Motor Control RFQ Questions

1. Question: Appendix "A" references a load list for the MCC; please provide the referenced load list for review.
   Answer: **Load Specifications listed on documentation attachment.**

2. Question: Please provide any additional information or documentation pertinent to the LV MCC and the associated controls.
   Answer: **The information is located inside the Pump control Telemetry panel documentation attachment.**

3. Question: Please provide all available documentation and drawings for the existing Cutler-Hammer Motor Control Center for reference.
   Answer: **Documentation available on the attachment.**

4. Question: Please confirm the maximum allowable duration of the MCC shutdown, identify any restrictions on shutdown timing (after hours or weekends), and advise if a defined shutdown sequence will be required.
   Answer: **Work can be performed during normal work hours. Please provide Birmingham Authority with your professional expertise on the project time duration.**

5. Question: Please confirm whether the L V MCC needs to communicate with the Watchdog Control System, and if so, provide details on the communication method.
   Answer: **Information located in Pump control Telemetry panel attachment and MCC attachment.**

6. Question: Please provide all available documentation and drawings for the Watchdog Control System for reference.
   Answer: **Information we have attached**

7. Question: Please confirm whether the existing pump motors can be disconnected for conductor testing and clarify responsibilities should any existing motor feeders fail during testing.
   Answer: **Pump Motors can be disconnected.**

   Responsibility of a normal conductor test failure will be no fault of the contractor.

8. Question: Please provide all available motor nameplate information for the pump motors for reference.
   Answer: **No Motor Plate information but motors are 300hp 360amp**

9. Question: Please provide details on the existing pump breaker wiring orientations, including pump feeder exit locations and whether load-side conductors exit from the wire trough or from the top or bottom of the breakers.
   Answer: **Information listed on the MCC documentation attachment.**

10. Question: Please confirm whether the existing 1600 Amp MCC main breaker is configured as top-fed or bottom-fed.
    Answer: **Bottom Feed**

11. Question: What is the width, in inches, of the existing MCC? What is the current height of the existing MCC?
    Answer: **Information listed on the MCC documentation attachment.**

12. Question: Are the loads and feeders top-fed, bottom-fed, or a combination of both? Can we see a picture of the MCC with the doors open, or schedule a follow-up visit to open the doors?

Answer: **Main power feed is bottom fed. Please see MCC documentation attachment.**

13. Question: May we temporarily remove the chain link fence between the road and the pumphouse to allow a forklift/telehandler to rig/handle MCC removal and installation?
    Answer: **Yes, but must install a temp fence that can be locked for security reasons.**

14. Question: How much notice/lead-time will be required for outage coordination?
Answer? **Please provide Birmingham Authority with your professional expertise.**

15. Question: Once MCC is powered down for replacement, how much time is permitted before stormwater pumps are operational again?
Answer: **Please provide Birmingham Authority with your professional expertise**

16. Question: Is the electrical contractor responsible for temporary power to any of the loads fed from the MCC? **Yes**
Answer:

17. Question: What are the pump specs that the MCC is feeding? What are the starter specs within the MCC? What size is the main breaker?
Answer: **Main Breaker 1600amp/ Motor disconnect feeder buckets 800amp and starters appear to be size 6**

Pump are FLYGT (Large Propeller) No information

1.) What is the width, in inches, of the existing MCC? What is the current height of the existing MCC? **Information listed MCC documents.**

2.) Are the loads and feeders top-fed, bottom-fed, or a combination of both? Can we see a picture of the MCC with the doors open, or schedule a follow-up visit to open the doors?

Main power feed is bottom fed. Please see MCC documentation attachment.

3.) May we temporarily remove the chain link fence between the road and the pumphouse to allow a forklift/telehandler to rig/handle MCC removal and installation? **Yes, but must install a temp fence that can be locked for security reasons.**

4.) How much notice/lead-time will be required for outage coordination?

Coordination will need to be a 48-72 notice, but a meeting will need to be held with owner prior to outage.

5.) Once MCC is powered down for replacement, how much time is permitted before stormwater pumps are operational again? **Please provide Birmingham Authority with your professional expertise on the project time duration.**

6.) Is the electrical contractor responsible for temporary power to any of the loads fed from the MCC? **Yes**

7.) What are the pump specs that the MCC is feeding? What are the starter specs within the MCC? What size is the main breaker? **Main Breaker 1600amp/ Motor disconnect feeder buckets 800amp and starters appear to be size 6**

Pump are FLYGT (Large Propeller) No information

CUTLER-HAMMER
FREEDOM 2100
MOTOR CONTROL CENTER

General Order Number: HBH49874 Item: 001

Customer - INDUSTRIAL ELEC SUPPLY
Location - BIRMINGHAM, AL
Project - AIRPORT PUMP STATION

Purchase Order Number:

MCC Title - MCC

[] Customer Approval [x] Final as Built

Drawing Description	Drawing Number	Page Number	Rev	*	X
Master Drawing Index	HBH49874-001	1	6		X
Enclosure Specifications	HBH49874-001	2			X
Bus System Specifications	HBH49874-001	3	3		X
MCC Arrangement Drawing	FV-1		2		X
MCC Arrangement Drawing	FV-2		3		X
MCC Arrangement Drawing	FV-3				X
Unit Listing	HBH49874-001	4	4		X
Unit Listing	HBH49874-001	5	2		X
Unit Specifications and Features	HBH49874-001	6	2		X
Schematic/Wiring Diagram	5599A85				X
Schematic/Wiring Diagram	WD-MB		2		X
Schematic/Wiring Diagram	WD-PNL		2		X
Schematic/Wiring Diagram	WD-SP				X
Schematic/Wiring Diagram	WD-1		2		X
Panel Board Arrangement Drawing	PB-1		2		X
Floor Plan Drawing	FP-1		2		X
Floor Plan Drawing	FP-2		3		X
Floor Plan Drawing	FP-3				X

* - Denotes New or Revised Drawings
X - Denotes Drawings included in this Transmittal

Prepared By: Ron Michael	Date: 11/19/97	MCC Title: MCC Drawing Description: Master Drawing Index			
Cutler-Hammer Fayetteville, North Carolina		G.O.: HBH49874	Item: 001	Rev 6	Sheet 1 of 6

REVS

ENCLOSURE SPECIFICATIONS

Enclosure Type - NEMA 1 Indoor Gasketed
Depth - 21"
Configuration - Front Mounted Only
Horizontal Wireway - 9"Top-9"Bottom

Paint Finish - ANSI-61-Exterior White-Interior ONE Coat(s) Exterior Paint Applied

Channel Sills - WITHOUT END COVERS

Enclosures comply with UL845's "two meter rule" when the bottom of the MCC is at the same level as the operator's platform.

APPLICABLE DESIGN STANDARDS AND ELECTRICAL CODES:
NEC Article 430, Part H, Sections 92-98
NEMA Standard ICS 2-322
UL Standard UL845, File No. E47048

NAMEPLATE SPECIFICATIONS:
Master Nameplate Letter Size - 7/8"
Master Nameplate Color - Black With White letters
Master Nameplate Located in Structure - 1
Unit Nameplate Size - 1"-X-2.5"
Unit Nameplate Letter Size - 3/16"
Unit Nameplate Color - Black With White letters
Unit Nameplate Type - Engraved
Nameplates attached with - Stainless Steel Self Tapping Screws

MASTER NAMEPLATE: Line-1 MCC
Line-2
Line-3
Line-4
Line-5
Line-6
Line-7

SPECIAL ENCLOSURE FEATURES:
LIGHTNING ARRESTOR/SURGE CAPACITOR (SYSPRO, WD-SP) LOCATED IN TOP HORIZONTAL WIREWAY OF STRUCTURE 1.

Prepared By: Ron Michael	Date: 11/19/97	MCC Title: MCC Drawing Description: Enclosure Specifications			
Cutler-Hammer Fayetteville, North Carolina		G.O.: HBH49874	Item: 001	Rev 1	Sheet 2 of 6

REVS	2	REVISED PER RE-CA 12/3/97 RMM	3	REVISED FOR GO NP 4/23/98	

BUS SYSTEM SPECIFICATIONS

Horizontal Bus Rating - 1600 AMP
Horizontal Bus Material - Silver Plated Copper
Bus Bracing - 100K RMS Symetrical Withstand Rating
Bus System Maximum Temperature Rise - 50 Degrees C

Vertical Bus Ratings:
- NO VERTICAL BUS - Vertical Section # 1 - 5
Vertical Bus - 600 A Vertical Section # 6

Vertical Bus Material - Tin Plated Copper
Vertical Bus Barrier - Red Flat Glass Polyester

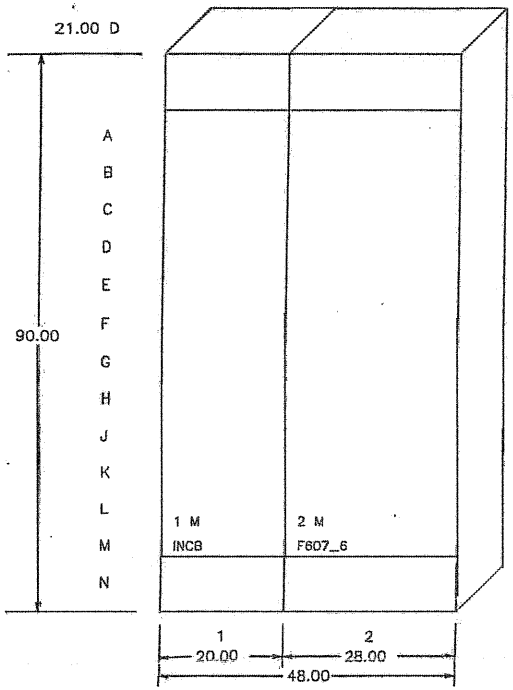
Ground Bus Rating - 600 Amperes
Ground Bus Material - Silver Plated Copper
Ground Bus Location - TOP
Ground Terminal Size - 1-#6-350MCM
Ground Terminal Location - INC-LINE

Neutral Bus Rating - 1600 Amperes
Neutral Bus Material - Silver Plated Copper with heat shrink wrap insulation.
Neutral Bus Location - BOTTOM
Neutral Terminal Size - 1-#6-350MCM
Neutral Terminal Location - INC-LINE

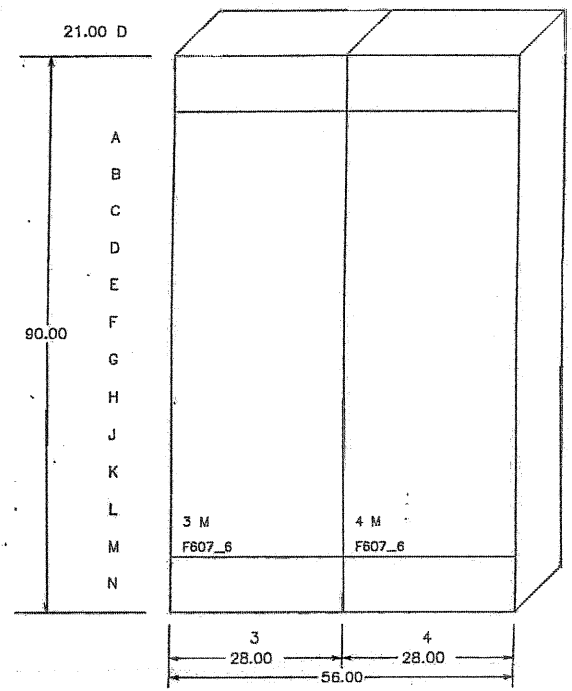
MCC G.O. NAMEPLATE

HBH49874IT 001 FVC
1600 A
480V 3PH 4W 60HZ
SECT. 1-5 NONE
SECT. 6 600A

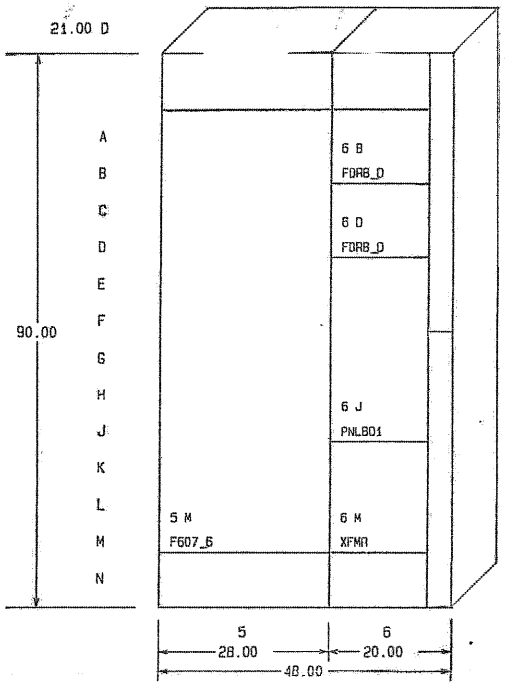
Prepared By: Ron Michael	Date: 11/19/97	MCC Title: MCC Drawing Description: Bus System Specifications				
Cutler-Hammer Fayetteville, North Carolina		G.O.: HBH49874	Item: 001	Rev 3	Sheet 3	of 6



