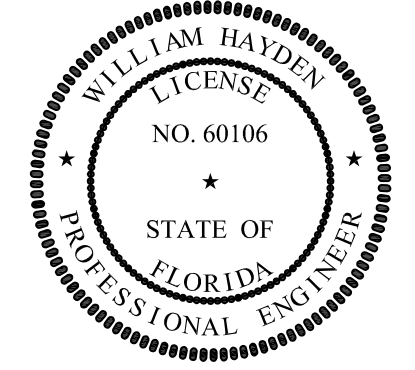


SYMBOL LIST	
	PANEL FEEDERS
	CIRCUIT FEEDERS
	CUBE LIGHT 13W
	METALLIC LED VP 17W
	RED/WHITE LED 13W
	ARIES FLOOD 16W
	DECK LIGHT LED 5W
	BUNK AND MIRROR LIGHT 12W
	RECEPTACLE GFCI 108VAC 20A
	RECEPTACLE 108VAC 20A
	CENTRIFUGAL PUMP
	GEAR PUMP
	RECEPTACLE 208VAC 20A
	LIGHT SWITCH
	MOTOR CONTROLLER HOA
	MOTOR CONTROLLER R/S
	DISCONNECT
	SHOREPOWER INLET
	SEARCHLIGHT
	FLIR CAMERA
	RECEPTACLE, RANGE 50A
	BULKHEAD MOUNT EMERGENCY LIGHTS

SYSTEM OPERATION INTENT
 TO PROVIDE 120/208 3 PHASE AC POWER FROM EITHER OF THE TWO 99KW ONBOARD GENERATORS OR THROUGH A DEDICATED SHORE-POWER CONNECTION THROUGH THE SWITCHBOARD TO THE INDIVIDUAL SUB PANELS IN ORDER TO PROVIDE BASIC VESSEL FUNCTIONALITY WHILE PERFORMING ITS MISSION AS A TOWING VESSEL.

MATERIAL SCHEDULE									
SYSTEM	SIZE	WIRE	PANEL ENCLOSURES	JUNCTION BOXES	CIRCUIT DISCONNECTS	MOTOR CONTROLLERS	CIRCUIT BREAKERS	FUSES	CABLE HANGERS
PANEL FEEDER WIRING	ALL	ALL ELECTRIC WIRE SHALL BE UL LISTED SHIPBOARD CABLE, SIZED AT 80 PERCENT MANUFACTURERS LISTED AMPACITY AT 75 DEG C	ALL PANELS SHALL HAVE SOLID COPPER BUS BARS				EACH CIRCUIT BREAKER MUST MEET UL 489 "MOLDED CASE CIRCUIT BREAKERS AND CIRCUIT BREAKER ENCLOSURES" OR OTHER STANDARD SPECIFIED BY THE COMMANDANT AND BE OF THE MANUALLY RESET TYPE DESIGNED FOR: (1) INVERSE TIME DELAY (2) INSTANTANEOUS SHORT CIRCUIT PROTECTION AND (3) SWITCHING DUTY IF THE BREAKER IS USED AS A SWITCH. EACH CIRCUIT BREAKER MUST INDICATE WHETHER IT IS IN THE OPEN OR CLOSED POSITION.	FUSES SHALL BE OF THE UL CARTRIDGE TYPE ONLY	CABLE HANGERS FOR OVERHEAD AND VERTICAL RUNS MUST BE INSTALLED WITH METAL SUPPORTS AND RETENTION DEVICES AT LEAST EVERY 48 INCHES.
CIRCUIT FEEDER WIRING	ALL								

17-1372-5005.1 Electrical and Lighting B.O.M.					
ITEM	QTY	SYMBOL	DESCRIPTION	MATERIAL SPEC	REMARKS
1	26		PHOENIX REDI LIGHT 42" LED 19W		
2	6		PHOENIX CUBE LIGHT WHITE 13W		
3	11		PHOENIX METALLIC LED VP 17W	UL1598A, UL 844	
4	5		RED/WHITE BI COLOR, SWITCHABLE, DIMMABLE, L.E.D. DOME LIGHT 13W		
5	5		PHEONIX ARIES FLOOD LIGHT 16W		
6	6		PHEONIX BERTH AND MIRROR LIGHT 12W		
7	3		PHEONIX ECMOD 2 280 W LED FLOOD LIGHT		
8	10		DECK LIGHT LED DIMMABLE 5W		
9	8		RECEPTACLE GFCI 108VAC 20A		
10	23		RECEPTACLE 108VAC 3 PRONG 20A		
11	1		RECEPTACLE 208VAC 20A		
12	19		LIGHT SWITCH		
13	8		MOTOR CONTROLLER H.O.A.		
14	6		DISCONNECT		
15	1		SHORE POWER INLET 4 WIRE 200A MALE		
16	1		FLIR CAMERA M500 ULTRA HIGH PERFORMANCE MULTI SENSOR CAMERA SYSTEM		
17	1		HVAC MINI SPLIT REVERSE CYCLE UNIT AIR COOLED PURY-72TLMU-A		
18	1		HVAC MINI SPLIT REVERSE CYCLE AIR HANDLER PKFY-P06NBMU-E2R1 (PILOT HOUSE)		
19	1		HVAC MINI SPLIT REVERSE CYCLE AIR HANDLER PKFY-P12NHMU-E2 (PASSEGEWAY)		
20	2		HVAC MINI SPLIT REVERSE CYCLE AIR HANDLER PKFY-P06NBMU-E2R1 (CAPTAIN & CREW QTRS)		
21	3		HVAC MINI SPLIT REVERSE CYCLE AIR HANDLER PEFY-P12NMAU-E3 (SHOWER & HEADS)		
22	1		HVAC MINI SPLIT REVERSE CYCLE AIR HANDLER PKFY-P18NHMU-E2 (GALLEY)		
23	1		POTABLE WATER PRESSURE PUMP 1.5HP, 115 OR 208 VAC, 60 HZ, 1PH, 50 DEGREE CELCIUS		
24	1		SANITARY WATER PRESSURE PUMP 1.5HP, 115 OR 208 VAC, 60HZ, 1PH, 50 DEGREE CELCIUS		
25	1		BILGE PUMP 5HP 208 VAC 60 HZ 3 PH 50 DEGREE CELCIUS		
26	1		FIRE PUMP 20HP, 208 VAC, 60 HZ, 3PH, 50 DEGREE CELCIUS		
27	1		SEWAGE PUMP 2HP, 208 VAC, 60HZ, 3PH, 50 DEGREE CELCIUS		
28	1		FUEL TRANSFER PUMP 1HP 115 OR 208 VAC, 60 HZ, 1 PH, 50 DEGREE CELCIUS		
30	2		SEARCH LIGHT CARLISLE AND FITCH 15" DIA, 3 MILLION CANDLE POWER, 1000W		
31	5		LAMP, BULKHEAD, LED, RECHARGEABLE LANTERN NSN 6230-01-580-6268	MIL-DTL-16377/53 JAY Moulding #101.2L(W)	EMERGENCY LIGHTS
32					



