
From: [REDACTED]
Sent: Tuesday, January 13, 2015 10:13 AM
To: HRobles@eagle.org; MAhmed@eagle.org
Cc: david.c.o'donnell@uscg.mil; Marine Shop; 'Robert Gamble'
Subject: Carferry S.S. Badger Ash retention Installation Electrical Upgrades

(Message 1 of 2)

Dear Henry & Mohammad,

Please find attached the Electrical drawings for the Combustion Control & Ash Retention Block Diagram for the subject vessels Electrical upgrades.

The drawings noted as "Reference" are being submitted by an accompanying e-mail due to the size of the Zip files. The preparation and submittal of the enclosed Electrical Block Diagram drawings is has been requested to bring all the pieces of the new electrical upgrades together.

I trust this submittal will be satisfactory for review and subsequent approval for the installation which is to be completed by April 2015. Due to the time constraints and necessity for a timely turn around, please do not hesitate to contact Mr. Chuck Cart at lake Michigan Car Ferry, Inc. or myself with any questions or concerns.

Mr. O'Donnell of USCG MSC has been copied on this submittal as it is my understanding each of your offices have been reviewing the referenced drawings for the new installation.

Best regards,

[REDACTED]

[REDACTED]

[REDACTED]



January 13, 2015

ABS Americas – Houston
Ship Systems Group
Engineering Services Department
16855 Northchase Drive
Houston, TX 77060-6008
Attn: Mr. Henry Robles

Subject: Lake Michigan Carferry, Inc (LMC). Vessel: Carferry S.S. Badger
Christy Corporation Hull 370 / O.N. D265156, ABSID 5300348, LMC P.O. 18875

Reference : Ash Retention Installation Electrical Upgrades

- Enclosure: (1) [redacted] drawing 310-01, Rev. B “Combustion Control and Ash Retention Block Diagram” (4-Shts)
- (2) Ref: [redacted] “Motor Interface PLC Wiring” (10-Shts)
 - (3) Ref: [redacted] “VFD Controller Installations” (5 Shts)
 - (4) Ref: [redacted] “353 Controller Logic” (50 Shts)
 - (5) Ref: [redacted] “353 Controller Wiring” (25 Shts)
 - (6) Ref: [redacted] H14789-IB (3 Shts)
 - (7) Ref: [redacted] H14789-IA & IC

Mr. Robles,

On behalf of the subject vessel owner, Lake Michigan Carferry Service, Inc. we request your review and subsequent approval of the attached drawings provided as enclosure (1). The reference drawings have been previously submitted for review and are attached for reference.

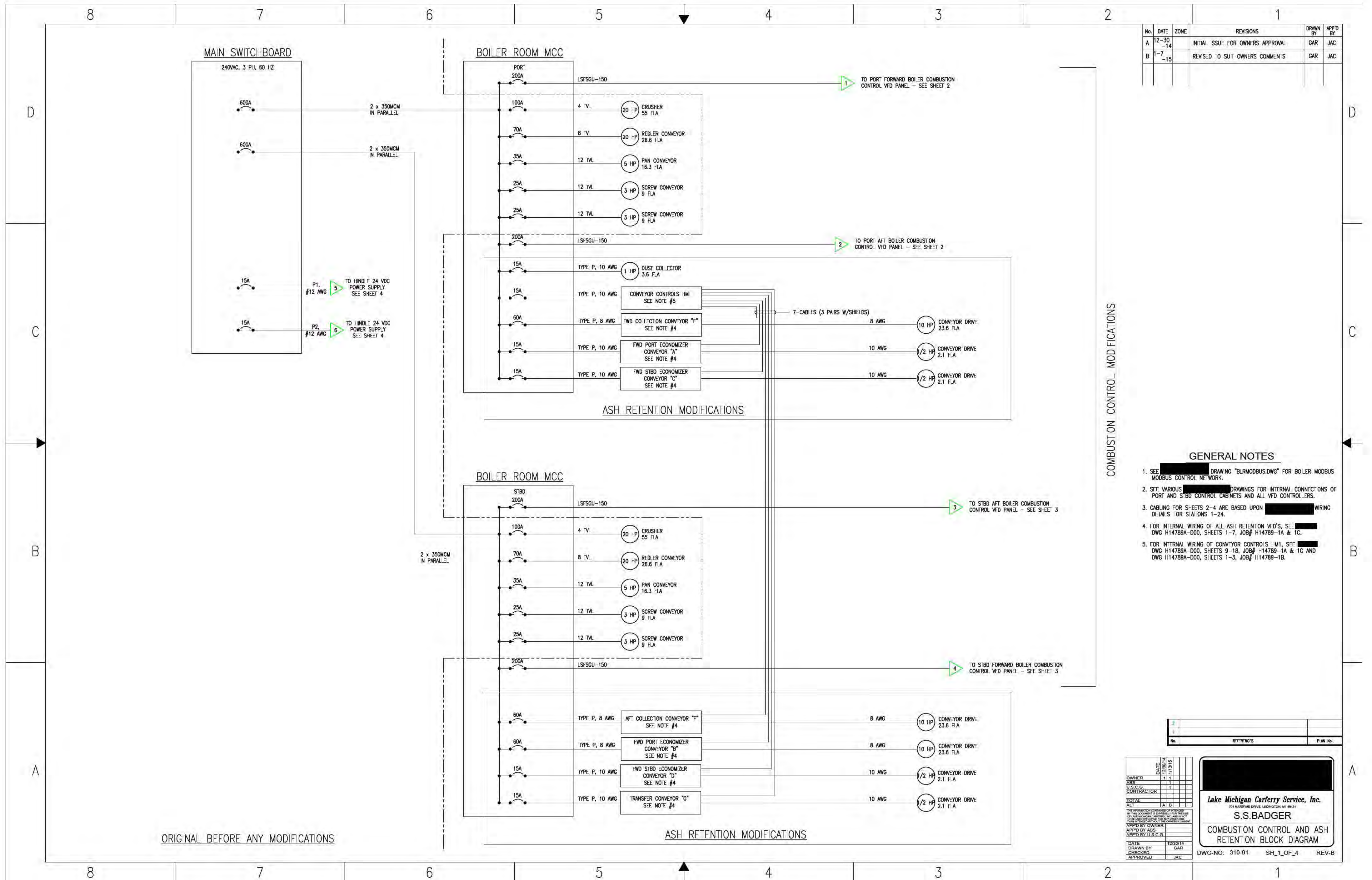
As previously noted by the [redacted] submittals, this installation is being conducted this winter and timeliness of review and approval are of the utmost importance.

Fees for review are to be forwarded to Lake Michigan Carferry, Inc. Thank you in advance for your consideration and please contact me if you have any questions.

Sincerely,

[redacted]
Marine Surveyor / Technical Representative





No.	DATE	ZONE	REVISIONS	DRAWN BY	APP'D BY
A	12-30-14		INITIAL ISSUE FOR OWNERS APPROVAL	GAR	JAC
B	1-7-15		REVISED TO SUIT OWNERS COMMENTS	GAR	JAC

COMBUSTION CONTROL MODIFICATIONS

GENERAL NOTES

- SEE [REDACTED] DRAWING "BLRMODBUS.DWG" FOR BOILER MODBUS MODBUS CONTROL NETWORK.
- SEE VARIOUS [REDACTED] DRAWINGS FOR INTERNAL CONNECTIONS OF PORT AND STBD CONTROL CABINETS AND ALL VFD CONTROLLERS.
- CABLING FOR SHEETS 2-4 ARE BASED UPON [REDACTED] WIRING DETAILS FOR STATIONS 1-24.
- FOR INTERNAL WIRING OF ALL ASH RETENTION VFD'S, SEE [REDACTED] DWG H14789A-D00, SHEETS 1-7, JOB# H14789-1A & 1C.
- FOR INTERNAL WIRING OF CONVEYOR CONTROLS HMI, SEE [REDACTED] DWG H14789A-D00, SHEETS 9-18, JOB# H14789-1A & 1C AND DWG H14789A-D00, SHEETS 1-3, JOB# H14789-1B.

No.	DATE	ZONE	REVISIONS	DRAWN BY	APP'D BY
2					
1					

OWNER	DATE	11	1
ASB	11	1	1
U.S.C.G.	11	1	1
CONTRACTOR	11	1	1
TOTAL	11	1	1
ALL	A	B	

FOR INFORMATION OF CONTRACTOR: THIS DRAWING IS THE PROPERTY OF THE U.S. COAST GUARD AND IS TO BE USED ONLY FOR THE PROJECT AND LOCATION SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE U.S. COAST GUARD.

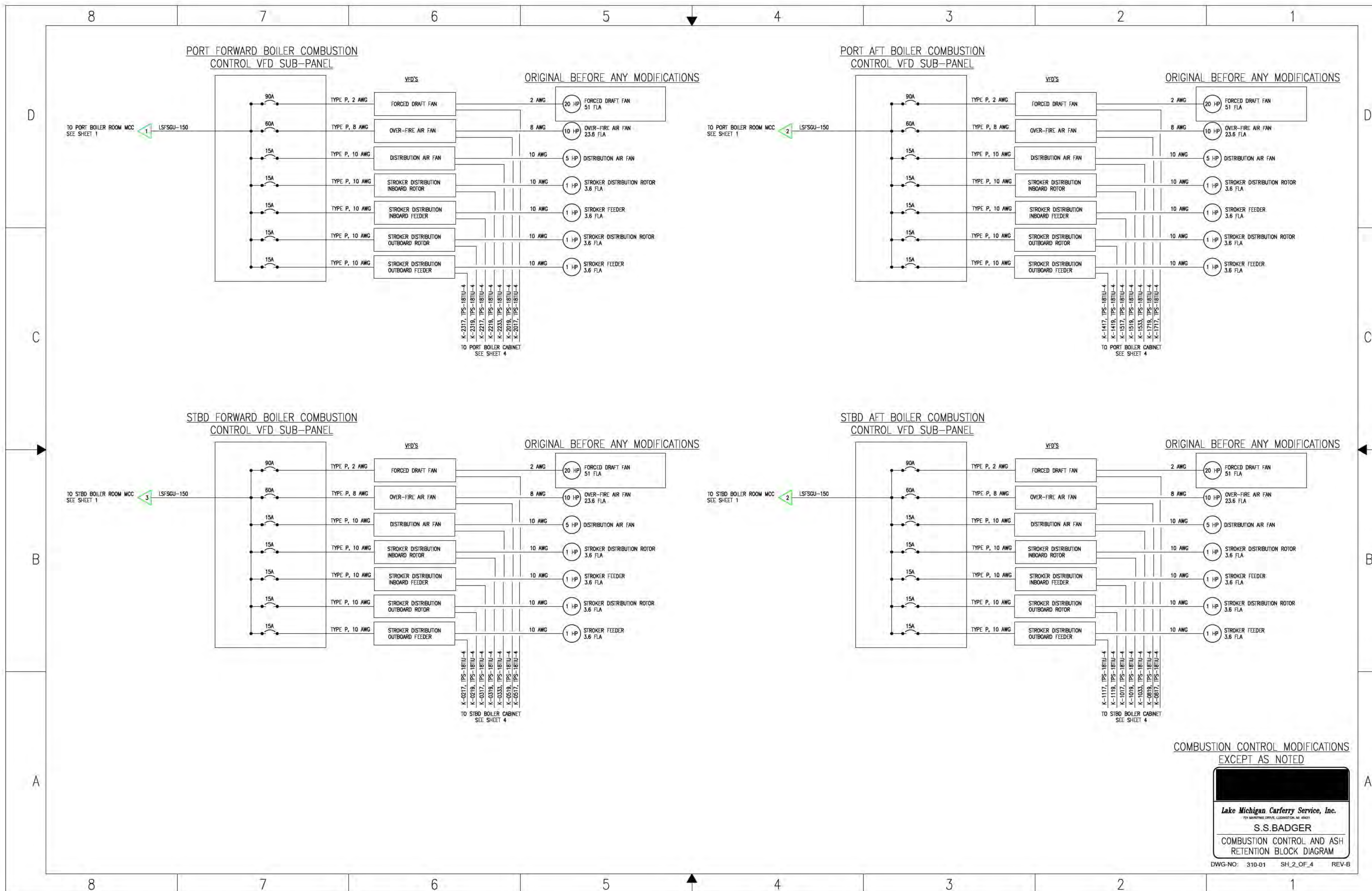
APPROVED BY: [REDACTED]
 DATE: 12/30/14
 DRAWN BY: GAR
 CHECKED: [REDACTED]
 APPROVED: JAC

