



1. ALL CABLES, COMPONENTS AND METHODS SHALL COMPLY WITH TRANSPORT CANADA PUBLICATION TP127-SHIPS ELECTRICAL STANDARDS.
2. THE SELECTION OF MATERIAL, CABLES AND COMPONENTS SHALL BE COMPATIBLE WITH THOSE CURRENTLY USED BY THE VESSEL AS NORMAL APPROVED ELECTRICAL SPARES.
3. ALL CABLES SHALL BE ADEQUATELY SUPPORTED, GLANDED (IP44) AND HAVE INHERENT OR ADDED PROTECTION FROM MECHANICAL DAMAGE, HEAT AND MOISTURE AS REQUIRED FOR THE SPACE THEY SERVE OR PASS THROUGH.
4. CABLING SCHEME MAY BE MULTICORE OR INDIVIDUAL DEPENDING ON UTILIZATION OF EXISTING CABLES OR INSTALLATION OF NEW IF REQUIRED AND FOR ANY OF THE OPTIONS ILLUSTRATED.
5. ALL CABLE ARMOUR AND METAL DEVICES ARE TO BE BONDED/EARTHED TO THE SHIPS' HULL.
6. ALL NUMBERED ENCLOSURES SHALL BE NEMA 4 WITH BACK MOUNTING PLANE AND LOCKABLE HINGED DOOR.
7. ALL SERVICEABLE COMPONENTS SHALL BE DIN RAIL MOUNTED AND APPROVED TERMINAL BLOCKS USED.
8. ALL PENETRATIONS INSTALLED SHALL MAINTAIN THE RATING OF THE DECKS AND BULKHEADS AFFECTED.
9. ALL INTERNAL WIRING CONNECTIONS SHALL BE TERMINATED USING CRIMPED WIRE ENDS.
10. WHERE ADDITIONAL SWITCHES ARE REQUIRED BUT NOT AVAILABLE, IN THE PRESSURE OPERATED SWITCH (84-486536-000) THE ADDITION OF 1 OR MORE SWITCHES AS NECESSARY WILL BE EXTRA.
11. CONDUCTOR IDENTIFICATION IS REQUIRED THROUGHOUT ON BOTH ENDS OF ALL CONDUCTORS. CABLES TO BE IDENTIFIED ON BOTH SIDES OF EVERY PENETRATION AND CABLE GLAND. CABLE IDENTIFICATION TO BEGIN WITH FM PREFIX FOLLOWED BY CONDUCTOR #. APPROVED NUMBERING SCHEME TO BE USED.
12. SUPPLY OF MATERIALS & PROGRAMMING FOR VTS MODIFICATIONS IS TO BE BY THE FSR (TRIHEDRAL ENGINEERING)
13. SUPPLY OF MATERIALS FOR THE MODIFICATION OF THE FM200 MUST BE BY A KIDDE FSR WITH CURRENT FACTORY CERTIFICATES OF TRAINING AND WHOSE FACILITY IS CLASS APPROVED TO PERFORM SUPPRESSION SERVICE.
14. THE KIDDE FSR MUST HAVE THE CAPABILITIES TO RECHARGE AND SERVICE THE FM200 AND NITROGEN COMPONENTS. HYDROTESTING WHERE REQUIRED SHALL BE PERFORMED BY A TC APPROVED HYDROTEST FACILITY.
15. THE KIDDE FSR MUST ALSO HOLD CURRENT NOTIFIER CERTIFICATION.
16. THE KIDDE FSR SHALL BE A KIDDE AUTHORIZED MARINE DISTRIBUTOR WITH FULL ACCESS TO MARINE COMPONENTS.
17. KIDDE SWITCH PART #'S AS IDENTIFIED ON THE DRAWING ARE TO BE THE SWITCHES USED FOR THIS UPGRADE. NOTE: NOT ALL SWITCHES REQUIRE REPLACEMENT. IF THEY MUST BE CHANGED OR REPLACED, THE SERVICE MUST BE PERFORMED BY A KIDDE FSR IN ACCORDANCE WITH ITEMS 14 & 16 ABOVE.
18. EXISTING WIRING & ASSOCIATED EQUIPMENT FOR MONITORING THE FM200 IS TO BE COMPLETELY REMOVED BY THE ELECTRICAL CONTRACTOR. DELETION AND MODIFICATION OF THE NOTIFIER FIRE DETECTION SYSTEM IS REQUIRED AND MUST BE PERFORMED BY A CLASS APPROVED FSR FROM NOTIFIER WITH CURRENT FACTORY CERTIFICATION.
19. MODIFICATION TO ANY FIRE DETECTION SYSTEM DRAWING MUST BE COMPLETED BY A NAVAL ARCHITECT. CURRENT FDA DRAWING TO BE MODIFIED MUST BE SUPPLIED BY THE CANADIAN COAST GUARD.
20. THIS DRAWING DOES NOT INDICATE ANY MECHANICAL ACTUATION OF THE FM200.
21. THIS DRAWING DOES NOT INDICATE THE CONNECTION TO ANY CONTROLS OR AUDIBLE ALARMS AS A RESULT OF SYSTEM ACTIVATION.
22. IF MODIFICATION TO ANY CONTROLS ON AUDIBLE ALARMS IS REQUIRED AS A RESULT OF THIS UPGRADE, IT WILL BE DEALT WITH AS A 1379 ACTION.
23. ALL ENCLOSURES ARE TO BE CLEARLY IDENTIFIED WITH RIGID SIGNAGE w/ RED BACK GROUND & WHITE TEXT, POP RIVETED TO ENCLOSURE DOOR. LABEL SYSTEM ID & ENCLOSURE #, FRAME # AND CORRESPONDING LSU #.
24. THE CONTRACTOR SHALL CONSULT WITH DON BRENTON'S FIRE PROTECTION FOR THIS SCOPE OF WORK: KEN CROOKS (902-876-7879) (kencrooks@brentons.com). AS-BUILT DRAWINGS ARE TO BE SUBMITTED FOR REVIEW AND MUST INDICATE DEVIATIONS FROM THIS DRAWING. THIS DRAWING IS THEN TO BE UPDATED BY ALLSWATER & TRIHEDRAL FOR FINAL SUBMISSION TO COASTGUARD.
25. SMALL NEMA 4 ENCLOSURES FOR SWITCH CONNECTION MUST BE LOCATED MAXIMUM 15" FROM THE SWITCH.
26. LSU No. 14 & 24V SUPPLY/RETURN IS TO BE CONTAINED WITHIN THE SAME ENCLOSURE LOCATED IN THE FAN ROOM, BOAT DECK, IN CLOSE PROXIMITY TO FRAME 55.
27. REFER TO TRIHEDRAL DRAWINGS 612-167-B-003 TO 013 FOR AN ALTERNATIVE ELECTRICAL INSTALLATION METHOD FOR THE 24VDC SUPPLY AND RETURN.
28. CONNECTION TO 3PDT PRESSURE SWITCH 81-486536-000 MUST BE CONTINUOUS TO ENCLOSURE. NO CABLE CONNECTORS.