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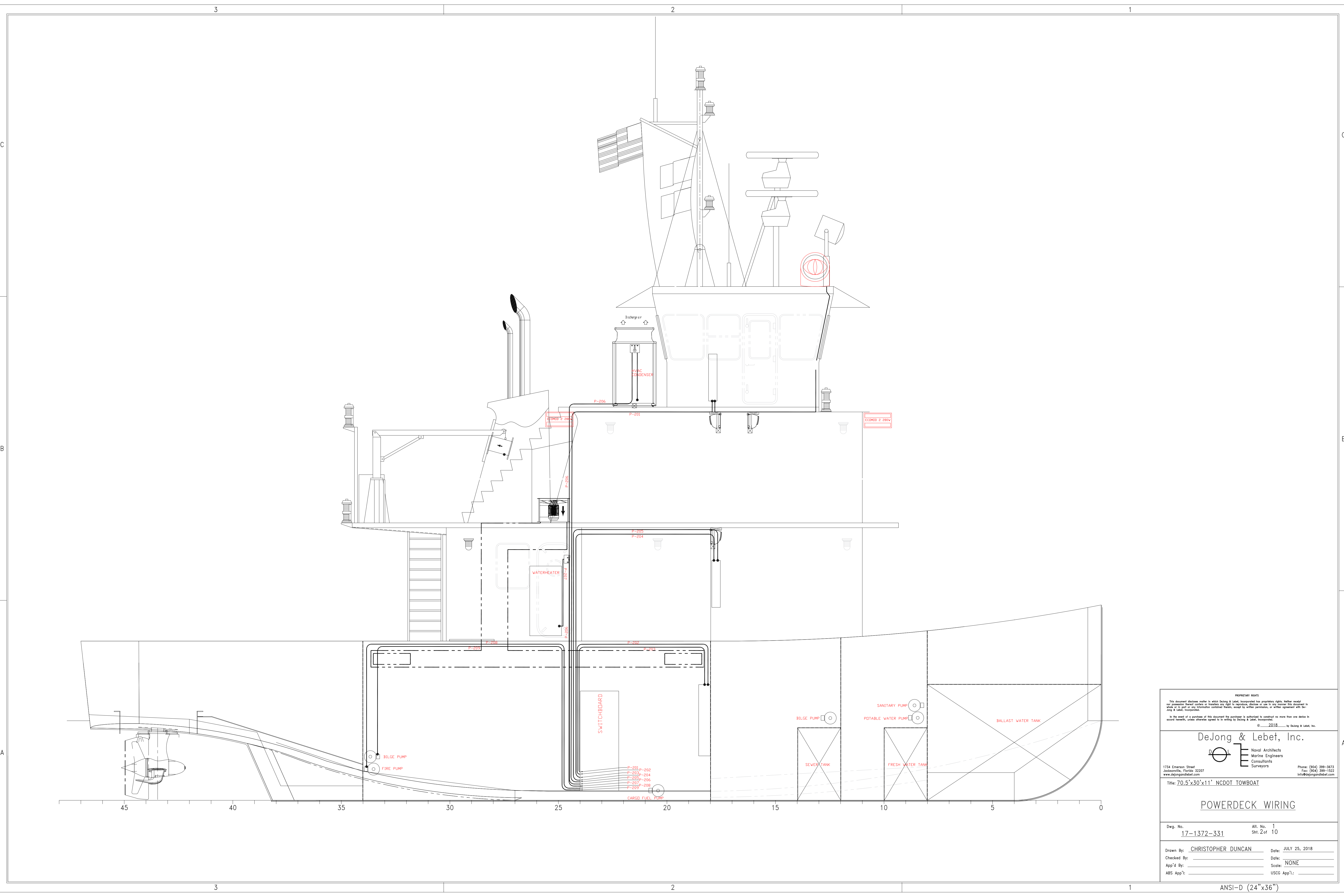
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 Fax: (904) 399-1522
 info@dejongandlebet.com

Title: 70.5'x30'x11' NCDOT TOWBOAT

POWERDECK WIRING

Dwg. No. 17-1372-331 Alt. No. 1
 Sh. 1 of 10

Drawn By: CHRISTOPHER DUNCAN Date: JULY 25, 2018
 Checked By: _____ Date: _____
 App'd By: _____ Scale: NONE
 ABS App'l: _____ USCG App'l: _____



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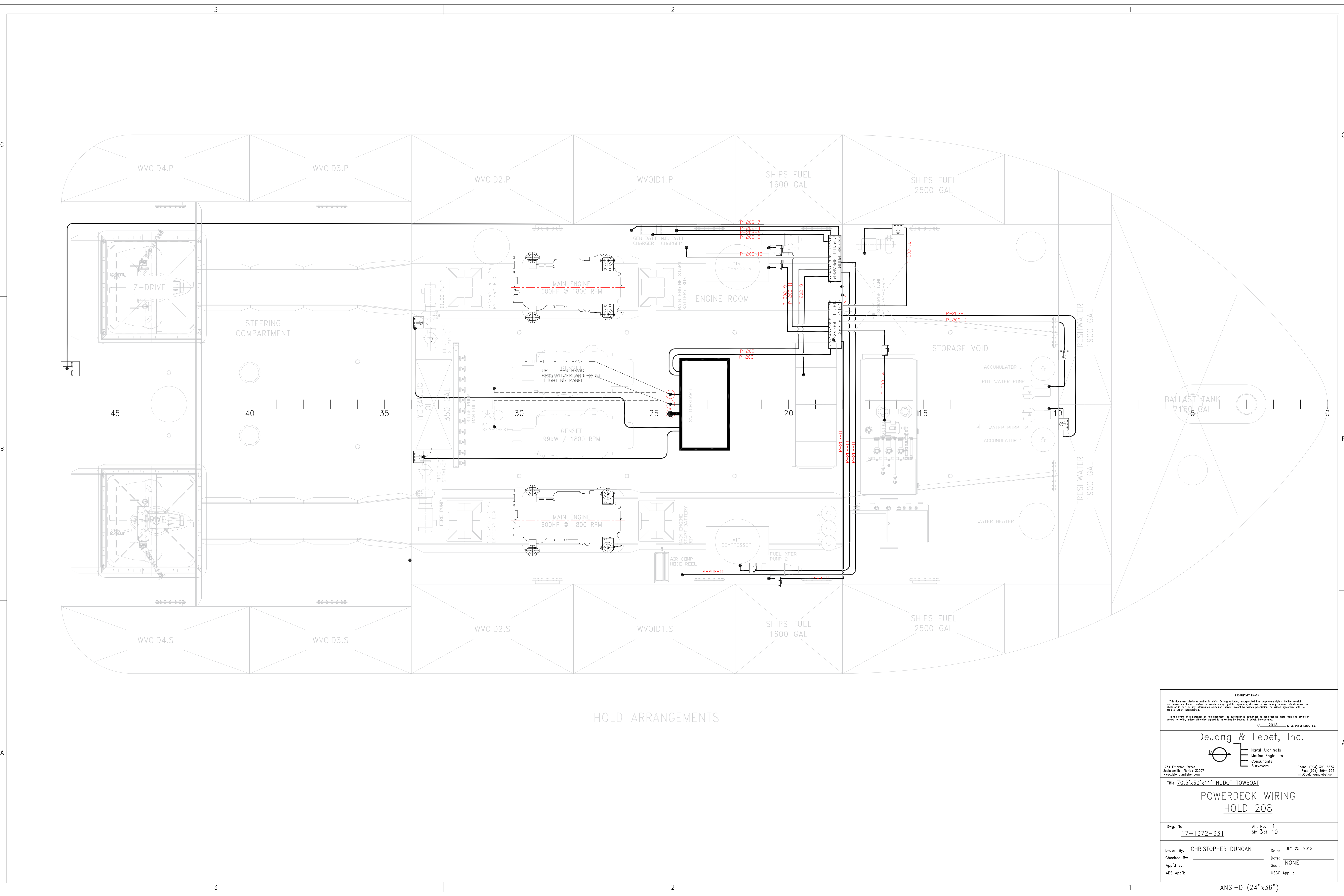
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info@dejongandlebet.com