Lake Michigan Car ferry Service, Inc.
 300 KILBUCK DRIVE, LUDWIGVILLE, MI 48309
S.S. BADGER
 COMBUSTION CONTROL AND ASH RETENTION BLOCK DIAGRAM

DWG-NO: 310-01 SH_1_OF_4 REV-B

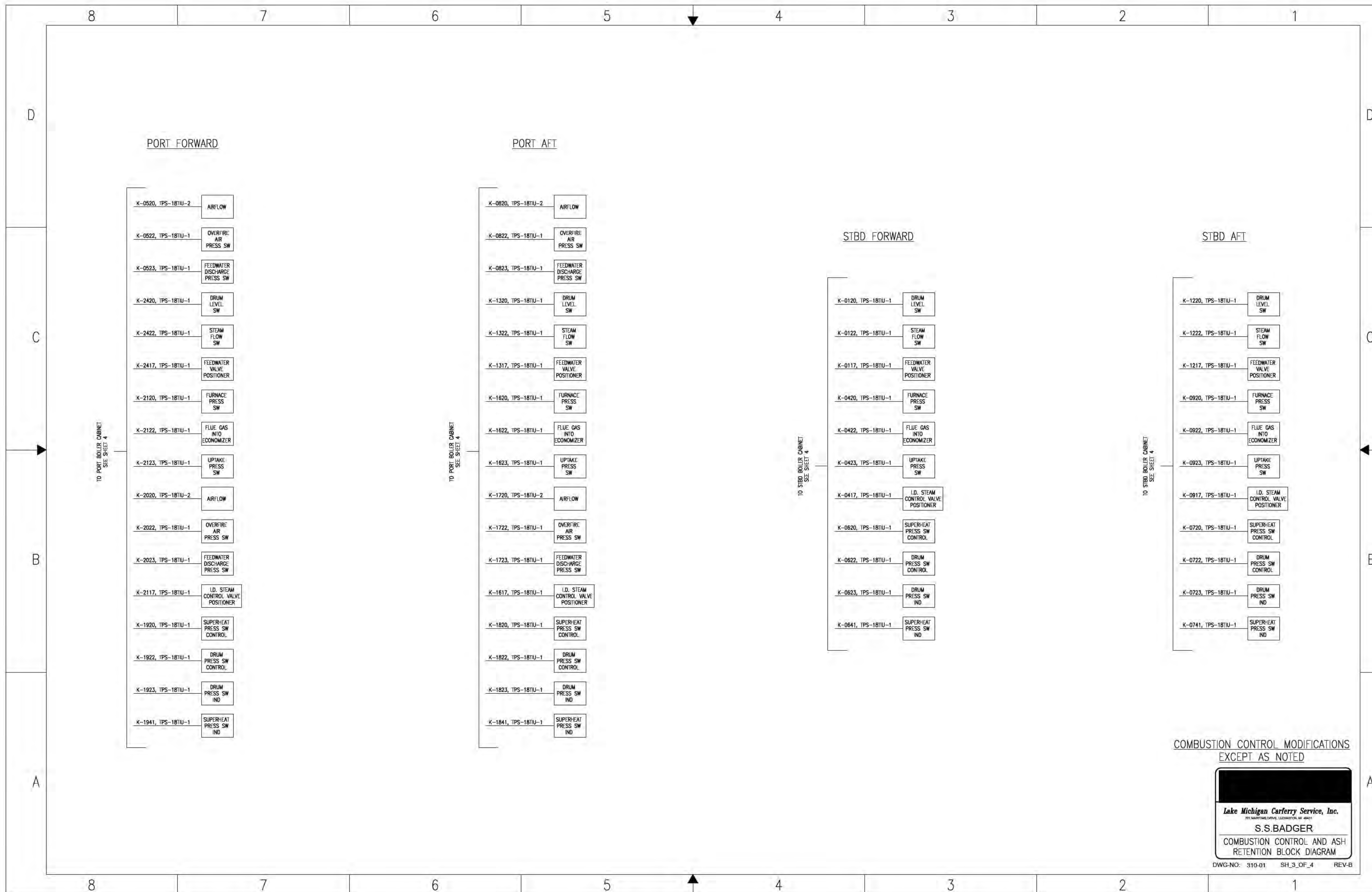
ORIGINAL BEFORE ANY MODIFICATIONS

ASH RETENTION MODIFICATIONS



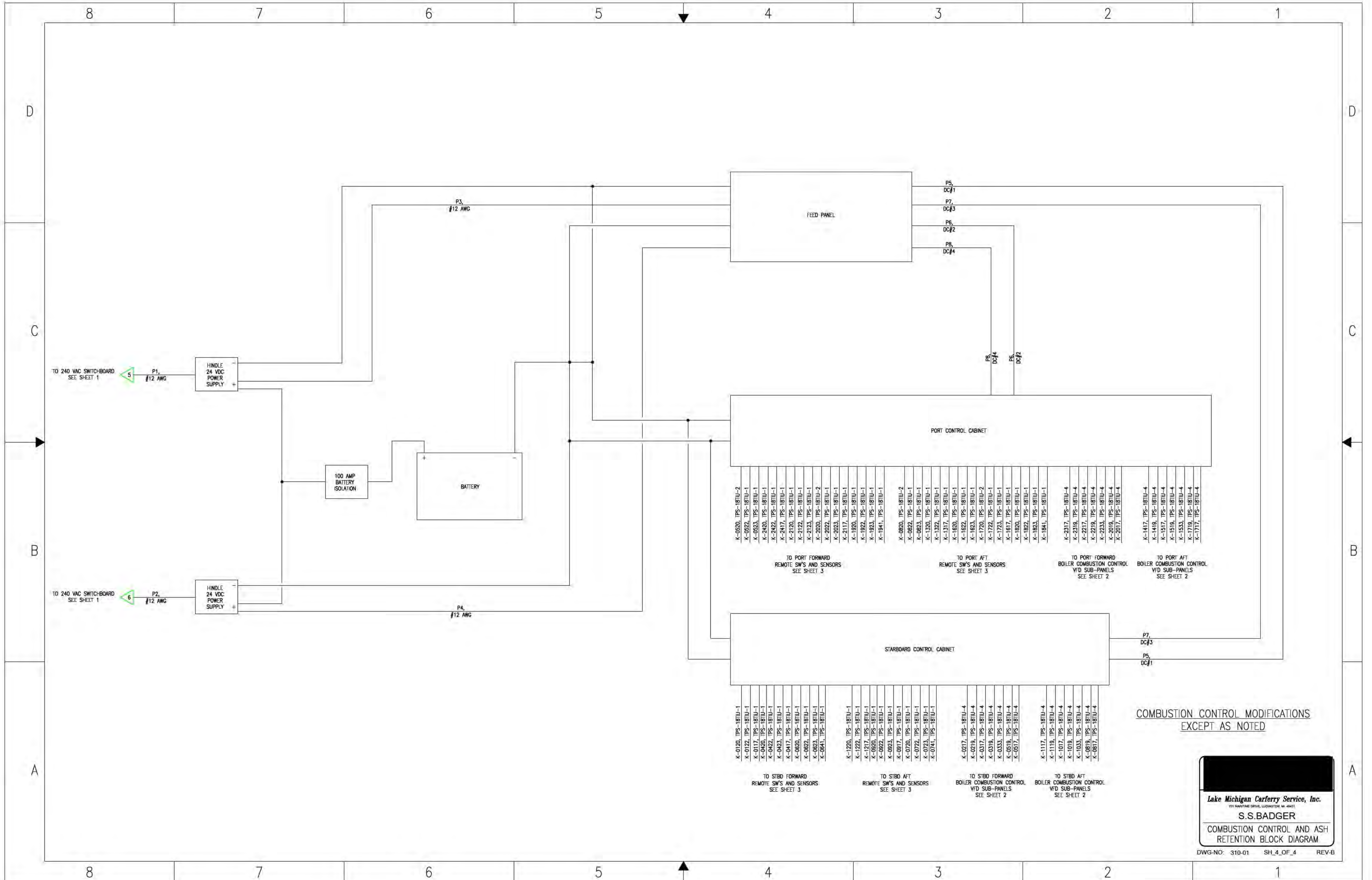
COMBUSTION CONTROL MODIFICATIONS EXCEPT AS NOTED

Lake Michigan Carferry Service, Inc.
 1711 MARINE DRIVE, LUDWIGVILLE, MI 48451
S.S. BADGER
 COMBUSTION CONTROL AND ASH RETENTION BLOCK DIAGRAM



COMBUSTION CONTROL MODIFICATIONS
EXCEPT AS NOTED

Lake Michigan Carferry Service, Inc.
305 MARITIME DRIVE, LANSINGTON, MI 48421
S.S. BADGER
 COMBUSTION CONTROL AND ASH
 RETENTION BLOCK DIAGRAM



COMBUSTION CONTROL MODIFICATIONS
EXCEPT AS NOTED

Lake Michigan Carferry Service, Inc.
274 NAWYKAWI DRIVE, LUDWIGSTOWN, WI 53451
S.S. BADGER
 COMBUSTION CONTROL AND ASH
 RETENTION BLOCK DIAGRAM
 DWG-NO: 310-01 SH_4_OF_4 REV-B

From: [REDACTED]
Sent: Tuesday, January 13, 2015 9:13 AM
To: 'HRobles@eagle.org'; 'MAhmed@eagle.org'
Cc: 'david.c.o'donnell@uscg.mil'; 'Marine Shop'; 'Robert Gamble'
Subject: Carferry S.S. Badger Ash retention Installation Electrical Upgrades

(Message 2 of 2)