PREPARED BY: RMM	DATE: 11/19/97	CUTLER–HAMMER CORPORATION MCC ASSEMBLY PLANT FAYETTEVILLE NC		CHANGE 1 2 CHANGED STRUCTURE ID 4/23/98 P.SIPE	
APPROVED BY:	DATE:				
FREEDOM 2100 MCC MCC FRONT VIEW	GENERAL ORDER NO.: HBH49874 – 001		PAGE NO.: FV – 1		



PREPARED BY: RMM	DATE: 11/19/97	CUTLER–HAMMER CORPORATION MCC ASSEMBLY PLANT FAYETTEVILLE NC		1	2	3
APPROVED BY:	DATE:			CHANGE	REVISED PER RE-CA 12/3/97 RMM	CHANGED STRUCTURE LO 4/23/98 PSPE
FREEDOM 2100 MCC MCC FRONT VIEW		GENERAL ORDER NO.: HBH49874 – 001	PAGE NO.: FV – 2			



PREPARED BY: RMM	DATE: 11/19/97	CUTLER-HAMMER CORPORATION MCC ASSEMBLY PLANT FAYETTEVILLE NC	
APPROVED BY:	DATE:		
FREEDOM 2100 MCC MCC FRONT VIEW	GENERAL ORDER NO.: HBH49874 - 001	PAGE NO.: FV - 3	

REVS	2	REVISED PER RE-CA 12/3/97 RMH	3	REVISED FOR MANUFACTURING 4/14/98 PMS	4	CHG LUG SIZE 5/4/98 PMS				

Nameplate	Unit # Class Description Cust Unit #	Nema Size Mtr HP/KW Motor FLA Heaters CPT VA	Device Codes	Bkr /Switch Poles TM Trip /Clip MG Range/Fuse Disc. Aux Sw.	Total Intlk NO/NC	Wiring Diagram(s) Int-Rating	Unit Features
MAIN BREAKER	1 M INCB Main Ckt Bkr DIGITRIP Solid State Trip Device 4 - 750Kcmil	SCREW Type Lugs/Phase.		RD 1600 Cable Entry - BOTTOM		WD-MB 100KA	U1
PUMP NO.1	2 M F607 6 RVNR	6 300 360.00/ 1K VA CPT	D1 D2 D3 D4 D5 D6 D7 D8 D9	NBP 3 800A (2400 - 8000)	5NO/4NC	WD-1 18KA	U5 U3 U4 U6
PUMP NO.2	3 M F607 6 RVNR	6 300 360.00/ 1K VA CPT	D1 D2 D3 D4 D5 D6 D7 D8 D9	NBP 3 800A (2400 - 8000)	5NO/4NC	WD-1 18KA	U5 U3 U4 U6
PUMP NO.3	4 M F607 6 RVNR	6 300 360.00/ 1K VA CPT	D1 D2 D3 D4 D5 D6 D7 D8 D9	NBP 3 800A (2400 - 8000)	5NO/4NC	WD-1 18KA	U5 U3 U4 U6
PUMP NO.4	5 M F607 6 RVNR	6 300 360.00/ 1K VA CPT	D1 D2 D3 D4 D5 D6 D7 D8 D9	NBP 3 800A (2400 - 8000)	5NO/4NC	WD-1 18KA	U5 U3 U4 U6
GATE CONTROLLER	6 BL FDRB D Feeder			FDC 2 20		5599A85 A 100KA	PRI/SEC
SEWAGE LIFT STATION	6 BR FDRB D Feeder			FDC 2 60		5599A85 100KA	PRI/SEC
TRANSFORMER PRIMARY FEED	6 DL FDRB D Feeder			FDC 2 40		WD-PNL 100KA	PRI/SEC
TRANSFORMER SECONDARY	6 DR FDRB D Feeder			FDC 2 80		WD-PNL 100KA	PRI/SEC
PANELBOARD LP	6 J PNLBD1 Panelboard	PRL1 225A Chassis 120/240 1Ph 3W 30 Circuit 10000 Interrupting With BAB Circuit Breakers				WD-PNL	

Prepared By: Ron Michael	Date: 11/19/97	MCC Title: MCC Drawing Description: Unit Listing			
Cutler-Hammer Fayetteville, North Carolina		G.O.: HBH49874	Item: 001	Rev 4	Sheet 4 of 6

REVS	2	REVISED PER RE-CA 12/3/97 RMM	

Nameplate	Unit # Class Description Cust Unit #	Nema Size Mtr HP/KW Motor FLA Heaters CPT VA	Device Codes	Bkr /Switch Poles TM Trip /Clip MG Range/Fuse Disc. Aux Sw.	Total Intlk NO/NC	Wiring Diagram(s) Int-Rating	Unit Features
TRANSFORMER T1	6 M XFMR Dist. Xfmr	15 KVA Dist. Trans. 480/240 - 240/120 60 Hertz 1PH 3W				WD-PNL	

Prepared By: Ron Michael	Date: 11/19/97	MCC Title: MCC Drawing Description: Unit Listing			
Cutler-Hammer Fayetteville, North Carolina		G.O.: HBH49874	Item: 001	Rev 2	Sheet 5 of 6

REVS	2	REVISED FOR MANUFACTURING 4/14/98 PMS

SYSTEM AND UNIT SPECIFICATIONS

Service Voltage: 480V 3 Phase 60 Hz 4 Wire
Control Voltage: 120V
Control Voltage Source: Individual Control Power Transformer
NEMA Class/Type Wiring - 1B

Motor Overload Protection:

Overload protection is class 20, no heater packs are supplied.

Starter Terminal Blocks to be LATCHED 7ckt Pull Apart

Starter Unit Wiring Features:
All Control Wire to be 14awg red PVC
All Power Wire to be Black TEW

Customer Load Terminal Type: Standard Device Lugs
Wiremarkers for Control Wiring to be Non-Shrink-On At Each End.

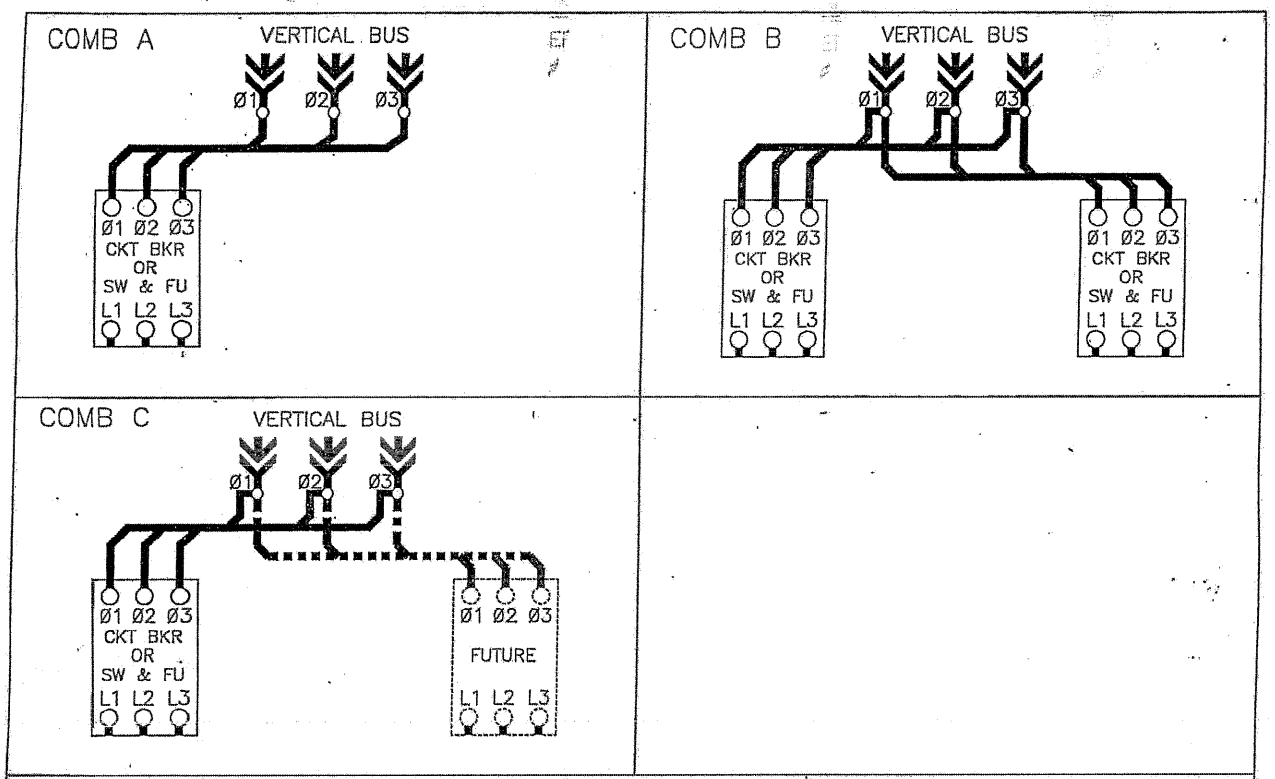
Wiring Diagrams Supplied on Inside of Unit Doors.

**** Device code LEGEND ****

D1 Indicating Light : Transformer-PTT : Red : Run
D2 Indicating Light : Transformer-PTT : Green : Stopped
D3 Selector Switch : Three-Position : Hand-Off-Auto
D4 Push Button : Momentary-Black : Start
D5 Push Button : Momentary-Red : Stop
D6 Meter : Elapsed-TM-MINI
D7 Push Button : Momentary-Black : Reset
D8 Indicating Light : Transformer-PTT : Red : OVERLOAD
D9 Indicating Light : Transformer-PTT : Red : MOTOR OVER HEATED

**** Unit features LEGEND ***

U1 LIGHTNING ARRESTOR/SURGE CAPACITOR : Qty : 1
U3 Unit Contains Type MR 2 Pole Control Relay. : Qty : 1
U4 Unit to contain Westinghouse SVM system voltage monitor. : Qty : 1
U5 Unit to contain 4 pole AR relay. : Qty : 1
U6 Unit contains on-delay Agastat Series 7000 timer. : 1.5-15sec : Qty : 1



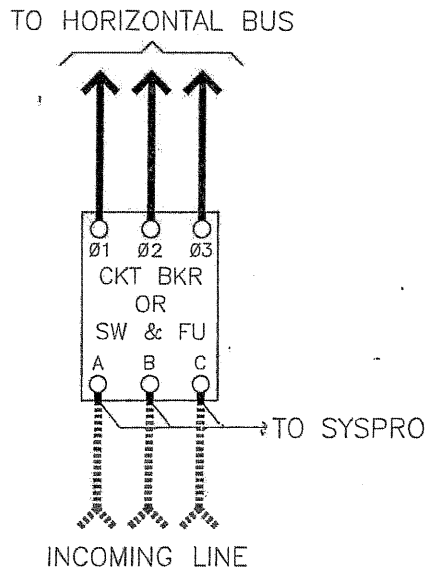
MOTOR CONTROL CENTER STANDARD UNIT WIRING DIAGRAM

COMBINATION A: SINGLE BREAKER OR SWITCH & FUSE 3 POLE
COMBINATION B: DUAL BREAKERS OR SWITCH & FUSE 3 POLE
COMBINATION C: SINGLE BREAKER OR SWITCH & FUSE 3 POLE WITH FUTURE SPACE