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0 0 1	
ER	CCGS SIR WILLIAM ALEXANDER
	TITLE: VLE FM200 FIRE MONITORING UPGRADE ----

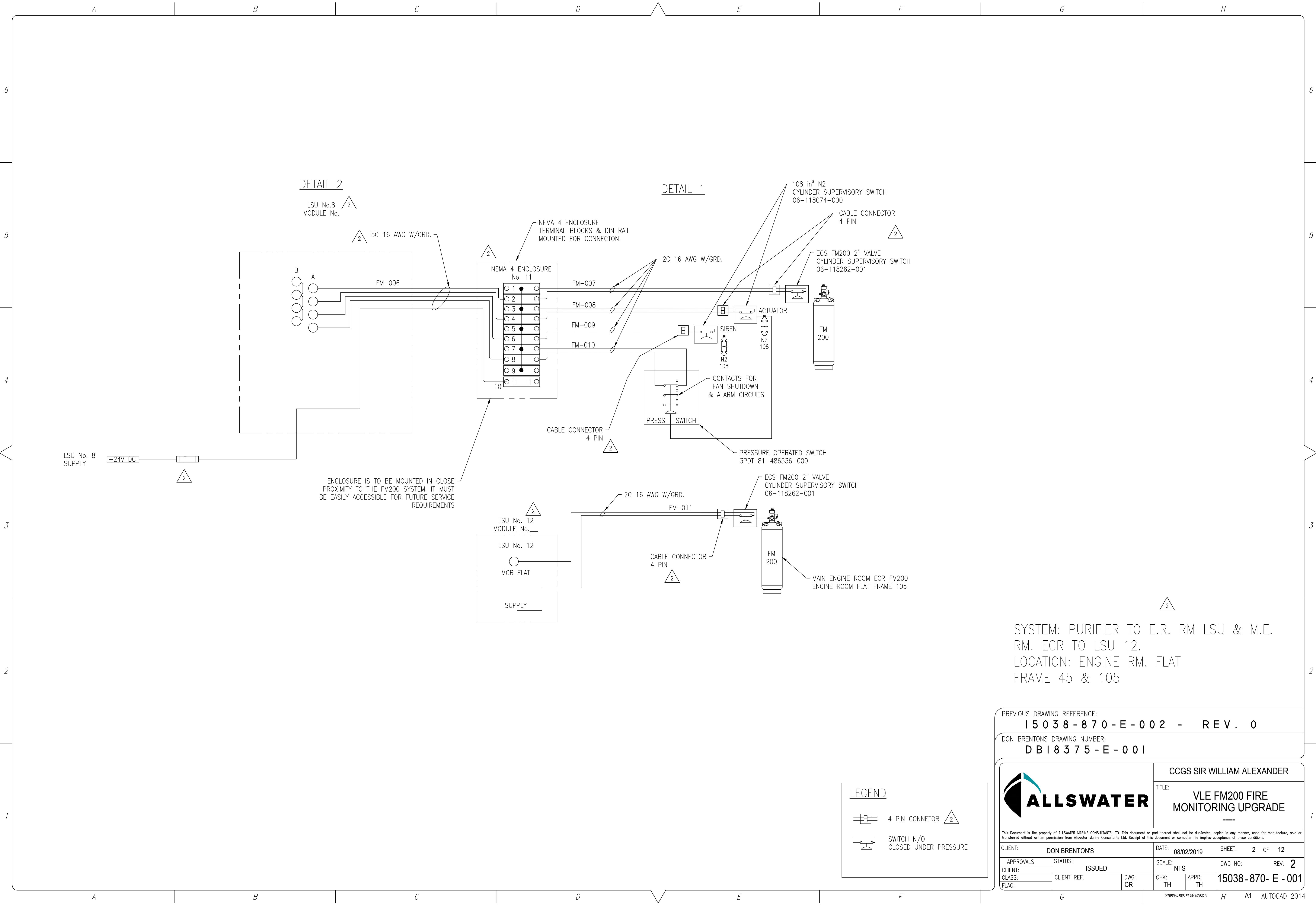
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 4 PIN CONNECTOR
  2