Dear Henry & Mohammad,

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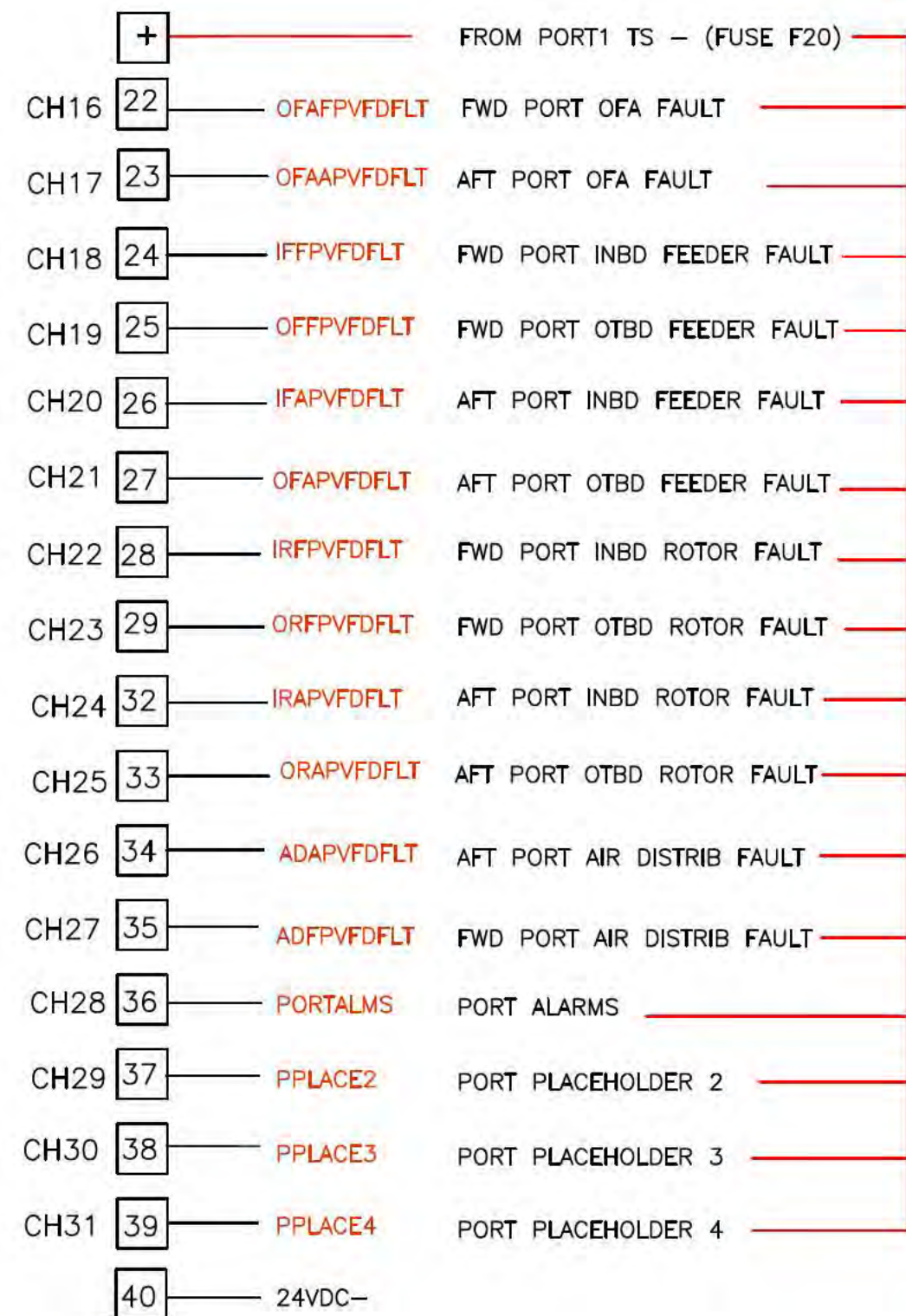
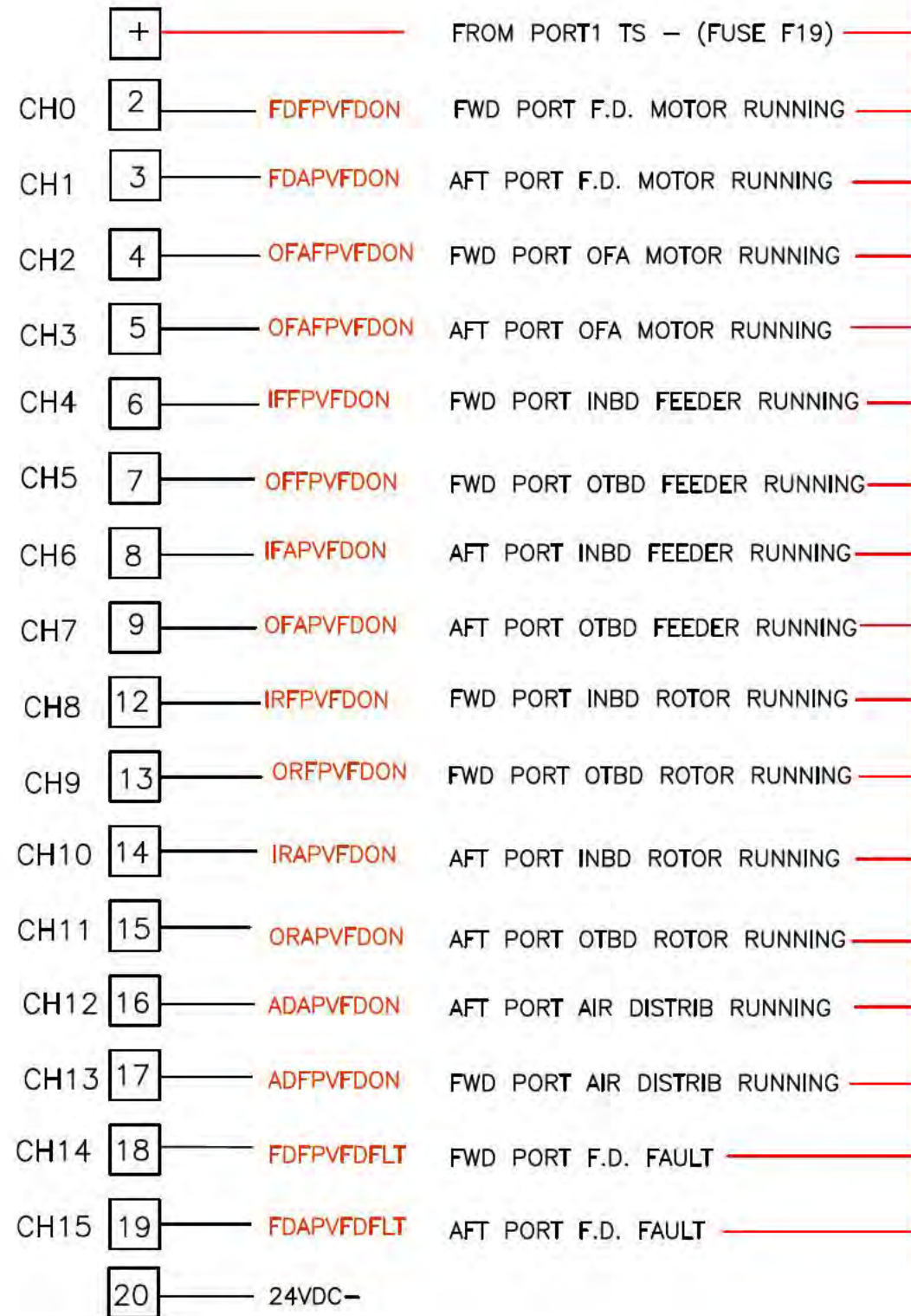
Best regards,

[REDACTED]

[REDACTED]

[REDACTED]

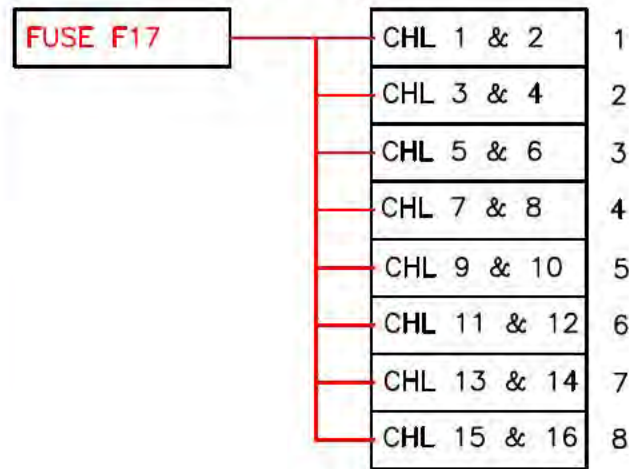
REV.



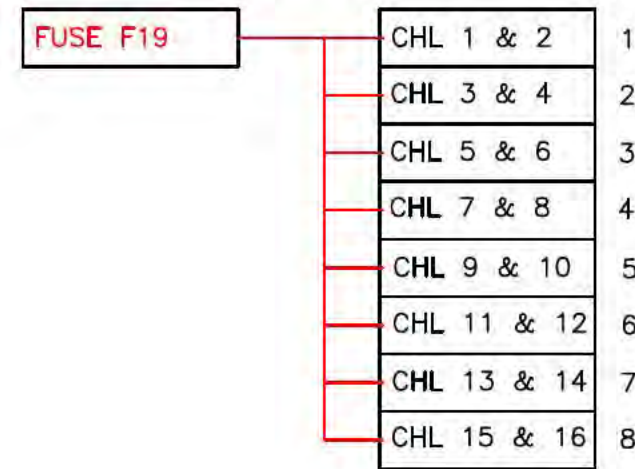
	BADGER PLC MODULE PORT DISCRETE INPUT SLOT 5 PROJECT NO. 8819-580	
	DRAWING NAME: PLCSLOT5.DWG	DRAWING NO:
	BY: JCHLLC DATE: 1/31/14	SHEET ___ OF ___