Cutler-Hammer E·T·N
MCC ASSEMBLY PLANT
FAYETTEVILLE, NC

REV	DRAWING NUMBER	
D	5599A85	CC

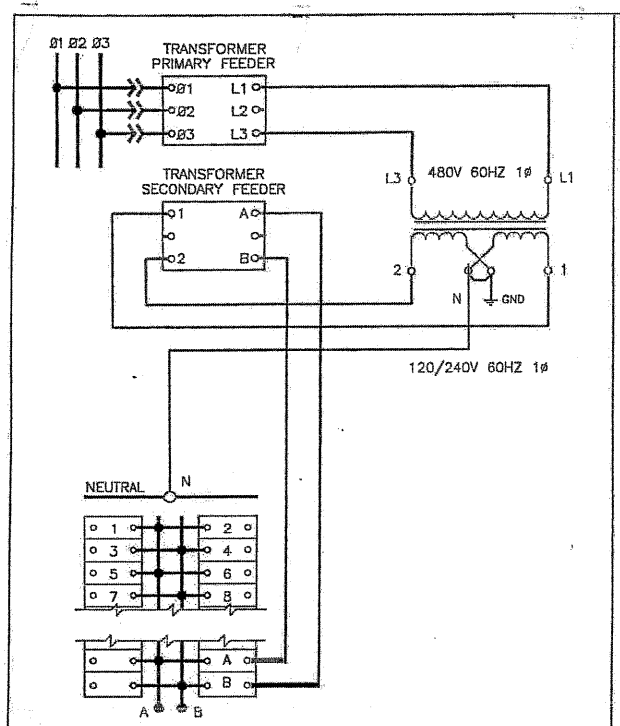
FILE NO. 5599A85



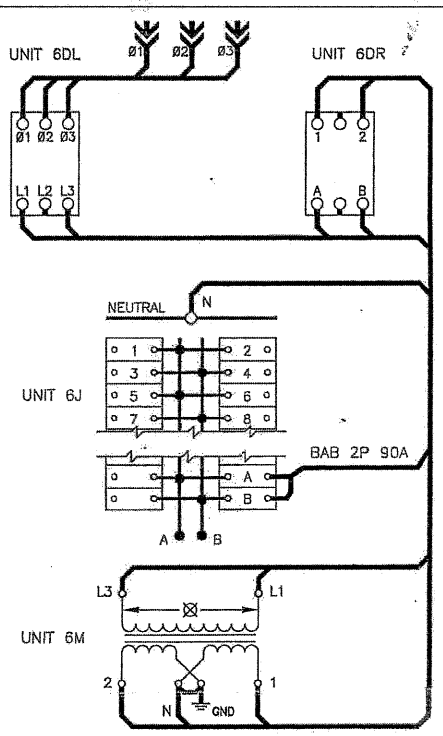
CHANGE	
1	REVISED FOR MANF. 4/14/98 P.SIPE
2	

F.A.S.T. FILE NO. 49874WDMB

PREPARED BY: PAULA SIPE	DATE 4/14/98	Cutler-Hammer	EATON
APPROVED BY: N/A	DATE	Fayetteville, NC 28306	
FREEDOM 2100 UNIT DIAGRAM		GENERAL ORDER NO. HBH49874	DIAGRAM NO. WD-MB 1 OF 1

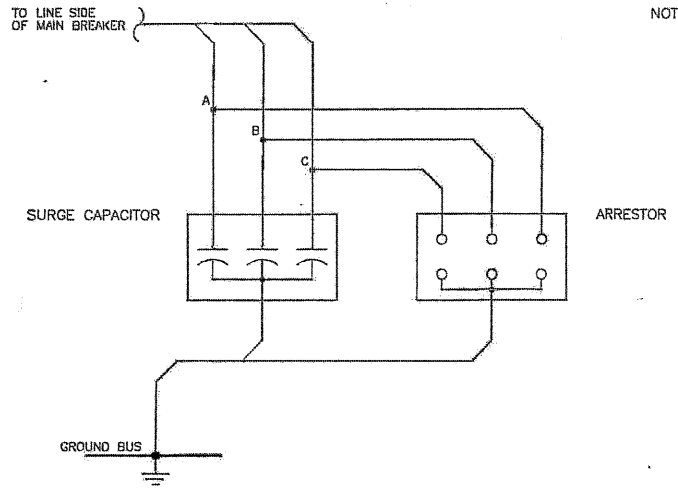


SCHEMATIC



CONNECTION

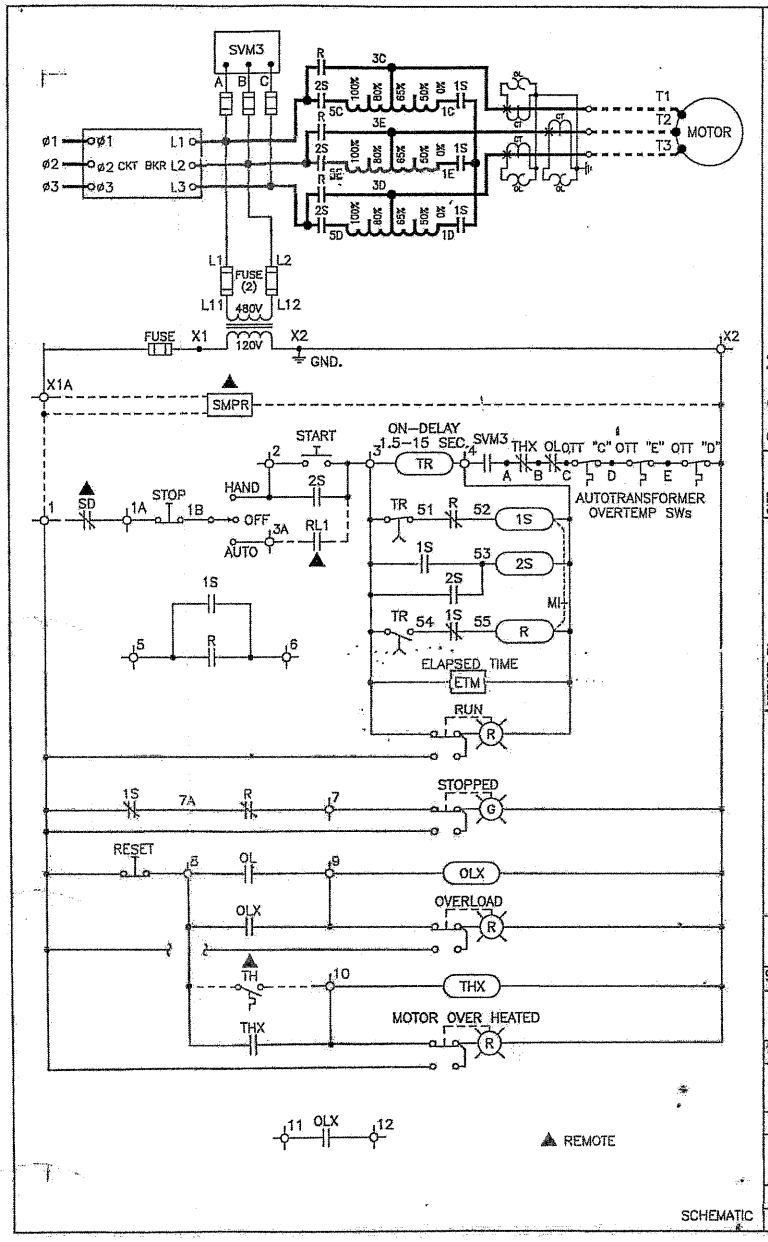
1 CHANGE 2 REVISED FOR MANF. 4/14/98 P.SIPE	PREPARED BY: R. Michael	DATE 12/3/07	Cutler-Hammer Fayetteville, NC 28306
F.A.S.T. FILE NO.	APPROVED BY: N/A	DATE	EATON
	SERIES 2100 UNIT DIAGRAM	GENERAL ORDER NO. HBH49874 PANELBOARD/TXFMR	DIAGRAM NO. WD--PNL



NOTES:
1. CONNECTIONS TO BE MADE WITH #12 BLACK WIRE.
2. GROUND LEADS OF ARRESTOR AND CAPACITOR ARE WHITE.

CHANGE	1				
		PREPARED BY: P.SIPE	DATE 4/14/98	Cutler-Hammer	EATON
		APPROVED BY:	DATE	Fayetteville, NC 28306	
		FREEDOM 2100 UNIT DIAGRAM		GENERAL ORDER NO. HBH49874	DIAGRAM NO. WD-SP Sheet 1 of 1
				SYSTEM PROTECTION	

F.A.S.T. FILE NO. 49874WDSP



EATON

Cutler-Hammer

Fayetteville, NC 28306

GENERAL ORDER HBH498374

PUMP CONTROL

DIAGRAM NO. WD—1 Sheet 1 of 2

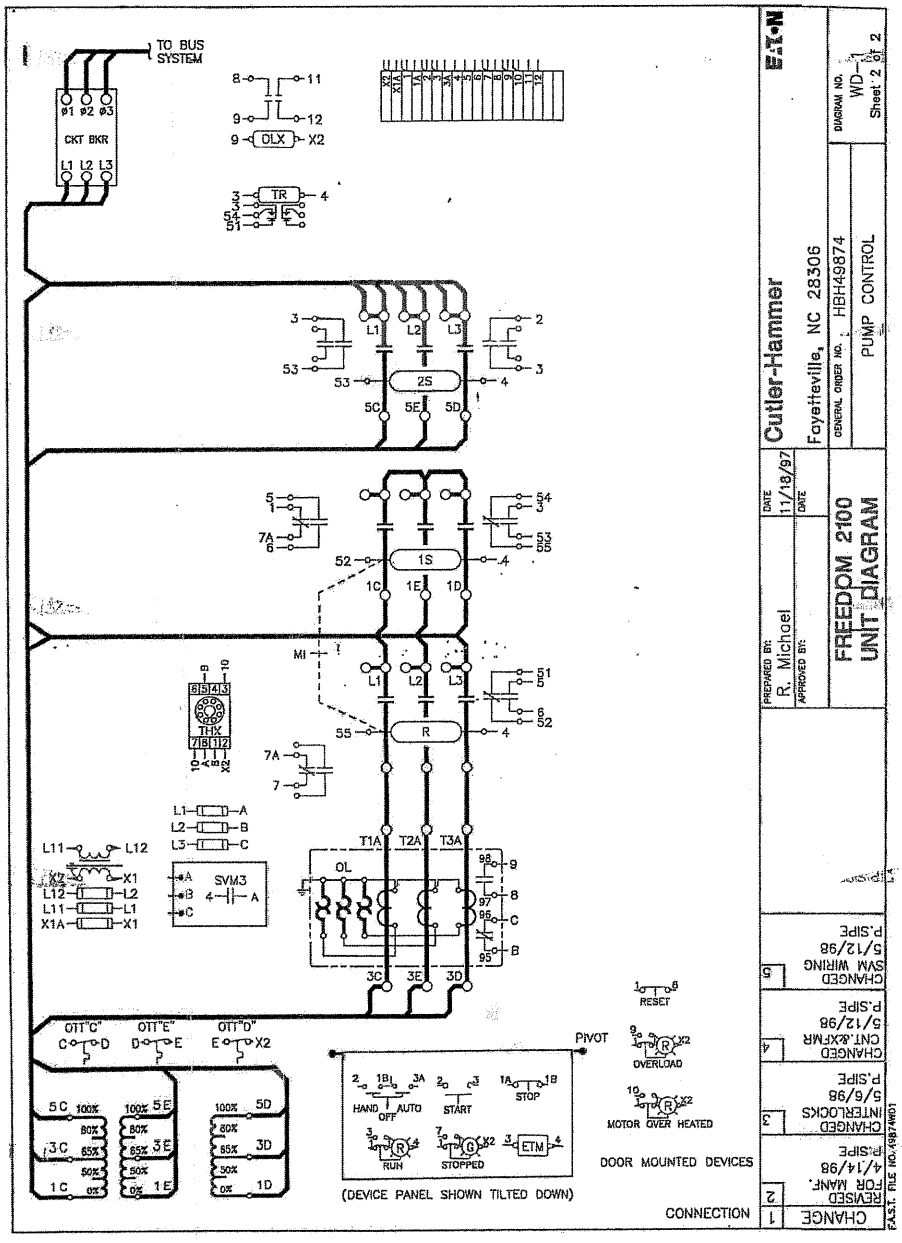
PREPARED BY: R. Michael DATE 11/18/97

APPROVED BY: DATE

FREEDOM 2100
UNIT DIAGRAM

CHANGE		REVISED FOR MANF. 4/14/98 P.SIPE
1	2	
CHANGED INTERLOCKS 5/6/98 P.SIPE	3	
CHANGED CNT.&XFMR 5/12/98 P.SIPE	4	
CHANGED SVM WIRING 5/12/98 P.SIPE	5	