 SWITCH N/O  
CLOSED UNDER PRESSURE



SYSTEM: PURIFIER TO E.R. RM LSU & M.E.  
RM. ECR TO LSU 12.  
LOCATION: ENGINE RM. FLAT  
FRAME 45 & 105

PREVIOUS DRAWING REFERENCE:  
15038-870-E-002 - REV. 0

DON BRENTONS DRAWING NUMBER:  
DB18375-E-001

**ALLSWATER**

CCGS SIR WILLIAM ALEXANDER

TITLE:  
VLE FM200 FIRE  
MONITORING UPGRADE  
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APPROVALS:	STATUS:	SCALE:	NTS	DWG NO:		REV:	2
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CLASS:	CLIENT REF.	DWG:	CR	CHK:	TH	APPR:	TH
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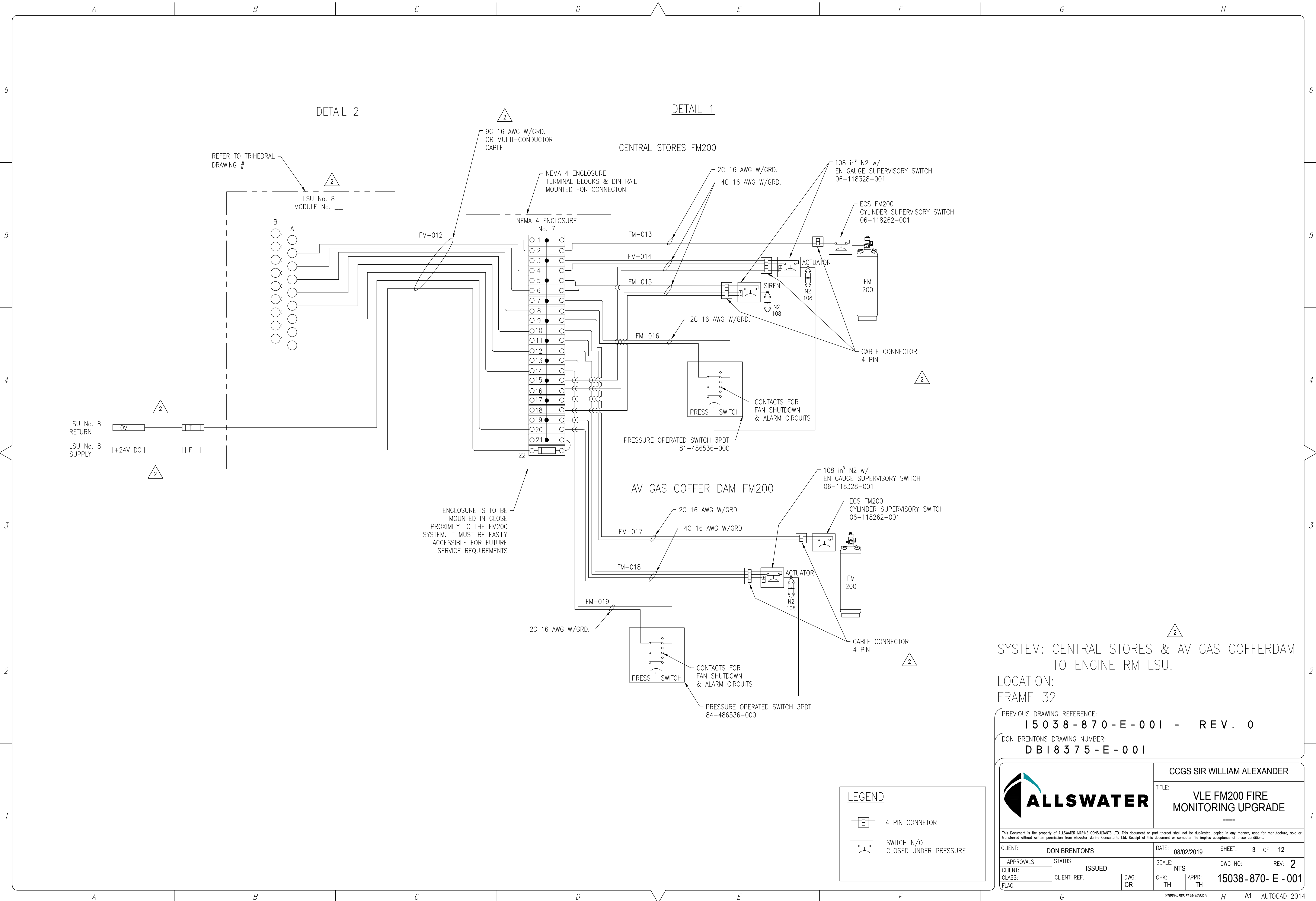
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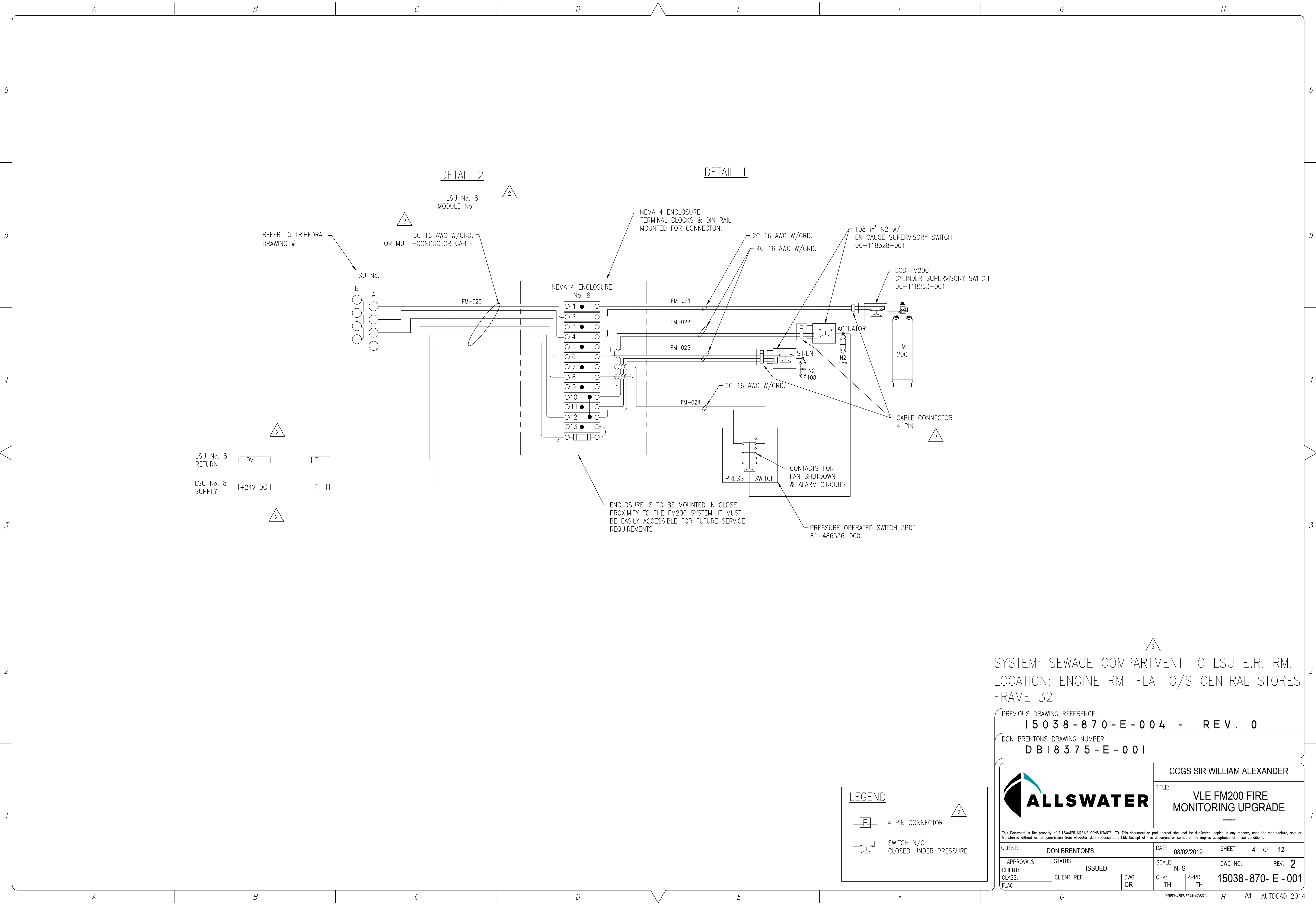
AUTOCAD 2014



