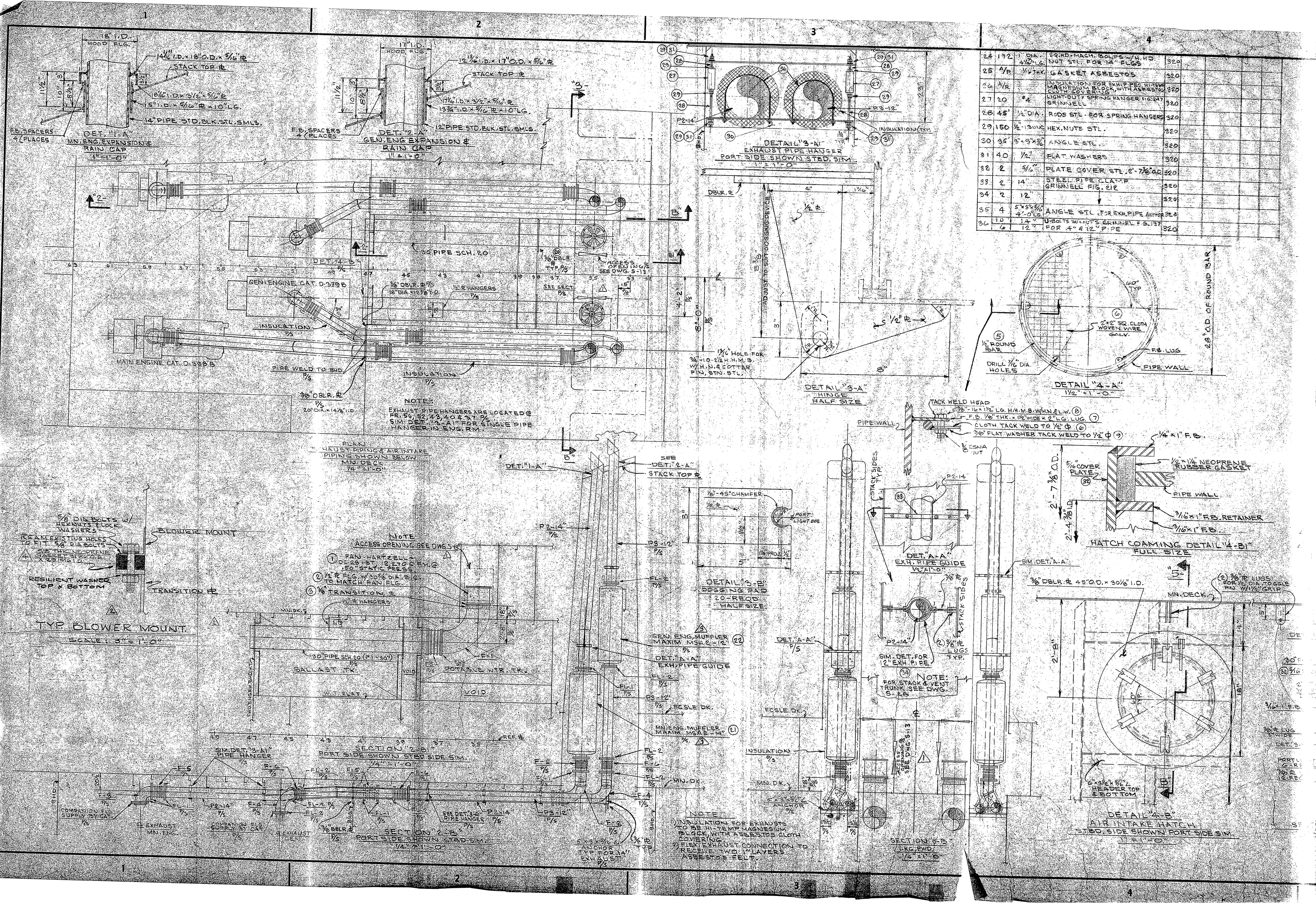

24	192	1 DIA. x 4½" LG.	8 RHD. MACH. BOLTS W/H. HD. NUT STL. FOR 14" FLGS.	320								
25	A/R	1/16 THK.	GASKET ASBESTOS	320								
26	A/R		INSULATION FOR EXH. PIPE: HINGES, MASHBLOCK BLOCK WITH ASBESTOS CLOTH COVERING	320								
27	20	#4	LIGHT-DUTY SPRING HANGER FIG. 247 GRINNELL	320								
28	45'	½" DIA.	RODS STL. - FOR SPRING HANGERS	320								
29	150	½" - 13 UNC	HEX. NUTS STL.	320								
30	96'	5" x 3" x 5/16"	ANGLE STL.	320								
31	40	½"	FLAT WASHERS	320								
32	2	5/16"	PLATE COVER STL. 2'-7 7/8" O.D.	320								
33	2	14"	STEEL PIPE CLAMP GRINNELL FIG. 212	320								
34	2	12"		320								
35	4	5" x 3" x 5/16" 4'-0" LG.	ANGLE STL. FOR EXH. PIPE ANCHOR	320								
36	10	14"	U-BOLTS W/NUTS S. GRINNELL FIG. 137	320								
	6	12"	FOR 14" & 12" PIPE	320								