PLC DISCRETE INPUT FIELD DEVICE DC+ TERMINALS

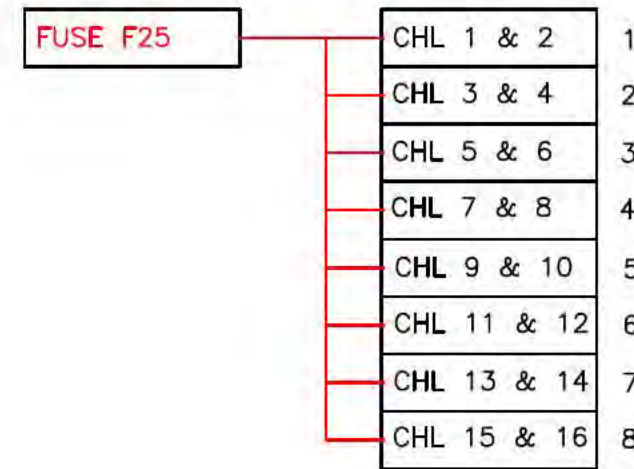
PORT DI #1A FIELD DEVICE DC+



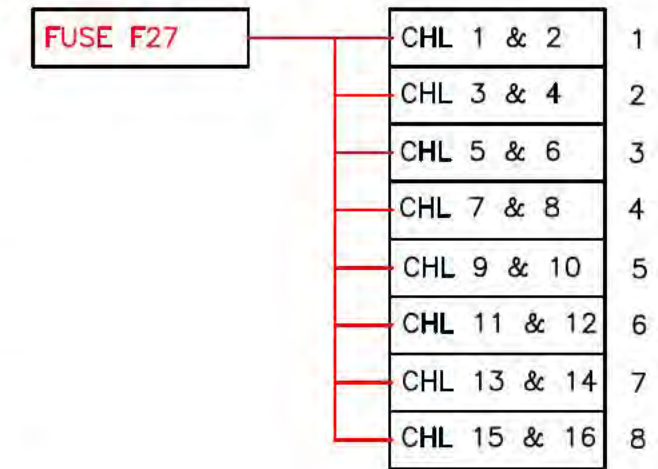
STBD DI #2A FIELD DEVICE DC+



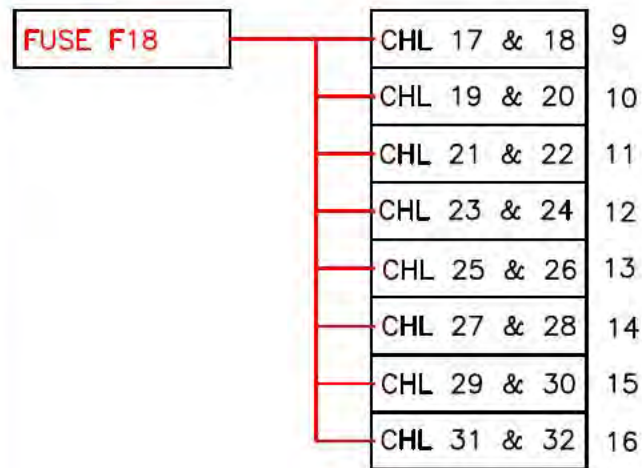
PORT DI #3A FIELD DEVICE DC+



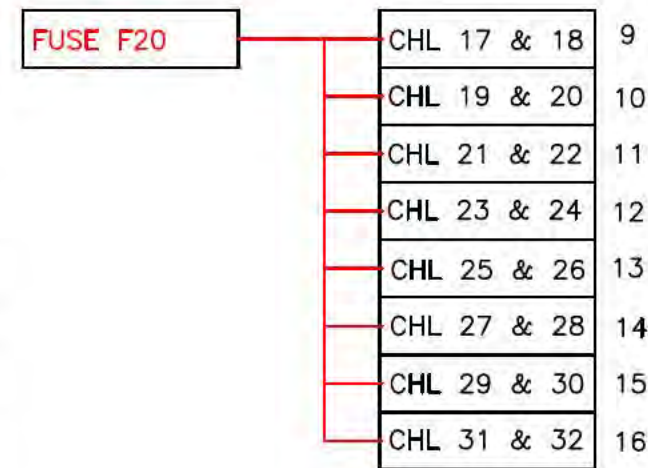
STBD DI #4A FIELD DEVICE DC+



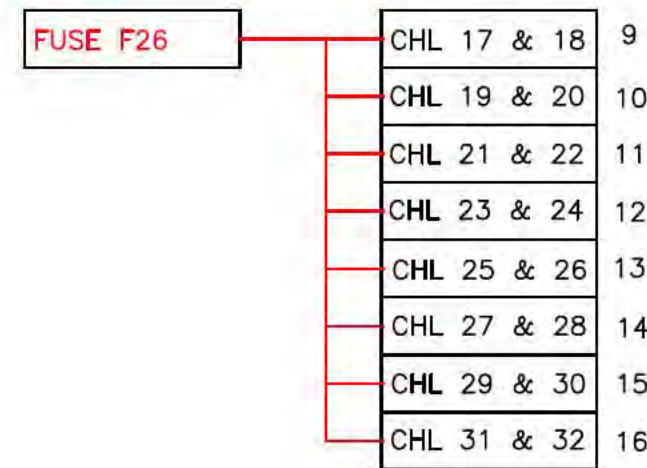
PORT DI #1B FIELD DEVICE DC+



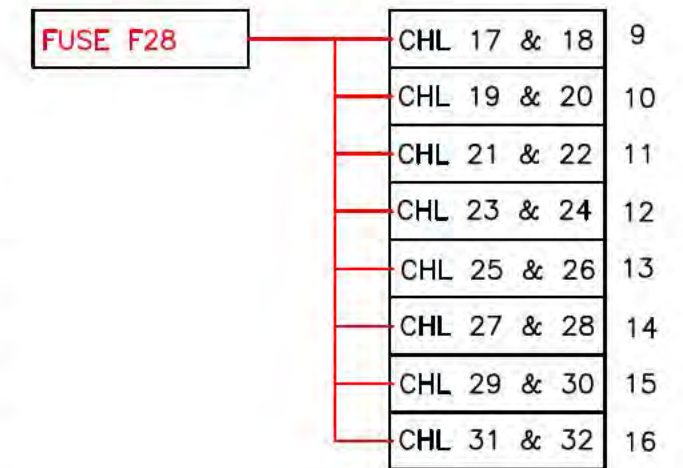
STBD DI #2B FIELD DEVICE DC+



PORT DI #3B FIELD DEVICE DC+

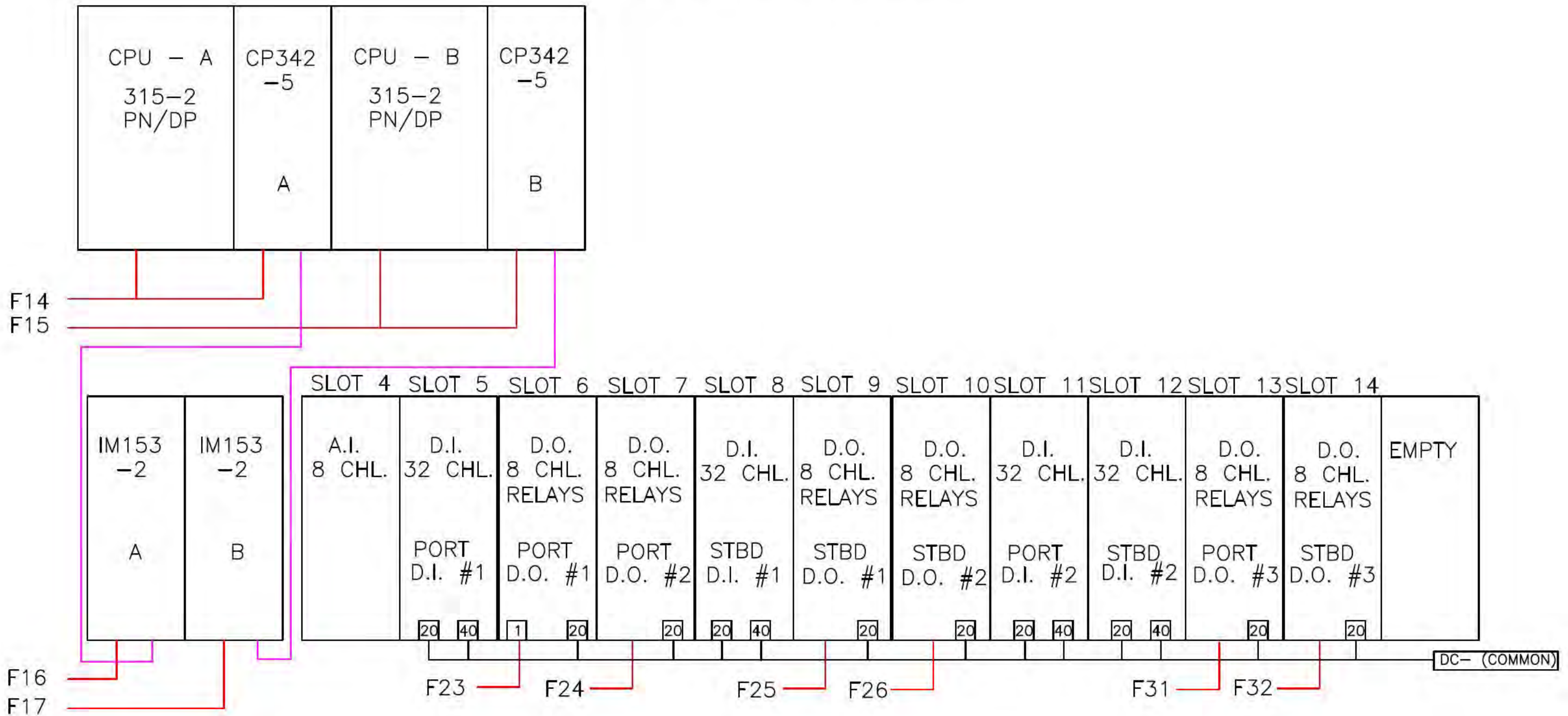


STBD DI #4B FIELD DEVICE DC+



TERMINAL STRIPS TO BE LOCATED ADJACENT TO PLC I/O

