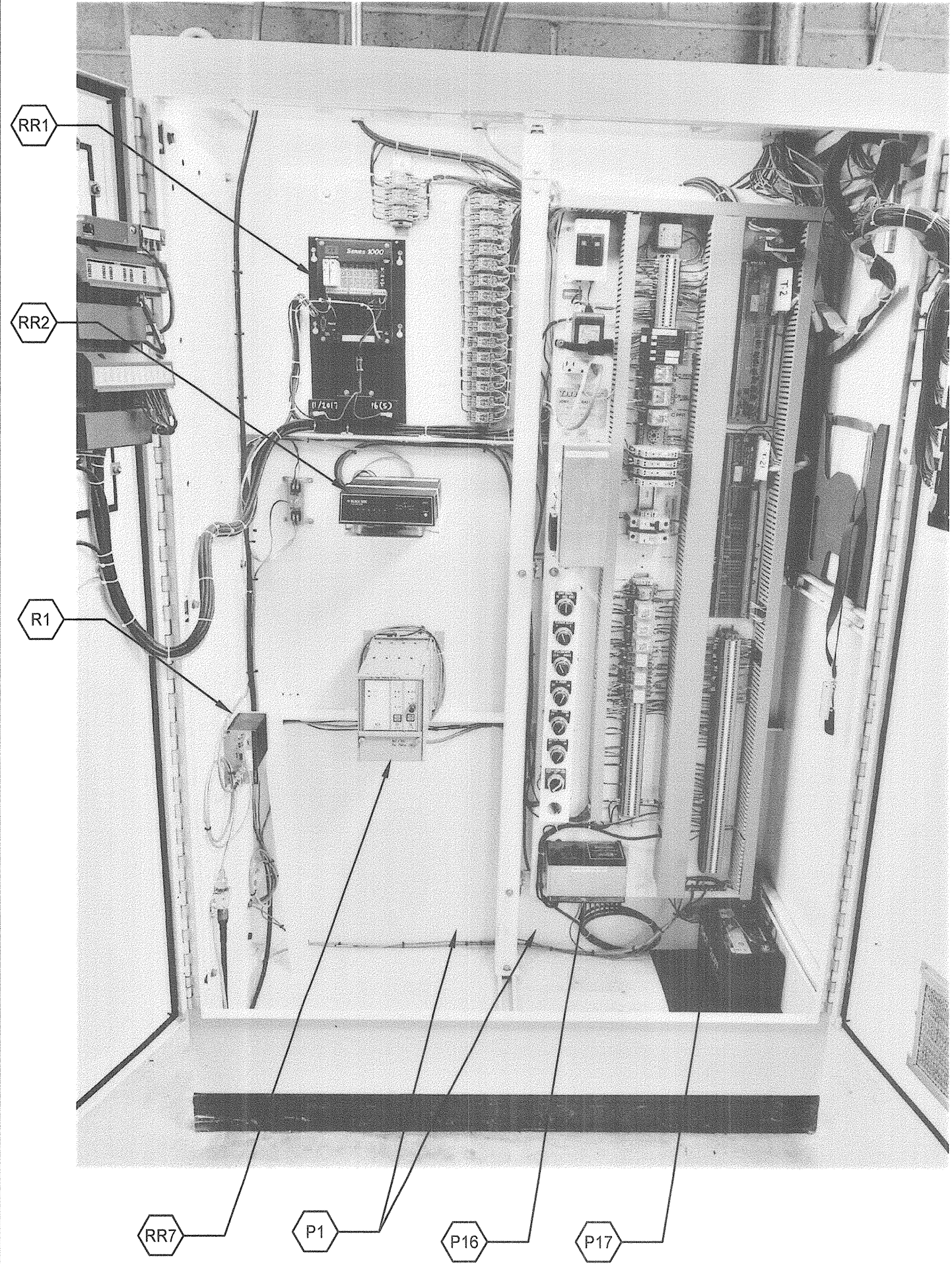
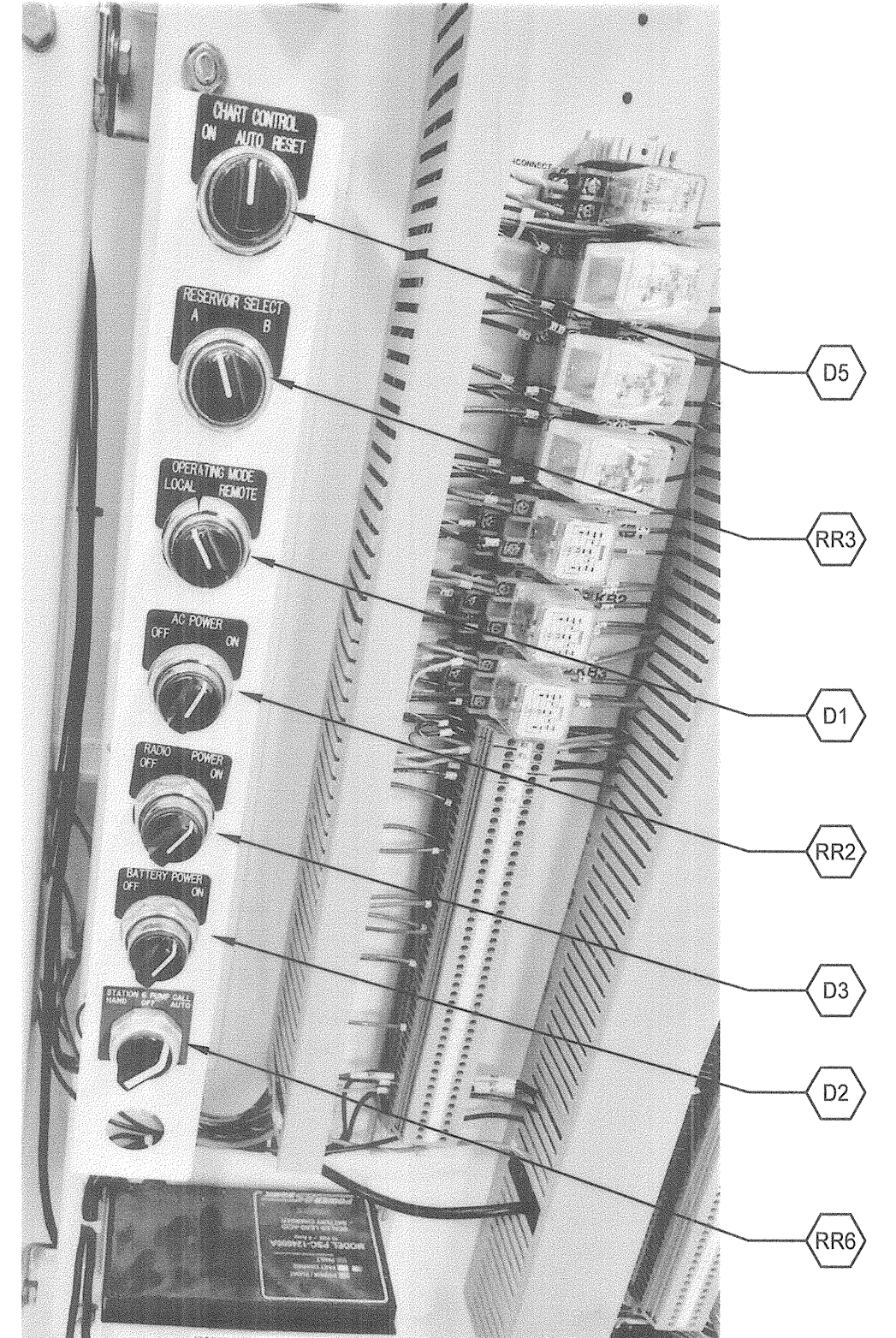
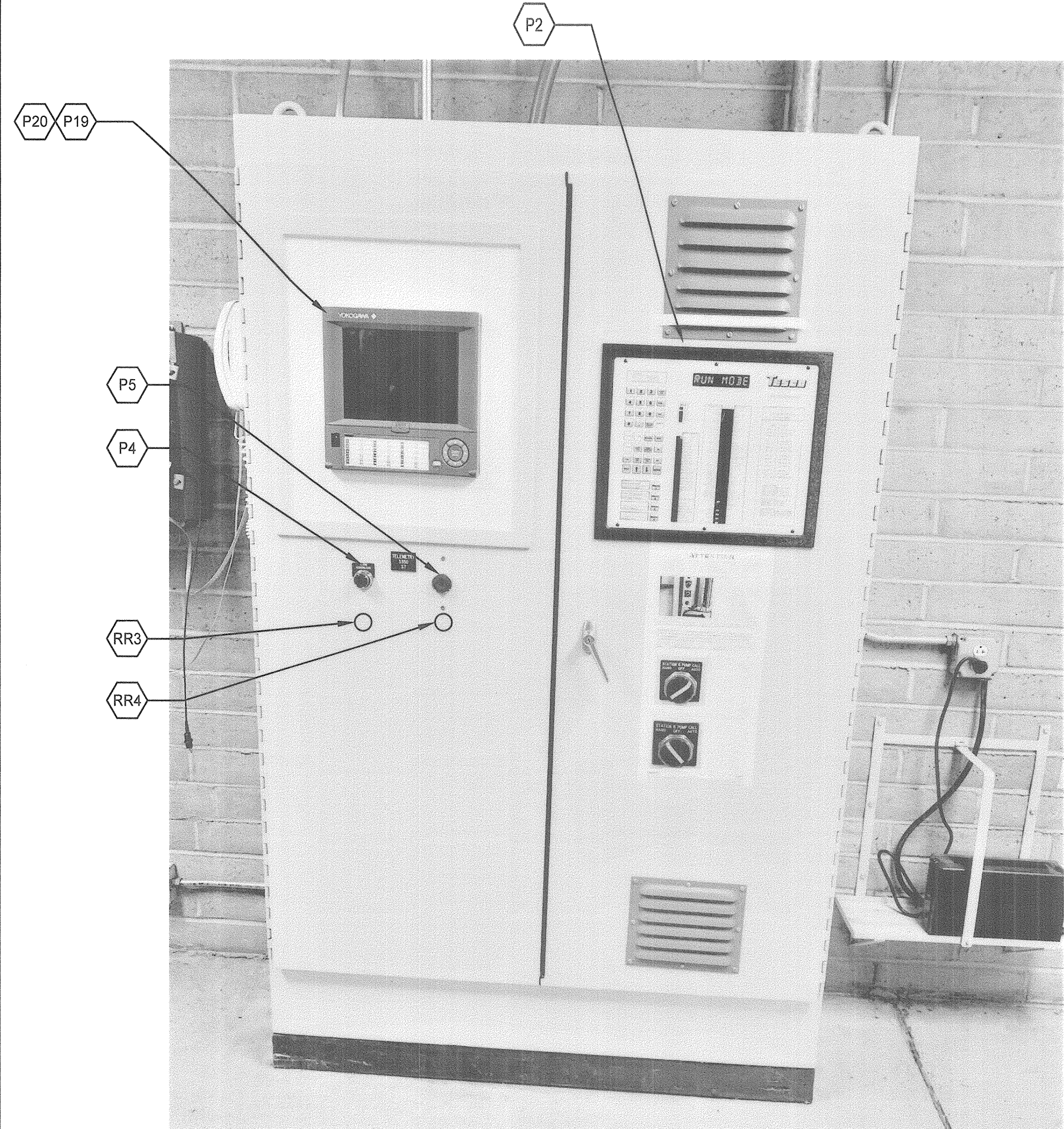
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City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS**
PUMP STATION 5 & 6 PHOTOS

CONTRACT NO.
C02052

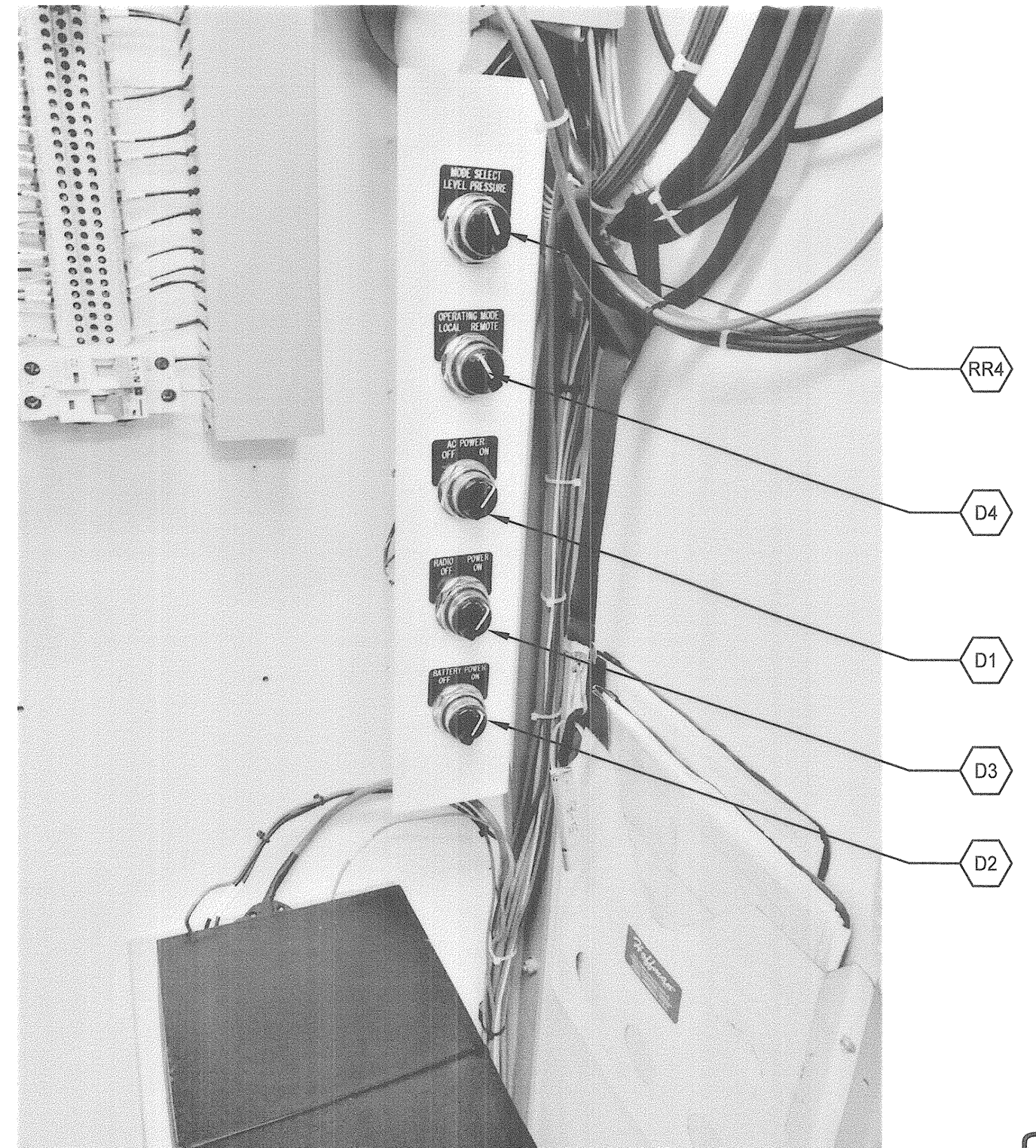
SHEET 15 OF 49

E-14 FILE NO. 2021-0045



UNINTERRUPTIBLE POWER SUPPLY (UPS)

WATER PUMP STATION PS 7
SCALE: NTS



WATER PUMP STATION PS 8
SCALE: NTS

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10(ON SHEET 11)



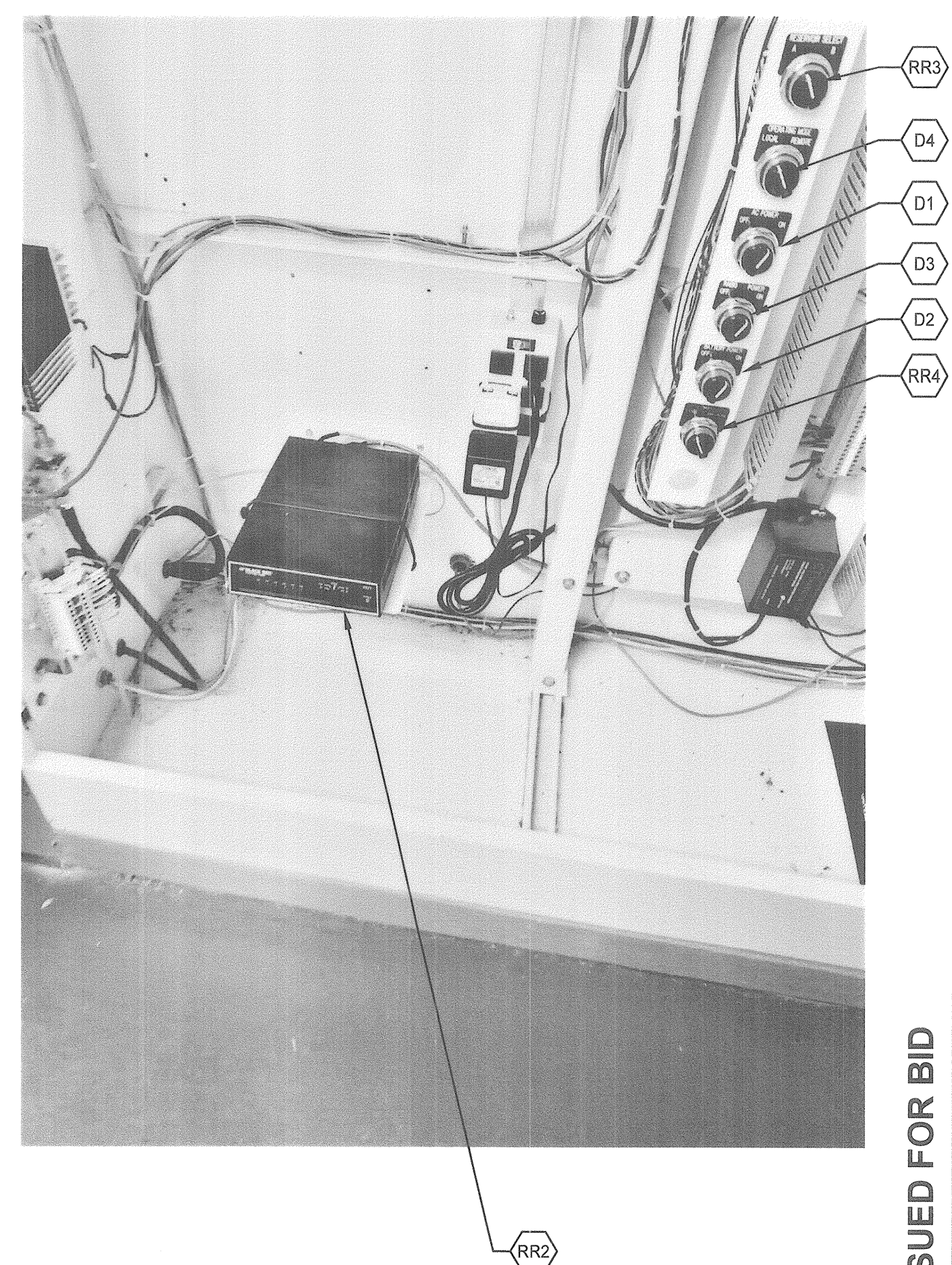
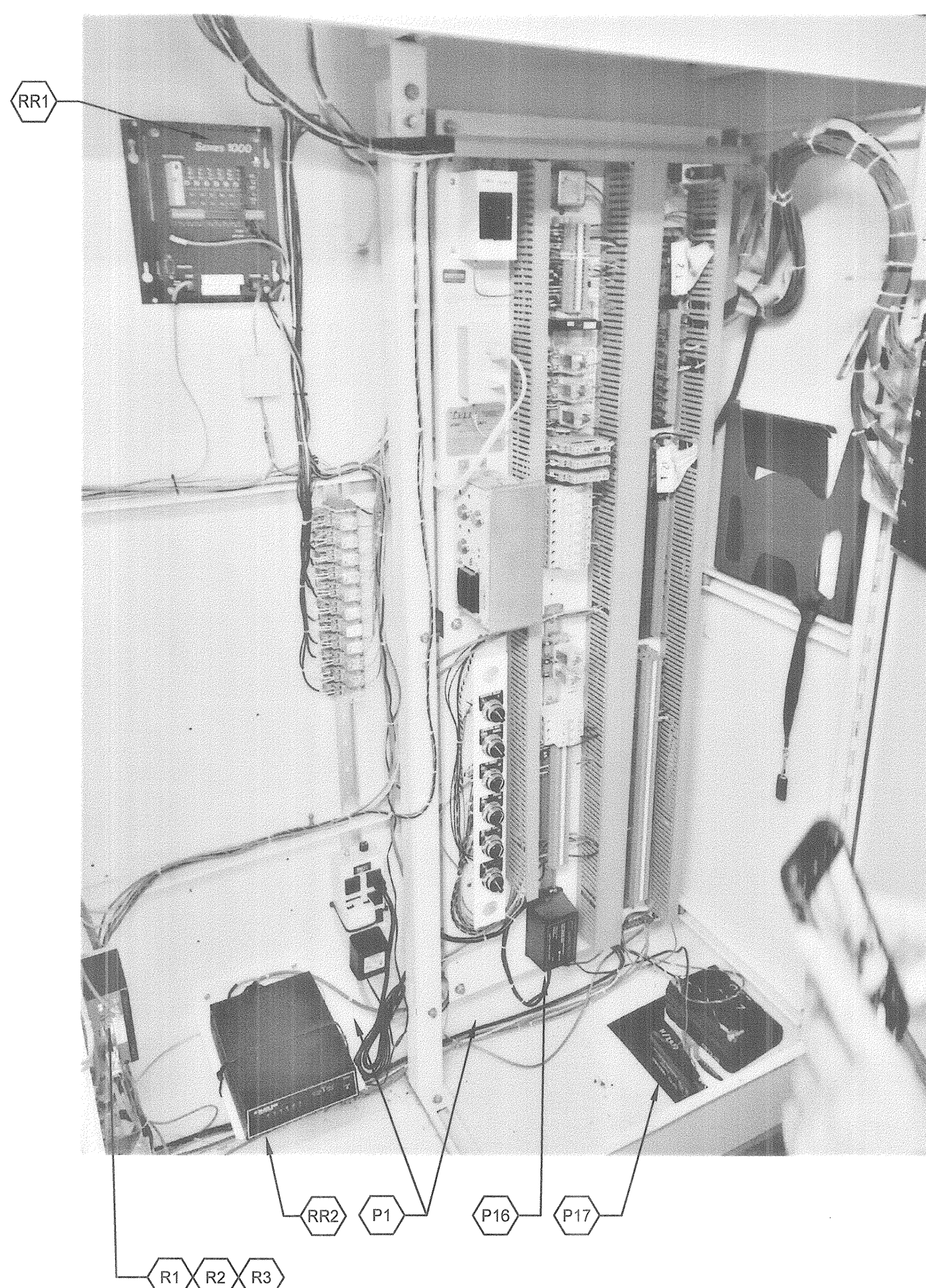
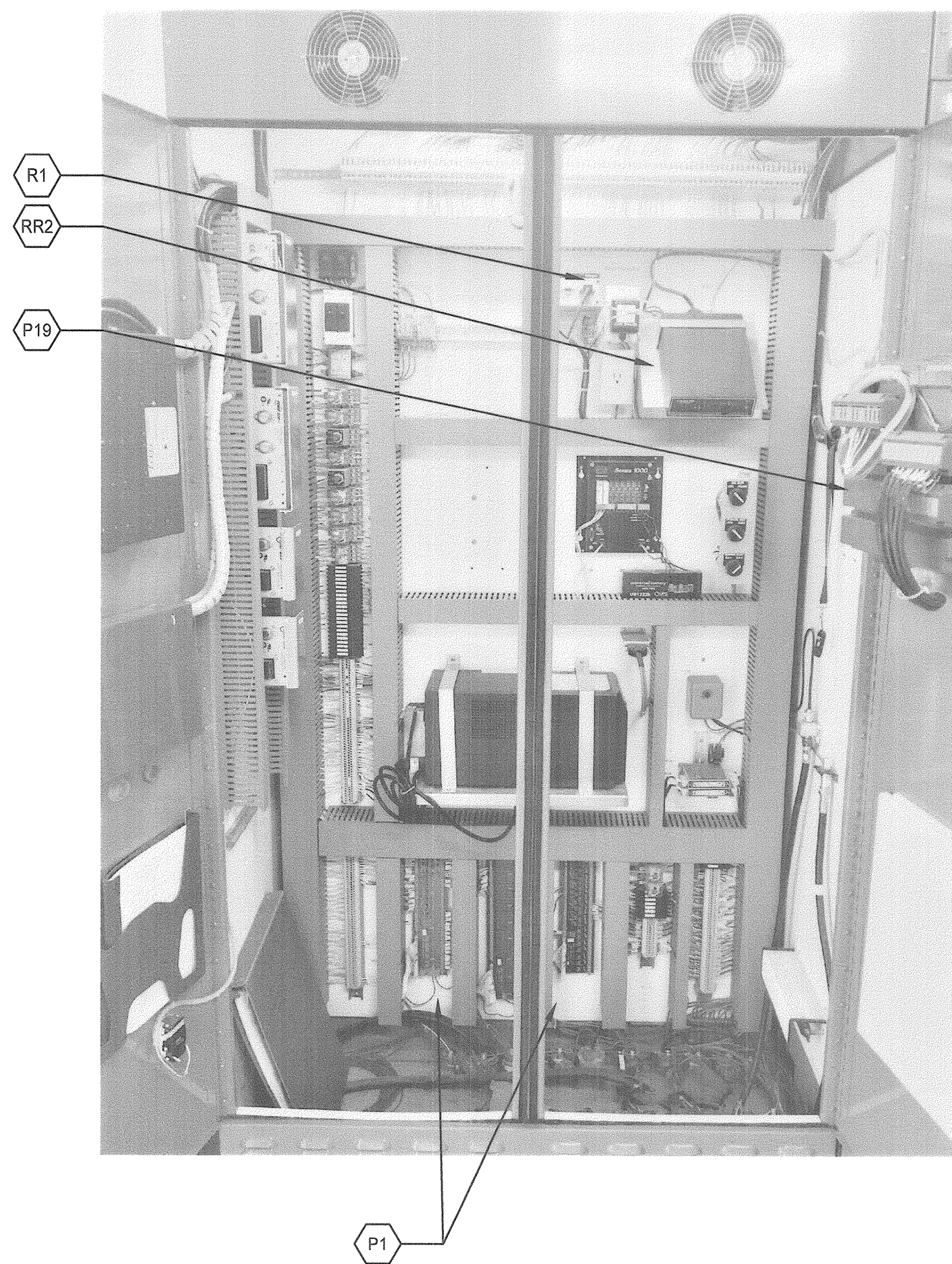
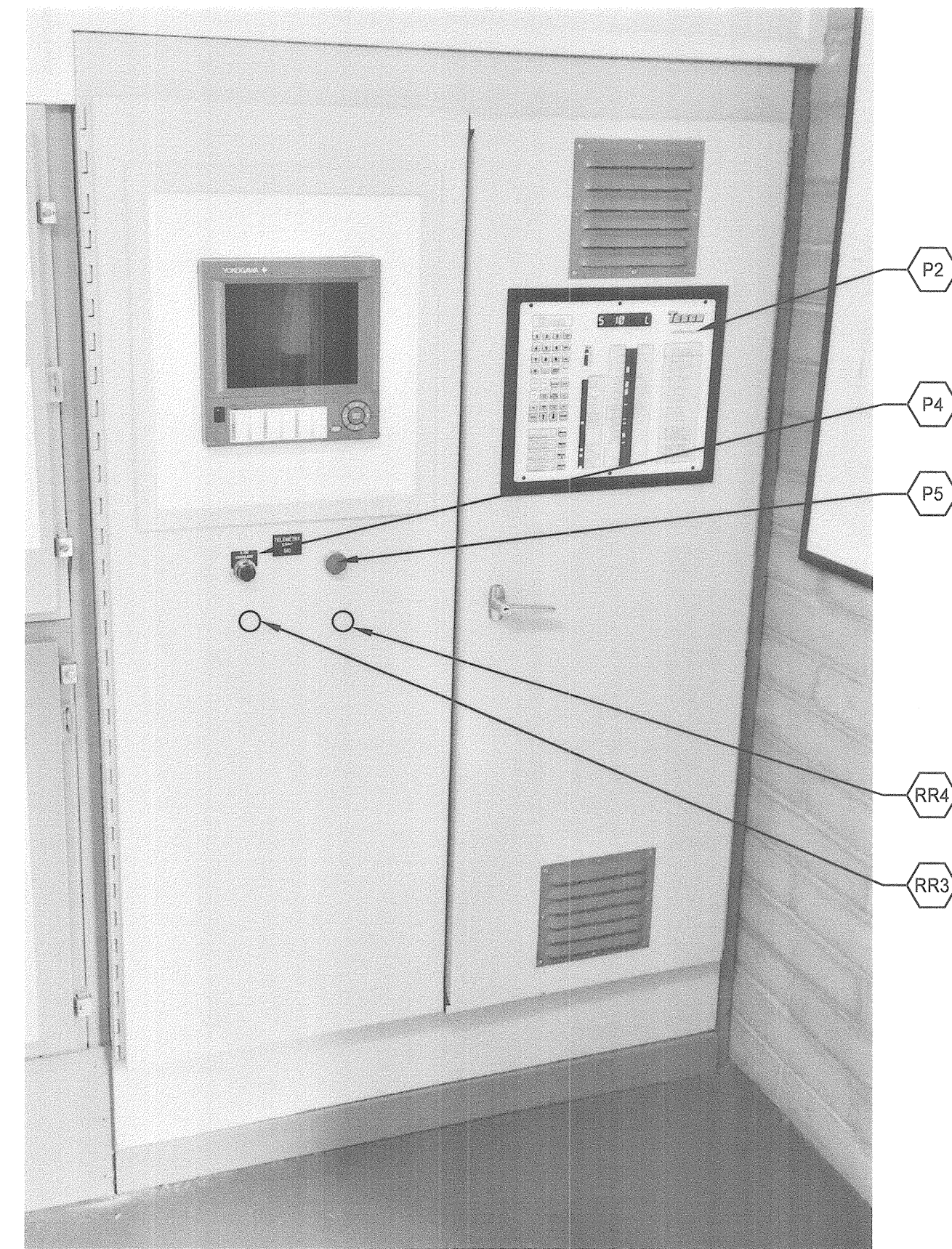
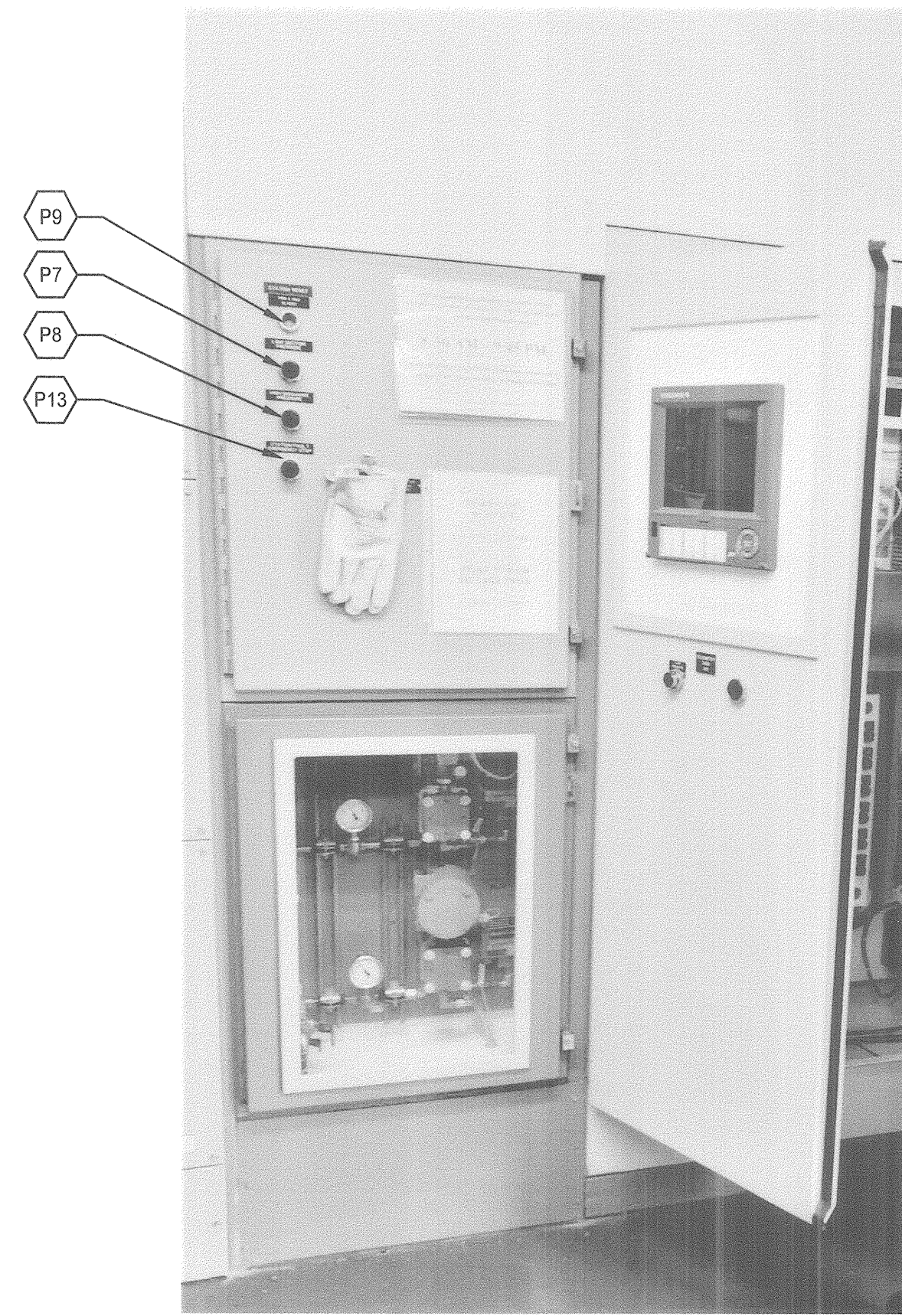
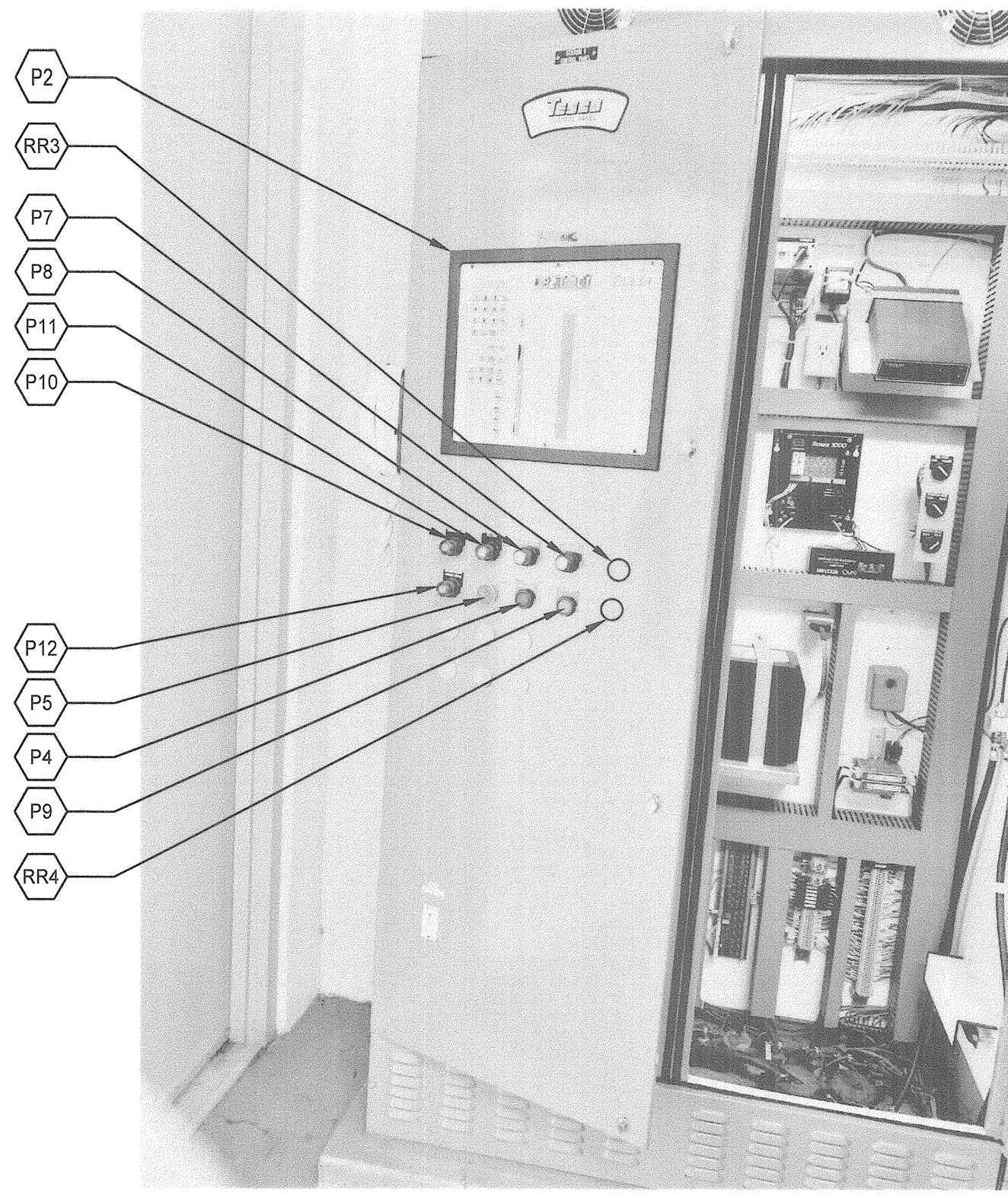
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No.	Date	Revision	By

