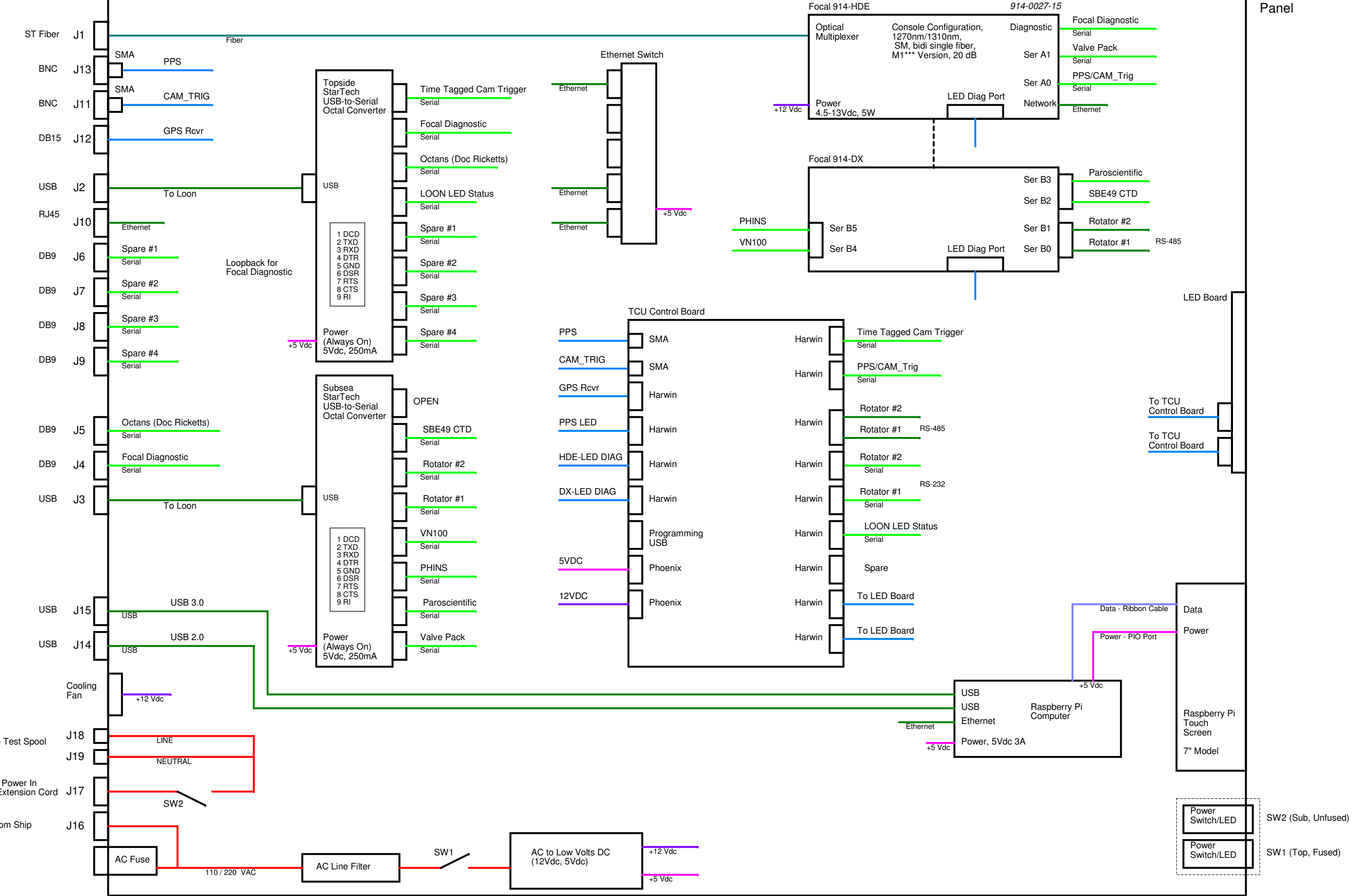


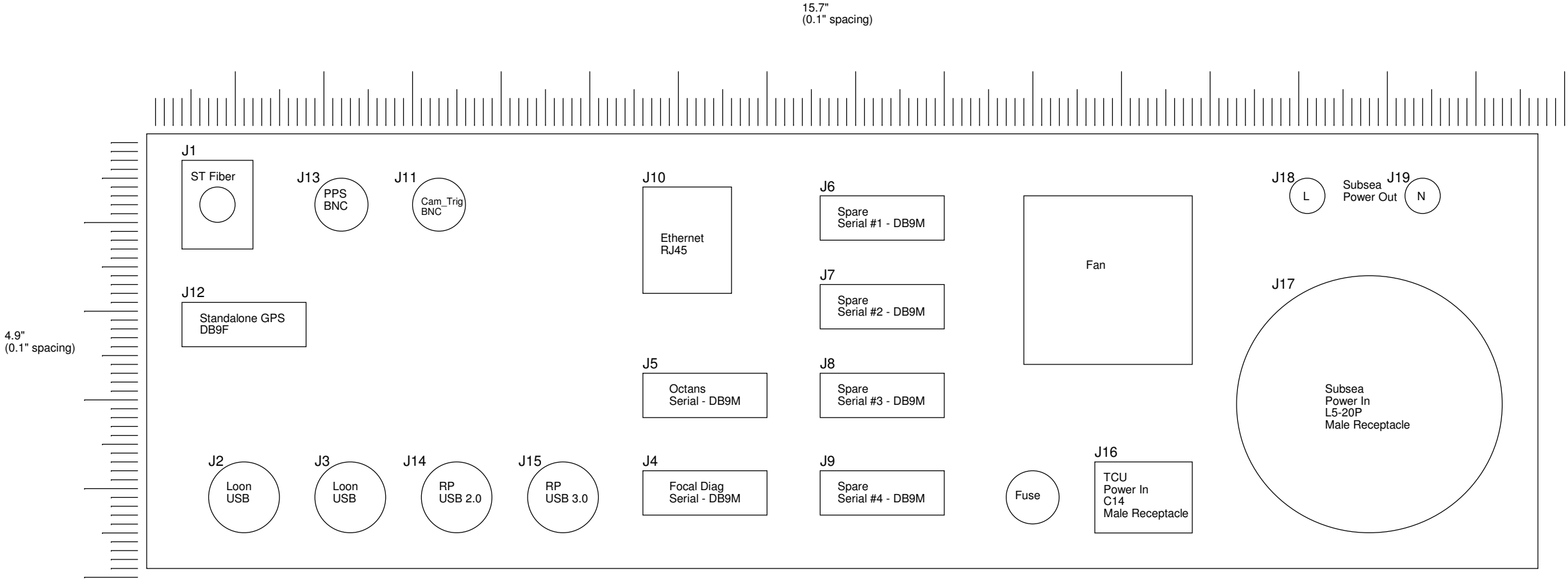
Rear Panel

LASS Transmit Control Unit (TCU)

Front Panel



Schematic Name: TCU - 2026			
Page Title: TCU Block Diagram 2026		Engineer: <Engineer>	
Project Name: <Project Name>		Designer: <Designer>	
Group Name: <Group>	System: <System>	Subsystem: <Subsystem>	Last Updated By: <Updated By>
Drawing Number: <MBARI DN>	Release: <Rev>	Version: <Version>	Status: <Status>
Page Modify Date: Monday, March 01, 2026	Check In Date: <LCID>	Sheet <Page Number> of <Page Count>	