F.A.S.T. FILE/NO. 4687HW01



EATON

Cutler-Hammer

Fayetteville, NC 28306

GENERAL ORDER NO.: HBH49874

PUMP CONTROL

DIAGRAM NO. WD-1 Sheet: 2 of 2

PREPARED BY: R. Michael DATE 11/18/97

APPROVED BY: DATE

FREEDOM 2100

UNIT DIAGRAM

CHANGE		
1	REVISED FOR MANF.	4/14/98 P.SIPE
2	CHANGED INTERLOCKS	5/6/98 P.SIPE
3	CHANGED CNT.&XFMR	5/12/98 P.SIPE
4	CHANGED SVM WIRING	5/12/98 P.SIPE
5		

F.A.S.T. FILE NO. 49874W01

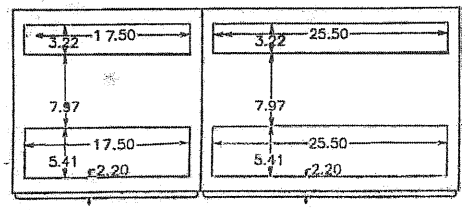
NEUTRAL

DESIGNATION	FRAME	POLE	TRIP	CKT		CKT	TRIP	POLE	FRAME	DESIGNATION
	BAB	1-P	20-A	1		2	20-A	1-P	BAB	
	BAB	1-P	20-A	3		4	20-A	1-P	BAB	
	BAB	1-P	20-A	5		6	20-A	1-P	BAB	
	BAB	2-P	20-A	7		8	20-A	2-P	BAB	
				9		10				
	BAB	2-P	30-A	11		12	90-A	2-P	BAB	
				13		14				
				15		16				
				17		18				
				19		20				
				21		22				
				23		24				
				25		26				
				27		28				
				29		30				

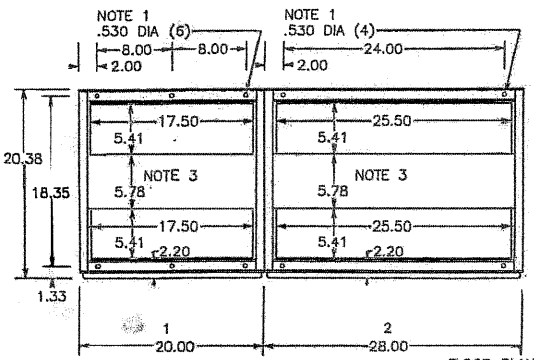
PANELBOARD TYPE	PRL1	UNIT LOCATION	6 J
BUS RATING AMPS	225	UNIT HEIGHT	30
VOLTAGE	120/240		
INTERRUPTING	10000	BREAKER MOUNTING	BOLT-ON
PHASES: 1 ' WIRES: 3		CIRCUITS	30

FRAME TYPE	POLE	BKR TRIP	QTY.
BAB	1	20	6
BAB	2	20	2
BAB	2	30	1
BAB	2	90	1

PREPARED BY: RMM	DATE: 11/19/97	CUTLER-HAMMER CORPORATION MCC ASSEMBLY PLANT FAYETTEVILLE NC	
APPROVED BY	DATE		
SINGLE PHASE PANELBOARD ARRANGEMENT	GENERAL ORDER NO. HBH49874 - 001		PAGE NO. PB - 1



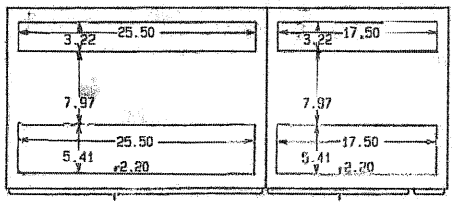
TOP VIEW – FRONT



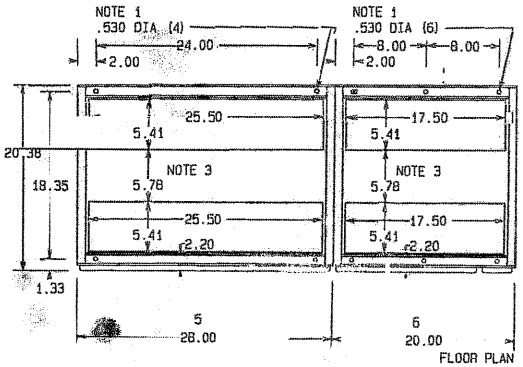
FLOOR PLAN – FRONT

NOTES
1. MIN LENGTH OF ANCHOR BOLT 2 INCHES (.38–16 RECOMMENDED).
2. RECOMMENDED MAX CONDUIT HEIGHT ABOVE FLOOR LINE 3.50 IN.
3. THIS CONDUIT SPACE NOT RECOMMENDED WHEN NEUTRAL BUS REQUIRED, OTHERWISE AVAILABLE.
4. CONDUIT SPACE 14.11 WITH CHANNEL SILLS OTHERWISE 16.6

PREPARED BY RMM	DATE 11/19/97	CUTLER–HAMMER CORPORATION MCC ASSEMBLY PLANT FAYETTEVILLE NC		CHANGE 1 2 CHANGED STRUCTURE LO 4/23/98 PJPE
APPROVED BY	DATE			
FREEDOM 2100 MCC MCC CONDUIT SPACE		GENERAL ORDER NO. HBH49874 – 001S	PAGE NO. FP – 1	



TOP VIEW - FRONT



FLOOR PLAN - FRONT

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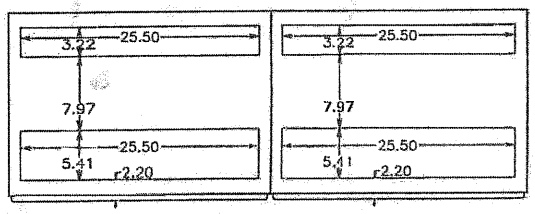
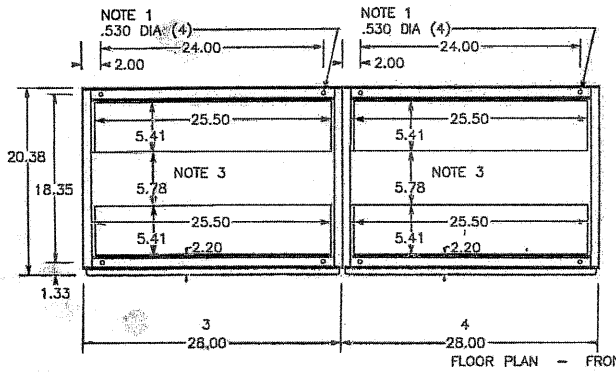
4. CONDUIT SPACE 14.11 WITH CHANNEL SILLS OTHERWISE 16.6

PREPARED BY	DATE	CUTLER-HAMMER CORPORATION MCC ASSEMBLY PLANT FAYETTEVILLE NC	
RMM	11/19/97		
APPROVED BY	DATE		
FREEDOM 2100 MCC MCC CONDUIT SPACE	GENERAL ORDER NO. HBH49874 - 001	PAGE NO. FP - 3	



TOP VIEW – FRONT

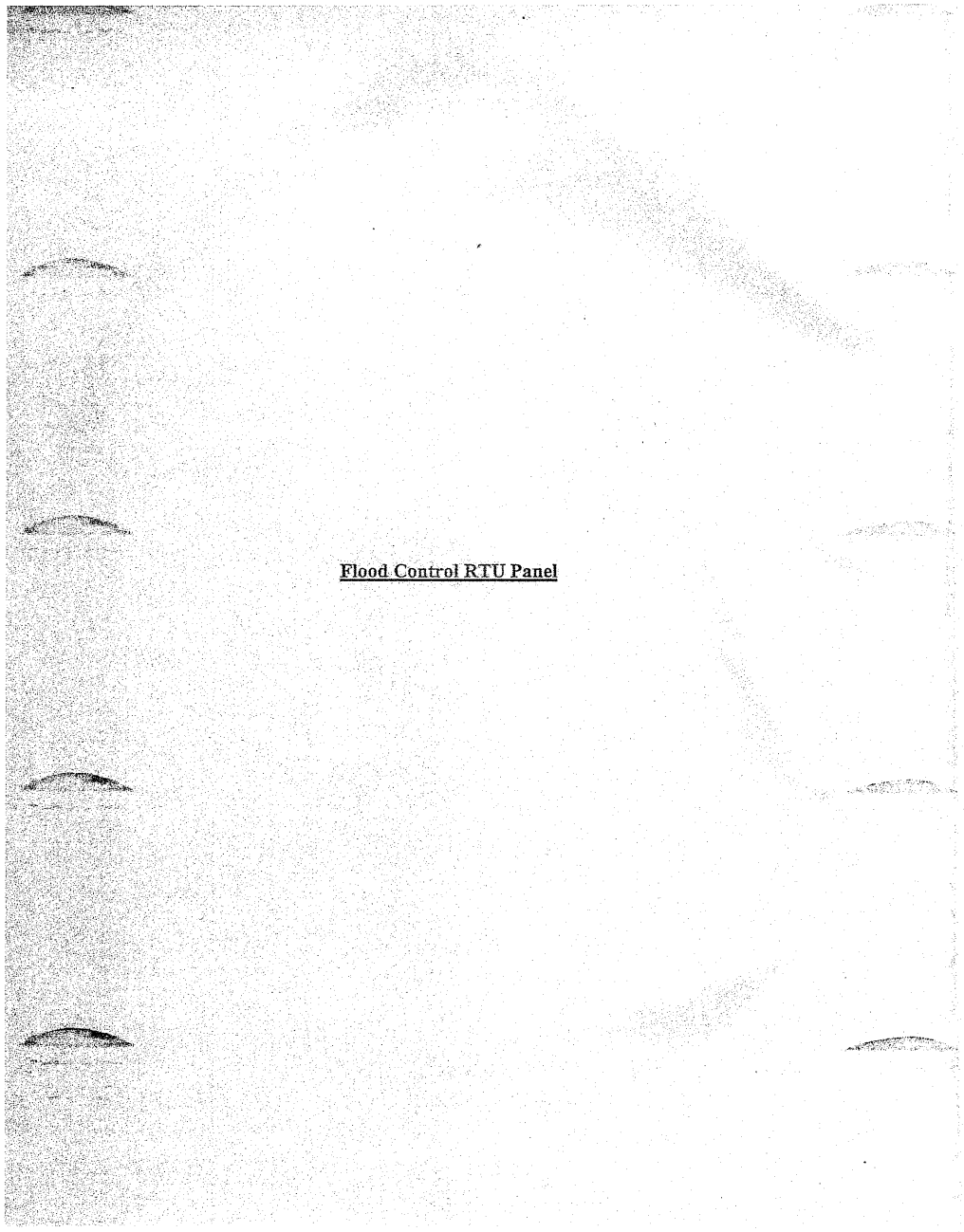


FLOOR PLAN – FRONT

NOTES
1. MIN LENGTH OF ANCHOR BOLT 2 INCHES (.38–16 RECOMMENDED).
2. RECOMMENDED MAX CONDUIT HEIGHT ABOVE FLOOR LINE 3.50 IN.
3. THIS CONDUIT SPACE NOT RECOMMENDED WHEN NEUTRAL BUS REQUIRED, OTHERWISE AVAILABLE.
4. CONDUIT SPACE 14.11 WITH CHANNEL SILLS OTHERWISE 16.6

PREPARED BY: RMM	DATE: 11/19/97	CUTLER–HAMMER CORPORATION MCC ASSEMBLY PLANT FAYETTEVILLE NC	CHANGE: 1 2	
APPROVED BY:	DATE:		CHANGED STRUCTURE TO 4/23/98 P.SPE	
FREEDOM 2100 MCC MCC CONDUIT SPACE	GENERAL ORDER NO.: HBH49874 – 001	PAGE NO.: FP – 2		