SCALE: AS SHOWN
DATE: MARCH 2022
DWN BY: RM
CHK BY: PEP

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CITY OF SANTA ROSA
CONTRACTOR AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS
PUMP STATION 7 & 8 PHOTOS

CONTRACT NO. C02052
SHEET 16 OF 49
FILE NO. 2021-0045



WATER PUMP STATION PS 9
SCALE: NTS

WATER PUMP STATION PS 10
SCALE: NTS

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10(ON SHEET 11)



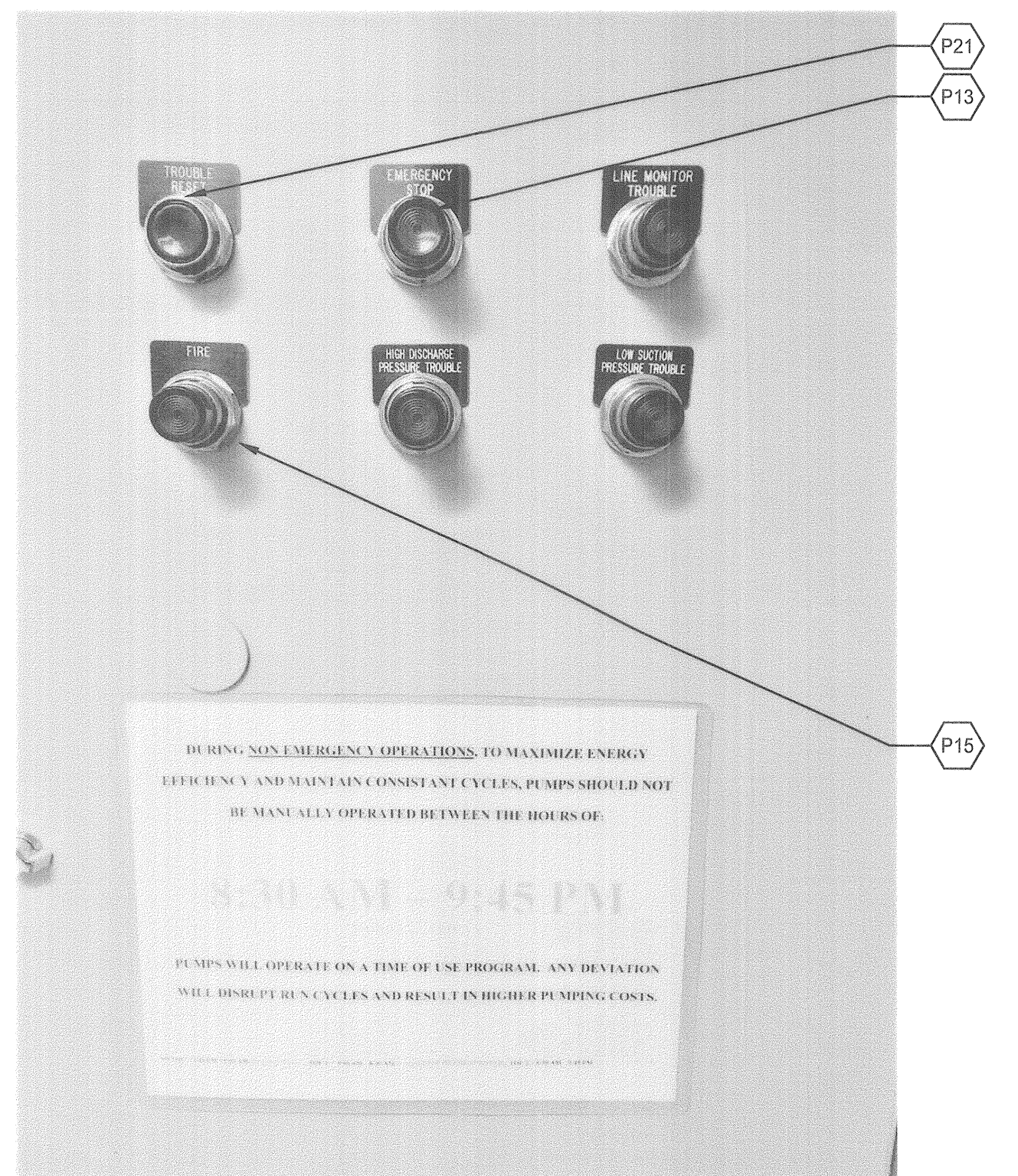
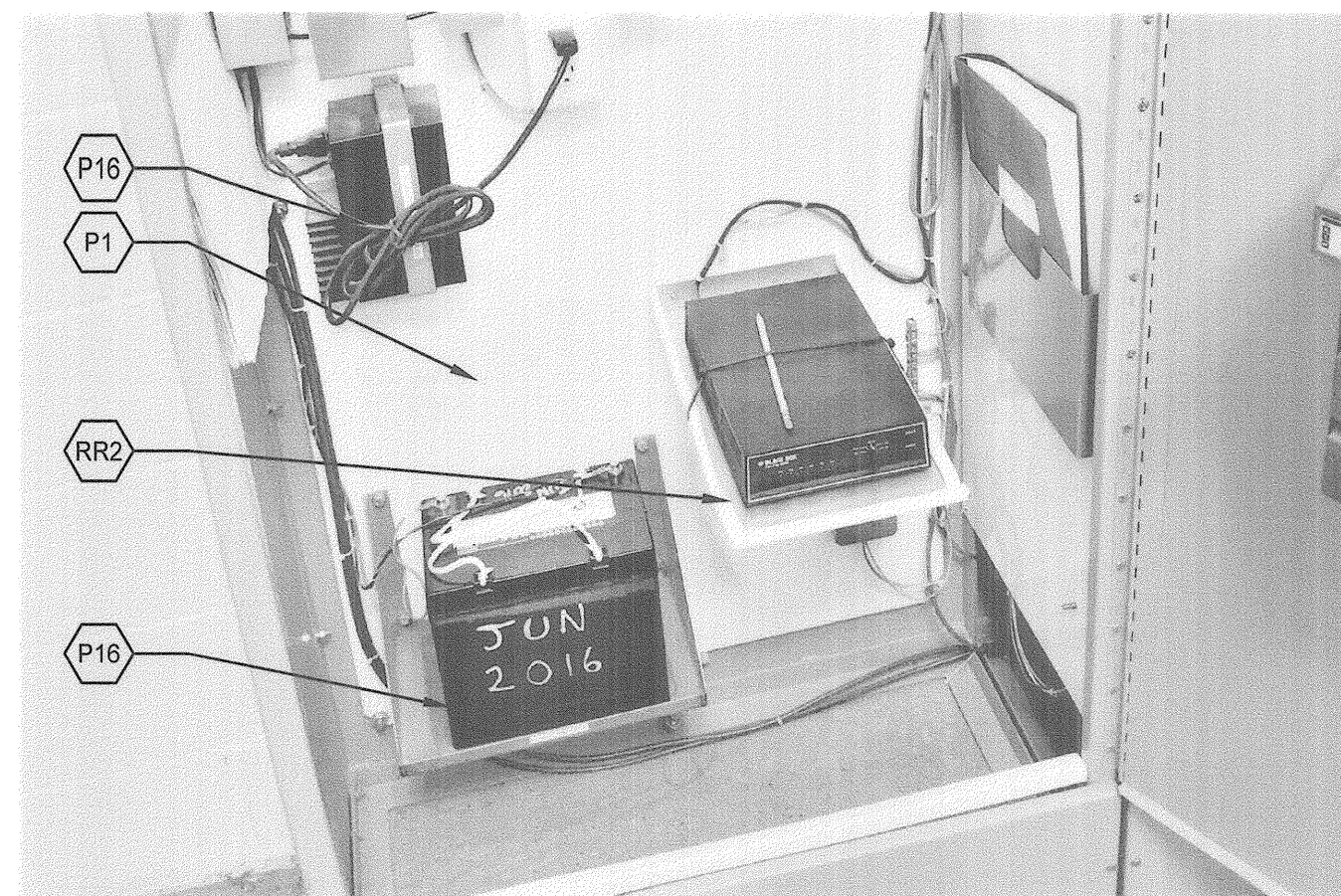
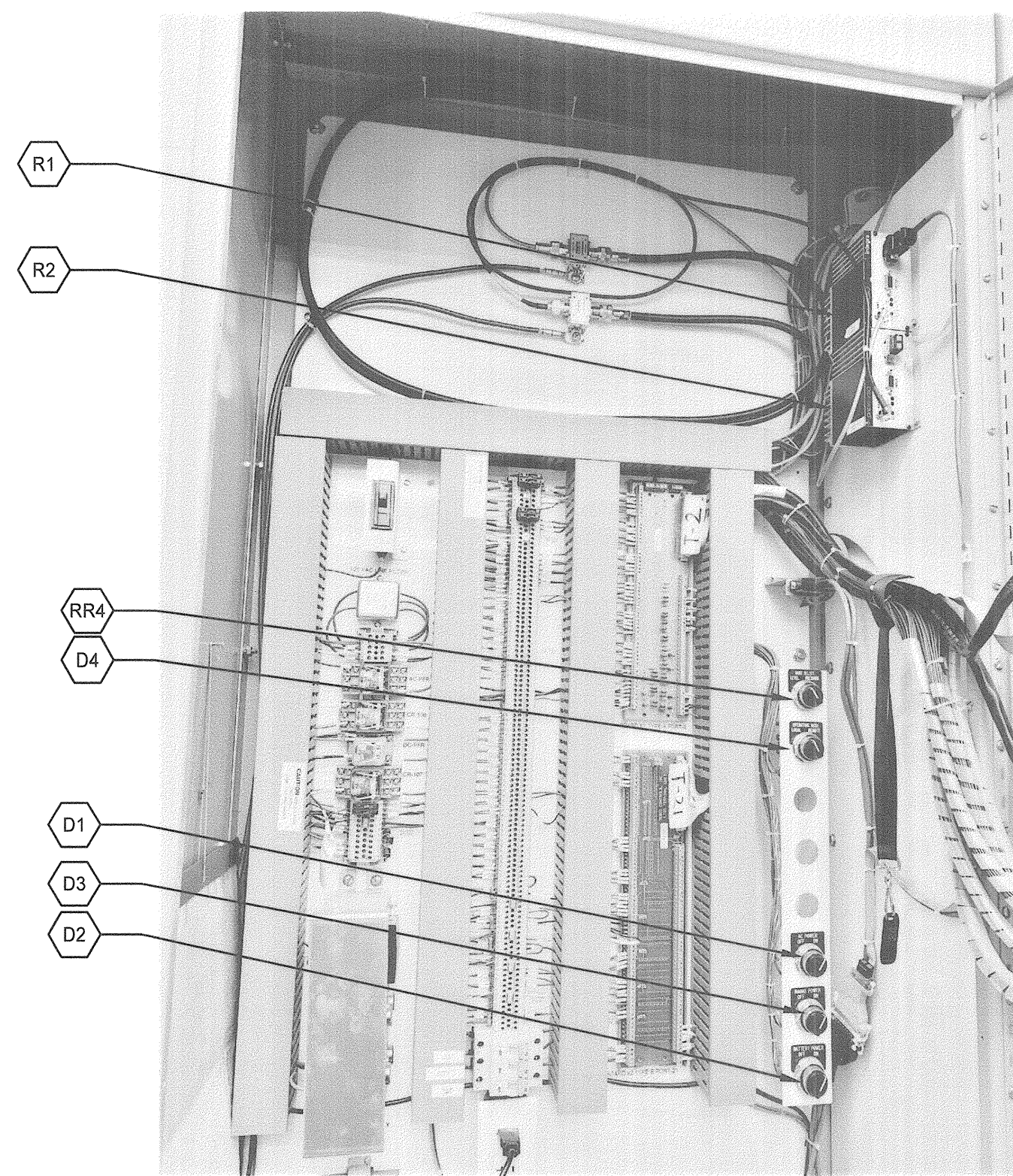
Kennedy Jenks

No.	Date	Revision	By

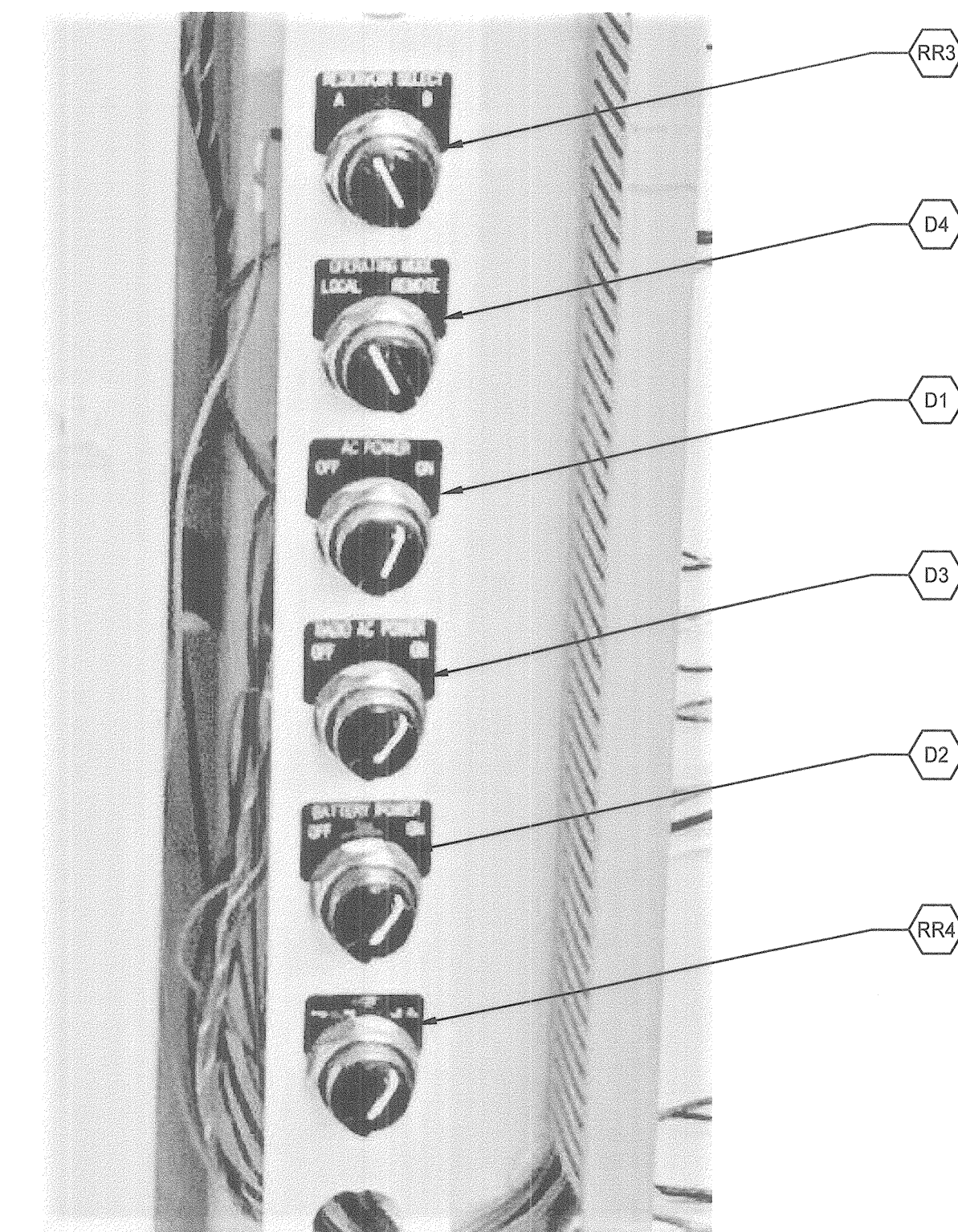
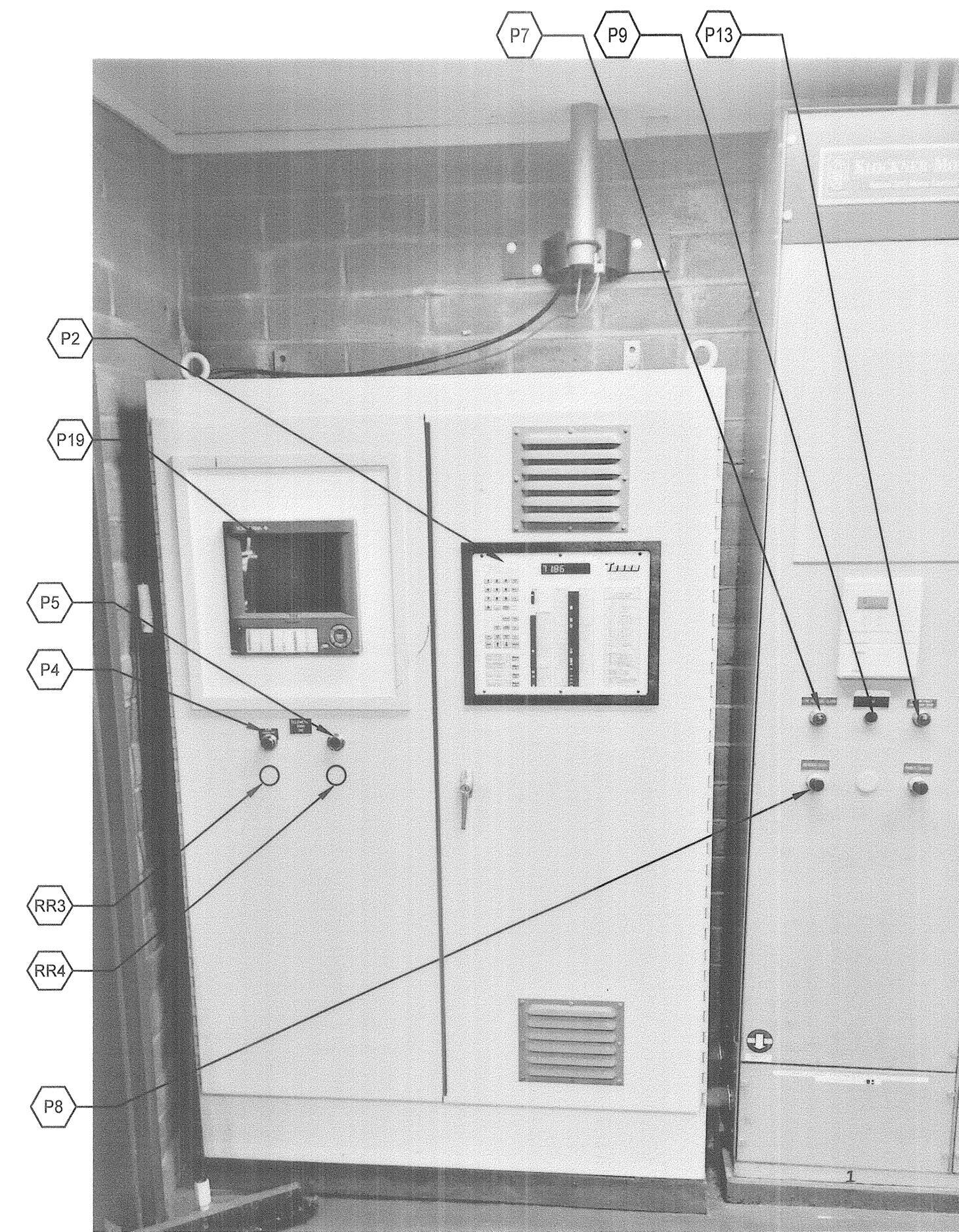
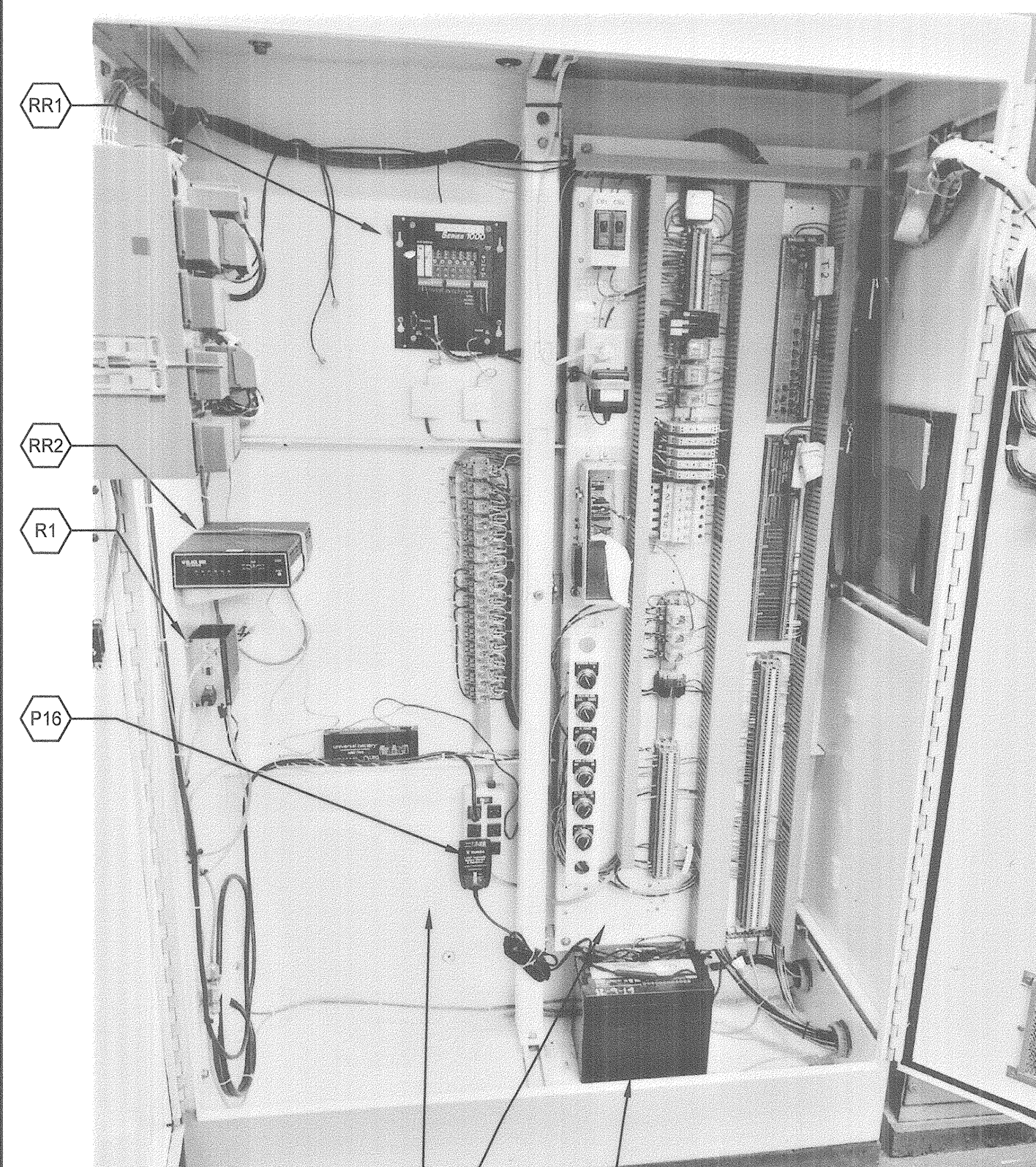
SCALE: AS SHOWN	DATE: MARCH 2022
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City of Santa Rosa
CONTRACT NO. C02052
PUMP STATION 9 & 10 PHOTOS



