CONFIDENTIAL AND PROPRIETARY PROPERTY OF
ELLIOTT BAY DESIGN GROUP, LLC
MAY NOT BE USED FOR CONSTRUCTION OR PROVIDED TO
ANY THIRD PARTIES WITHOUT PRIOR WRITTEN CONSENT.
© 2026 ELLIOTT BAY DESIGN GROUP.

MATERIAL SCHEDULE

SERVICE	SIZE	PIPE	TAKEDOWN JOINTS			VALVES		FITTINGS	FLEXIBLE CONNECTIONS
			MATERIAL	GASKETS	BOLTING	BODY	TRIM		
HVAC DUCTING	ALL	GALVANIZED CARBON STEEL SHEET METAL ASTM A653 TYPE B, G90, 16 GAUGE SMACNA CONSTRUCTION STANDARDS 11 GAUGE STEEL AT BOUNDARIES	FLANGE: INTEGRAL TO DUCTWORK	VINYL NITRILE SEALS RATED FOR A-CLASS BOUNDARIES	BOLTS: STAINLESS STEEL, ASTM A193, GRADE B8M ANSI B18.2.1 NUTS: STAINLESS STEEL ASTM A194 GRADE 8M ANSI B18.2.2	-	-	GALVANIZED CARBON STEEL SHEET METAIL ASTM A653 TYPE B, G90 SMACNA CONSTRUCTION STANDARDS	-

MATERIAL LIST

EA	SERVICE	MANUFACTURER	MODEL	SIZE	CAPACITY	DRIVE	REMARKS
2	SUPPLY FAN	CENTEK	500-215363-35 / 8	Ø15"	4380 CFM @ 0.5" H20	2 HP, 3460 RPM, TEFC	VFD CONTROLLED
2	ADJUSTABLE SPEED DRIVE	CENTEK	680-YG2300200/1	-	-	208V/1P/60HZ 2 HP	NEMA 1 ENCLOSURE
2	SUPPLY FIRE DAMPER	CENTEK	SLIMLINE 700-A60SL-17	17.375" X 17.375"	-	-	A-60 FIRE RATED
1	MOISTURE ELIMINATOR	CENTEK	800-262125-01	36" X 36"	-	-	FACE DRAIN
1	DISCHARGER FIRE DAMPER	CENTEK	SLIMLINE 700-A60SL-1427	14.375"W X 27.375"	-	-	A-60 FIRE RATED

ENGINE ROOM VENTILATION DESIGN REQUIREMENTS

SYSTEM	ENGINE ROOM VENTILATION	
MAIN ENGINES	2x CAT C18 (600 HP @ 1,800 RPM) 1,433 CFM COMBUSTION AIR PER ENGINE	
GENERATORS	2x NORTHERN LIGHTS 99KW 301 CFM COMBUSION AIR PER GEN	
REQUIRED COMBUSTION AIR	3,468	CFM
REQUIRED COOLING AIR	3,468	CFM
REQUIRED SUPPLY AIR	6,936	CFM
FAN CAPACITY	8,760	CFM
AVAILABLE COOLING AIR	5,292	CFM

GENERAL NOTES

11. DRAINS SHALL BE PROVIDED AT LOW POINTS OF ALL VENTILATION DUCTING FOR COMPLETE DRAINAGE OF ANY WATER TRAPPED IN THE DUCTING SYSTEM.

12. VENTILATION FANS SHALL BE RESILIENTLY MOUNTED USING NOISE/ISOLATION KITS AND INSTALLED WITH FLEXIBLE CONNECTIONS BETWEEN THE FAN HOUSING AND DUCTING.

13. FANS SHALL BE LABELED WITH NAMEPLATES IDENTIFYING THE UNIT, LISTING THE FAN VOLUME IN CUBIC FEET PER MINUTE (CFM), STATIC PRESSURE RATING AT SPECIFIED VOLUME, MOTOR FULL LOAD AMPERAGE, FAN SPEED, AND MOTOR HORSEPOWER. AIRFLOW DIRECTION SHALL BE IDENTIFIED ON THE FAN EXTERIOR BODY.

