

GENERAL NOTES

1. BACKGROUNDS DEPICTED ON THIS DRAWING REFLECT REFERENCE 1, REV P5.
2. FRAME SPACING IS 2'-0". LONGITUDINAL SPACING IS 2'-0".
3. FINAL ANTENNA PATTERN ASSESSMENT TO BE COMPLETED UPON RECEIPT OF VFI.
4. EMI IMPACTS TO BE EVALUATED UPON RECEIPT OF VFI.
5. SMALL BOAT OPERATIONS: SMALL BOAT OPERATIONS SUPPORTING SCIENCE ARE DETAILED ON REFERENCE 2.
6. LIFESAVING: LIFESAVING EQUIPMENT ARE DETAILED ON REFERENCE 3.
7. DEPLOYED/WORKING REACH OF ALL HANDLING SYSTEMS ARE DETAILED ON REFERENCE 2.
8. NAVIGATION LIGHT PLACEMENT IS TO BE IN ACCORDANCE WITH THE COLREGS.
9. THE MAIN MAST SHALL BE PROVIDED WITH THE CAPABILITY OF SUPPORTING FIVE (5) SCIENTIFIC PACKAGES EACH WEIGHING 100 POUNDS WITH A VOLUME OF TWO (2) FEET WIDE BY TWO (2) FEET LONG BY THREE (3) FEET HIGH.
10. DECK SOCKETS ON THE WORKING DECK AREAS ARE DETAILED ON REFERENCE 4.
11. ALL ABBREVIATIONS USED ON THIS DRAWING ARE IN ACCORDANCE WITH ASME Y14.38 (2007 VERSION) EXCEPT AS SHOWN IN THE ABBREVIATIONS TABLE.
12. FOREMAST PLATFORM FITTED WITH 1/2 INCH DIAMETER BOLT SOCKETS ON A 1 FT X 1 FT GRID PATTERN FOR METEOROLOGICAL INSTRUMENTATION.
13. WEATHER DECK FORWARD OF THE MAIN MAST FITTED WITH 1/2 INCH DIAMETER BOLT SOCKETS ON A 1 FT X 1 FT GRID PATTERN FOR METEOROLOGICAL INSTRUMENTATION.
14. MAST ARRANGEMENTS TO BE MODIFIED BASED ON FINAL VFI SELECTION AS DESIGN DEVELOPMENT CONTINUES.
15. SCIENCE PLATFORM FITTED WITH BOLT SOCKETS SHALL BE 1/2 INCH DIAMETER, ARRANGED ON 12-INCH CENTERS.

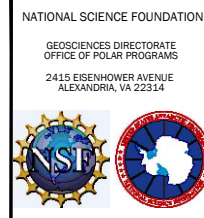


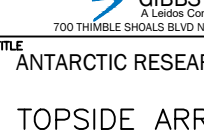
PRINCIPAL CHARACTERISTICS	
DESCRIPTION	VALUE
LENGTH, OVERALL	365'
BEAM	80'
DESIGN DRAFT	32'-6"
DRAFT AT SIDE	28'

ABBREVIATIONS TABLE	
COLREGS	CONVENTION ON THE INTERNATIONAL REGULATIONS PREVENTING COLLISIONS AT SEA, 1972
DK	DECK
FBB	FLEET BROADBAND
FC	FORWARD CRANE
GX	GLOBAL XPRESS
HC1	PORT MAIN CRANE
HC2	STBD MAIN CRANE
LEO	LOW EARTH ORBIT
P/S	PORT AND STBD
PIR	PRECISION INFRARED PYRANOMETERS
RM	ROOM
SAT	SATELLITE
SF	SIDE FRAME
STP	STANDARD PRECISION PYRANOMETER
STF	STERN FRAME
UAS	UNCREWED AERIAL SYSTEMS
VSAT	VERY SMALL APERTURE TERMINAL

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
ALL	P0	INITIAL ISSUE	7/11/22	DR
ALL	P1	SHEETS 1-8: REVISED IN THEIR ENTIRETY TO SUIT LEIDOS COMMENTS. DELETED RESERVATION NO.1	9/23/22	DR
ALL	P2	SHEETS 1-8: REVISED IN THEIR ENTIRETY TO SUIT LEIDOS COMMENTS.	12/19/22	DR
ALL	P3	SHEETS 1-8: REVISED IN THEIR ENTIRETY TO MATCH GENERAL ARRANGEMENT REV P4 AND SUIT DR4 COMMENTS. REVISED GN 16. REMOVED RESERVATIONS, REVISED REFERENCE 4. SHEET 7 "BRIDGE WINDOW VIEW AND UNOBSTRUCTED VIEW OF BOW DETAILS" REPLACED WITH "FIELD OF VISION PROFILE AFT".	06/28/23	DR
ALL	P4	SHEETS 1-8: REVISED DEPICTION OF FN 4 AND FN 20. UPDATED BACKGROUNDS TO MATCH CHANGES TO REFERENCE 1. DELETED GN 2. REVISED NUMBERING OF GN 15 TO 2 & 16 TO 15. REVISED GN 1, 3 & 4.	09/12/23	DR