WATER PUMP STATION PS 11
SCALE: NTS



WATER PUMP STATION PS 12
SCALE: NTS

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10 (ON SHEET 11)



KJ Kennedy Jenks

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SCALE: AS SHOWN DATE: MARCH 2022

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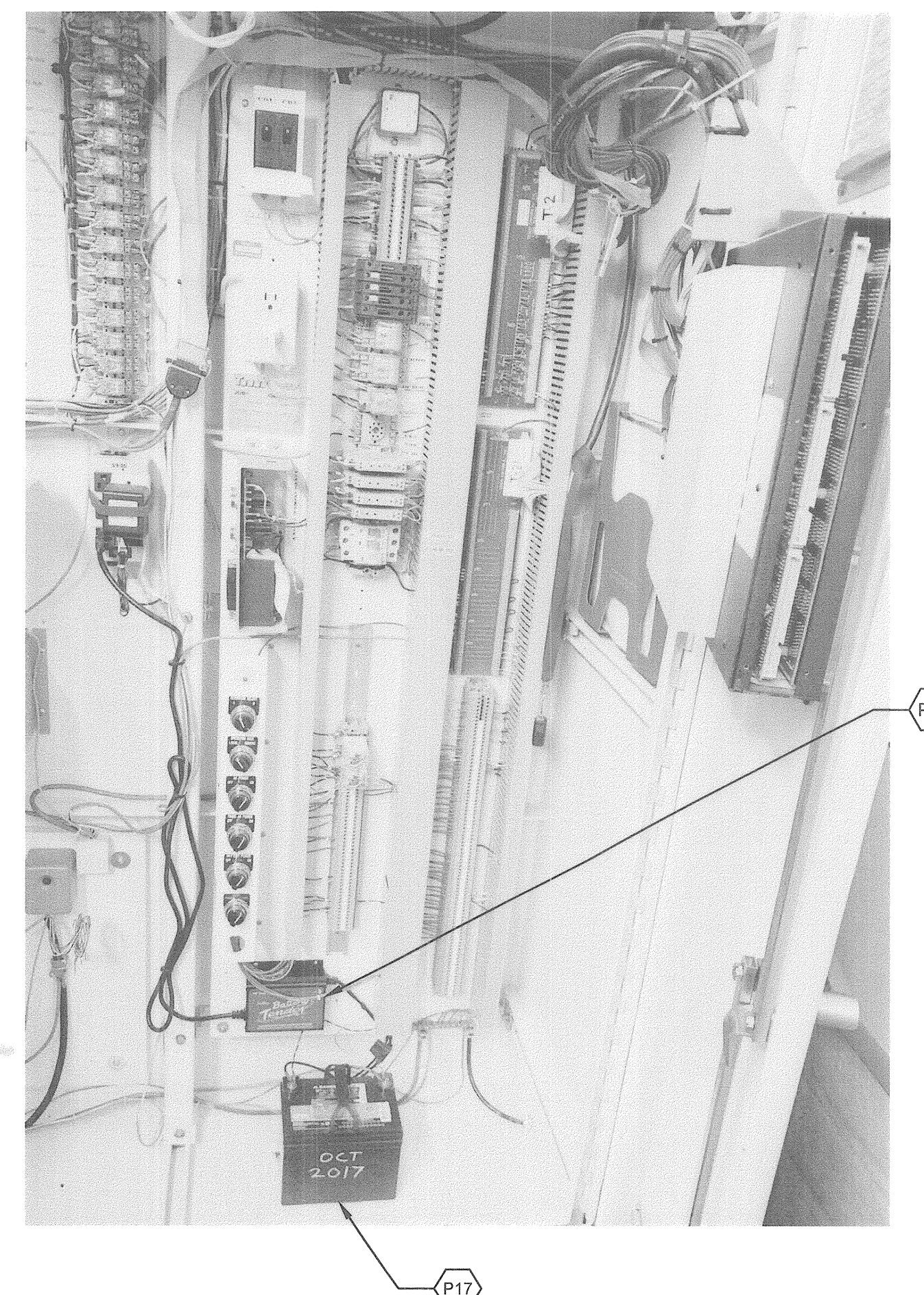
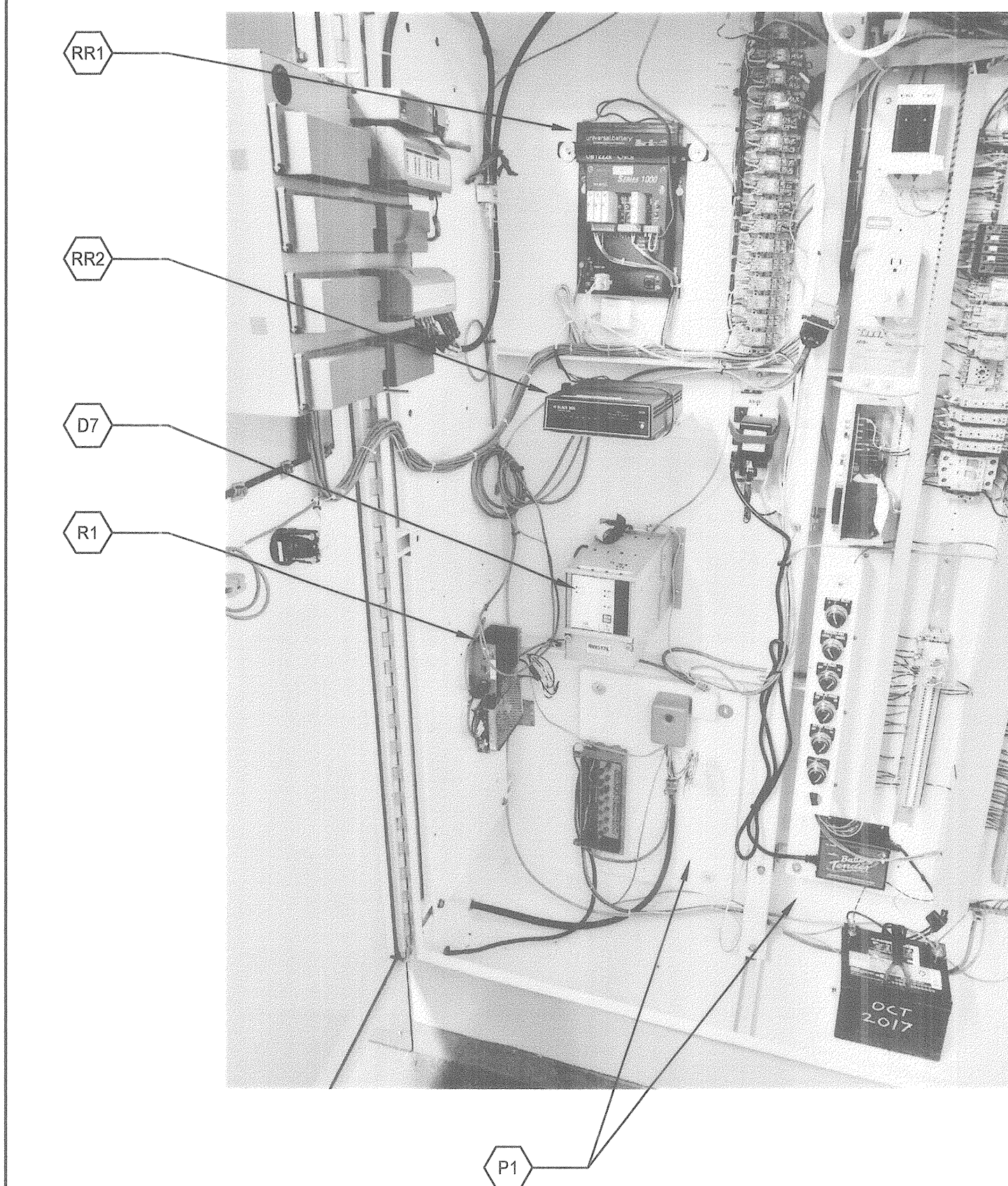
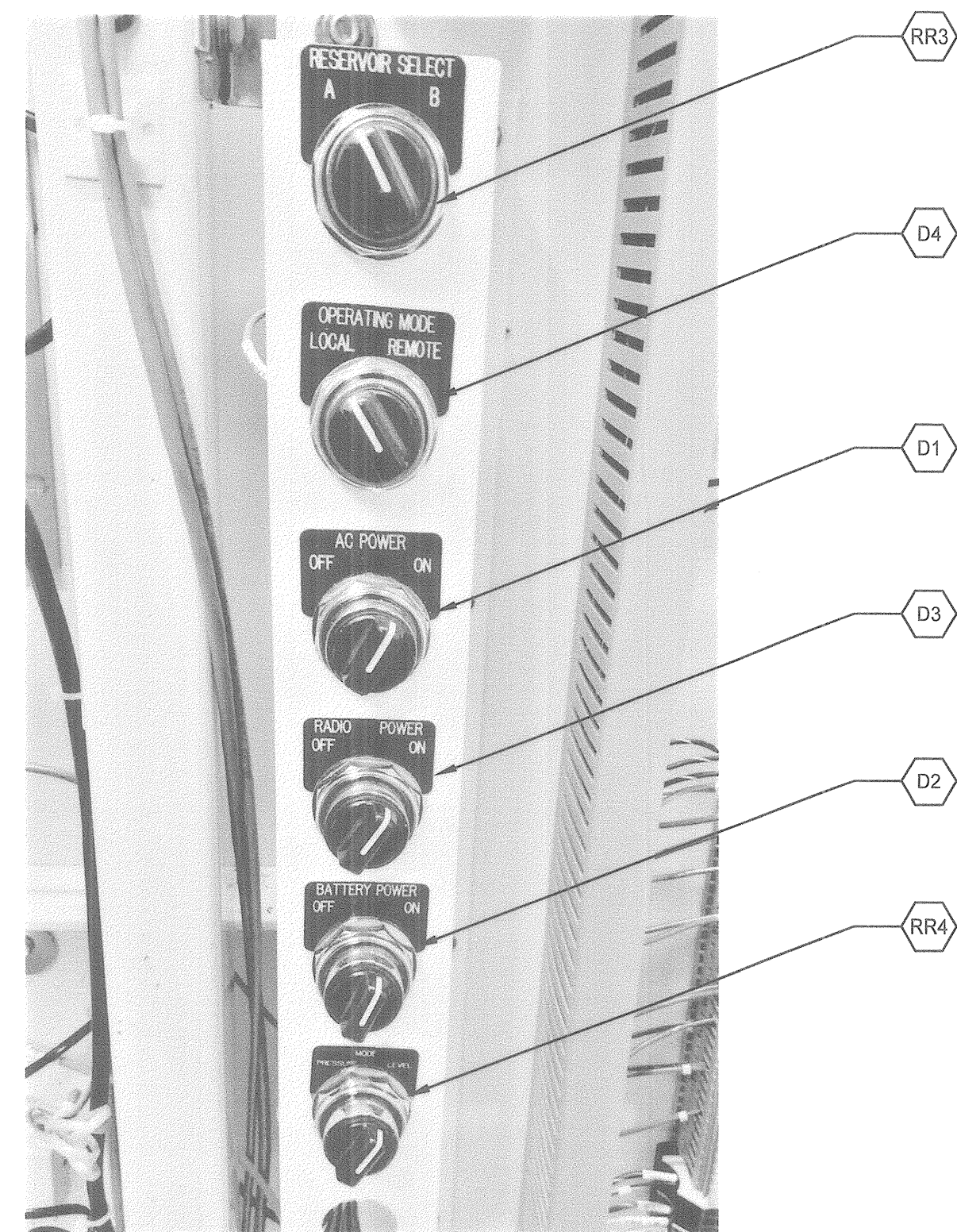
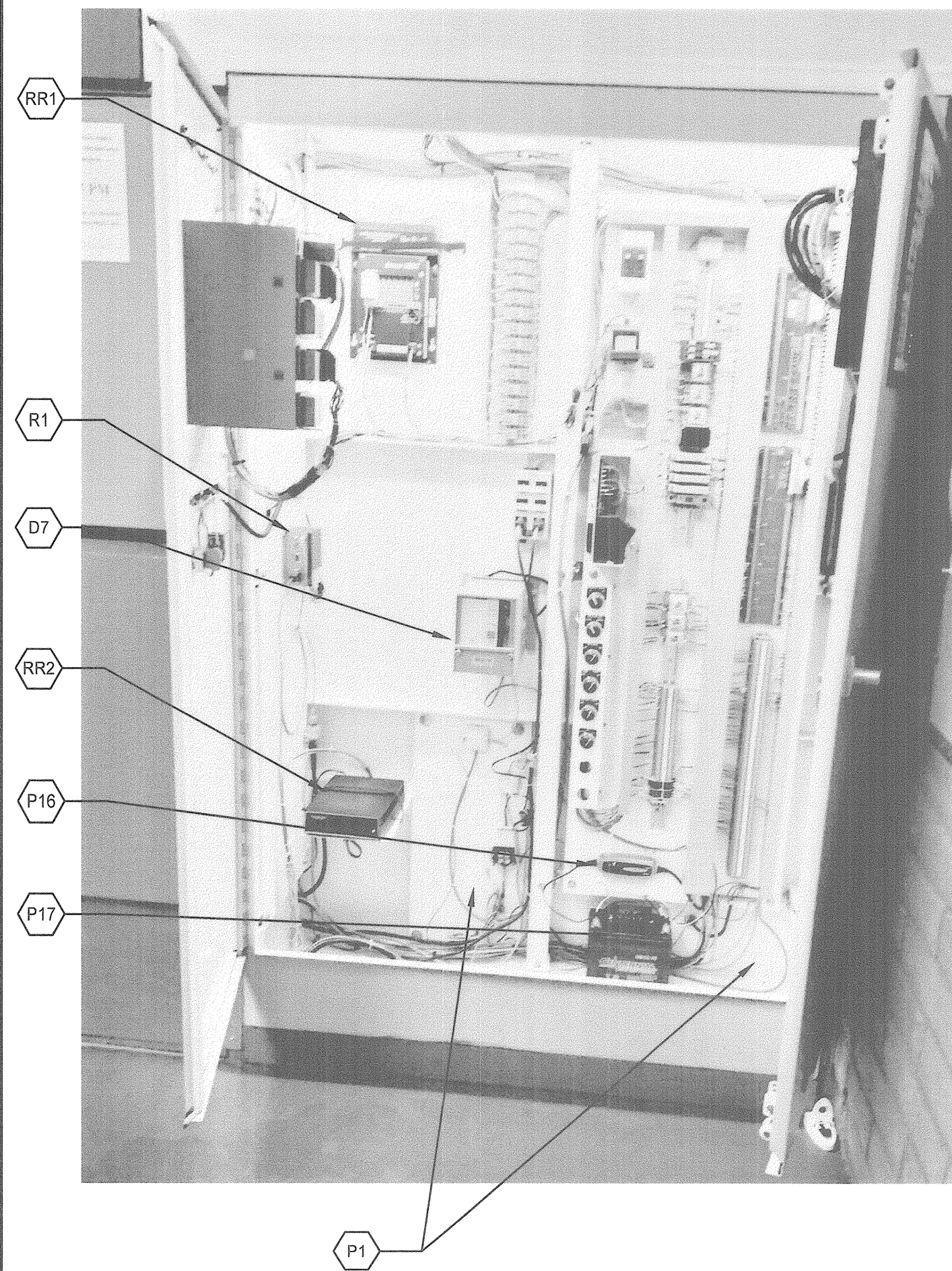
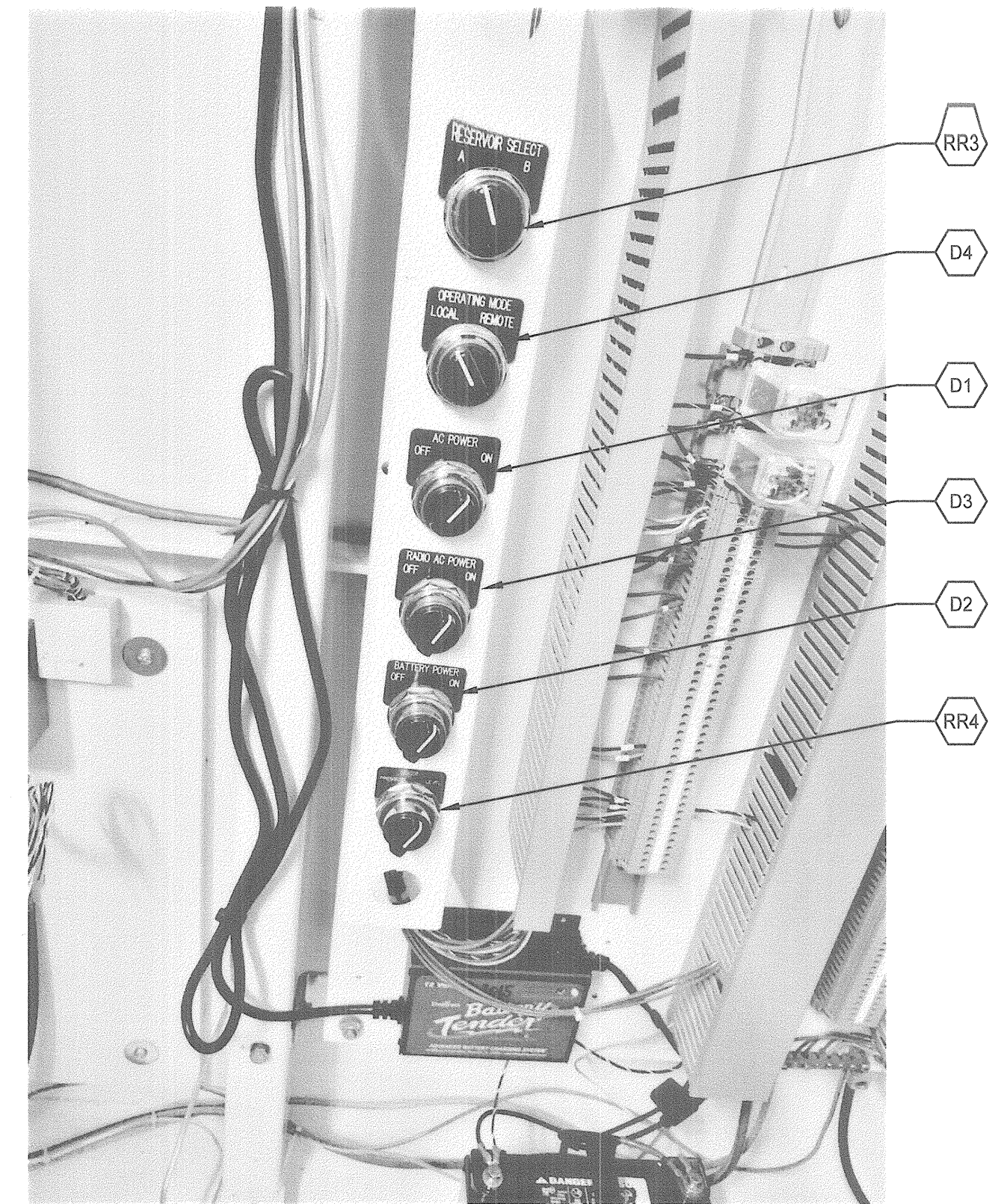
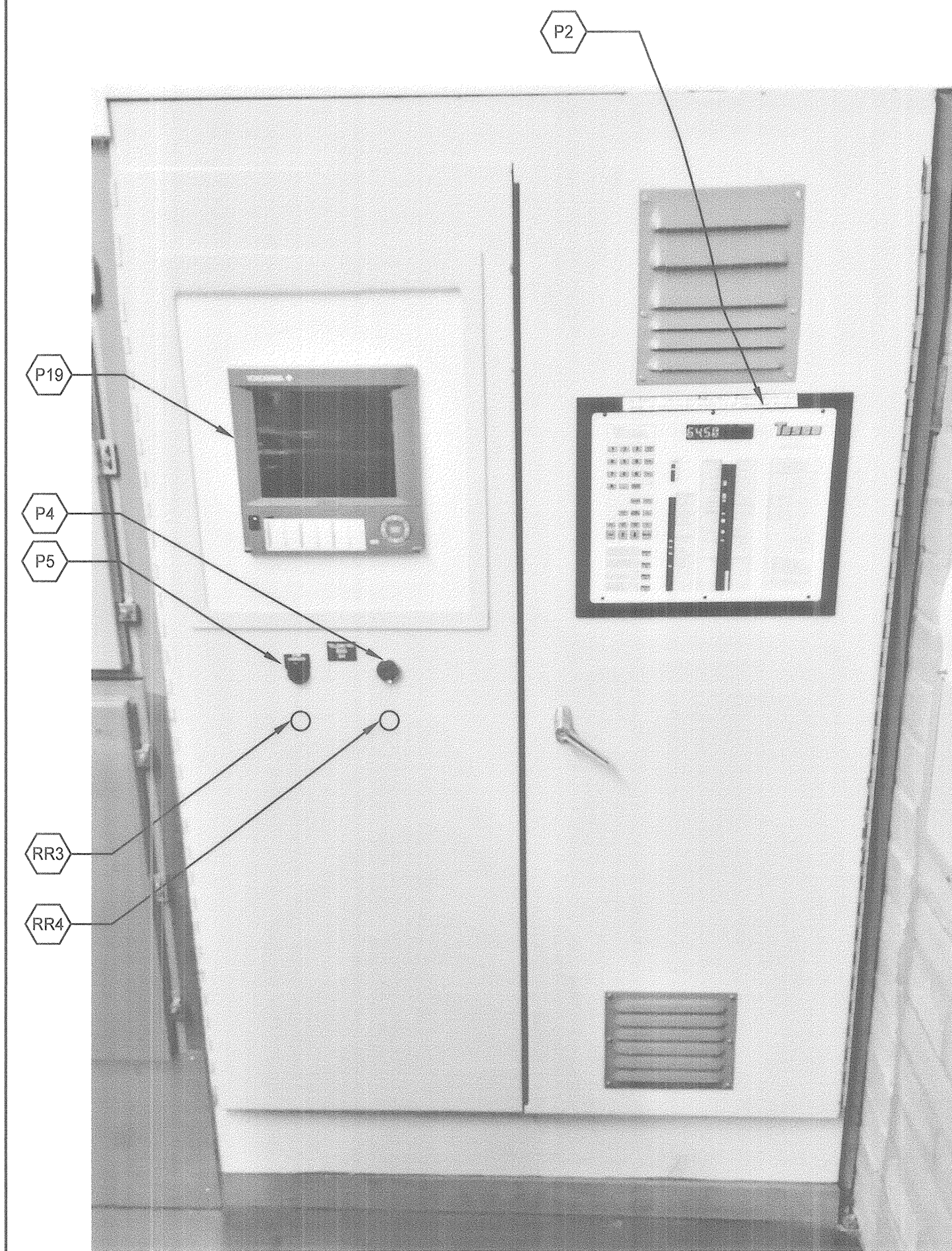
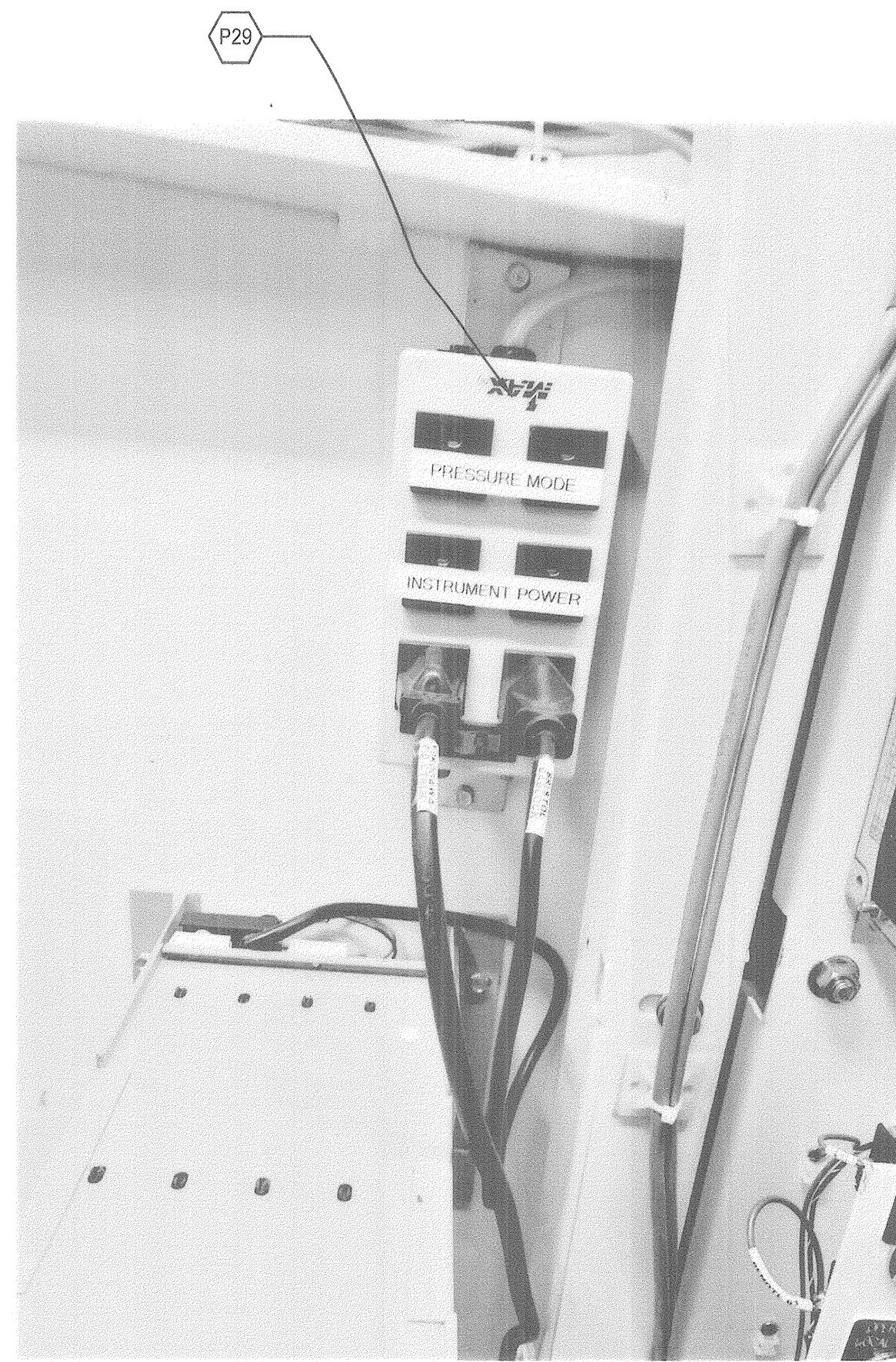
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City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS**
PUMP STATION 11 & 12 PHOTOS

