

GENERAL NOTES

1. FRAME SPACING IS 2'-0". LONGITUDINAL SPACING IS 2'-0".
2. ALL DIMENSIONS ARE MOLDED DIMENSIONS.
3. ALL ABBREVIATIONS USED ON THIS DRAWING ARE IN ACCORDANCE WITH ASME Y14.38 (2007 VERSION) EXCEPT AS SHOWN IN THE ABBREVIATIONS TABLE.
4. ALL PUBLIC WATER CLOSETS TO BE DESIGNED TO BE ACCESSIBLE TO ALL SCIENCE PARTY MEMBERS IN ACCORDANCE WITH REFERENCE 6.
5. ALL DOOR LOCATIONS, ORIENTATIONS, AND TYPES REPRESENT NOTIONAL DEPICTIONS FOR PRELIMINARY DESIGN.
6. ALL SPACE NAMES REPRESENT OVERALL DESCRIPTIONS OF INTENDED SERVICE OF SPACE FOR PRELIMINARY DESIGN.
7. WING TANKS ARE REQUIRED ON 1ST PLATFORM. NOTIONAL WING TANKS 60" FROM SHELL ARE SHOWN. FINAL GEOMETRY OF WING TANKS TO BE DETERMINED LATER, AND WILL ACCOUNT FOR REQUIRED VOLUME AND FABRICATION (I.E. LIMIT WARPING OF PLATE).
8. CONTAINER LOAD OUT SHOWN IN HANDLING SYSTEMS AND SCIENTIFIC PACKAGE DEPLOYMENT, REFERENCE 1.
9. CRANE DETAILS, INCLUDING REACH CIRCLES, ARE SHOWN IN HANDLING SYSTEMS AND SCIENTIFIC PACKAGE DEPLOYMENT, REFERENCE 1.
10. WINCH DETAILS ARE SHOWN ON HANDLING SYSTEMS AND SCIENTIFIC PACKAGE DEPLOYMENT, REFERENCE 1.
11. MACHINERY SPACE ARRANGEMENTS ARE SHOWN ON MACHINERY ARRANGEMENT REFERENCE 2.
12. SCIENCE SPACE ARRANGEMENTS ARE SHOWN ON SCIENCE SPACE ARRANGEMENT, REFERENCE 4.
13. NOTIONAL MAST SHOWN. FOR ADDITIONAL DETAILS SEE REFERENCE 3.
14. SEA CHEST 4-81-1-W AND 4-81-2-W TO BE ARRANGED AND OUTFITTED AS ICE BOXES IN ACCORDANCE WITH ABS GUIDE FOR VESSELS OPERATING IN LOW TEMPERATURE ENVIRONMENTS.
15. UPPER SCIENCE HOLD ACCESS 2-125-2-L MAY BE USED AS A BUILT IN SEISMIC COMPRESSOR SYSTEM LOCATION.
16. BOLTED ACCESSES, SUCH AS MANHOLES ARE NOT SHOWN.

RESERVATIONS

1. ANCHOR HANDLING SYSTEM AND LOCATION OF ANCHOR POCKET RESERVED PENDING VFI AND DETAIL DESIGN.
2. MOORING AND TOWING RESERVED PENDING VFI AND DETAIL DESIGN.
3. MAST, MAST PLATFORMS AND ANTENNAS RESERVED PENDING VFI AND DETAIL DESIGN.
4. ACCESS AND EGRESS RESERVED PENDING REQUIREMENTS.
5. ROLL TANK RESERVED PENDING DETAIL DESIGN.
6. VERTICAL ACCESS TO MAST IS RESERVED PENDING DESIGN DEVELOPMENT.
7. CRANES, HANDLING AND BOATS RESERVED PENDING VFI AND HANDLING SYSTEMS AND SCIENTIFIC PACKAGE DEPLOYMENT DRAWING DEVELOPMENT.

PRINCIPAL CHARACTERISTICS	
DESCRIPTION	VALUE
LENGTH, OVERALL	365'
BEAM	80'
DESIGN DRAFT	32'-6"
DRAFT AT SIDE	28'
LBP	349'

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
ALL	P0	INITIAL ISSUE	3/20/22	DR
ALL	P1	SHEETS 1-11: REVISED IN THEIR ENTIRETY TO SUIT DESIGN DEVELOPMENT.	7/12/22	DR
ALL	P2	SHEETS 1-11: REVISED IN THEIR ENTIRETY TO SUIT DESIGN DEVELOPMENT.	9/20/22	DR
ALL	P3	SHEETS 1-13: REVISED IN THEIR ENTIRETY TO SUIT DESIGN DEVELOPMENT.	12/03/22	DR
ALL	P4	SHEETS 1-13: REVISED IN THEIR ENTIRETY TO SUIT DESIGN DEVELOPMENT.	05/19/23	DR
ALL	P5	SHEETS 1-13: REVISED IN THEIR ENTIRETY TO SUIT DESIGN DEVELOPMENT.	09/18/23	DR

ACCOMMODATIONS

DESCRIPTION	02 LEVEL	03 LEVEL	04 LEVEL	05 LEVEL	TOTAL
DOUBLE OCCUPANT SCIENCE STATEROOM	11	10	0	0	21
ACCESSIBLE DOUBLE OCCUPANT SCIENCE STATEROOM	1	0	0	0	1
SINGLE OCCUPANT SCIENCE STATEROOM	9	0	0	0	9
SINGLE OCCUPANT SCIENCE STATEROOM W/ ATTACHED DAYROOM	0	2	0	0	2
SINGLE OCCUPANT CREW STATEROOM	0	10	9	7	26
SINGLE OCCUPANT CREW STATEROOM W/ ATTACHED DAYROOM	0	0	0	3	3
	TOTAL STATEROOMS	TOTAL BERTHS			
SCIENCE TOTAL	31	55			
CREW TOTAL	29	29			
TOTAL	62	84			

ABBREVIATIONS TABLE




ADA	AMERICANS WITH DISABILITIES ACT
CB	CENTERBOARD
DK	DECK
ECR	ENGINEERING CONTROL ROOM
HAZMAT	HAZARDOUS MATERIAL
MSD	MARINE SANITATION DEVICE
P/S	PORT AND STARBOARD
T/S	TOILET AND SHOWER
UAV	UNCREWED AERIAL VEHICLE
WT	WATERTIGHT

SHEET INDEX

SH	REV	TITLE
1	P5	TITLE, SHEET INDEX, REVISIONS, GENERAL NOTES, REFERENCES, ABBREVIATIONS TABLE, ACCOMMODATIONS, PRINCIPAL CHARACTERISTICS
2	P5	PLANS 08 AND 09 LEVEL
3	P5	PLANS 06 AND 07 LEVEL
4	P5	PLANS 04 AND 05 LEVEL
5	P5	PLANS 02 AND 03 LEVEL
6	P5	PLAN 01 LEVEL
7	P5	PLAN MAIN DECK
8	P5	PLANS 1ST AND 2ND PLATFORM
9	P5	PLANS INNER BOTTOM AND TANK TOP
10	P5	PLANS HOLD AND BOX KEEL
11	P5	OUTBOARD PROFILE
12	P5	INBOARD PROFILE
13	P5	BOW AND STERN VIEWS

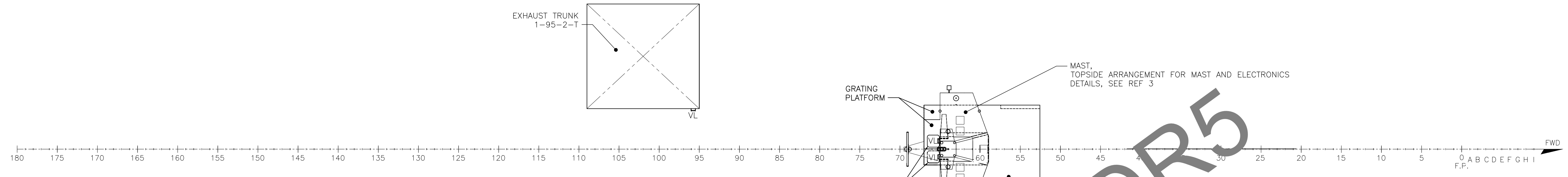
6	ARV PERFORMANCE SPECIFICATION	--
5	ANCHORING DRAWING	5E1-581-0001
4	SCIENCE SPACE ARRANGEMENT	5E1-601-D001
3	TOPSIDE ARRANGEMENT	5E1-002-D101
2	MACHINERY ARRANGEMENT	5E1-501-D001
1	HANDLING SYSTEMS AND SCIENTIFIC PACKAGE DEPLOYMENT	5E1-580-D001
NO.		DWG NO.