SHEET INDEX	
SH	REV
1	P4
2	P4
3	P4
4	P4
5	P4
6	P4
7	P4
8	P4

NO.	TITLE	DWG/DOC NO.
5	ARV PERFORMANCE SPECIFICATION	-
4	STRUCTURAL DESIGN REPORT	SE1-061-R001
3	LIFESAVING	SE1-403-D001
2	HANDLING SYSTEMS AND SCIENTIFIC PACKAGE DEPLOYMENT	SE1-580-D001
1	GENERAL ARRANGEMENT	SE1-001-D001

 <p>NATIONAL SCIENCE FOUNDATION GEORGETOWN DIRECTORATE OFFICE OF POLAR PROGRAMS 2415 EDESHOWER AVENUE BASKINGGAP, VA 22514</p>	 <p>leidos 1750 PRESIDENTS STREET RESTON, VA 20190 USA</p>
 <p>GIBBS & COX A Leidos Company 2415 EDESHOWER AVENUE BASKINGGAP, VA 22514</p>	 <p>ANTARCTIC RESEARCH VESSEL (ARV) TOPSIDE ARRANGEMENT</p>
<p>PREPARED BY: [Name] 06/16/22</p> <p>CHECKED BY: [Name] 06/17/22</p> <p>DESIGNED BY: [Name] 06/17/22</p> <p>APPROVED BY: [Name] 06/16/22</p>	<p>SIZE: SWBS DRAWING NO.: REV</p> <p>H 002 SE1-002-D101 P4</p> <p>CONTRACT NO. NSFDACS1218442 SCALE: NONE SHEET 1 OF 8</p>