- J1: Switchcraft PN# EHST2

J2: Adafruit PN# 4216

J3: Adafruit PN# 4216

J4: Amphenol PN# M24308/2-1F

J5: Amphenol PN# M24308/2-1F

J6: Amphenol PN# M24308/2-1F

J7: Amphenol PN# M24308/2-1F

J8: Amphenol PN# M24308/2-1F

J9: Amphenol PN# M24308/2-1F
- J10: Cliff Electronics PN# CP3022S

J11: Amphenol PN# 901-9173

J12: Amphenol PN# M24308/2-1F

J13: Amphenol PN# 901-9173

J14: Harting PN# 09454521903

J15: Harting PN# 09454521904

J16: Interpower PN# 83030800

J17: Cordtec PN# ASINL520P-FC

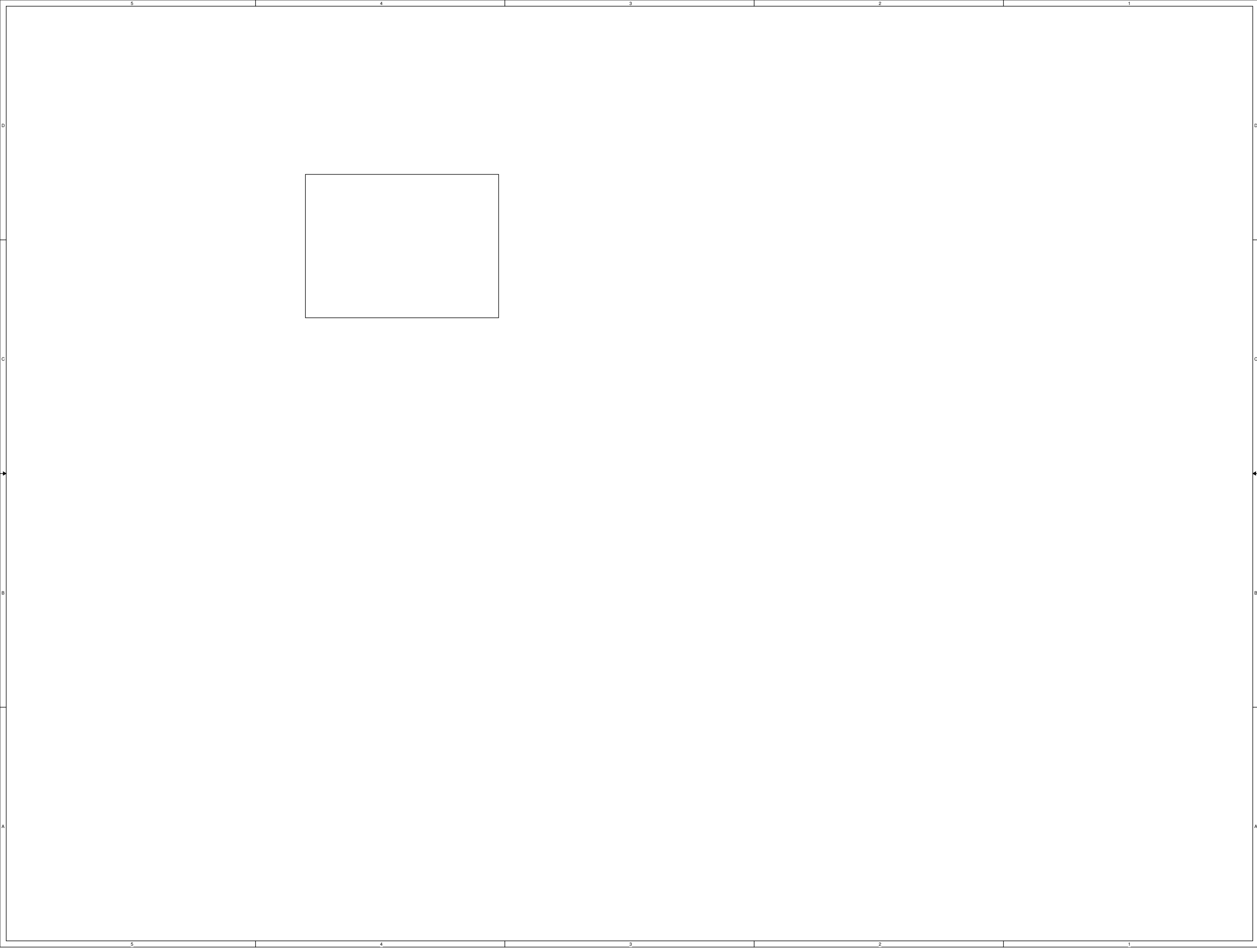
J18: Banana, Female - Black

J19: Banana, Female - White



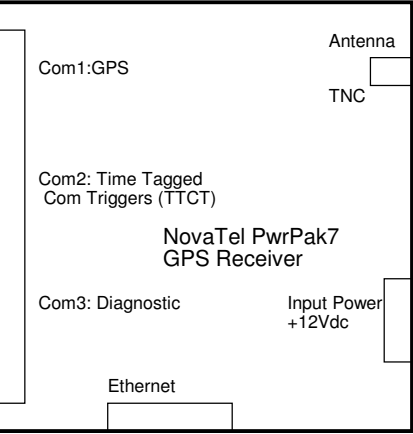
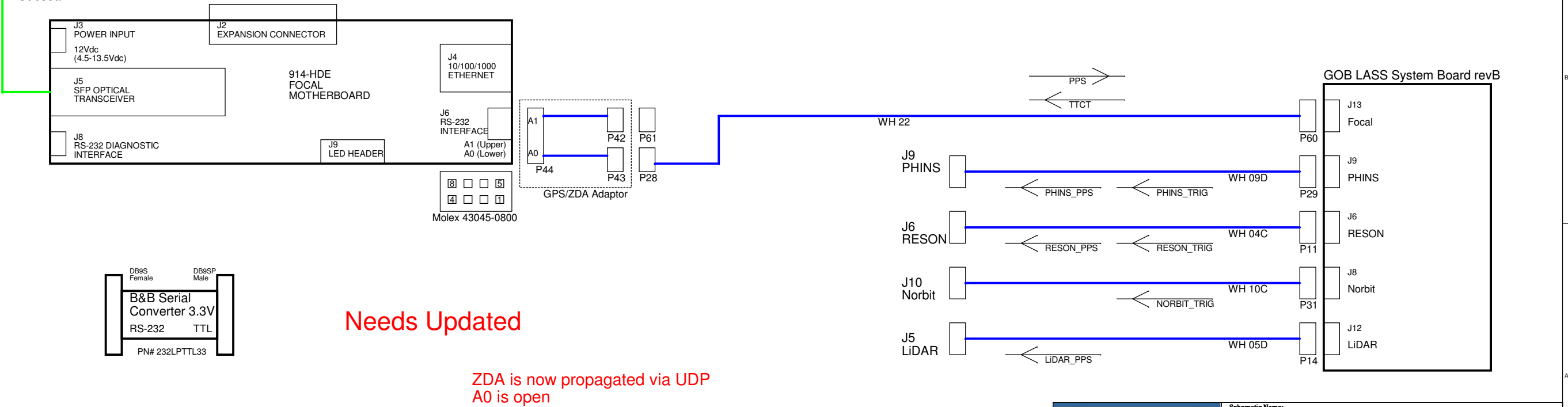
**Monterey Bay Aquarium
Research Institute**
7700 Sandholdt Road, Moss Landing, CA 95039

Schematic Name: TCU - 2026			
Page Title: TCU26 - Rear Panel Layout		Engineer: <Engineer>	
Project Name: <Project Name>		Designer: <Designer>	
Group Name: <Group>	System: <System>	Subsystem: <Subsystem>	Last Updated By: <Updated By>
Drawing Number: <MBARI DN>	Release: <Rev>	Version: <Version>	Status: <Status>
Page Modify Date: Thursday, January 08, 2026	Check In Date: <JCID>	Sheet	Page Count: <Page Count>



Topside

Subsea

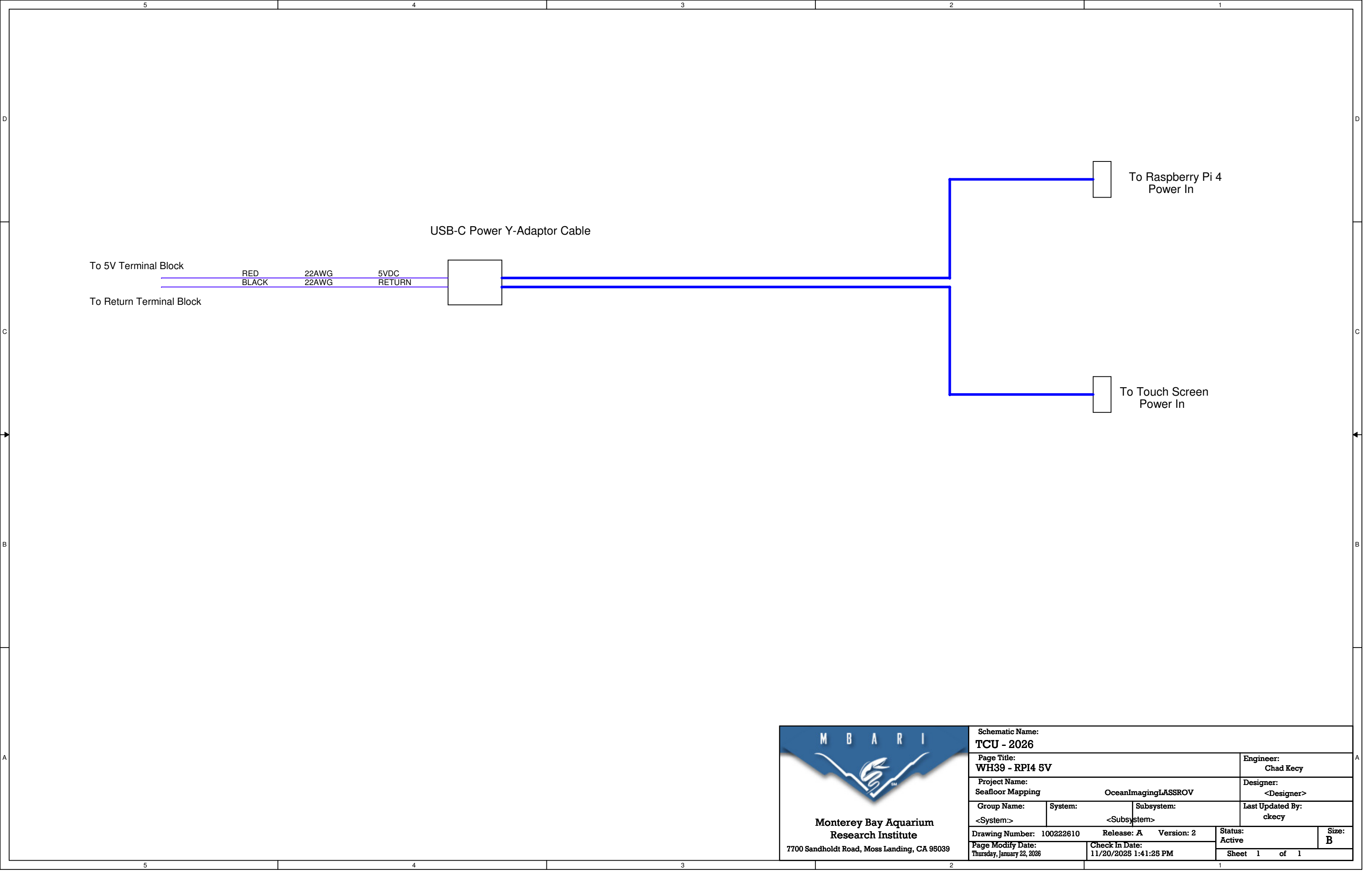


COM1_TX (TTCT) → ← COM1_RX (PPS)

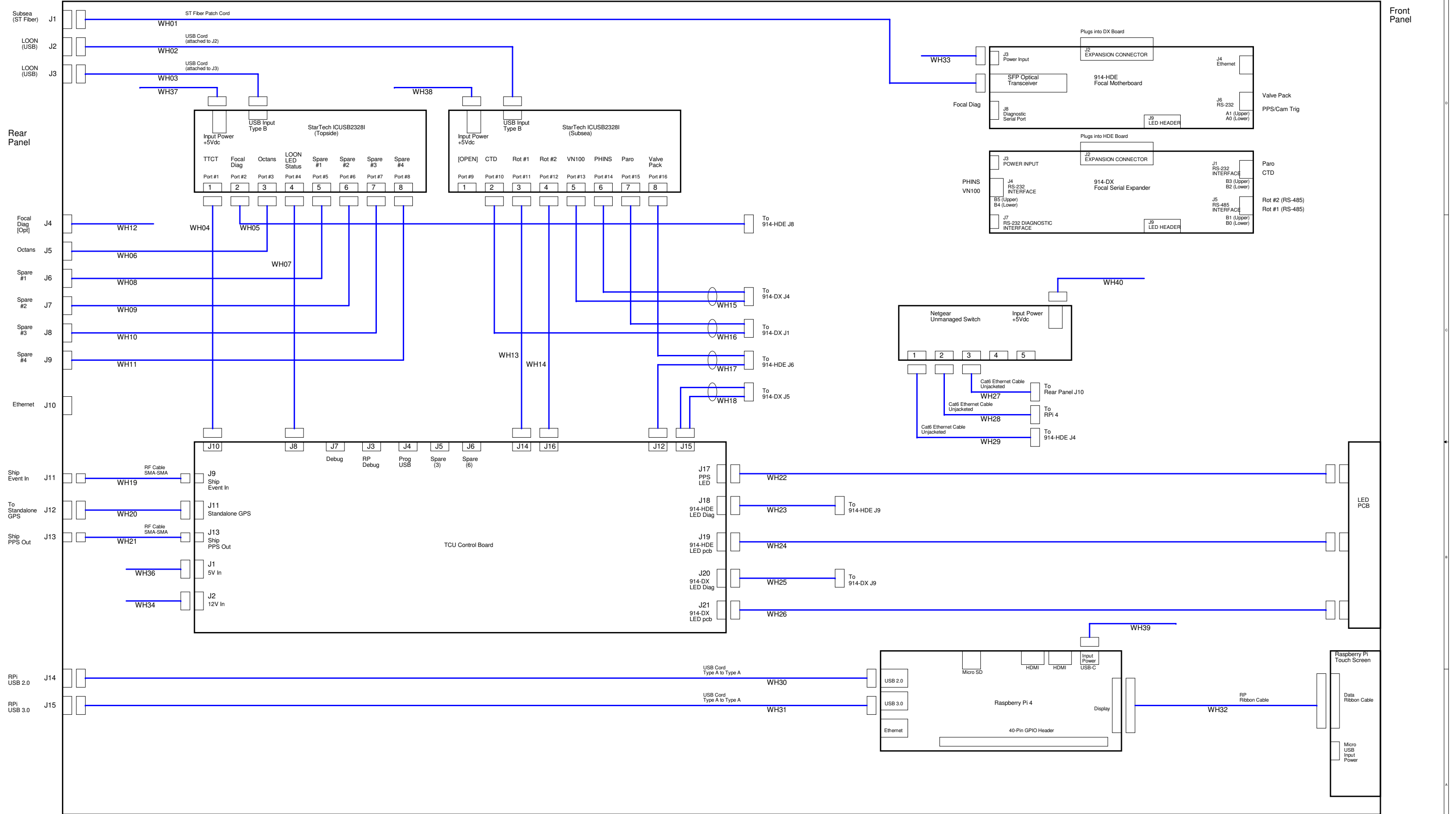
To Diagnostics
DB9 Connector

To Startech
(Time Tagged Camera Triggers)