REFERENCES

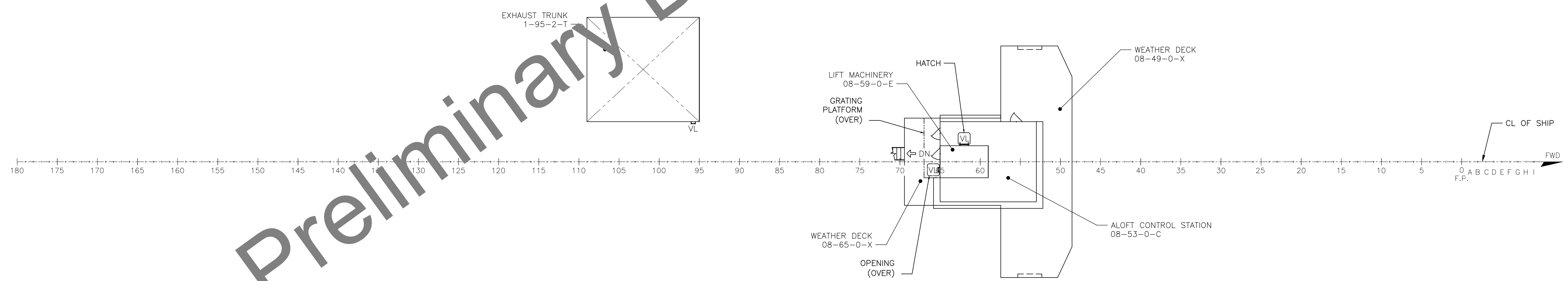
 NATIONAL SCIENCE FOUNDATION GEOSCIENCES DIRECTORATE OFFICE OF POLAR PROGRAMS 2415 EISENHOWER AVENUE ALEXANDRIA, VA 22314	 1750 PRESIDENTS STREET RESTON, VA 20190 USA	 A Leidos Company 700 THIMBLE SHOALS BLVD NEWPORT NEWS, VA 23606	TITLE ANTARCTIC RESEARCH VESSEL (ARV)	
			GENERAL ARRANGEMENT	
PREPARED B. SHOFF CHECKED D. KOPERA MANAGER L. MALABET APPROVED D. ROSENTHAL	DATE 3/20/2022 3/20/2022 3/20/2022 3/20/2022	SIZE H 601	SWBS 5E1-001-D001	DRAWING NO. REV P5
CONTRACT NO. NSFDACS1219442 SCALE: NONE SHEET 1 OF 13				

Preliminary Design, Post-DR5

DWG NO 5E1-001-D001



PLAN 2-4E
 09 LEVEL AND MAST
 129'-6" ABL
 NOTE: LIFELINES SURROUND THE ENTIRE DECK

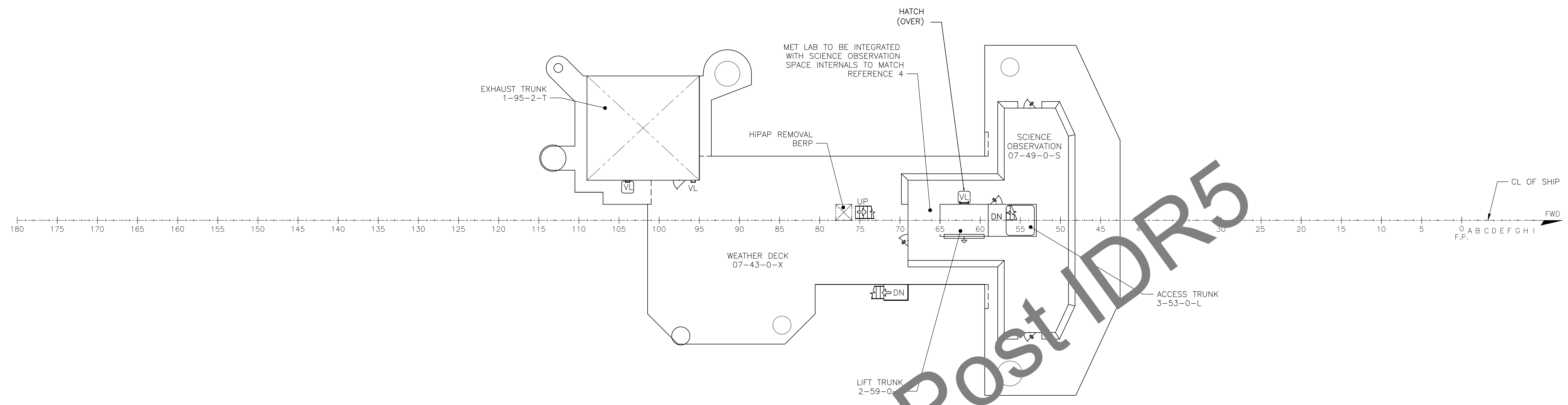


PLAN 2-4B
 08 LEVEL
 120'-6" ABL
 NOTE: LIFELINES SURROUND THE ENTIRE DECK

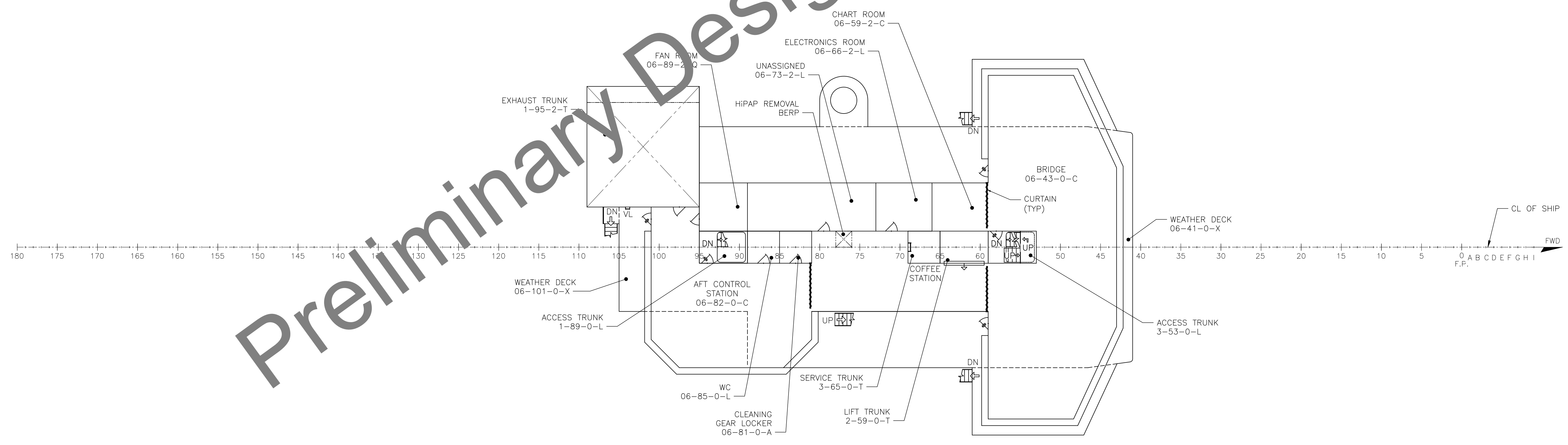
Preliminary Design, Post IDR5

TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
PLANS 08 AND 09 LEVEL			
SIZE	SWBS	DRAWING NO.	REV
H	601	5E1-001-D001	P5
CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 2 OF 13			