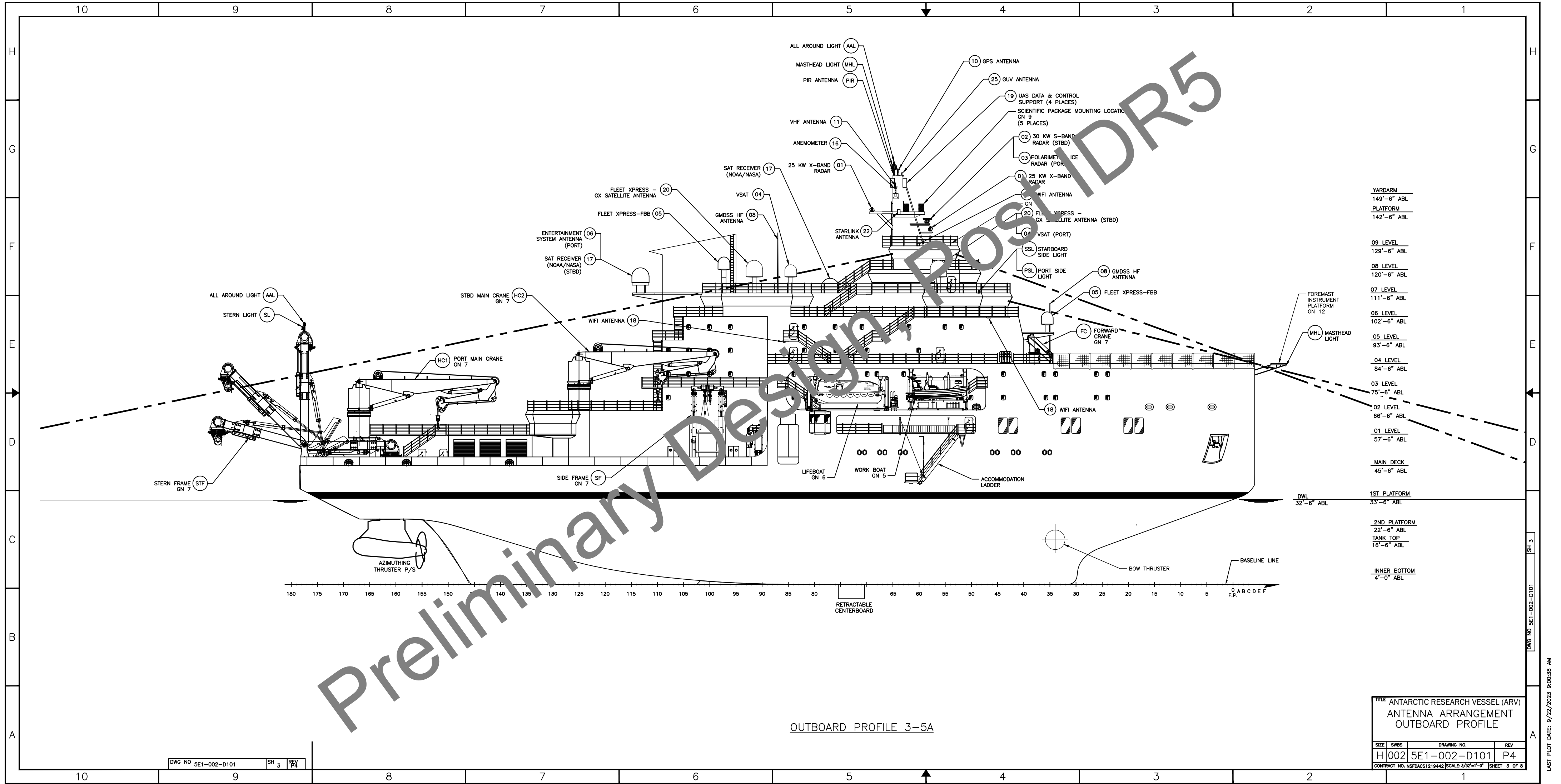
DWG NO SE1-002-D101 SH 1 REV

ANTENNA INFORMATION										NON-ANTENNA EQUIPMENT				
FIND NO.	QTY REQD	UNIQUE ID	MODEL	DESCRIPTION	SYSTEM	FRAME NUMBER	LIGHTING FOR ANTENNA	FOREMAST (F) MAIN MAST (M) DECK (D) HOUSE SIDE (H)	BASE HEIGHT ABOVE 07 LVL (110.75 FT) "INCHES"	ITEM	QTY	MODEL/MATERIAL	DESCRIPTION	FRAME NUMBER
01	2	TBD	TBD	25 KW X-BAND RADAR	-	58 69	-	M	241.9	STF	1	TBD	STERN FRAME	177
02	1	TBD	TBD	30 KW S-BAND RADAR	-	53.6	-	M	301.4	F	1	TBD	SIDE FRAME	104.5
03	1	TBD	TBD	POLARIMETRIC ICE RADAR	-	53.6	-	M	301.4	C	1	TBD	FORWARD CRANE	38
04	2	TBD	TBD	C-BAND VSAT ANTENNA	-	55 85	-	D	36.7 62.5 (BELOW)	HC1	1	TBD	PORT MAIN CRANE	167
05	2	TBD	TBD	FLEET XPRESS-FBB ANTENNA	-	37 97.6	-	D	12 (BELOW)	HC2	1	TBD	STBD MAIN CRANE	125
06	1	TBD	TBD	ENTERTAINMENT SYSTEM ANTENNA	-	112	-	D	21 (BELOW)	PIR	1	TBD	PRECISION INFRARED PYRANOMETER	65
07	1	TBD	TBD	GMDSS SYSTEM INMARSAT ANTENNA	-	61.3	-	M	431.2	SPP	1	TBD	STANDARD PRECISION PYRANOMETER	65
08	2	TBD	TBD	GMDSS SYSTEM HF ANTENNA	-	35 87	-	D	92 (BELOW)	MHL	3	TBD	MASTHEAD LIGHT	J, 65
09	2	TBD	TBD	GMDSS SYSTEM VHF ANTENNA	-	63 PS	-	M	370.6	SL	1	TBD	STERN LIGHT	177
10	2	TBD	TBD	GPS ANTENNA	-	64 PS	-	M	445.4	AAL	2	TBD	ALL AROUND LIGHT	65, 177
11	2	TBD	TBD	VHF ANTENNA	-	65 PS	-	M	445.4	PSL	1	TBD	PORT SIDE LIGHT	48.5
12	1	TBD	TBD	UHF ANTENNA	-	63	-	M	370.6	SSL	1	TBD	STARBOARD SIDE LIGHT	48.5
13	1	TBD	TBD	AIS ANTENNA	-	63	-	M	370.6					
14	1	TBD	TBD	VOYAGE DATA RECORDER	-	54	-	D	118					
15	1	TBD	TBD	BAROMETER	-	61.3	-	M	431.2					
16	2	TBD	TBD	ANEMOMETER	-	61.3 PS	-	M	445.4					
17	2	TBD	TBD	SATELLITE RECEIVER (NOAA/NASA FOR HRPT, DMSP, MODIS, AQUA)	-	77 113	-	D	97.8 2.0 (BELOW)					
18	7	TBD	TBD	WIFI ANTENNA	-	-	-	H	VARIES					
19	4	TBD	TBD	UAS DATA & CONTROL SUPPORT	-	63 PS	-	M	458.2					
20	2	TBD	TBD	FLEET XPRESS - CX SATELLITE ANTENNA	-	56 92	-	D	36.0					
21	2	TBD	TBD	LEO SATELLITE ANTENNA	-	61	-	M	352.7					
22	2	TBD	TBD	STARLINK ANTENNA (PORT/STARBOARD)	-	63.5 PS	-	H	235.6 (BELOW)					
23	4	TBD	TBD	SEAPATH GPS ANTENNA	-	60.2 PS 65 PS	-	M	405					
24	1	TBD	TBD	PAR PHOTOSYNTHETICALLY ACTIVE RADIATION	-	91.5	-	M	405					
25	1	TBD	TBD	GUV GROUND BASED UV	-	91.5	-	M	549					
26	1	TBD	TBD	PRR PROFILING REFLECTANCE RADIOMETER	-	92.2	-	M	549					