MATERIAL

ITEM	QUAN.	SIZE	DESCRIPTION	MOD. SPEC.	VER.	DATE	MOD. SPEC.
F-1	42'	30"	PIPE B.E. ST. S-10, SCH. 20 ASTM A-53 GR. B	320			
F-1	135	4"					
P3	115	12"					
F-1	2	30"	90° ELBOW W/ LG. SIM. STL. SCH. 20 & ASTM A-53 GR. B	320			
F-2	2	4"	90° ELBOW W/ LG. & W. BLK. STL. SIM. S-10 ASTM A-53 GR. B	320			
F-3	2	14"	90° ELBOW W/ LG. & W. BLK. STL. SIM. S-10 ASTM A-53 GR. B	320			
F-4	2	12"	90° ELBOW W/ LG. & W. BLK. STL. SIM. S-10 ASTM A-53 GR. B	320			
F-5	2		90° ELBOW W/ LG. & W. BLK. STL. SIM. S-10 ASTM A-53 GR. B	320			
F-6	6	12"	FLG. W/ F.F. STL. 12 SR ASTM A-181 GR. 1				
	6	4"	FLG. W/ FF STL. 12 SR ASTM A-181 GR. 1				
F-2	2	12"	FLG. W/ FF STL. 12 SR ASTM A-181 GR. 1				
	2	28"	BLOWER - ASTEEL - No. 22-SF & 22-SF SIM. FF STL. 12 SR				
2	2	1/2 THK.	PLATE - ST. B.E. ST. O.D. OF 28" & 2'-7 7/8" O.D. HOLES ON 30 1/8" DIA. B.C.				
3	2	3/8" THK.	TRANSITION ⌀				
4	12	3/8" DIA. x 1" LG.	SQ. HD. MACH. BOLTS W/ H. NUT STL. (FOR BLOWER FLG.)				
5	5'	1/2" DIA.	ROUND BAR C.R.S.				
6	5 SQ. FT.	2' x 2' SQ.	CLOTH WOVEN WIRE GALV.				
7	12	1/8" THK.	F.B. LUG STL. 1/2" WIDE x 2" LG.				
8	12	3/8" - 16 x 1/2" LG.	H. HD. MACH. BOLT W/ H. NUT & L.W. STL. (ESNA NUT)				
9	12	3/8"	FLAT WASHER STL.				
10	20'	1/16" x 1"	FLAT BAR STL. FOR LOUVER COVER & AIR INTAKE HATCH COVER				
11	20'	3/16" x 1"	FLAT BAR STL. FOR LOUVER COVER & AIR INTAKE HATCH COVER				
12	12		PORT LIGHT DOGS				
13	5 SQ. FT.	1/2"	PLATE STL.				
14	2 SQ. FT.	3/8"	PLATE STL.				

			1/16" x 1" x 1" NEOPRENE RUBBER GASKET		
4	3/4" - 10 x 2 1/2" LG.	H. HD. MACH. BOLT W/ H. HD. NUT & COTTER PIN. STN. STL. FOR HINGE			
2	1/2" DIA.	TOGGLE PIN W/ 1 1/2" GRIP			
6	3/8"	DBLR. ⌀ 45" O.D. x 30 1/8" I.D.			
2	14"	EXHAUST MUFFLER MAXIM MSA 2-14" W/ SPARK ARRESTOR			
2	12"	EXHAUST MUFFLER MAXIM MSA 2-12" W/ SPARK ARRESTOR			
216	3/8" DIA. 4" LG.	SQ. HD. MACH. BOLT W/ H. HD. NUT STL. FOR 12" FLGS.	320		

CONT.

SYM	DESCRIPTION	DATE	BY
6	FINAL AS BUILT	1/15/74	[illegible]
5	AS BUILT	9/9/73	[illegible]
4	REV. TYP. BLOWER MOUNT DET.	11/1/72	[illegible]
3	REV. MIN. ENG. & GEN. ENG. EXH. MUFFLER TO MSC 2-10 BILL OF MATL. PER SPEC.	8/8/72	[illegible]
2	ADDED BLOWER MOUNT DETAILS DELETED LOUVER DET. & REV. B/W. HD. NUT	5/2/72	[illegible]
1	REV. LOUVER LOCATION FOR BLOWER TO ABOVE FRAME 50K. ADDED NOTE FOR ACCESS OPENING TO BLOWER & NOTE FOR STACK & VENT TRUNK.	2/8/72	[illegible]

REVISIONS

M.O. 11-14-71

APPROVALS

ABS 3-20-78
FCC:
USCG
USPHS

U.S. NAVAL SHIP SYSTEMS COMMAND
WASHINGTON D.C. 20360

OCEANOGRAPHIC RESEARCH SHIP
AGOR (UTILITY) CLASS

HALTER MARINE SERVICES, INC.
P.O. BOX 29266 NEW ORLEANS, LA. 70129

00039

EXHAUST PIPING & VENTILATION

SCALE:	NOTED	DATE:	1-2-73	HALTER DWG. NO.
DRAWN BY:	BERTUCCI	CK'D BY:	JOHNS	
HALTER HULL NO.	576	HALTER JOB NO.	2183	
NAVSHIPS NO.	AGOR 21			

OFFICE

GYRE054