DWG NO 5E1-001-D001 SH 2



PLAN 3-4E
 07 LEVEL
 111'-6" ABL
 NOTE: LIFELINES SURROUND THE ENTIRE DECK

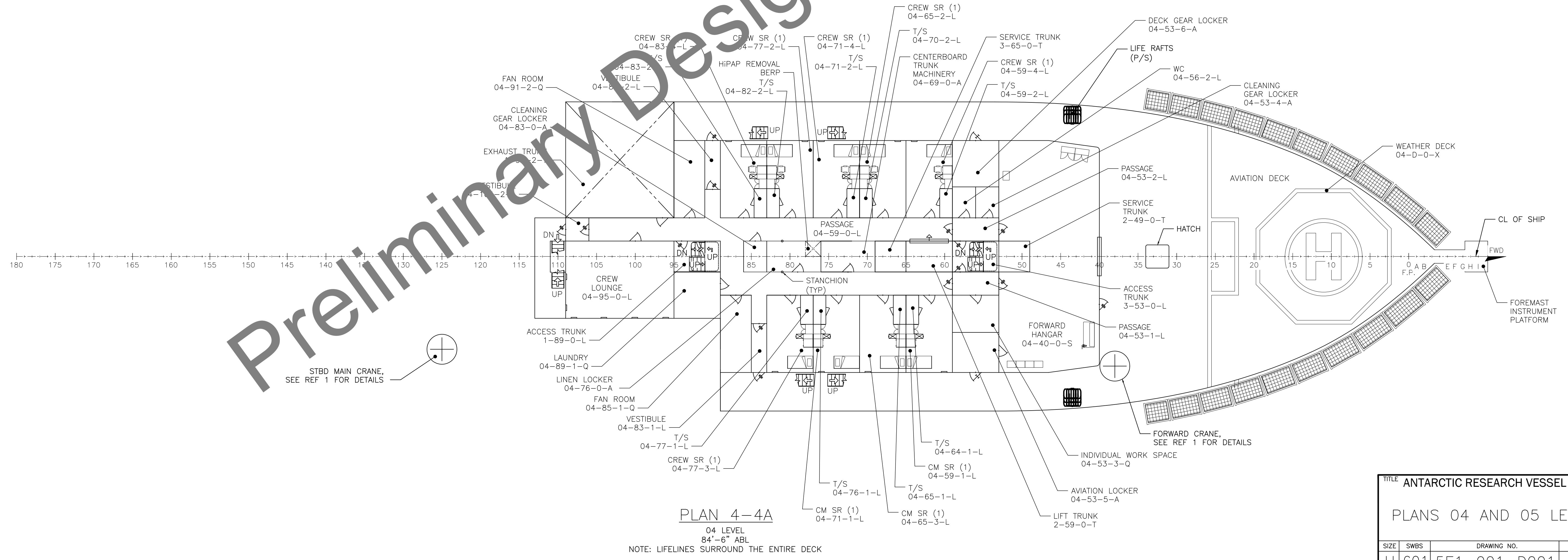
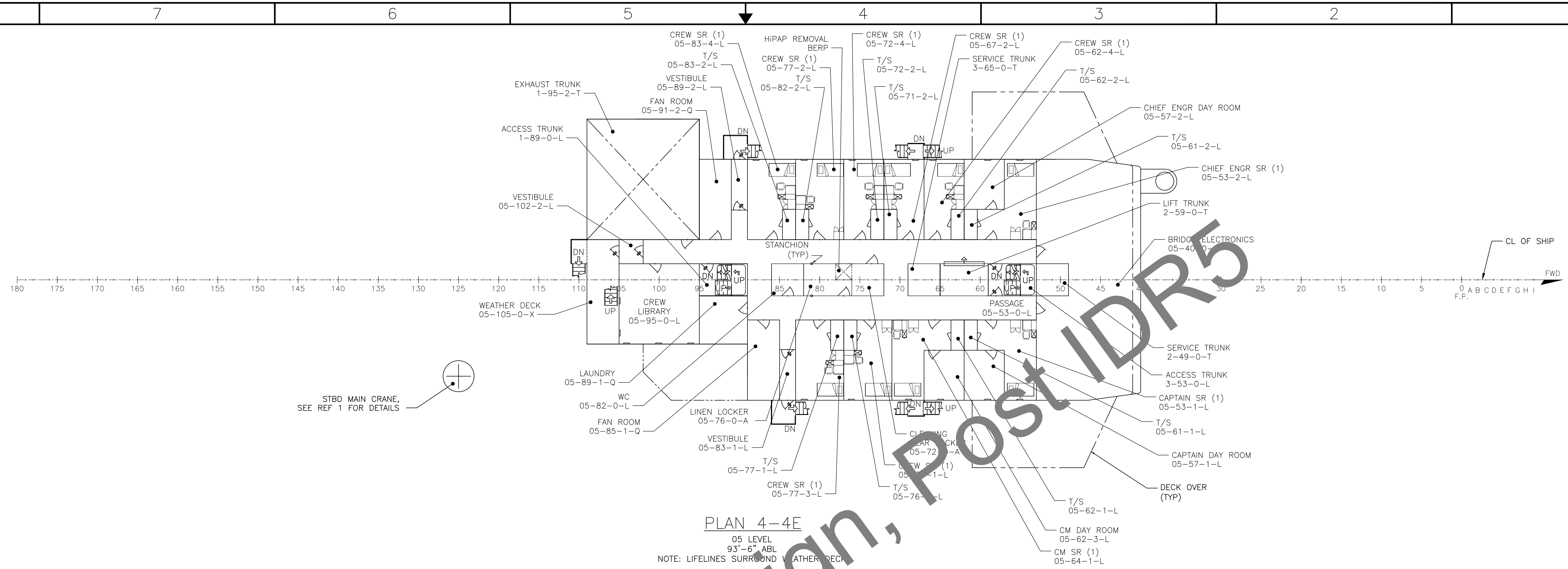


PLAN 3-4A
 06 LEVEL
 102'-6" ABL
 NOTE: LIFELINES SURROUND THE ENTIRE DECK

Preliminary Design, Post IDR5

TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
PLANS 06 AND 07 LEVEL			
SIZE	SWBS	DRAWING NO.	REV
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CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 3 OF 13			