CONTRACT NO.
C02052

SHEET 18 OF 49

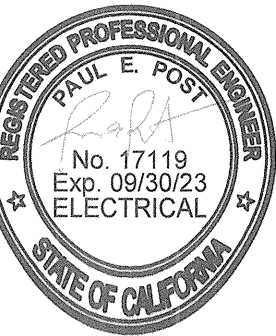
E-17 FILE NO. 2021-0045



WATER PUMP STATION PS13
SCALE: NTS

WATER PUMP STATION PS14
SCALE: NTS

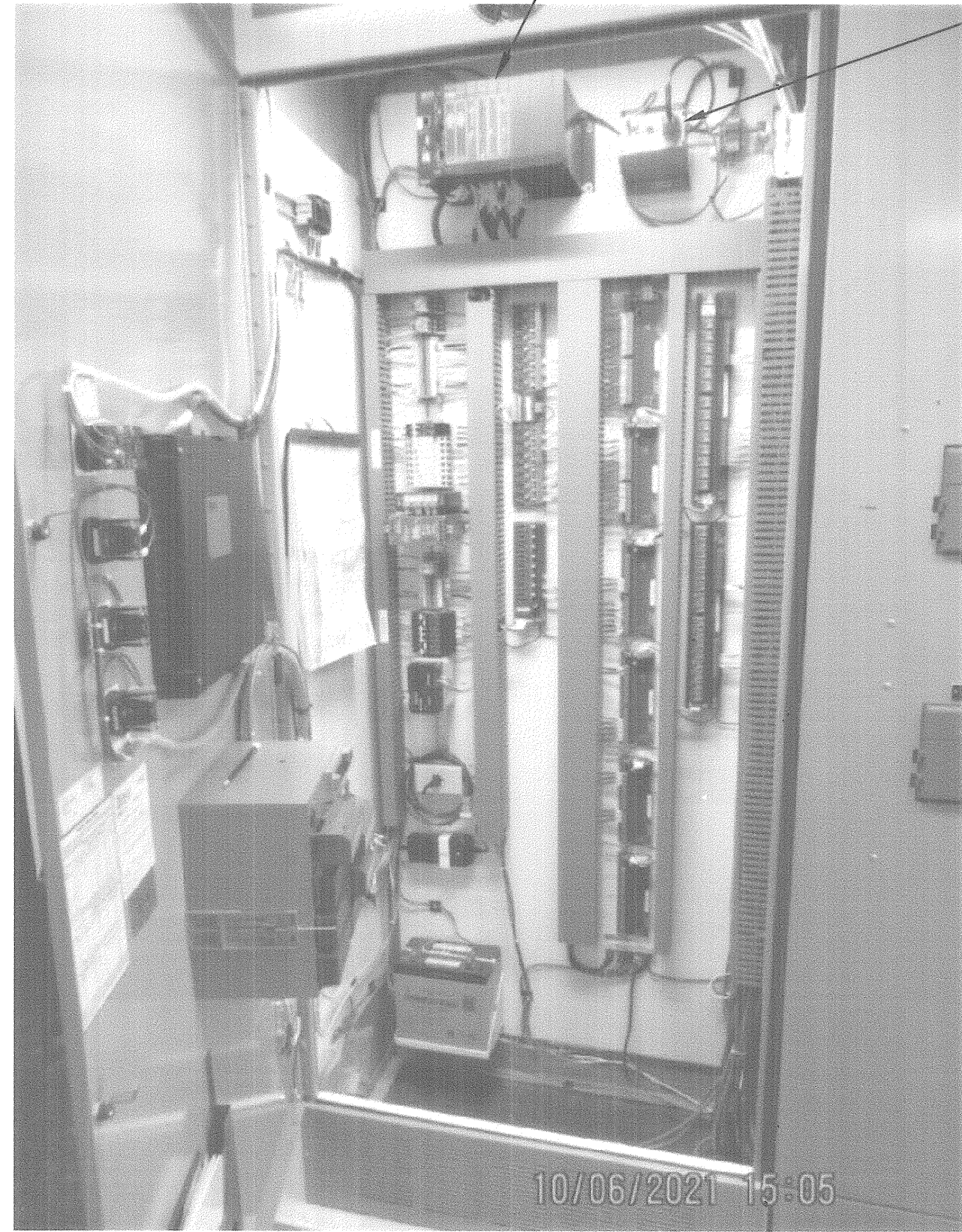
GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10(ON SHEET 11)



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No.	Date	Revision	By

ISSUED FOR BID
City of Santa Rosa
SCALE: AS SHOWN DATE: MARCH 2022
DWN BY: RM CHK BY: PEP
ISSUED FOR BID
CONTRACT NO. C02052
PUMP STATION 13 & 14 PHOTOS

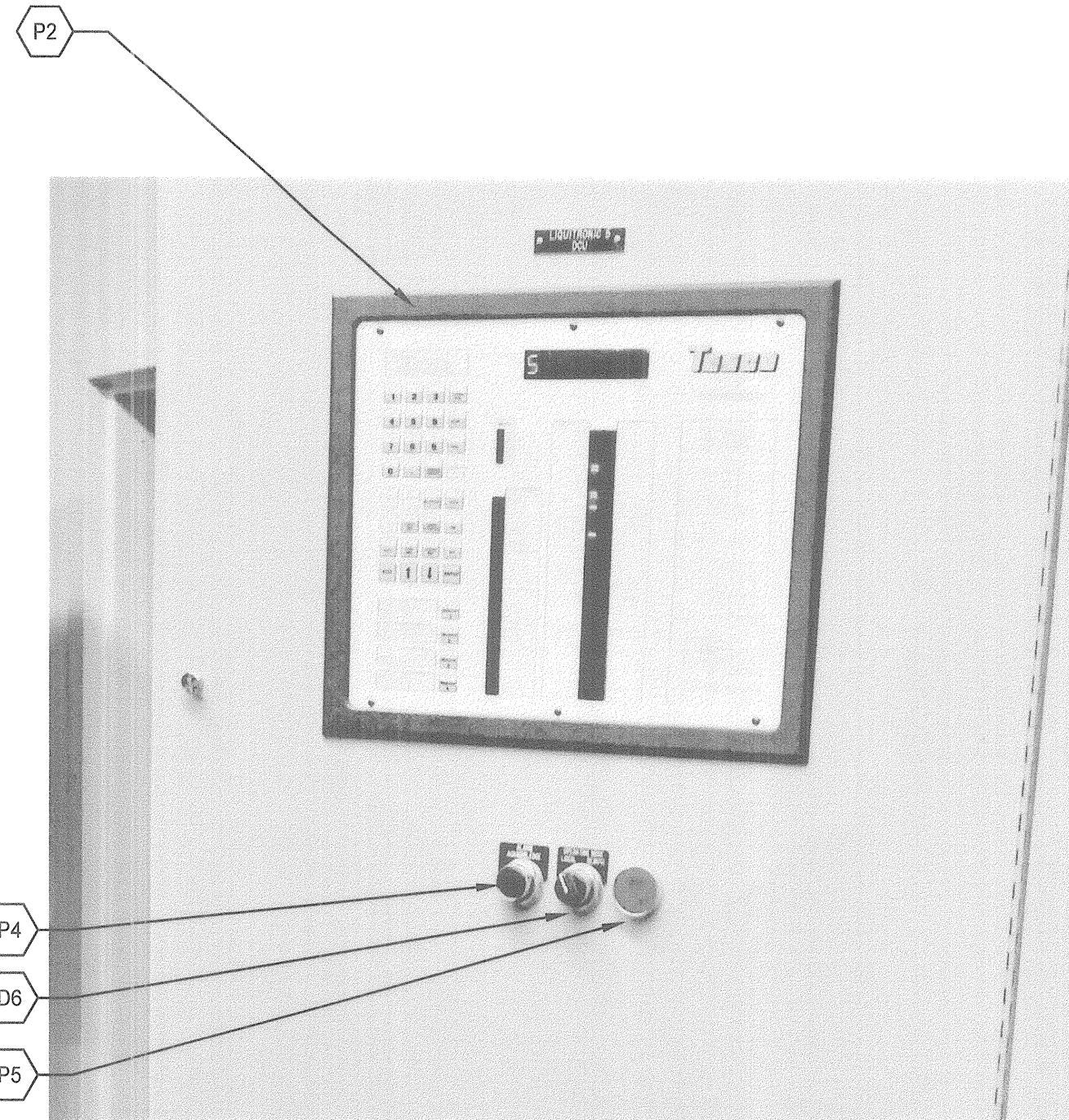


PLC & BACKPAN TO BE UPGRADED BY OTHERS

R1

NOTE: NEW RADIO ONLY THIS CABINET, NEW PLC AND OTHER CONTROLLER UPGRADES IN CONTACT C01994.

10/06/2021 15:05



P2

P4

D6

P5



D1

D3

D2

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10(ON SHEET 11)



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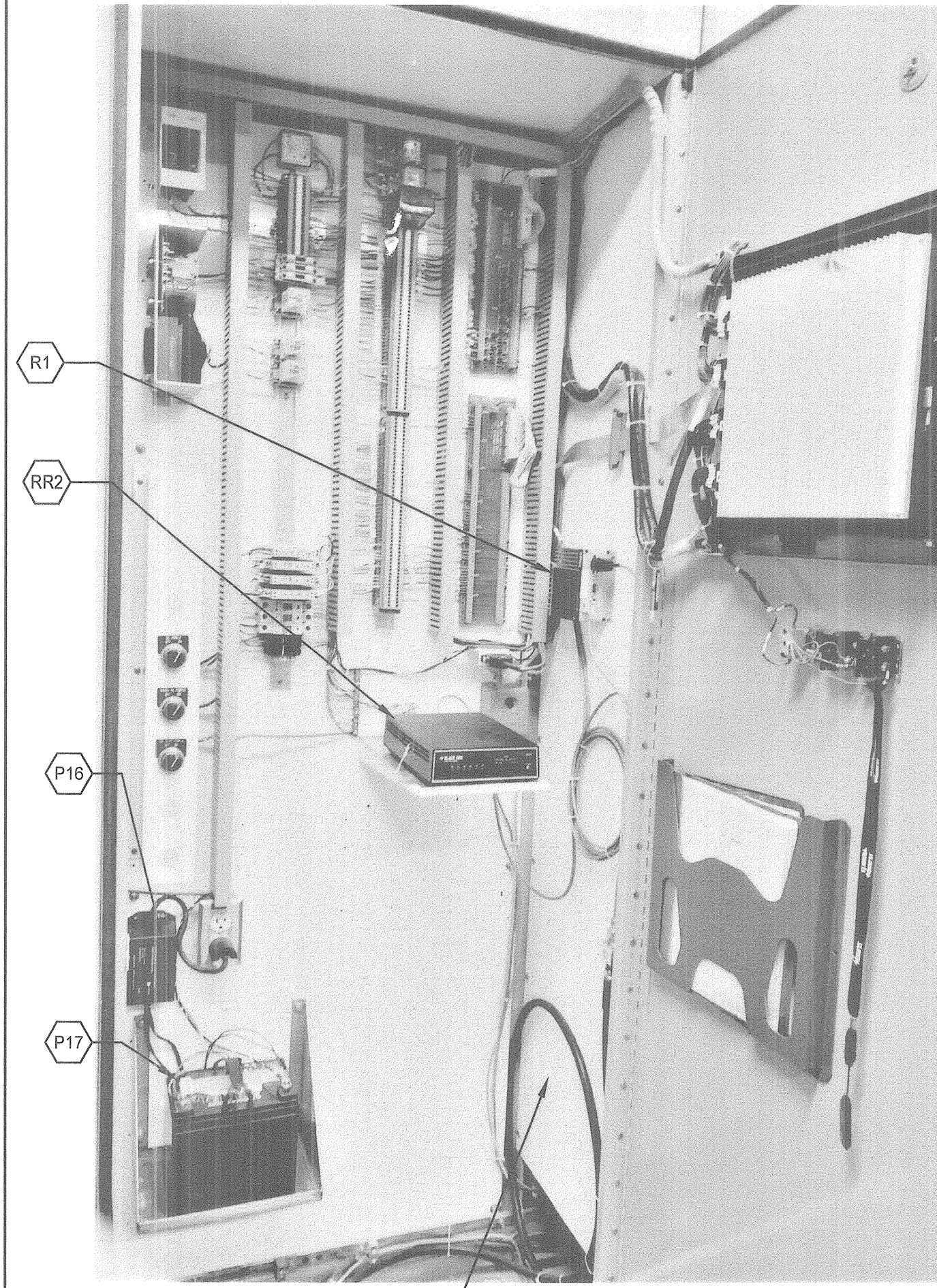


No.	Date	Revision	By

PUMP STATION OPERATOR INTERFACE TO BE UPGRADED BY OTHERS



10/06/2021 15:09



R1

RR2

P16

P17

P1



P19

P13

P14

P7

P8

P9

P20

WATER PUMP STATION PS 15
SCALE: NTS

WATER PUMP STATION PS 16
SCALE: NTS

ISSUED FOR BID

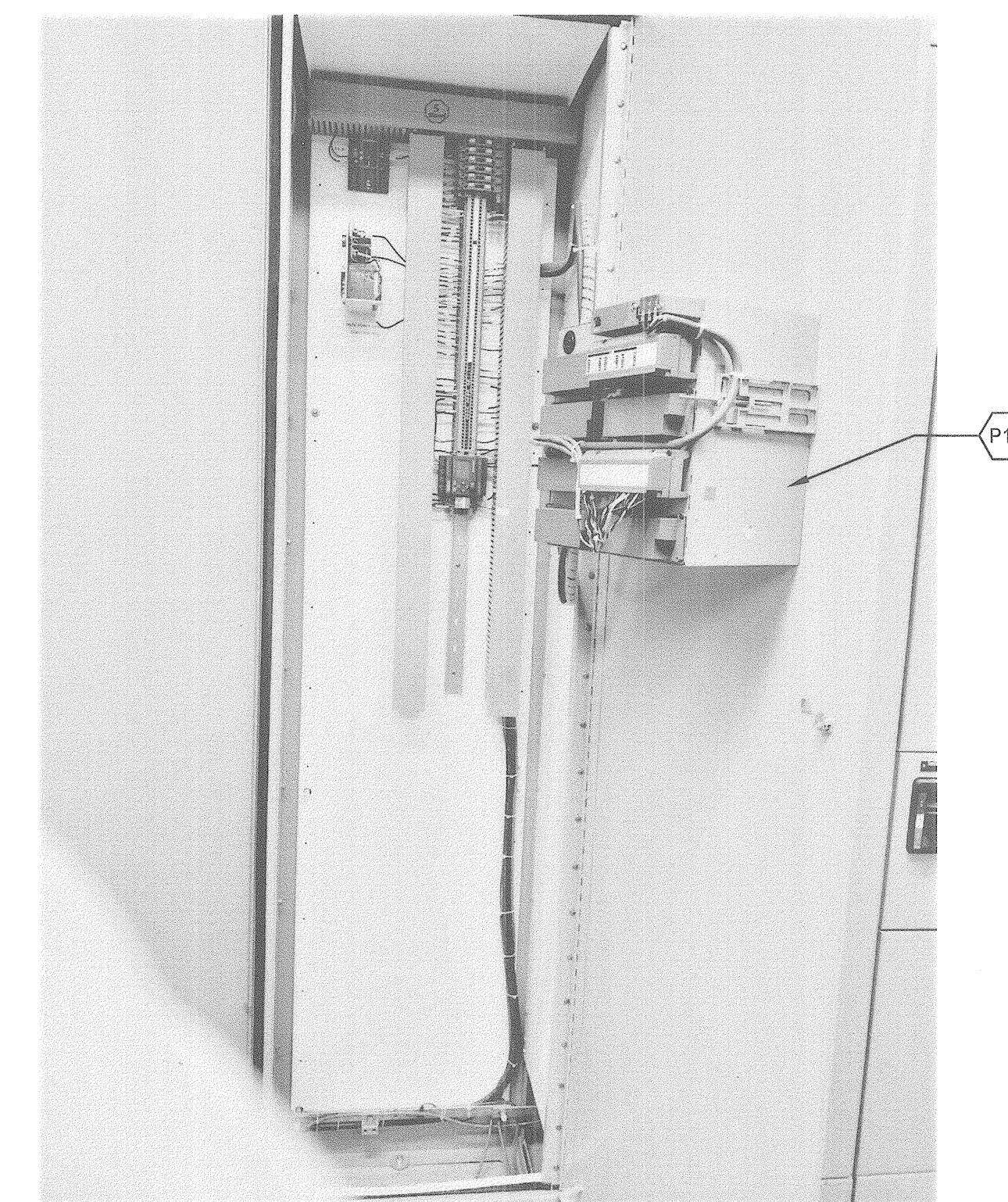
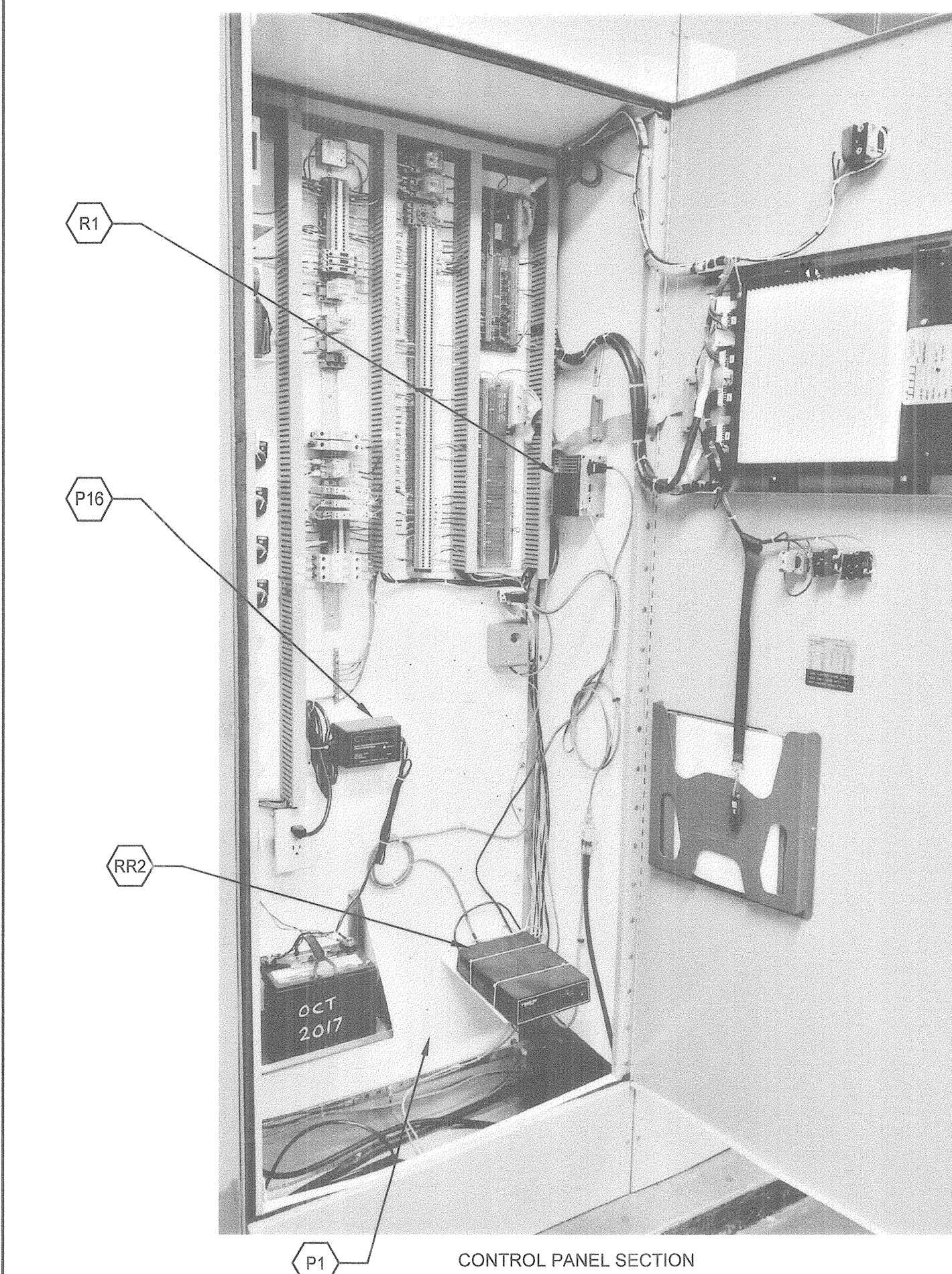
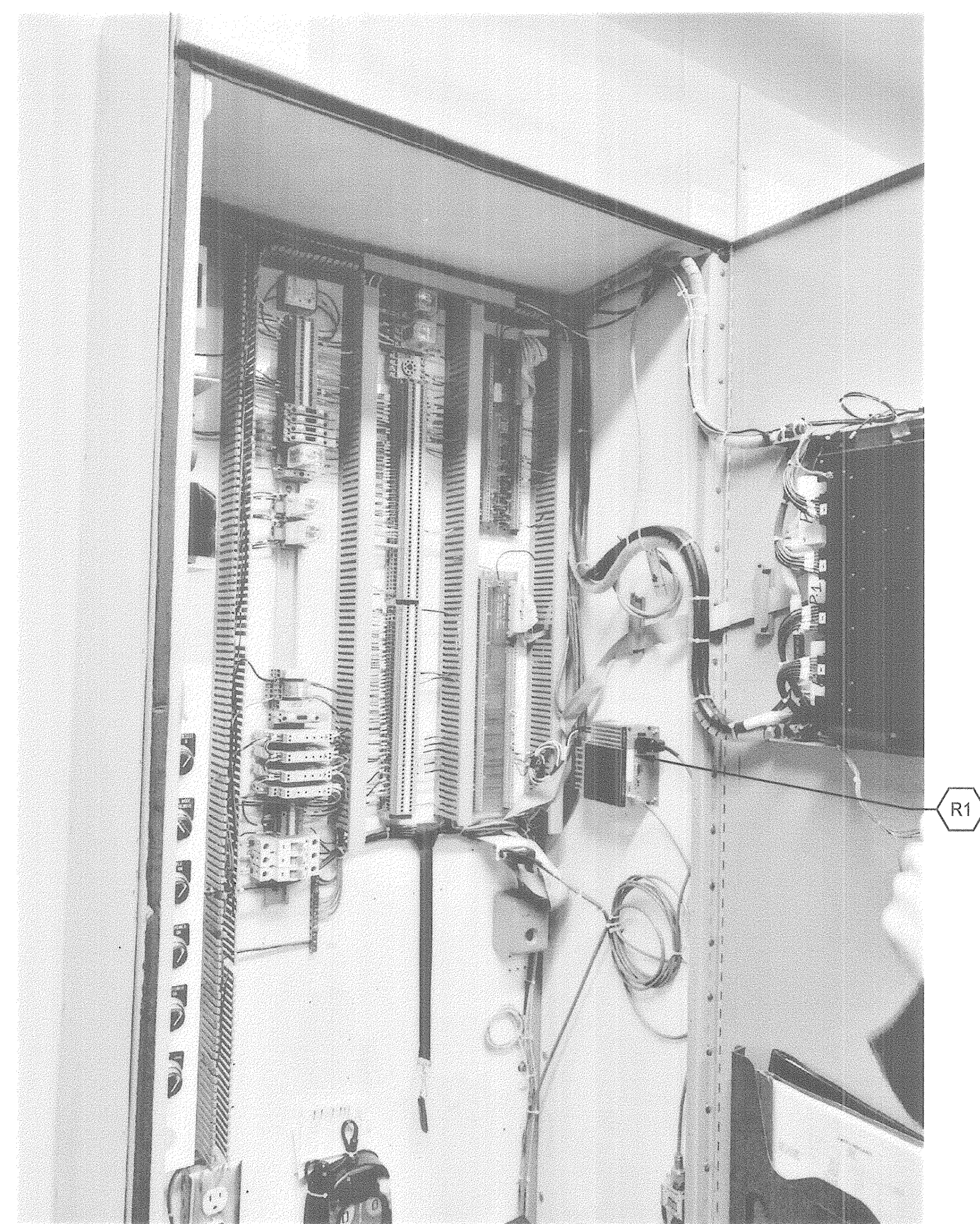
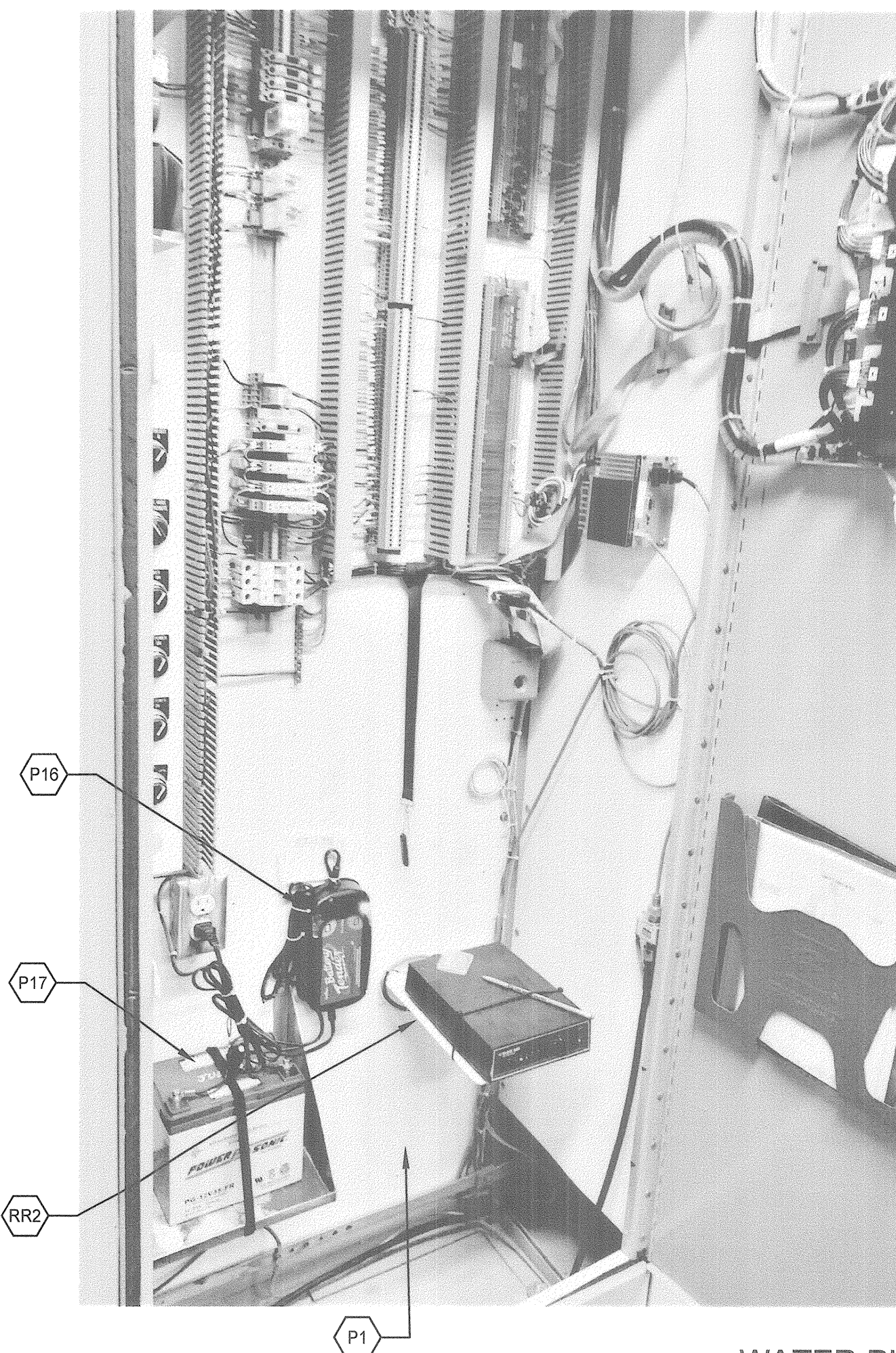
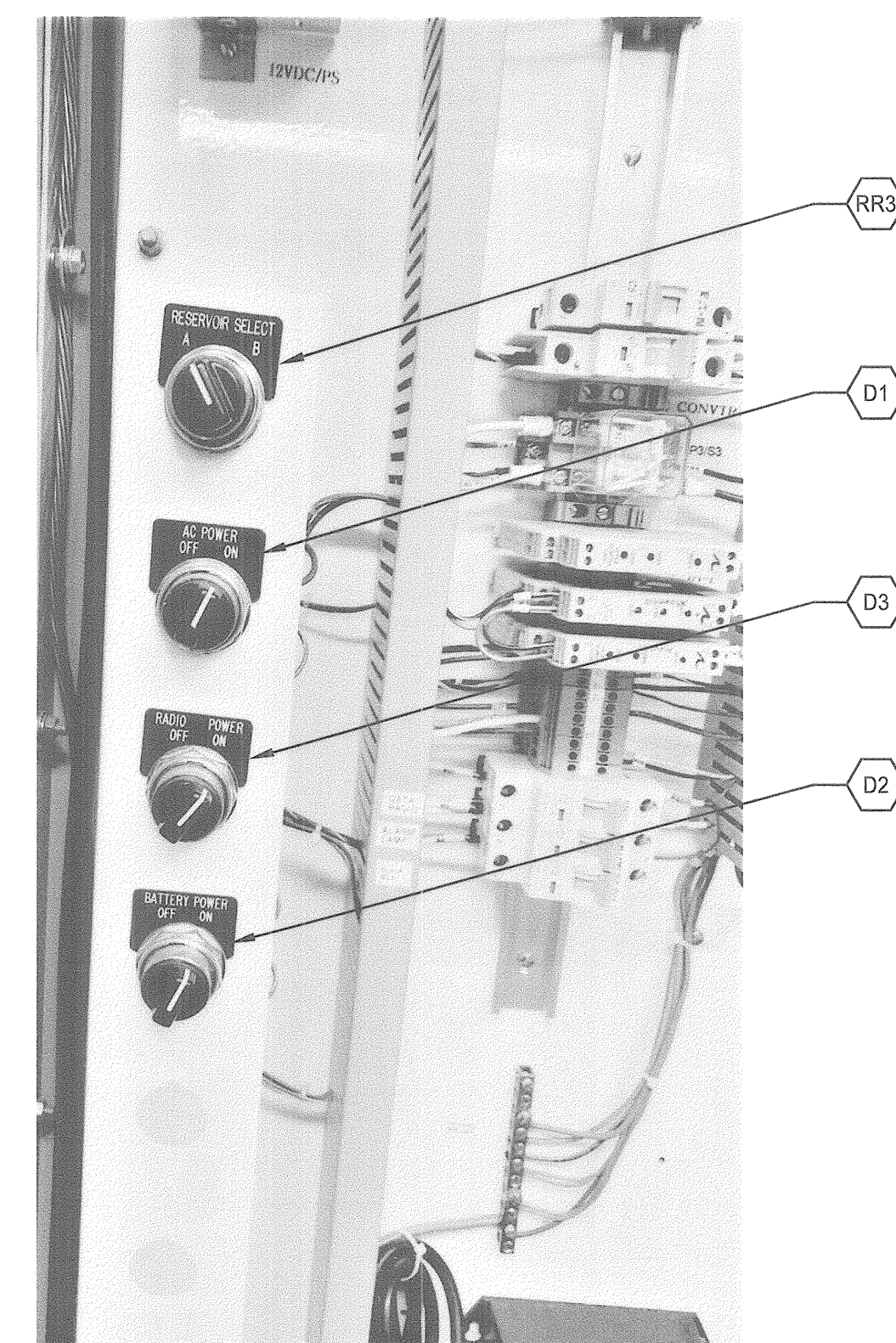
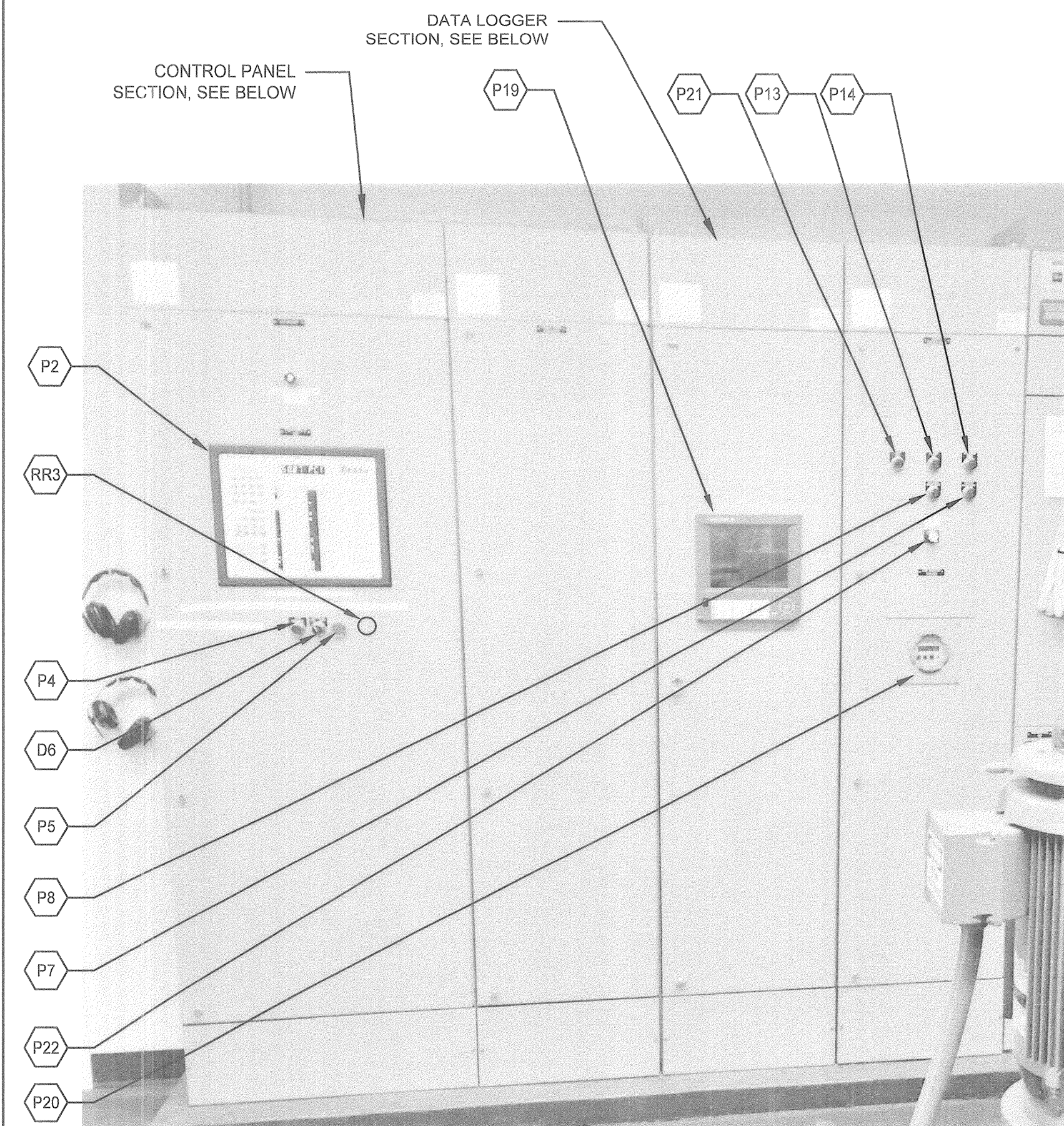
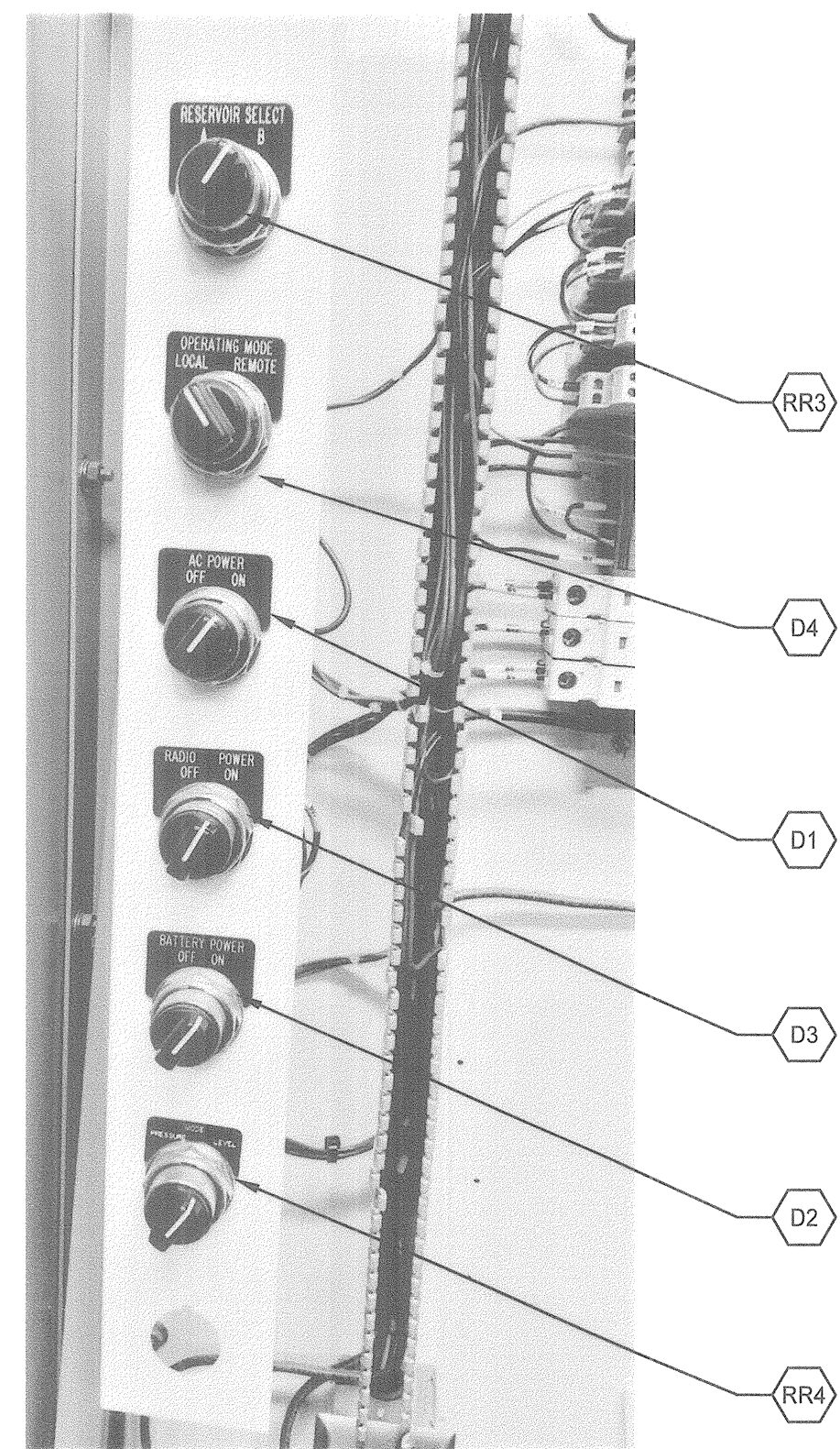
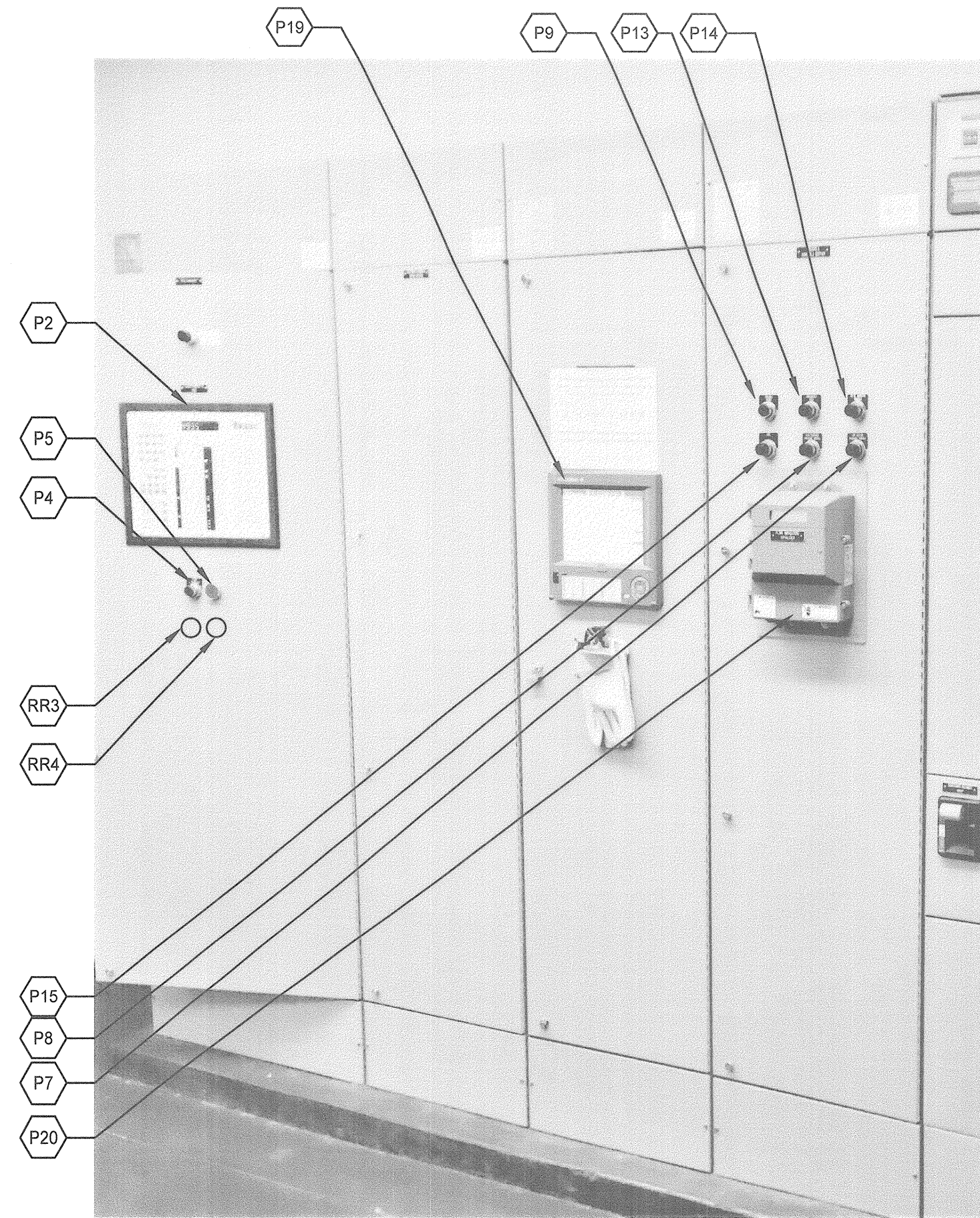
City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS**
PUMP STATION 15 & 16 PHOTOS