TITLE: 70.5'x30'x11' NCDOT TOWBOAT

POWERDECK WIRING

Dwg. No. 17-1372-331	Alt. No. 1 Sht. 2 of 10
Drawn By: CHRISTOPHER DUNCAN	Date: JULY 25, 2018
Checked By: _____	Date: NONE
App'd By: _____	Scale: _____
ABS App'l: _____	USCG App'l: _____

ANSI-D (24"x36")



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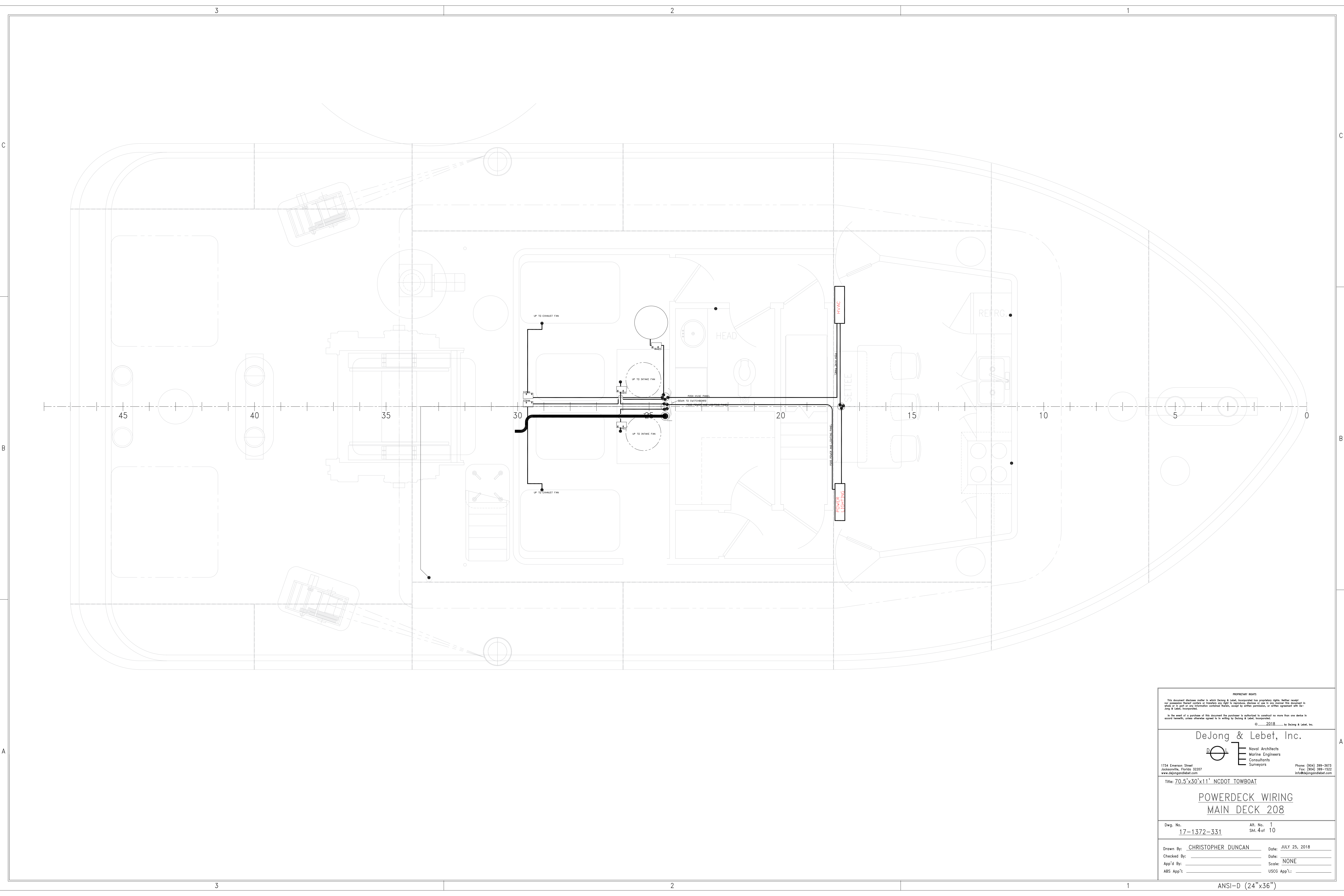
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Title: 70.5'x30'x11' NCDOT TOWBOAT
POWERDECK WIRING
HOLD 208

Dwg. No. 17-1372-331 Alt. No. 1
 Sh. 3 of 10

Drawn By: CHRISTOPHER DUNCAN Date: JULY 25, 2018
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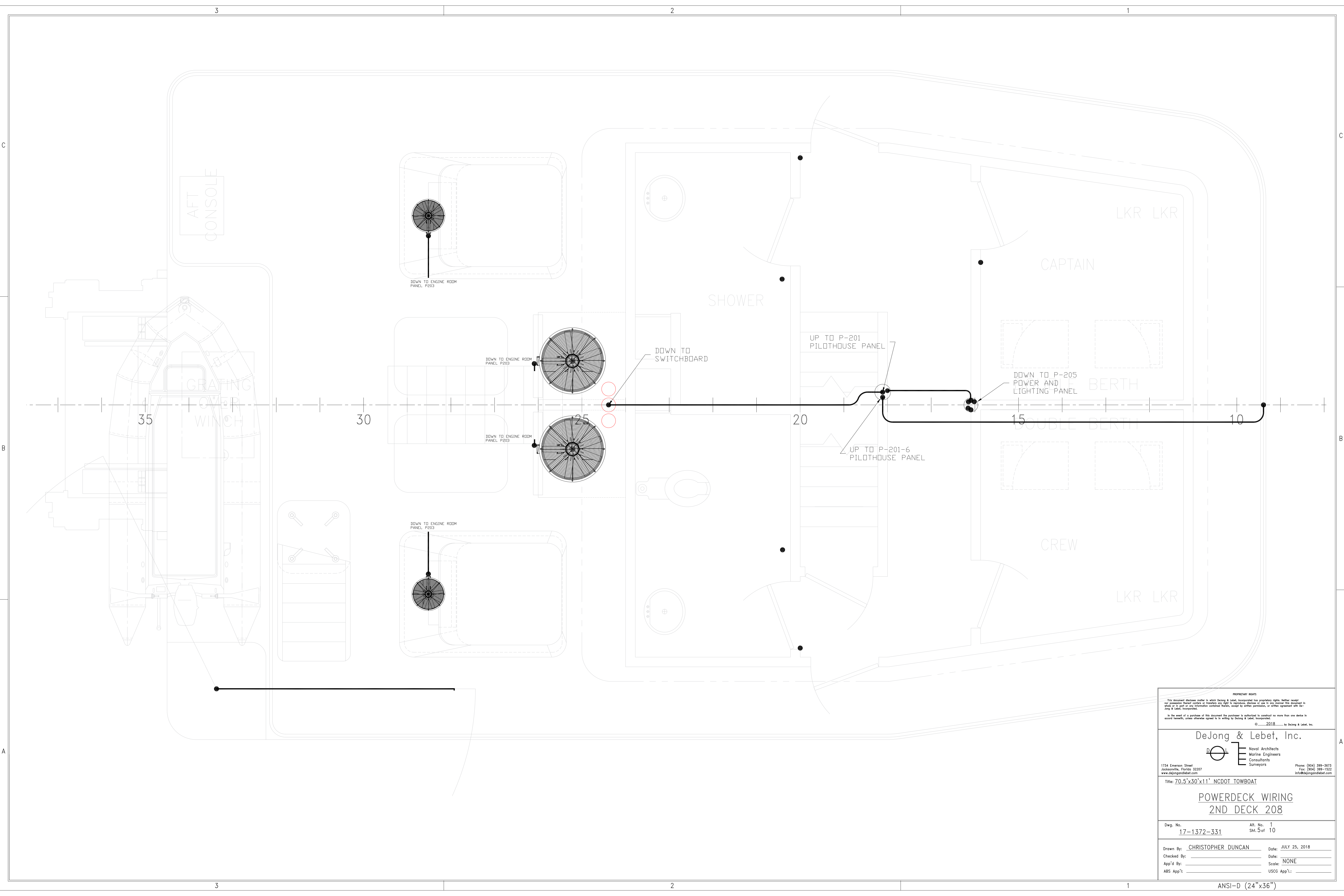
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Title: 70.5'x30'x11' NCDOT TOWBOAT