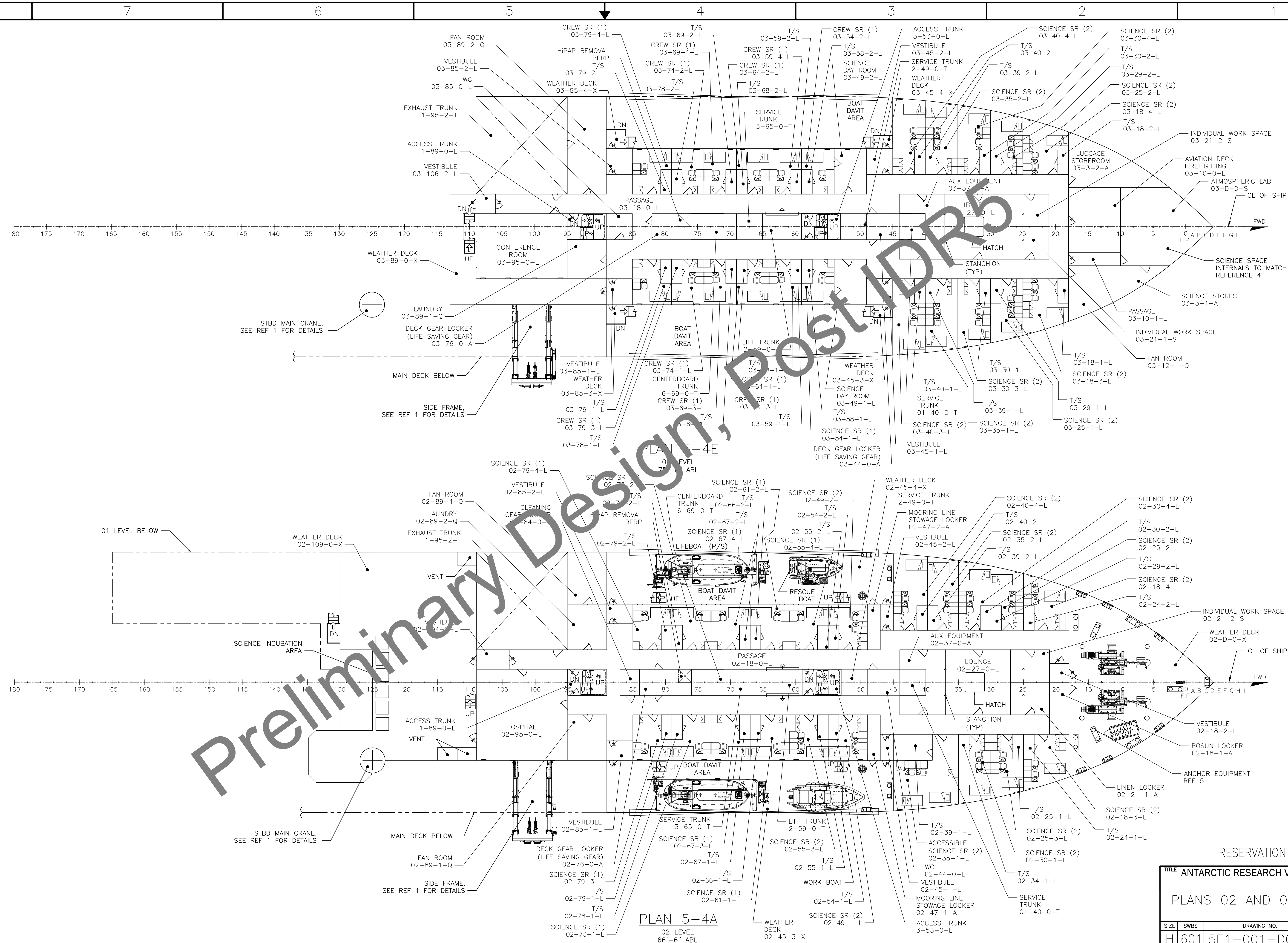
DWS NO 5E1-001-D001 SH 3



TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
PLANS 04 AND 05 LEVEL			
SIZE	SWBS	DRAWING NO.	REV
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CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 4 OF 13			

Preliminary Design, Post IDRS

DWG NO 5E1-001-D001 SH 4

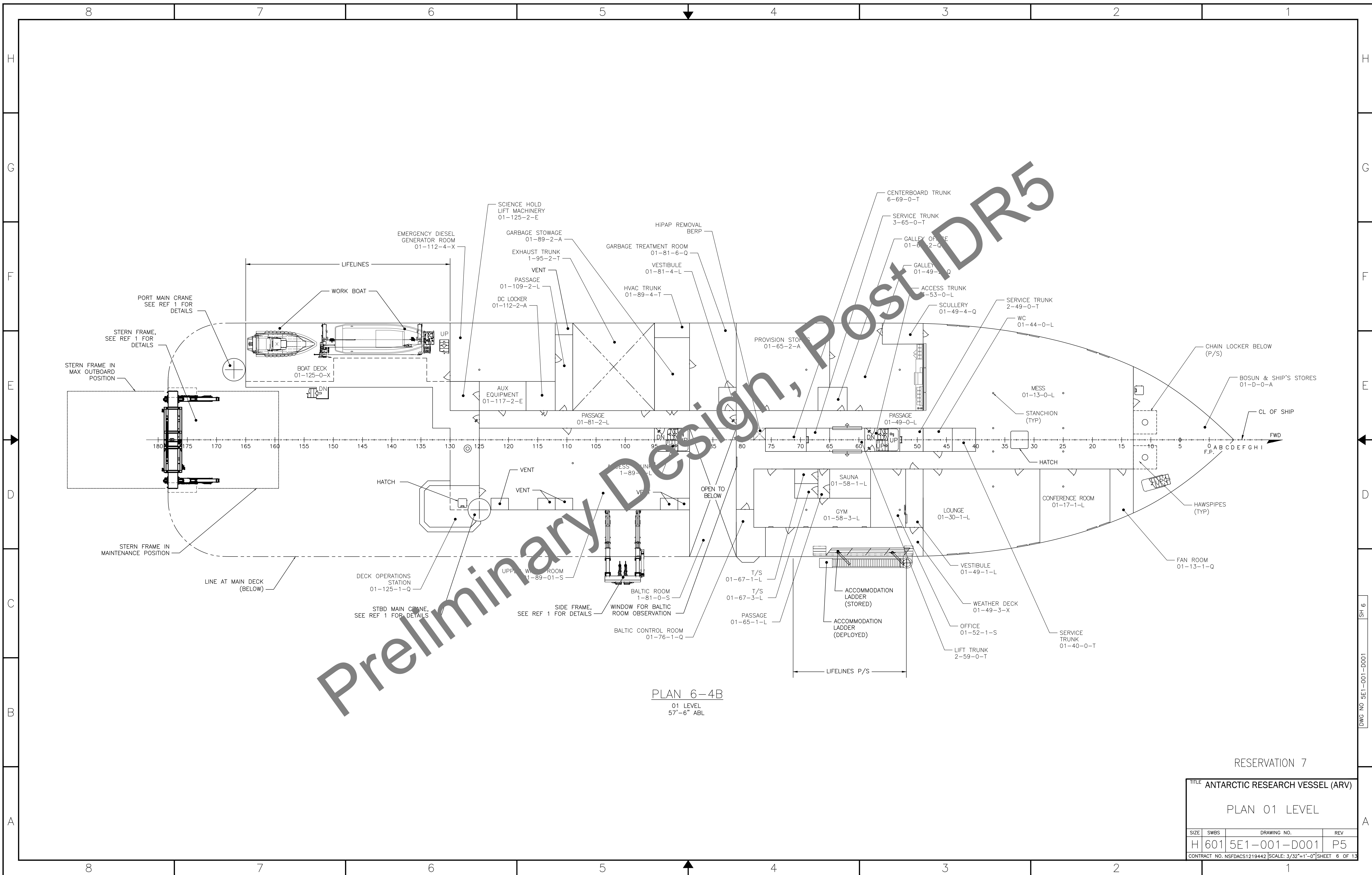


Preliminary Design, Post DR5

PLAN 5-4A
02 LEVEL
66'-6" ABL

RESERVATION 7			
TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
PLANS 02 AND 03 LEVEL			
SIZE	SWBS	DRAWING NO.	REV
H	601	5E1-001-D001	P5
CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 5 OF 13			