SCALE: AS SHOWN
DATE: MARCH 2022
DWN BY: RM
CHK BY: PEP

ISSUED FOR BID

CONTRACT NO.
C02052

SHEET 20 OF 49



WATER PUMP STATION PS 17
SCALE: NTS

WATER PUMP STATION PS 18
SCALE: NTS

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10 (ON SHEET 11)



Kennedy Jenks



No.	Date	Revision	By

SCALE: AS SHOWN	DATE: MARCH 2022
DWN BY: RM	CHK BY: PEP

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City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS**
PUMP STATION 17 & 18 PHOTOS

CONTRACT NO.
C02052

SHEET 21 OF 49

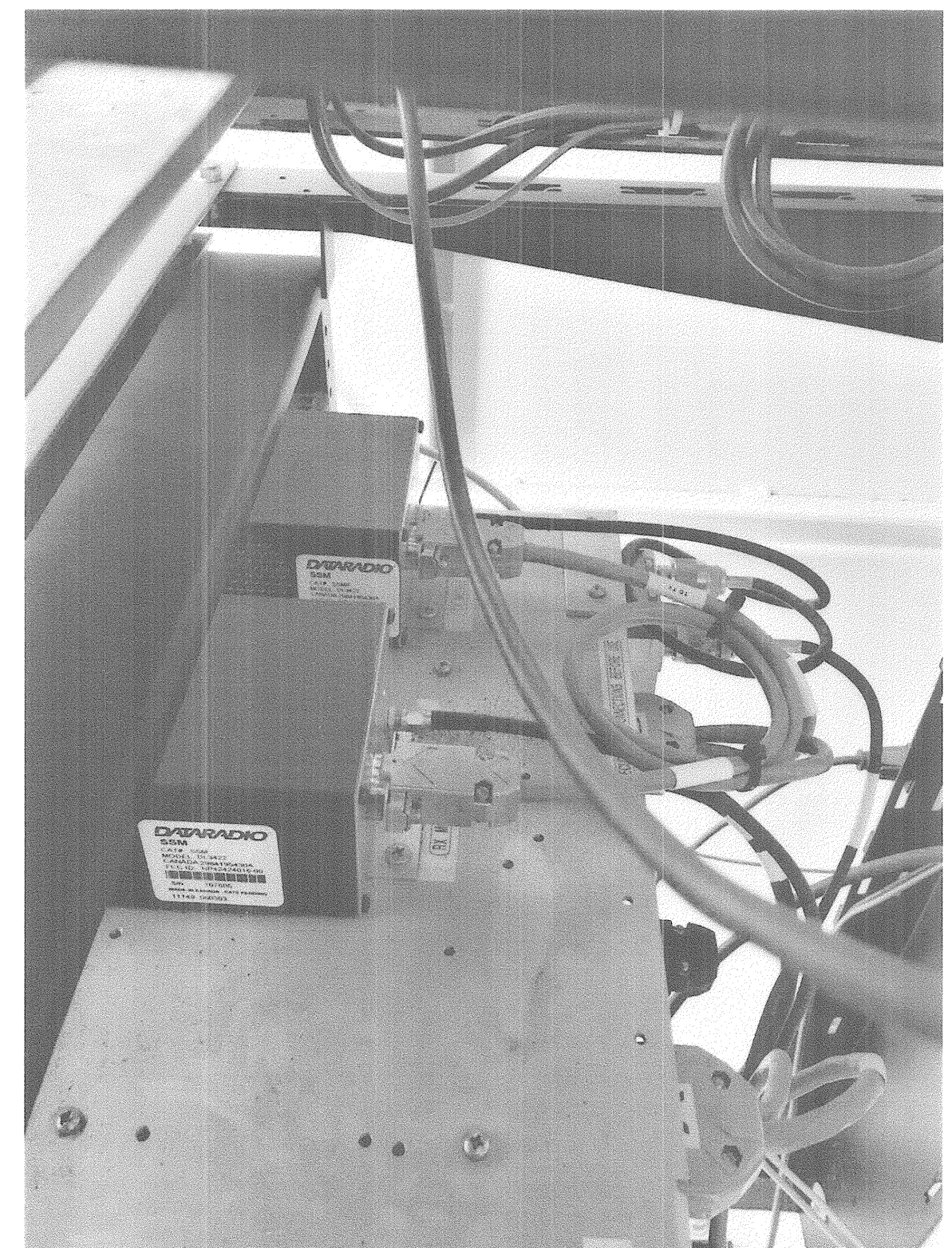
E-20 FILE NO. 2021-0045



R7 RADIO REPEATER EQUIPMENT



R17 RADIO REPEATER EQUIPMENT

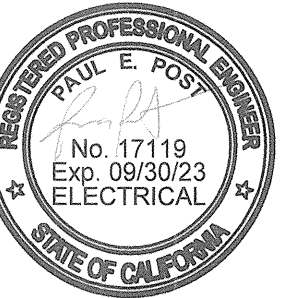


R7 RESERVOIR
SCALE: NTS



R17 RESERVOIR
SCALE: NTS

GENERAL NOTES:
FOR SHEET KEYNOTES.
SEE SHEET E-10 (ON SHEET 11)



Kennedy Jenks

No.	Date	Revision	By

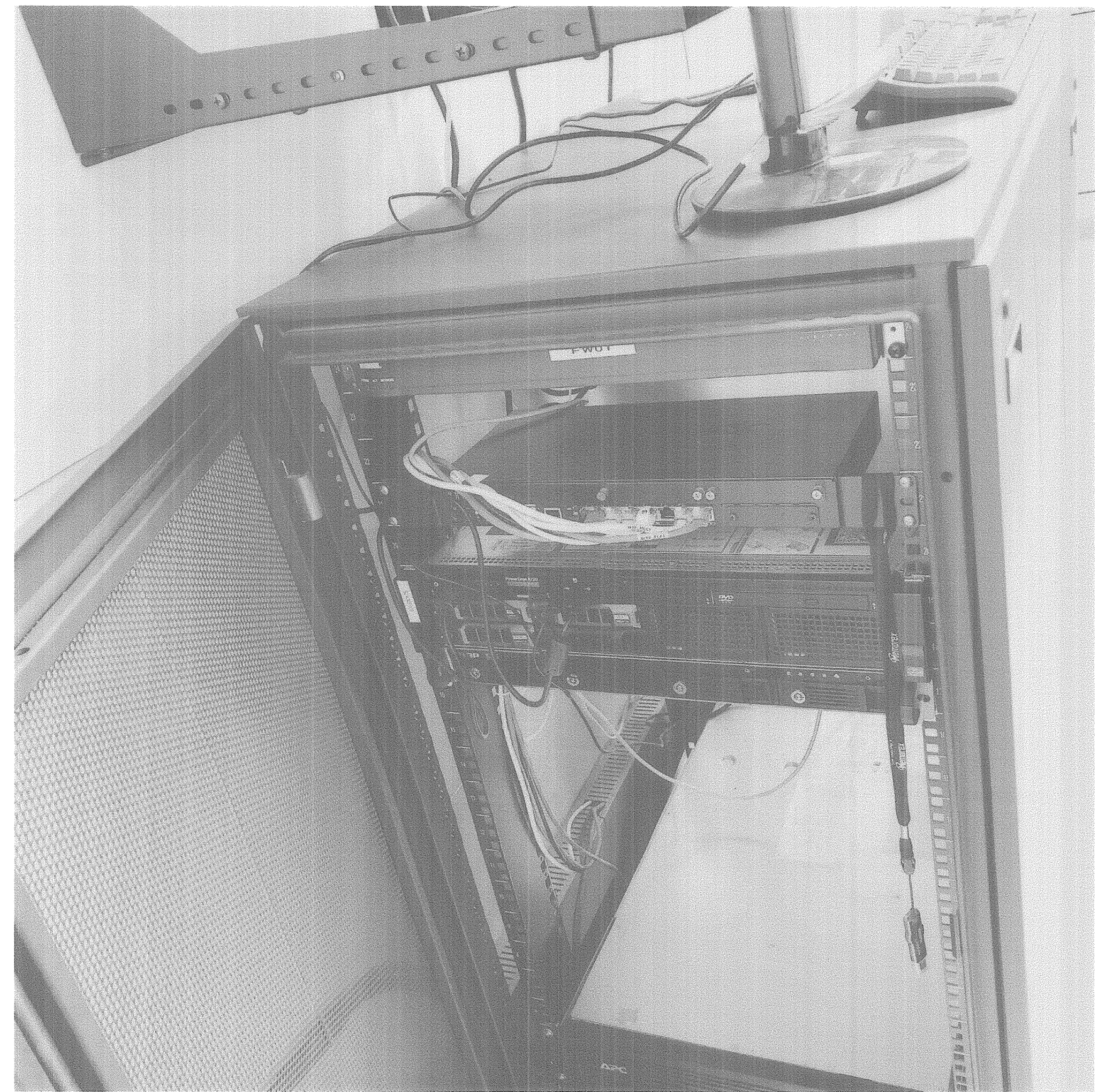
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DATE: MARCH 2022
DWN BY: RM
CHK BY: PEP

ISSUED FOR BID

ISSUED FOR BID
City of Santa Rosa
CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS
RESERVOIR R7 & R17

CONTRACT NO.
C02052

SHEET 22 OF 49

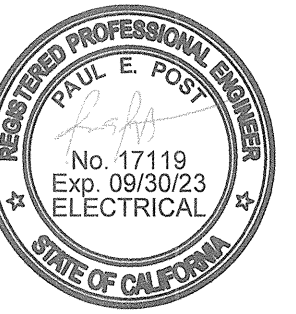


SCADA BACKUP SITE PS 4
SCALE: NTS



SCADA MASTER SITE UFO
SCALE: NTS

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10(ON SHEET 11)



Kennedy Jenks



No.	Date	Revision	By

SCALE: AS SHOWN
DWN BY: RM

DATE: MARCH 2022
CHK BY: PEP

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ISSUED FOR BID

City of Santa Rosa
CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS
SCADA SITES PS-4 & UFO PHOTOS

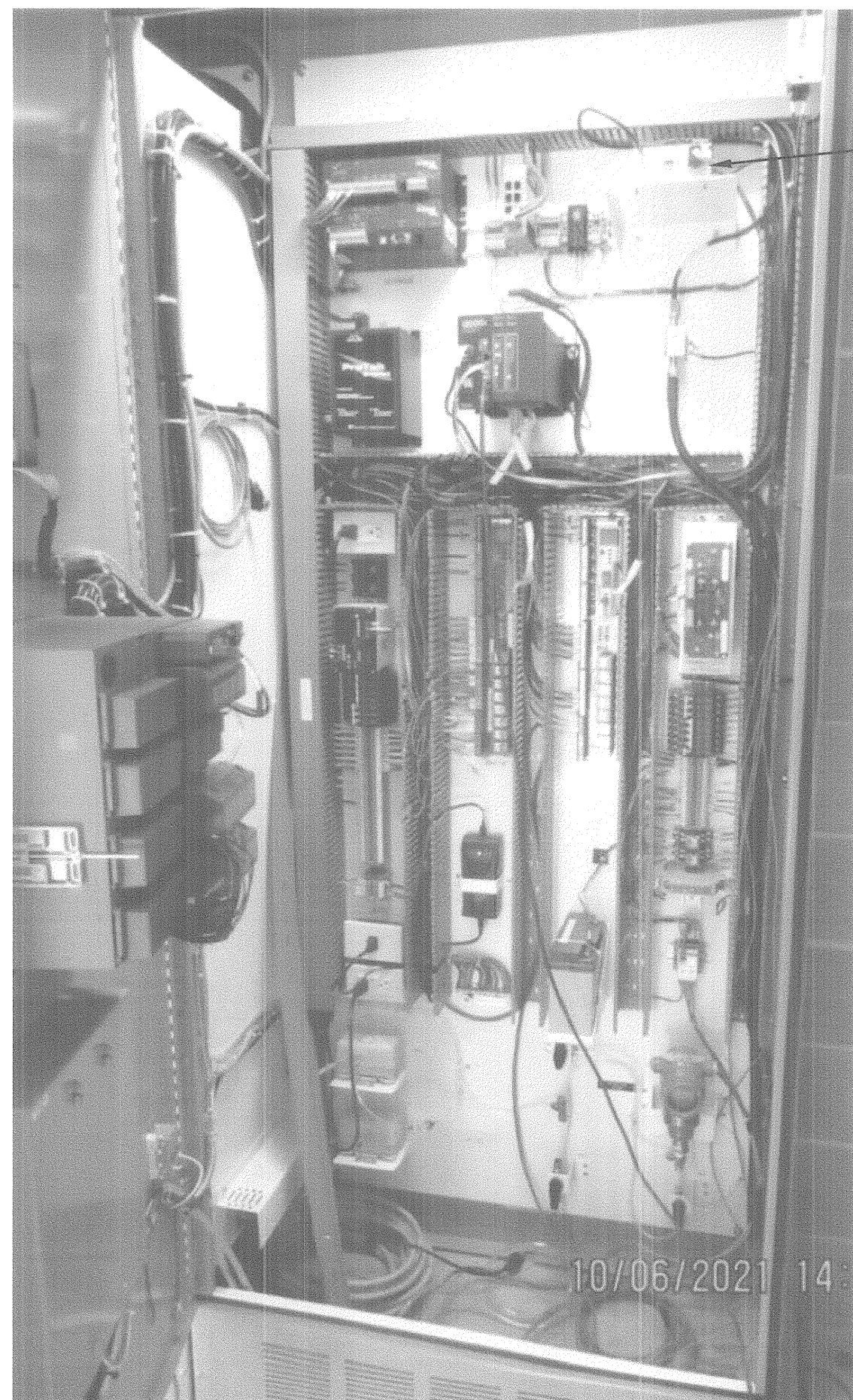
CONTRACT NO.
C02052

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R7



R7



R1

R2

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10(ON SHEET 11)



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No.	Date	Revision	By



SEWER LIFT STATION SLS 1
SCALE: NTS



SEWER LIFT STATION SLS 2
SCALE: NTS



SEWER LIFT STATION SLS 3
SCALE: NTS

ISSUED FOR BID
City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS**
SEWER LIFT STA. 1, 2 & 3 PHOTOS