Preliminary Design, Post IDR5

TITLE: ANTARCTIC RESEARCH VESSEL (ARV)			
NON-ANTENNA EQUIPMENT AND ANTENNA INFORMATION TABLES			
SIZE	SWBS	DRAWING NO.	REV
H	002	5E1-002-D101	P4
CONTRACT NO. NSFDACS1219442			SCALE: NONE
			SHEET 2 OF 8

DWG NO 5E1-002-D101 SH 2 REV

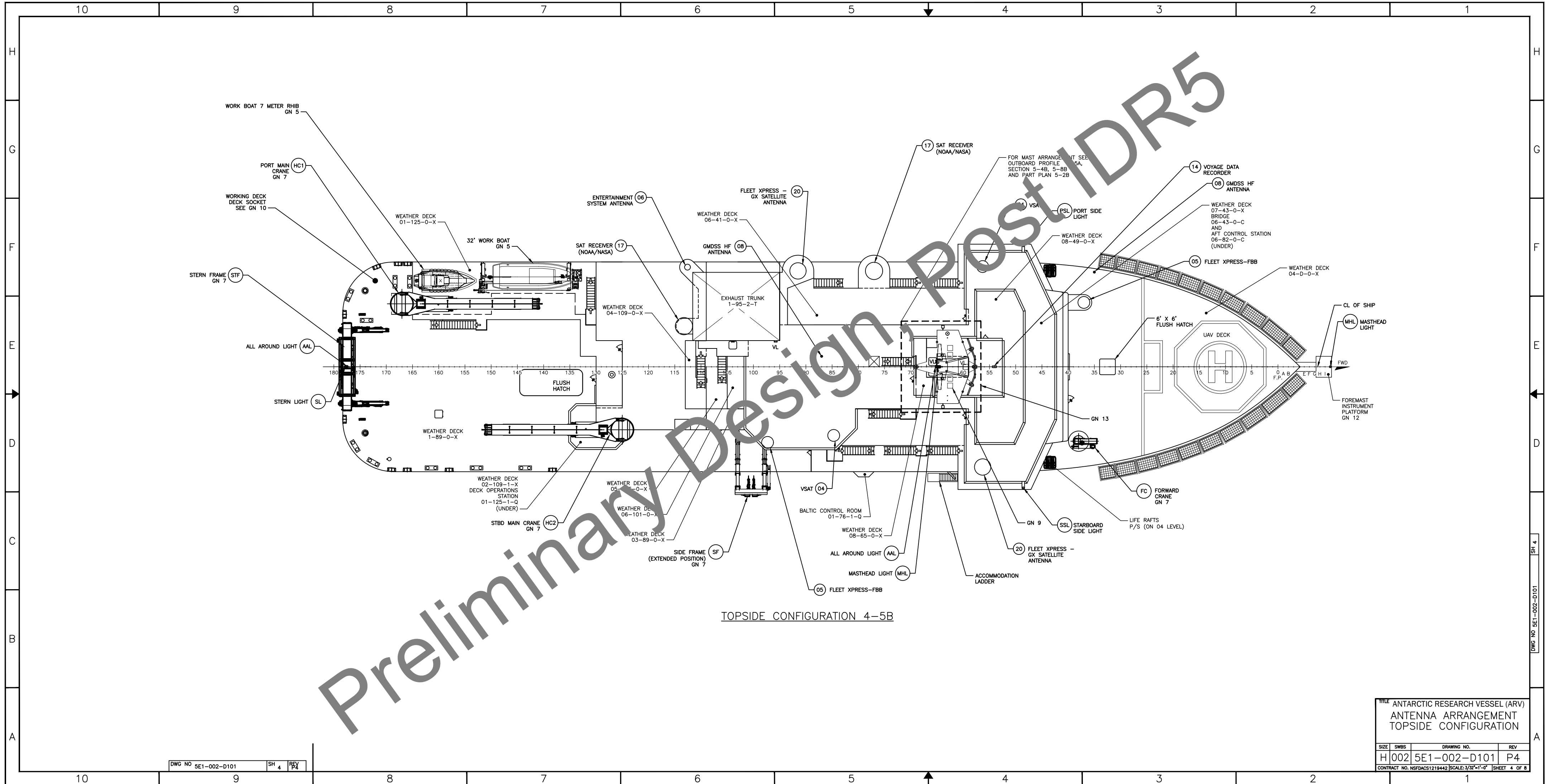


Preliminary Design Post-DR5

OUTBOARD PROFILE 3-5A

TITLE		ANTARCTIC RESEARCH VESSEL (ARV)	
PROJECT		ANTENNA ARRANGEMENT	
DRAWING NO.		H 002 5E1-002-D101	
SCALE		3/32" = 1'-0"	
SHEET		3 OF 8	