DWS NO 5E1-001-D001 SH 5



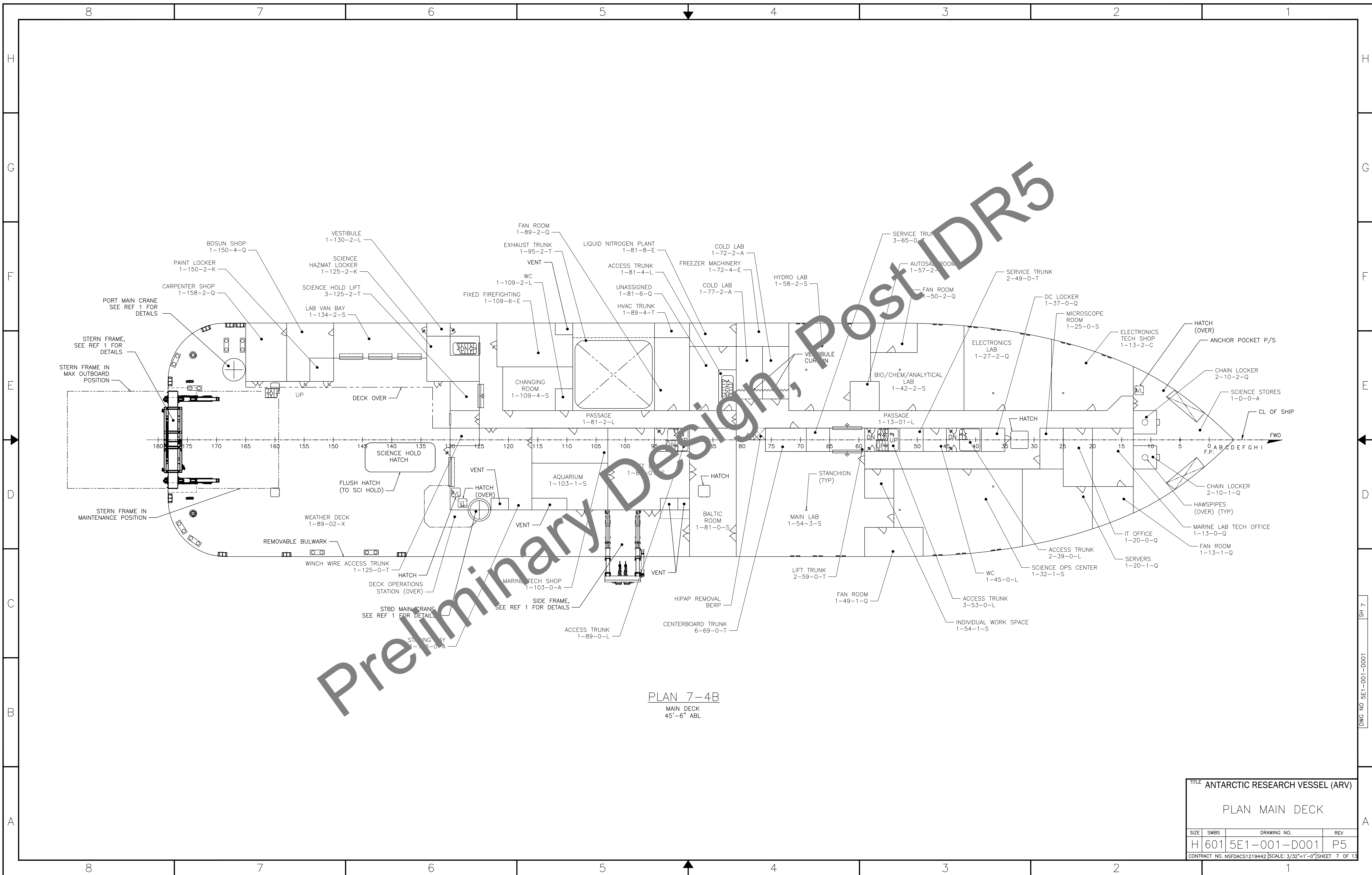
Preliminary Design, Post-DR5

PLAN 6-4B
01 LEVEL
57'-6" ABL

RESERVATION 7

TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
PLAN 01 LEVEL			
SIZE	SWBS	DRAWING NO.	REV
H	601	5E1-001-D001	P5
CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 6 OF 13			

DWG NO 5E1-001-D001 SHEET 6

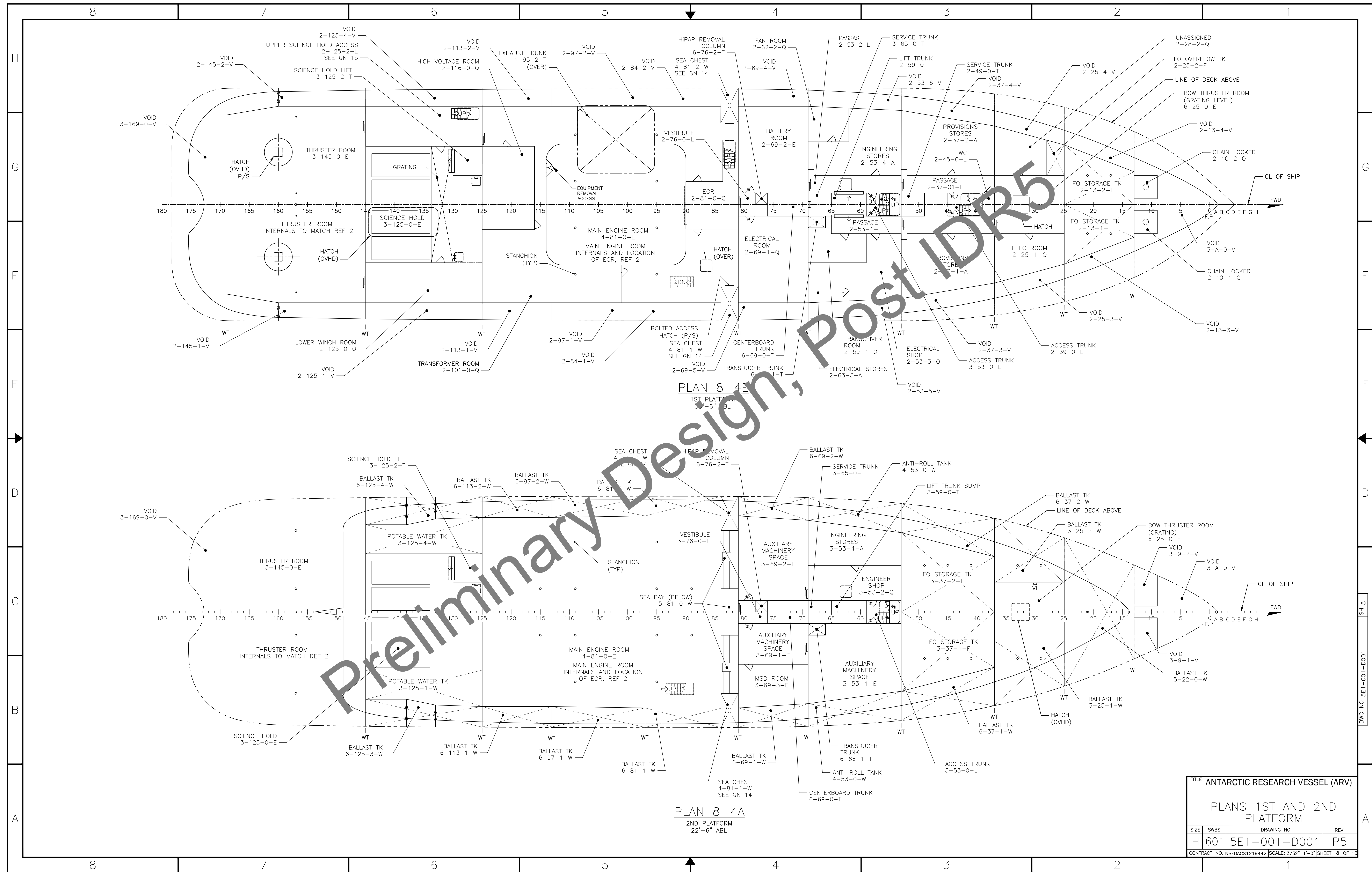


Preliminary Design, Post-DR5

PLAN 7-4B
 MAIN DECK
 45'-6" ABL

TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
PLAN MAIN DECK			
SIZE	SWBS	DRAWING NO.	REV
H	601	5E1-001-D001	P5
CONTRACT NO. NSF/DACS1219442 SCALE: 3/32"=1'-0" SHEET 7 OF 13			