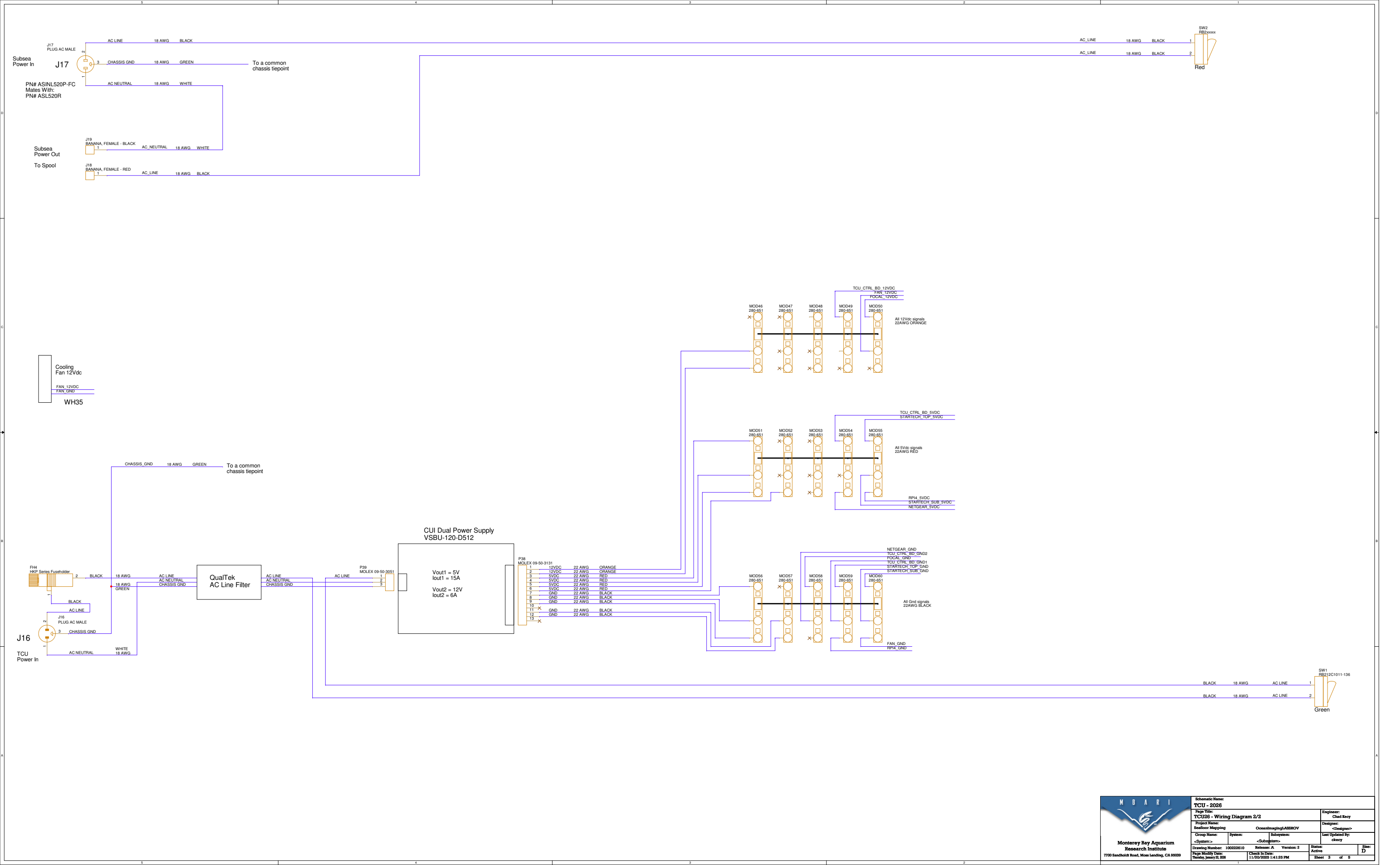
To Front Panel
PPS Activity LED

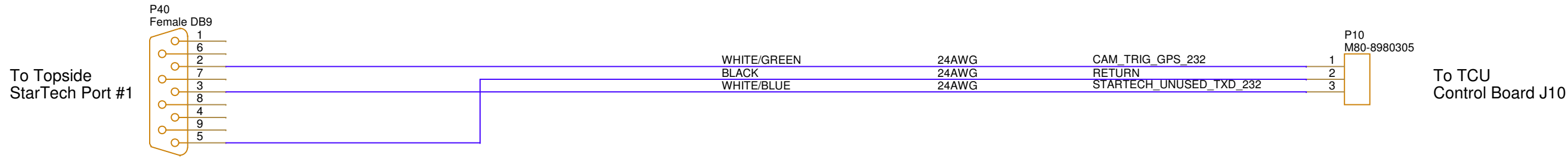


 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026					
	Page Title: WH39 - RPI4 5V			Engineer: Chad Kecy		
	Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>		
	Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>		Last Updated By: ckecy	
	Drawing Number: 100222610		Release: A	Version: 2	Status: Active	
	Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM		Size: B	
					Sheet 1 of 1	



J1: Switchcraft PN# EHST2
J2: Adafruit PN# 4216
J3: Adafruit PN# 4216
J4: Amphenol PN# M24308/2-1F
J5: Amphenol PN# M24308/2-1F
J6: Amphenol PN# M24308/2-1F
J7: Amphenol PN# M24308/2-1F
J8: Amphenol PN# M24308/2-1F
J9: Amphenol PN# M24308/2-1F
J10: Cliff Electronics PN# GP3022S
J11: Amphenol PN# 901-9179
J12: Amphenol PN# M24308/2-1F
J13: Amphenol PN# 901-9179
J14: Harting PN# 09454521903
J15: Harting PN# 09454521904
J16: Interpower PN# 83030800
J17: Cordtec PN# ASINL520P-FC
J18: Banana, Female - Black
J19: Banana, Female - White

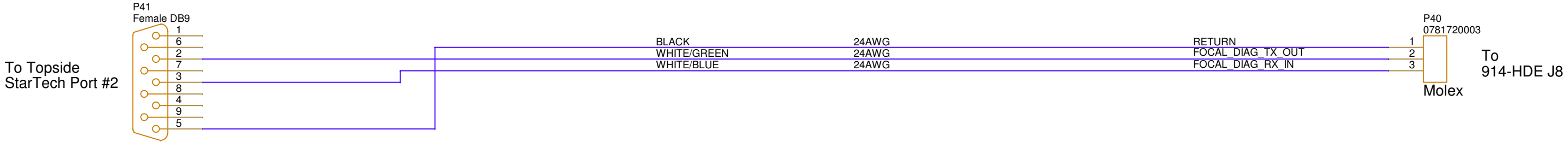




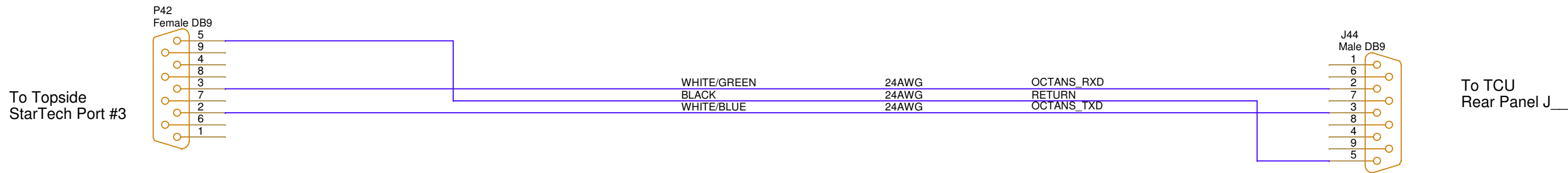


**Monterey Bay Aquarium
Research Institute**
7700 Sandholdt Road, Moss Landing, CA 95039

Schematic Name: TCU - 2026					
Page Title: WH04 - TTCT Serial				Engineer: Chad Kecy	
Project Name: Seafloor Mapping				OceanImagingLASSROV	
Group Name: <System:>		System: <Subsystem>		Subsystem: <Subsystem>	
Drawing Number: 100222610		Release: A		Version: 2	
Page Modify Date: Wednesday, December 03, 2025		Check In Date: 11/20/2025 1:41:25 PM		Status: Active	
				Size: B	
				Sheet 3 of 5	



 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026					
	Page Title: WH05 - Focal Diag Serial			Engineer: Chad Kecy		
	Project Name: Seafloor Mapping			Designer: <Designer>		
	Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy		
	Drawing Number: 100222610		Release: A	Version: 2	Status: Active	Size: B
	Page Modify Date: Wednesday, December 03, 2025		Check In Date: 11/20/2025 1:41:25 PM		Sheet 3 of 5	



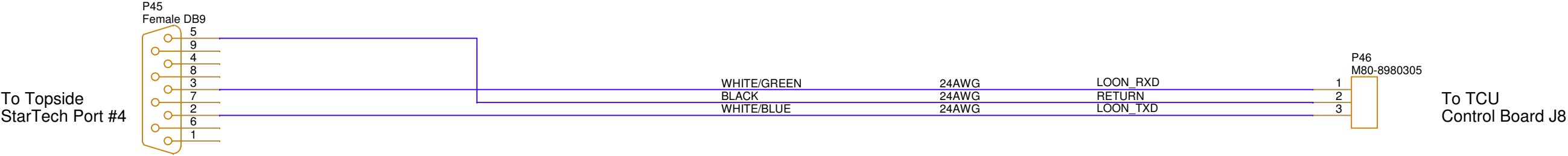
M
B
A
R
I



Monterey Bay Aquarium
Research Institute

7700 Sandholdt Road, Moss Landing, CA 95039

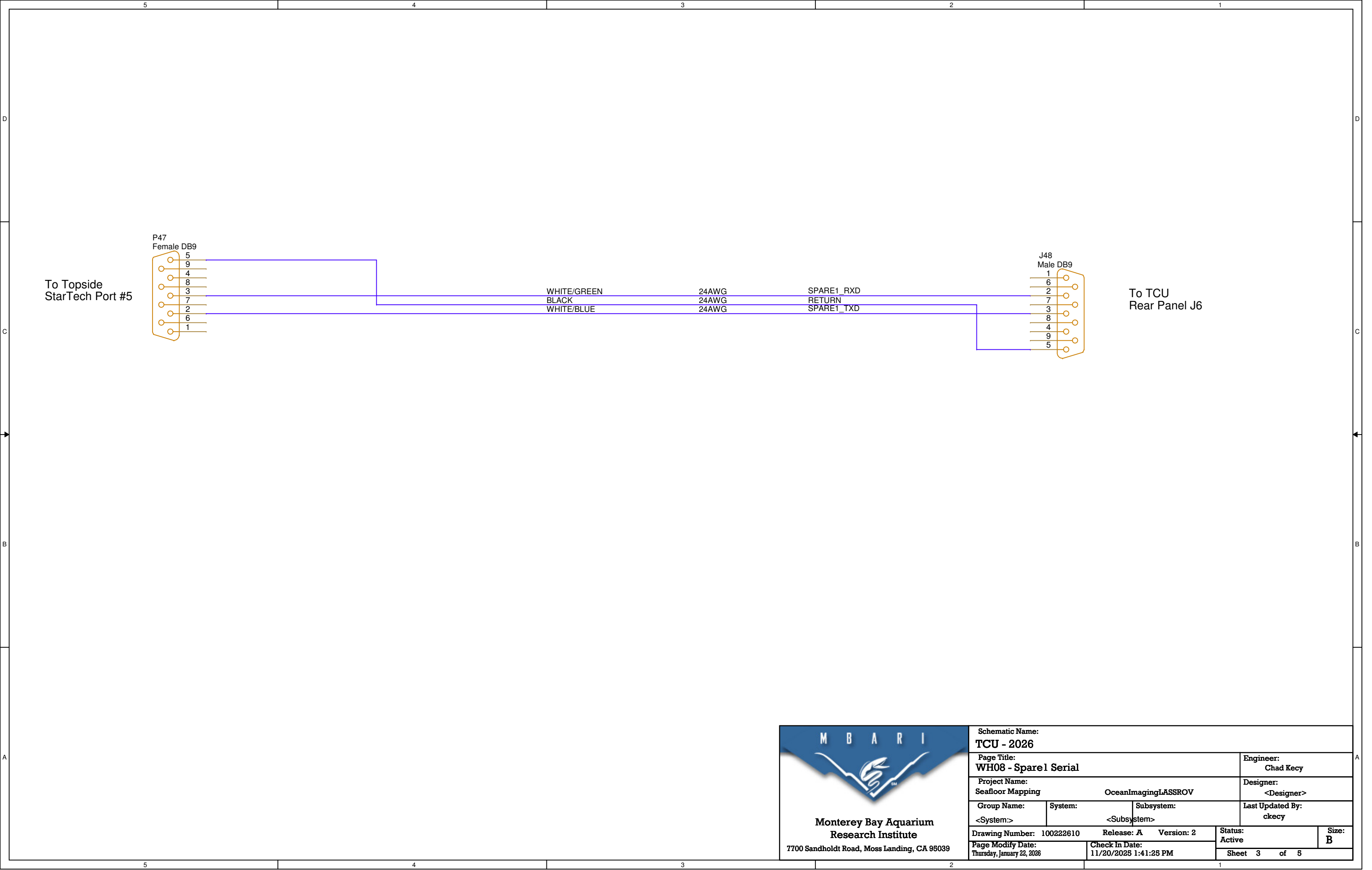
Schematic Name: TCU - 2026				
Page Title: WH06 - Octans Serial			Engineer: Chad Kecy	
Project Name: Seafloor Mapping			OceanImagingLASSROV	
Group Name: <System>		System: <Subsystem>	Subsystem: <Subsystem>	
Drawing Number: 100222610		Release: A	Version: 2	Status: Active
Page Modify Date: Wednesday, December 03, 2025		Check In Date: 11/20/2025 1:41:25 PM		Size: B
Sheet 3 of 5				