DWG NO.	SE1-002-D101	SH	3
REV			

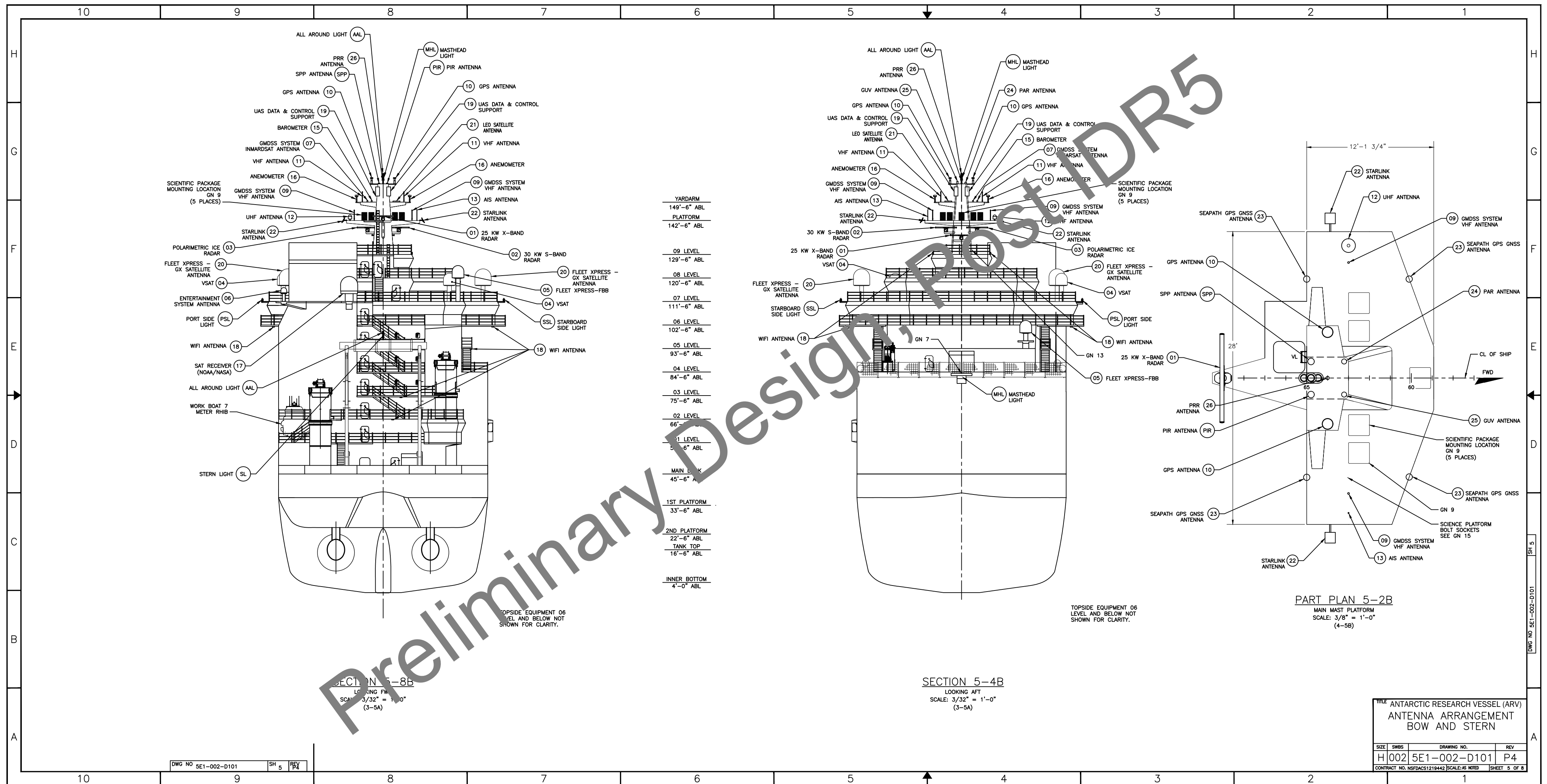


TOPSIDE CONFIGURATION 4-5B

TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
ANTENNA ARRANGEMENT			
TOPSIDE CONFIGURATION			
SIZE	SWBS	DRAWING NO.	REV
H002	5E1-002-D101	P4	
CONTRACT NO. NSFDACS1210442 SCALE: 3/32"=1'-0" SHEET 4 OF 8			