DWS NO 5E1-001-D001 SH 7



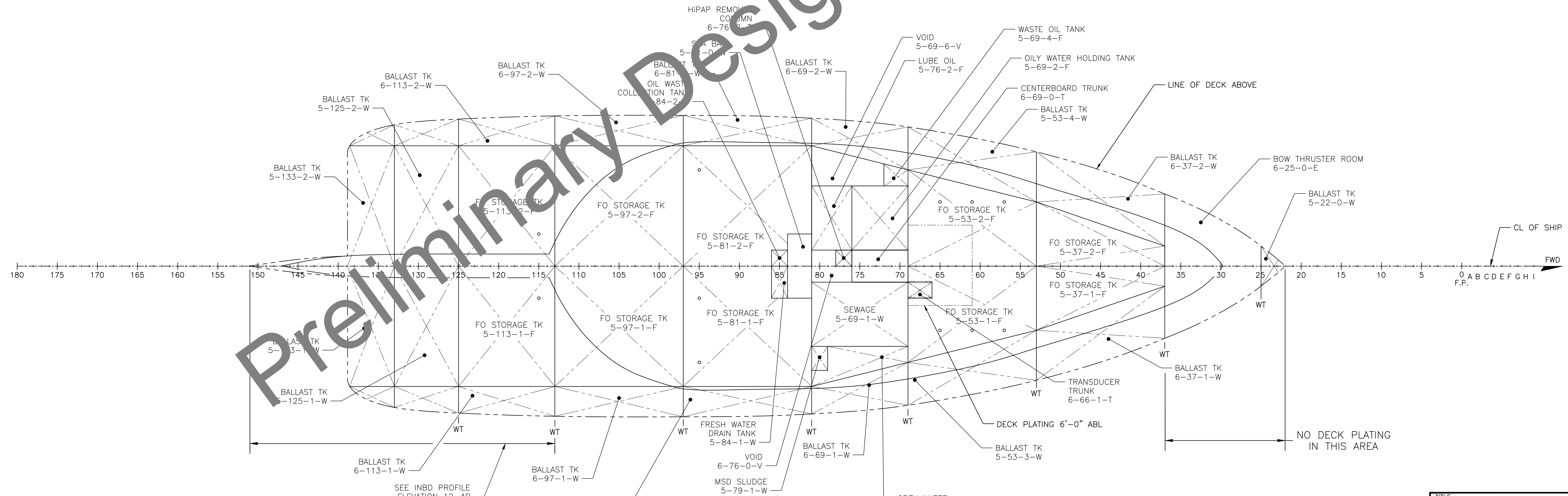
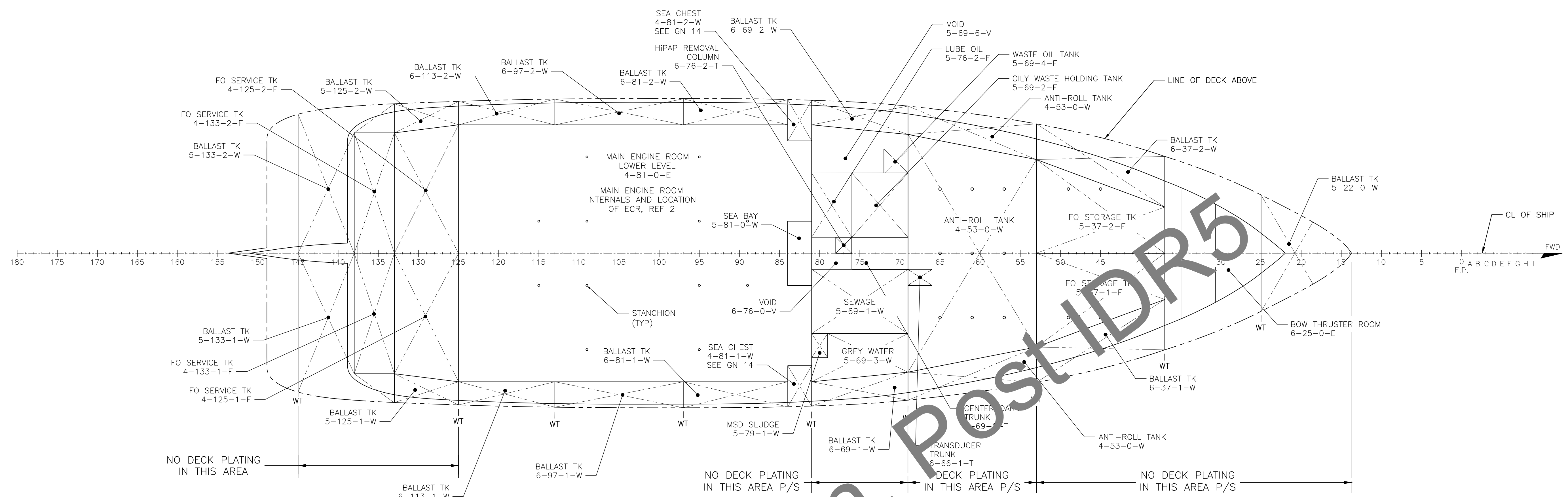
Preliminary Design, Post IDP5

PLAN 8-4B
1ST PLATFORM
30'-6" ABL

PLAN 8-4A
2ND PLATFORM
22'-6" ABL

TITLE			
ANTARCTIC RESEARCH VESSEL (ARV)			
PLANS 1ST AND 2ND PLATFORM			
SIZE	SWBS	DRAWING NO.	REV
H	601	5E1-001-D001	P5
CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 8 OF 13			

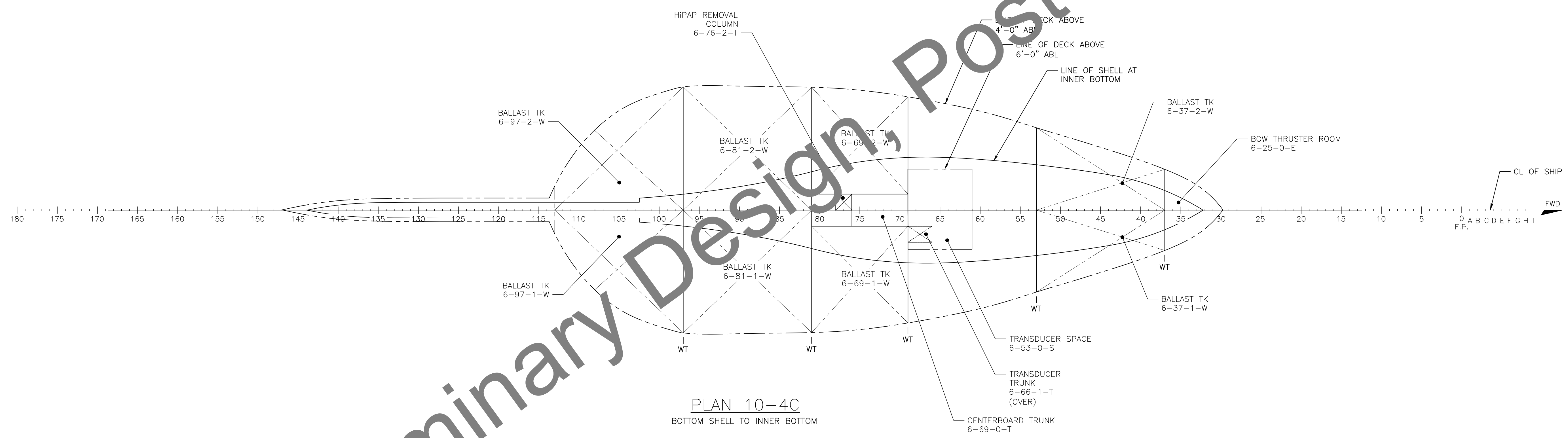
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TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
PLANS INNER BOTTOM AND TANK TOP			
SIZE	SWBS	DRAWING NO.	REV
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CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 9 OF 13			