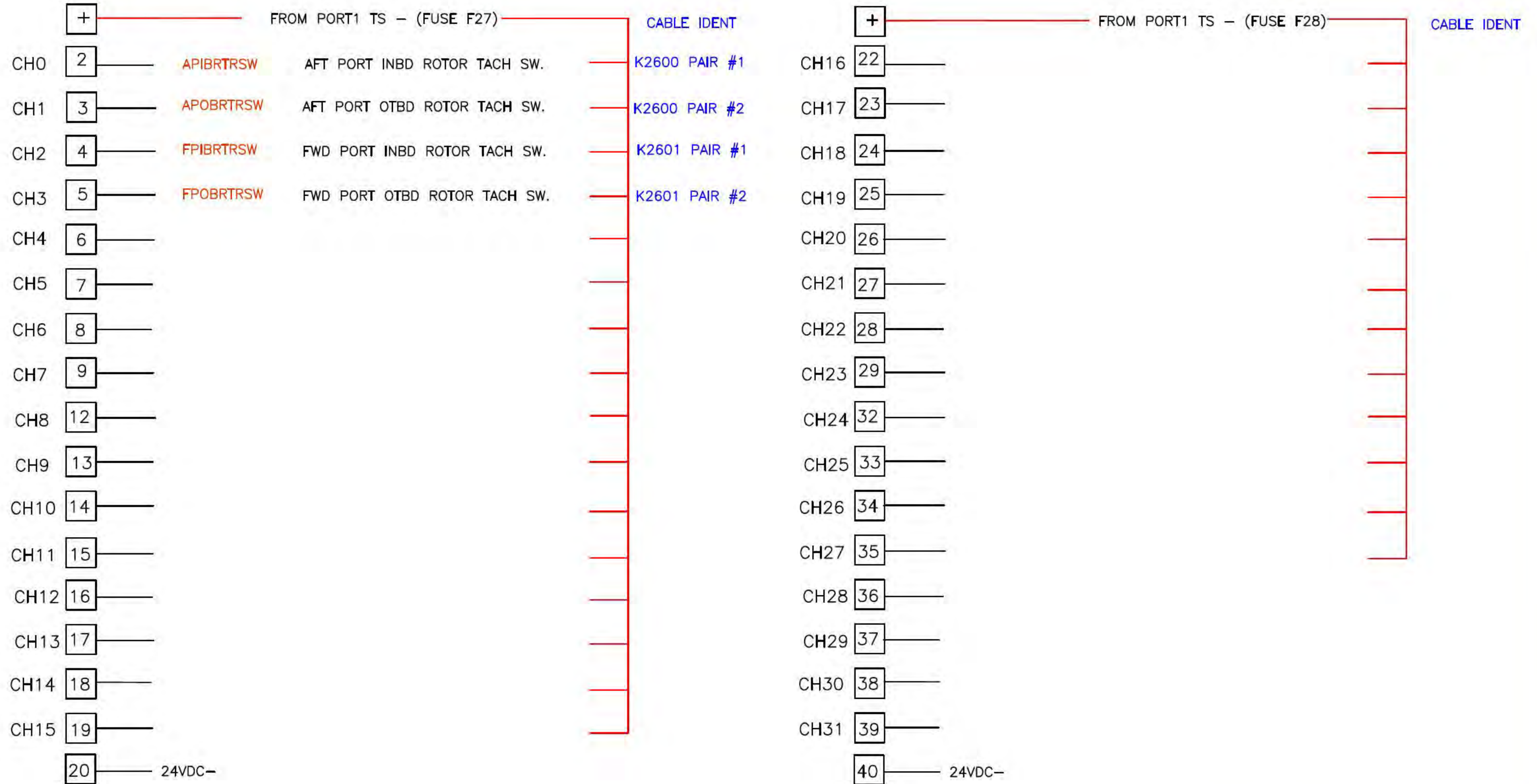
PORT BOILER CABINET – MAIN PLC LAYOUT



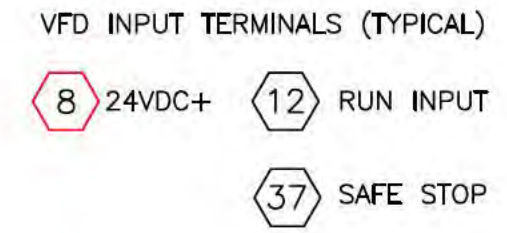
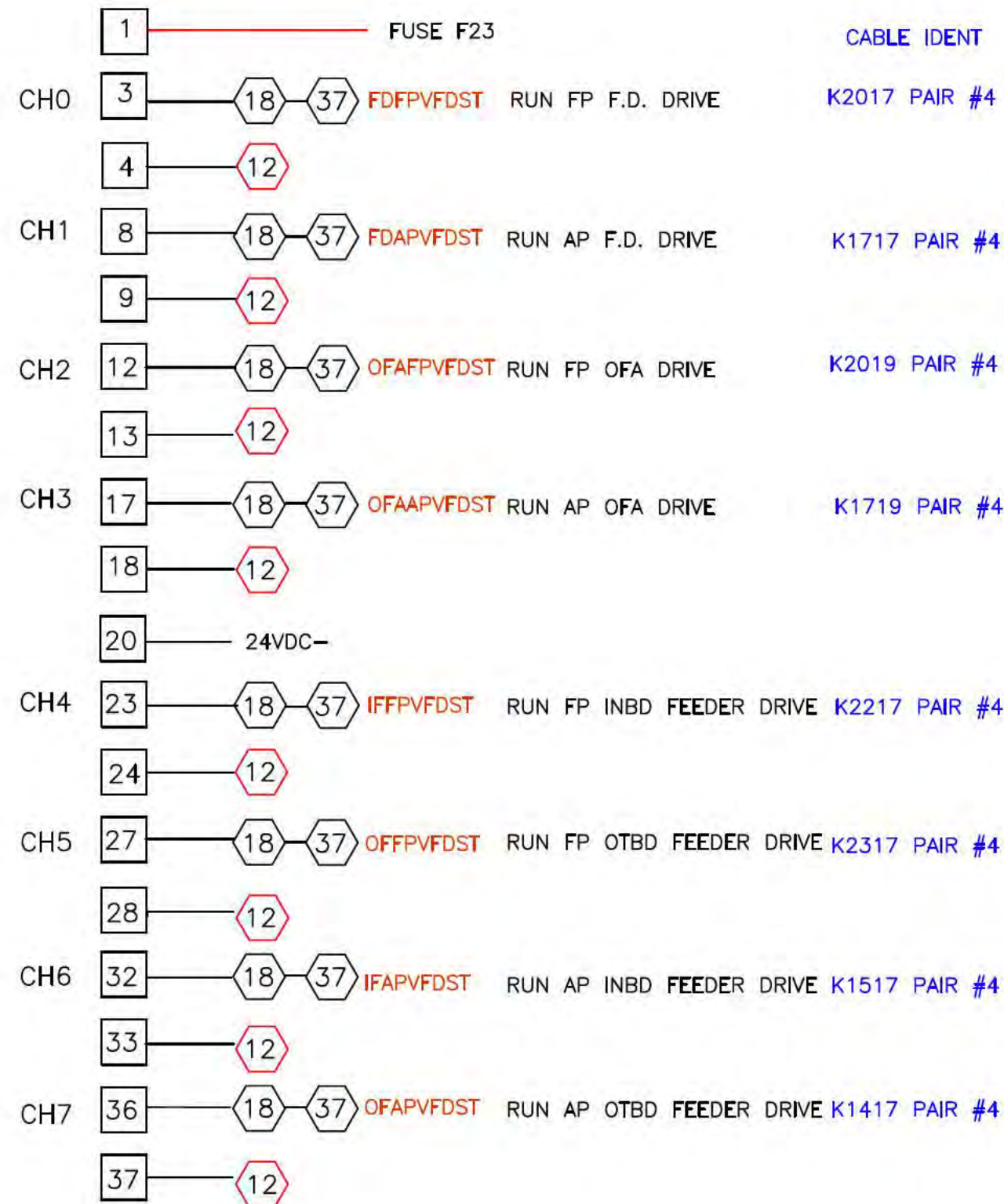
NOTE: DC+ SUPPLY FOR DISCRETE FIELD INPUTS SHOWN ON PLC D.I. POWER TERMINALS DRAWING.



REV.

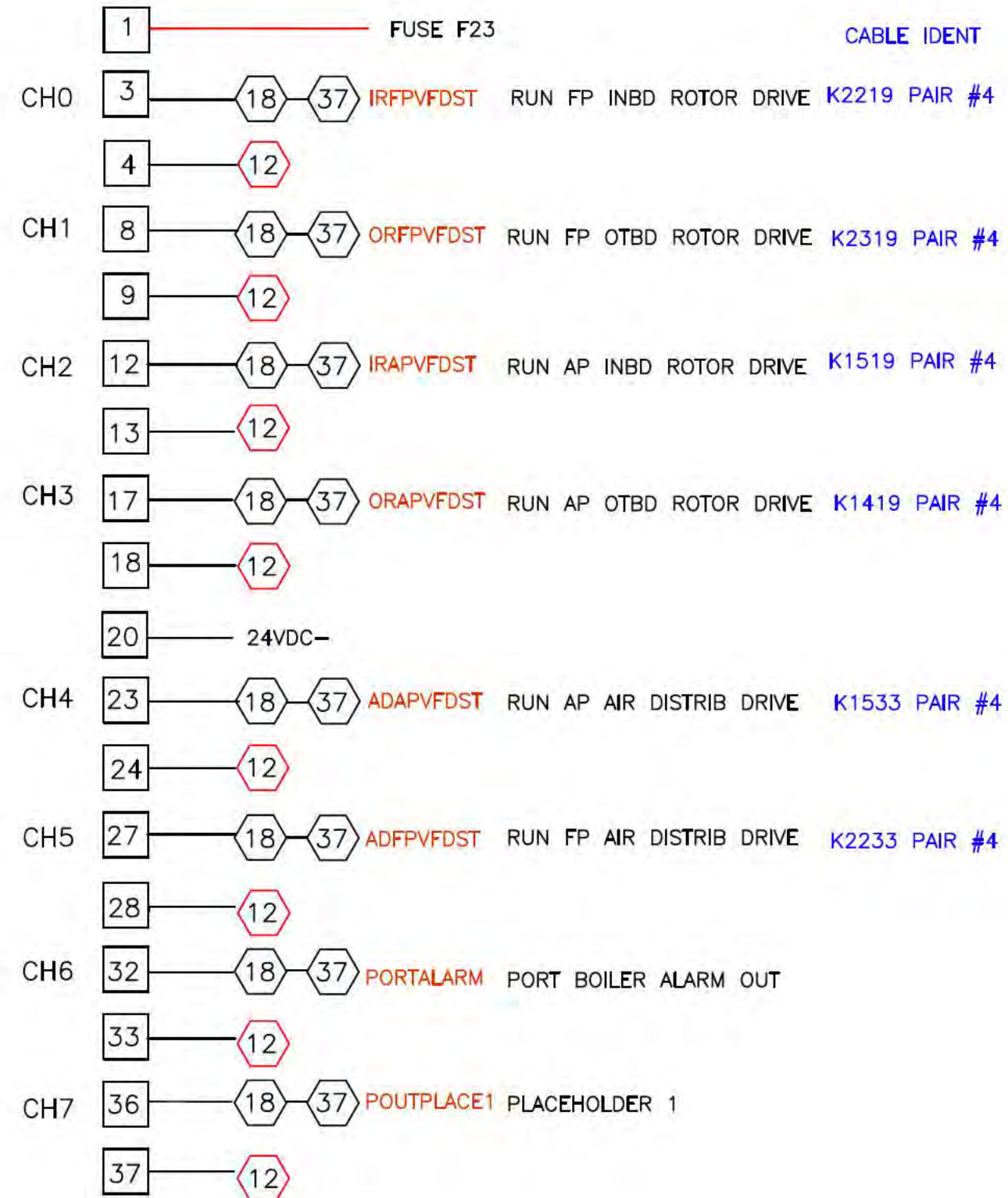


REV.



	BADGER PLC MODULE PORT RELAY OUTPUT MODULE #1	
	DRAWING NAME: PLCSLOT7.DWG	DRAWING NO:
	BY: JCHLLC DATE: 2/7/14	SHEET ___ OF ___

REV.



VFD INPUT TERMINALS (TYPICAL)

8 24VDC+ 12 RUN INPUT

37 SAFE STOP

	BADGER PLC MODULE PORT RELAY OUTPUT MODULE #2	
	DRAWING NAME: PLCSLOT8.DWG	DRAWING NO:
	BY: JCHLLC DATE: 2/7/14	SHEET ___ OF ___

REV.