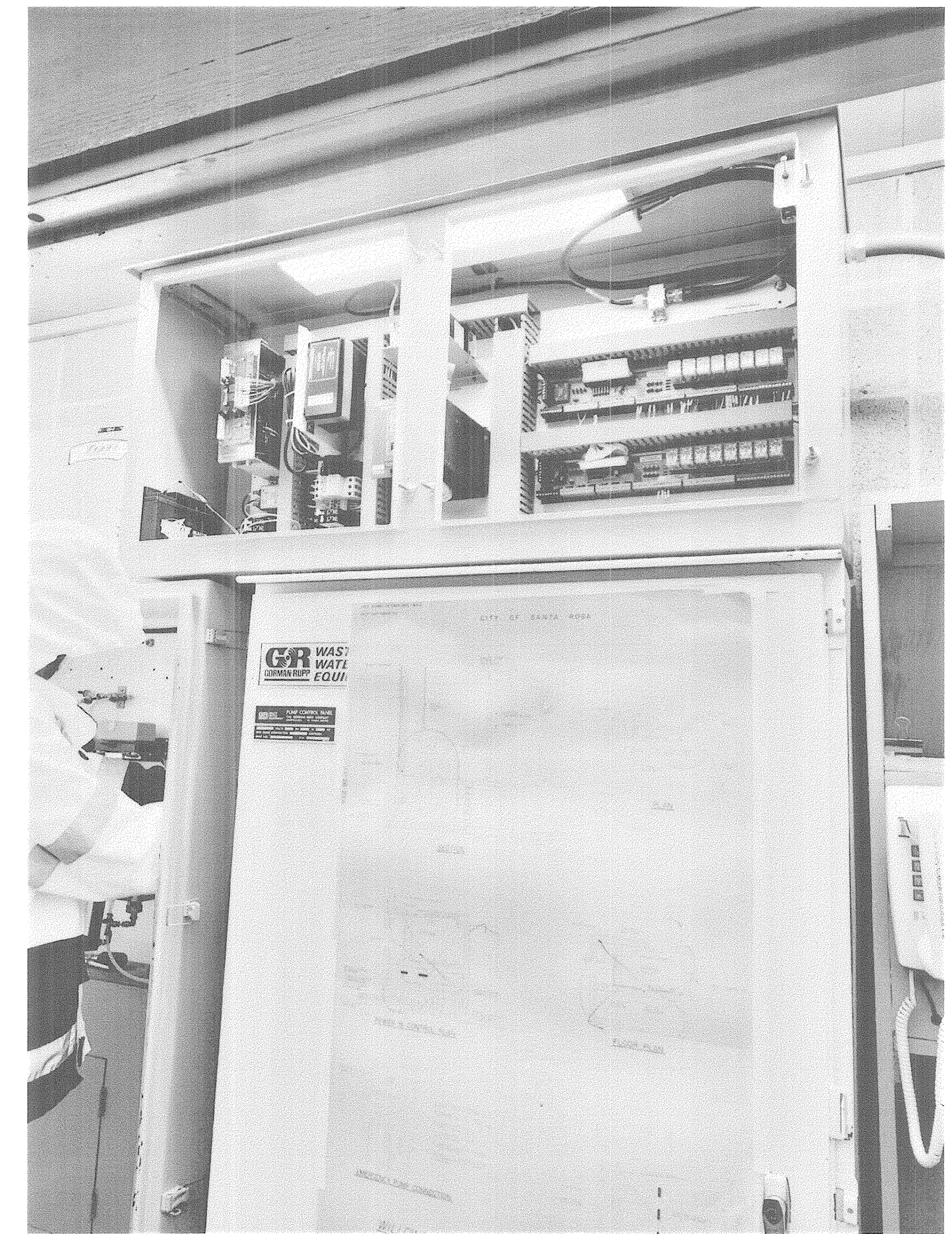
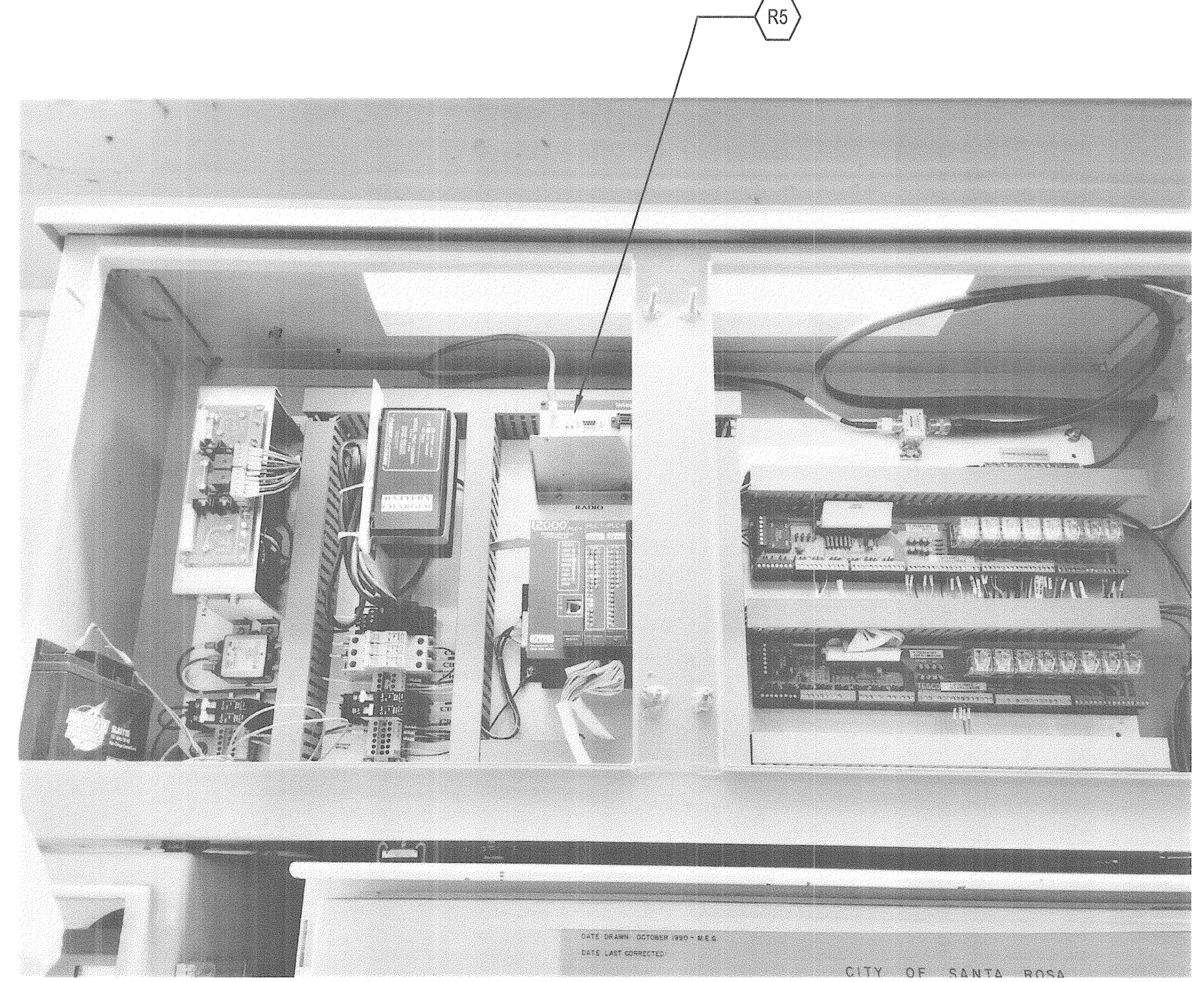
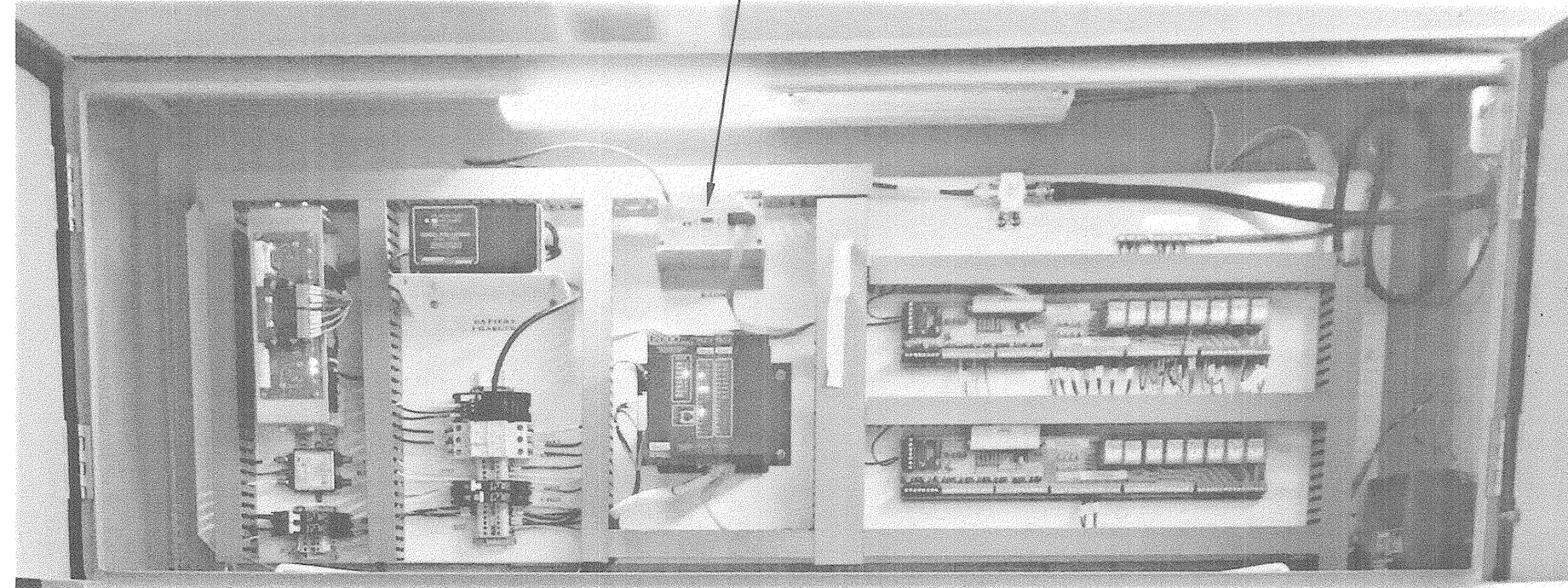
SCALE: AS SHOWN
DWN BY: RM

DATE: MARCH 2022
CHK BY: PEP

ISSUED FOR BID

CONTRACT NO.
C02052

SHEET 24 OF 49

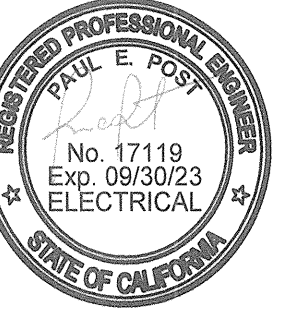


SEWER LIFT STATION SLS 4
SCALE: NTS

SEWER LIFT STATION SLS 5
SCALE: NTS

SEWER LIFT STATION SLS 9
SCALE: NTS

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10(ON SHEET 11)



Kennedy Jenks

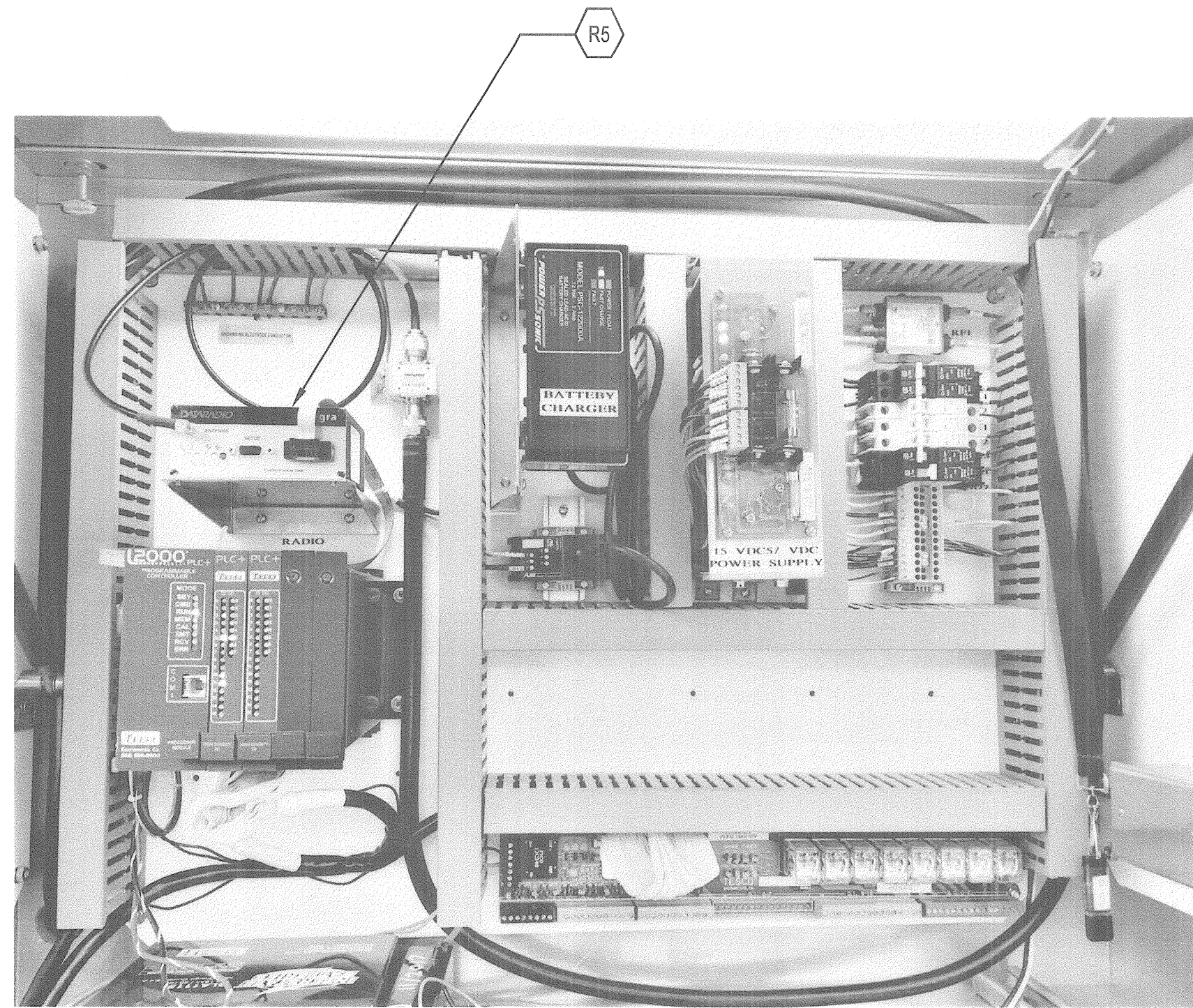
No.	Date	Revision	By

SCALE: AS SHOWN
DATE: MARCH 2022
DWN BY: RM
CHK BY: PEP

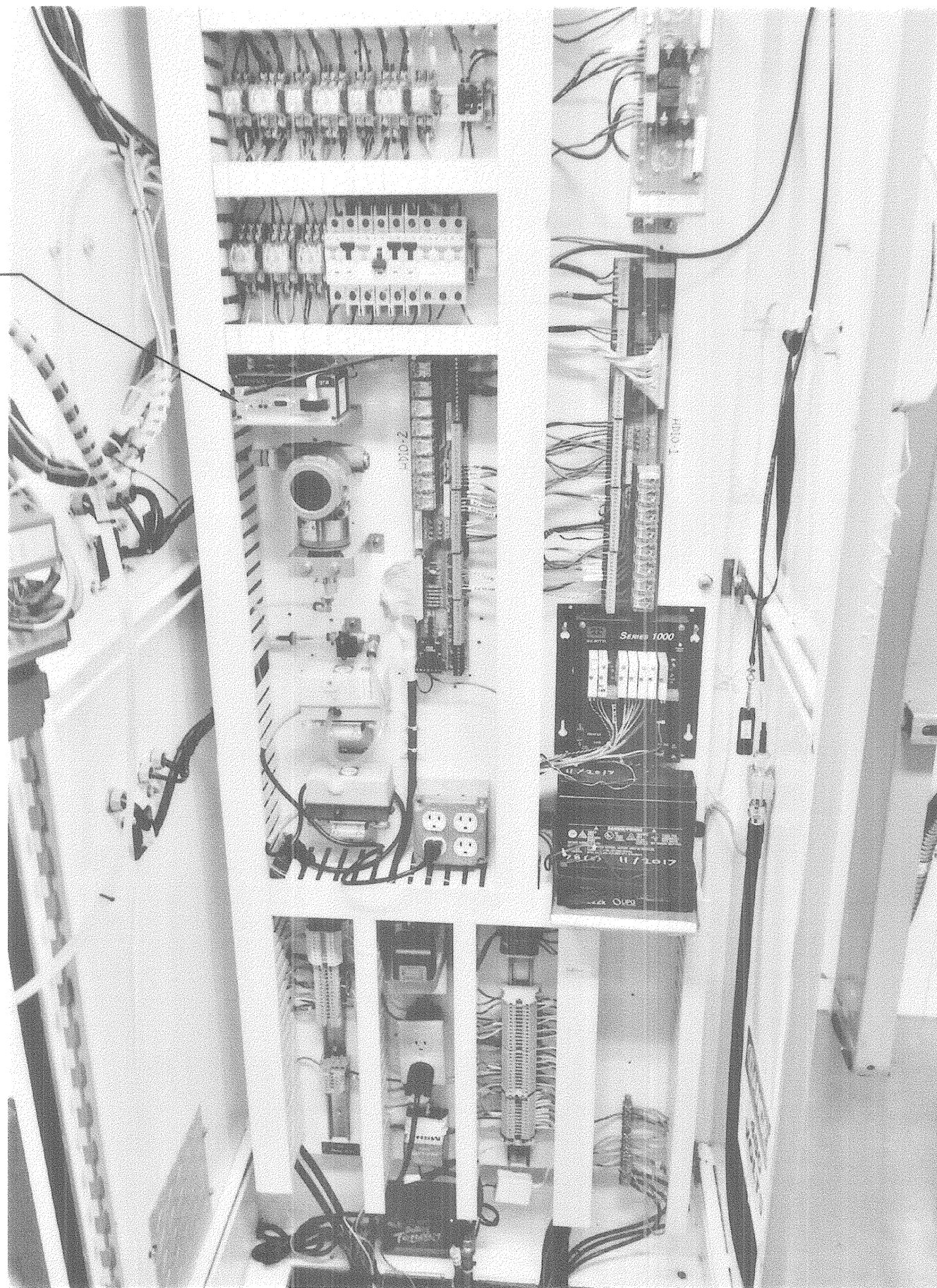
ISSUED FOR BID

City of Santa Rosa
CONTRACT NO. C02052
SHEET 25 OF 49
SEWER LIFT STATION SLS 4, 5 & 9 PHOTOS

ISSUED FOR BID



R5

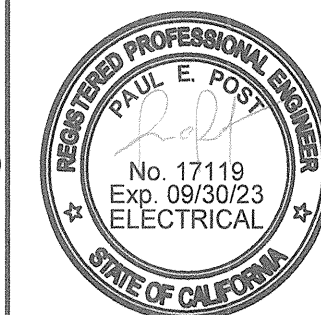


R5



R1 R2

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10(ON SHEET 11)



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No. Date Revision By



SEWER LIFT STATION SLS 10
SCALE: NTS



SEWER LIFT STATION SLS 11
SCALE: NTS



SEWER LIFT STATION SLS 12
SCALE: NTS

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City of Santa Rosa
CONTRACTOR AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS
SEWER LIFT STA. 10, 11 & 12 PHOTOS

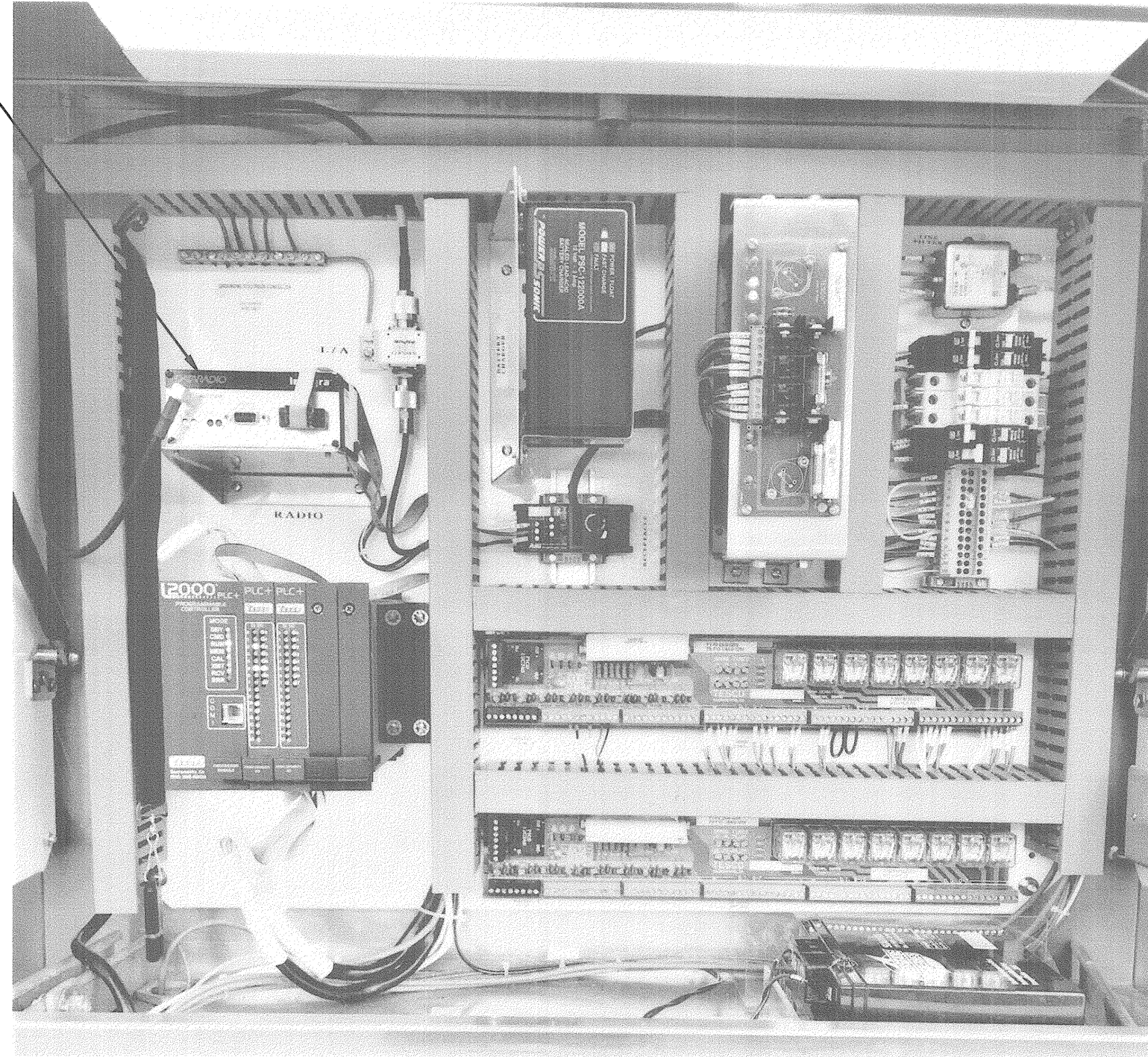
SCALE: AS SHOWN DATE: MARCH 2022
DWN BY: RM CHK BY: PEP

ISSUED FOR BID

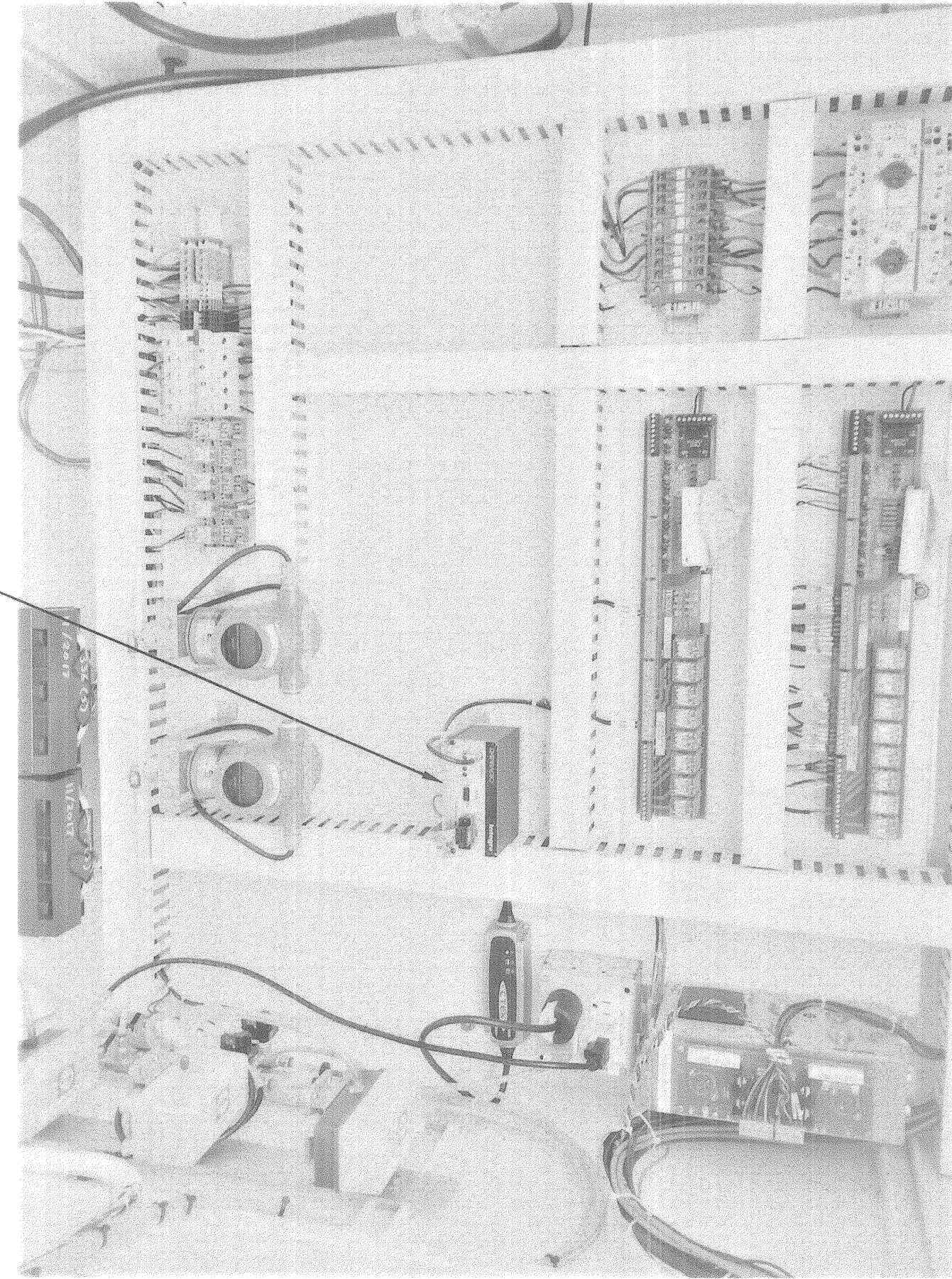
CONTRACT NO.
C02052

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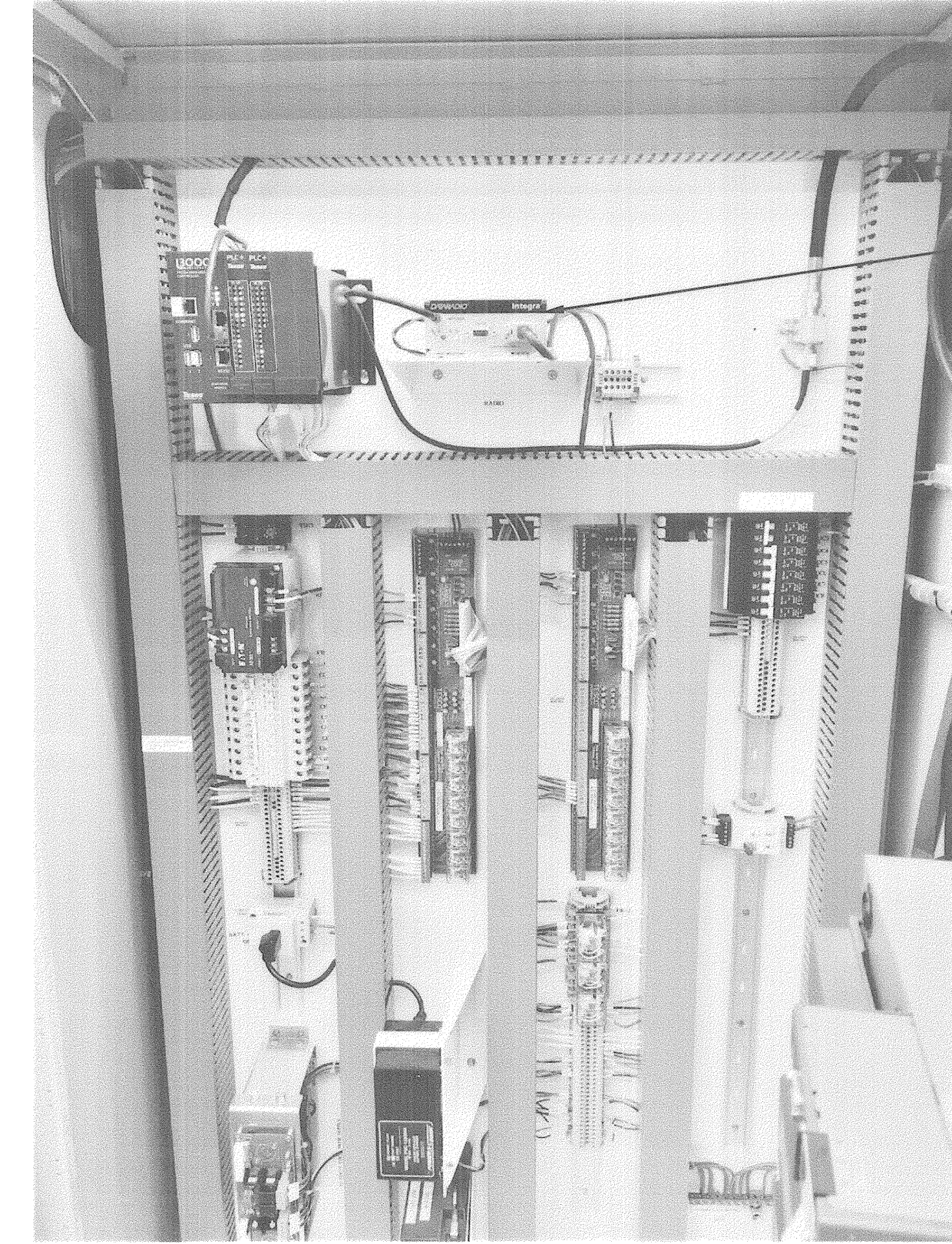
E-25 FILE NO. 2021-0045



R6

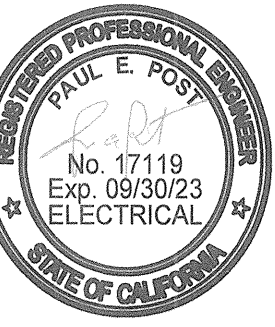


R6



R1 R2

GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10 (ON SHEET 11)

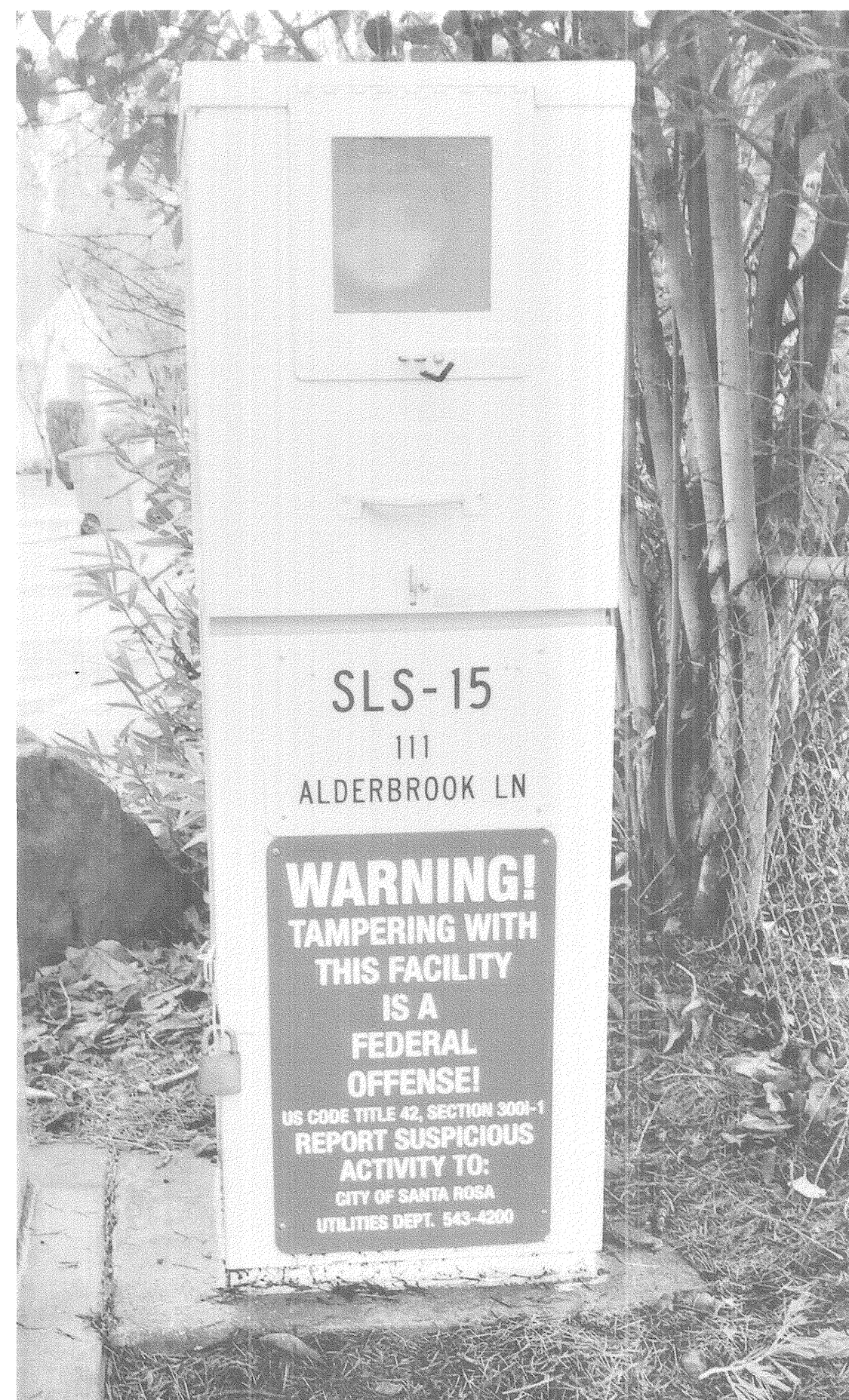


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KJ

No.	Date	Revision	By



SEWER LIFT STATION SLS 13
SCALE: NTS



SEWER LIFT STATION SLS 15
SCALE: NTS



SEWER LIFT STATION SLS 16
SCALE: NTS

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City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS**
SEWER LIFT STA. 13, 15 & 16 PHOTOS

