

LIST OF MATERIAL					
ITEM NO.	QTY REQD	DESCRIPTION	PART NO.	MFG	REMARKS
1	1	CERBERUS PRO 252 PT ELECTRONICS KIT	S54400-C14-A1	SIEMENS	
2	1	CERBERUS PRO MARINE ENCLOSURE, BLACK	S54400-C144-A1	SIEMENS	
3	1	DIN RAIL SET	S54400-B44-A1	SIEMENS	
4	1	INNER DOOR, BLACK	S54400-B52-A1	SIEMENS	
5	1	RS-485 COMMUNICATION BUS	S54400-A39-A1	SIEMENS	
6	2	BATTERY, 12VDC, 7AH	PS1270	POWERSONIC	
7	2	REMOTE DISPLAY W/ CONTROL, BLACK (FT2015-U3)	S5440-B88-A1	SIEMENS	
8	80	OPTICAL SMOKE DETECTOR (OP921)	S54320-F4-A2	SIEMENS	
9	7	HEAT DETECTOR (HI921)	S54320-F5-A2	SIEMENS	
10	87	DETECTOR BASE (DB-11)	500-094151	SIEMENS	
11	2	DETECTOR BASE SEAL (24 PACK)	500-695622	SIEMENS	
12	17	METAL MANUAL STATION (HMS-M)	500-033450	SIEMENS	
13	17	MANUAL STATION BACK BOX (MS-FB)	500-694512	SIEMENS	
14	5	SINGLE INPUT MONITOR MODULE (HTRI-S)	500-033370	SIEMENS	
15	11	METAL COVER PLATE (USCG-HPLATE)	S54319-F22-A1	SIEMENS	
16	11	HORN STROBE, MULTI-CANDELA, CEILING MOUNT (ZH-MC-CR)	500-636165	SIEMENS	
17	11	HORN STROBE MOUNTING BOX (ZB-R)	500-636193	SIEMENS	
18	3	HORN STROBE, WEATHERPROOF (AS-75-R-WP)	500-636016	SIEMENS	
19	3	WEATHERPROOF HORN STROBE MOUNTING BOX (WPBBS-R)	500-636137	SIEMENS	
20	1	ENCLOSURE, TYPE 1, 24" X 12" X 4"	ASE24X12X4	HOFFMAN	
21	1	POWER TRANSFER RELAY, 110VAC, 10A	CAD32F7	SCHNEIDER ELECTRIC	
22	6	RELAY MODULE (HTRI-R)	500-033300	SIEMENS	
23	1	HEAT DETECTOR, 190°F, EXPLOSION PROOF (DT-190EP)	500-688978	SIEMENS	

GENERAL NOTES

- THE FIRE DETECTION/ALARM PANEL SHALL BE LOCATED SO THAT IT IS EASILY VISIBLE AND ACCESSIBLE FOR MAINTENANCE, SUFFICIENT ROOM IS NECESSARY TO OPEN THE ENCLOSURE DOOR.
- THE FIRE DETECTION/ALARM SYSTEM IS DESIGNED TO BE OPERATED FROM DUAL 120 VAC SOURCES, 60 HZ THREE WIRE GROUNDED, NEUTRAL POWER SOURCE (A DEDICATED 5 AMP MINIMUM CIRCUIT FROM MAIN AND EMERGENCY POWER IS REQUIRED). FOR 120 VOLT AC POWER, USE #14. AWG MINIMUM, 600 VOLT INSULATED WIRE.
- CABLES SHALL BE FED INTO THE PANEL USING THE KNOCKOUTS PROVIDED BY THE MANUFACTURER. COMPRESSION FITTINGS SHALL BE USED IN EACH KNOCKOUT.
- LOCATION OF ALL DETECTORS, MANUAL STATIONS, NOTIFICATION DEVICES AND ELECTRONIC MODULES ARE TO BE IN ACCORDANCE WITH THESE DRAWINGS.
- SMOKE DETECTORS SHALL BE MOUNTED A MINIMUM OF 3 FEET FROM AIR SUPPLY REGISTERS.
- DETECTORS SHALL BE MOUNTED AS CLOSE TO THE OVERHEAD AS POSSIBLE TO INSURE FAST RESPONSE TO A FIRE CONDITION. DETECTORS ARE ALLOWED TO BE MOUNTED TO THE BOTTOM OF BEAMS PROVIDED THE BEAM DEPTH DOES NOT EXCEED 12 INCHES AND THE BEAMS ARE NO MORE THAN 8 FEET ON CENTERS. WHEN MOUNTING DETECTORS TO THE BOTTOM OF BEAMS, THE SPACE BETWEEN THE BEAM AND THE ELECTRICAL BOX HOUSING THE DETECTORS SHALL BE MINIMAL.
- MANUAL STATIONS SHALL BE MOUNTED 42 INCHES MINIMUM AND 48 INCHES MAXIMUM TO THE CENTER FROM THE FINISHED FLOOR.
- SYSTEM POWER IS NOT TO BE APPLIED TO THE CONTROL PANEL UNTIL AUTHORIZED HILLER TECHNICIAN IS PRESENT AND ALL WIRING CONNECTIONS HAVE BEEN CHECKED. OTHERWISE, SYSTEM WARRANTY WILL BE VOIDED.
- CABLE, BACKBOXES, PANELS AND ALL DEVICES MUST BE COMPLETELY INSTALLED PRIOR TO ARRIVAL OF HILLER FIELD TECHNICIANS.
- HILLER IS NOT RESPONSIBLE FOR MOUNTING BACKBOXES OR FOUNDATIONS, OR INSTALLATION OF ANY DEVICE.
- FINAL WIRE TERMINATIONS TO PANEL WILL BE MADE BY HILLER TECHNICIANS.

WIRING SPECIFICATIONS

- REFER TO BLOCK & RISER DIAGRAMS FOR CABLE OF CIRCUITS. ALL CABLES USED FOR LOOP CIRCUITS SHALL BE TWISTED, 2 CONDUCTORS, MINIMUM 18 AWG, AND FOR NAC CIRCUITS, TWISTED, 2 CONDUCTOR, MINIMUM 14 AWG. NETWORK COMMUNICATION CIRCUITS BETWEEN FACP AND REPEATER PANEL SHALL BE MINIMUM 18 AWG.
- ALL CABLE SHALL BE COMMERCIAL MARINE, IEEE 45 STANDARD CABLE, UL APPROVED, ABS & USCG ACCEPTABLE AND/OR IAW RCRV TECHNICAL SPECIFICATIONS SECTION 305.
- TO INSURE CONFORMANCE WITH REGULATION T-TAPPING IS NOT ALLOWED AND THE CABLES SHALL BE ROUTED TO WHERE THE LOOP CANNOT BE DAMAGED AT MORE THAN ONE POINT BY A FIRE.
- ALL CABLE RUNS SHALL BE TESTED FOR CONTINUITY, SHORT CIRCUITS AND SHALL BE CORRECTLY MARKED WITH LOOP # AT EACH END.
- ALL WIRING WILL BE BROUGHT INTO CONTROL PANEL, LEAVING 18" OF USABLE CABLE FOR HILLER USE.
- ELECTRICAL WIRING WHICH FORMS PART OF THE SYSTEM SHALL BE SO ARRANGED AS TO AVOID GALLEYS, MACHINERY SPACES OF CATEGORY A AND OTHER ENCLOSED SPACE OF HIGH FIRE RISK EXCEPT WHERE IT IS NECESSARY TO PROVIDE FOR FIRE DETECTION OR FIRE ALARMS IN SUCH SPACES OR TO CONNECT TO THE APPROPRIATE POWER SUPPLY.

SPECIAL NOTES

- PLAN VIEWS ON SHEETS 5-7 ARE SCHEMATIC ONLY. ACTUAL INSTALLATION AND CABLE PULL TO BE IDENTIFIED BY INSTALLING ACTIVITY.
- SYSTEM IS USCG APPROVED IAW USCG TYPE APPROVAL 161.002/60/0.
- REFER TO SIEMENS MARINE APPLICATION MANUAL, A6V10519176_enUS_b, FOR FURTHER INFORMATION.

REVISIONS						
REV	SH	ZN	ITEM	DESCRIPTION	DATE	APPVL SIG & ORG
—	—	—	—	INITIAL ISSUE	05/31/19	RWL
A				REVISED PER GULF ISLAND P.O. NO.: 0031049-001 DATED 09/13/19 AND OSU COMMENTS DATED 07/17/19.	11/08/19	RWL
	1	VAR	1.	UPDATED LIST OF MATERIALS: ITEM 8 QTY WAS 66 IS 80 ITEM 10 QTY WAS 73 IS 87 ITEM 11 QTY WAS 1 IS 2 ITEM 12 QTY WAS 16 IS 17 ITEM 13 QTY WAS 16 IS 17 ITEM 14 QTY WAS 7 IS 5 ITEM 15 QTY WAS 7 IS 11 ITEM 16 QTY WAS 10 IS 11 ITEM 17 QTY WAS 10 IS 11 ADDED ITEMS 22 AND 23		
	1-7	VAR	D8	2. ADDED REFERENCE NO. 8		
	2,3,5-7	VAR		3. REMOVED HILLER PROPRIETARY NOTICE		
	2	VAR		4. REVISED SYMBOL LEGEND TO ADD ITEMS 22 AND 23		
	5-6	VAR		5. REVISED FIRE DETECTION CONTROL PANEL TO ADD TROUBLE OUTPUT SIGNAL.		
	6	VAR		6. UPDATED DEVICE LAYOUTS ON ALL DECKS TO INCLUDE ADDITIONAL EQUIPMENT.		
	3,5-7	VAR		7. CHANGED ALL SUPPRESSION SYSTEM MONITOR MODULES TO RELAY MODULES.		
	1-8	VAR		8. REVISED SLC AND NAC LOOPS ACCORDINGLY.		
	8	VAR		9. CREATED SHEET 8.		
	4	VAR		10. ADDED I/O MATRIX, DETAIL H AND DETAIL I TO SHEET 8.		
	2	A4		11. REVISED ANNUNCIATOR CABLE DESIGNATIONS.		
				12. REVISED CABLE DESIGNATION FOR MAIN POWER.		

NO.	TITLE	DRAWING NUMBER
8	EXTERNAL COMM SYSTEMS	6096-440-001
7	ANNOUNCING SYSTEM	6096-433-001
6	ELECTRICAL ONE-LINE DIAGRAM	6096-300-001
5	IMACS CABLE BLOCK DIAGRAM	6096-436-001
4	FIRE DETECTION SYSTEM CERTIFICATION DATA	14-HG2616-CERT
3	FIRE DETECTION SYSTEM COMPONENT DATA SHEETS	14-HG2616-CDS
2	FIRE DETECTION SYSTEM CALCULATION DATA	14-HG2616-CALC
1	GENERAL ARRANGMENT	6096-070-001

REFERENCE PLANS

SPECIAL NOTATIONS

DRAWING CONFIDENTIALITY STATEMENT
 THIS DRAWING IS TO BE USED FOR CONSTRUCTION OF THE REGIONAL CLASS RESEARCH VESSELS. USE AND/OR REPRODUCTION OF THIS DRAWING AND FURTHER DISSEMINATION IS AUTHORIZED ONLY AS DIRECTED BY GULF ISLAND SHIPYARDS OR OREGON STATE UNIVERSITY.