DWG NO SE1-002-D101 SH 4 REV

LAST PLOT DATE: 9/22/2023 9:00:39 AM



YARDARM
 149'-6" ABL
 PLATFORM
 142'-6" ABL

09 LEVEL
 129'-6" ABL

08 LEVEL
 120'-6" ABL

07 LEVEL
 111'-6" ABL

06 LEVEL
 102'-6" ABL

05 LEVEL
 93'-6" ABL

04 LEVEL
 84'-6" ABL

03 LEVEL
 75'-6" ABL

02 LEVEL
 66'-6" ABL

01 LEVEL
 57'-6" ABL

MAIN DECK
 45'-6" ABL

1ST PLATFORM
 33'-6" ABL

2ND PLATFORM
 22'-6" ABL
 TANK TOP
 16'-6" ABL

INNER BOTTOM
 4'-0" ABL

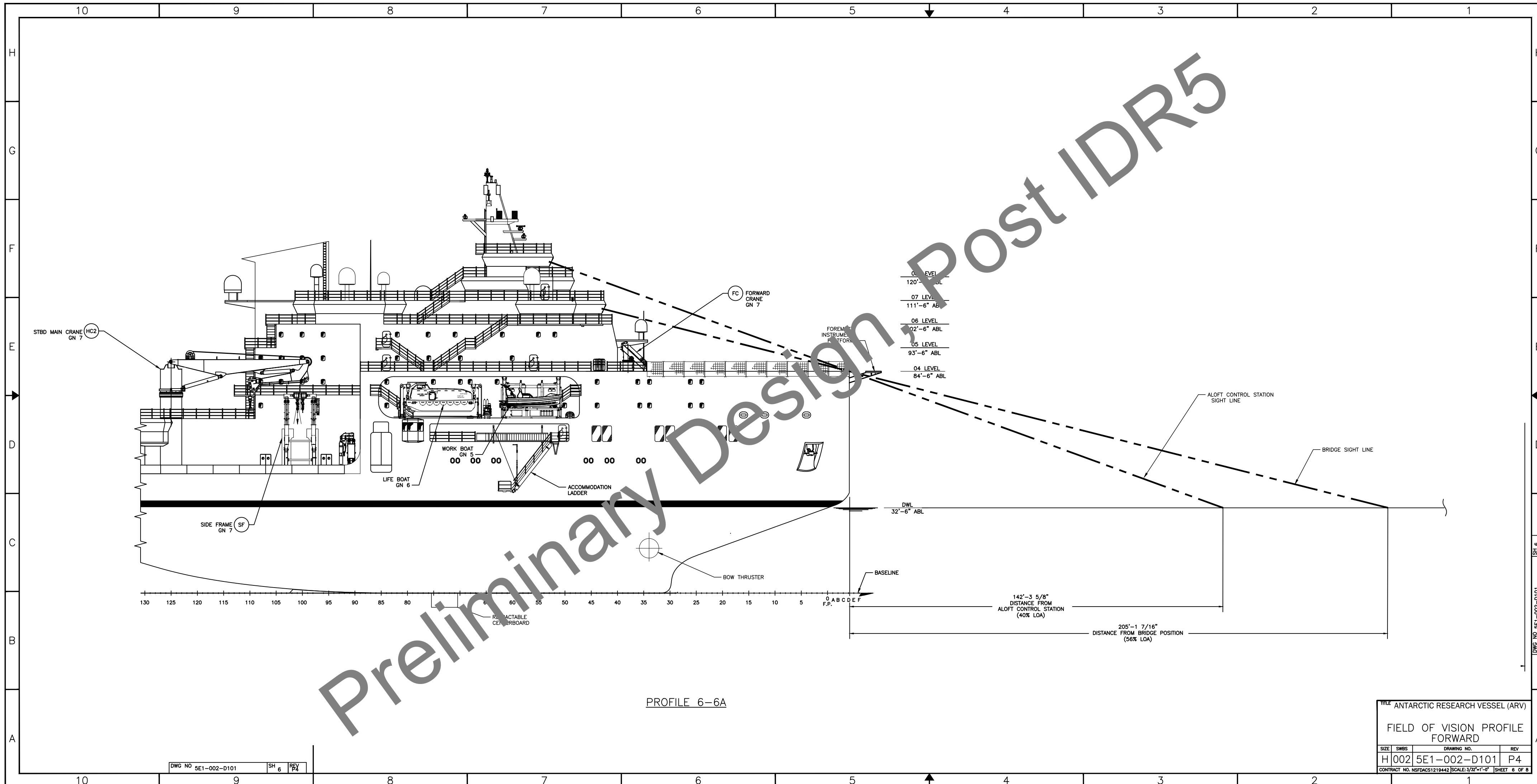
SECTION 5-4B
 LOOKING AFT
 SCALE: 3/32" = 1'-0"
 (3-5A)