SYSTEM: CENTRAL STORES & AV GAS COFFERDAM  
TO ENGINE RM LSU.  
LOCATION:  
FRAME 32

PREVIOUS DRAWING REFERENCE: 15038-870-E-001 - REV. 0			
DON BRENTON'S DRAWING NUMBER: DB18375-E-001			
CLIENT: DON BRENTON'S		DATE: 08/02/2019	SHEET: 3 OF 12
APPROVALS	STATUS: ISSUED	SCALE: NTS	DWG NO: REV: 2
CLIENT:	CLIENT REF.	DWG: CR	CHK: TH APPR: TH
CLASS:			
FLAG:			






SYSTEM: SEWAGE COMPARTMENT TO LSU E.R. RM.  
LOCATION: ENGINE RM. FLAT O/S CENTRAL STORES  
FRAME 32

PREVIOUS DRAWING REFERENCE:  
**15038-870-E-004 - REV. 0**

DON BRENTON'S DRAWING NUMBER:  
**DB18375-E-001**



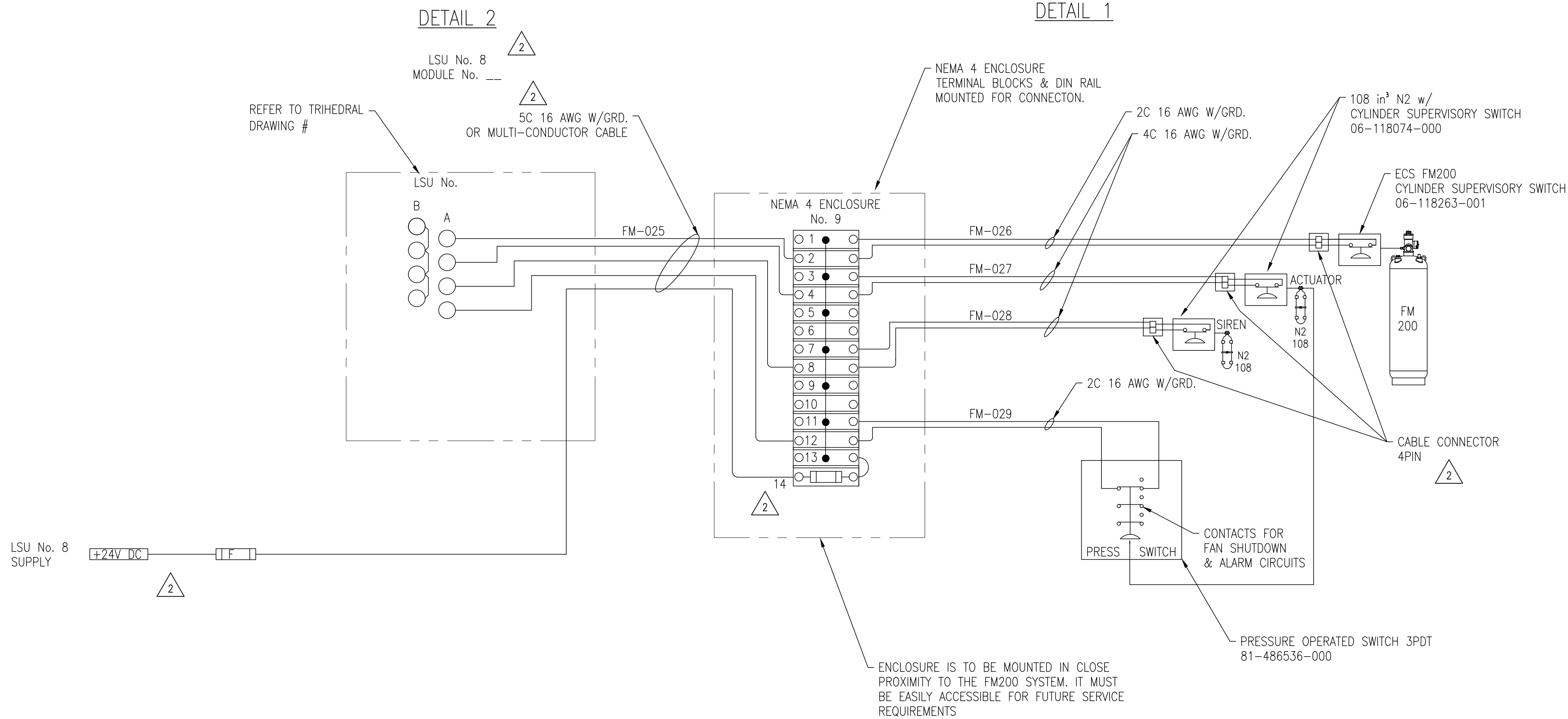
CCGS SIR WILLIAM ALEXANDER

TITLE:  
**VLE FM200 FIRE MONITORING UPGRADE**  
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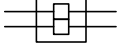