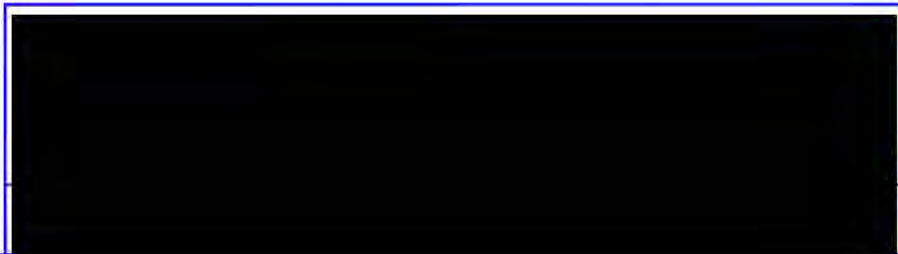
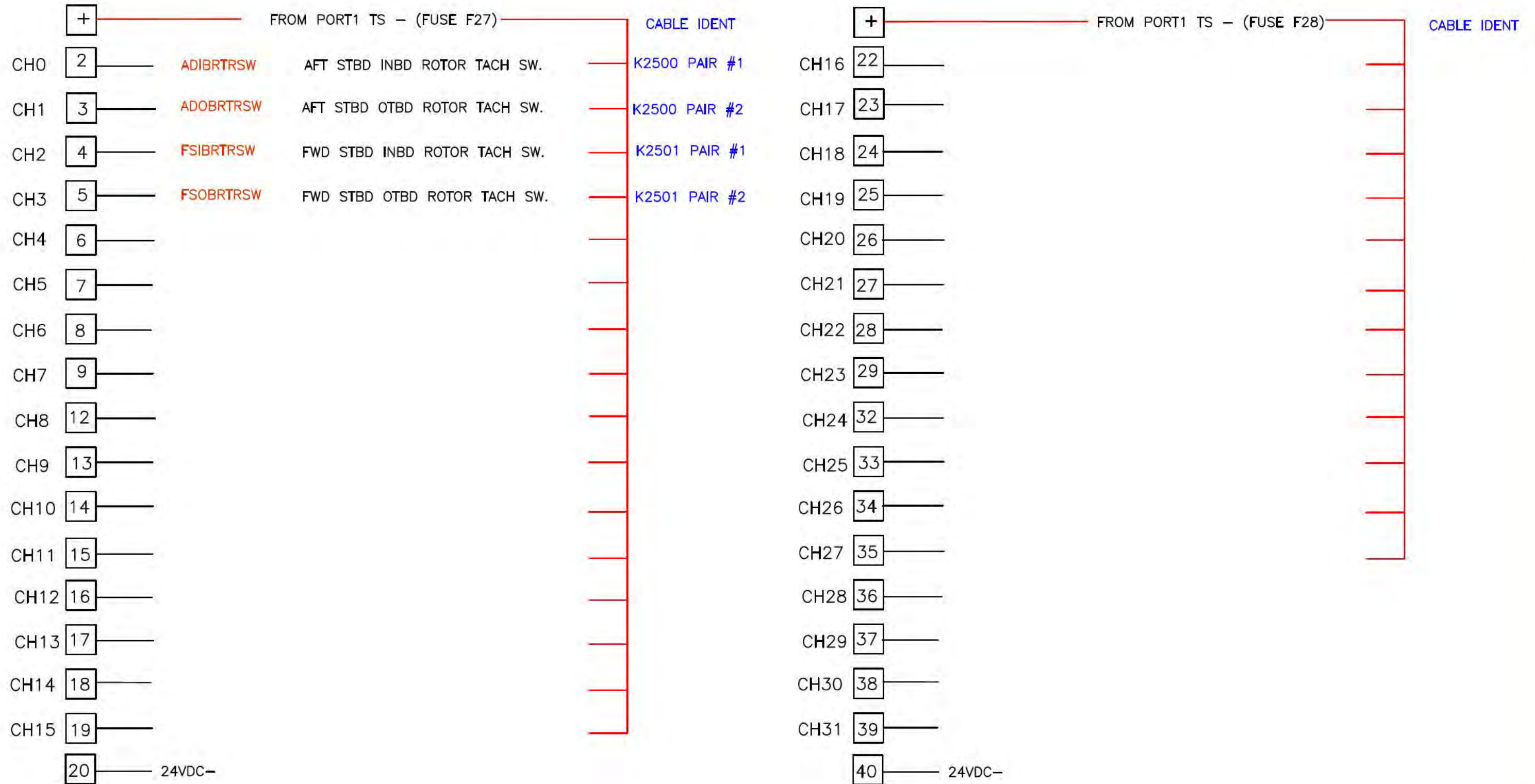
VFD INPUT TERMINALS (TYPICAL)

8 24VDC+ 12 RUN INPUT

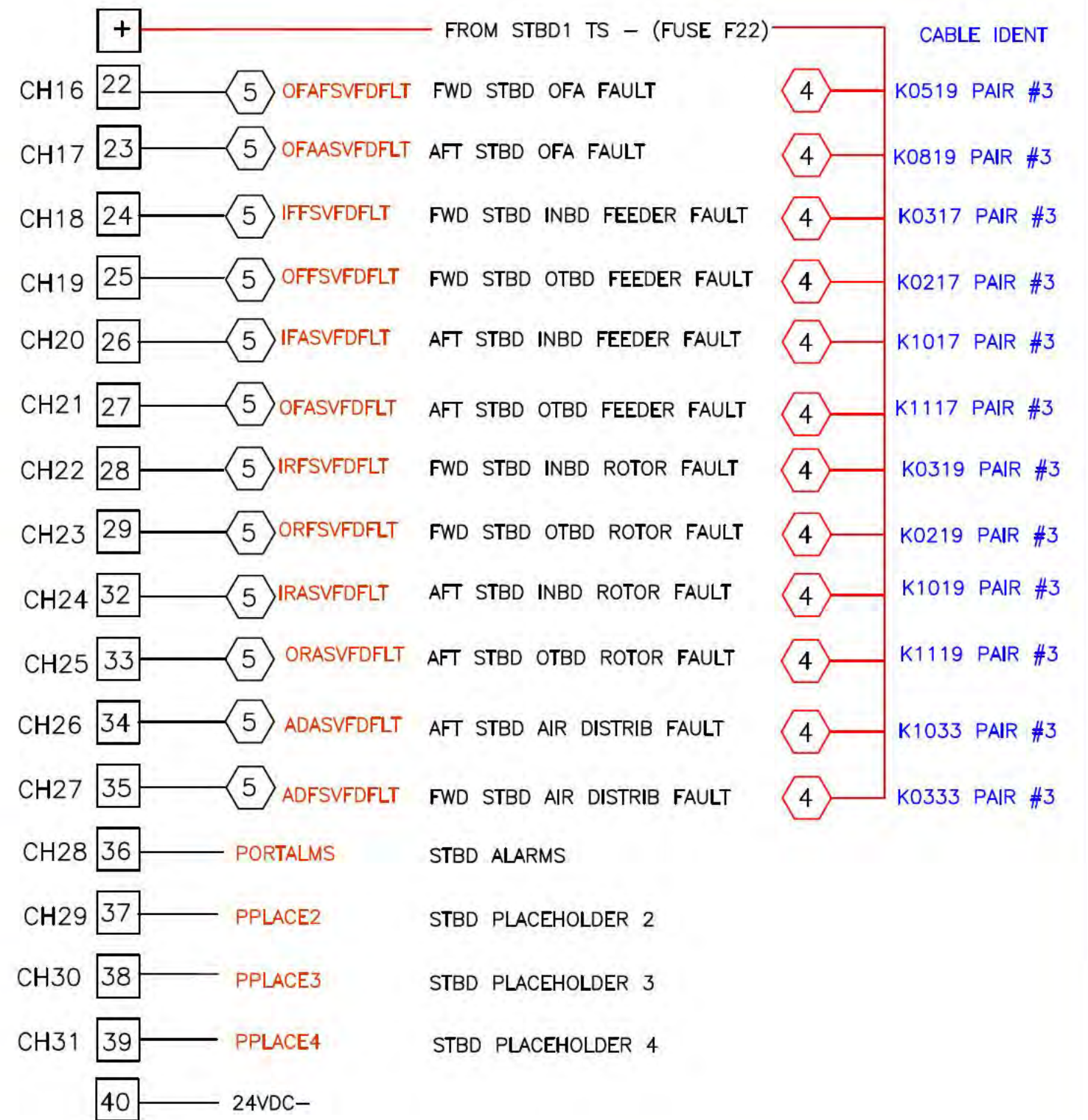
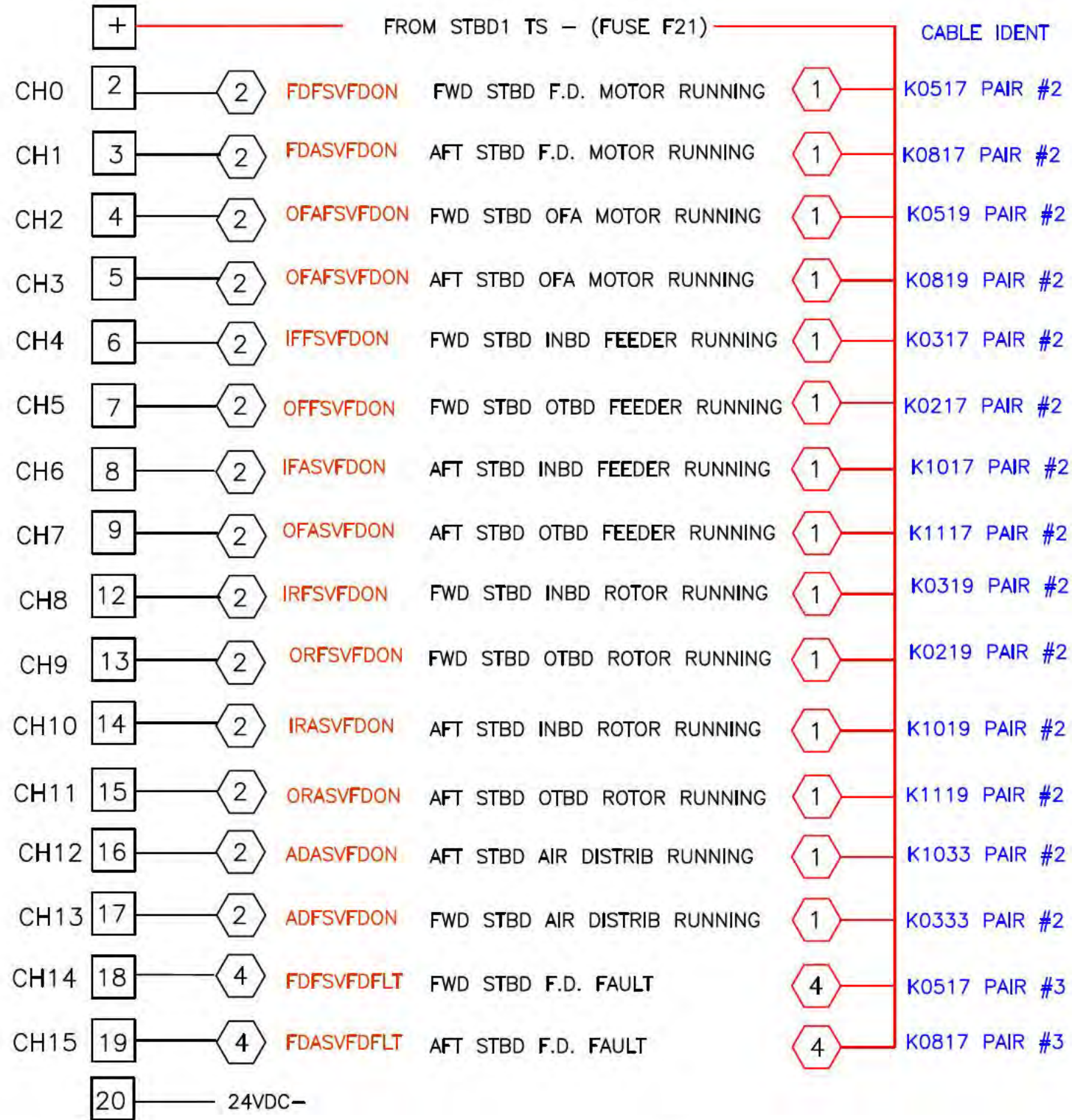
37 SAFE STOP

	BADGER PLC MODULE STBD RELAY OUTPUT MODULE #2	
	DRAWING NAME: PLCSLOT10.DWG	DRAWING NO:
	BY: JCHLLC DATE: 2/11/14	SHEET ___ OF ___

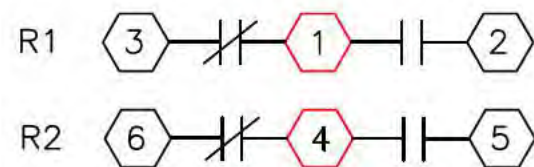
REV.