**POWERDECK WIRING
 MAIN DECK 208**

Dwg. No. 17-1372-331 Alt. No. 1
 Sh. 4 of 10

Drawn By: CHRISTOPHER DUNCAN Date: JULY 25, 2018
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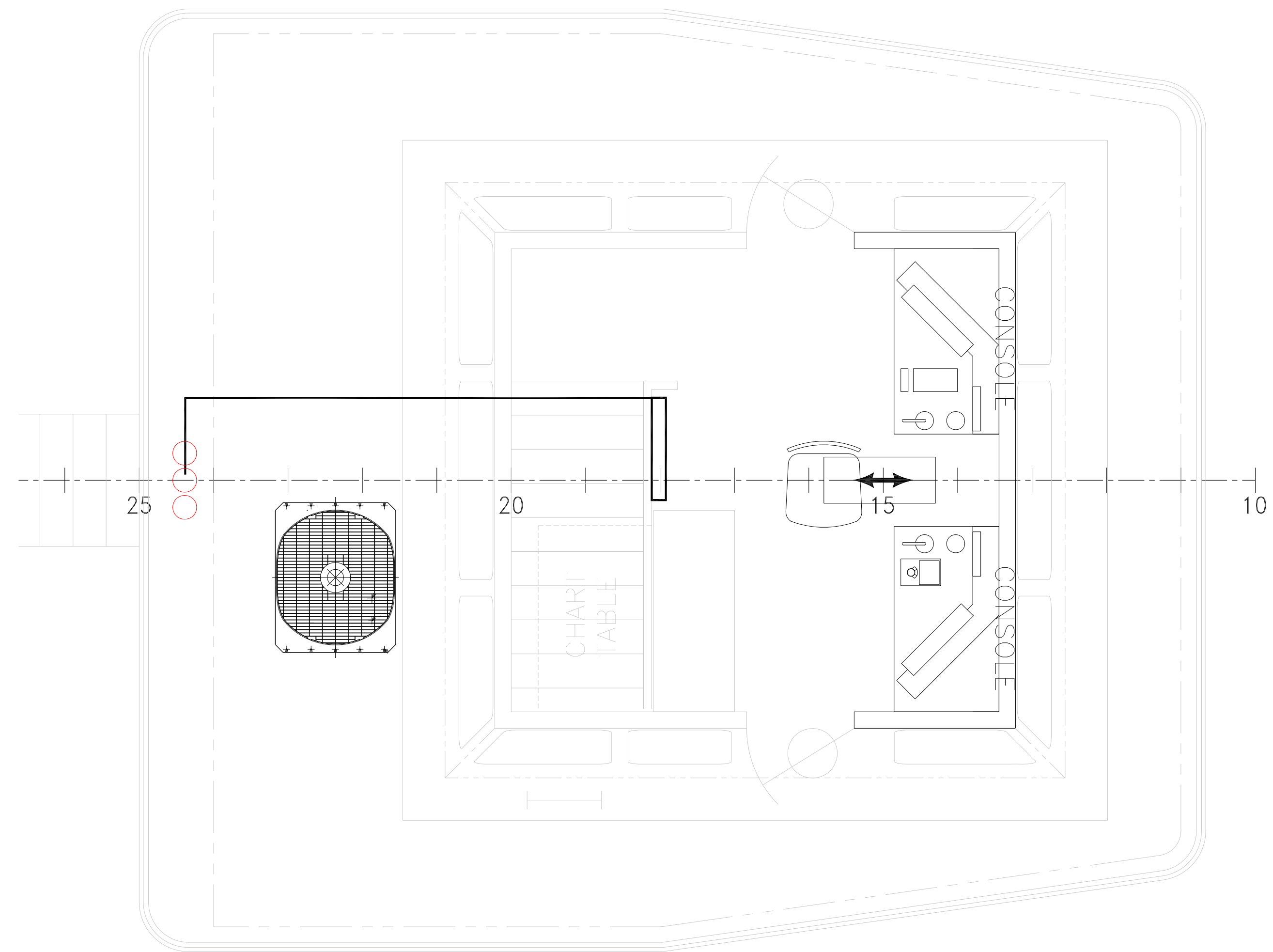
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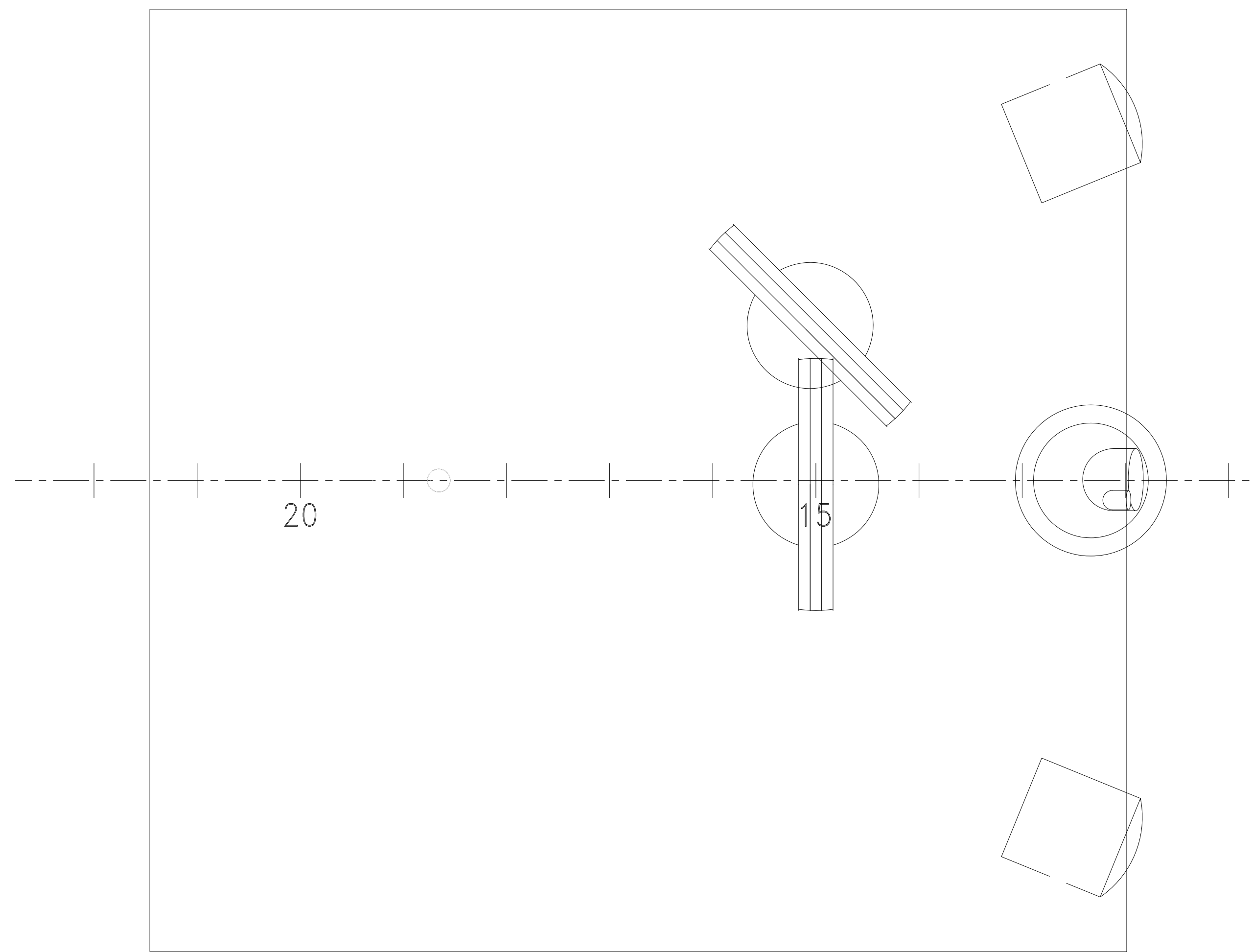
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 2ND DECK 208**