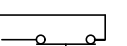


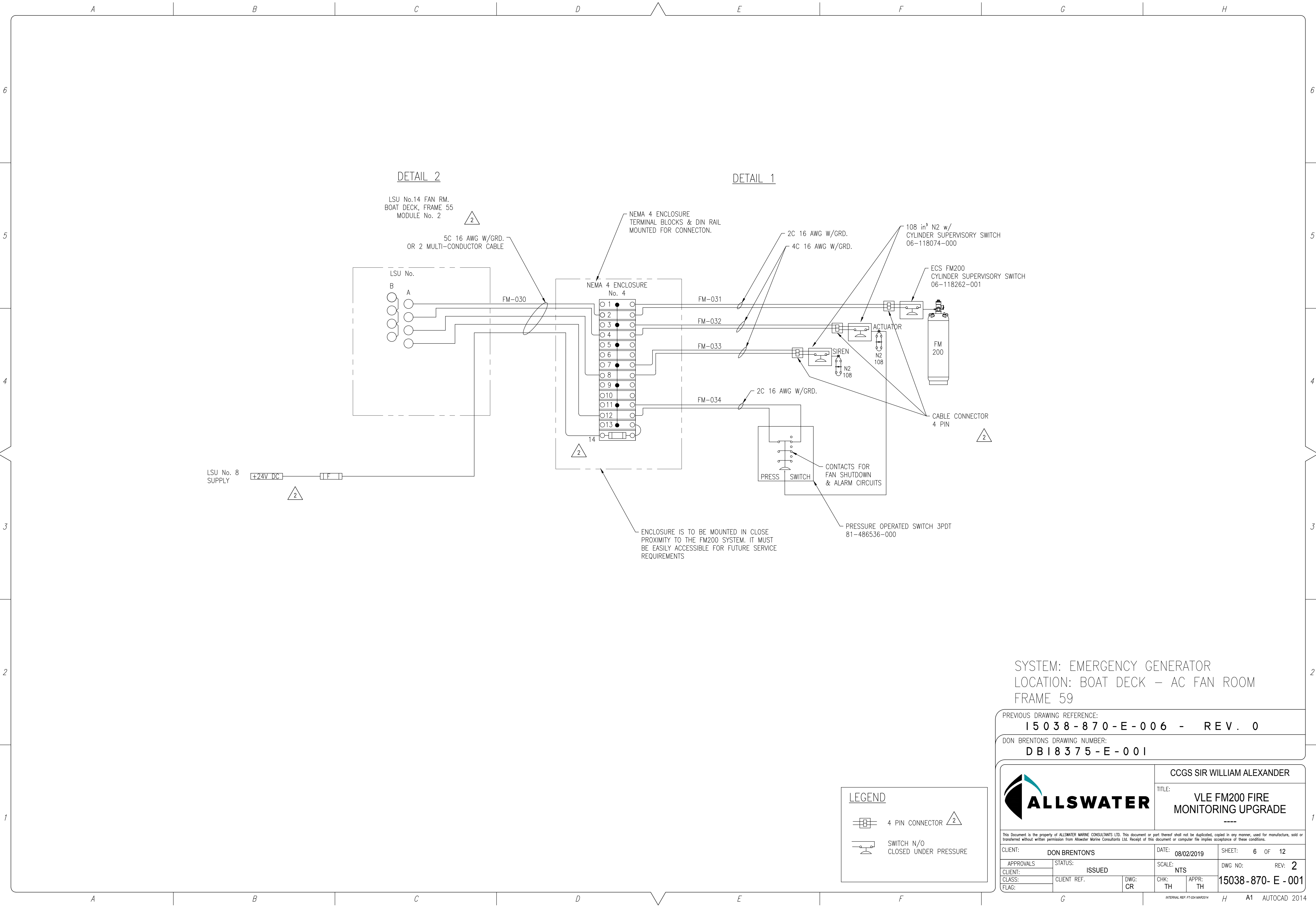
SYSTEM: STEERING GEAR  
LOCATION: MAIN DECK CARGO HOLD STBD  
FRAME 15

PREVIOUS DRAWING REFERENCE:  
**15038-870-E-005 - REV. 0**

DON BRENTON'S DRAWING NUMBER:  
**DB18375-E-001**

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FLAG:			