CS
i
TM
CONTROL SYSTEMS, INC.
Jackson, MS • 601-355-8594
www.controlsysinc.com



Flood Control RTU Panel

FLOOD CONTROL RTU PANEL
I/O STRUCTURE/CHECKLIST

	ANALOG INPUTS	~~(4-20mA)~~
AI1 -	WETWELL LEVEL	~~4-20mA~~
AI2 -	SPARE	
AI3 -	SPARE	
AI4 -	SPARE	
AI5 -	SPARE	
AI6 -	SPARE	
AI7 -	SPARE	
AI8 -	SPARE	
	ANALOG OUTPUTS	(4-20mA)
AO1 -	SPARE	
AO2 -	SPARE	
	DIGITAL INPUTS	
DI1 -	POWER FAIL	
DI2 -	PUMP 1 RUNNING	
DI3 -	PUMP 1 FAILURE	
DI4 -	PUMP 2 RUNNING	
DI5 -	PUMP 2 FAILURE	
DI6 -	PUMP 3 RUNNING	
DI7 -	PUMP 3 FAILURE	
DI8 -	PUMP 4 RUNNING	
DI9 -	PUMP 4 FAILURE	
DI10 -	WETWELL HIGH LEVEL	
DI11 -	WETWELL LOW LEVEL PUMPS LOCKED OUT	
DI12 -	SLUICE GATE CLOSED(PUMPS ARE ACTIVE)	
DI13 -	SLUICE GATE DOWN (LIMIT SWITCH CLOSED)	
DI14 -	SLUICE GATE UP (LIMIT SWITCH OPEN)	

FLOOD CONTROL RTU PANEL
I/O STRUCTURE/CHECKLIST

DIGITAL INPUTS (CONTINUED)

DI15 - Transducer FAILURE (OPERATING ON FLOATS)
DI16 - EMERGENCY GENERATOR ON
DI17 - Spare
DI18 - Spare
DI19 - Spare
DI20 - Spare

Digital outputs

DO1 - Spare
DO2 - Spare
DO3 - Spare
DO4 - Spare
DO5 - Spare
DO6 - Spare
DO7 - Spare
DO8 - Spare
DO9 - Spare
DO10 - Spare
DO11 - Spare
DO12 - Spare

FLOOD CONTROL RTU PANEL
STANDARD NAMEPLATE LEGEND DETAIL

NP1. VOLTAGE LABEL –

DANGER HIGH VOLTAGE
120 VOLTS

(RED WITH WHITE LETTERING)

NP2. AUTHORIZED PERSONNEL LABEL –

AUTHORIZED PERSONNEL ONLY

(RED WITH WHITE LETTERING)

NP3. ARC FLASH LABEL –

⚠ WARNING
ARC FLASH & SHOCK HAZARD
APPROPRIATE PERSONAL PROTECTION EQUIPMENT REQUIRED
APPROPRIATE PERSONAL PROTECTION AND TOOLS REQUIRED WHEN WORKING ON THIS EQUIPMENT.
EQUIPMENT ID:

NP4. CSI LOGO LABEL – WATCH D G

CORRECT: PUT WATCHDOG LABEL ON RTU101D.

NP5. SERVICE ENTRANCE LABEL –

SUITABLE FOR USE AS SERVICE ENTRANCE
CONTROL SYSTEMS, INC.

(BLACK WITH WHITE LETTERING)

NP6. STATION NAME OR NUMBER LABEL –

FLOOD CONTROL
RTU PANEL

(BLACK WITH WHITE LETTERING)

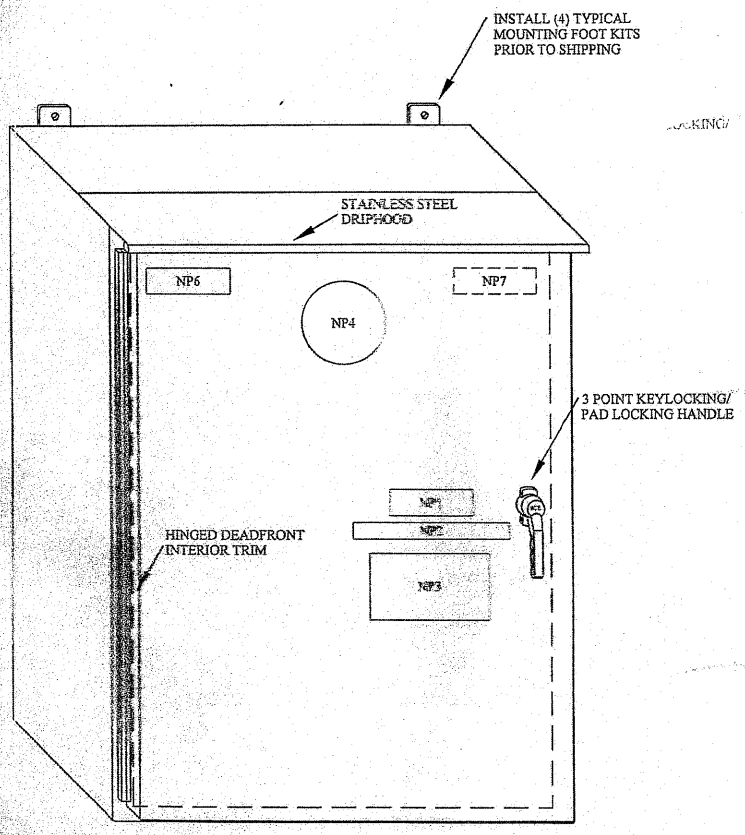
NP7. CSI JOB NUMBER LABEL –

CONTROL SYSTEMS, INC.
JACKSON, MS
JOB NUMBER: 59012 – TAB 1P
DATE OF MFR: ?
120 VOLTS, 1 PHASE, 2 WIRE, 60 Hz
LARGEST MOTOR HP RATING: N/A
NORMAL POWER MAX CURRENT RATING: 20
EMERG. POWER MAX CURRENT RATING: N/A
SHORT CIRCUIT CURRENT RATING: 5,000 TYPE 1
THIS CONTROL PANEL HAS BEEN SUPPLIED WITH AN ELECTRICAL WIRING DIAGRAM. IF THE DIAGRAM DOES NOT EXIST, CALL (601) 355-8564 FOR A REPLACEMENT.

NP8. UL LABEL –

UL ENCLOSED INDUSTRIAL CONTROL PANEL
LISTED
NO. E7–

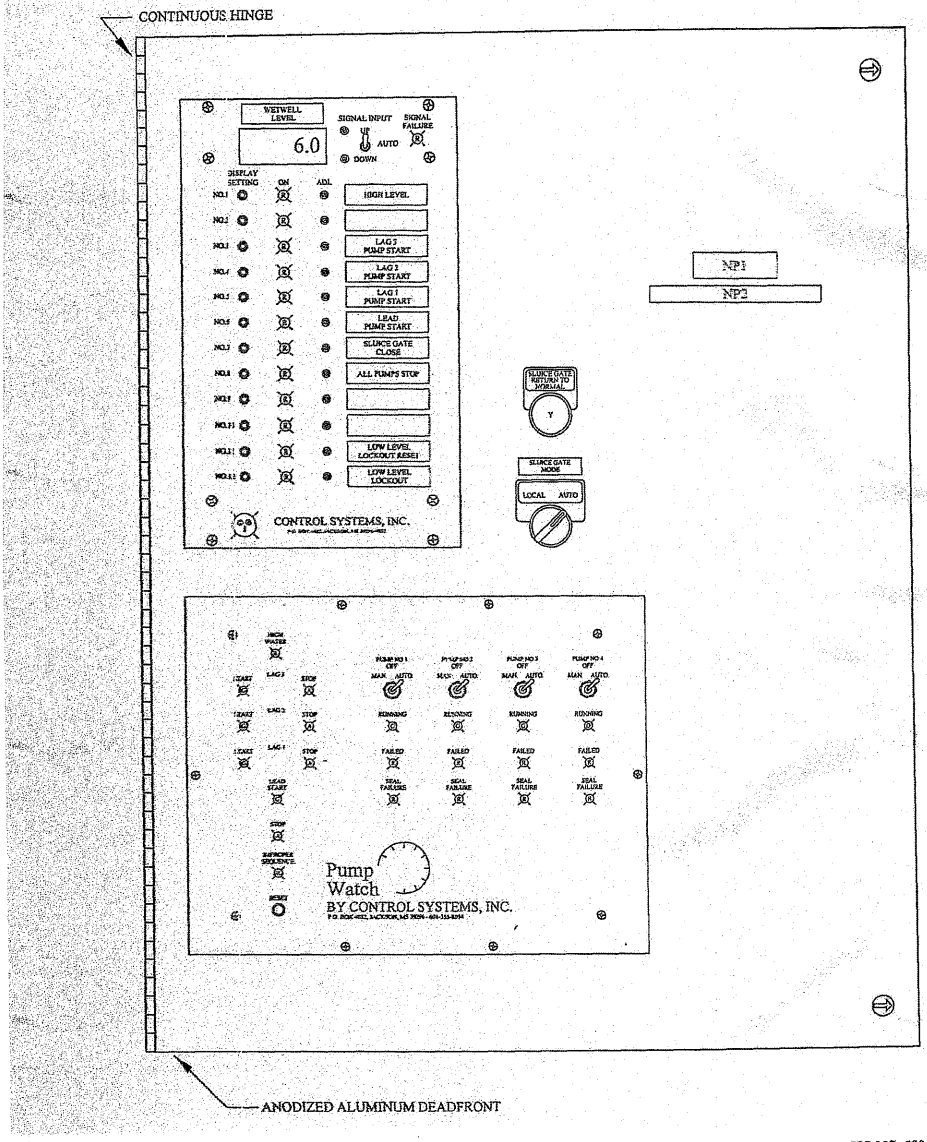
FLOOD CONTROL RTU PANEL
ENCLOSURE DETAIL



NEMA 4X STAINLESS STEEL ENCLOSURE
(36"H X 24"W X 12"D)

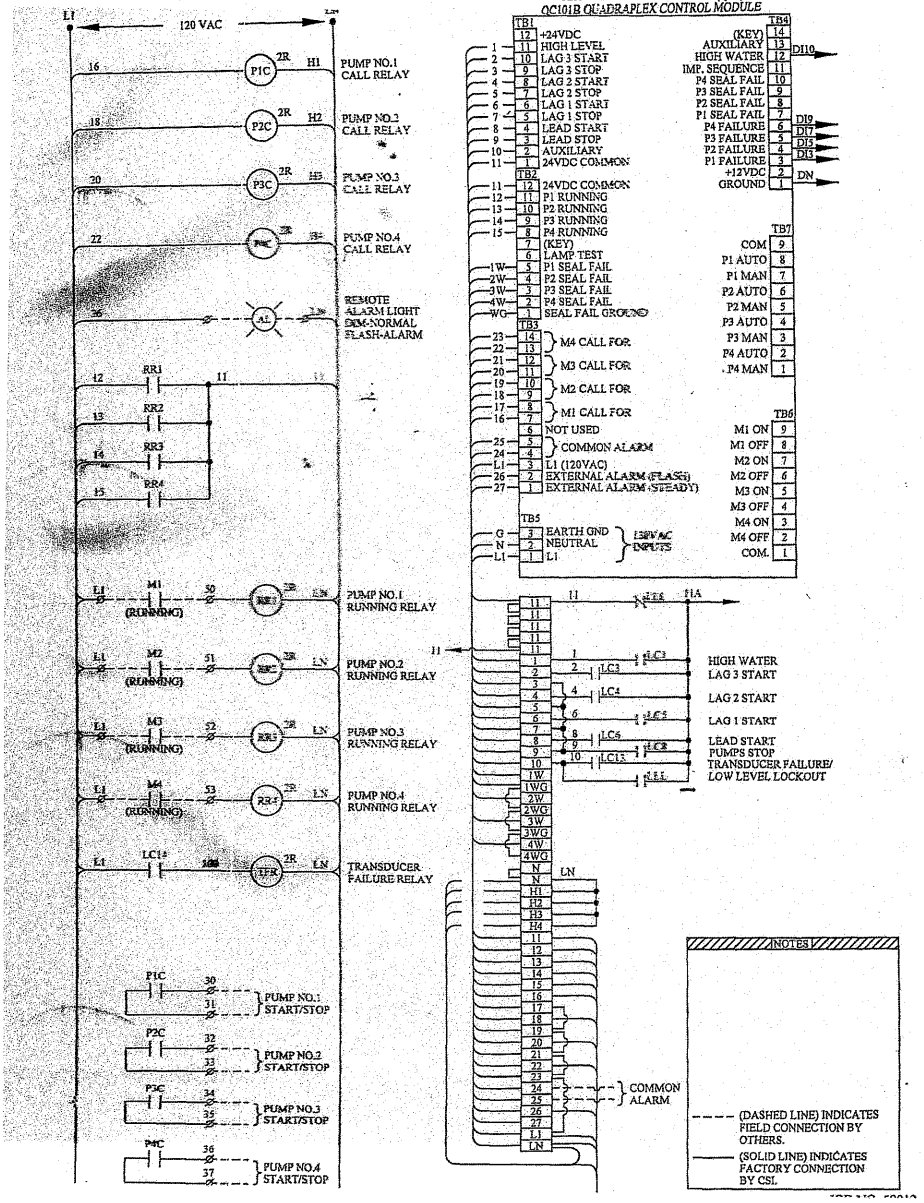
KEYS PLACED SECURELY IN BOTTOM OF ENCLOSURE PRIOR TO SHIPPING.