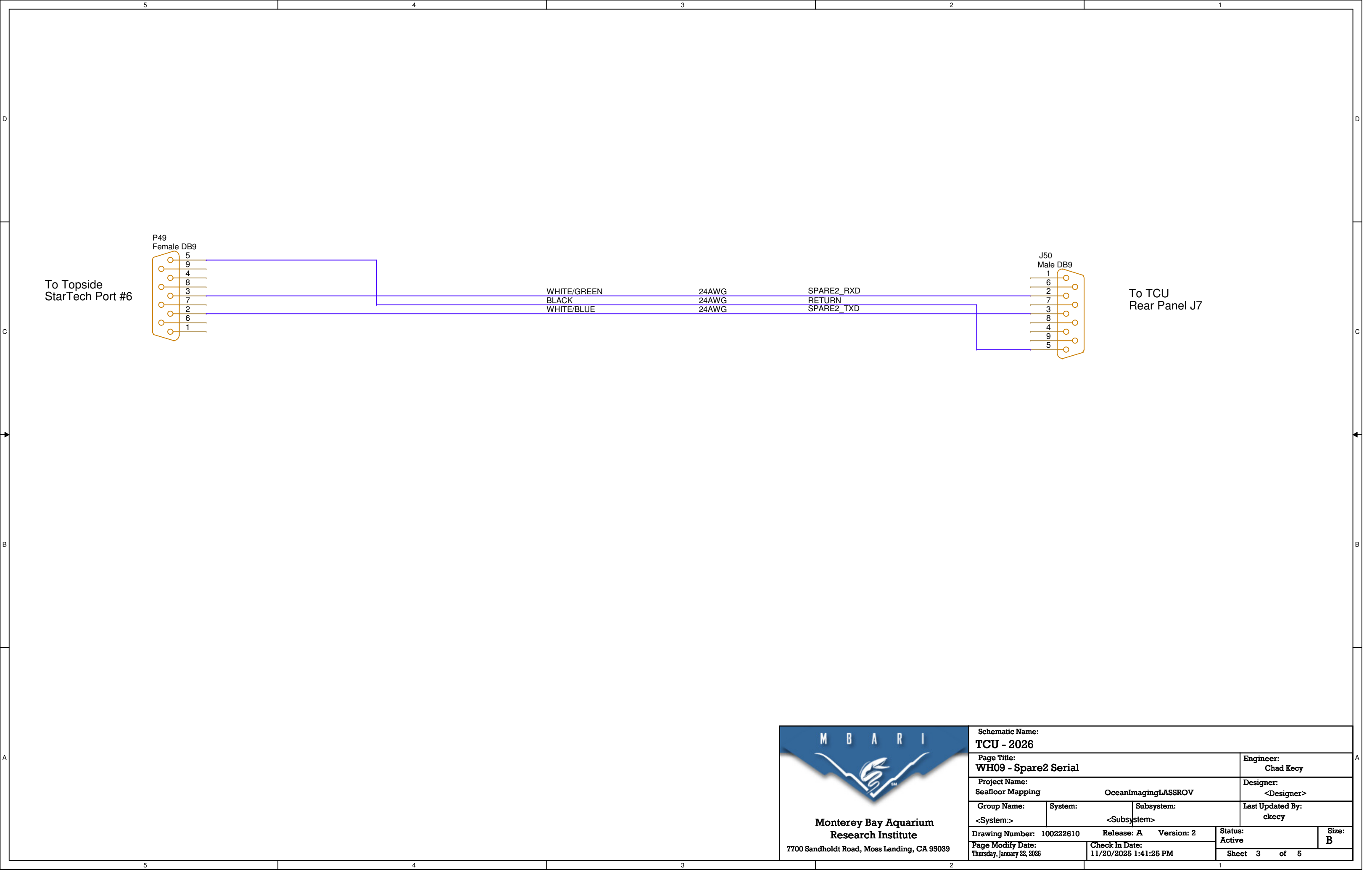
**Monterey Bay Aquarium
Research Institute**
7700 Sandholdt Road, Moss Landing, CA 95039

Schematic Name: TCU - 2026			
Page Title: WH07 - Loon LED Status Serial			Engineer: Chad Kecy
Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>
Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy
Drawing Number: 100222610		Release: A Version: 2	Status: Active
Page Modify Date: Wednesday, December 03, 2025		Check In Date: 11/20/2025 1:41:25 PM	Size: B
Sheet 3 of 5			

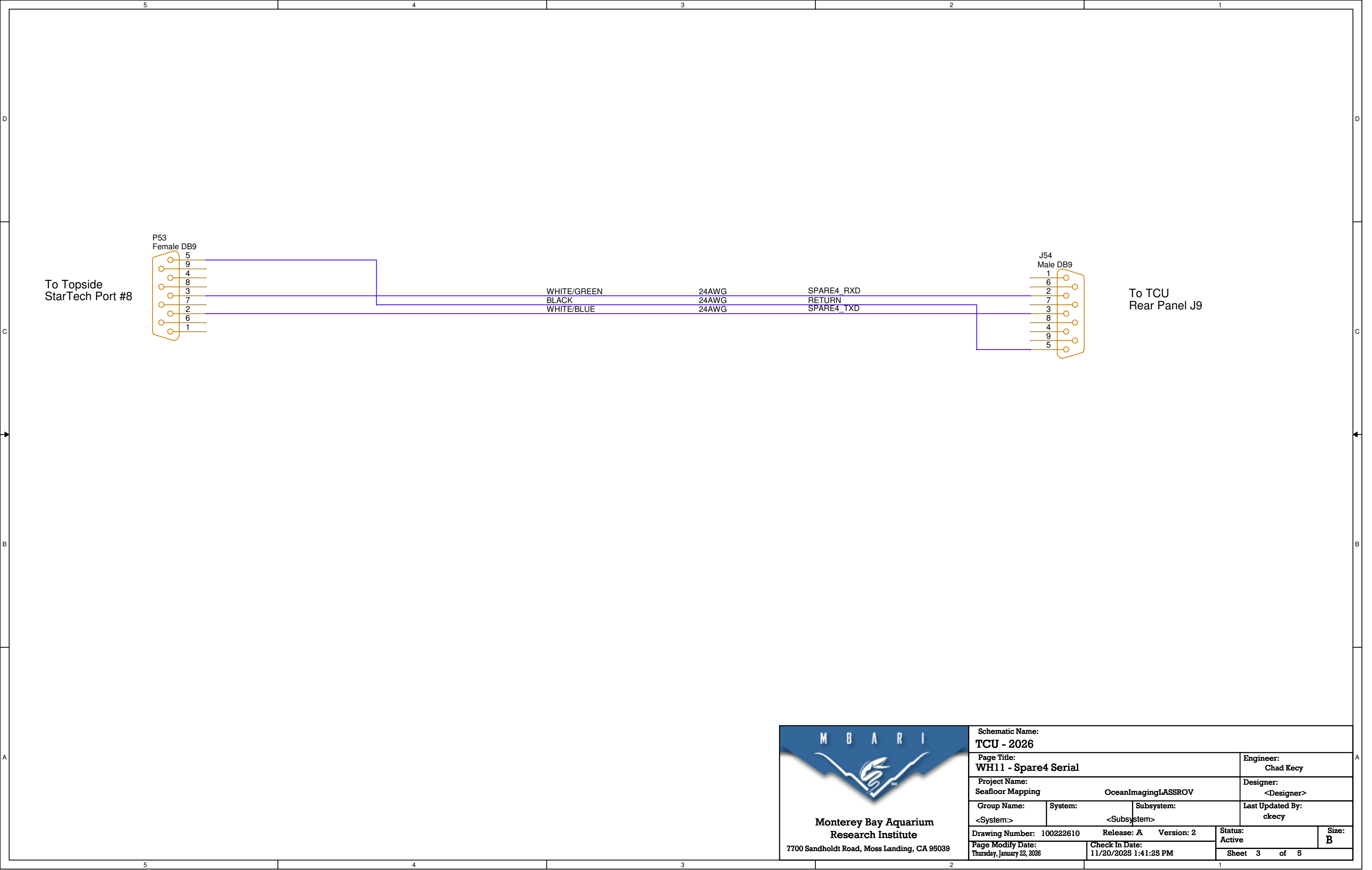


**Monterey Bay Aquarium
Research Institute**
7700 Sandholdt Road, Moss Landing, CA 95039

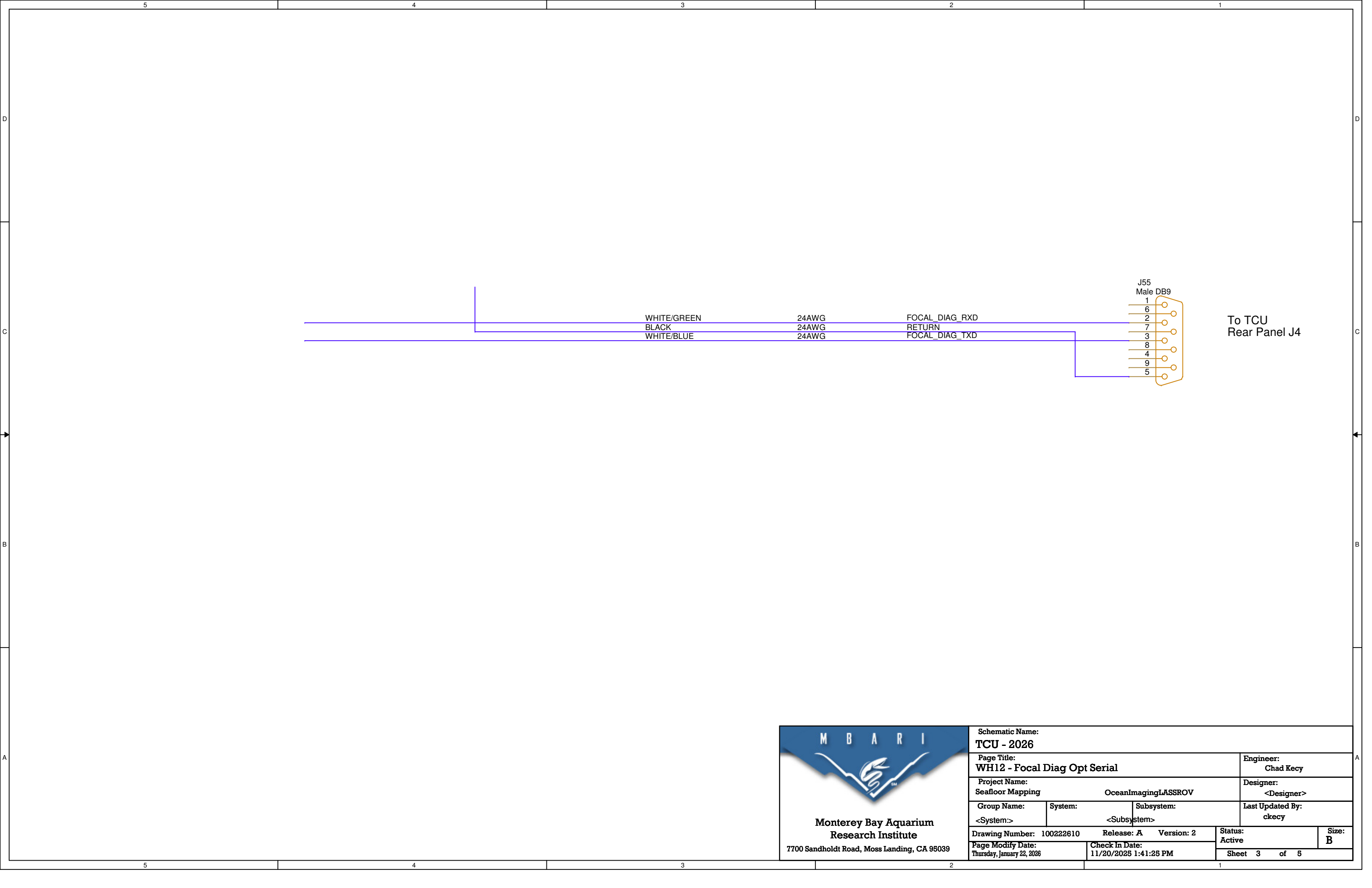
Schematic Name: TCU - 2026			
Page Title: WH08 - Spare1 Serial			Engineer: Chad Kecy
Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>
Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy
Drawing Number: 100222610		Release: A Version: 2	Status: Active
Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM	Size: B
Sheet 3 of 5			