GULF ISLAND SHIPYARDS
 301 GULF ISLAND ROAD
 HOUMA, LA 70363
 PHONE: (985) 872-2305
 CONTRACT/PO NO.
 184162

OREGON STATE UNIVERSITY
 CORVALLIS, OR 97331
 199'-6" REGIONAL CLASS RESEARCH VESSEL
 FIRE DETECTION SYSTEM
 CABLE BLOCK DIAGRAM

HERBERT HILLER a division of The Hiller Companies	
DRAWN T. MANESS	DATE 04/29/19
DESIGN R. LIPSKA	DATE 04/29/19
APPROVED B. ROBERTS	DATE 05/31/19
CONTRACT NO. 0031049-000	
HILLER DWG NO. 14-FD-HG2616	RELEASE DATE 05/31/19

PROFESSIONAL ENGINEER STAMP

DRAWN: XX
CHECKED: XX
APPROVED: XX

SIZE D	FSCM CAGE NO. 7UTH5	DRAWING NO. 6096-436-015	REV A
SCALE: NONE	SHEET 1 OF 8		

A³

TO ANNUNCIATORS
(SEE DETAIL C, SHEET 4)

SLC LOOP 1 (CONT'D SHEET 3)

SLC LOOP 2 (CONT'D SHEET 3)

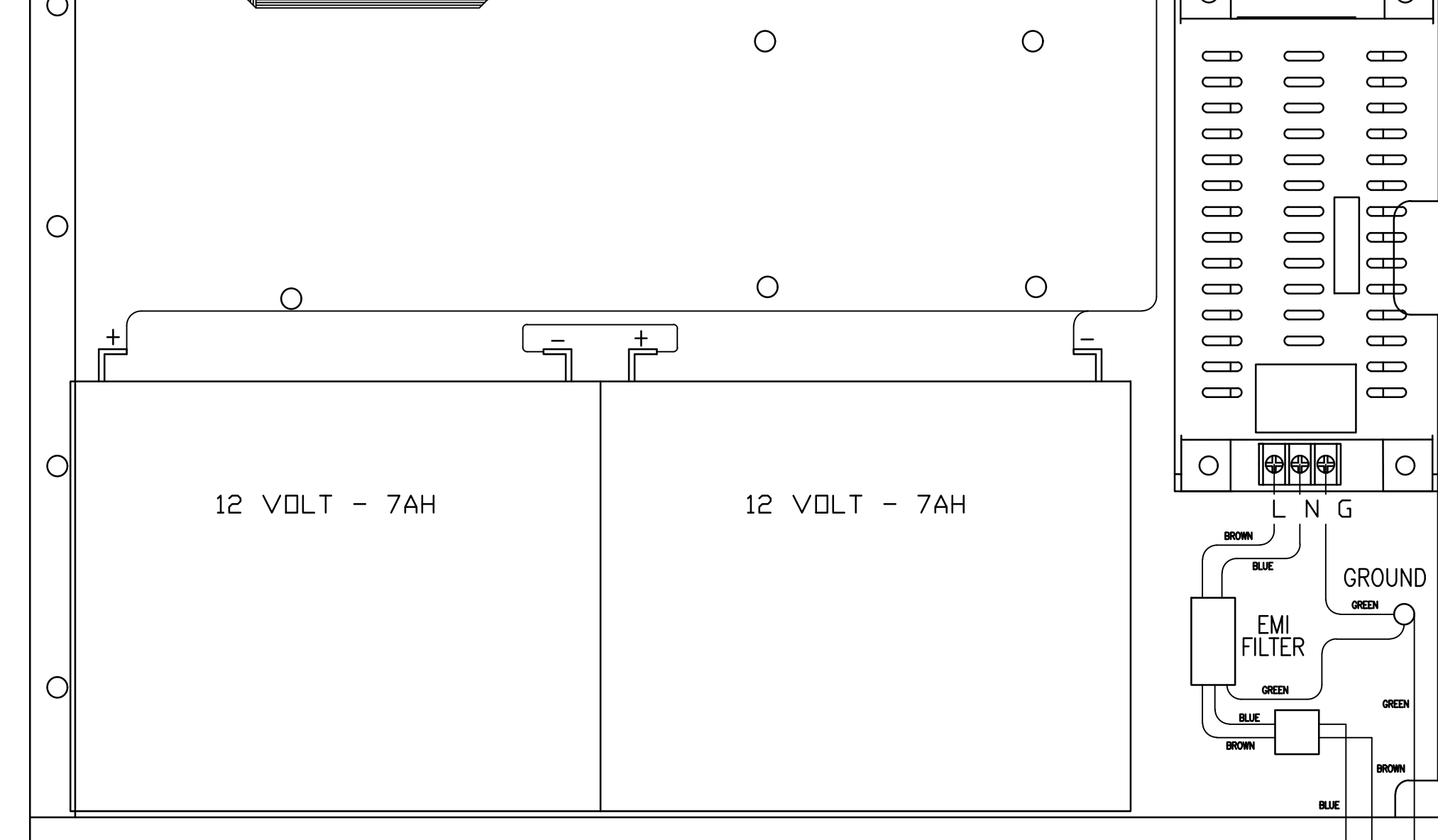
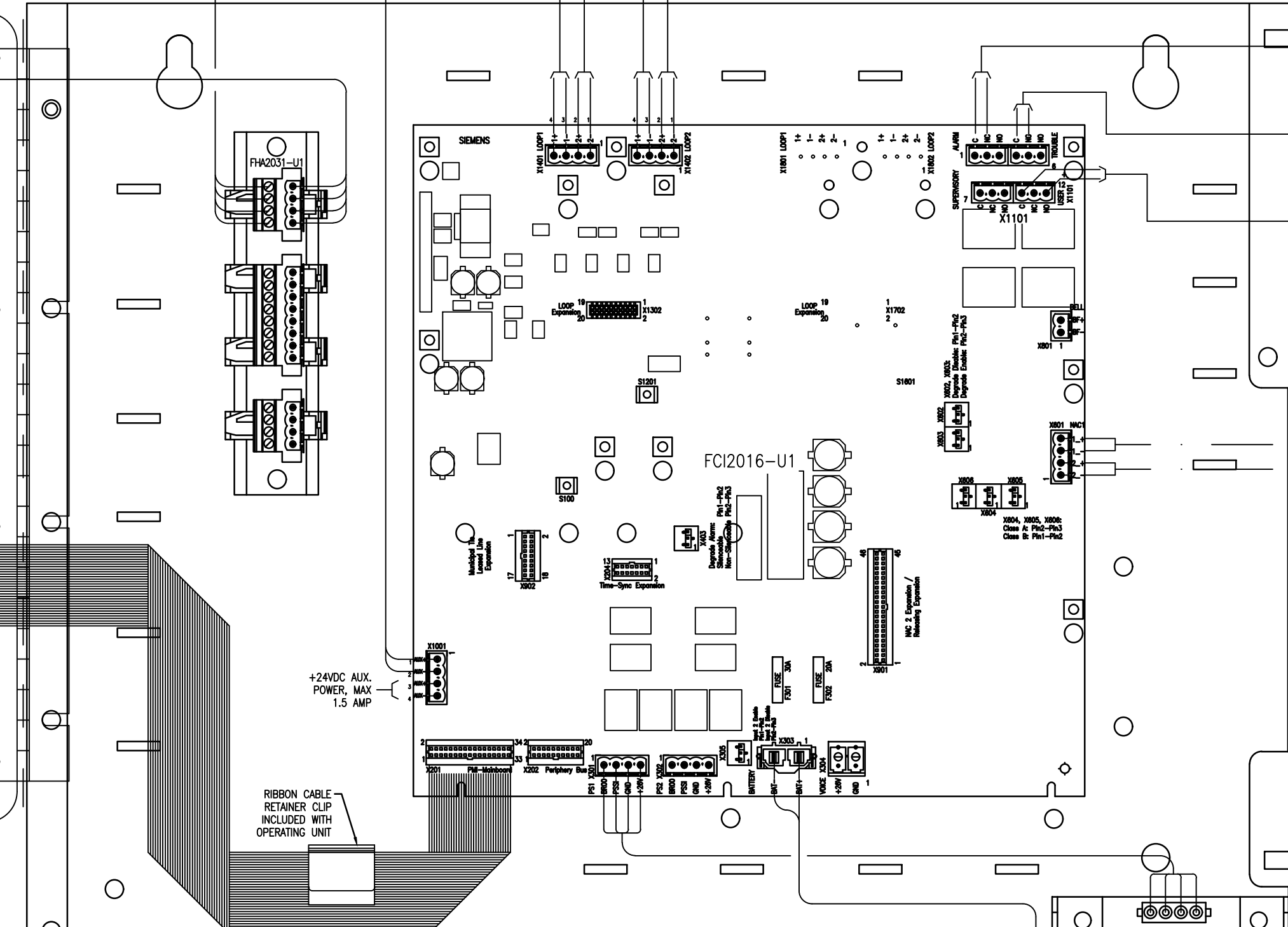
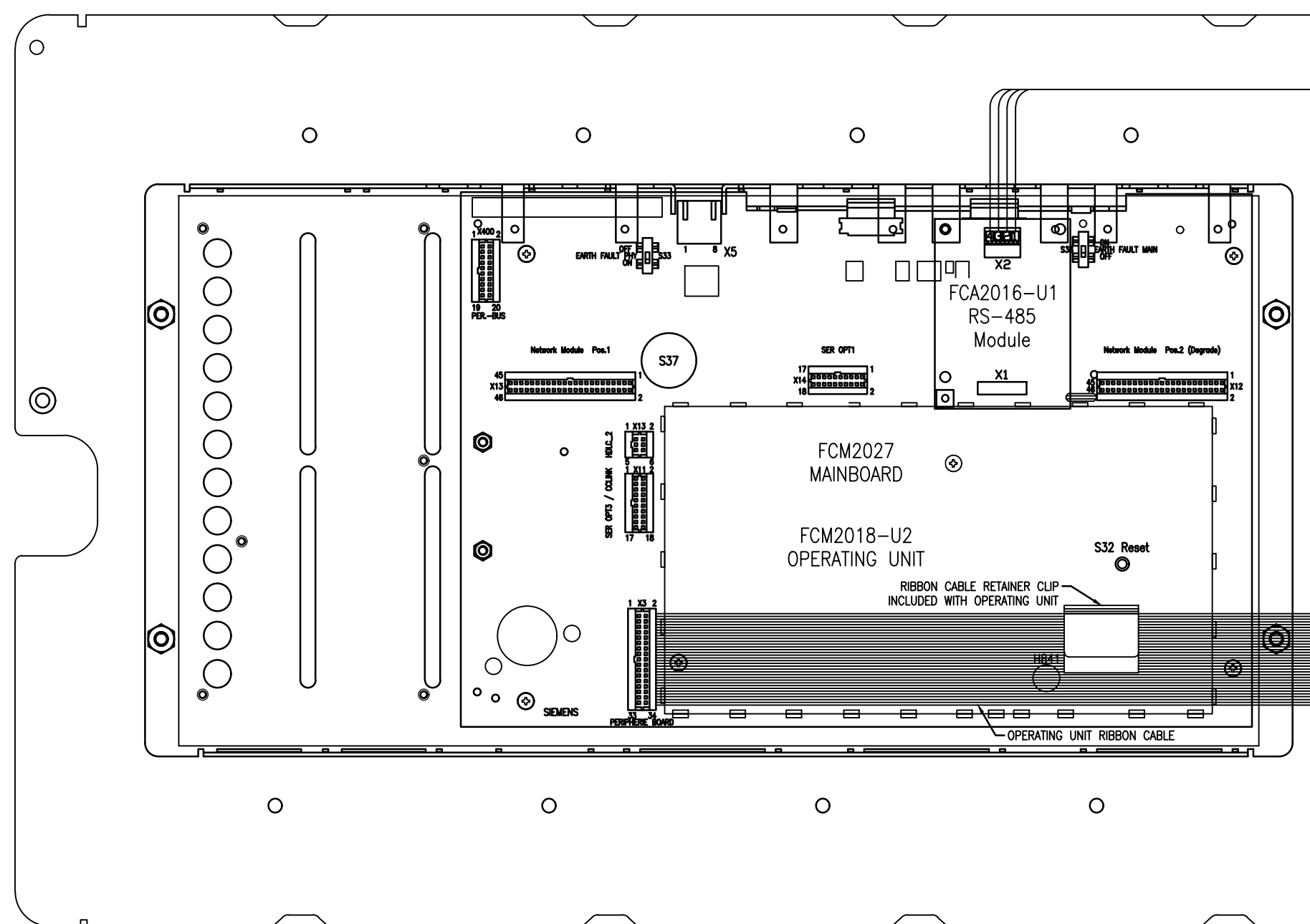
ALARM SIGNAL TO IMACS