FLOOD CONTROL RTU PANEL
DEADFRONT DETAIL

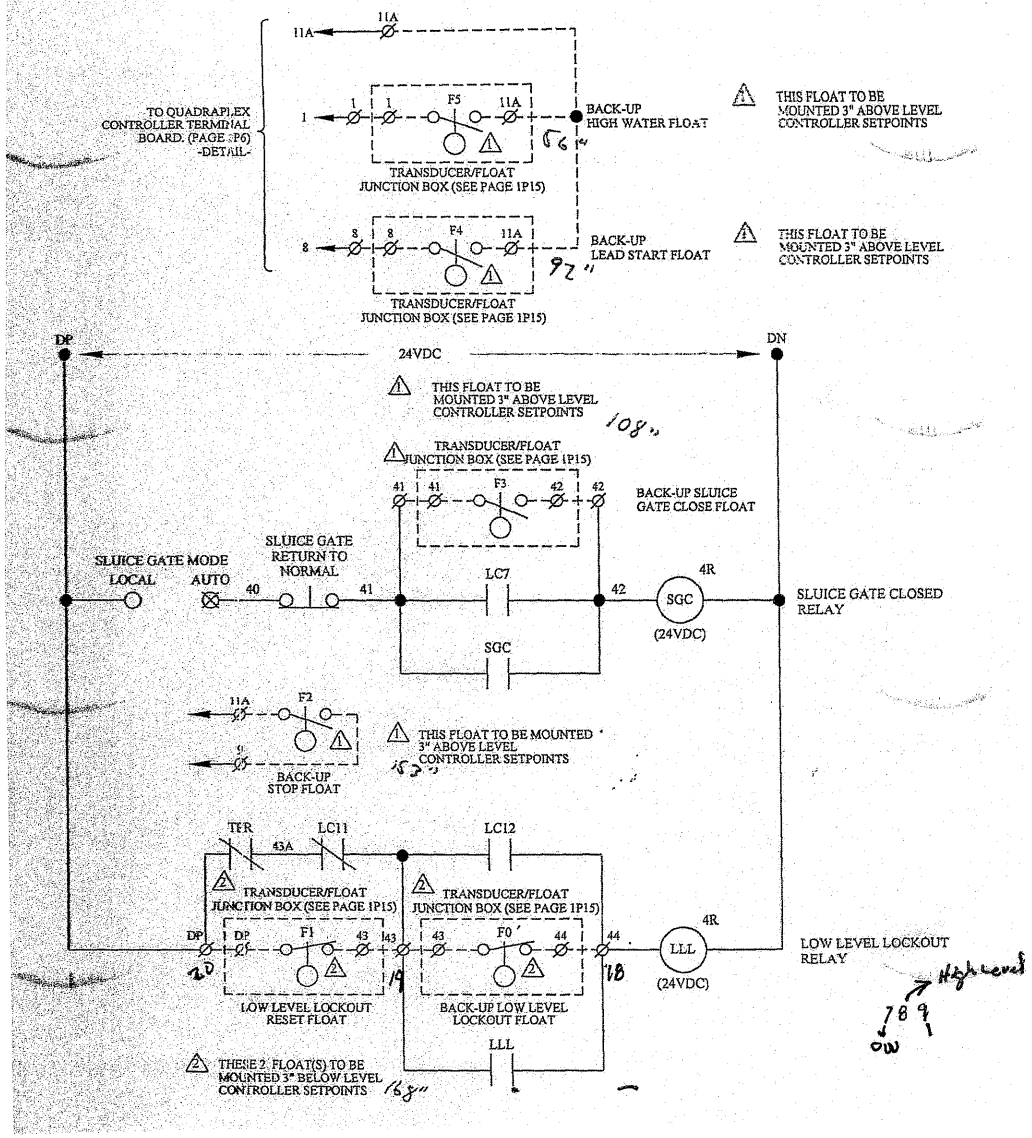


JOB NO. 59012

FLOOD CONTROL RTU PANEL
CONTROL SCHEMATIC



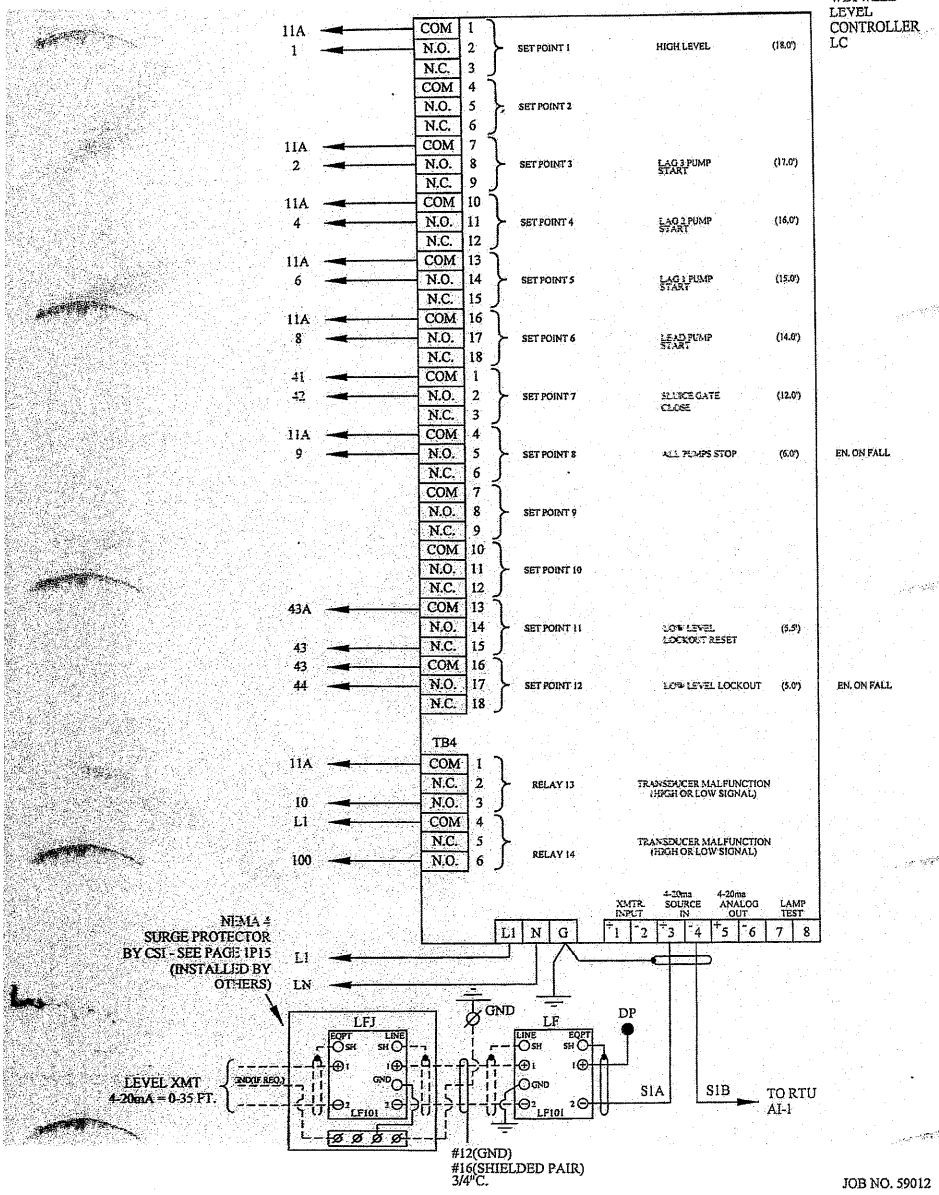
FLOOD CONTROL RTU PANEL
CONTROL SCHEMATIC



JOB NO. 59012

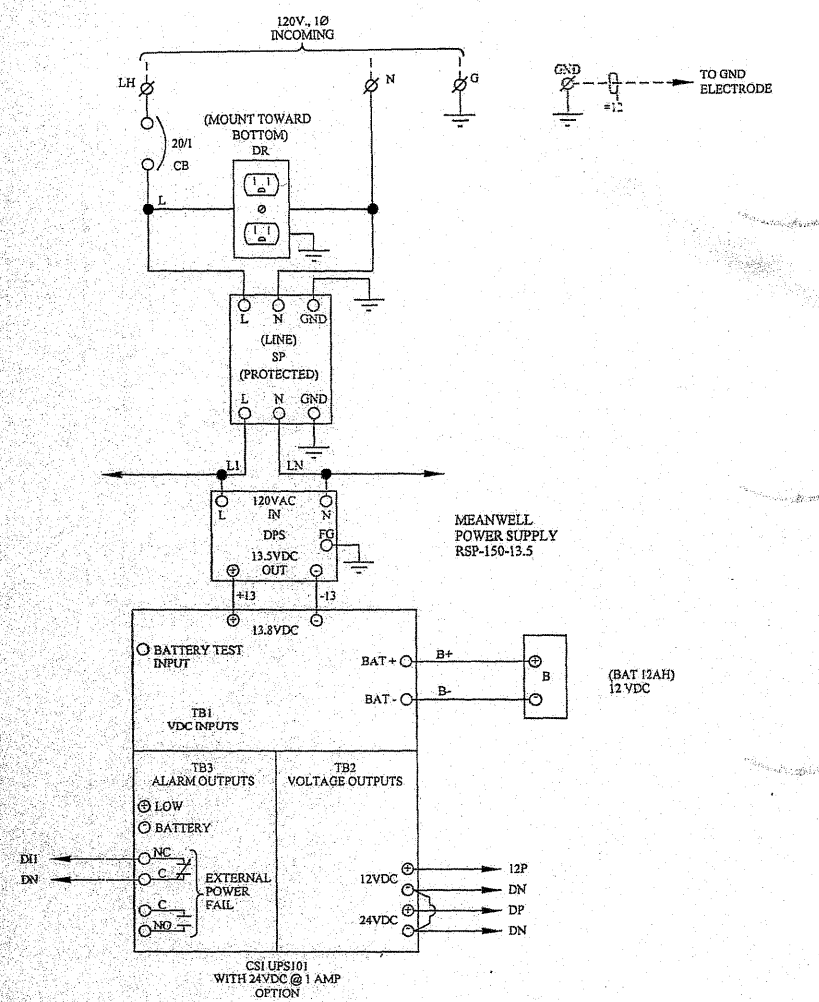
FLOOD CONTROL RTU PANEL
CONTROL SCHEMATIC

WETWELL
LEVEL
CONTROLLER
LC



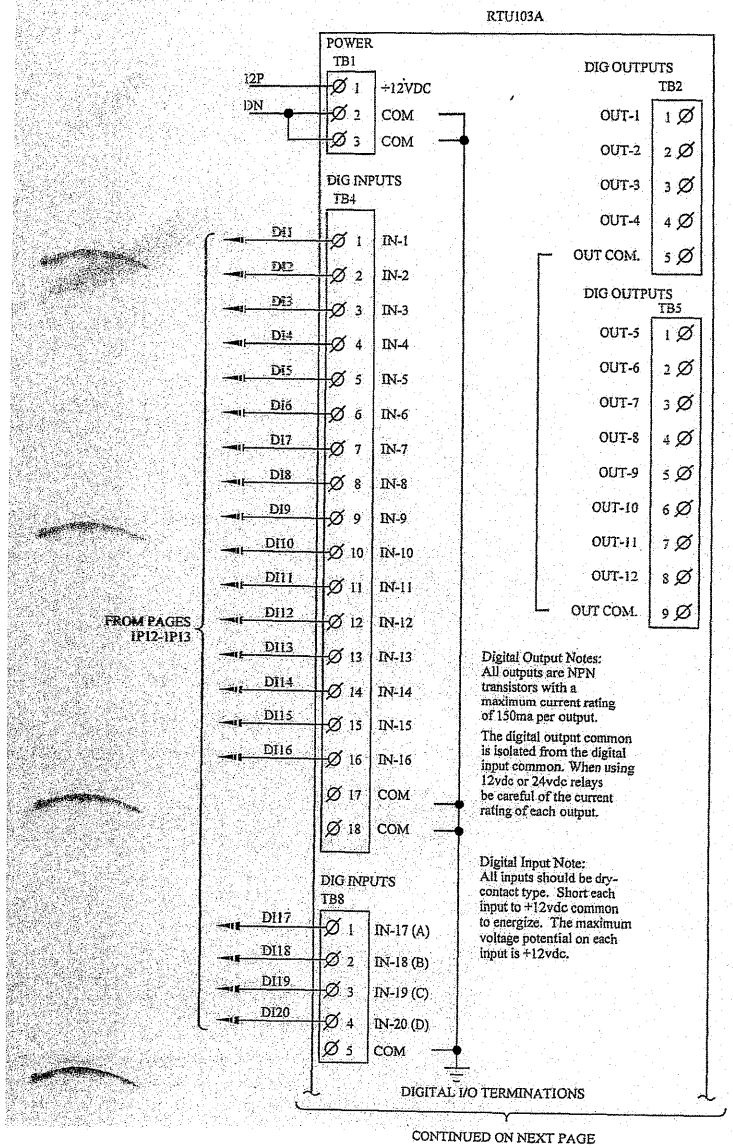
JOB NO. 59012

FLOOD CONTROL RTU PANEL
CONTROL SCHEMATIC

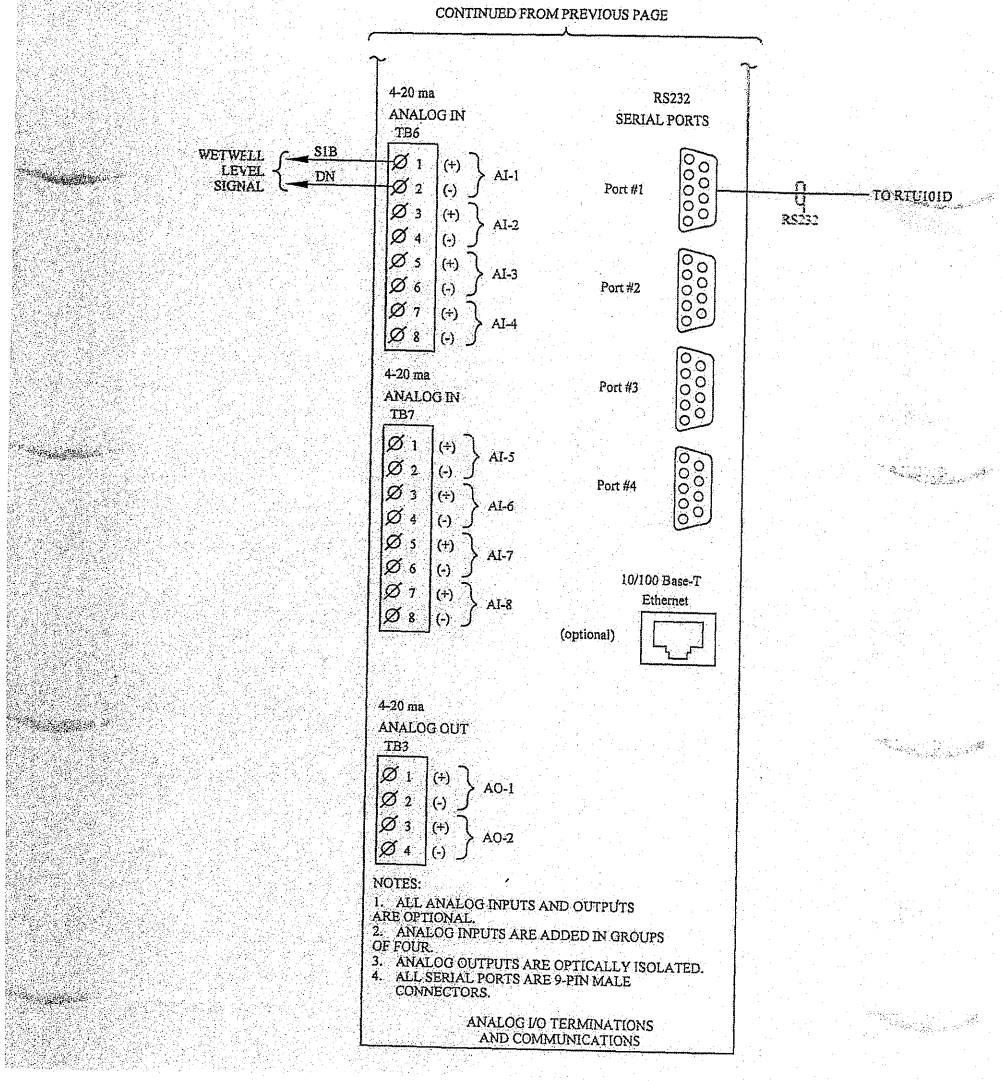


JOB NO. 59012

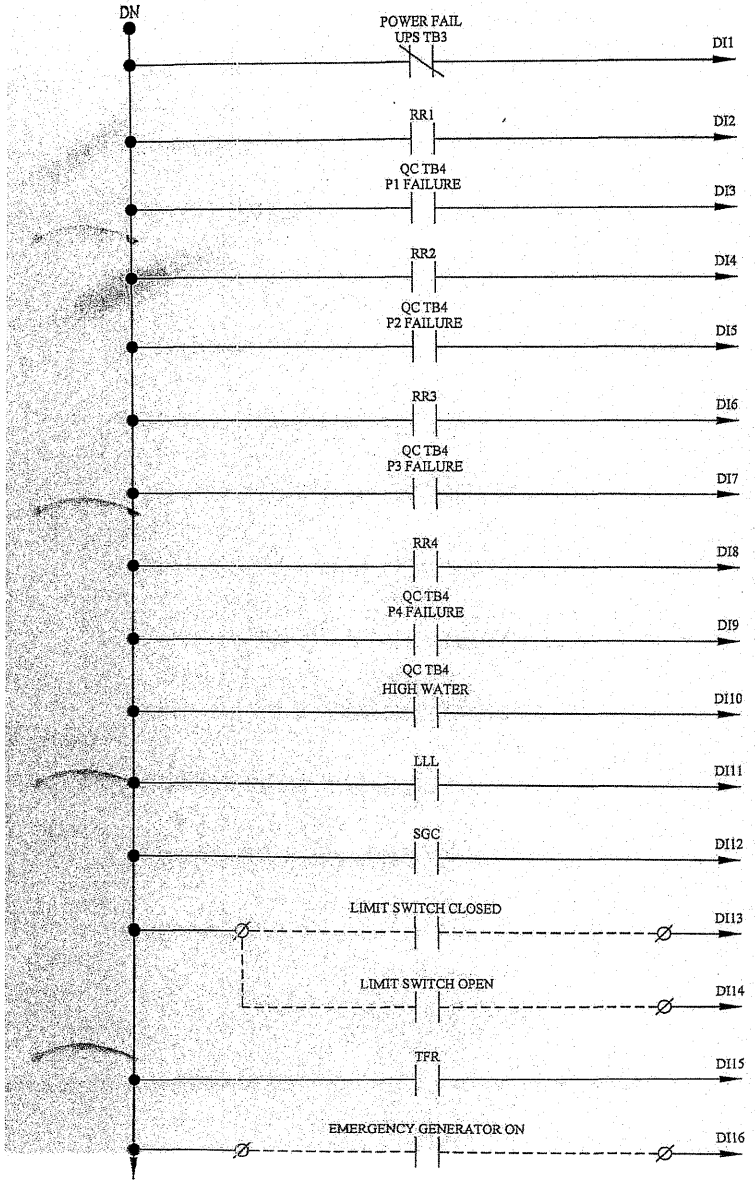
FLOOD CONTROL RTU PANEL
CONTROL SCHEMATIC



CONTINUED ON NEXT PAGE

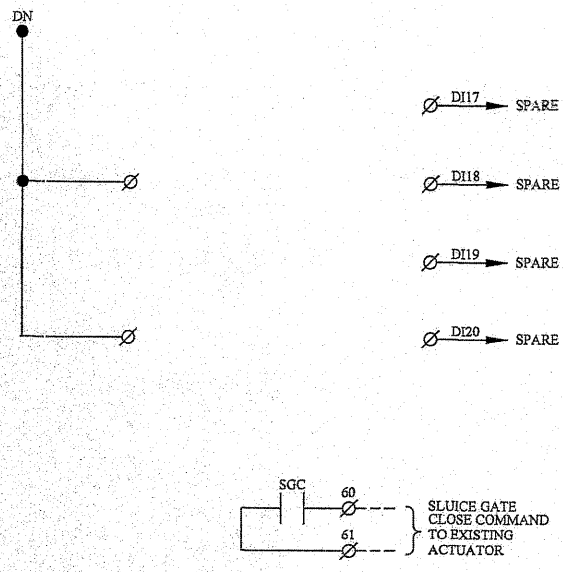

CONTINUED FROM PREVIOUS PAGE
4-20 ma
ANALOG IN
TB6
WETWELL LEVEL SIGNAL
S1B
DN
1 (+)
2 (-)
AI-1
3 (+)
4 (-)
AI-2
5 (+)
6 (-)
AI-3
7 (+)
8 (-)
AI-4
4-20 ma
ANALOG IN
TB7
1 (+)
2 (-)
AI-5
3 (+)
4 (-)
AI-6
5 (+)
6 (-)
AI-7
7 (+)
8 (-)
AI-8
4-20 ma
ANALOG OUT
TB3
1 (+)
2 (-)
AO-1
3 (+)
4 (-)
AO-2
RS232
SERIAL PORTS
Port #1
Port #2
Port #3
Port #4
RS232
TO RTU101D
10/100 Base-T
Ethernet
(optional)
NOTES:
1. ALL ANALOG INPUTS AND OUTPUTS ARE OPTIONAL.
2. ANALOG INPUTS ARE ADDED IN GROUPS OF FOUR.
3. ANALOG OUTPUTS ARE OPTICALLY ISOLATED.
4. ALL SERIAL PORTS ARE 9-PIN MALE CONNECTORS.
ANALOG I/O TERMINATIONS AND COMMUNICATIONS