Dwg. No. 17-1372-331 Alt. No. 1
 Sht. 5 of 10

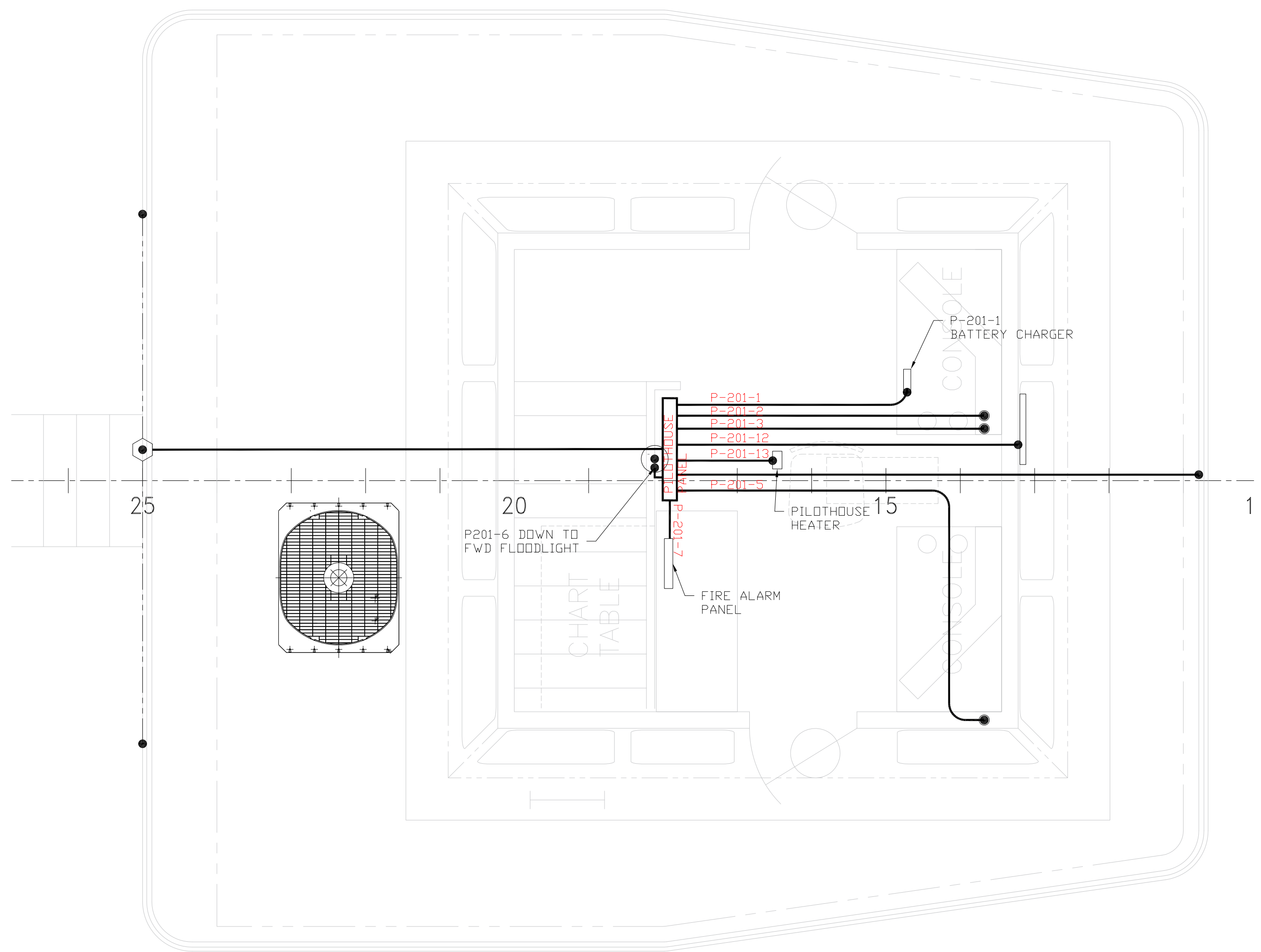
Drawn By: CHRISTOPHER DUNCAN Date: JULY 25, 2018
 Checked By: _____ Date: _____
 App'd By: _____ Scale: NONE
 ABS App'l: _____ USCG App'l: _____



PILOTHOUSE CONSOLE



PILOTHOUSE ROOF ARRAY



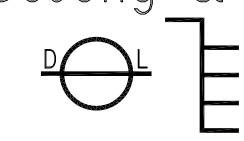
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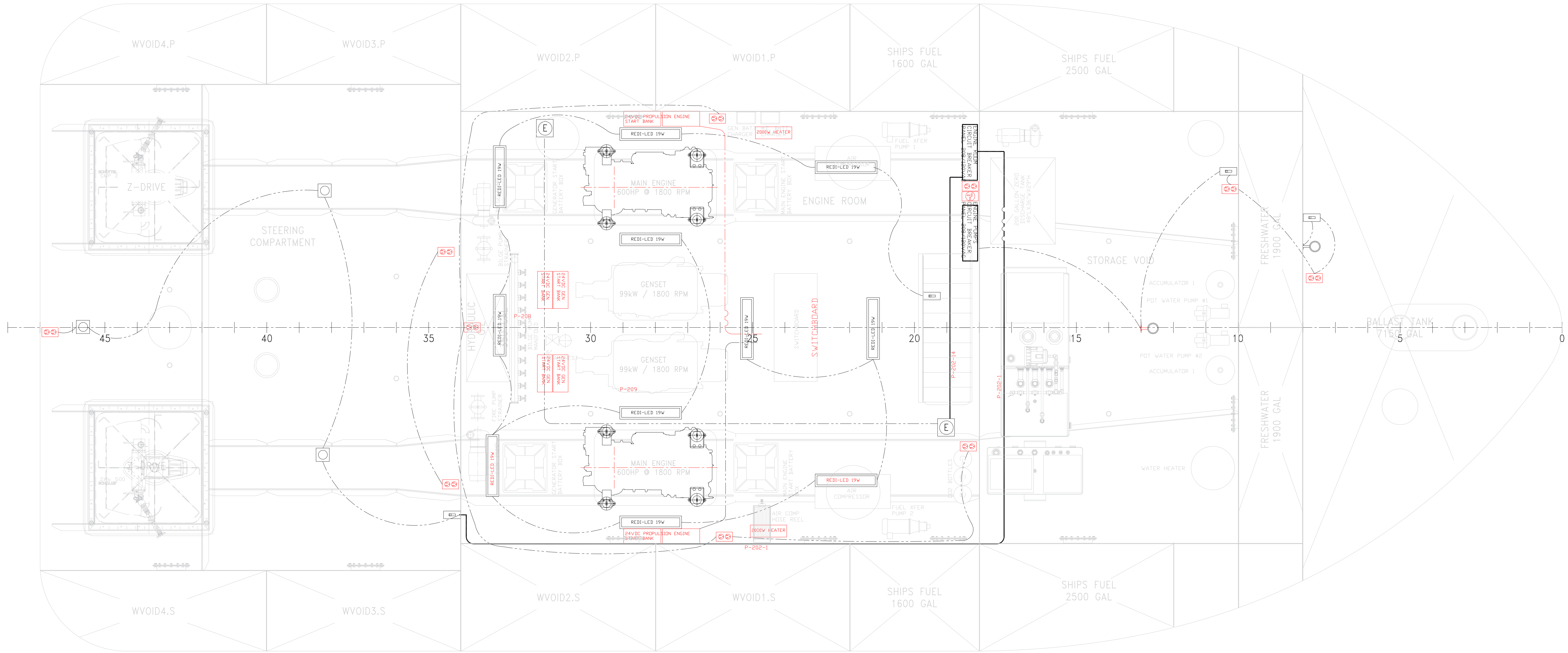
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Title: 70.5'x30'x11' NCDOT TOWBOAT
**POWERDECK WIRING
 PILOTHOUSE 208**