LEGEND	
	4 PIN CONNECTOR 
	SWITCH N/O CLOSED UNDER PRESSURE

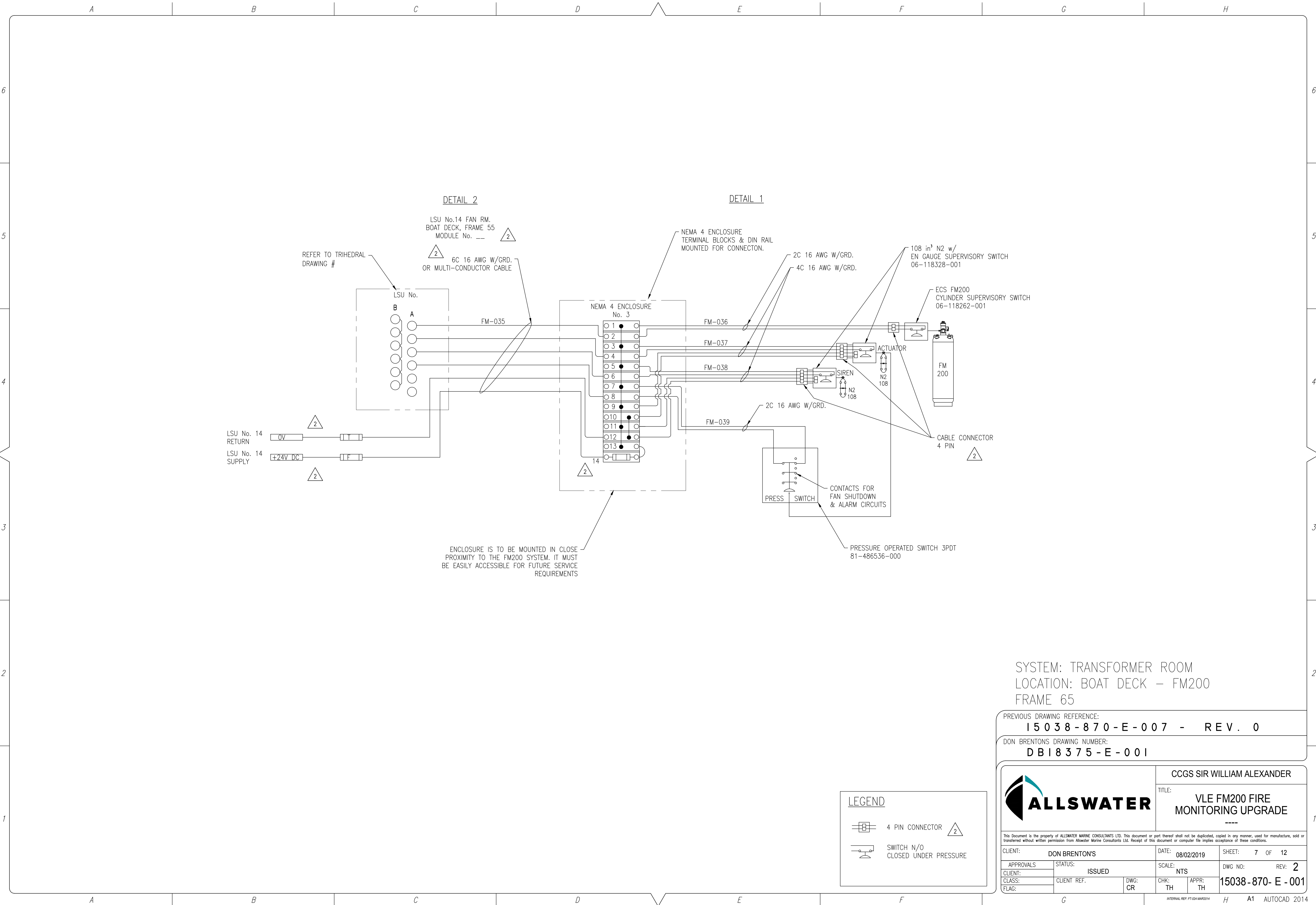


SYSTEM: EMERGENCY GENERATOR  
LOCATION: BOAT DECK – AC FAN ROOM  
FRAME 59

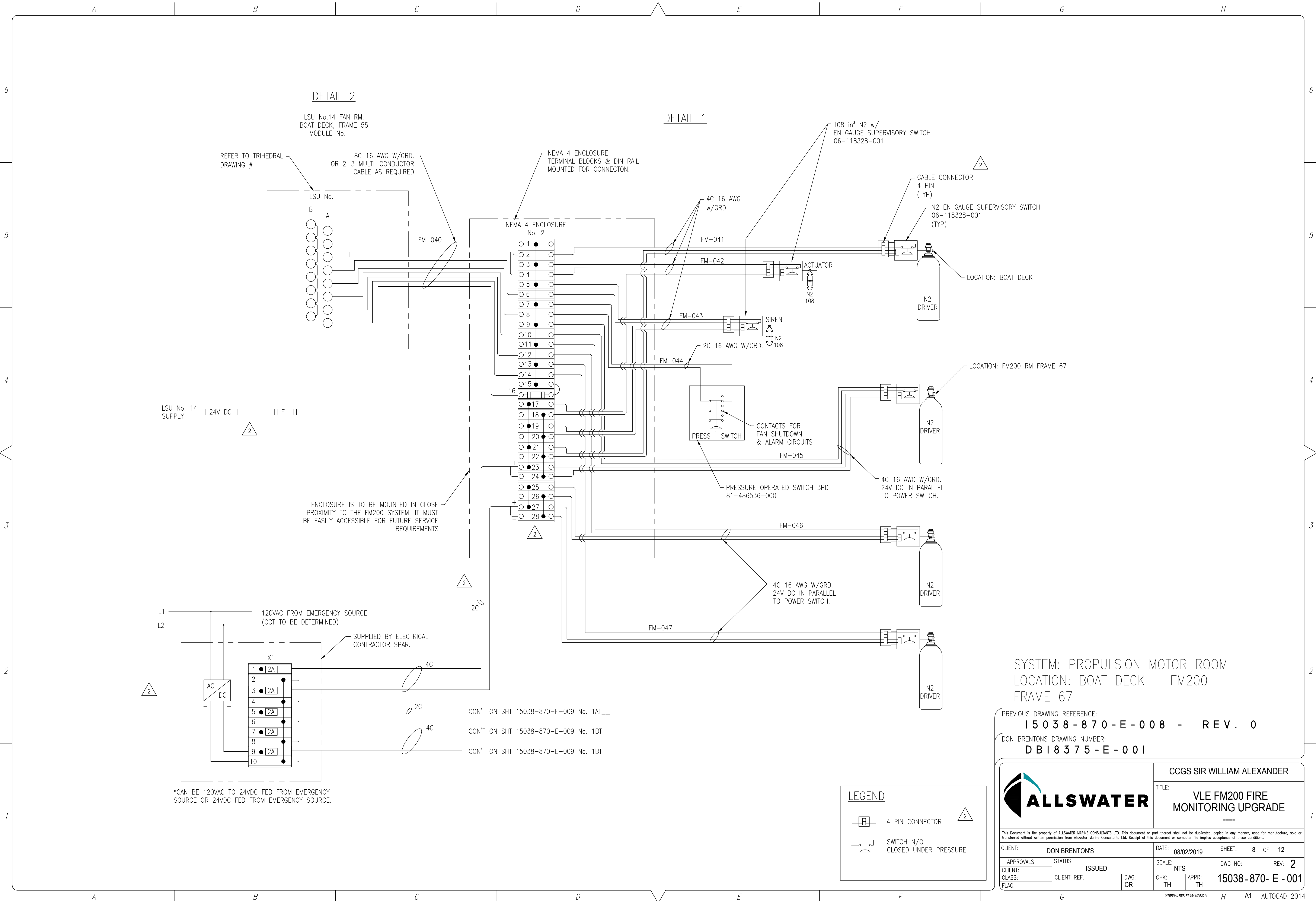
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CLASS:			<b>15038-870-E-001</b>
FLAG:			








SYSTEM: PROPULSION MOTOR ROOM  
LOCATION: BOAT DECK – FM200  
FRAME 67

PREVIOUS DRAWING REFERENCE:  