Preliminary Design, Post ID R5

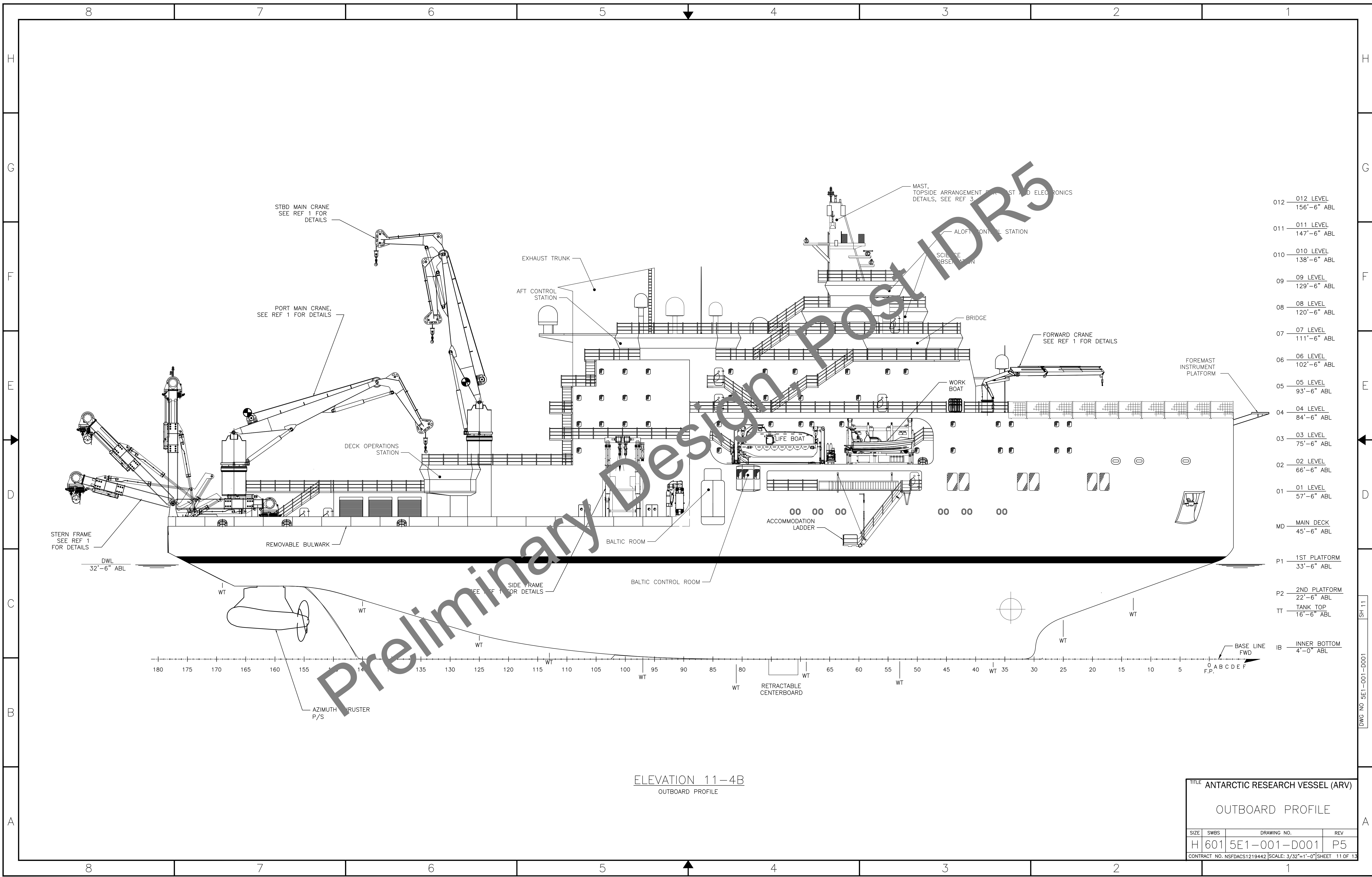
Preliminary Design, Post IDR5



PLAN 10-4C
BOTTOM SHELL TO INNER BOTTOM

TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
PLANS HOLD AND BOX KEEL			
SIZE	SWBS	DRAWING NO.	REV
H	601	5E1-001-D001	P5
CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 10 OF 13			