Dwg. No. **17-1372-331** Alt. No. **1**
 Sht. 5 of 10

Drawn By: **CHRISTOPHER DUNCAN** Date: **JULY 25, 2018**
 Checked By: _____ Date: **NONE**
 App'd By: _____ Scale: _____
 ABS App'l: _____ USCG App'l: _____



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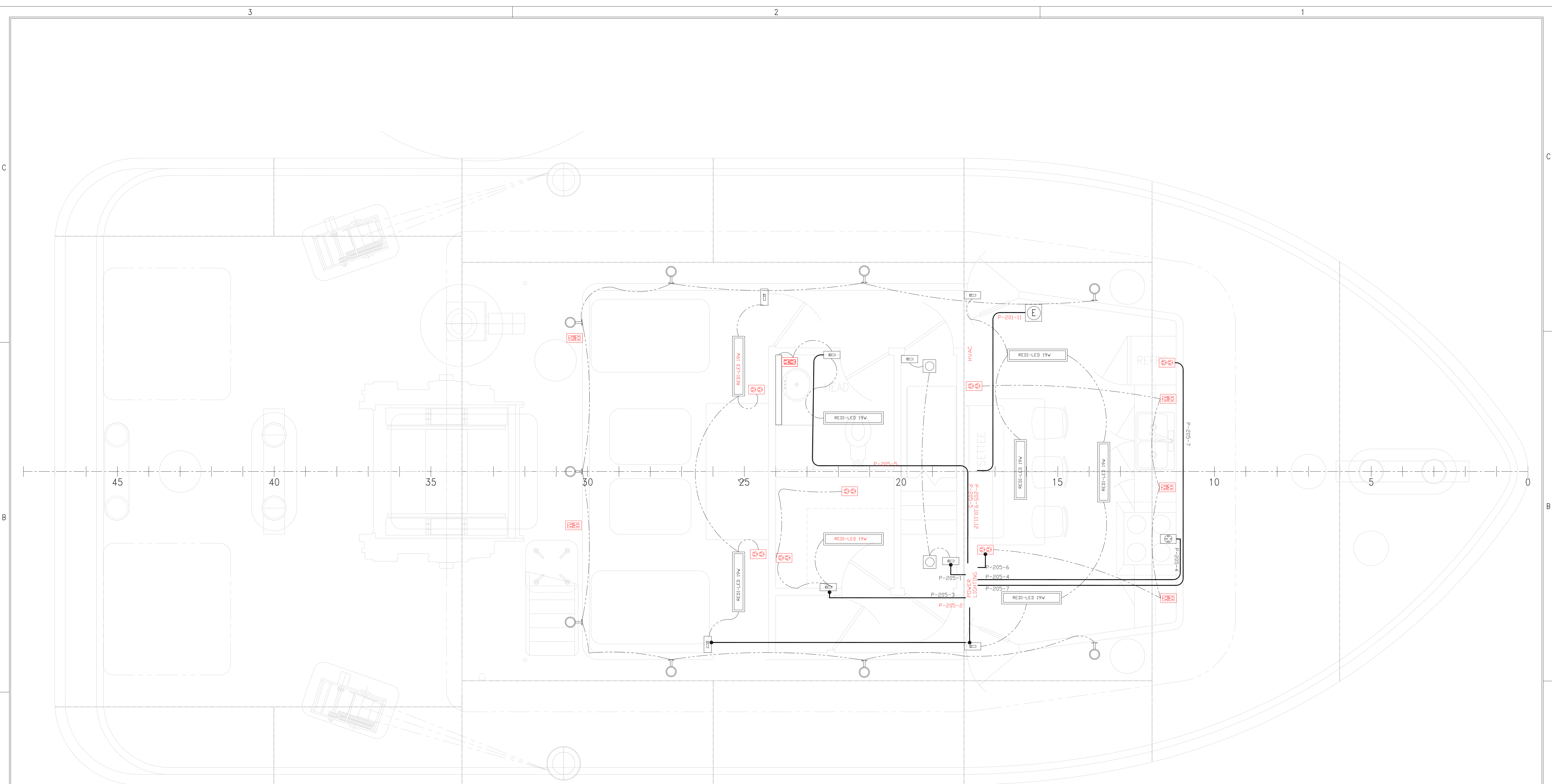
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Title: 70.5'x30'x11' NCDOT TOWBOAT
**POWERDECK WIRING
 HULL LIGHTING**