TROUBLE SIGNAL TO IMACS

C-IMC-C03
1S/FTP-18AWG
(SEE REF. 7)
TO GENERAL ALARM
(SEE PANEL NOTE 4)

WSG-11-802
4C X 18AWG
(SEE REF. 5)

NAC LOOP 1 (CONT'D SHEET 3)
NAC LOOP 2 (CONT'D SHEET 3)

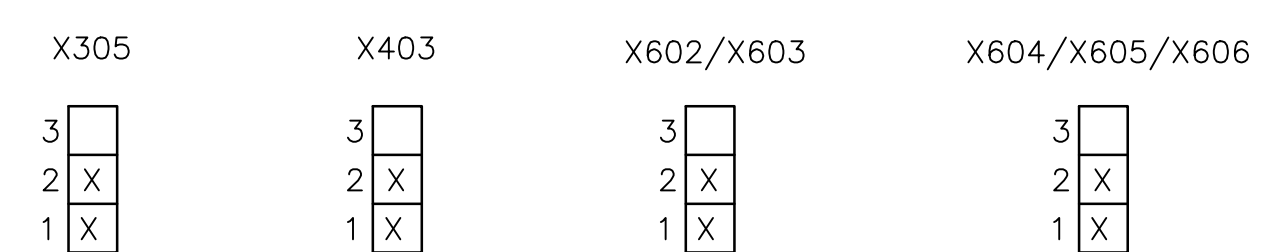


PANEL NOTES:

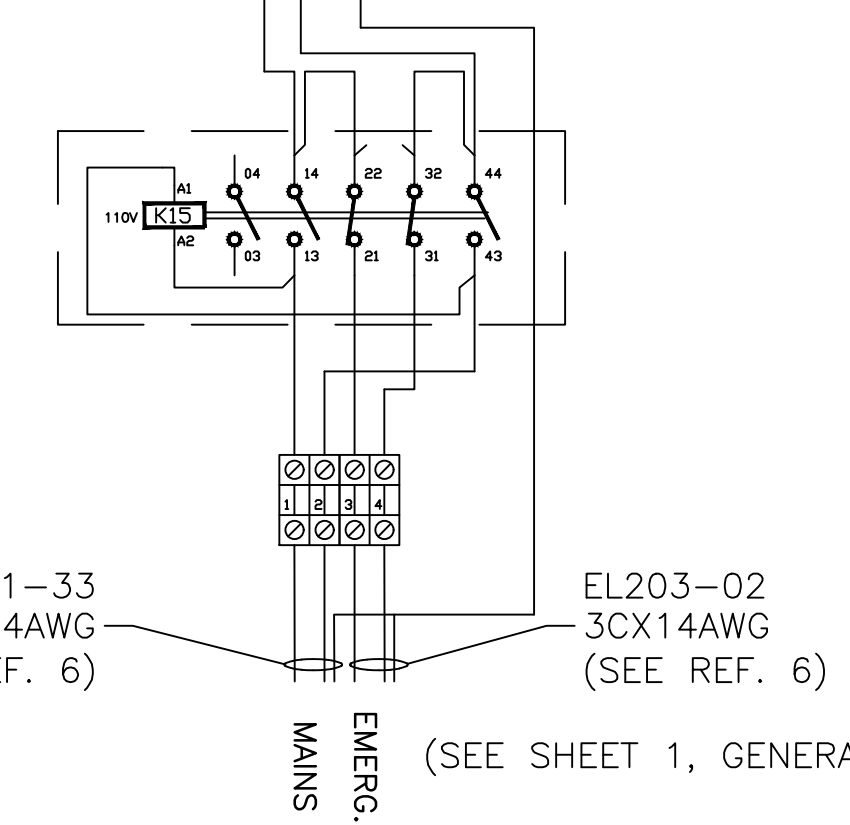
1. NOTIFICATION APPLIANCE CIRCUIT (X601)
MAX CURRENT DRAW: 3A PER CIRCUIT
EOL RESISTOR: 2.4KΩ, 0.5W
2. SIGNALING LINE CIRCUIT (X1401 & X1402)
MAX CURRENT: 500 MA
MAX RESISTANCE: 180 Ω
MAX CAPACITANCE: 500 nF
MAX DEVICES: 252
3. RS485 NETWORK
MAX LENGTH: 3940 FT (CLASS A)/ 65 FT (CLASS B)
MAX RESISTANCE: 80 Ω
MAX CAPACITANCE: 2.5 μF (LINE TO LINE)
MAX DEVICES: 8
4. PROGRAM USER RELAY, X1101, ON CONTROL PANEL FOR 2 MIN. DELAY TO GENERAL ALARM SYSTEM.

SWITCH SETTINGS:

1. X305 - POWER SUPPLY 2 ON/OFF
PLACE JUMPER BETWEEN 1 & 2 FOR SINGLE POWER SUPPLY
PLACE JUMPER BETWEEN 2 & 3 FOR SECOND POWER SUPPLY
2. X403 - DEGRADE ALARM SILENCEABLE
PLACE JUMPER BETWEEN 1 & 2 FOR SILENCEABLE
PLACE JUMPER BETWEEN 2 & 3 FOR NONSILENCEABLE
3. X602 & X603 - DEGRADE MODE
PLACE JUMPER BETWEEN 1 & 2 TO ENABLE
PLACE JUMPER BETWEEN 2 & 3 TO DISABLE
4. X604, X605, & X606 - NAC 1 CLASS
PLACE JUMPER BETWEEN 1 & 2 FOR CLASS B
PLACE JUMPER BETWEEN 2 & 3 FOR CLASS A



FIRE DETECTION CONTROL PANEL ^{5,11,12}
SCALE: N.T.S.



(SEE SHEET 1, GENERAL NOTE 2)

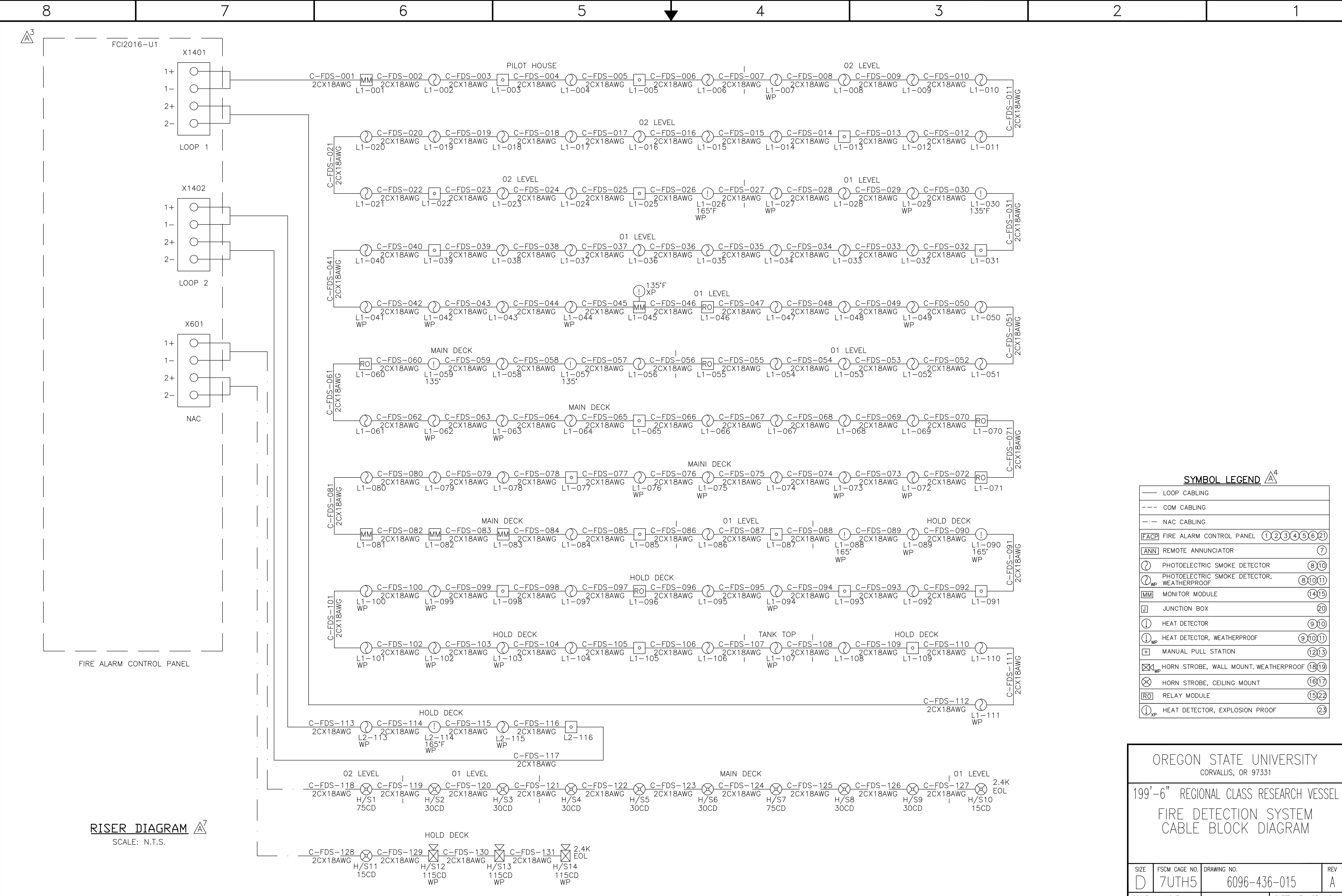
SYMBOL LEGEND ⁴

—	LOOP CABLING
- - -	COM CABLING
- · - · -	NAC CABLING
[FACP]	FIRE ALARM CONTROL PANEL (1)(2)(3)(4)(5)(6)(21)
[ANN]	REMOTE ANNUNCIATOR (7)
(⊙)	PHOTOELECTRIC SMOKE DETECTOR (8)(10)
(⊙ _{WP})	PHOTOELECTRIC SMOKE DETECTOR, WEATHERPROOF (8)(10)(11)
[MM]	MONITOR MODULE (14)(15)
[J]	JUNCTION BOX (20)
(⊙)	HEAT DETECTOR (9)(10)
(⊙ _{WP})	HEAT DETECTOR, WEATHERPROOF (9)(10)(11)
[MPS]	MANUAL PULL STATION (12)(13)
(⊗ _{WP})	HORN STROBE, WALL MOUNT, WEATHERPROOF (18)(19)
(⊗)	HORN STROBE, CEILING MOUNT (16)(17)
[RM]	RELAY MODULE (15)(22)
(⊙ _{XP})	HEAT DETECTOR, EXPLOSION PROOF (23)

OREGON STATE UNIVERSITY
CORVALLIS, OR 97331

199'-6" REGIONAL CLASS RESEARCH VESSEL
FIRE DETECTION SYSTEM
CABLE BLOCK DIAGRAM

SIZE D	FSCM CAGE NO. 7UTH5	DRAWING NO. 6096-436-015	REV A
SCALE: NONE		SHEET 2 OF 8	



RISER DIAGRAM ^{A7}
SCALE: N.T.S.