SCALE: AS SHOWN
DWN BY: RM

DATE: MARCH 2022
CHK BY: PEP

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CONTRACT NO. C02052
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SEWER LIFT STATION SLS 20
SCALE: NTS



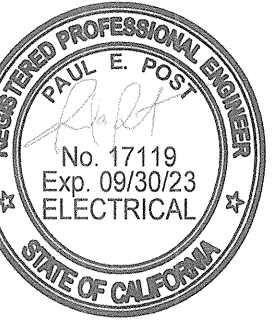
SEWER LIFT STATION SLS 21
SCALE: NTS



WELL SITE W2-1
SCALE: NTS



GENERAL NOTES:
FOR SHEET KEYNOTES,
SEE SHEET E-10(ON SHEET 11)



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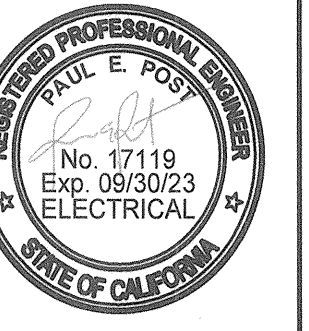
No.	Date	Revision	By

SCALE: AS SHOWN DATE: MARCH 2022
DWN BY: RM CHK BY: PEP

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City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS**
LIFT STA. 20, 21 & W2-1 PHOTOS

CONTRACT NO. C02052
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No.	Date	Revision	By

SCALE: AS SHOWN	DATE: MARCH 2022
DWN BY: RM	CHK BY: PEP

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City of Santa Rosa

**CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS**

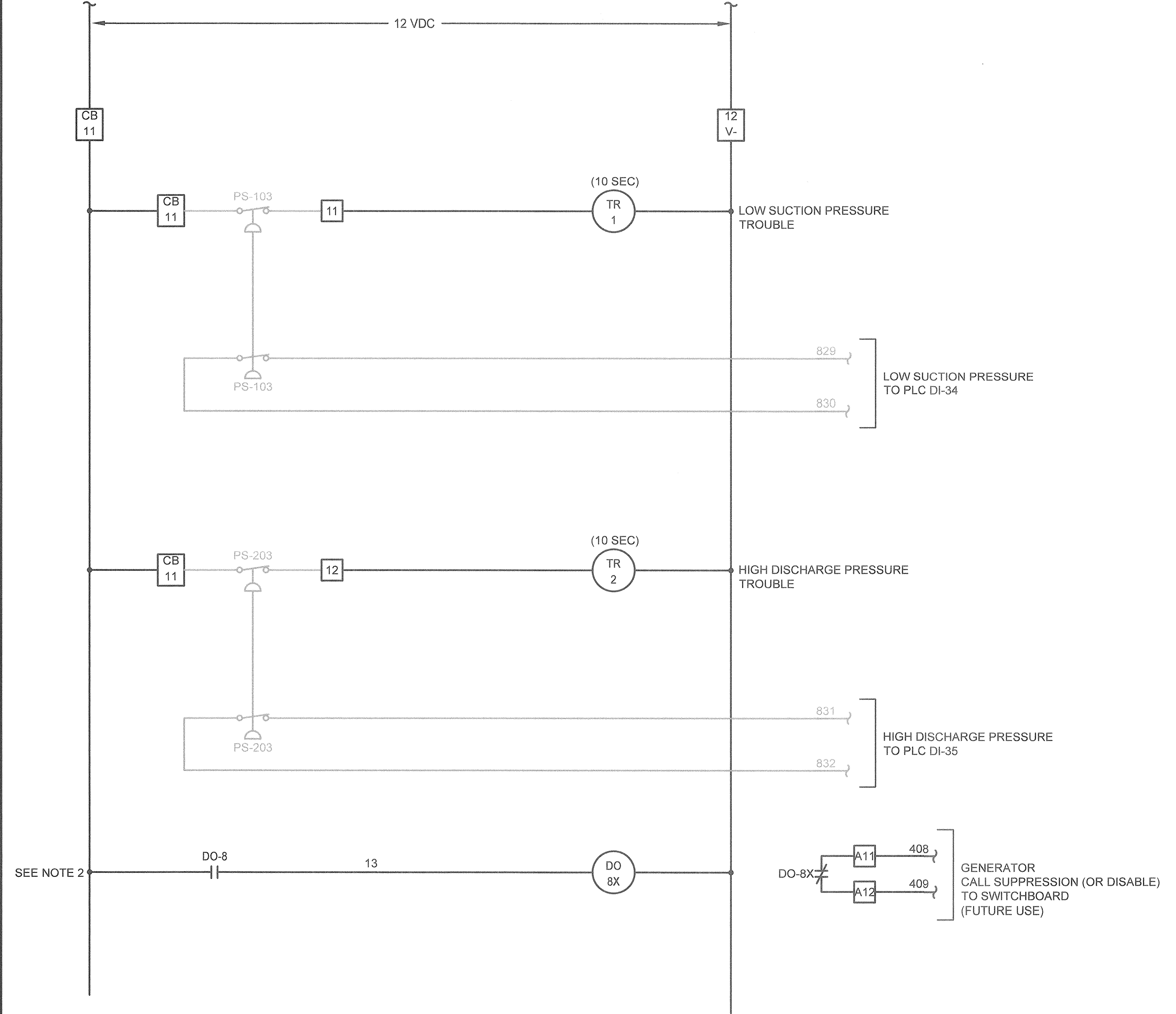
WIRING DIAGRAM 2

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SHEET 31 OF 49

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FILE NO. 2021-0045

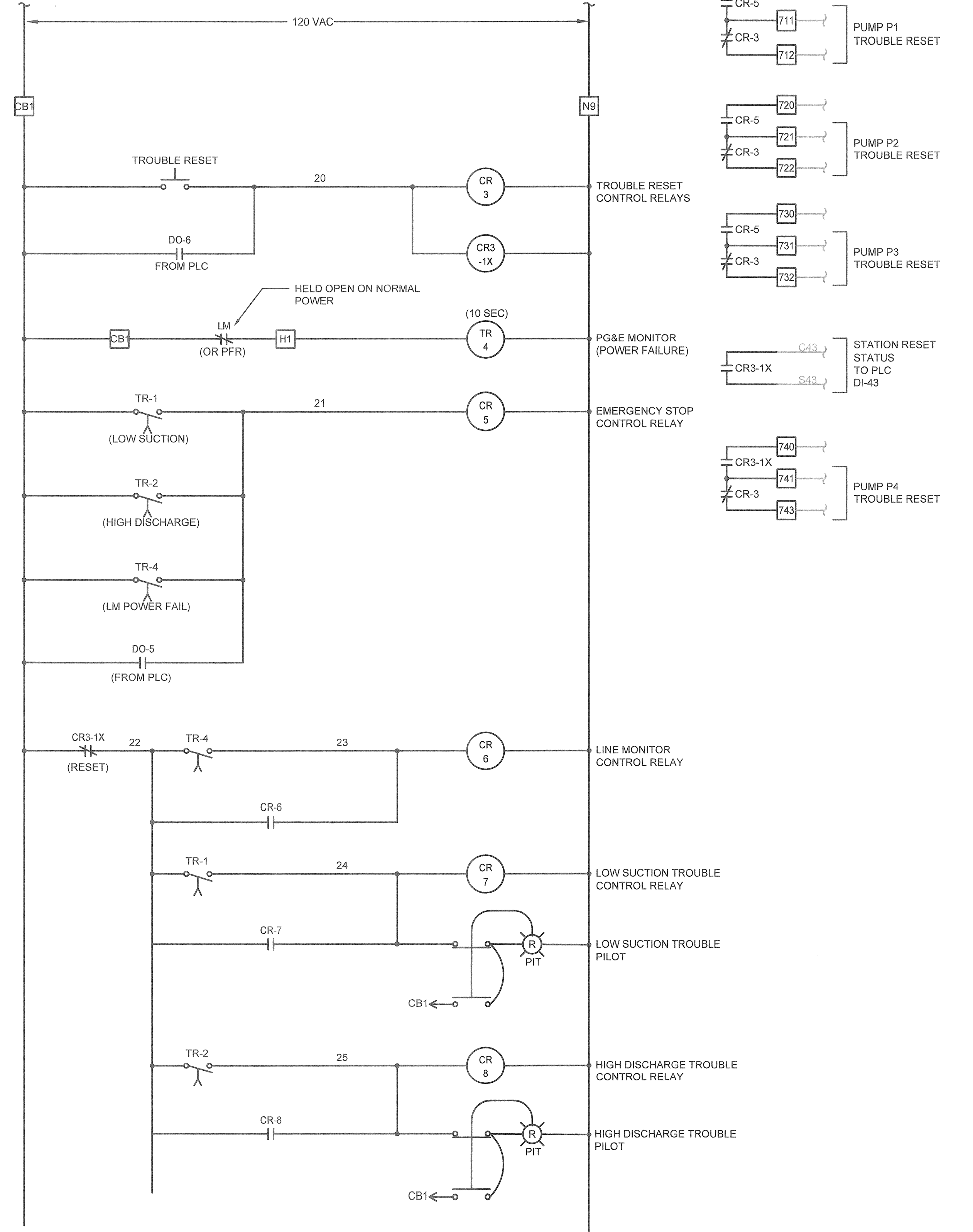
FROM WIRING DIAGRAM 1B SEE SHEET E-50



WIRING DIAGRAM 2A - COMMON 12 VDC CONTROLS

- GENERAL NOTES:**
1. APPLIES TO ALL WATER PUMP STATIONS EXCEPT FOR PS-03, PS-04B, & PS-04R.
 2. GENERATOR CALL FOR WATER PUMP STATIONS PS-01, PS-02, PS-08. FOR ALL OTHER PUMP STATIONS RESERVE PLC DO-8 FOR FUTURE GENERATORS CALL.

FROM WIRING DIAGRAM 1A SEE SHEET E-50



WIRING DIAGRAM 2B - COMMON 120VAC CONTROLS



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No.	Date	Revision	By

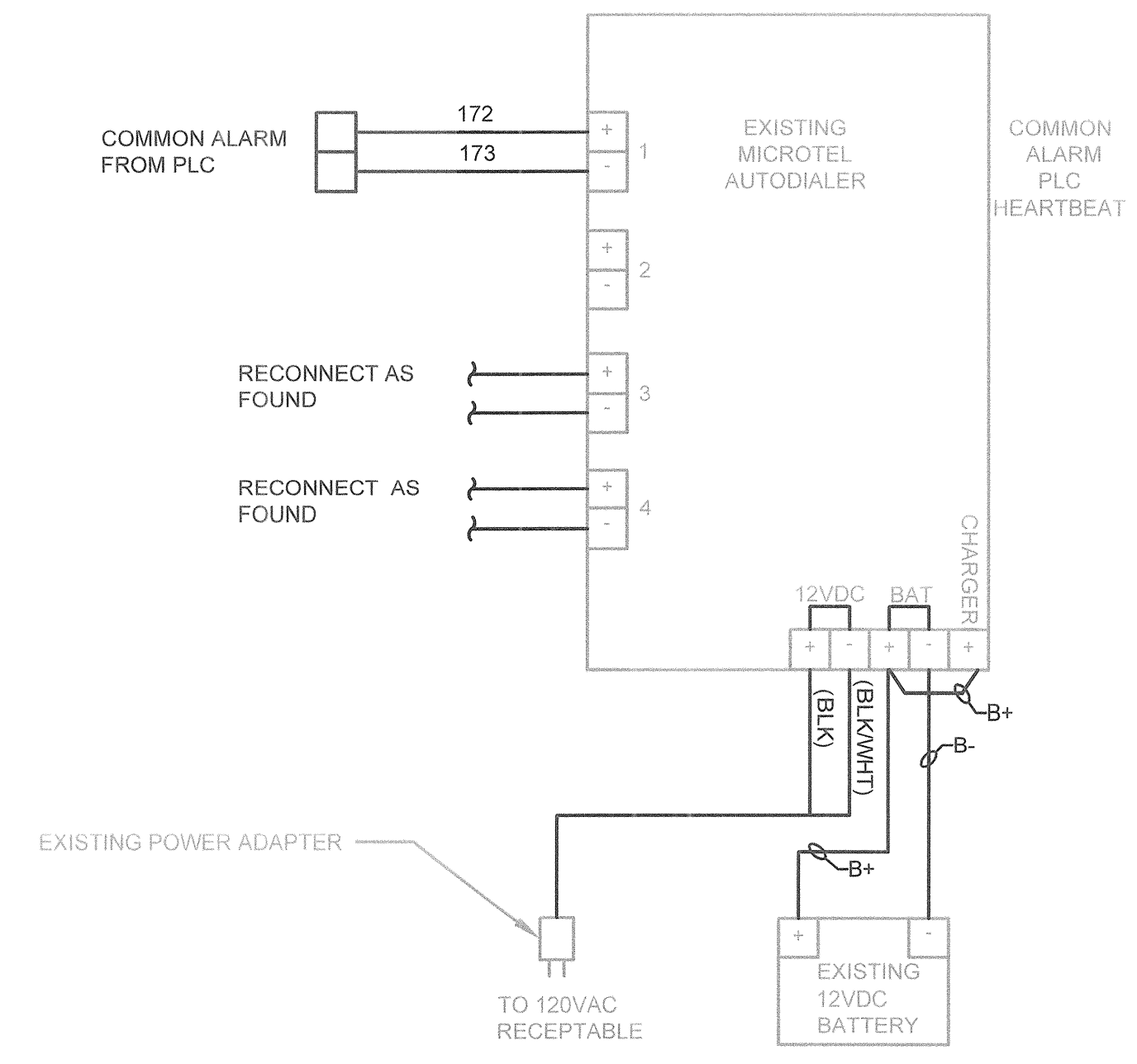
DATE: MARCH 2022
 CHK BY: PEP
 SCALE: AS SHOWN
 DWN BY: RM

ISSUED FOR BID

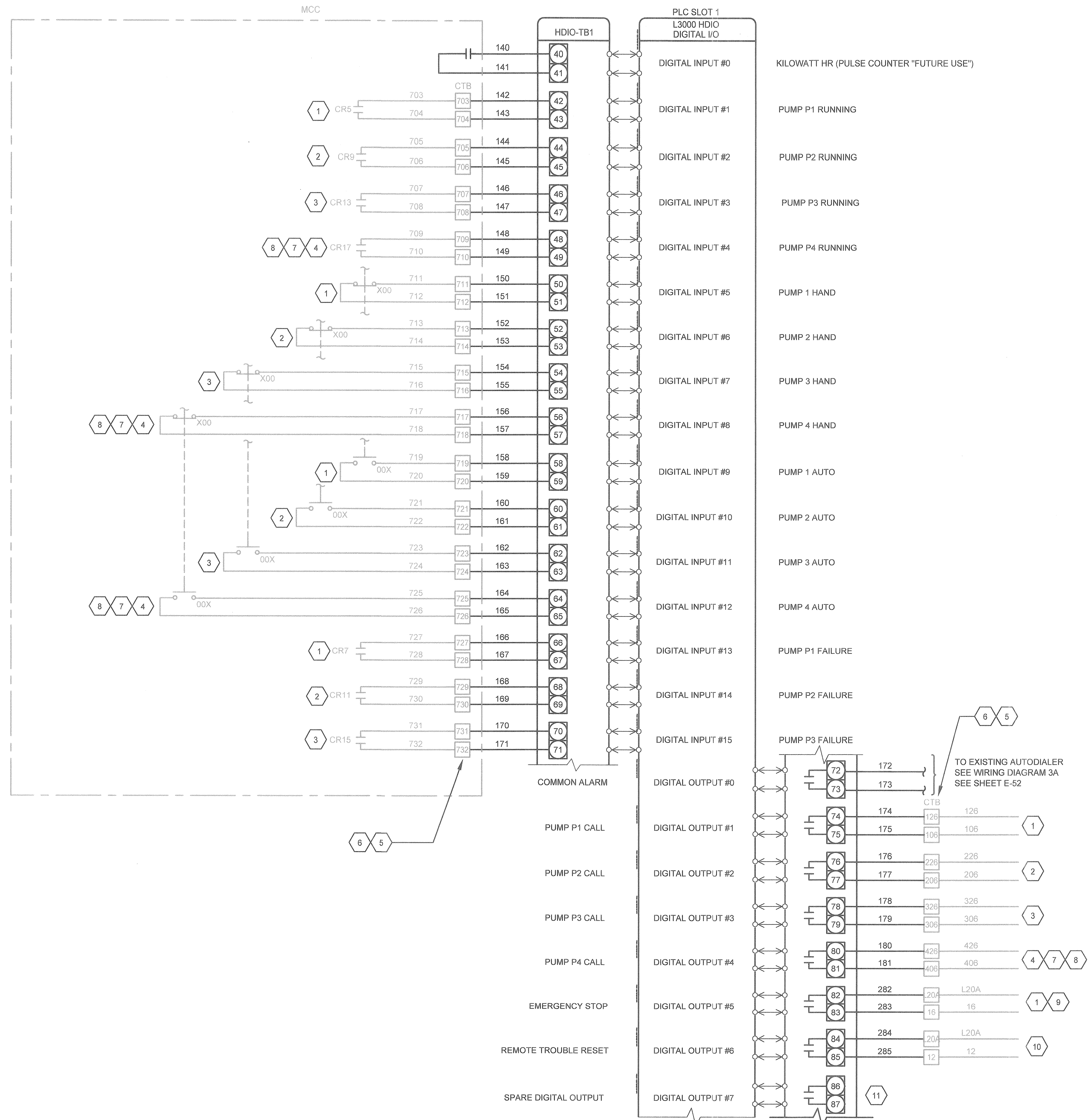
City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
 AT WATER PUMP STATIONS
 AND SEWER LIFT STATIONS**
 WIRING DIAGRAM 3

CONTRACT NO.
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WIRING DIAGRAM 3A - EXISTING AUTODIALER
 EXISTING AUTODIALER ARE LOCATED AT ALL WATER PUMP STATIONS EXCEPT
 AT PS-04B & PS-04R



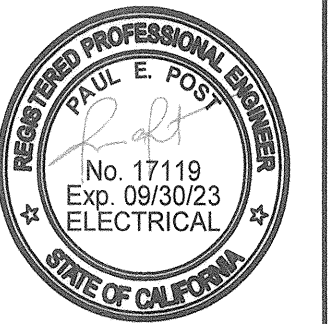
GENERAL NOTES:

1. PLC MODULE WIRING DIAGRAM FOR PS1, PS2, PS4 AND PS9.
2. SIGNALS SHOWN CONNECTED TO THE PLC MODULE ARE BASED ON THE WIRING REQUIREMENTS FOR PS1 ONLY PER TESCO AS BUILTS (T-21686). FOR THE SIGNALS CONNECTED TO THE PLC MODULE FOR PS2, PS 4 AND PS9 REFER TO THE TESCO AS BUILTS AS NOTED IN THE AS BUILT DRAWING TABLES.
3. DIGITAL IN (DRY) CONTACT 12 VDC SOURCE.
4. DIGITAL OUTPUTS NORMALLY OPEN 10AMP RATED.
5. CONTACT CITY OF SANTA ROSA FOR COPY OF AS BUILT DRAWINGS.

KEY NOTES:

1. SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 21682-04, SHEET 4.
2. SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 21682-04, SHEET 5.
3. SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 21682-04, SHEET 6.
4. SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 21682-04, SHEET 7.
5. FOR PS 1, PS 2, AND PS 4, FIELD TERMINAL STRIP CTB IS AN EXISTING TERMINAL STRIP IN AN ADJACENT MCC COMPARTMENT. PROVIDE NEW WIRING BETWEEN THIS TERMINAL STRIP AND THE HDIO TERMINAL BOARD IN THE PLC CONTROL PANEL.
6. FOR PS 9, FIELD TERMINAL STRIP B IS IN THE EXISTING CONTROL PANEL. FIELD WIRING CONNECTIONS WILL BE TRANSFERRED TO A NEW TERMINAL STRIP B ON THE NEW BACKPAN.
7. FOR PS4, PUMP 4 VFD RUNNING I/O P4 (BENNETT VALLEY)
8. FOR PS9, PUMP 4 SHALL BE DESIGNATED AS P1R CALL.
9. FOR PS9, DIGITAL OUTPUT 5 RE-DESIGNATED AS P2R CALL.
10. FOR PS9, DIGITAL OUTPUT 6 RE-DESIGNATED AS EMERGENCY STOP.
11. FOR PS9, DIGITAL OUTPUT 7 RE-DESIGNATED AS RESET.

AS BUILT DRAWINGS	
PUMP STATION	TESCO AS BUILTS
PUMP STATION 1	TESCO T-21686
PUMP STATION 2	TESCO T-22847
PUMP STATION 4	TESCO T-19058
PUMP STATION 9	TESCO T-21927



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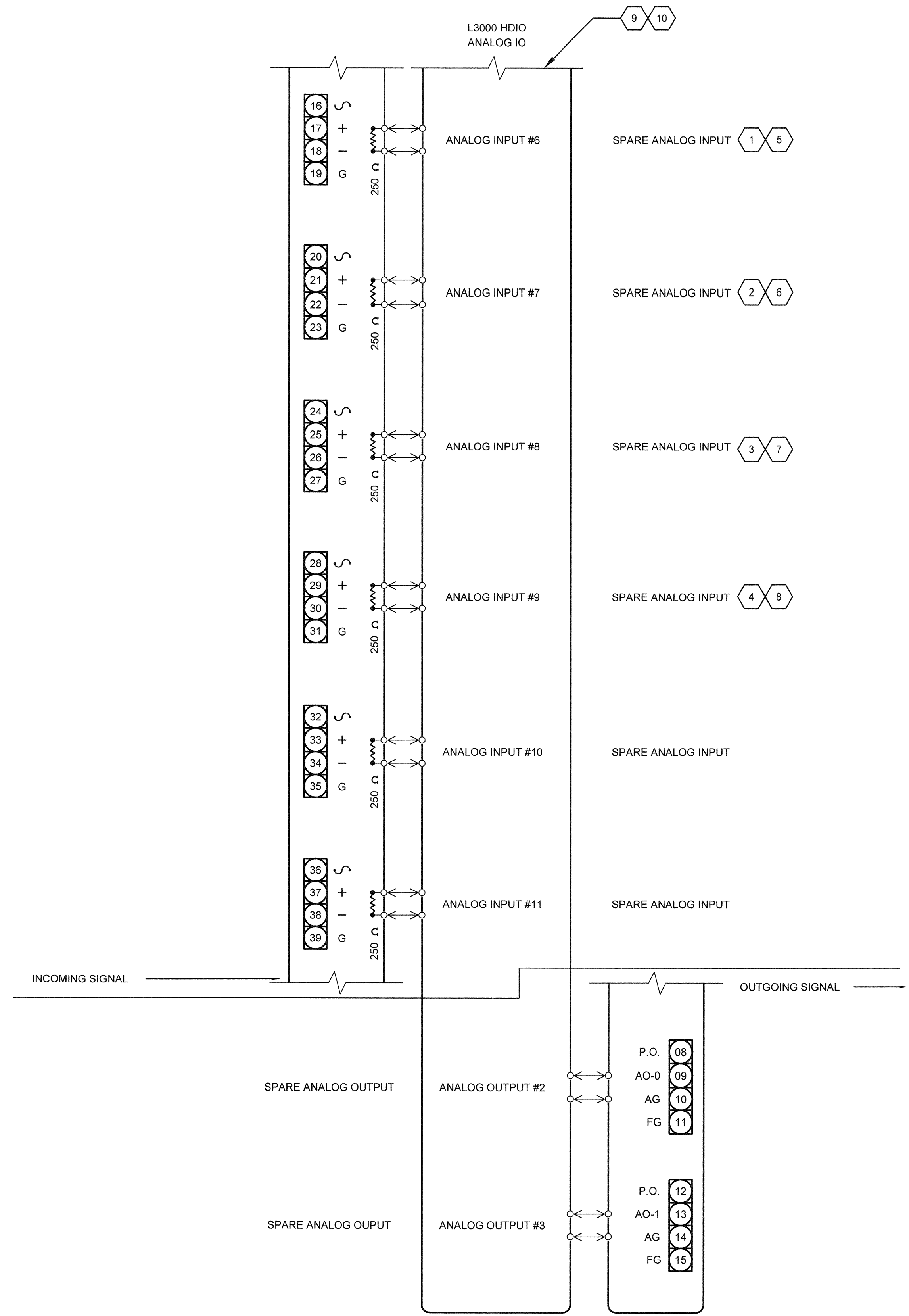


No.	Date	Revision	By

ISSUED FOR BID

City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
 AT WATER PUMP STATIONS
 AND SEWER LIFT STATIONS**
 WIRING DIAGRAM 10

CONTRACT NO.
 C02052
 SHEET 33 OF 49



- GENERAL NOTES:**
1. PLC MODULE WIRING DIAGRAM FOR PS1, PS2, PS 4 AND PS9
 2. SIGNALS SHOWN CONNECTED TO THE PLC MODULE ARE BASED ON THE WIRING REQUIREMENTS FOR PS1 ONLY PER TESCO AS BUILTS (T-21686). FOR THE SIGNALS CONNECTED TO THE PLC MODULE FOR PS2, PS 4 AND PS9 REFER TO THE TESCO AS BUILTS AS NOTED IN THE AS BUILT DRAWING TABLES.
 3. FOR PS 9, FIELD TERMINAL STRIP B IS IN THE EXISTING CONTROL PANEL. FIELD WIRING CONNECTIONS WILL BE TRANSFERRED TO A NEW TERMINAL STRIP B ON THE NEW BACKPAN.
 4. FOR PS 1, PS 2, AND PS 4, FIELD TERMINAL STRIP CTB IS AN EXISTING TERMINAL STRIP IN AN ADJACENT MCC COMPARTMENT. PROVIDE NEW WIRING BETWEEN THIS TERMINAL STRIP AND THE HDIO TERMINAL BOARD IN THE PLC CONTROL PANEL.
 5. FOR PS 9, FIELD TERMINAL STRIP B IS IN THE EXISTING CONTROL PANEL. FIELD WIRING CONNECTIONS WILL BE TRANSFERRED TO A NEW TERMINAL STRIP B ON THE NEW BACKPAN.
 6. CONTACT CITY OF SANTA ROSA FOR COPY OF AS BUILT DRAWINGS.

- KEY NOTES:**
- 1 FOR PS 4, ANALOG INPUT 6 IS DESIGNATED AS "VFD OUTPUT PRESSURE".
 - 2 FOR PS 4, ANALOG INPUT 7 IS DESIGNATED AS "VFD FLOW".
 - 3 FOR PS 4, ANALOG INPUT 8 IS DESIGNATED AS "VFD SPEED".
 - 4 FOR PS 4, ANALOG INPUT 9 IS DESIGNATED AS "SPARE ANALOG INPUT".
 - 5 FOR PS 9, ANALOG INPUT 6 IS DESIGNATED AS "R9R FLOW METER".
 - 6 FOR PS 9, ANALOG INPUT 7 IS DESIGNATED AS "P1 VFD SPEED".
 - 7 FOR PS 9, ANALOG INPUT 8 IS DESIGNATED AS "P2 VFD SPEED".
 - 8 FOR PS 9, ANALOG INPUT 9 IS DESIGNATED AS "P3 VFD SPEED".
 - 9 FOR PS 4, SIGNAL IS SHOWN ON TESCO AS BUILT DRAWINGS 19058-05, SHT 5.
 - 10 FOR PS 9, FIELD WIRING CONNECTIONS TO PLC I/O MODULE NOT SHOWN ON AS BUILT DRAWING. FIELD VERIFY AND DOCUMENT ON THE SUBMITTAL DRAWINGS.