**15038-870-E-008 - REV. 0**

DON BRENTON'S DRAWING NUMBER:  
**DB18375-E-001**



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TITLE:  
**VLE FM200 FIRE MONITORING UPGRADE**  
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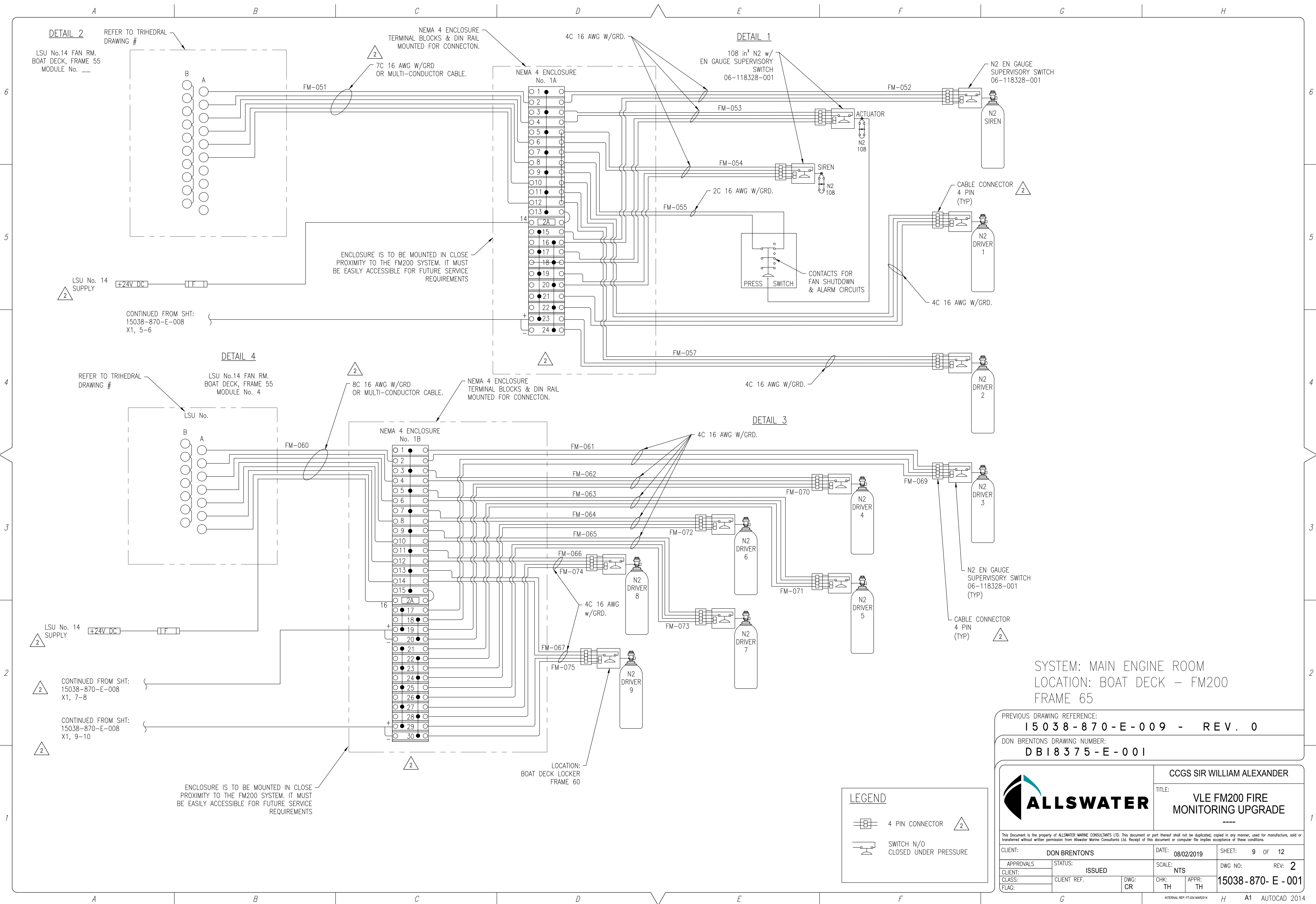
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SYSTEM: MAIN ENGINE ROOM  
LOCATION: BOAT DECK - FM200  
FRAME 65