Dwg. No. 17-1372-331 Alt. No. 1
 Sh. 7 of 10

Drawn By: CHRISTOPHER DUNCAN Date: JULY 25, 2018
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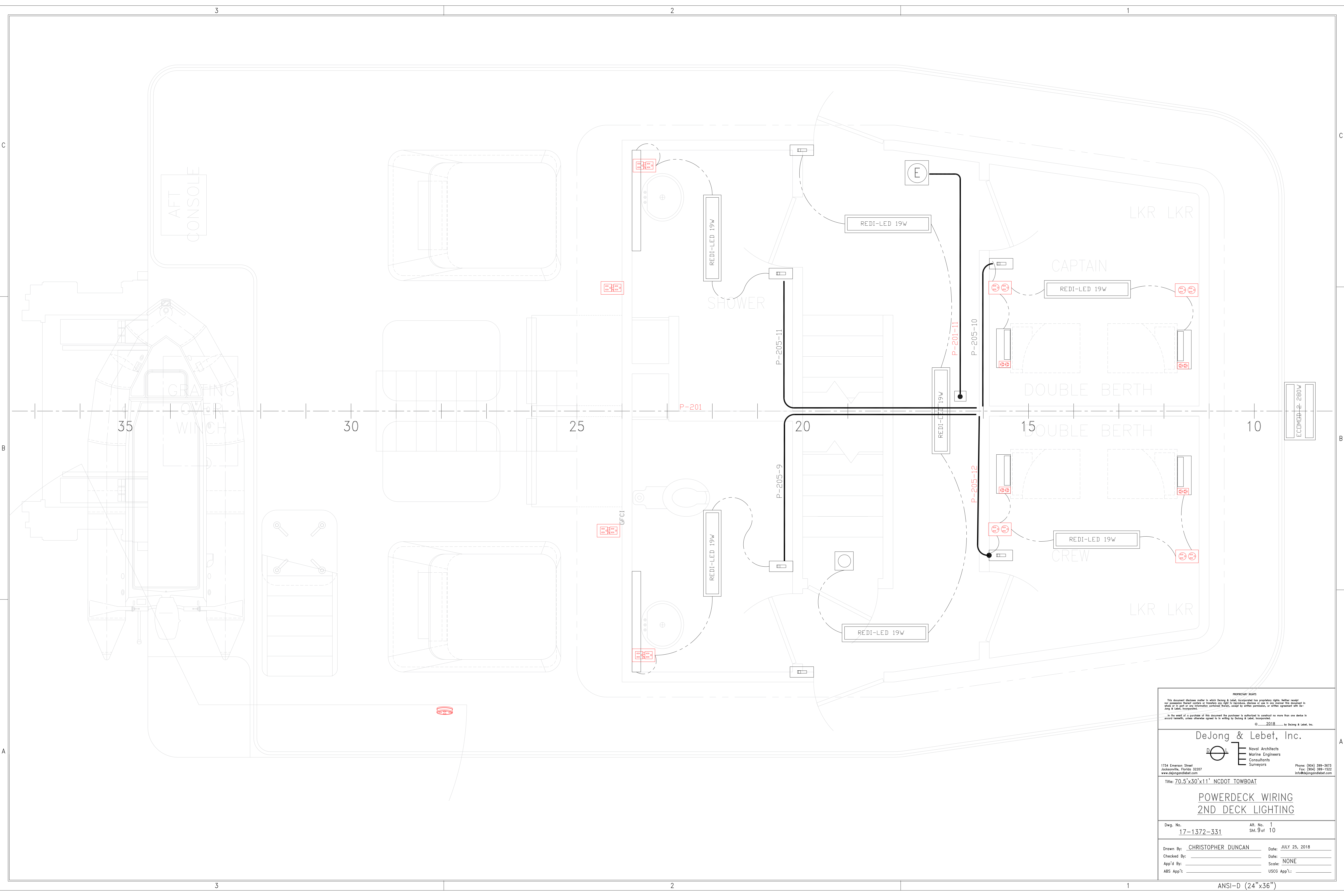
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Title: 70.5'x30'x11' NCDOT TOWBOAT

**POWERDECK WIRING
 MAIN DECK LIGHTING**

Dwg. No. 17-1372-331 Alt. No. 1
 Sh. 8 of 10

Drawn By: CHRISTOPHER DUNCAN Date: JULY 25, 2018
 Checked By: _____ Date: _____
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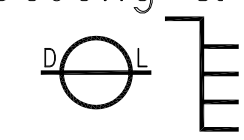


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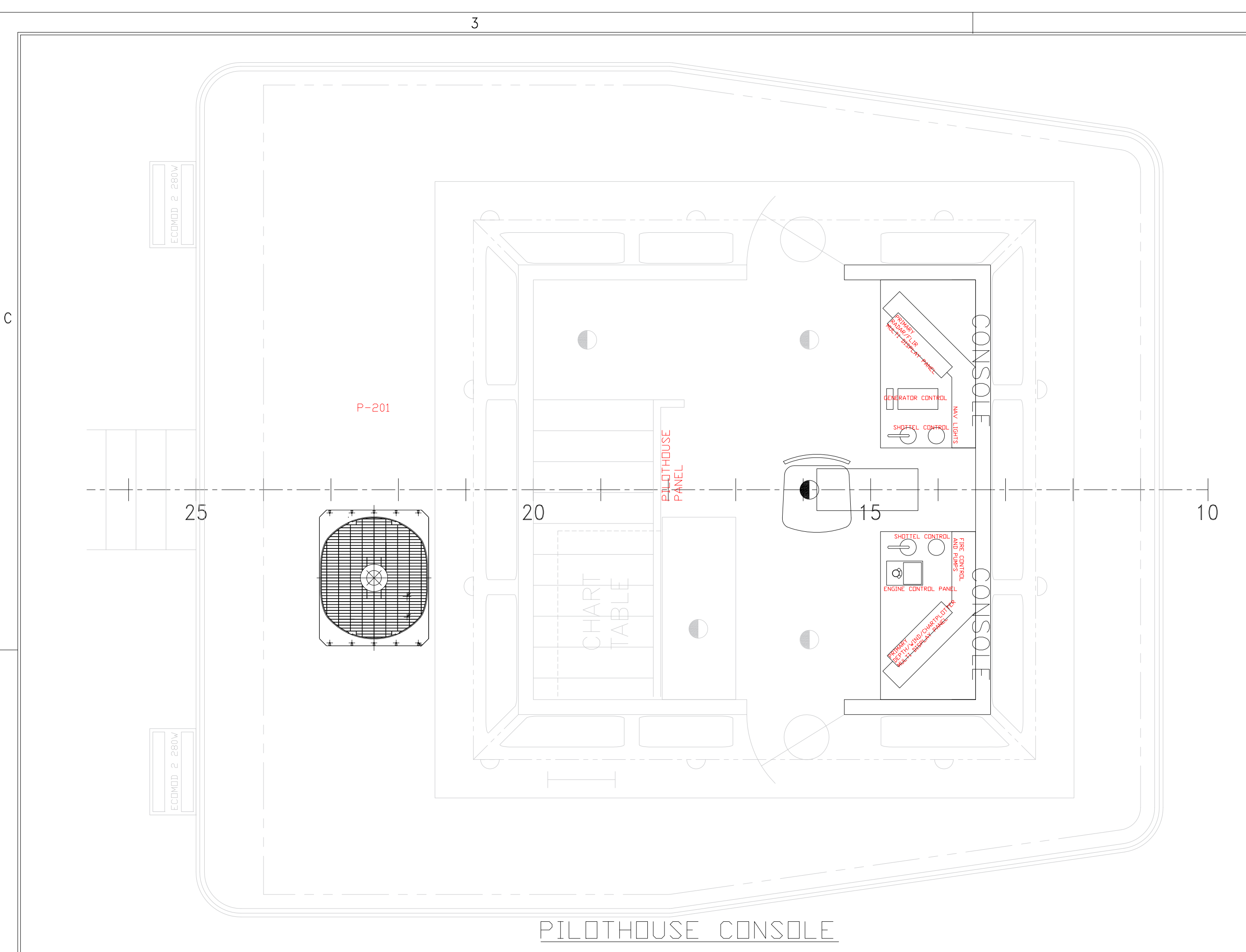
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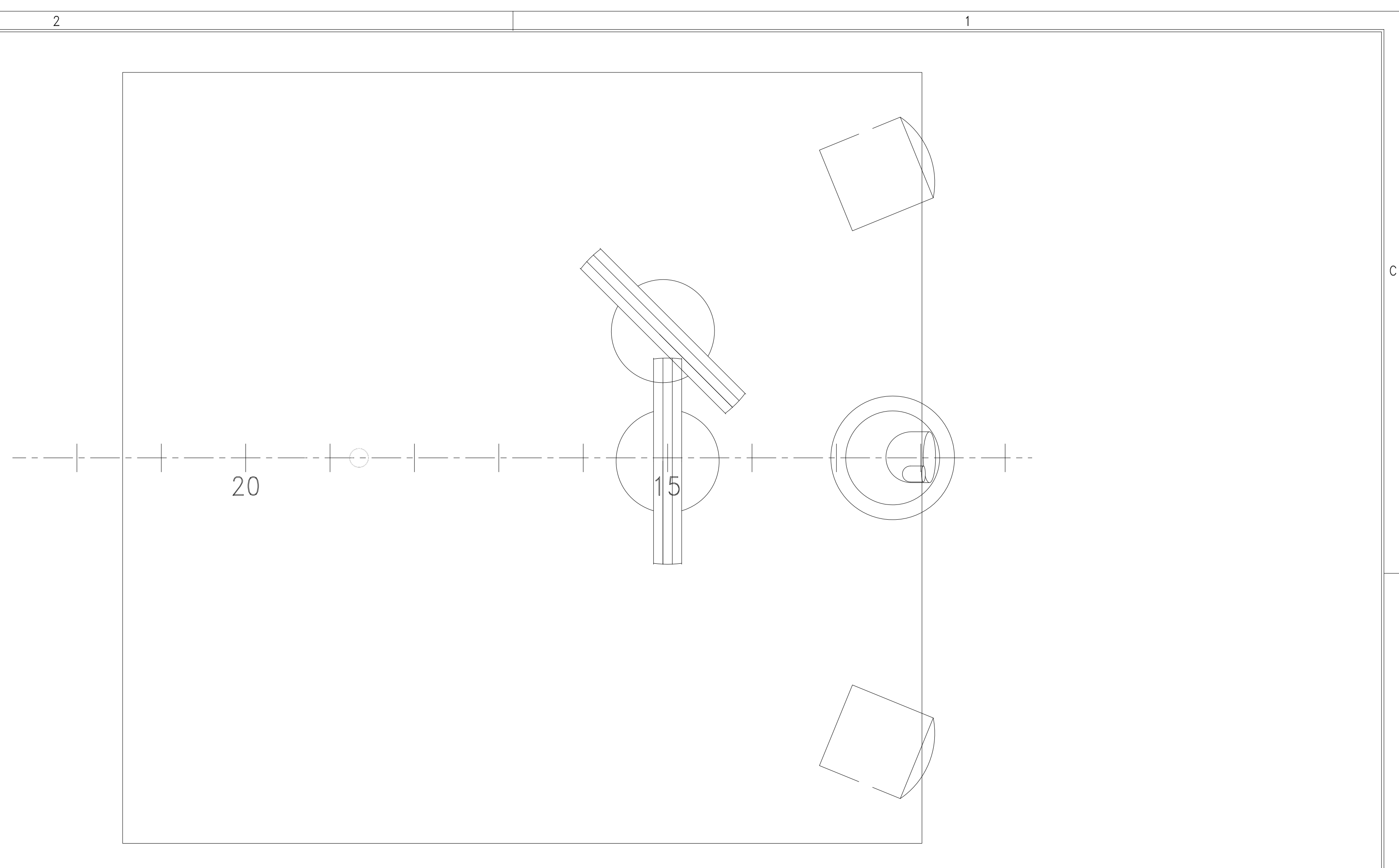
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**POWERDECK WIRING
 2ND DECK LIGHTING**