AS BUILT DRAWINGS	
PUMP STATION	TESCO AS BUILTS
PUMP STATION 1	TESCO T-21686
PUMP STATION 2	TESCO T-22947
PUMP STATION 4	TESCO T-19058
PUMP STATION 9	TESCO T-21927



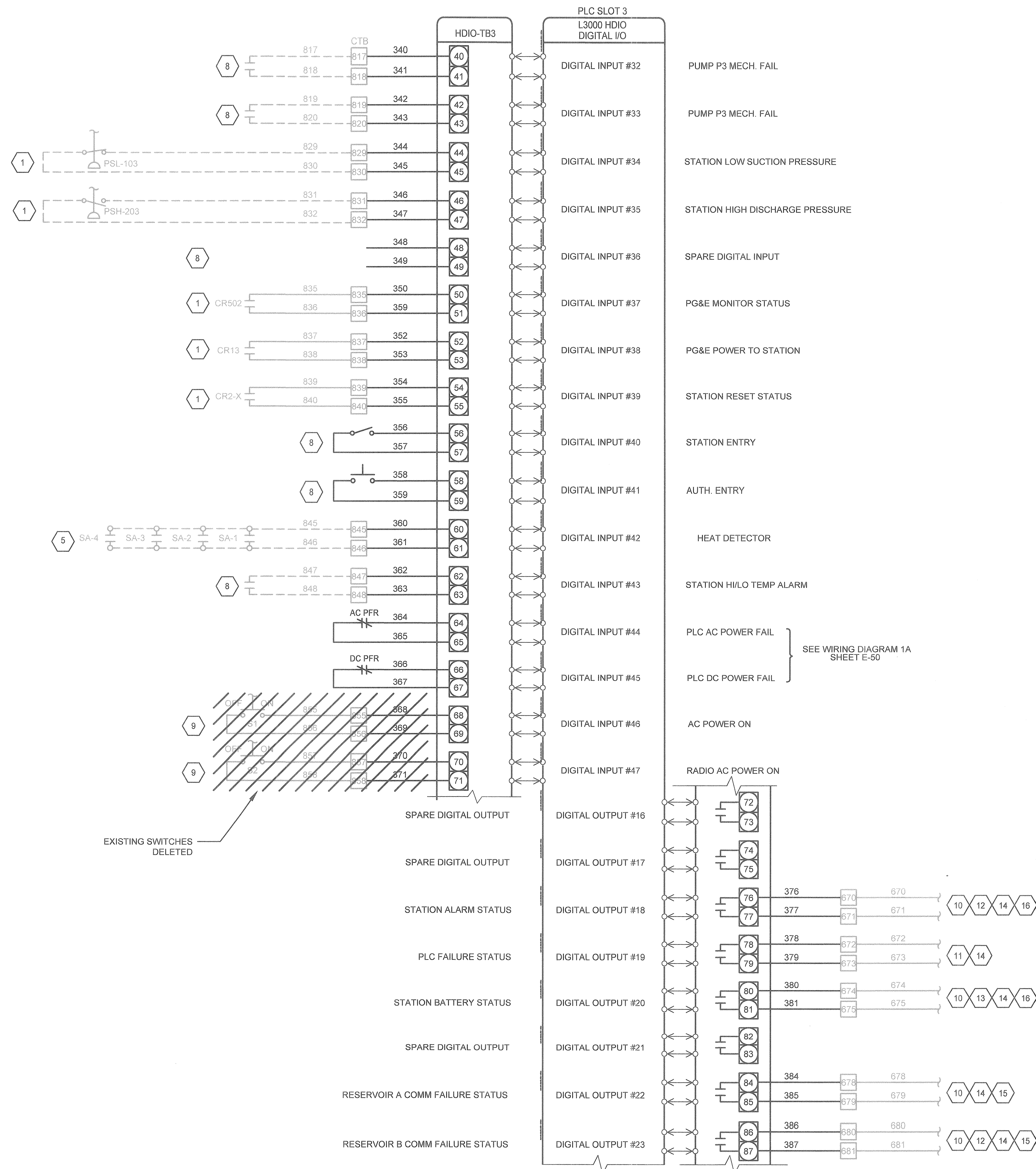
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No.	Date	Revision	By

ISSUED FOR BID
 City of Santa Rosa
CONTROLLER AND RADIO UPGRADES AT WATER PUMP STATIONS AND SEWER LIFT STATIONS
 WIRING DIAGRAM 13

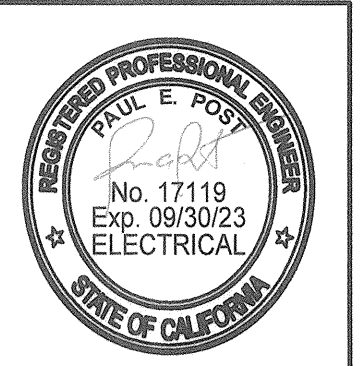
SCALE: AS SHOWN
 DATE: MARCH 2022
 DWN BY: RM
 CHK BY: PEP

CONTRACT NO. C02052
 SHEET 36 OF 49



- GENERAL NOTES:**
- PLC MODULE WIRING DIAGRAM FOR PS1, PS2, PS 4 AND PS9.
 - SIGNALS SHOWN CONNECTED TO THE PLC MODULE ARE BASED ON THE WIRING REQUIREMENTS FOR PS1 ONLY PER TESCO AS BUILTS (T-21686). FOR THE SIGNALS CONNECTED TO THE PLC MODULE FOR PS2, PS 4 AND PS9 REFER TO THE TESCO AS BUILTS AS NOTED IN THE AS BUILT DRAWING TABLES.
 - DIGITAL IN (DRY) CONTACT 12 VDC SOURCE.
 - DIGITAL OUTPUTS NORMALLY OPEN 10 AMP RATED.
 - CONTACT CITY OF SANTA ROSA FOR COPY OF AS BUILT DRAWINGS.

- KEY NOTES:**
- SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 21682-04, SHEET 4.
 - SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 21682-05, SHEET 5.
 - SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 21682-06, SHEET 6.
 - SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 21682-07, SHEET 7.
 - SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 21682-08, SHEET 8.
 - FOR PS 1, PS 2, AND PS 4, FIELD TERMINAL STRIP CTB IS AN EXISTING TERMINAL STRIP IN AN ADJACENT MCC COMPARTMENT. PROVIDE NEW WIRING BETWEEN THIS TERMINAL STRIP AND THE HDIO TERMINAL BOARD IN THE PLC CONTROL PANEL.
 - FOR PS 9, FIELD TERMINAL STRIP B IS IN THE EXISTING CONTROL PANEL. FIELD WIRING CONNECTIONS WILL BE TRANSFERRED TO A NEW TERMINAL STRIP B ON THE NEW BACKPAN.
 - CONTROL SWITCH LOCATED ON THE CONTROL PANEL DOOR.
 - FIELD WIRING CONNECTION TO PLC I/O MODULE NOT SHOWN ON AS BUILT DRAWING. FIELD VERIFY AND DOCUMENT ON THE SUBMITTAL DRAWINGS.
 - EXISTING SWITCHES TO BE REMOVED AND ASSOCIATED PLC INPUT POINTS TO BE DESIGNATED AS "SPARE DIGITAL INPUT".
 - FOR PS1, THIS SIGNAL IS DELETED, DIGITAL OUTPUT DESIGNATE AS "SPARE DIGITAL OUTPUT".
 - PROVIDE SIGNAL FROM NEW L3000 PLC.
 - FOR PS2, THIS SIGNAL IS DELETED, DIGITAL OUTPUT DESIGNATE AS "SPARE DIGITAL OUTPUT".
 - FOR PS2, FIELD WIRING CONNECTION TO PLC I/O MODULE NOT SHOWN ON AS BUILT DRAWING. FIELD VERIFY AND DOCUMENT ON THE SUBMITTAL DRAWINGS.
 - FOR PS4, THIS SIGNAL IS DELETED, DIGITAL OUTPUT DESIGNATE AS "SPARE DIGITAL OUTPUT".
 - FOR PS9, THIS SIGNAL IS DELETED, DIGITAL OUTPUT DESIGNATE AS "SPARE DIGITAL OUTPUT".
 - FOR PS9, FIELD WIRING CONNECTION TO PLC I/O MODULE NOT SHOWN ON AS BUILT DRAWING. FIELD VERIFY AND DOCUMENT ON THE SUBMITTAL DRAWINGS.

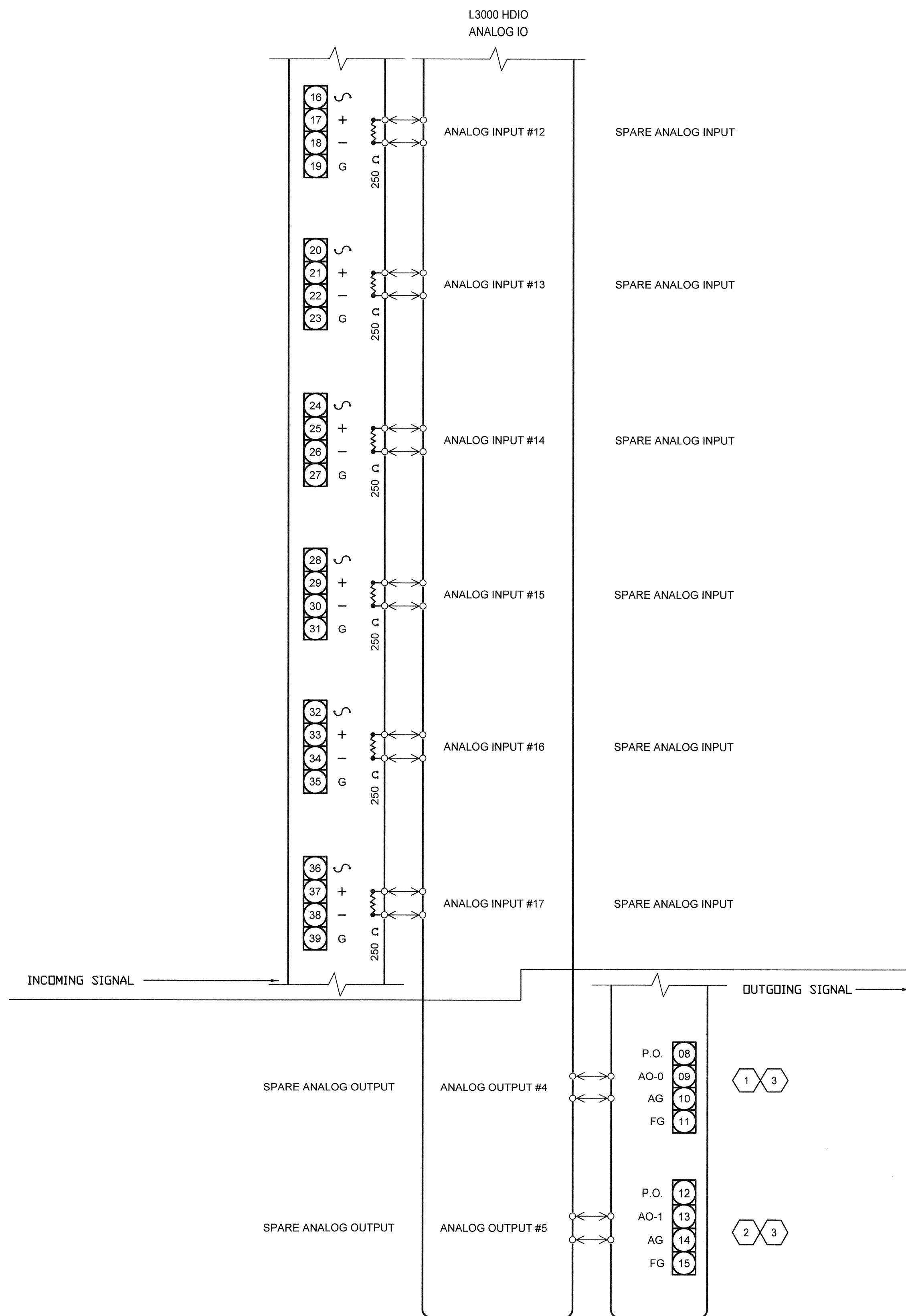


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No.	Date	Revision	By

DATE: MARCH 2022
 CHK BY: PEP
 SCALE: AS SHOWN
 DWN BY: RM
ISSUED FOR BID

City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
 AT WATER PUMP STATIONS
 AND SEWER LIFT STATIONS**
 WIRING DIAGRAM 14



GENERAL NOTES:

1. PLC MODULE WIRING DIAGRAM FOR PS1, PS2, PS 4 AND PS9.
2. SIGNALS SHOWN CONNECTED TO THE PLC MODULE ARE BASED ON THE WIRING REQUIREMENTS FOR PS1 ONLY PER TESCO AS BUILTS (T-21686). FOR THE SIGNALS CONNECTED TO THE PLC MODULE FOR PS2, PS 4 AND PS9 REFER TO THE TESCO AS BUILTS AS NOTED IN THE AS BUILT DRAWING TABLES.
3. FOR PS 9, FIELD TERMINAL STRIP B IS IN THE EXISTING CONTROL PANEL, FIELD WIRING CONNECTIONS WILL BE TRANSFERRED TO A NEW TERMINAL STRIP B ON THE NEW BACKPAN.
4. FOR PS 1, PS 2, AND PS 4, FIELD TERMINAL STRIP CTB IS AN EXISTING TERMINAL STRIP IN AN ADJACENT MCC COMPARTMENT, PROVIDE NEW WIRING BETWEEN THIS TERMINAL STRIP AND THE HDIO TERMINAL BOARD IN THE PLC CONTROL PANEL.
5. FOR PS 9, FIELD TERMINAL STRIP B IS IN THE EXISTING CONTROL PANEL, FIELD WIRING CONNECTIONS WILL BE TRANSFERRED TO A NEW TERMINAL STRIP B ON THE NEW BACKPAN.
6. CONTACT CITY OF SANTA ROSA FOR COPY OF AS BUILT DRAWINGS.

KEY NOTES:

1. FOR PS 9, ANALOG OUTPUT 4 IS DESIGNATED AS "P1 VFD SPEED CONTROL"
2. FOR PS 9, ANALOG OUTPUT 5 IS DESIGNATED AS "P2 VFD SPEED CONTROL"
3. FIELD WIRING CONNECTION TO PLC I/O MODULE NOT SHOWN ON AS BUILT DRAWING. FIELD VERIFY AND DOCUMENT ON THE SUBMITTAL DRAWINGS.

AS BUILT DRAWINGS	
PUMP STATION	TESCO AS BUILTS
PUMP STATION 1	TESCO T-21686
PUMP STATION 2	TESCO T-22947
PUMP STATION 4	TESCO T-19058
PUMP STATION 9	TESCO T-21927



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KJ

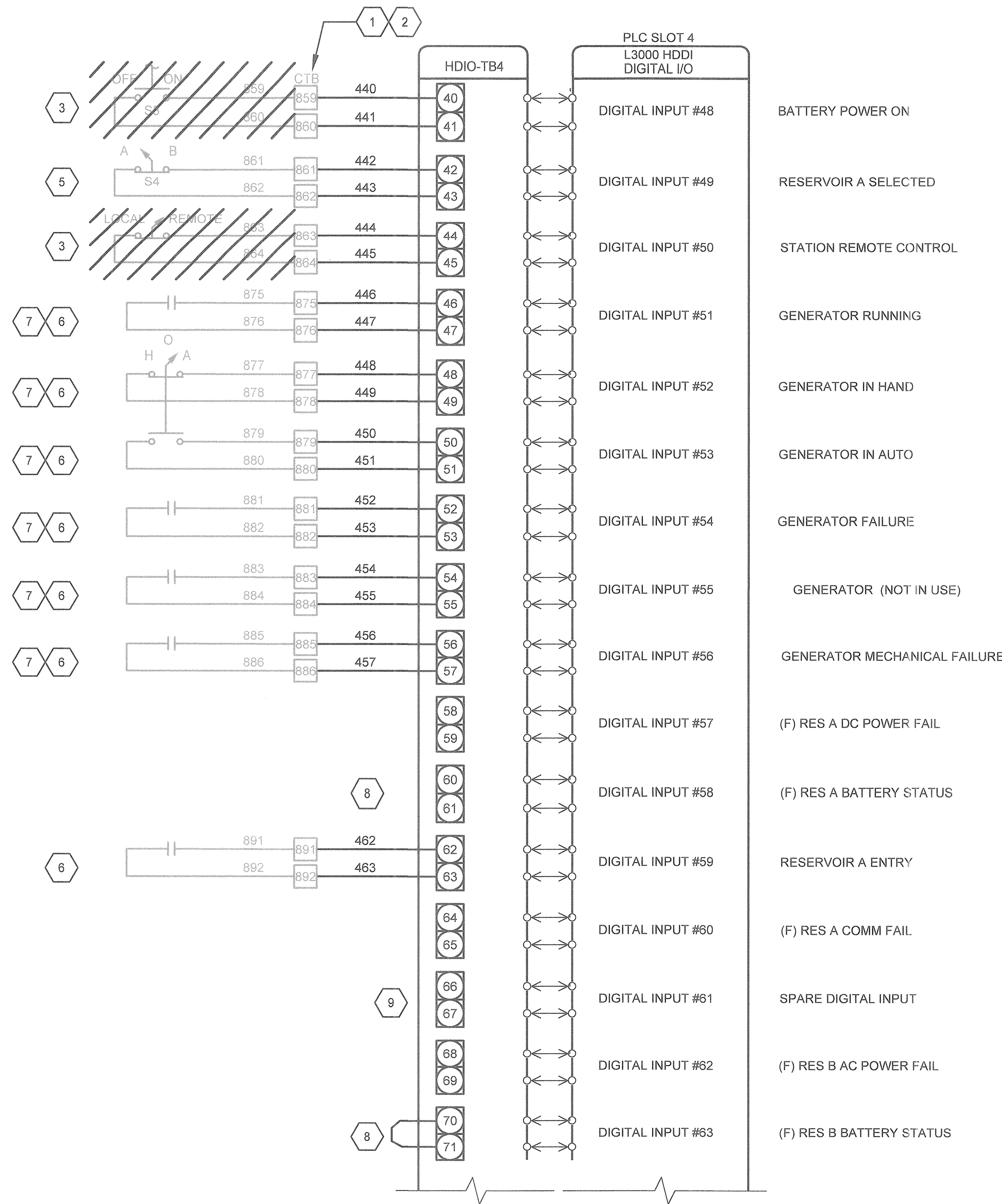
No.	Date	Revision	By

SCALE: AS SHOWN
DATE: MARCH 2022
DWN BY: RM
CHK BY: PEP

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City of Santa Rosa
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CONTROLLER AND RADIO UPGRADES
AT WATER PUMP STATIONS
AND SEWER LIFT STATIONS
WIRING DIAGRAM 15

CONTRACT NO.
C02052
SHEET 38 OF 49



- GENERAL NOTES:**
- PLC MODULE WIRING DIAGRAM FOR PS1, PS2, PS 4 AND PS9
 - SIGNALS SHOWN CONNECTED TO THE PLC MODULE ARE BASED ON THE WIRING REQUIREMENTS FOR PS1 ONLY PER TESCO AS BUILTS (T-21686). FOR THE SIGNALS CONNECTED TO THE PLC MODULE FOR PS2, PS 4 AND PS9 REFER TO THE TESCO AS BUILTS AS NOTED IN THE AS BUILT DRAWING TABLES.
 - DIGITAL IN (DRY) CONTACT 12 VDC SOURCE
 - DIGITAL OUTPUTS NORMALLY OPEN 10 AMP RATED
 - CONTACT CITY OF SANTA ROSA FOR COPY OF AS BUILT DRAWINGS.

- KEY NOTES:**
- FOR PS 1, PS 2, AND PS 4, FIELD TERMINAL STRIP CTB IS AN EXISTING TERMINAL STRIP IN AN ADJACENT MCC COMPARTMENT. PROVIDE NEW WIRING BETWEEN THIS TERMINAL STRIP AND THE HDIO TERMINAL BOARD IN THE PLC CONTROL PANEL.
 - FOR PS 9, FIELD TERMINAL STRIP B IS IN THE EXISTING CONTROL PANEL. FIELD WIRING CONNECTIONS WILL BE TRANSFERRED TO A NEW TERMINAL STRIP B ON THE NEW BACKPAN.
 - EXISTING CONTROL SWITCH TO BE REMOVED AND ASSOCIATED PLC INPUT POINTS TO BE DESIGNATED AS "SPARE DIGITAL INPUT".
 - CONTROL SWITCH LOCATED ON THE CONTROL PANEL DOOR.
 - EXISTING CONTROL SWITCH TO BE RELOCATED TO CONTROL PANEL DOOR.
 - FIELD WIRING CONNECTION TO PLC I/O MODULE NOT SHOWN ON AS BUILT DRAWINGS. FIELD VERIFY AND DOCUMENT ON THE SUBMITTAL DRAWINGS.
 - FOR PS4, THIS SIGNAL IS DELETED, DIGITAL INPUT DESIGNATE AS "SPARE DIGITAL INPUT".
 - REMOVE JUMPERS IF INPUTS USED.
 - FOR PS4, DIGITAL INPUT IS "VFD RUNNING". FOR PS1, PS2, AND PS9, DIGITAL INPUT IS "SPARE DIGITAL INPUT".

AS BUILT DRAWINGS	
PUMP STATION	TESCO AS BUILTS
PUMP STATION 1	TESCO T-21686
PUMP STATION 2	TESCO T-22947
PUMP STATION 4	TESCO T-19058
PUMP STATION 9	TESCO T-21927



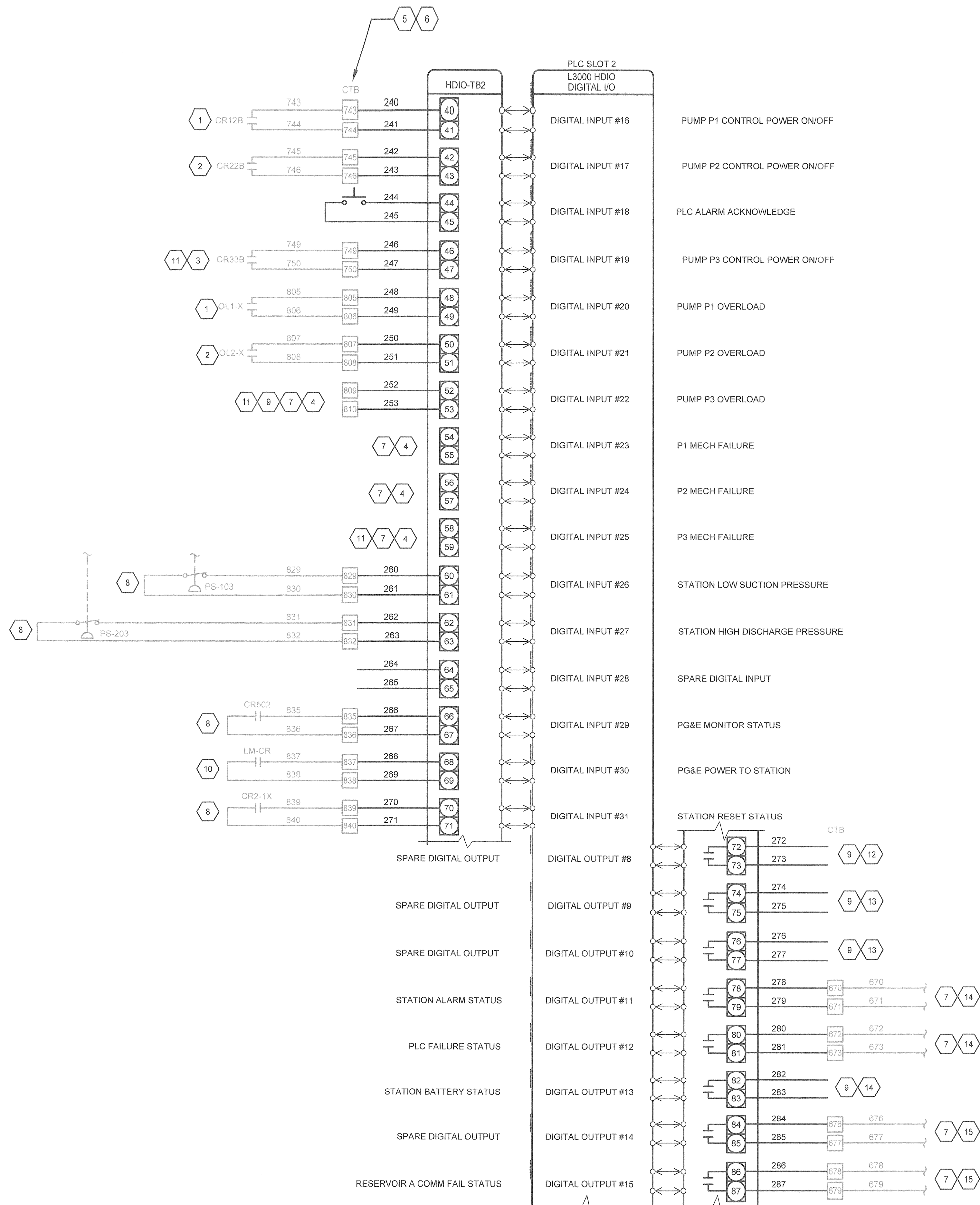
Kennedy Jenks

No.	Date	Revision	By

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City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
 AT WATER PUMP STATIONS
 AND SEWER LIFT STATIONS**
 WIRING DIAGRAM 16

CONTRACT NO.
C02052
 SHEET 39 OF 49



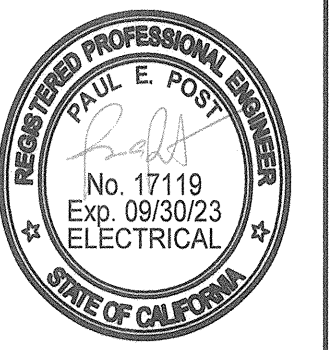
GENERAL NOTES:

- PLC MODULE WIRING DIAGRAM FOR PS5, PS6, PS7, PS8, PS10, PS11, PS12, PS13, PS14, PS16, PS17, PS18.
- SIGNALS SHOWN CONNECTED TO THE PLC MODULE ARE BASED ON THE WIRING REQUIREMENTS FOR PS11 ONLY PER TESCO AS BUILTS (T-30981). FOR THE SIGNALS CONNECTED TO THE PLC MODULE FOR PS5, PS6, PS7, PS8, PS10, PS12, PS13, PS14, PS16, PS17, PS18 REFER TO THE TESCO AS BUILTS AS NOTED IN THE AS BUILT DRAWING TABLES.
- DIGITAL IN (DRY) CONTACT 12 VDC SOURCE.
- DIGITAL OUTPUTS NORMALLY OPEN 10 AMP RATED.
- CONTACT CITY OF SANTA ROSA FOR COPY OF AS BUILT DRAWINGS.

KEY NOTES:

- SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 30981-04, SHEET 4.
- SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 30981-05, SHEET 5.
- SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 30981-06, SHEET 6.
- SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 30981-10, SHEET 10.
- FOR PS8, PS11, PS16, PS17, AND PS18, FIELD TERMINAL STRIP CTB IS AN EXISTING TERMINAL STRIP IN AN ADJACENT MCC COMPARTMENT. PROVIDE NEW WIRING BETWEEN THIS TERMINAL STRIP AND THE HDIO TERMINAL BOARD IN THE PLC CONTROL PANEL.
- FOR PS 5, PS6, PS7, PS10, PS12, PS13 AND PS14 FIELD TERMINAL STRIP TP-CP IS IN THE EXISTING CONTROL PANEL, FIELD WIRING CONNECTIONS WILL BE TRANSFERRED TO A NEW TERMINAL STRIP B ON THE NEW BACKPAN.
- FIELD WIRING CONNECTION TO PLC I/O MODULE NOT SHOWN ON AS BUILT DRAWING. FIELD VERIFY AND DOCUMENT ON THE SUBMITTAL DRAWINGS.
- SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 30981-03, SHEET 3.
- SIGNAL IS NOT IN USE FOR PS11, MAKE SPARE.
- SIGNAL IS SHOWN ON TESCO AS BUILT DRAWING 30981-2, SHEET 2.
- FOR PS8, PS10, PS16, AND PS17, THIS SIGNAL IS RESERVED FOR FUTURE EQUIPMENT.
- FOR PS8 THIS SIGNAL IS IN USE.
- FOR PS6, PS7, PS8, PS10, PS11, PS12, PS13, PS14, PS16, PS17 AND PS18, THIS SIGNAL IS NOT IN USE, MAKE SPARE.
- FOR PS6, PS7, PS10, AND PS12 THIS SIGNAL IS NOT IN USE, MAKE SPARE.
- FOR PS5, PS6, PS7, PS8, PS10, PS12, PS13, PS14, PS17 AND PS18 THIS SIGNAL IS NOT IN USE, MAKE SPARE.

AS BUILT DRAWINGS	
PUMP STATIONS	TESCO AS BUILTS
PUMP STATION 5	TESCO T-18277
PUMP STATION 6	TESCO T-21927
PUMP STATION 7	TESCO T-21927
PUMP STATION 8	TESCO T-27946
PUMP STATION 10	TESCO T-21927
PUMP STATION 11	TESCO T-30981
PUMP STATION 12	TESCO T-21927
PUMP STATION 13	TESCO T-21927
PUMP STATION 14	TESCO T-21927
PUMP STATION 16	TESCO T-16783X1
PUMP STATION 17	TESCO T-16783X1
PUMP STATION 18	TESCO T-16783X1



Kennedy Jenks

No.	Date	Revision	By

DATE: MARCH 2022
 SCALE: AS SHOWN
 DWN BY: RM
 DATE: MARCH 2022
 CHK BY: PEP

ISSUED FOR BID

City of Santa Rosa
**CONTROLLER AND RADIO UPGRADES
 AT WATER PUMP STATIONS
 AND SEWER LIFT STATIONS**
 WIRING DIAGRAM 22

CONTRACT NO.
C02052

SHEET 43 OF 49