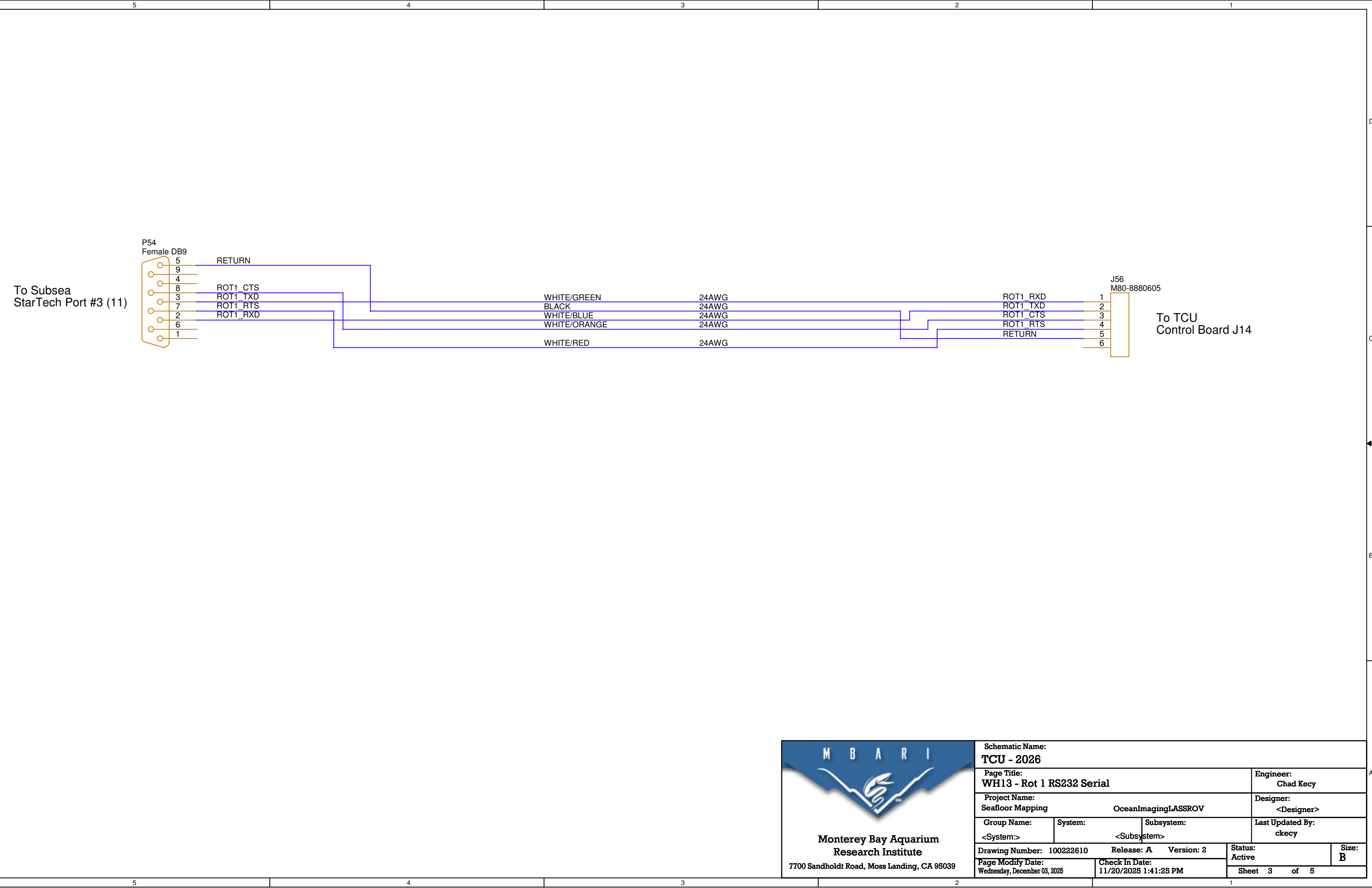
 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026					
	Page Title: WH09 - Spare2 Serial			Engineer: Chad Kecy		
	Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>		
	Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>		Last Updated By: ckecy	
	Drawing Number: 100222610		Release: A	Version: 2	Status: Active	Size: B
	Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM		Sheet 3 of 5	



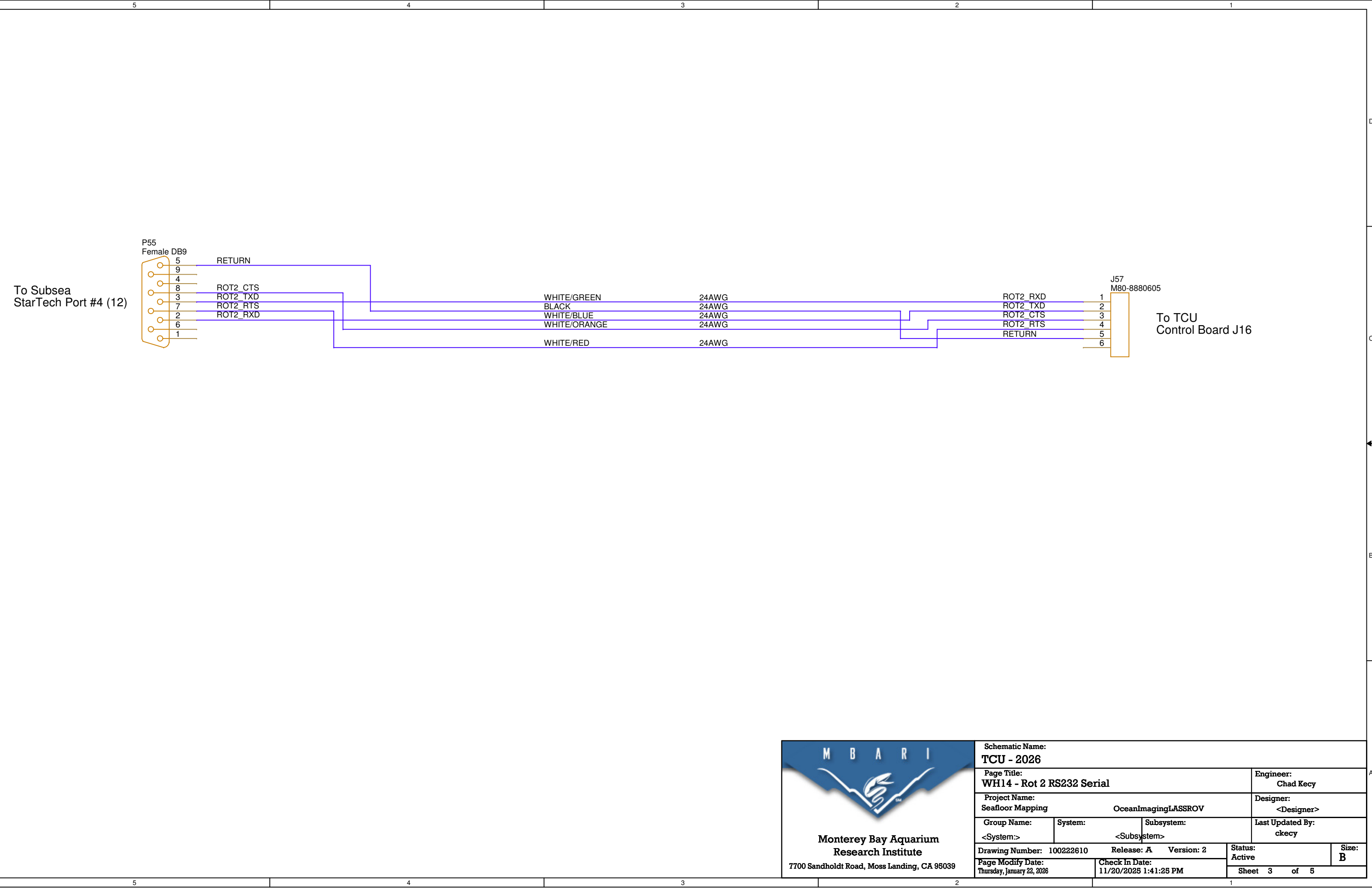
 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026					
	Page Title: WH11 - Spare4 Serial			Engineer: Chad Kecy		
	Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>		
	Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>		Last Updated By: ckecy	
	Drawing Number: 100222610		Release: A Version: 2		Status: Active	
	Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM		Size: B	
					Sheet 3 of 5	

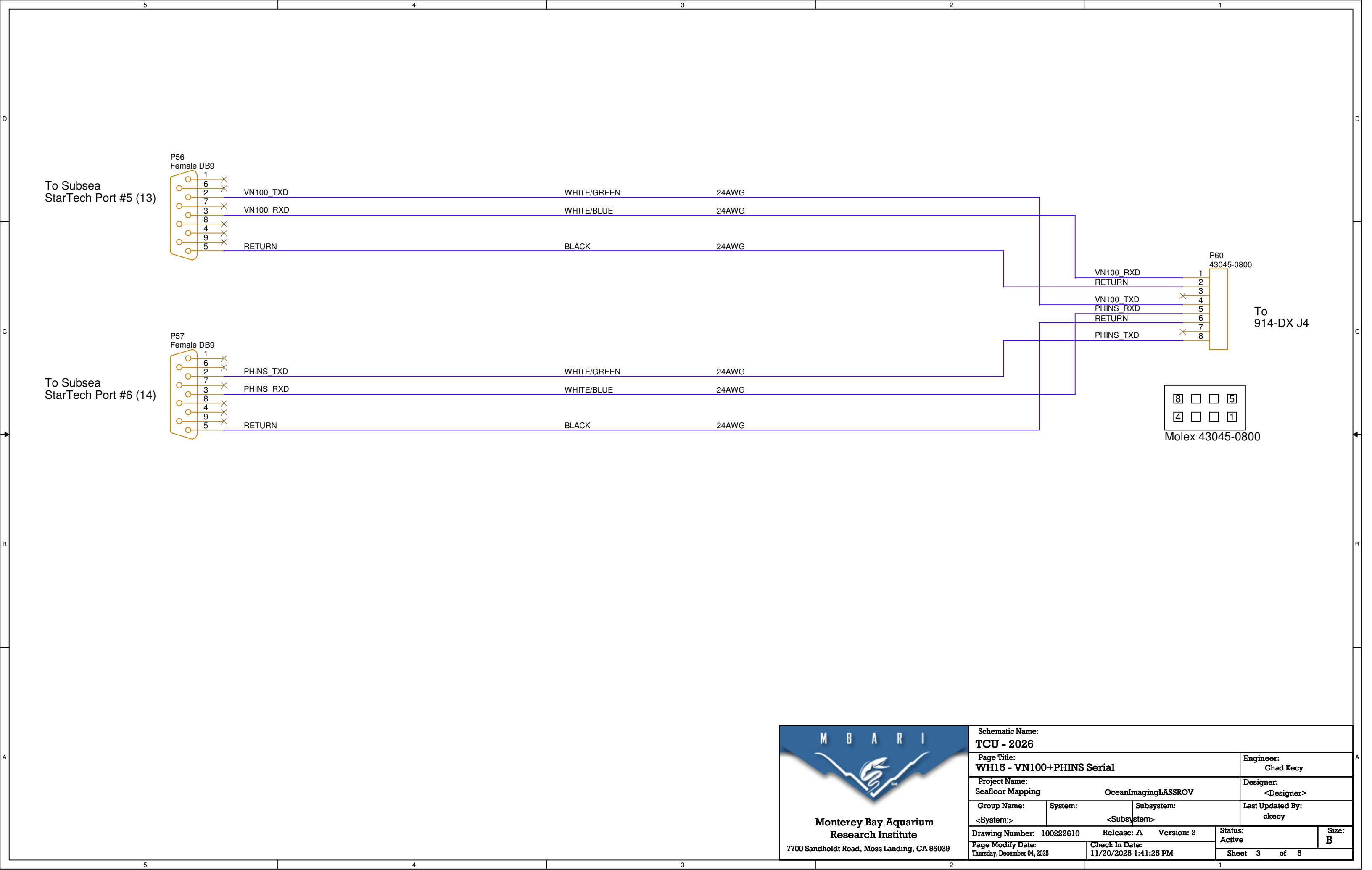


 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026			
	Page Title: WH12 - Focal Diag Opt Serial			Engineer: Chad Kecy
Project Name: Seafloor Mapping			OceanImagingLASSROV	
Group Name: <System:>		System:	Subsystem: <Subsystem>	Designer: <Designer>
Drawing Number: 100222610		Release: A	Version: 2	Last Updated By: ckecy
Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM		Status: Active
		Sheet 3 of 5		
Size: B				



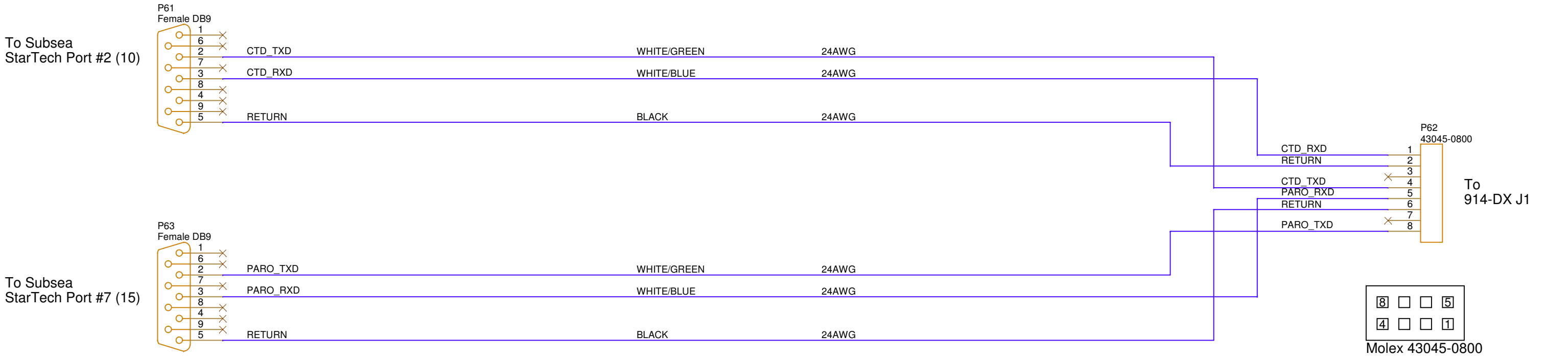
 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026				
	Page Title: WH13 - Rot 1 RS232 Serial			Engineer: Chad Kecy	
	Project Name: Seafloor Mapping			OceanImagingLASSROV	
	Group Name: <System:>		System: <Subsystem>		Subsystem: <Subsystem>
	Last Updated By: ckecy				
	Drawing Number: 100222610		Release: A		Version: 2
	Page Modify Date: Wednesday, December 03, 2025		Check In Date: 11/20/2025 1:41:25 PM		Status: Active
Sheet 3 of 5					
Size: B					