SYMBOL LEGEND ^{A4}

—	LOOP CABLING
- - -	COM CABLING
- · - · -	NAC CABLING
[FACP]	FIRE ALARM CONTROL PANEL (1)(2)(3)(4)(5)(6)(21)
[ANN]	REMOTE ANNUNCIATOR (7)
(⊙)	PHOTOELECTRIC SMOKE DETECTOR (8)(10)
(⊙ _{WP})	PHOTOELECTRIC SMOKE DETECTOR, WEATHERPROOF (8)(10)(11)
[MM]	MONITOR MODULE (14)(15)
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(⊙)	HEAT DETECTOR (9)(10)
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[RM]	RELAY MODULE (15)(22)
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OREGON STATE UNIVERSITY
CORVALLIS, OR 97331

199'-6" REGIONAL CLASS RESEARCH VESSEL
FIRE DETECTION SYSTEM
CABLE BLOCK DIAGRAM

SIZE	FSCM CAGE NO.	DRAWING NO.	REV
D	7UTH5	6096-436-015	A
SCALE:	NONE	SHEET	3 OF 8

8

7

6

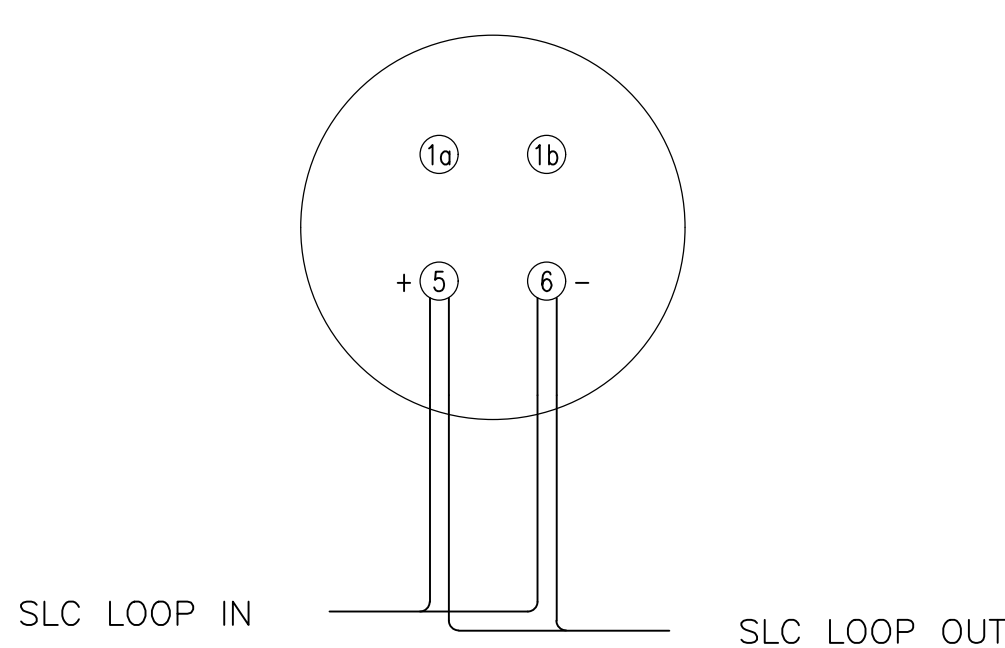
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4

3

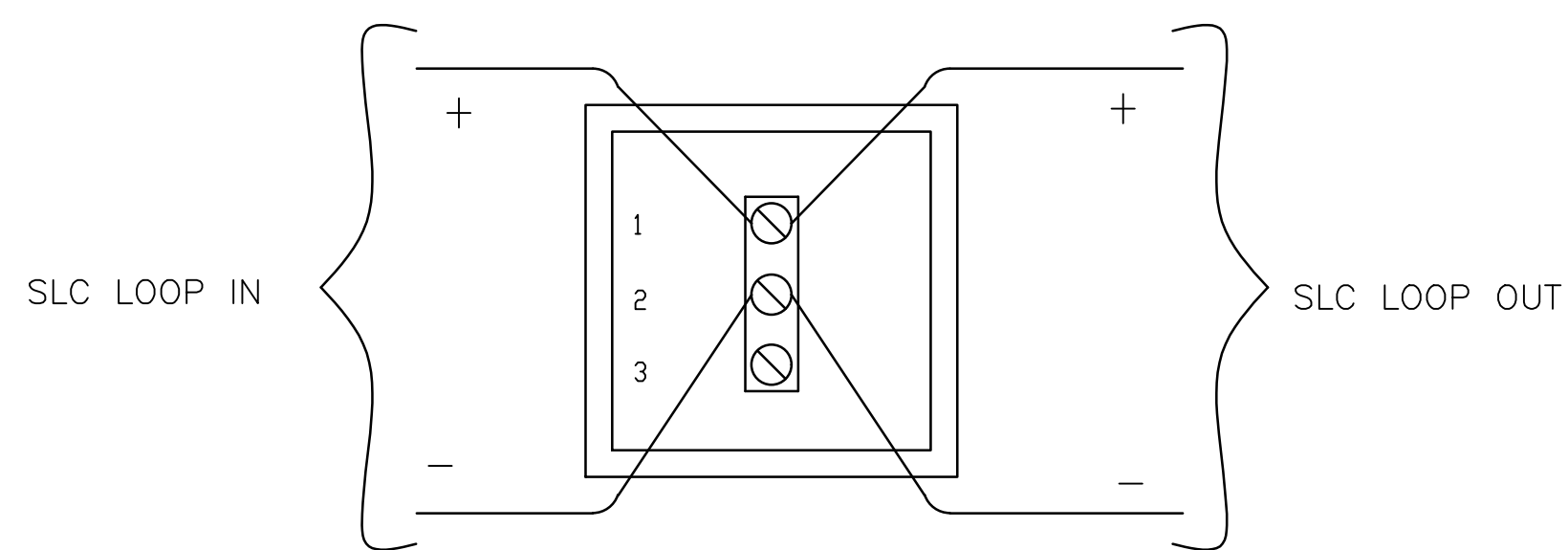
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1