BADGER PLC MODULE STBD DISCRETE INPUT SLOT 12	
DRAWING NAME: PLCSLOT12.DWG	DRAWING NO:
BY: JCHLLC	DATE: 2/9/14
SHEET ___ OF ___	

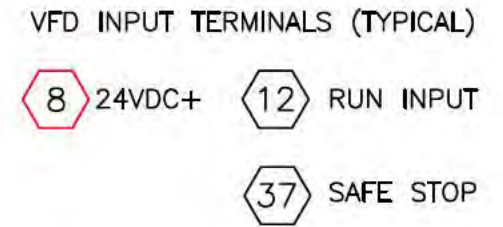


VFDS' RELAY OUTPUTS (TYPICAL)



BADGER PLC MODULE
STBD DISCRETE INPUT SLOT 6

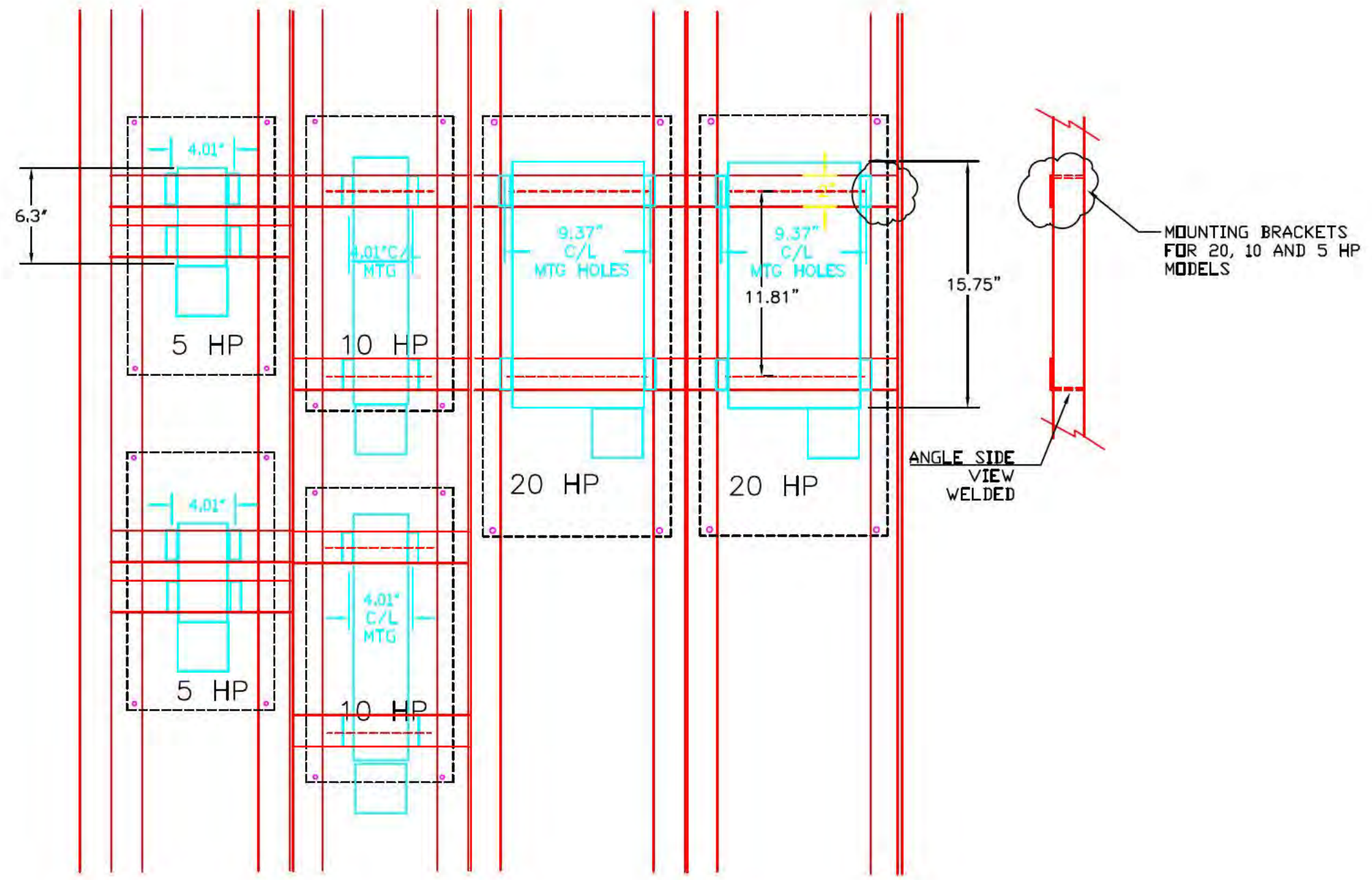
REV.



	BADGER PLC MODULE STBD RELAY OUTPUT MODULE #1	
	DRAWING NAME: PLCSLOT9.DWG	DRAWING NO:
	BY: JCHLLC DATE: 2/11/14	SHEET ___ OF ___

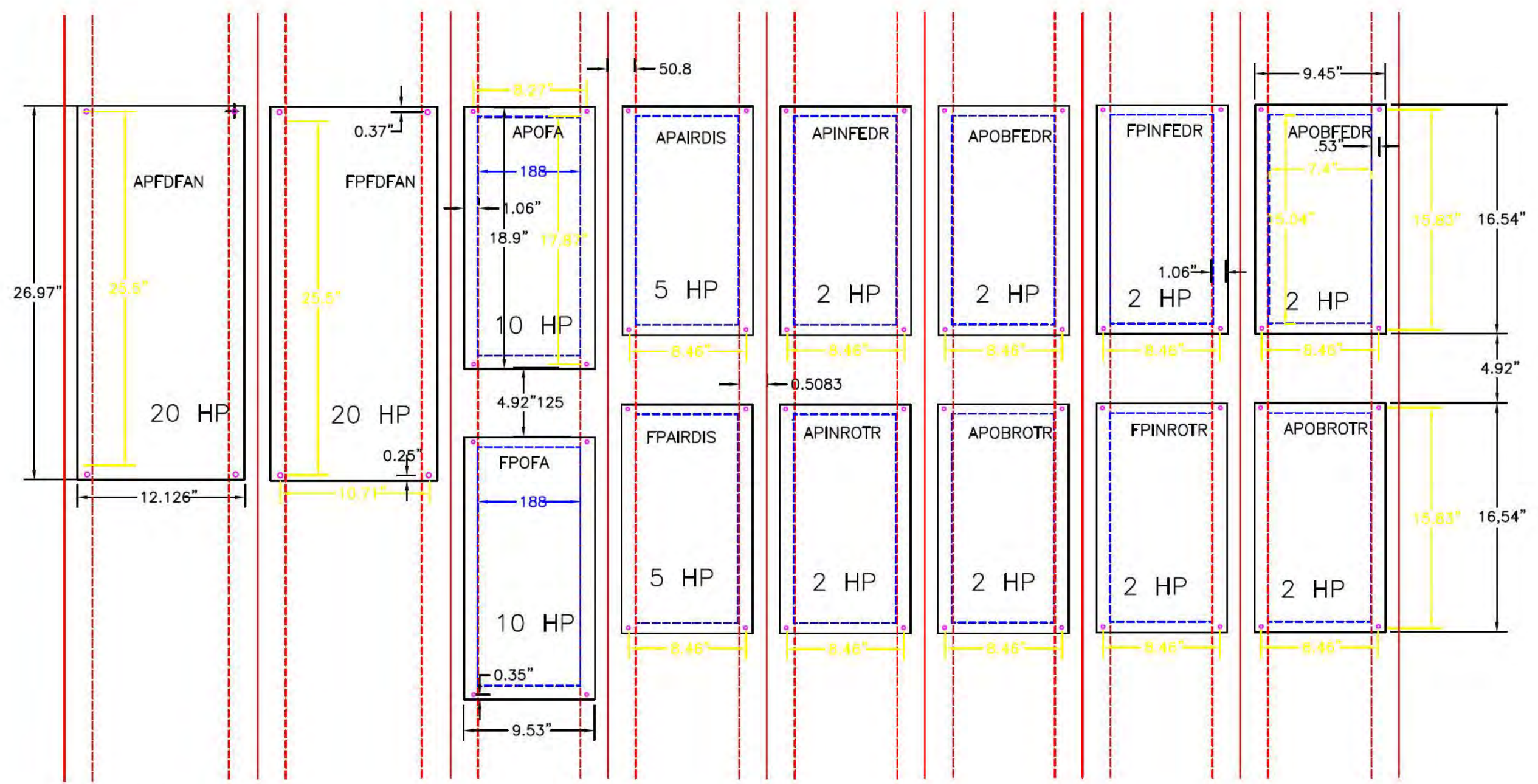
VFD TAGNAMES

TAGNAME	DESCRIPTOR
FPDFAN	FWD PORT F.D. FAN
APDFAN	AFT PORT F.D. FAN
FPOFA	FWD PORT OVERFIRE AIR
APOFA	AFT PORT OVERFIRE AIR
FPIBFEDR	FWD PORT INBD FEEDER
FPOBFEDR	FWD PORT OTBD FEEDER
APIBFEDR	AFT PORT INBD FEEDER
APOBFEDR	AFT PORT OTBD FEEDER
FPIBROTR	FWD PORT INBD ROTOR
FPOBROTR	FWD PORT OTBD ROTOR
APIBROTR	AFT PORT INBD ROTOR
APOBROTR	AFT PORT OTBD ROTOR
APAIRDIST	AFT PORT AIR DISTRIB
FPAIRDIST	FWD PORT AIR DISTRIB
FSDFAN	FWD STBD F.D. FAN
ASDFAN	AFT STBD F.D. FAN
FSOFA	FWD STBD OVERFIRE AIR
ASOFA	AFT STBD OVERFIRE AIR
FSIBFEDR	FWD STBD INBOD FEEDER
FSOBFEDR	FWD STBD OTBD FEEDER
ASIBFEDR	AFT STBD INBD FEEDER
ASOBFEDR	AFT STBD OTBD FEEDER
FSIBROTR	FWD STBD INBD ROTOR
FSOBROTR	FWD STBD OTBD ROTOR
ASIBROTR	AFT STBD INBD ROTOR
ASOBROTR	AFT STBD OTBD ROTOR
ASAIRDIST	AFT STBD AIR DISTRIB
FSAIRDIST	FWD STBD AIR DISTRIB