**Monterey Bay Aquarium
Research Institute**
7700 Sandholdt Road, Moss Landing, CA 95039

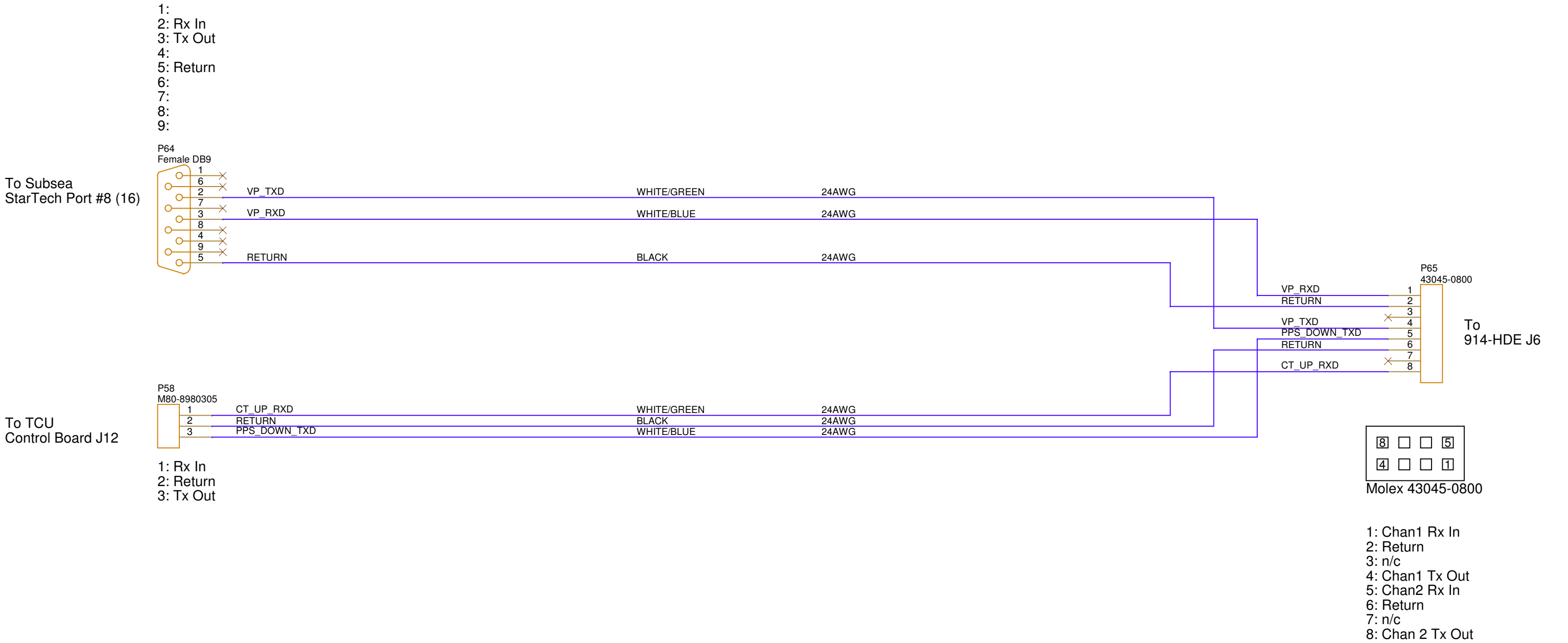
Schematic Name: TCU - 2026			
Page Title: WH15 - VN100+PHINS Serial			Engineer: Chad Kecy
Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>
Group Name: <System>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy
Drawing Number: 100222610		Release: A	Status: Active
Page Modify Date: Thursday, December 04, 2025		Check In Date: 11/20/2025 1:41:25 PM	Size: B
Sheet 3 of 5			



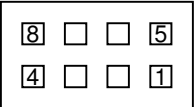
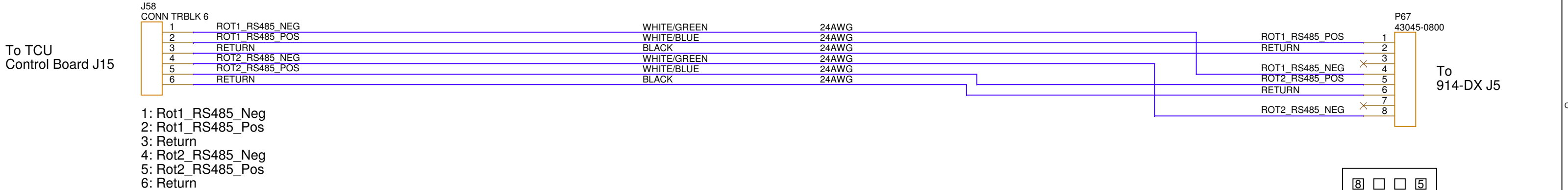


**Monterey Bay Aquarium
Research Institute**
7700 Sandholdt Road, Moss Landing, CA 95039

Schematic Name: TCU - 2026			
Page Title: WH16 - Paro+CTD Serial			Engineer: Chad Kecy
Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>
Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy
Drawing Number: 100222610		Release: A Version: 2	Status: Active
Page Modify Date: Thursday, December 04, 2025		Check In Date: 11/20/2025 1:41:25 PM	Size: B
Sheet 3 of 5			



 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039		Schematic Name: TCU - 2026			
		Page Title: WH17 - VP+CamTrig+PPS Serial		Engineer: Chad Kecy	
Project Name: Seafloor Mapping		OceanImagingLASSROV		Designer: <Designer>	
Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>		Last Updated By: ckecy	
Drawing Number: 100222610		Release: A	Version: 2	Status: Active	Size: B
Page Modify Date: Thursday, December 04, 2025		Check In Date: 11/20/2025 1:41:25 PM		Sheet 3 of 5	



Molex 43045-0800

- 1: Chan1 RS485_Pos
- 2: Return
- 3: n/c
- 4: Chan1 RS485_Neg
- 5: Chan2 RS485_Pos
- 6: Return
- 7: n/c
- 8: Chan 2 RS485_Neg

 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026				
	Page Title: WH18 - Rot1+2 RS485 Serial				Engineer: Chad Kecy
	Project Name: Seafloor Mapping OceanImagingLASSROV				Designer: <Designer>
	Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>		Last Updated By: ckecy
	Drawing Number: 100222610		Release: A	Version: 2	Status: Active
	Page Modify Date: Thursday, December 04, 2025		Check In Date: 11/20/2025 1:41:25 PM		Size: B
			Sheet 3 of 5		

To TCU
Control Board J11

J60
M80-8880805

1	CAM_TRIG_GPS_232	WHITE/GREEN	24AWG
2	RETURN	WHITE/BLUE	24AWG
3	CAM_TRIG_TTL_B	BLACK	24AWG
4	RETURN	WHITE/GREEN	24AWG
5	PPS_TTL_A	WHITE/BLUE	24AWG
6	RETURN	BLACK	24AWG
7	SPARE_GPS_LINE		24AWG
8	RETURN		24AWG

- 1: Cam_Trig_GPS_232
2: Return
3: Cam_Trig_TTL_B
4: Return
5: PPS_TTL_A
6: Return
7: Spare_GPS_Line
8: Return

J63
Male DB9

CAM_TRIG_GPS_232	1
RETURN	6
CAM_TRIG_TTL_B	2
RETURN	7
PPS_TTL_A	3
RETURN	8
SPARE_GPS_LINE	4
RETURN	9
	5

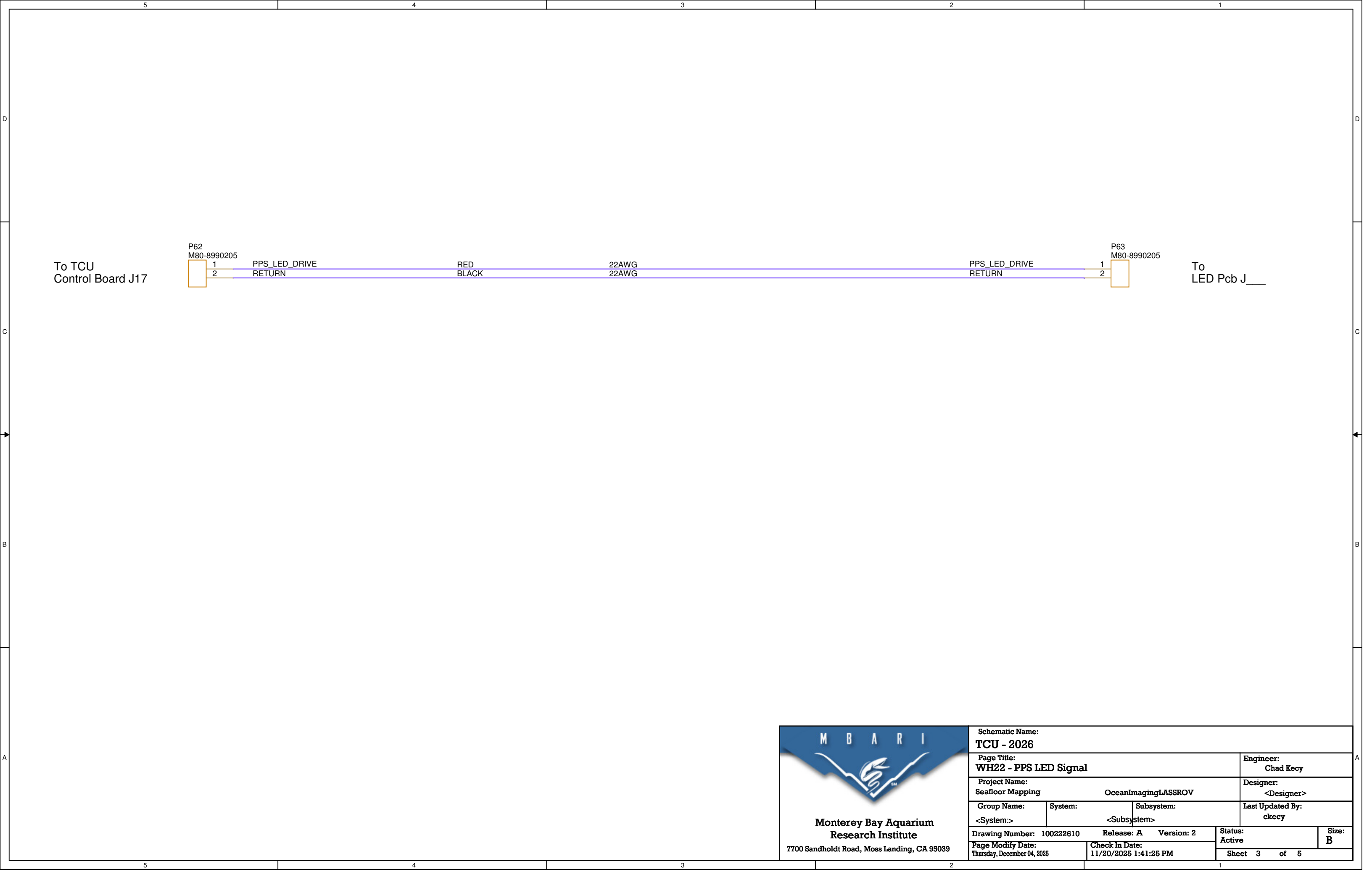
To TCU
Rear Panel J12

- 1: Cam_Trig_GPS_232
2: Cam_Trig_TTL_B
3: PPS_TTL_A
4: Spare_GPS_Line
5: n/c
6: Return
7: Return
8: Return
9: Return



Monterey Bay Aquarium
Research Institute
7700 Sandholdt Road, Moss Landing, CA 95039

Schematic Name: TCU - 2026			
Page Title: WH20 - Standalone GPS Signals			Engineer: Chad Kecy
Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>
Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy
Drawing Number: 100222610		Release: A Version: 2	Status: Active
Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM	Size: B
Sheet 3 of 5			