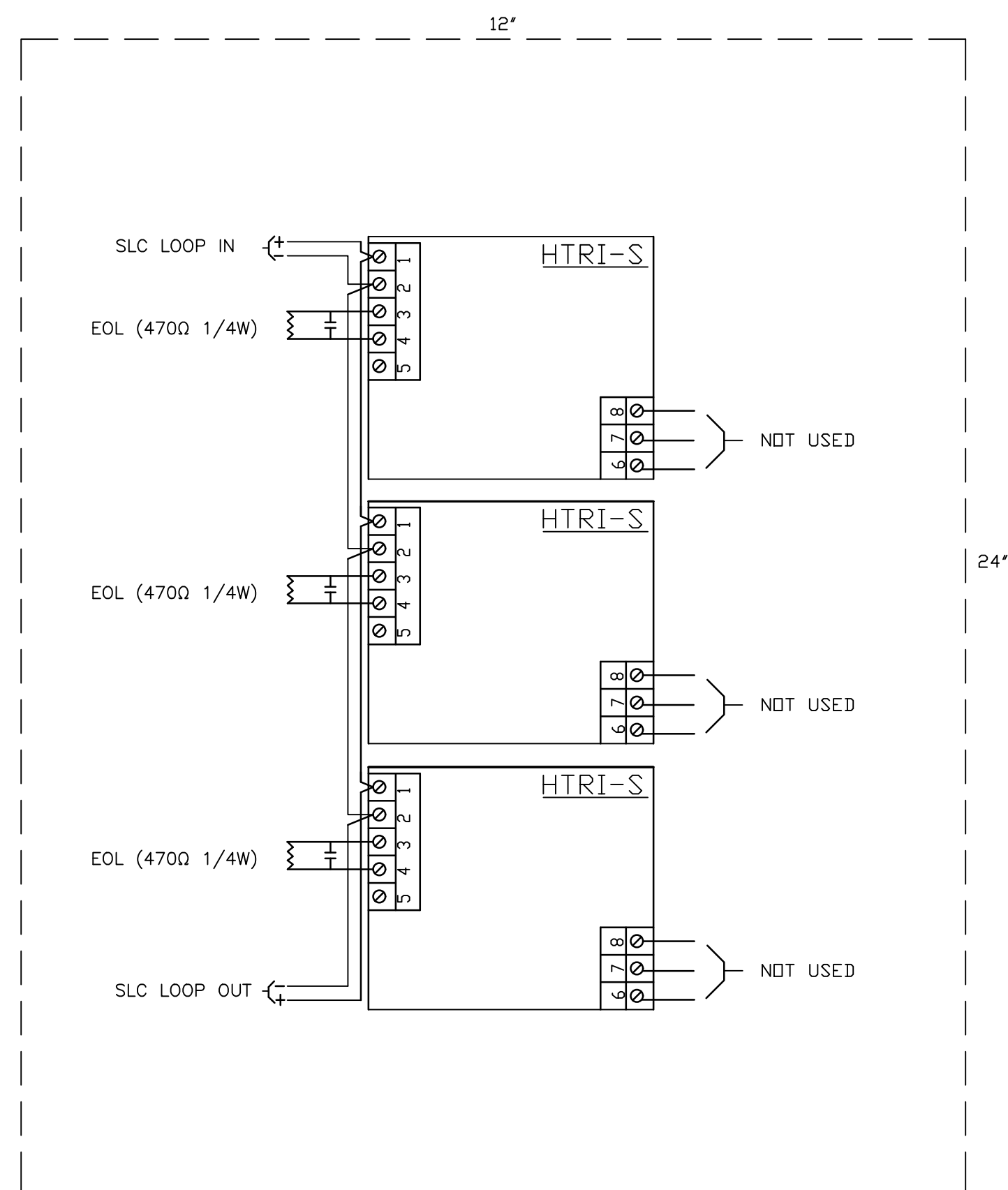
DETAIL A
SMOKE/HEAT DETECTOR

SCALE: NONE
⑧⑨⑩



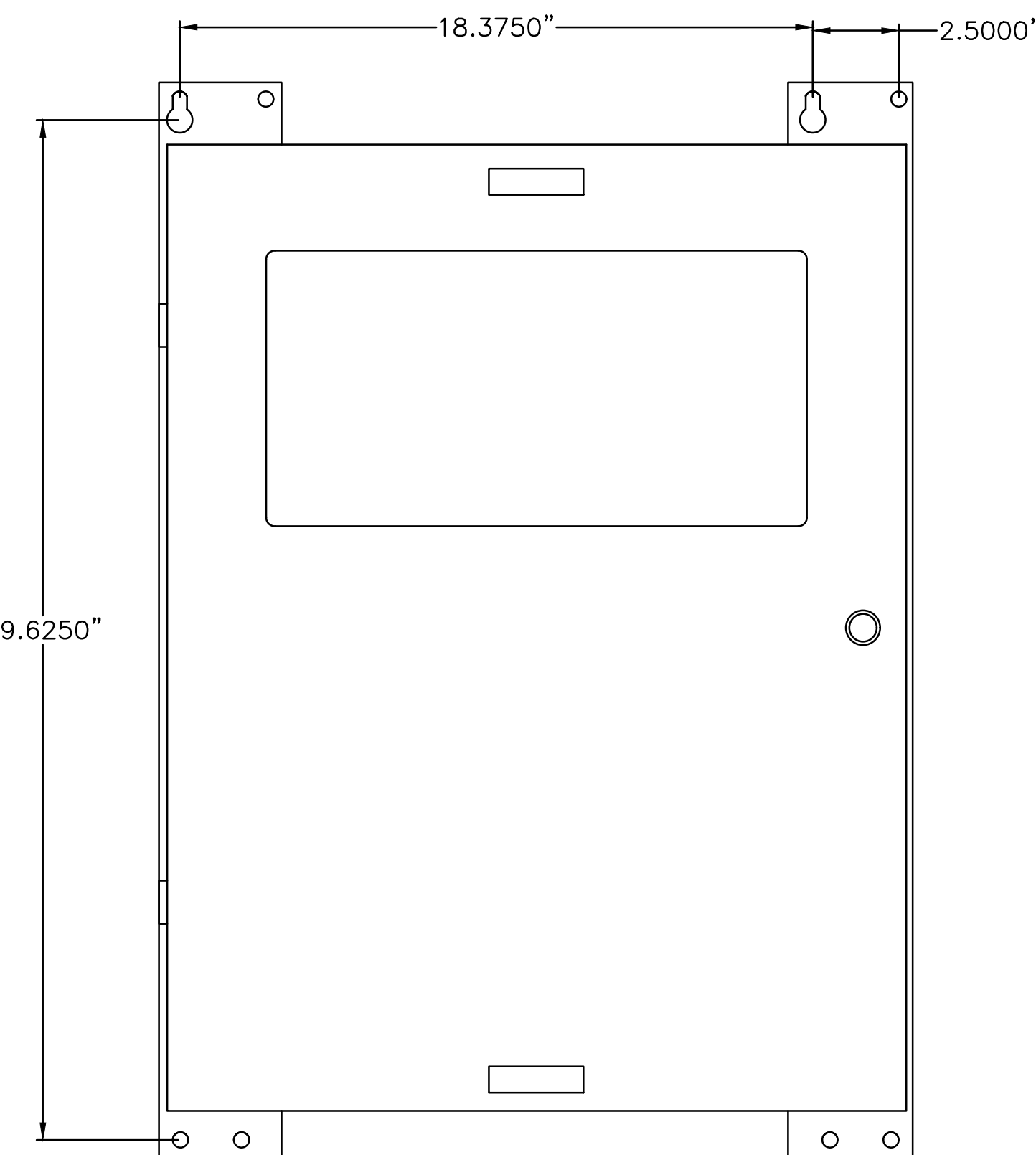
DETAIL B
MANUAL STATION

SCALE: NONE
⑫⑬



DETAIL D
JUNCTION BOX FOR VANS

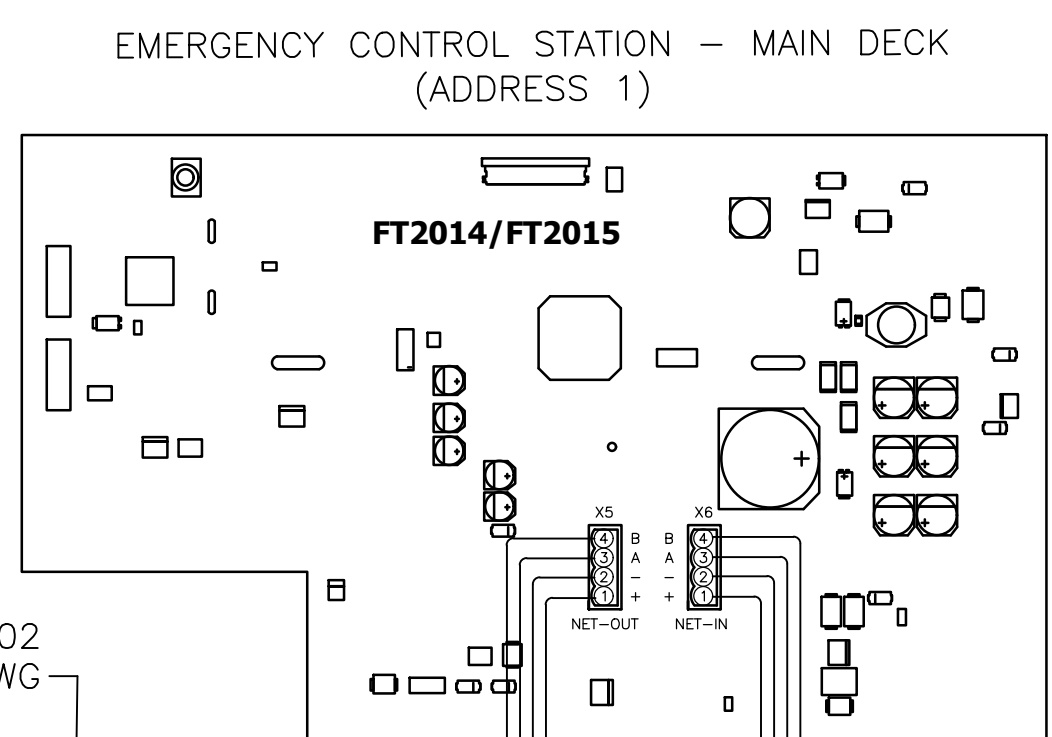
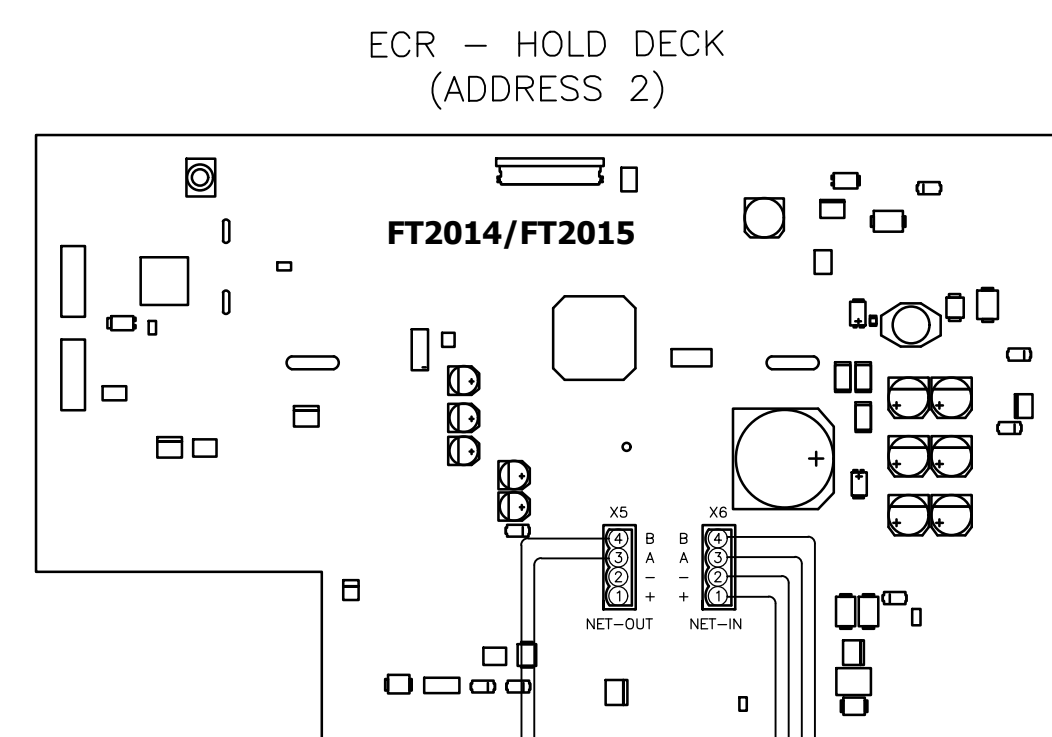
SCALE: NONE
⑭⑮