PART PLAN 5-2B
 MAIN MAST PLATFORM
 SCALE: 3/8" = 1'-0"
 (4-5B)

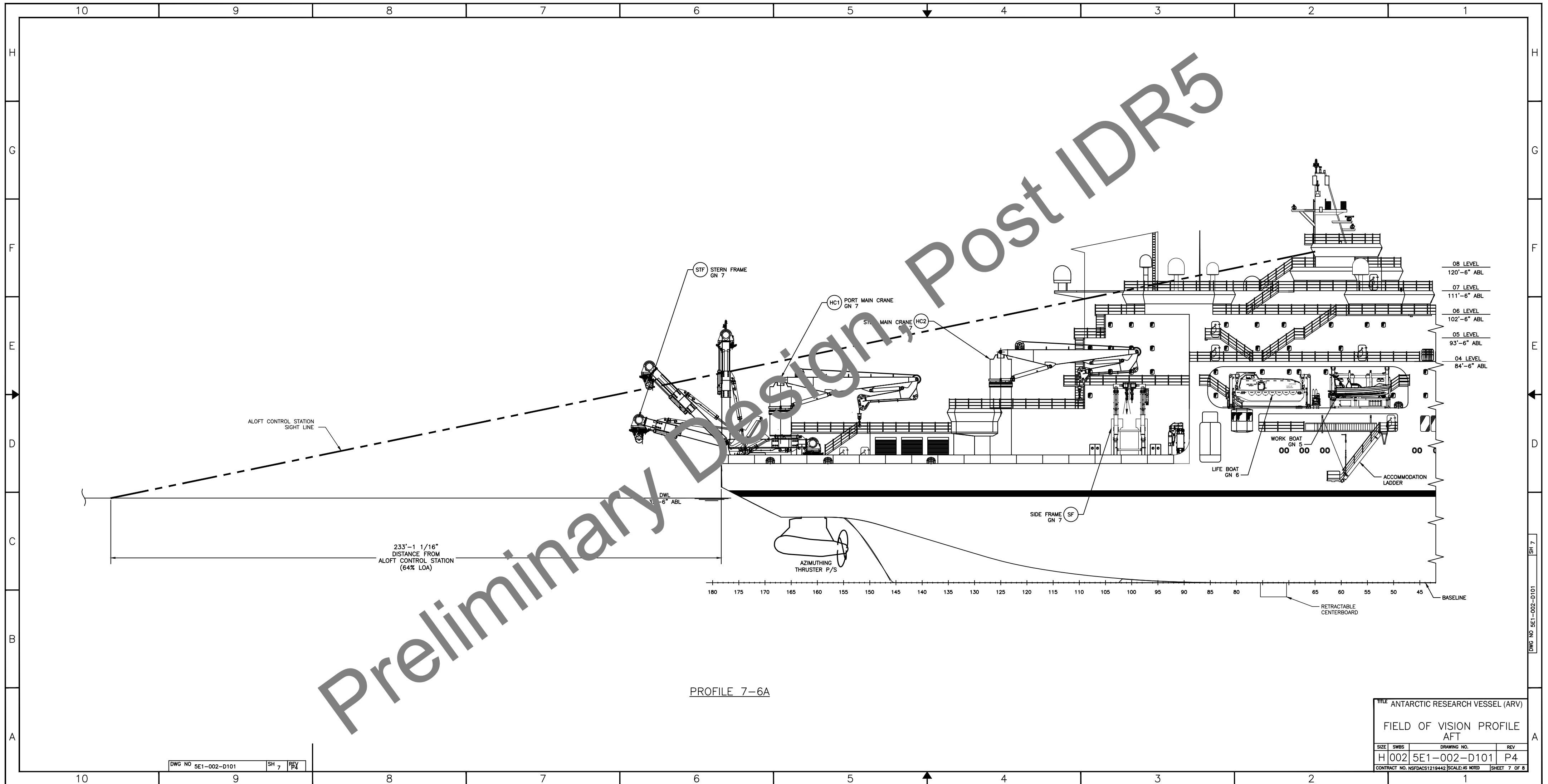
TITLE ANTARCTIC RESEARCH VESSEL (ARV) ANTENNA ARRANGEMENT BOW AND STERN			
SIZE	SWBS	DRAWING NO.	REV
H	002	5E1-002-D101	P4
CONTRACT NO. NSFDACS1219442 SCALE: AS NOTED SHEET 5 OF 8			

Preliminary Design, POST-DR5

Preliminary Design, Post IDR5



TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
FIELD OF VISION PROFILE FORWARD			
SIZE	SWBS	DRAWING NO.	REV
H 002	5E1-002-D101	P4	
CONTRACT NO. NSFDACS1219442 SCALE: 3/32"=1'-0" SHEET 6 OF 8			