PREVIOUS DRAWING REFERENCE:  
**15038-870-E-009 - REV. 0**

DON BRENTON'S DRAWING NUMBER:  
**DB18375-E-001**

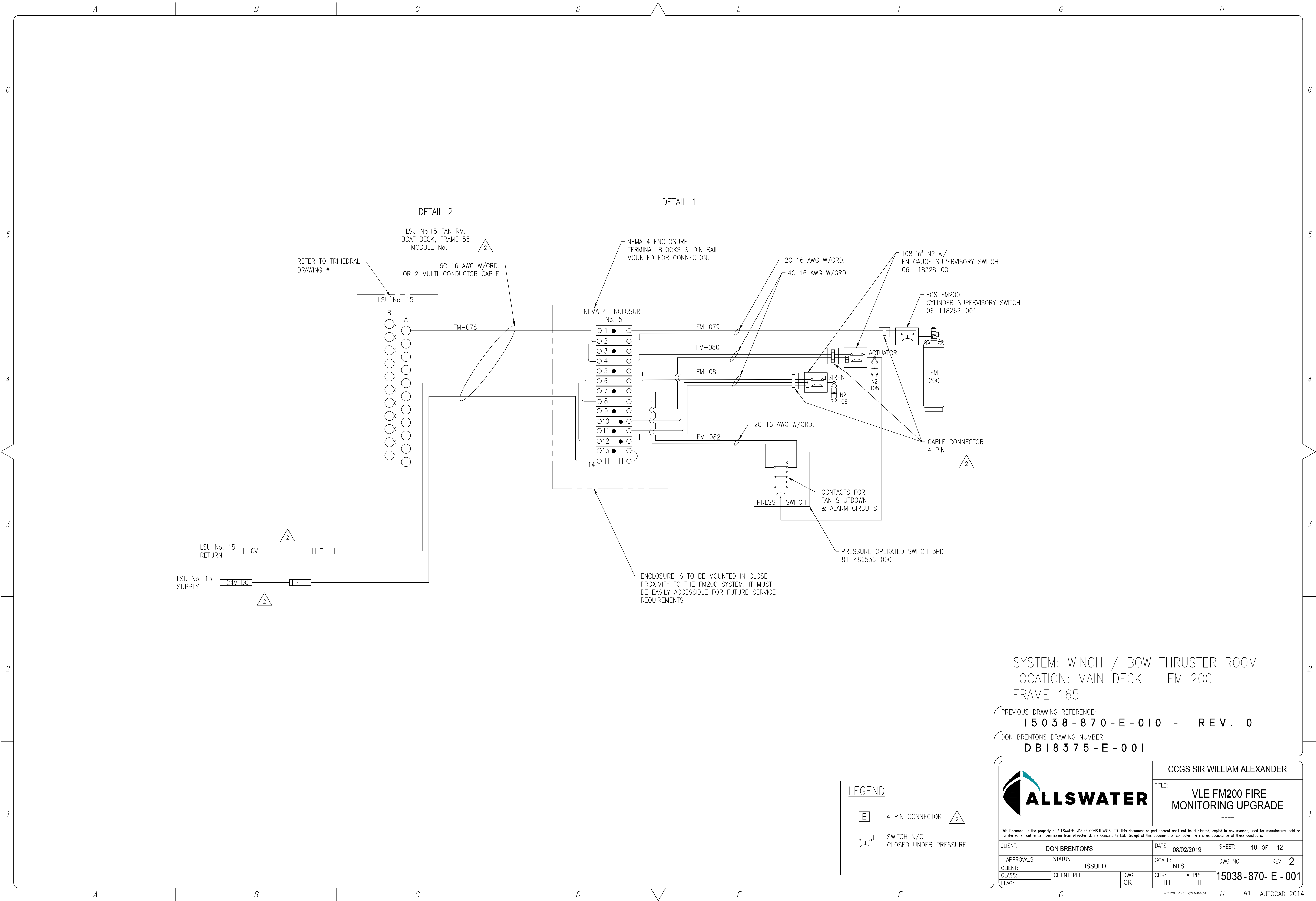
**ALLSWATER**

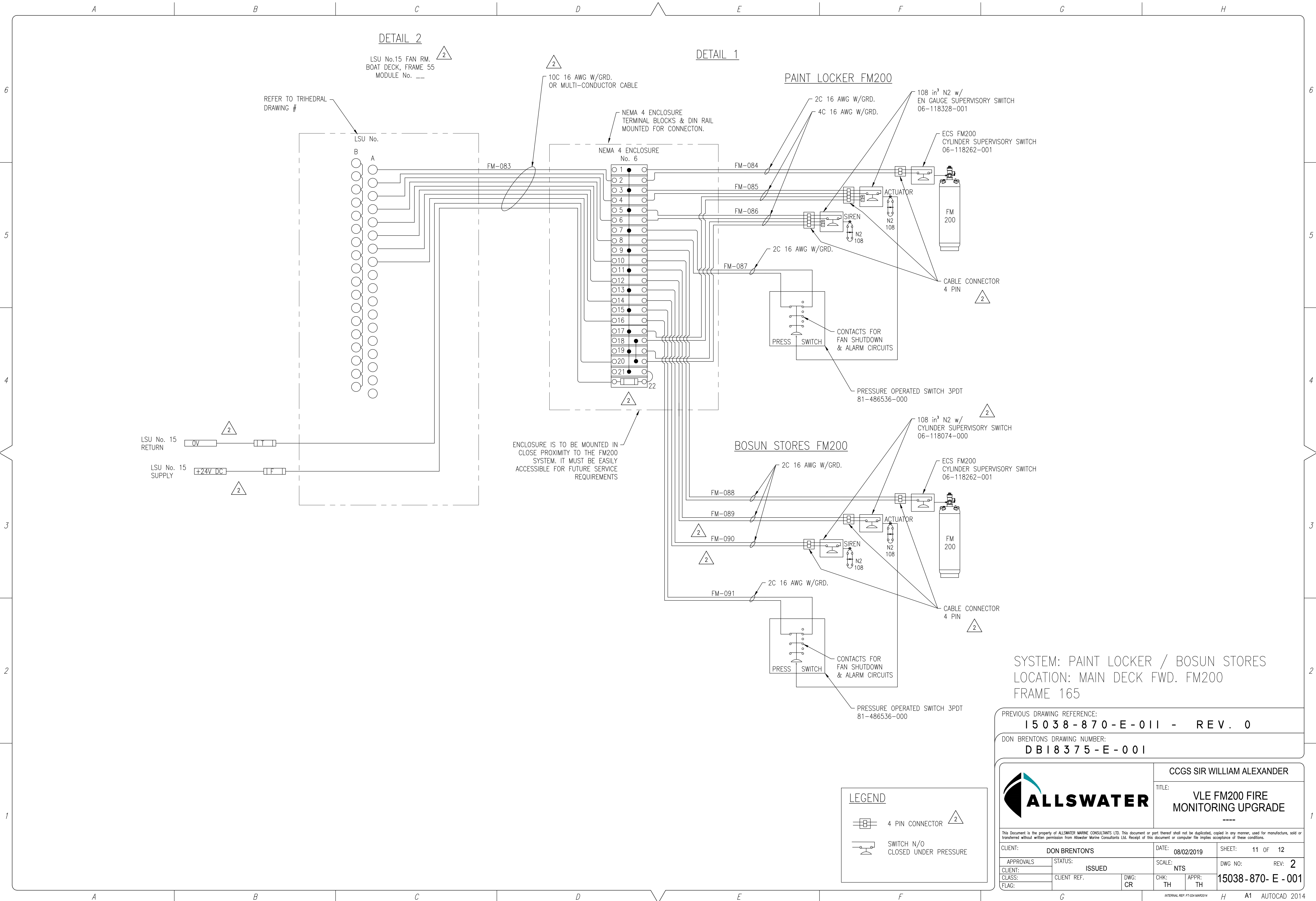
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SYSTEM: PAINT LOCKER / BOSUN STORES  
LOCATION: MAIN DECK FWD. FM200  
FRAME 165

PREVIOUS DRAWING REFERENCE:  
**15038-870-E-011 - REV. 0**

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APPROVALS:	STATUS:	SCALE:	<b>NTS</b>	DWG NO:	REV: <b>2</b>
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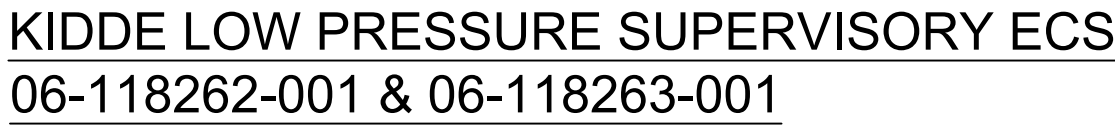
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IP68 NC UNDER PRESSURE

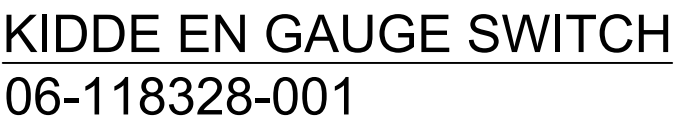
NOTES:  
ELECTRICAL CONFIGURATION: NORMALLY OPEN (NO)  
CONTACTS OPEN: 1350±53.5 PSIG PRESSURE DECAY  
CONTACTS CLOSE: MAX. 229.5 PSI ABOVE SET POINT — PRESSURE RISE  
TEMPERATURE RANGE: -40°F TO 250°F (-40°C TO 120°C)  
FLYING LEADS IP 67 OPTION 20 (48.00" LONG)  
STAINLESS STEEL HOUSING (1/8" NPT)  
ELECTRICAL SPECIFICATION:  
WORKING VOLTAGE 100VA,  
MAX. VOLTAGE 42VDC.  
9. MEDIUM—NITROGEN



15AMP @ 125VAC  
10AMP @ 250VAC  
 $\frac{3}{4}$  HP @ 250VAC  
1,2,3 PHASE

PRESSURE INLET

## WIRING DIAGRAM



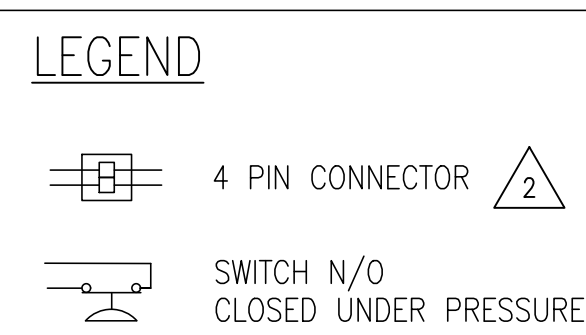
RED POSITIVE  
BLACK NEGATIVE  
BLUE SWITCH CONTACTS

**SWITCH OPERATION:**  
 NC UNDER NORMAL OPERATING PRESSURE  
 NO WHEN UNDER/OVERPRESSURIZED  
 NO WHEN POWER IS LOST

**POWER REQUIREMENTS:**  
18-32VDC  
NORMAL STATE DRAW 16mA  
LOW PRESSURE DRAW 7mA

**SET POINTS:**  
LOW 1623 PSI  
HIGH 2062 PSI

**CONTACT RATING:**  
30VDC MAX  
65 OHMS (CLOSED) MAX



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