CERBERUS PRO MARINE PANEL

DIMENSIONS: 22"W X 6 5/16"D X 3 3/8"H
SCALE: NONE

⑰

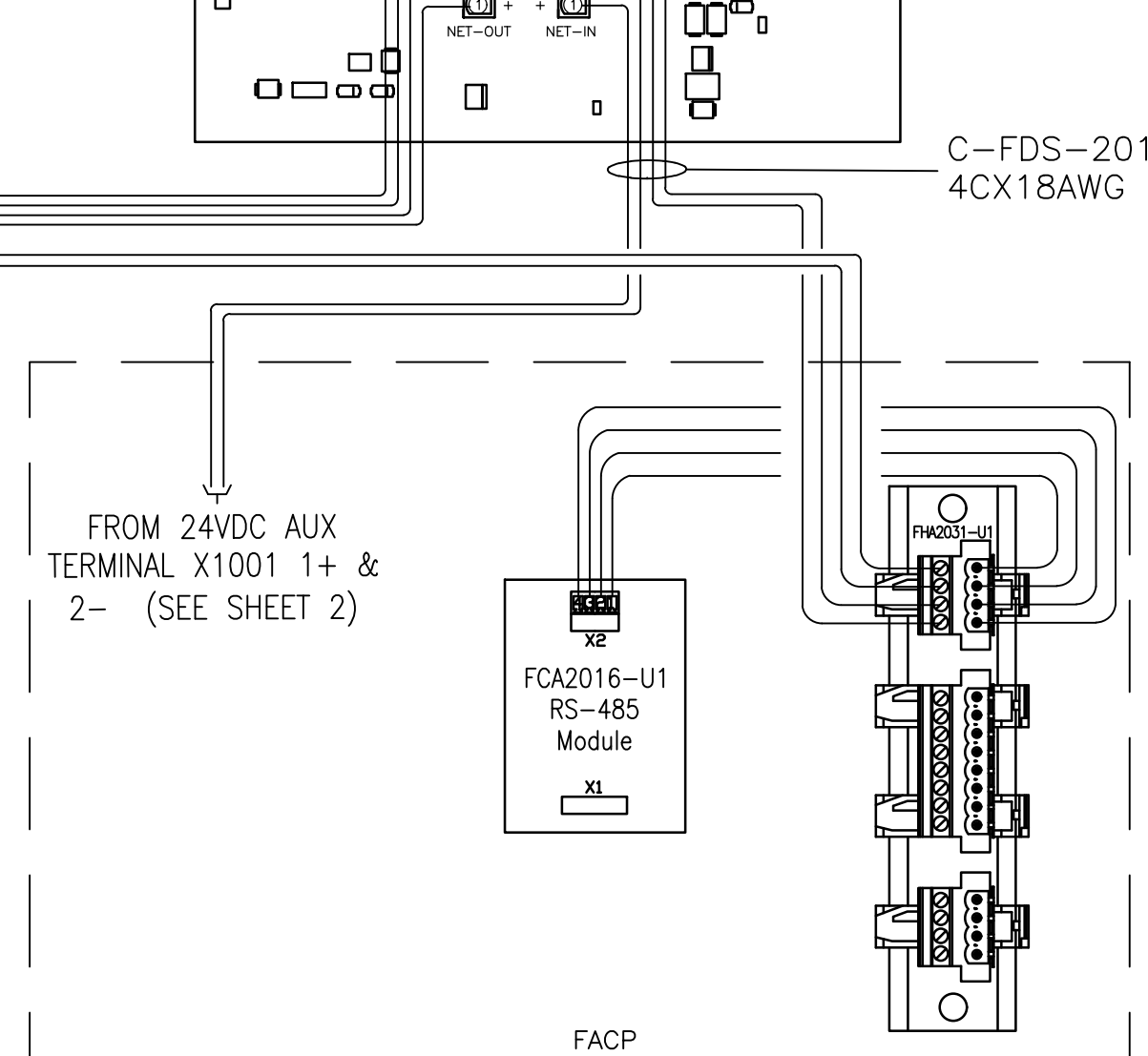


DIP SWITCH S1

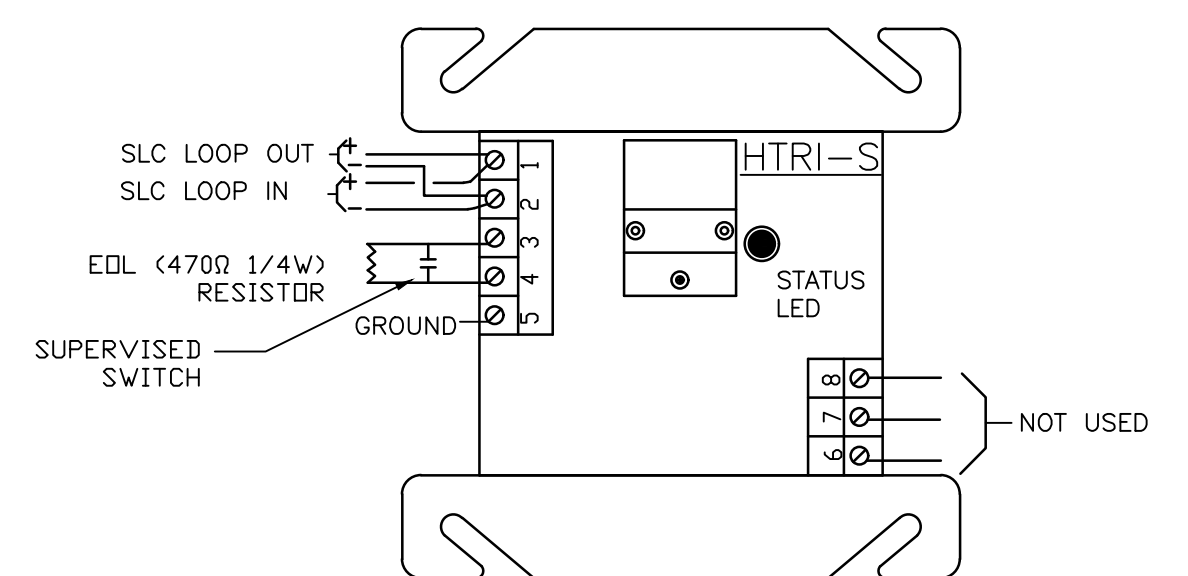
ON	OFF	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PWR_F
<input checked="" type="checkbox"/>	<input type="checkbox"/>	SW_REV
<input checked="" type="checkbox"/>	<input type="checkbox"/>	1 BAUD
<input checked="" type="checkbox"/>	<input type="checkbox"/>	2 BAUD
<input type="checkbox"/>	<input type="checkbox"/>	8 ADDRESS
<input type="checkbox"/>	<input type="checkbox"/>	4 ADDRESS
<input type="checkbox"/>	<input type="checkbox"/>	2 ADDRESS
<input type="checkbox"/>	<input type="checkbox"/>	1 ADDRESS

DETAIL C
REMOTE ANNUNCIATORS

SCALE: NONE
⑰



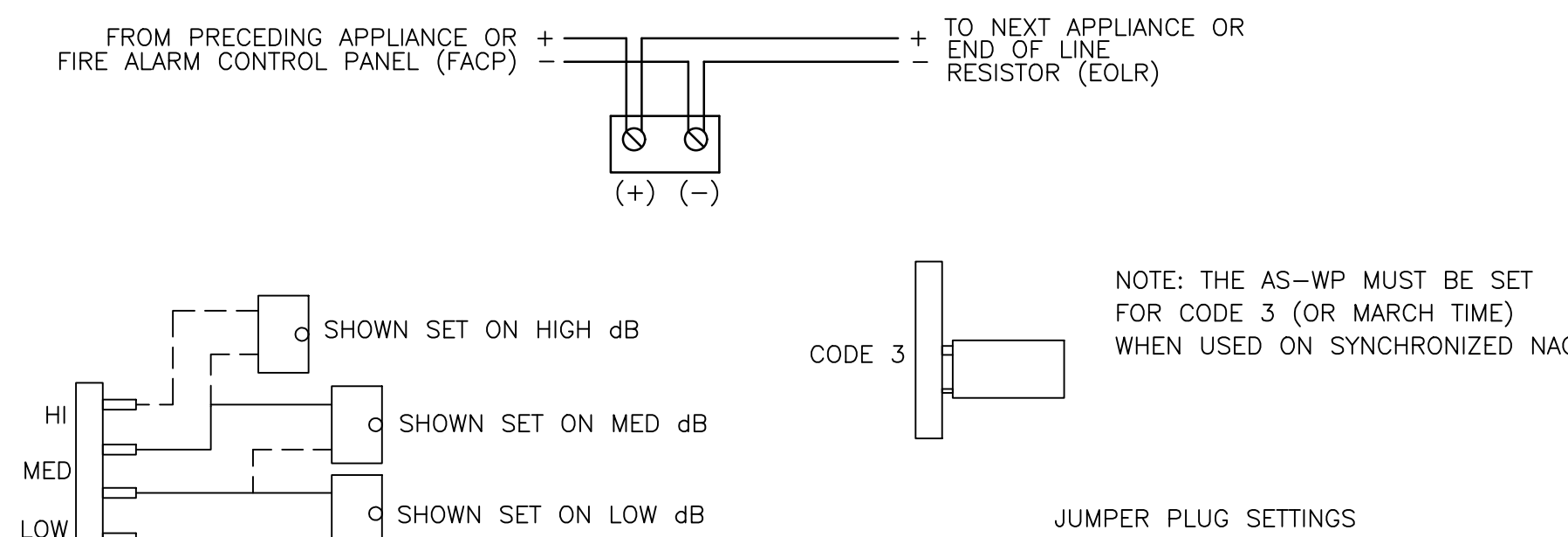
PILOT HOUSE



NOTE: REMOVE PLASTIC COVER PLATE THAT COMES WITH MODULE AND REPLACE WITH USCG-HPLATE.

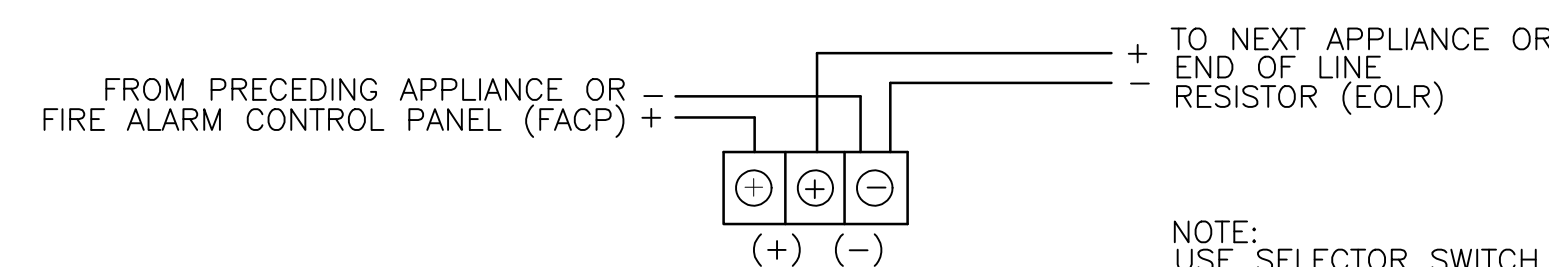
DETAIL E
MONITOR MODULE

SCALE: NONE
⑭⑮



DETAIL G
HORN STROBE, WEATHERPROOF

SCALE: NONE
⑱⑲



DETAIL F
HORN STROBE

SCALE: NONE
⑱⑲

OREGON STATE UNIVERSITY CORVALLIS, OR 97331			
199'-6" REGIONAL CLASS RESEARCH VESSEL			
FIRE DETECTION SYSTEM CABLE BLOCK DIAGRAM			
SIZE D	FSCM CAGE NO. 7UTH5	DRAWING NO. 6096-436-015	REV A
SCALE: NONE		SHEET 4 OF 8	

8

7

6

5

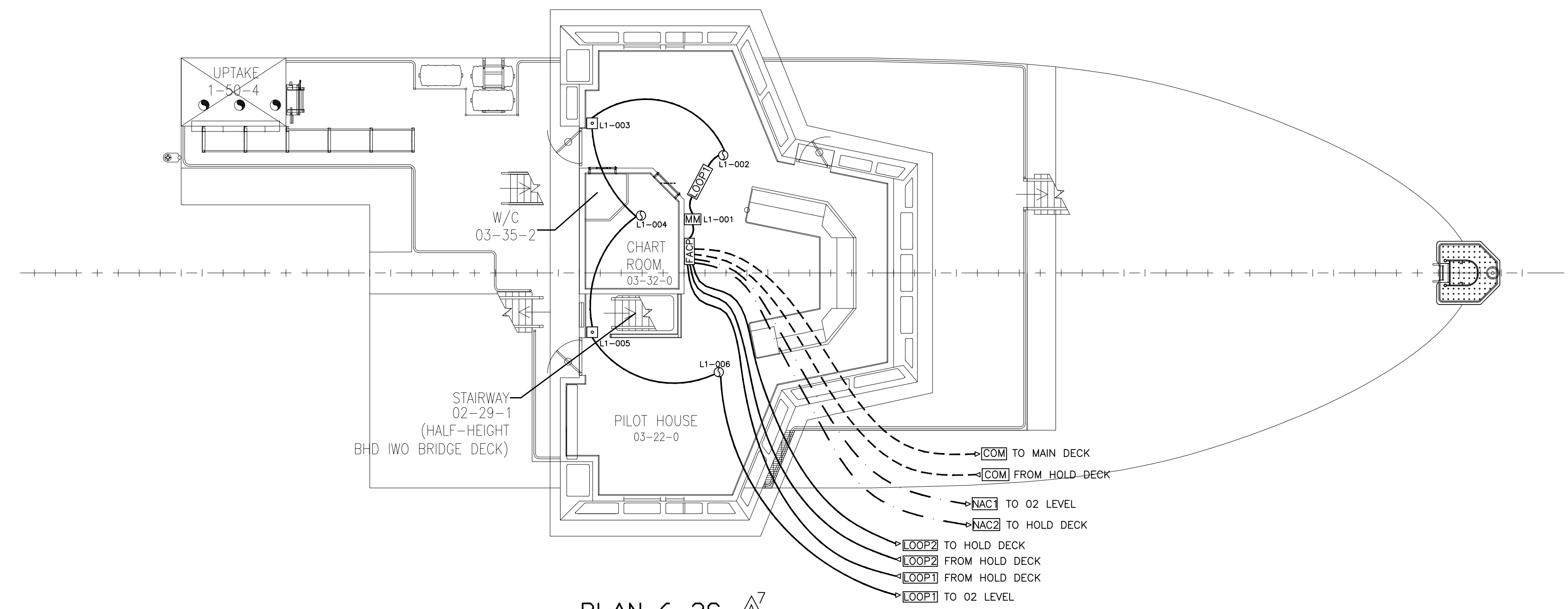
4

3

2

1

A³



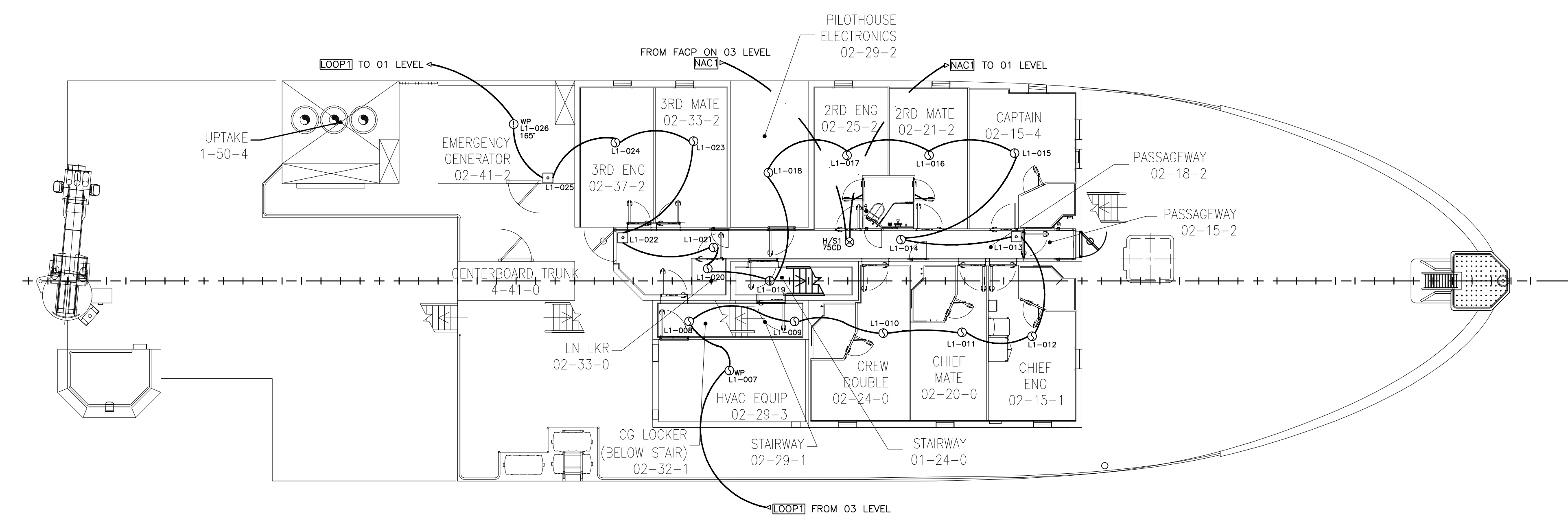
PLAN 6-3C ^{A7}
 03 LEVEL (PILOTHOUSE)
 SCALE: 1/8"=1'-0"