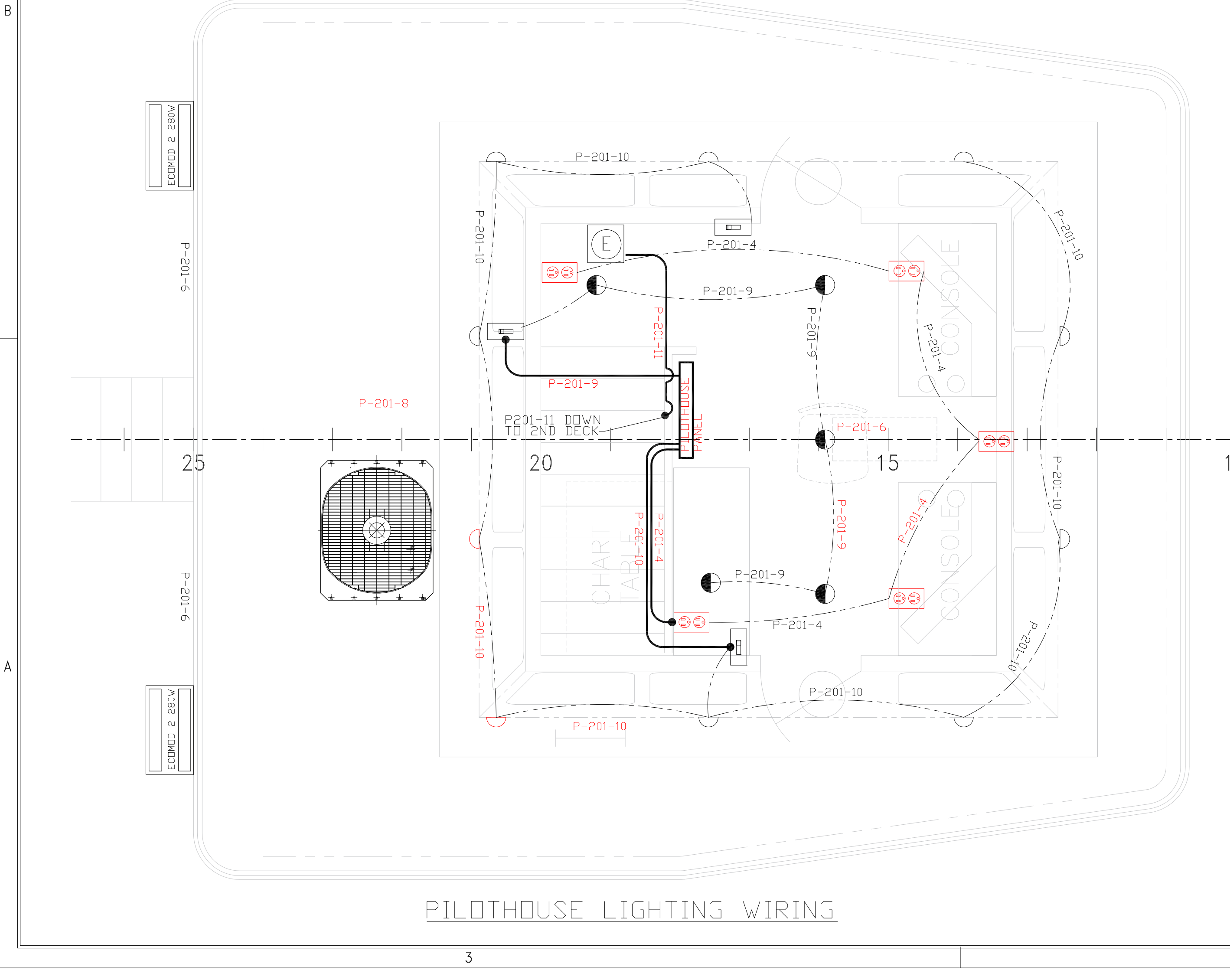
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	Sht. 9 of 10
Drawn By: CHRISTOPHER DUNCAN	Date: JULY 25, 2018
Checked By: _____	Date: _____
App'd By: _____	Scale: NONE
ABS App'l: _____	USCG App'l: _____



PILOTHOUSE CONSOLE



PILOTHOUSE ROOF ARRAY



PILOTHOUSE LIGHTING WIRING

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Title: 70.5'x30'x11' NCDOT TOWBOAT
**POWERDECK WIRING
 PILOTHOUSE LIGHTING**

Dwg. No. 17-1372-331 Alt. No. 1
 Sh: 10 of 10

Drawn By: CHRISTOPHER DUNCAN Date: JULY 25, 2018
 Checked By: _____ Date: _____
 App'd By: _____ Scale: NONE
 ABS App'l: _____ USCG App'l: _____