FLOOD CONTROL RTU PANEL
CONTROL SCHEMATIC

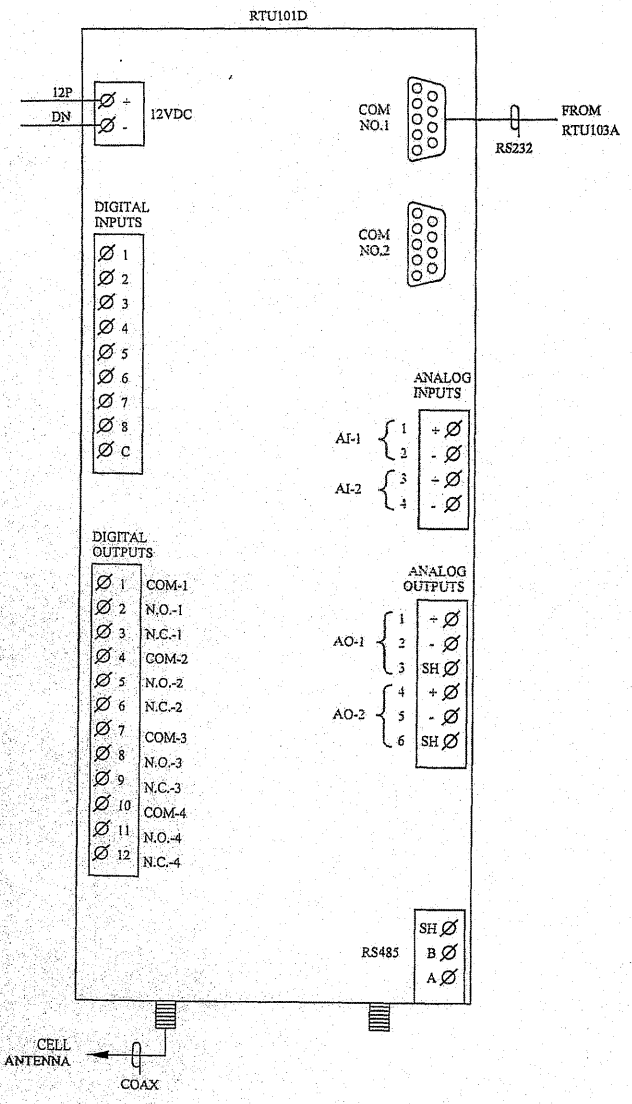


JOB NO. 59012

FLOOD CONTROL RTU PANEL
CONTROL SCEHMATIC



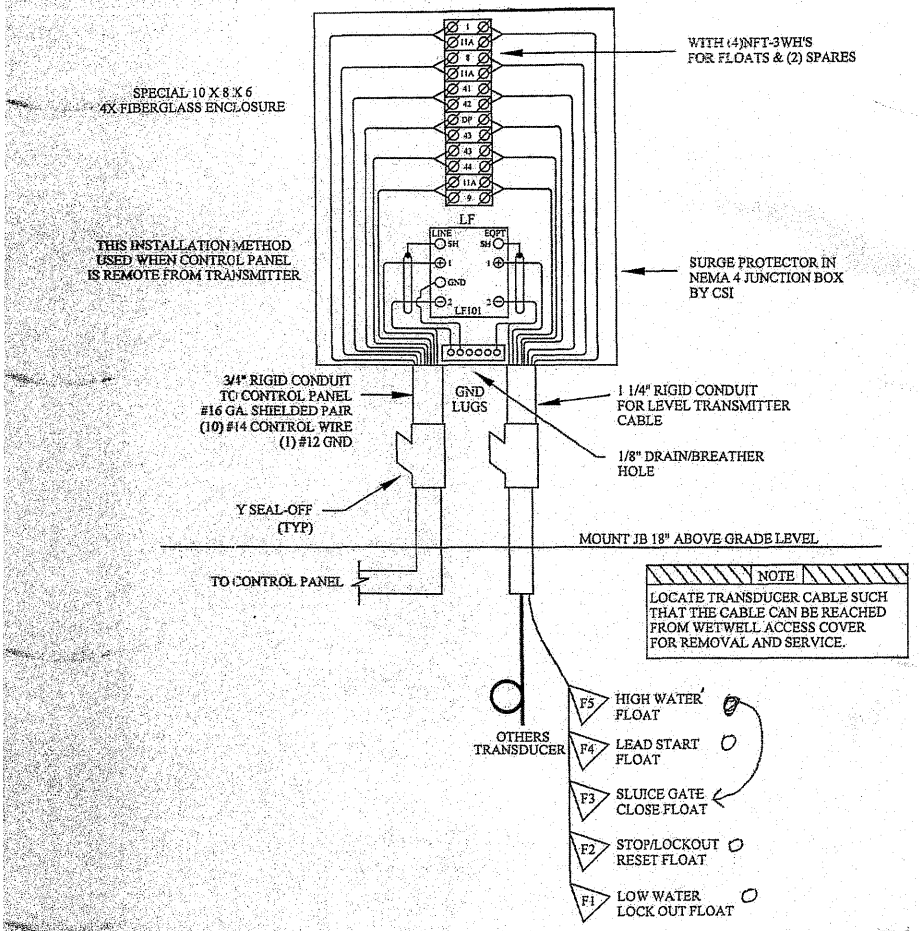
FLOOD CONTROL RTU PANEL
CONTROL SCHEMATIC



* NOTE: ONE ANTENNA, ANTENNA TO BE MOUNTED OUTSIDE A BUILDING/MOUNTED TO CLEAR OUTSIDE OBSTRUCTIONS.

JOB NO. 59012

SUBMERSIBLE LEVEL TRANSMITTER/FLOAT
INSTALLATION DETAIL



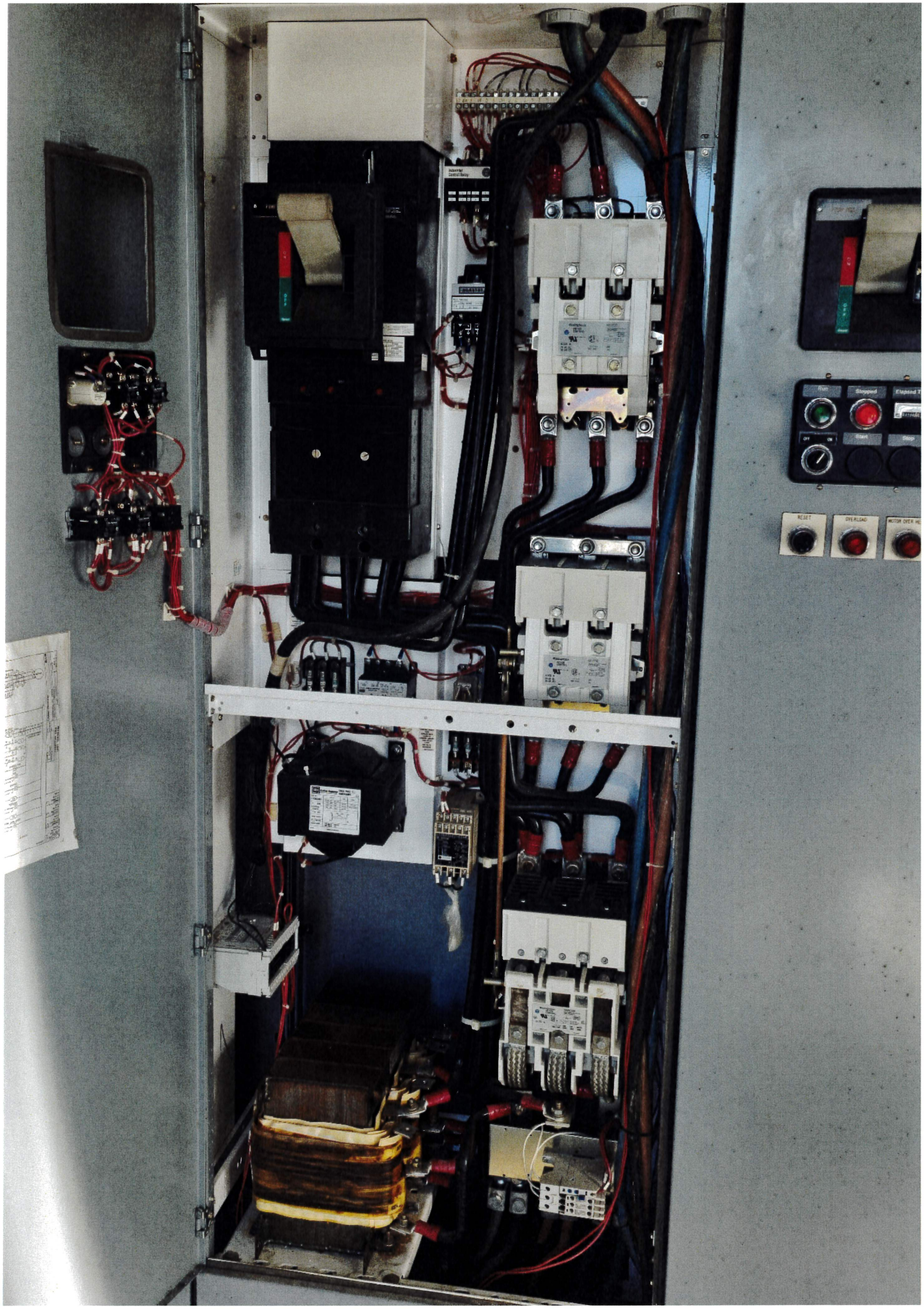
FLOAT NOTE:

1. FLOATS SHALL BE MOUNTED IN THE WETWELL AT PROPER LEVEL(S) WITH APPROPRIATE ATTACHMENT DEVICES/ HARDWARE

QTY	SYM	MFR	CAT #	DESC	PAGE #
1		Bingfu	4G LTE 7dBi RP-SMA *Male Antenna*	Cell Antenna w/10' coax&bracket *"Ship Sep."*	N/A
19		Buss	NFT3-WH	Terminal, 3 Pole	C166
1		C2G	CG-52038	RS232 Null Modem Cable (F/F)	N/A
1	SS	C3 Controls	W22S2-HW	2 Position Selector Switch	C148-C148A
1	PB	C3 Controls	W22PB-FY	Yellow Pushbutton	C151
1		C3 Controls	WNC	N.C. Contact	C151
1		C3 Controls	WNO	N.O. Contact	C151
1	QC	CSI	QC101B w/TB4 Option Boards	Quadraplex Controller with Green Terminal Boards	C216-C216I
1		CSI	QCTB	Quadraplex Controller Terminal Board	C216B-C216I
1	LC	CSI	MPCT12B	12 Point Meter controller	C219-C219D
2	LF	CSI	LF101-B	Small Signal Line Filter,30V	C243-C243A
1	LFJ	CSI	LF101-B- Special "SHIP SEPARATE"	Small Signal Line Filter,30V Nema 4 Junction Box	C243-C243A
1	RTU	CSI	RTU101D w/Cell Modem & Relay Output Board	Remote Telemetry Unit w/2 cell ant. conn. ports	C249-C249A
1	RTU	CSI	RTU103A	Remote Telemetry Unit	C284-C284A
1		CSI	RTU103A-DI-Adapter	Adapter Board for DI17-DI20	N/A
1	UPS	CSI	UPS101	Uninterruptible Power Supply	C245-C245A
1		CSI	w/24VDC	24v opt. for above UPS101	C245-C245A
1	SP	CSI	SP102	AC Line Filter/Surge Protector	C280-C280A
2	4R	CSI	RB4-24VDC	4PDT Relay, 24VDC With Indicating Light	C293-C293A
1		Emerson	4CS-1/2	Handy Box For CR20	C179
1		Emerson	2510	Handy Box Cover	C179A

QTY	SYM	MFR	CAT #	DESC	PAGE #
1		Hoffman	A-1086CHQRFG "For LFJ"	Nema 4X Fiberglass Enclosure 10X8X6, Fiberglass	C482-C482B
1		Hoffman	A-10P8	Backplate	C482-C482B
9	2R	Idec	RU2S-M-A110	DPDT Relay, 120VAC With Indicating Light	C547-C547J
9		Idec	SM2S-05	Base for above Relays	C547-C547J
1	DPS	Mean Well	RSP-150-13.5	Power Supply	C597-C597A
1	DR	P & S	CR20	Duplex Receptacle	C645
1	B	Power Patrol	SLA1105	12VDC Battery, 12AH	C702
1	AL	RAB	VBRI / GL100PGR	Wall Mounted Alarm Light With Red Lexan Globe	C718, C718A
1	ENC	SCE	SCE-36EL2412SSLPPL	Nema 4X Stainless Steel 36"x24"x12"	C727
1	ENC	SCE	SCE-36P24	Backplate	C727
1		SCE	SCE-ELMFK4SS6-OS	SS Mounting Kit	C728
1	CB	Siemens	SMB6R	Mounting Bracket	C730
1	CB	Siemens	BQ1B020QLD	Circuit Breaker 20 Amp, 1 Pole, 120V	C732
1	GND	Square D	PK9GTA	Equipment Ground Bar	C824-C824B
1	GND	Square D	PK4GTA "For LFJ"	Equipment Ground Bar	C823


Cutler-Hammer
Freedom 2100
Motor Control Center
MCC
Run
Stopped
Elapsed Time
Start
Stop
RESET
OVERLOAD
MOTOR OVER HEATED
NOTICE


Run
Stopped
Start
Stop
RESET
OVERLOAD

Karen Hazelwood

From: Ed Seoane
Sent: Friday, March 6, 2026 9:43 AM
To: Karen Hazelwood
Cc: Matthew Nelson; Jordan Howard
Subject: Motor Control RFP

Karen,

We only received one proposal for the Motor Control RFP. I would like you to handle the rebid of the Motor Control including award and contract phase. Work with Matt to see what changes we need to make and what other companies we can send the RFP to.

Thanks,

Ed Seoane
VP of Purchasing
Birmingham Airport Authority
Cell: 205.332.5702
Desk: 205.599.0703
5900 Messer Airport Highway,
Birmingham, Al. 35212