INSTALLATION NOTE

1. MONITOR MODULE, L1-001, ON 03 LEVEL IS FOR PA/GA MUTE INPUT TO FIRE ALARM.

SYMBOL LEGEND ^{A4}

—	LOOP CABLING
- - -	COM CABLING
- · - ·	NAC CABLING
[FACP]	FIRE ALARM CONTROL PANEL (1)(2)(3)(4)(5)(6)(21)
[ANN]	REMOTE ANNUNCIATOR (7)
⊙	PHOTOELECTRIC SMOKE DETECTOR (8)(10)
⊙ _{WP}	PHOTOELECTRIC SMOKE DETECTOR, WEATHERPROOF (8)(10)(11)
[MM]	MONITOR MODULE (14)(15)
[J]	JUNCTION BOX (20)
⊙	HEAT DETECTOR (9)(10)
⊙ _{WP}	HEAT DETECTOR, WEATHERPROOF (9)(10)(11)
[MPS]	MANUAL PULL STATION (12)(13)
⊙ _{WP}	HORN STROBE, WALL MOUNT, WEATHERPROOF (18)(19)
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[RM]	RELAY MODULE (15)(22)
⊙ _{XP}	HEAT DETECTOR, EXPLOSION PROOF (23)



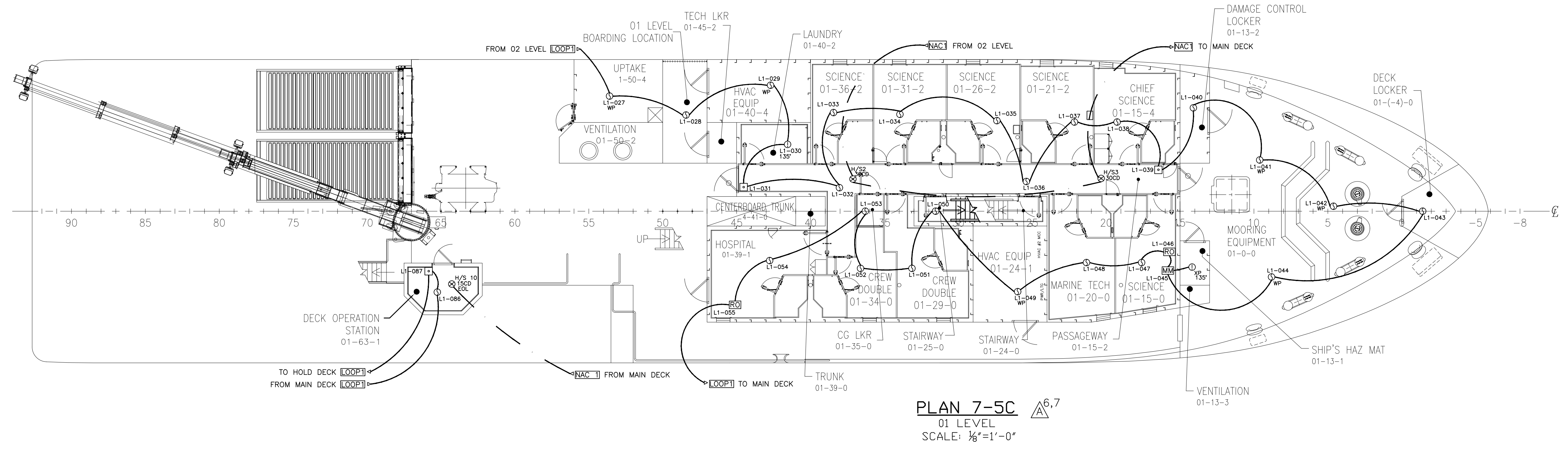
PLAN 6-3A ^{A6,7}
 02 LEVEL
 SCALE: 1/8"=1'-0"

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 CORVALLIS, OR 97331

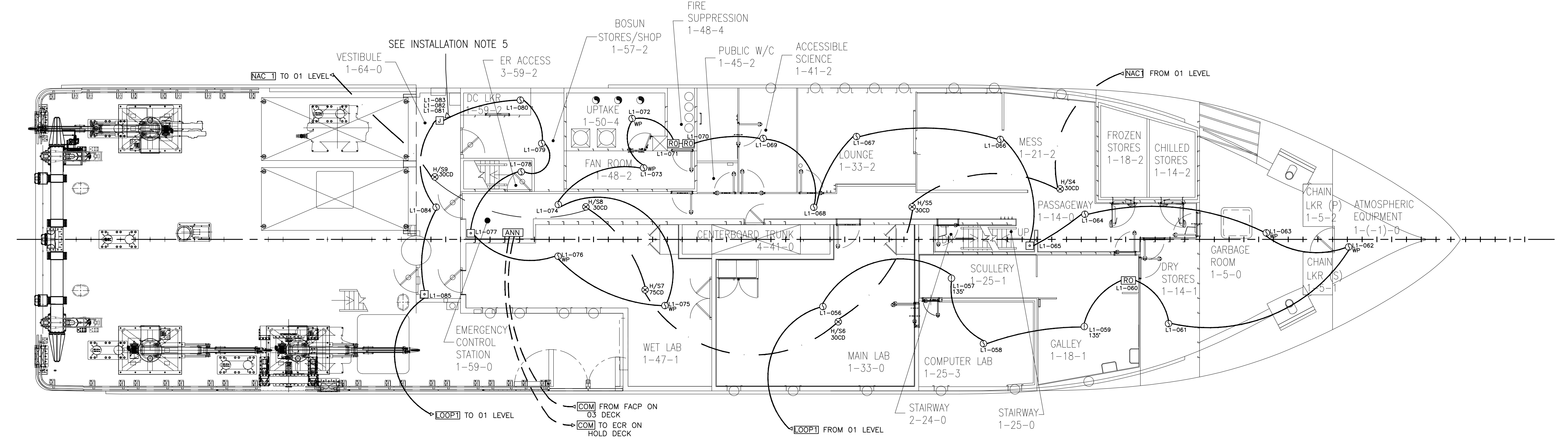
199'-6" REGIONAL CLASS RESEARCH VESSEL
 FIRE DETECTION SYSTEM
 CABLE BLOCK DIAGRAM

SIZE	FSCM CAGE NO.	DRAWING NO.	REV
D	7UTH5	6096-436-015	A
SCALE:	SHOWN	SHEET	5 OF 8

A³



PLAN 7-5C A^{6,7}
 01 LEVEL
 SCALE: 1/8"=1'-0"



PLAN 7-5A A^{6,7}
 MAIN DECK
 SCALE: 1/8"=1'-0"

INSTALLATION NOTES

1. RELAY MODULE, L1-046, ON 01 LEVEL IS TO MONITOR HAZ-MAT LOCKER SUPPRESSION SYSTEM.
2. RELAY MODULE, L1-055, ON 01 LEVEL HOSPITAL IS FOR SHORE CONNECTION.
3. RELAY MODULE, L1-060, ON MAIN DECK GALLEY IS TO MONITOR GALLEY HOOD SUPPRESSION SYSTEM.
4. RELAY MODULES, L1-070 & L1-071, ON MAIN DECK FIRE SUPPRESSION ROOM ARE TO MONITOR ENGINE ROOM & EMERGENCY GENERATOR FIRE SUPPRESSION SYSTEMS.
5. JUNCTION BOX LOCATED IN VESTIBULE OF MAIN DECK IS FOR SCIENCE VANS. REFER TO DETAIL D, SHEET 4.

SYMBOL LEGEND A⁴

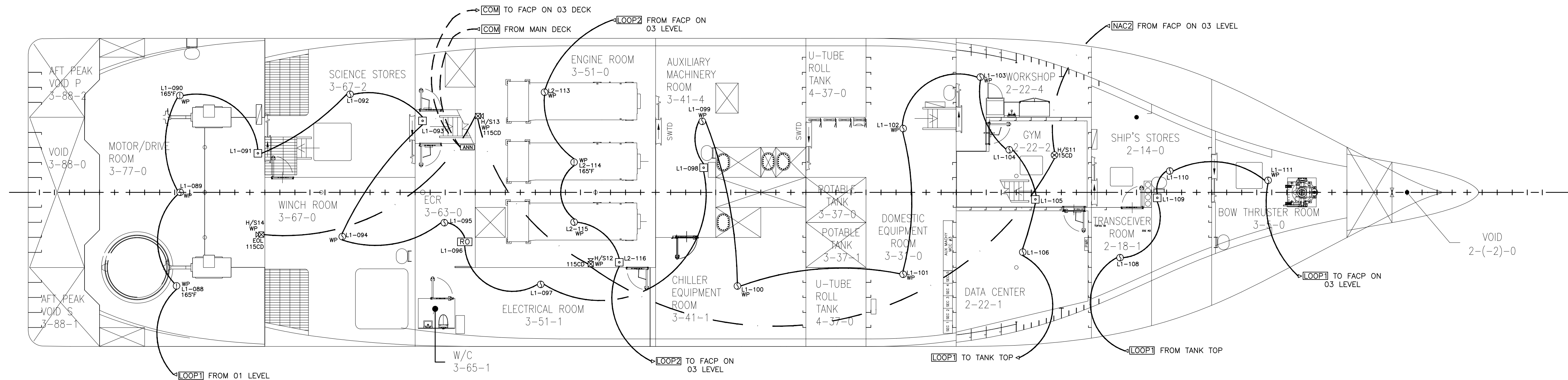
—	LOOP CABLING
- - -	COM CABLING
- · - · -	NAC CABLING
FACP	FIRE ALARM CONTROL PANEL (1)(2)(3)(4)(5)(6)(21)
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⊙ _{WP}	PHOTOELECTRIC SMOKE DETECTOR, WEATHERPROOF (8)(10)(11)
MM	MONITOR MODULE (14)(15)
J	JUNCTION BOX (20)
⊙	HEAT DETECTOR (9)(10)
⊙ _{WP}	HEAT DETECTOR, WEATHERPROOF (9)(10)(11)
⊠	MANUAL PULL STATION (12)(13)
⊠ _{WP}	HORN STROBE, WALL MOUNT, WEATHERPROOF (18)(19)
⊠	HORN STROBE, CEILING MOUNT (16)(17)
⊠ _{RO}	RELAY MODULE (15)(22)
⊙ _{XP}	HEAT DETECTOR, EXPLOSION PROOF (23)