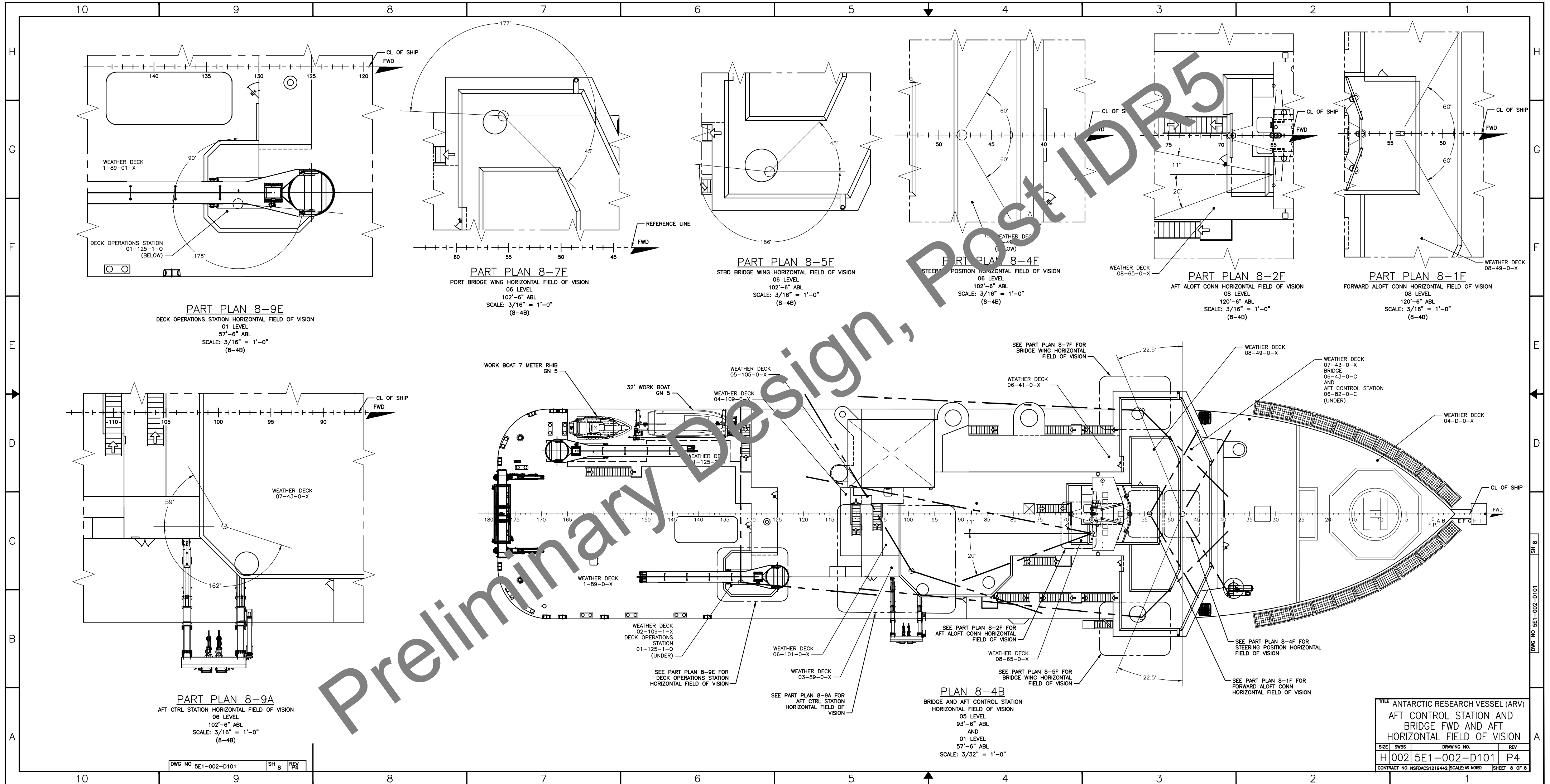
Preliminary Design, Post IDR5

PROFILE 7-6A

- 08 LEVEL
120'-6" ABL
- 07 LEVEL
111'-6" ABL
- 06 LEVEL
102'-6" ABL
- 05 LEVEL
93'-6" ABL
- 04 LEVEL
84'-6" ABL

TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
FIELD OF VISION PROFILE AFT			
SIZE	SWBS	DRAWING NO.	REV
H 002	5E1-002-D101	P4	
CONTRACT NO. NSFDACS1218442 SCALE: AS NOTED SHEET 7 OF 8			

DWG NO 5E1-002-D101 SH 7 REV



TITLE ANTARCTIC RESEARCH VESSEL (ARV)			
AFT CONTROL STATION AND BRIDGE FWD AND AFT HORIZONTAL FIELD OF VISION			
SIZE	SWBS	DRAWING NO.	REV
H	002	5E1-002-D101	P4
CONTRACT NO. NSFDACS1219442 SCALE: AS NOTED SHEET 8 OF 8			