**Monterey Bay Aquarium
Research Institute**
7700 Sandholdt Road, Moss Landing, CA 95039

Schematic Name: TCU - 2026					
Page Title: WH22 - PPS LED Signal				Engineer: Chad Kecy	
Project Name: Seafloor Mapping				OceanImagingLASSROV	
Group Name: <System:>		System: <Subsystem>		Subsystem: <Subsystem>	
Drawing Number: 100222610		Release: A		Version: 2	
Page Modify Date: Thursday, December 04, 2025		Check In Date: 11/20/2025 1:41:25 PM		Status: Active	
				Size: B	
Sheet 3 of 5					

To TCU
Control Board J18

P61
M80-8891005

1	914HDE_3V3	BROWN	22AWG
2	914HDE_LINK	RED	22AWG
3	914HDE_LINK_FAULT	ORANGE	22AWG
4	914HDE_VIDEO	YELLOW	22AWG
5	914HDE_ETHERNET	GREEN	22AWG
6	914HDE_PPS_IN	BLUE	22AWG
7	914HDE_CAM_TRIG_OUT	VIOLET	22AWG
8	914HDE_VP_IN	GREY	22AWG
9	914HDE_VP_OUT	WHITE	22AWG
10	RETURN	BLACK	22AWG

P62
M80-8891005

1	914HDE_3V3
2	914HDE_LINK
3	914HDE_LINK_FAULT
4	914HDE_VIDEO
5	914HDE_ETHERNET
6	914HDE_PPS_IN
7	914HDE_CAM_TRIG_OUT
8	914HDE_VP_IN
9	914HDE_VP_OUT
10	RETURN

To
914-HDE J9

M
B
A
R
I



Monterey Bay Aquarium
Research Institute

7700 Sandholdt Road, Moss Landing, CA 95039

Schematic Name: TCU - 2026			
Page Title: WH23 - 914-HDE LED Diag Signals			Engineer: Chad Kecy
Project Name: Seafloor MappingOceanImagingLASSROV			Designer: <Designer>
Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy
Drawing Number: 100222610		Release: AVersion: 2	Status: Active
Page Modify Date: Thursday, December 04, 2025		Check In Date: 11/20/2025 1:41:25 PM	Size: B
Sheet 3 of 5			

To TCU
Control Board J19

P72
M80-8891005

1	914HDE_3V3	BROWN	22AWG
2	914HDE_LINK	RED	22AWG
3	914HDE_LINK_FAULT	ORANGE	22AWG
4	914HDE_VIDEO	YELLOW	22AWG
5	914HDE_ETHERNET	GREEN	22AWG
6	914HDE_PPS_IN	BLUE	22AWG
7	914HDE_CAM_TRIG_OUT	VIOLET	22AWG
8	914HDE_VP_IN	GREY	22AWG
9	914HDE_VP_OUT	WHITE	22AWG
10	RETURN	BLACK	22AWG

P73
M80-8891005

1	914HDE_3V3
2	914HDE_LINK
3	914HDE_LINK_FAULT
4	914HDE_VIDEO
5	914HDE_ETHERNET
6	914HDE_PPS_IN
7	914HDE_CAM_TRIG_OUT
8	914HDE_VP_IN
9	914HDE_VP_OUT
10	RETURN

To
LED Pcb J__

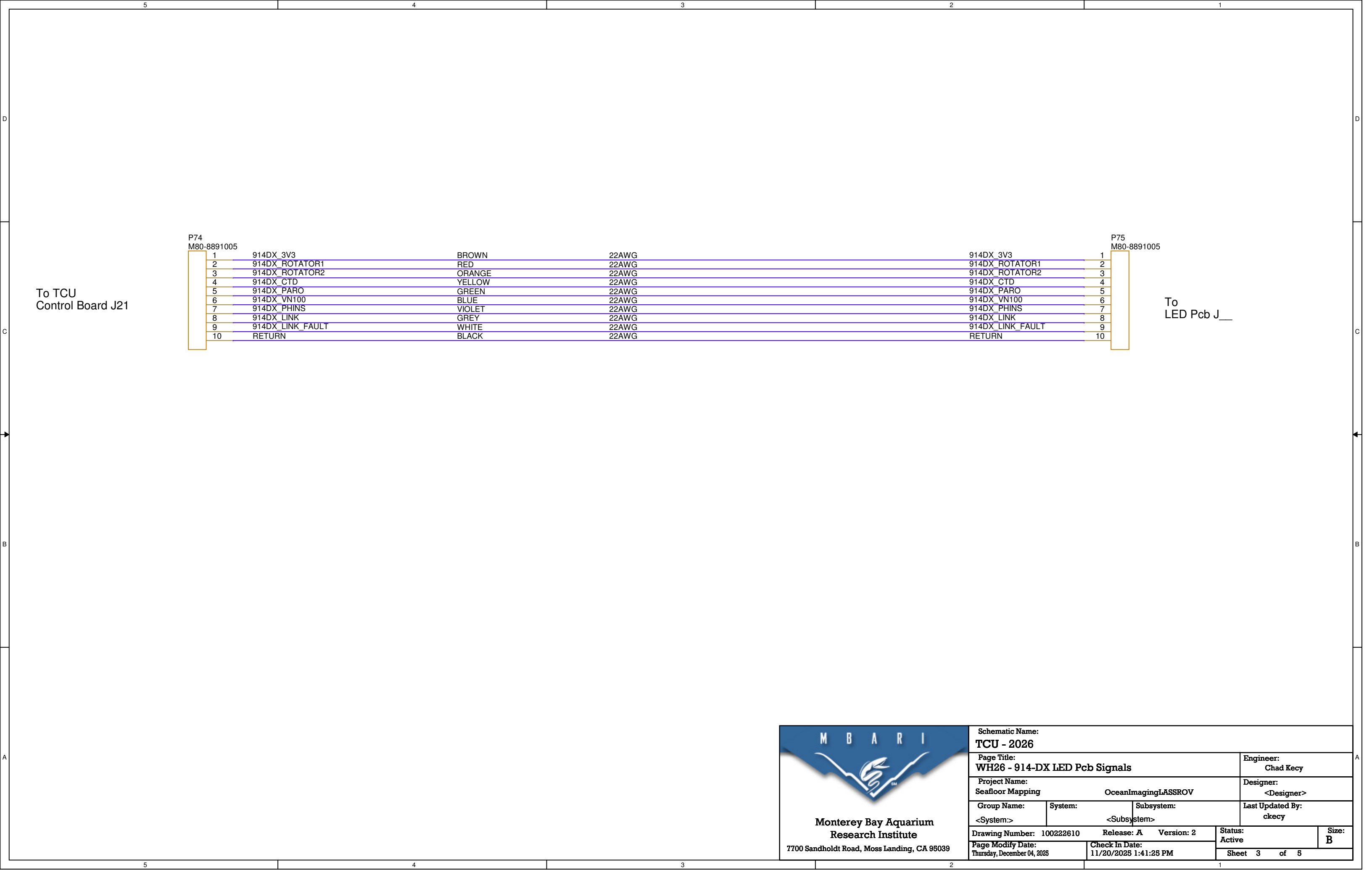
M
B
A
R
I



Monterey Bay Aquarium
Research Institute

7700 Sandholdt Road, Moss Landing, CA 95039

Schematic Name: TCU - 2026			
Page Title: WH24 - 914-HDE LED Pcb Signals			Engineer: Chad Kecy
Project Name: Seafloor MappingOceanImagingLASSROV			Designer: <Designer>
Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy
Drawing Number: 100222610		Release: AVersion: 2	Status: Active
Page Modify Date: Thursday, December 04, 2025		Check In Date: 11/20/2025 1:41:25 PM	Size: B
Sheet 3 of 5			