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 CORVALLIS, OR 97331

199'-6" REGIONAL CLASS RESEARCH VESSEL
 FIRE DETECTION SYSTEM
 CABLE BLOCK DIAGRAM

SIZE D	FSCM CAGE NO. 7UTH5	DRAWING NO. 6096-436-015	REV A
SCALE: SHOWN		SHEET 6 OF 8	

A³



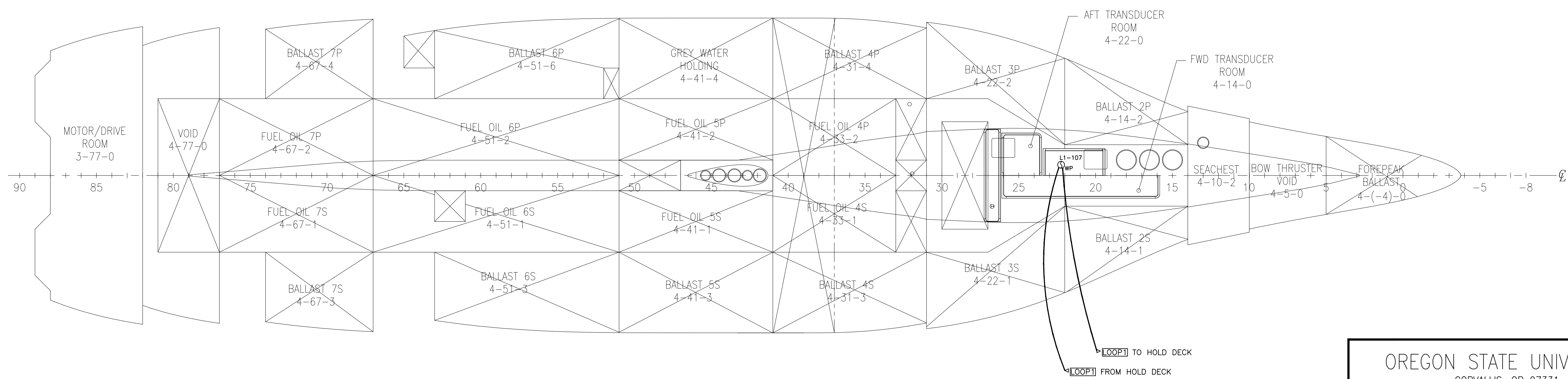
INSTALLATION NOTES

1. RELAY MODULE, L1-096, ON HOLD DECK ECR IS FOR ENGINE ROOM ALARM ONLY TO LIGHT COLUMNS.

PLAN 8-5C A³
 HOLD & 1ST PLATFORM DECKS
 SCALE: 1/8"=1'-0"

SYMBOL LEGEND A⁴

—	LOOP CABLING
- - -	COM CABLING
- - -	NAC CABLING
[FACP]	FIRE ALARM CONTROL PANEL (1)(2)(3)(4)(5)(6)(21)
[ANN]	REMOTE ANNUNCIATOR (7)
(P)	PHOTOELECTRIC SMOKE DETECTOR (8)(10)
(WP)	PHOTOELECTRIC SMOKE DETECTOR, WEATHERPROOF (8)(10)(11)
[MM]	MONITOR MODULE (14)(15)
[J]	JUNCTION BOX (20)
(H)	HEAT DETECTOR (9)(10)
(WP)	HEAT DETECTOR, WEATHERPROOF (9)(10)(11)
[MPS]	MANUAL PULL STATION (12)(13)
(HWP)	HORN STROBE, WALL MOUNT, WEATHERPROOF (18)(19)
(H)	HORN STROBE, CEILING MOUNT (16)(17)
[RO]	RELAY MODULE (15)(22)
(XP)	HEAT DETECTOR, EXPLOSION PROOF (23)



PLAN 8-5A A⁷
 TANK TOP
 SCALE: 1/8"=1'-0"

OREGON STATE UNIVERSITY
 CORVALLIS, OR 97331

199'-6" REGIONAL CLASS RESEARCH VESSEL
 FIRE DETECTION SYSTEM
 CABLE BLOCK DIAGRAM

SIZE D	FSCM CAGE NO. 7UTH5	DRAWING NO. 6096-436-015	REV A
SCALE: SHOWN		SHEET 7 OF 8	

3

8

7

6

5

4

3

2

1

D

D

C

C

B

B

A

A

8

7

6

5

4

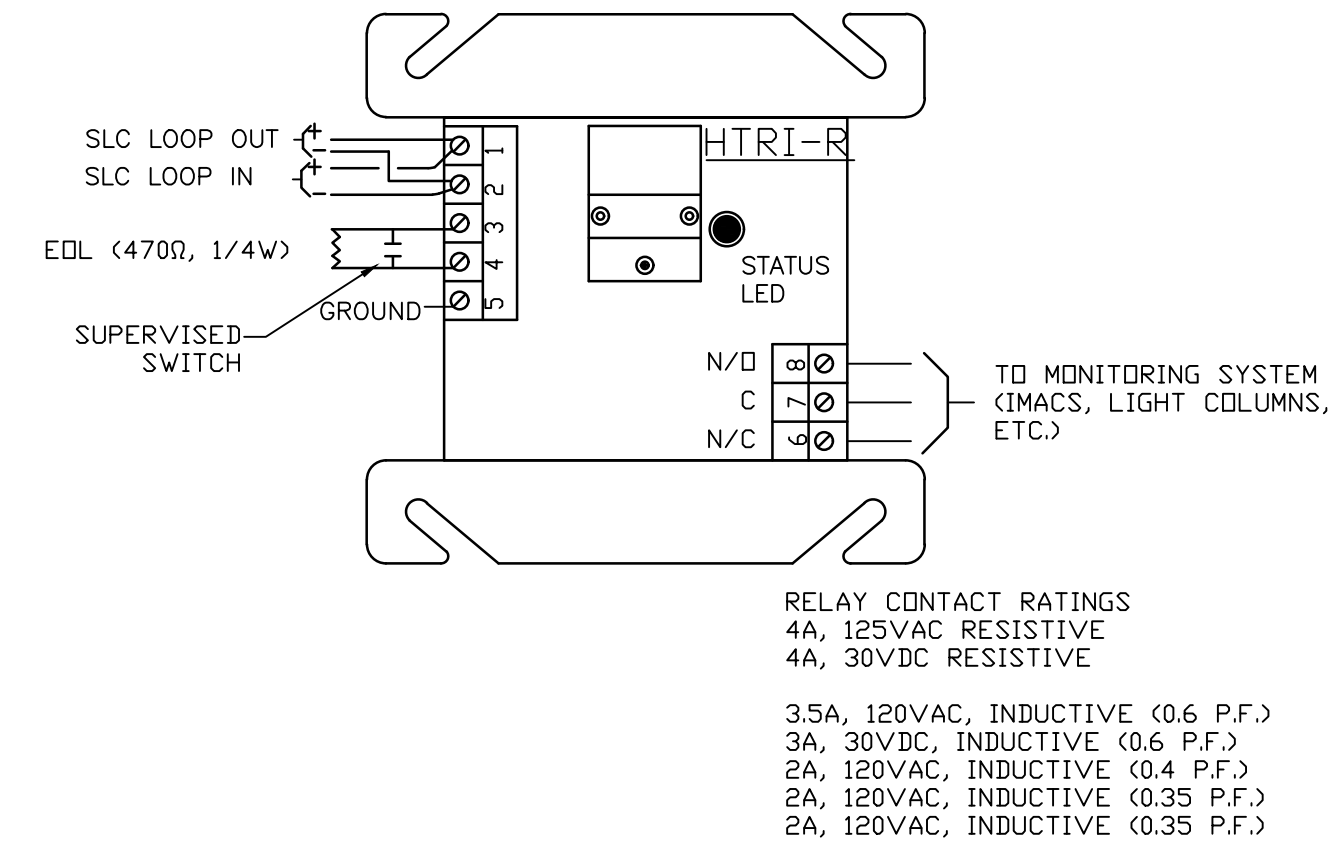
3

2

1

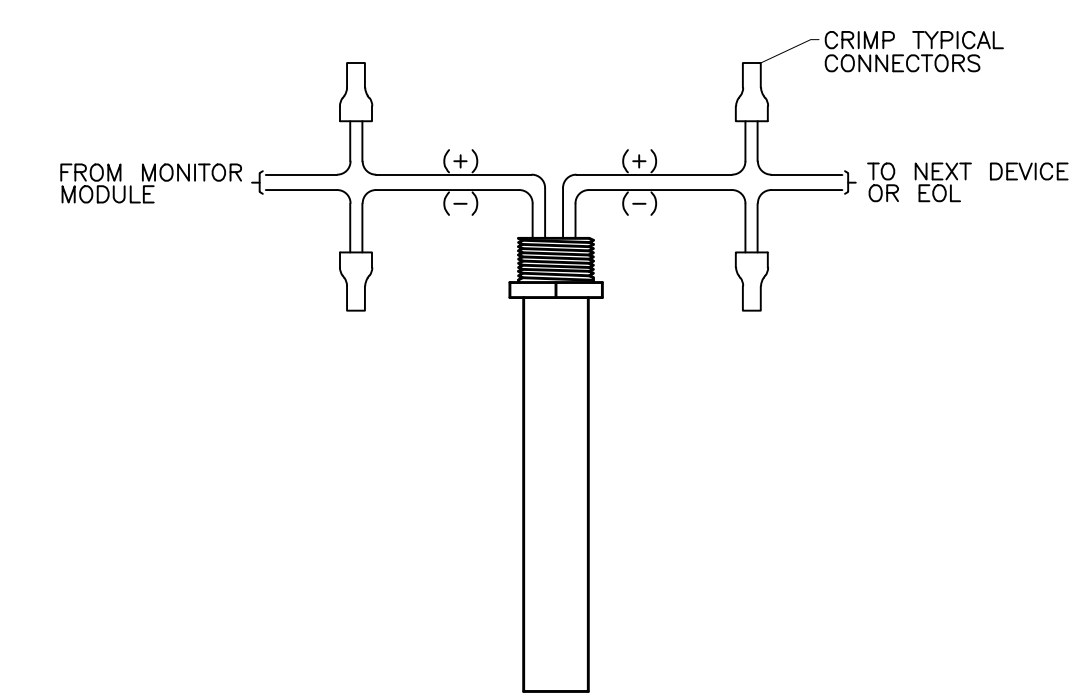
Input Conditions	TYPE	ROW	Output Events / Annunciation																	ROW		
			AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ		AR	AS
ANY SMOKE DETECTOR ACTIVATED	ALARM	01	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	01	
ANY HEAT DETECTOR ACTIVATED	ALARM	02	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	02
ANY MANUAL PULL STATION ACTIVATED	ALARM	03	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	03
RELAY MODULE, L01-046, ACTIVATED	ALARM	04	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	04
RELAY MODULE, L01-060, ACTIVATED	ALARM	05	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	05
RELAY MODULE, L01-070, ACTIVATED	ALARM	06	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	06
RELAY MODULE, L01-071, ACTIVATED	ALARM	07	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	07
ANY ENGINE ROOM DETECTOR OR PULL STATION	ALARM	08	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	08
CONTROL PANEL COMMON SYSTEM TROUBLE	TROUBLE	10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	10
GROUND FAULT	TROUBLE	11	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	11
NOTIFICATION APPLIANCE CIRCUIT (NAC) OPEN OR SHORT	TROUBLE	12	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	12
SIGNALING LINE CIRCUIT (SLC) OPEN OR SHORT	TROUBLE	13	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	13
CONTROL PANEL LOW BATTERY FAULT	TROUBLE	14	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	14
CONTROL PANEL AC POWER FAILURE	TROUBLE	15	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	15
CONTROL PANEL SILENCE BUTTON	CONTROL	17																				17
MONITOR MODULE, L01-001, ACTIVATED	CONTROL	18																				18
		19																				19
		20																				20

SERIES OF EVENTS DIAGRAM ¹⁰
SCALE: N.T.S.



NOTE: REMOVE PLASTIC COVER PLATE THAT COMES WITH MODULE AND REPLACE WITH USCG-HPLATE.

DETAIL H ¹⁰
RELAY MODULE
SCALE: NONE



DETAIL I ¹⁰
HEAT DETECTOR, XP
SCALE: NONE

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FIRE DETECTION SYSTEM
SERIES OF EVENTS DIAGRAM

SIZE D	FSCM CAGE NO. 7UTH5	DRAWING NO. 6096-436-015	REV A
SCALE: NONE		SHEET 8 OF 8	