DWS NO 5E1-001-D001 SH 10



STBD MAIN CRANE
SEE REF 1 FOR
DETAILS

PORT MAIN CRANE
SEE REF 1 FOR
DETAILS

DECK OPERATIONS
STATION

STERN FRAME
SEE REF 1
FOR DETAILS

DWL
32'-6" ABL

REMOVABLE BULWARK

SIDE FRAME
SEE REF 1 FOR DETAILS

BALTIC CONTROL ROOM

AZIMUTH CRUSTER
P/S

EXHAUST TRUNK

AFT CONTROL
STATION

BALTIC ROOM

ACCOMMODATION
LADDER

RETRACTABLE
CENTERBOARD

MAST,
TOPSIDE ARRANGEMENT
ELECTRONICS
DETAILS, SEE REF 3

ALOFT CONTROL STATION

SCIENCE
OBSERVATION

BRIDGE

FORWARD CRANE
SEE REF 1 FOR
DETAILS

WORK
BOAT

FOREMAST
INSTRUMENT
PLATFORM

012 012 LEVEL
156'-6" ABL

011 011 LEVEL
147'-6" ABL

010 010 LEVEL
138'-6" ABL

09 09 LEVEL
129'-6" ABL

08 08 LEVEL
120'-6" ABL

07 07 LEVEL
111'-6" ABL

06 06 LEVEL
102'-6" ABL

05 05 LEVEL
93'-6" ABL

04 04 LEVEL
84'-6" ABL

03 03 LEVEL
75'-6" ABL

02 02 LEVEL
66'-6" ABL

01 01 LEVEL
57'-6" ABL

MD MAIN DECK
45'-6" ABL

P1 1ST PLATFORM
33'-6" ABL

P2 2ND PLATFORM
22'-6" ABL

TT TANK TOP
16'-6" ABL

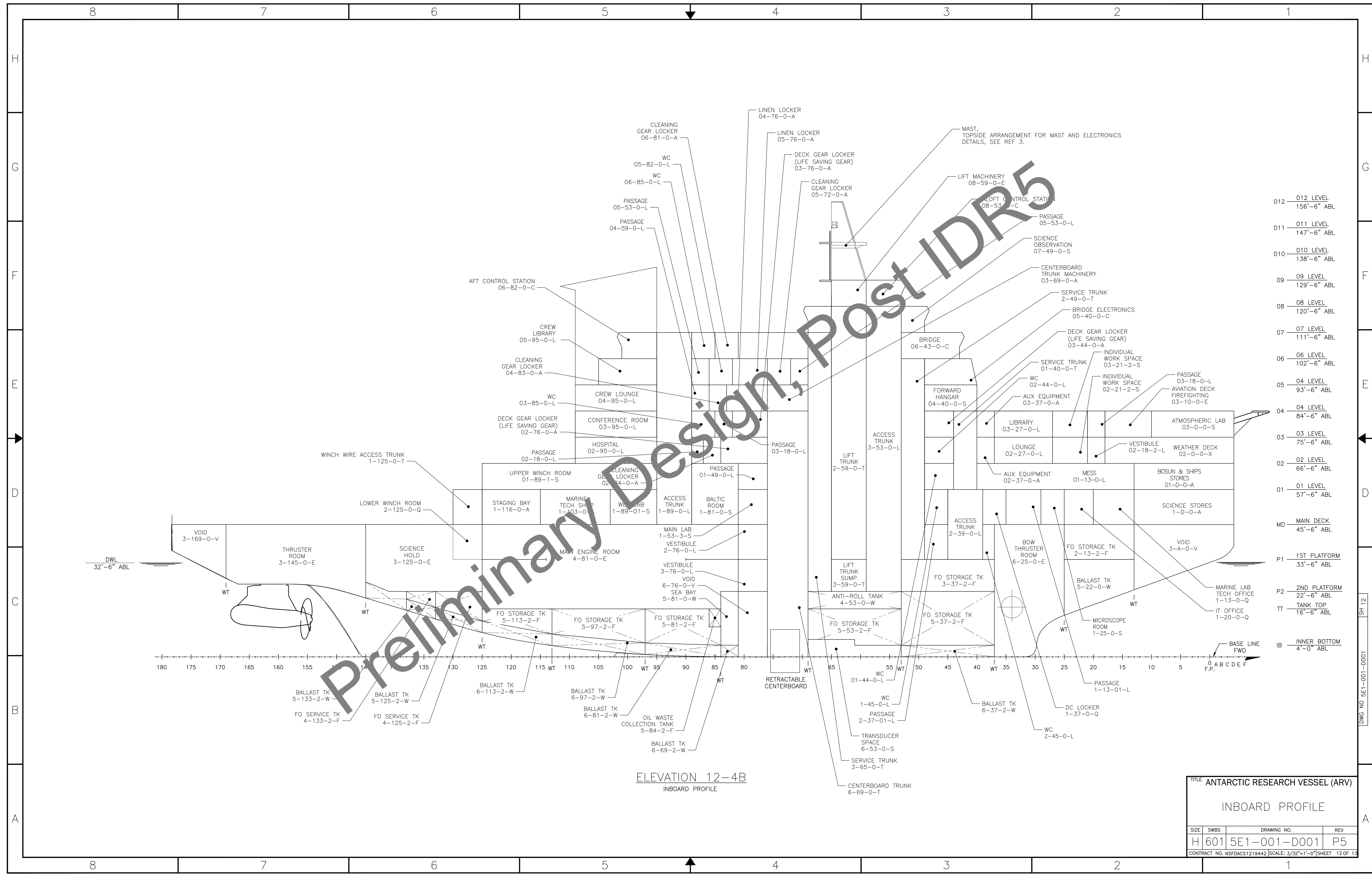
IB INNER BOTTOM
4'-0" ABL

180 175 170 165 160 155 150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 A B C D E F

ELEVATION 11-4B
OUTBOARD PROFILE

TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
OUTBOARD PROFILE			
SIZE	SWBS	DRAWING NO.	REV
H	601	5E1-001-D001	P5
CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 11 OF 13			

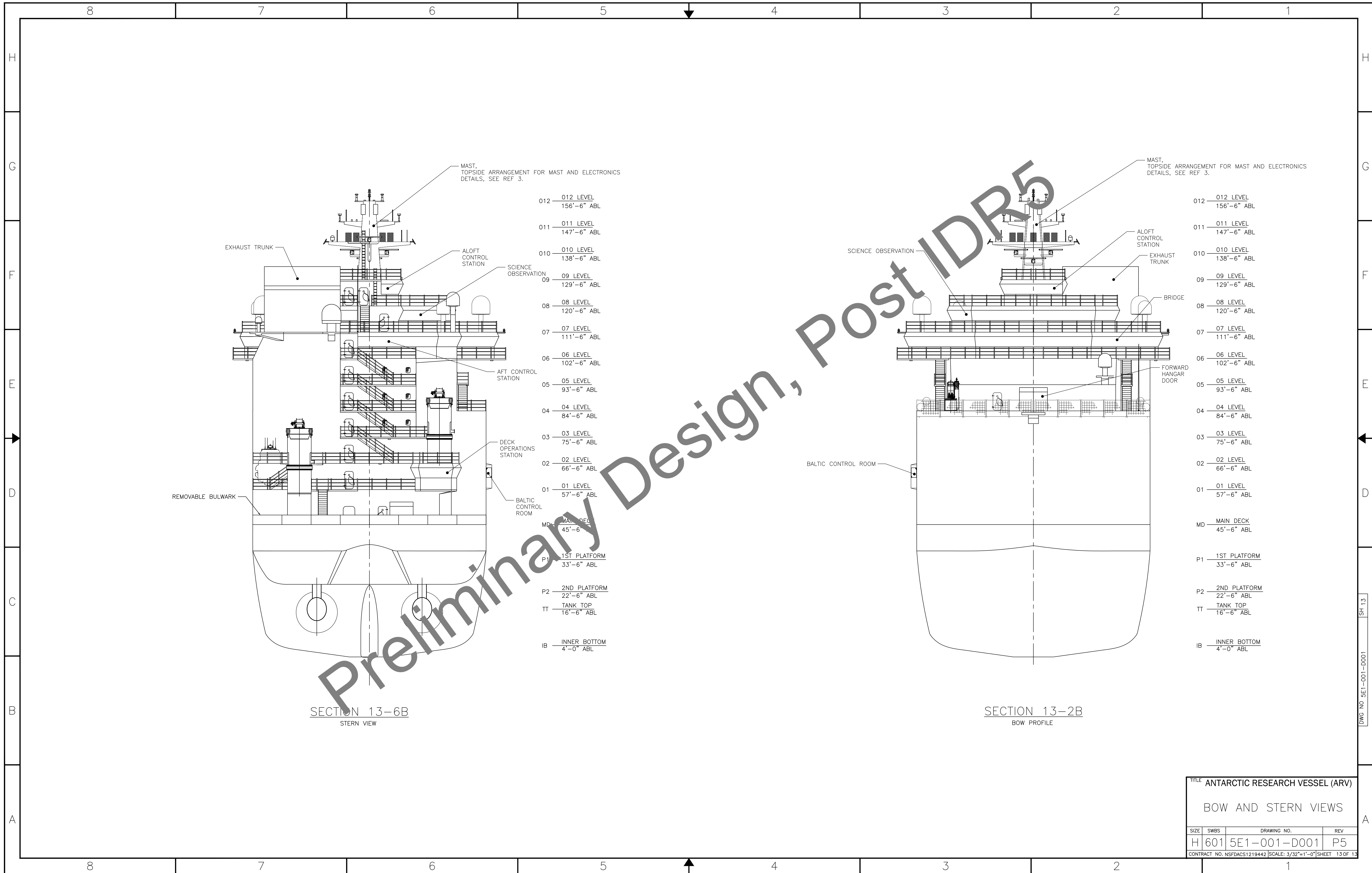
DWG NO 5E1-001-D001 SH 11



ELEVATION 12-4B
INBOARD PROFILE

TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
INBOARD PROFILE			
SIZE	SWBS	DRAWING NO.	REV
H	601	5E1-001-D001	P5
CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 12 OF 13			

DWS NO 5E1-001-D001 5A 12



TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
BOW AND STERN VIEWS			
SIZE	SWBS	DRAWING NO.	REV
H	601	5E1-001-D001	P5
CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 13 OF 13			

DWS NO 5E1-001-D001 SH 13