5

4

3

2

1

A

M

B

A

R

I



Monterey Bay Aquarium
Research Institute

7700 Sandholdt Road, Moss Landing, CA 95039

Schematic Name:
TCU - 2026

Page Title:
WH26 - 914-DX LED Pcb Signals

Engineer:
Chad Kecy

Project Name:
Seafloor Mapping

OceanImagingLASSROV

Designer:
<Designer>

Group Name:
<System:>

System:
<Subsystem>

Subsystem:
<Subsystem>

Last Updated By:
ckecy

Drawing Number: 100222610

Release: A

Version: 2

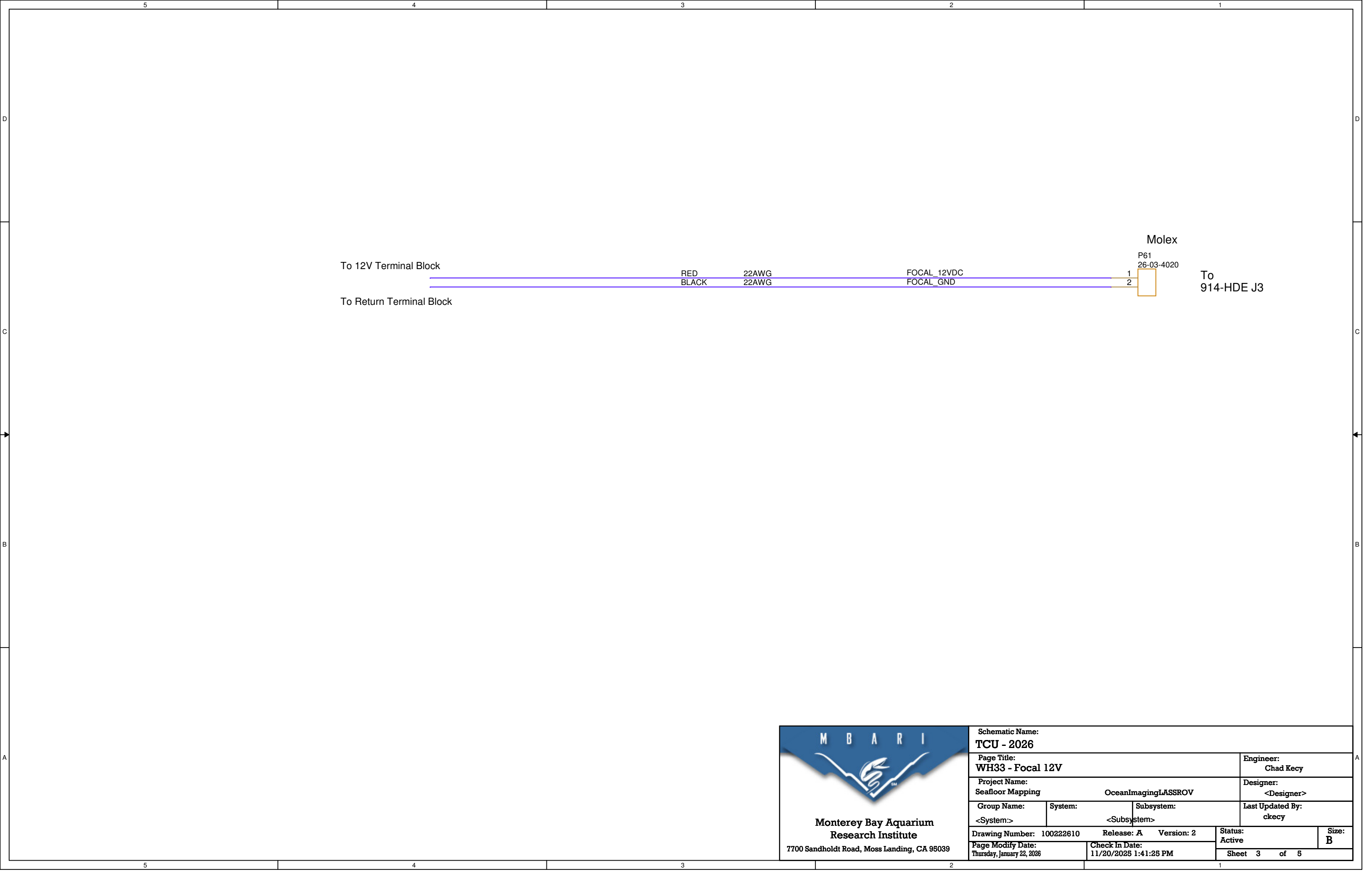
Status:
Active

Size:
B

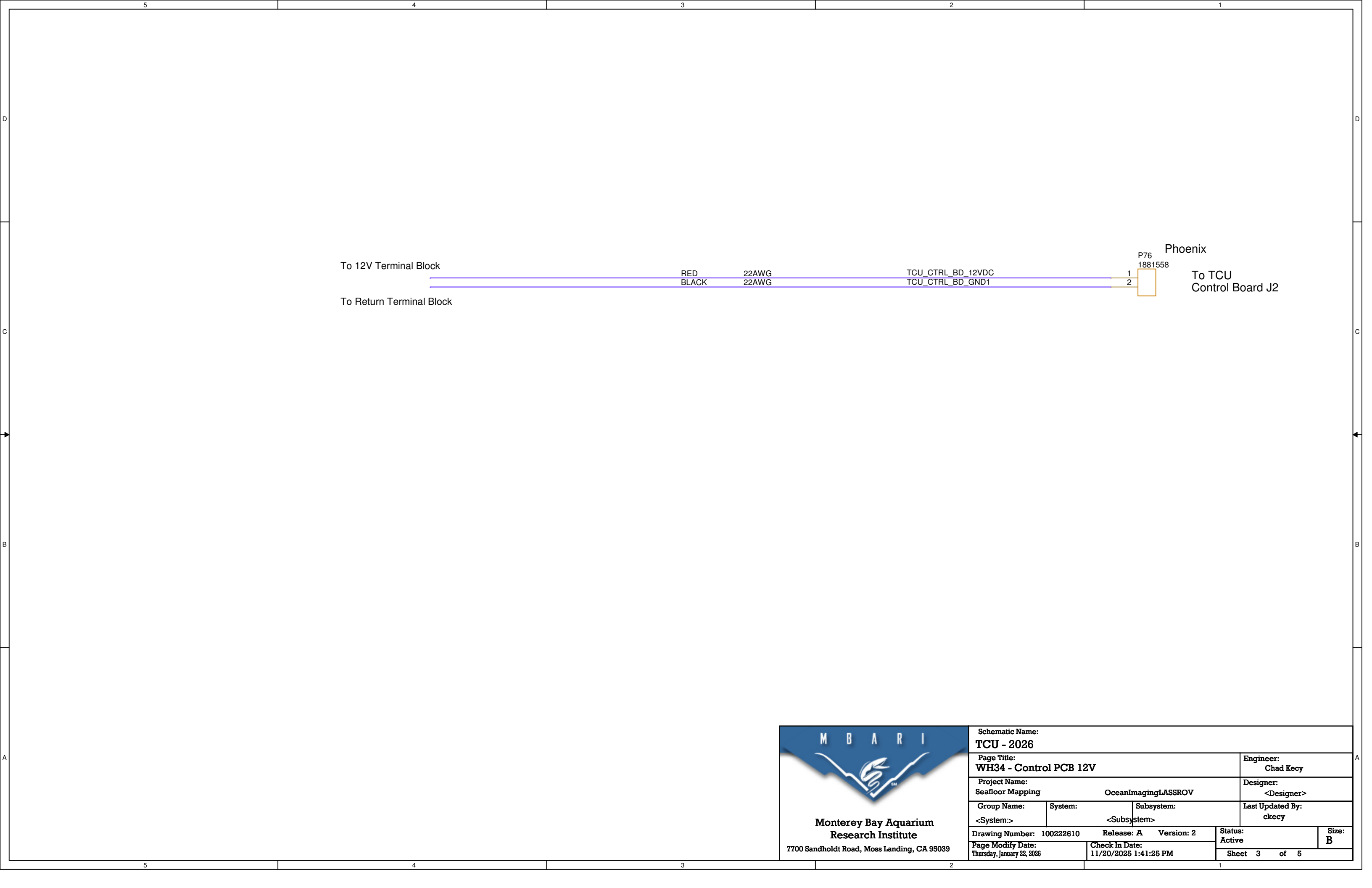
Page Modify Date:
Thursday, December 04, 2025

Check In Date:
11/20/2025 1:41:25 PM

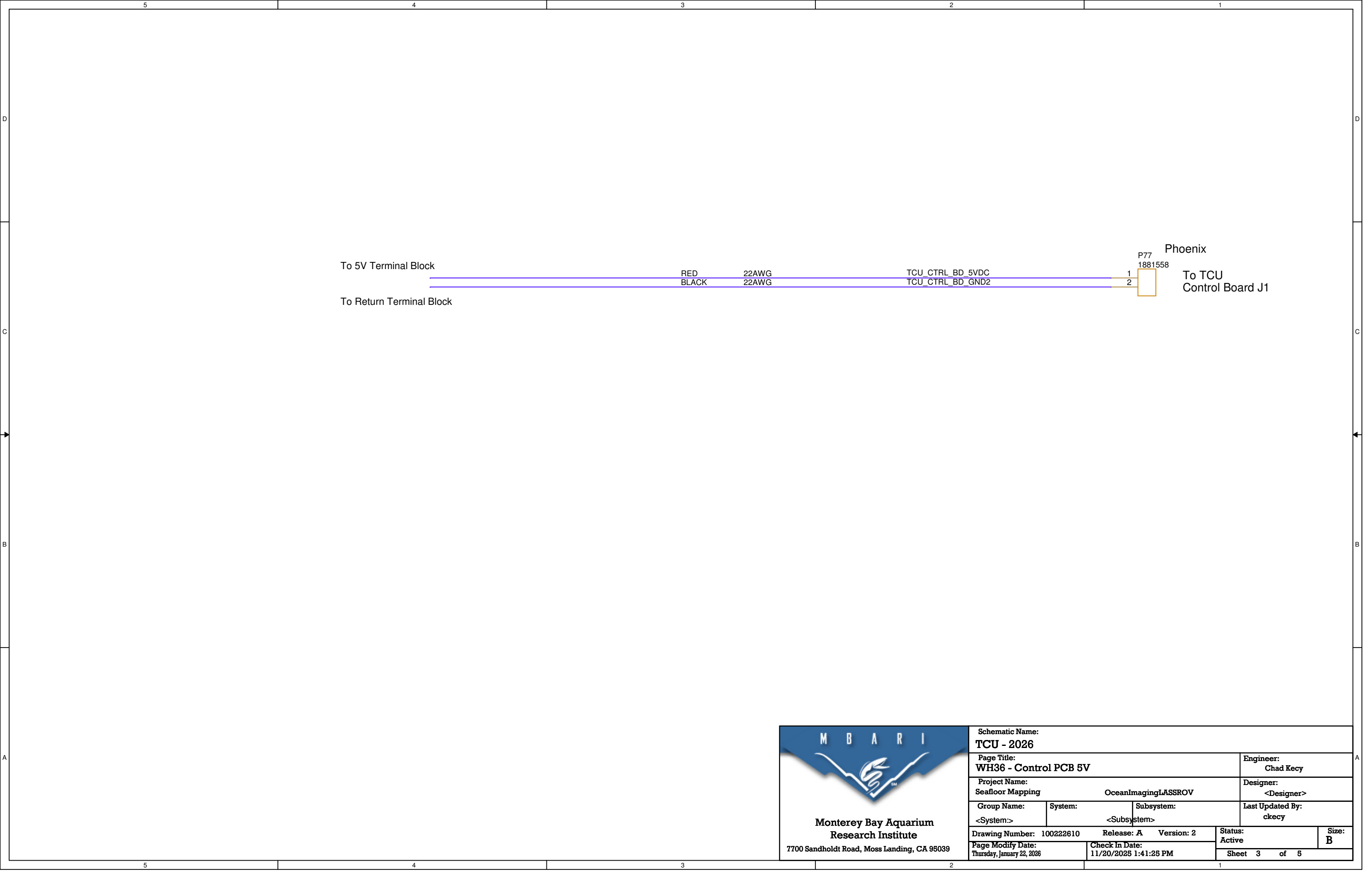
Sheet 3 of 5



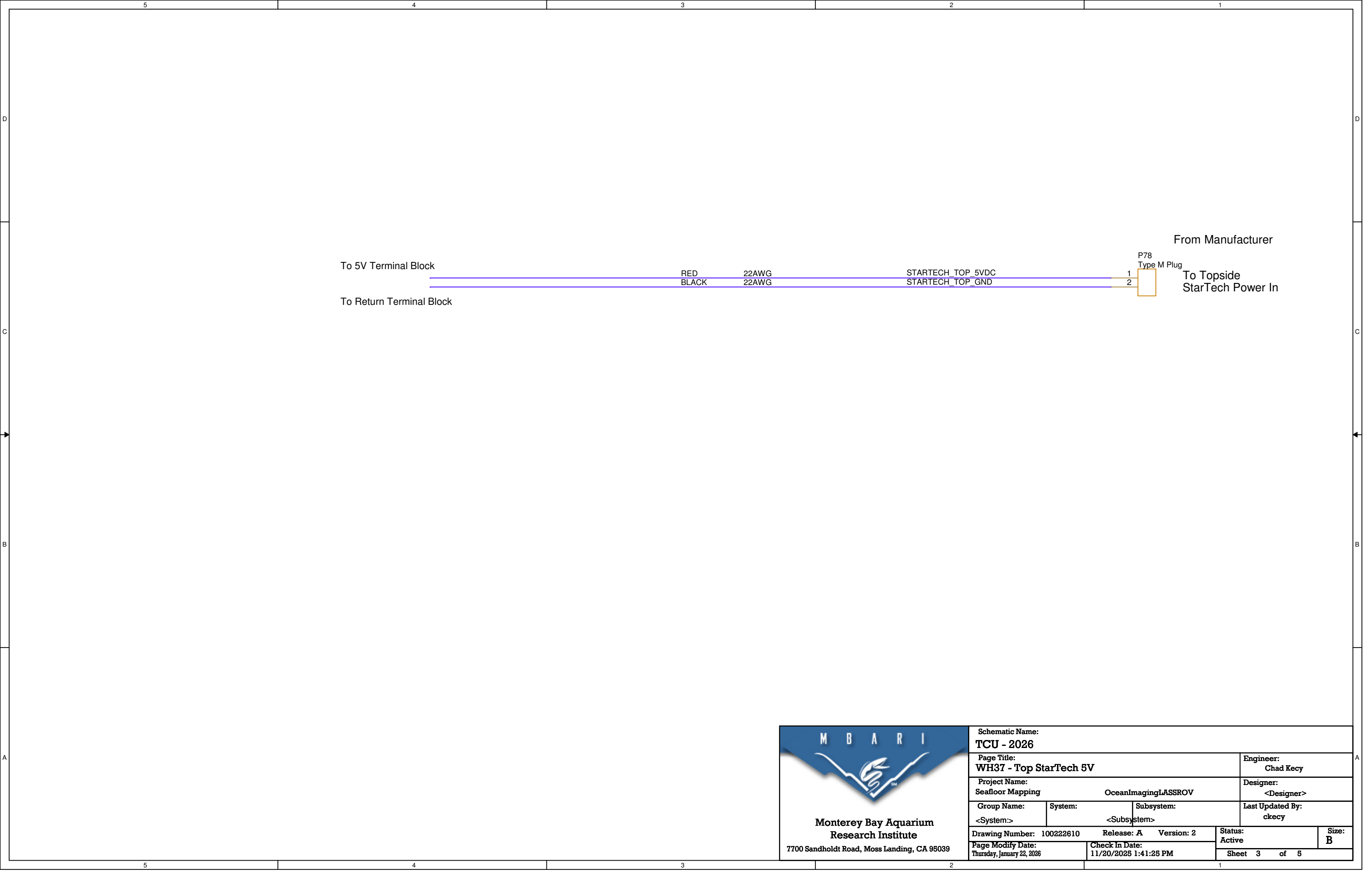
 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026					
	Page Title: WH33 - Focal 12V			Engineer: Chad Kecy		
	Project Name: Seafloor Mapping			Designer: <Designer>		
	Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy		
	Drawing Number: 100222610		Release: A	Version: 2	Status: Active	Size: B
	Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM		Sheet 3 of 5	



 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026					
	Page Title: WH34 - Control PCB 12V			Engineer: Chad Kecy		
	Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>		
	Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>		Last Updated By: ckecy	
	Drawing Number: 100222610		Release: A Version: 2		Status: Active	
	Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM		Size: B	
			Sheet 3 of 5			



 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039		Schematic Name: TCU - 2026			
		Page Title: WH36 - Control PCB 5V			Engineer: Chad Kecy
		Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>
		Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>	Last Updated By: ckecy
		Drawing Number: 100222610		Release: A Version: 2	Status: Active
Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM		Sheet 3 of 5	
				Size: B	



 Monterey Bay Aquarium Research Institute 7700 Sandholdt Road, Moss Landing, CA 95039	Schematic Name: TCU - 2026					
	Page Title: WH37 - Top StarTech 5V			Engineer: Chad Kecy		
	Project Name: Seafloor Mapping OceanImagingLASSROV			Designer: <Designer>		
	Group Name: <System:>	System: <Subsystem>	Subsystem: <Subsystem>		Last Updated By: ckecy	
	Drawing Number: 100222610		Release: A Version: 2		Status: Active	
	Page Modify Date: Thursday, January 22, 2026		Check In Date: 11/20/2025 1:41:25 PM		Size: B	
					Sheet 3 of 5	