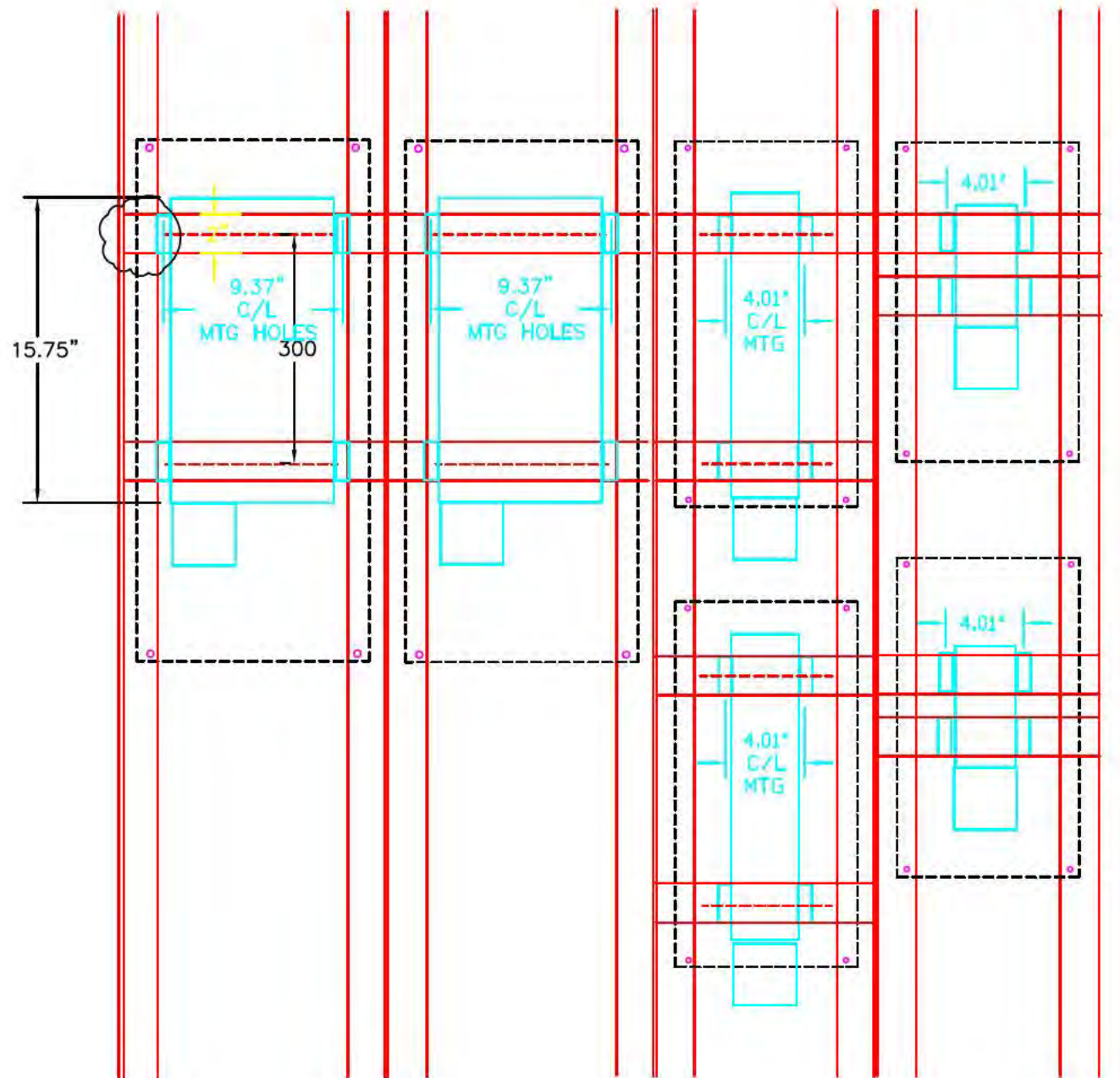
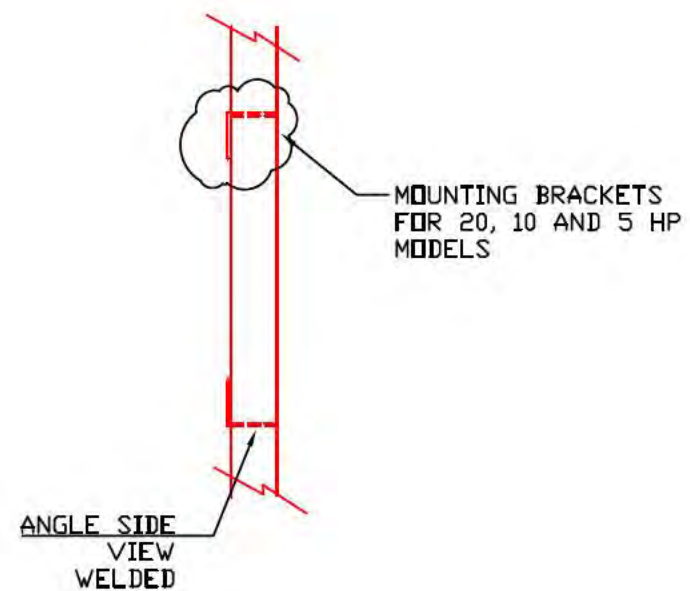
VIEW FROM REAR OF VFD MOUNTING RACK

SS BADGER
PORT VFD BRAKE RESISTOR MOUNTING



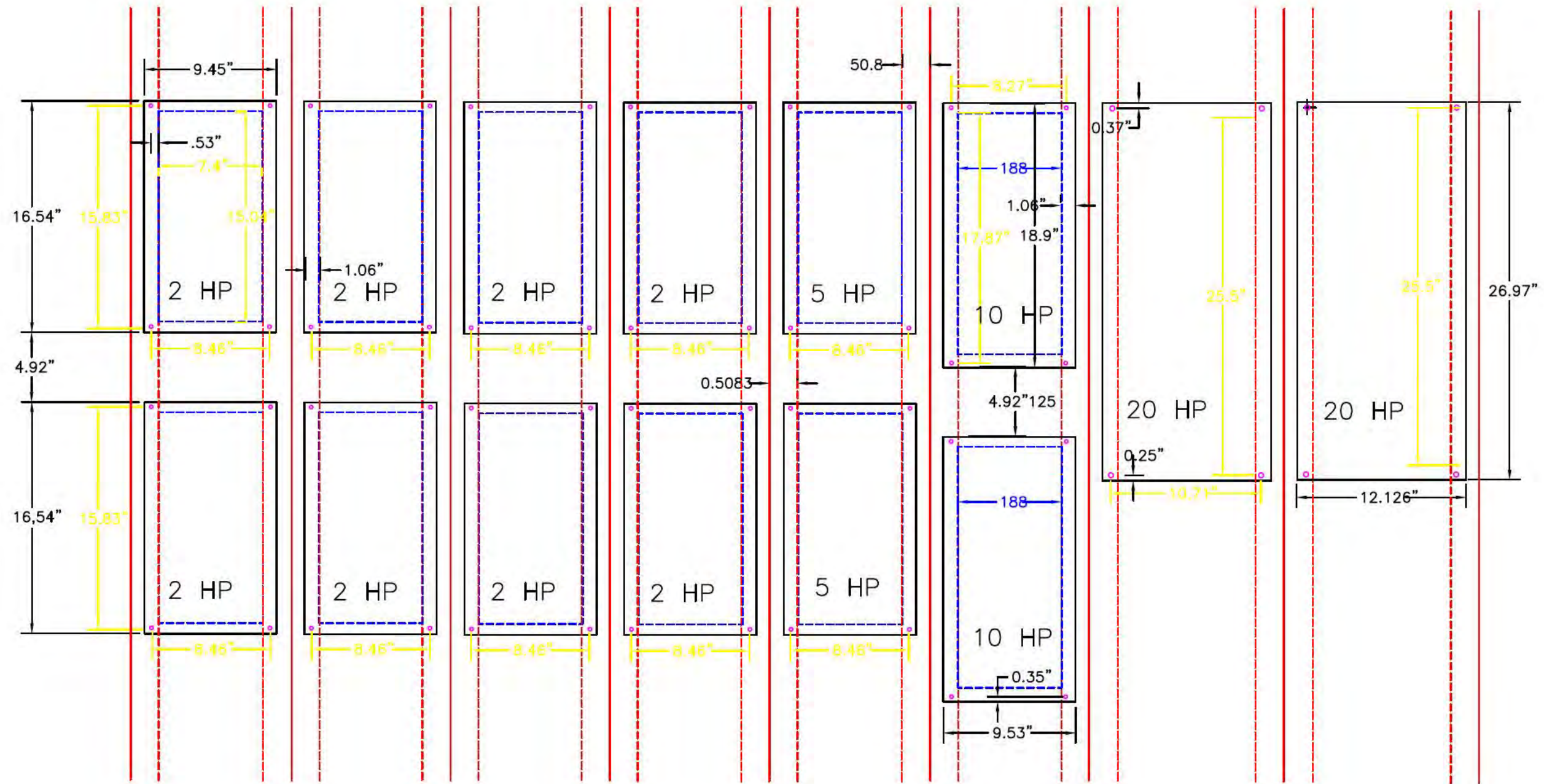
- NOTES:
1. ALL DIMENSIONS IN INCHES
 2. 2 HP AND 5 HP UNITS ARE THE SAME SIZE
 3. PLEASE IDENTIFY BACKING PLATES IN SHIPMENT OF DRIVES - USE PLATES AS TEMPLATES TO CONFIRM/ ASSIST WITH FRAME ASSY AND MOUNTING HOLE LOCATIONS.

	SS BADGER PORT VFD RACK LAYOUT	
	DRAWING NAME: PORTVFDPNL.DWG	DRAWING NO:
	DRAWN BY: DATE: 1/7/2014	SHEET ___ OF ___



VIEW FROM REAR OF VFD MOUNTING RACK

SS BADGER
STBD VFD BRAKE RESISTOR MOUNTING



- NOTES:
1. ALL DIMENSIONS IN INCHES
 2. 2 HP AND 5 HP UNITS ARE THE SAME SIZE
 3. PLEASE IDENTIFY BACKING PLATES IN SHIPMENT OF DRIVES - USE PLATES AS TEMPLATES TO CONFIRM/ ASSIST WITH FRAME ASSY AND MOUNTING HOLE LOCATIONS.



SS BADGER STBD VFD RACK LAYOUT	
DRAWING NAME: STBDVFDPNL.DWG	DRAWING NO:
DRAWN BY: DATE: 1/7/2014	SHEET ___ OF ___