14. DUCT PENETRATIONS THROUGH BULKHEADS AND DECKS SHALL MAINTAIN THE FIRE INTEGRITY OF THE BOUNDARY BEING PENETRATED.

15. FIRE DAMPERS SHALL BE PROVIDED IN DUCT RUNS AT EACH "A" CLASS DIVISION DUCT PENETRATION.

16. FIRE DAMPERS SHALL BE USCG COMPLIANT AND CONSTRUCTED OF STAINLESS STEEL. DAMPERS SHALL HAVE ELECTRIC ACTUATORS POWER TO OPEN, SPRING CLOSE. CLOSURE STATUS OF THE FIRE DAMPER SHALL BE VISIBLE OUTSIDE THE DUCT. DAMPERS SHALL HAVE A REMOTE OPERATION FROM OUTSIDE THE ENGINE ROOM AND IN ADDITION SHALL BE AUTOMATIC USING A 165°F FUSIBLE LINK. WHERE NECESSARY, AN ACCESS COVER SHALL BE INSTALLED TO ALLOW SERVICE OF THE DAMPER AND FUSIBLE LINK.

17. VENTILATION FANS SHALL SHUT DOWN AND FIRE DAMPERS SHALL CLOSE AUTOMATICALLY UPON RELEASE OF THE FIRE SUPPRESSION SYSTEM.

18. WHERE FANS ARE NOT DUCTED AT ONE END, FIT NON-DUCTED END WITH A BELLMOUTH AND GUARD.

19. ADJUST TERMINAL SIZES AND PROVIDE BALANCING DAMPERS AS REQUIRED TO BALANCE SYSTEM WITHIN 10% OF NOTED AIR FLOWS.

20. SUPPLY FANS SHALL BE DRIVEN BY VARIABLE FREQUENCY DRIVES AND SHALL BE CONTROLLED BY A CENTEK 600-MAC CONTROL SYSTEM LOCALLY IN THE ENGINE ROOM.

21. PROVIDE GALVANIC ISOLATION KITS AT CONNECTIONS BETWEEN DISSIMILAR METALS.

22. ALL GASKETS SHALL BE DESIGNED IN ACCORDANCE WITH 46 CFR 56.60-1. CONTRACTOR TO PROVIDE DOCUMENTATION.

REVISION HISTORY

REV	ZONE	DESCRIPTION	DWN	DATE	APVD

GENERAL NOTES

GENERAL
1. THIS DRAWING PROVIDES CONTRACT GUIDANCE FOR THE CONSTRUCTION OF A NEW 91'-7" x 27'-6" x 12'-2" PATROL VESSEL FOR THE ALASKA WILDLIFE TROOPERS ALONG WITH THE CONTRACT SPECIFICATIONS (REF 1). THIS DRAWING SHALL NOT BE USED FOR THE CONSTRUCTION OF ADDITIONAL VESSELS.

REGULATORY STANDARD
2. WHILE THE VESSEL IS UNINSPECTED BY USCG, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH 46 CFR SUBCHAPTER T. STEEL STRUCTURE SHALL BE CONSTRUCTED TO ABS RULES FOR CONSTRUCTION AND CLASSIFICATION OF STEEL VESSELS UNDER 61 METERS (200 FEET) IN LENGTH. ALUMINUM STRUCTURE SHALL BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 5 OF THE ABS RULES FOR MATERIALS AND WELDING (PART 2).

DETAILS
3. FRAME SPACING IS 24".

4. THIS DRAWING IS DIAGRAMMATIC AND DOES NOT REPRESENT A COMPLETE DETAILED DESIGN. THE CONTRACTOR SHALL DEVELOP A DETAILED DESIGN THAT PROVIDES A FULLY FUNCTIONAL ARRANGEMENT, SUITABLE FOR INSTALLATION, TAKING INTO ACCOUNT ALL NECESSARY SYSTEM INTERFACES AND INTERFERENCES. DIMENSIONS SHALL BE VERIFIED FROM THE SHIP AND MANUFACTURER'S CERTIFIED DRAWINGS AS APPROPRIATE.

5. DUCT VELOCITIES SHALL GENERALLY BE LIMITED TO 3000 FPM.

6. ALL INSTALLED DUCTWORK SHALL BE AIRTIGHT. DUCTWORK SHALL BE MADE OF HOT-DIPPED GALVANIZED STEEL SHEET METAL, WITH THE MINIMUM THICKNESS AND REINFORCEMENT IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. BURNED OFF GALVANIZING SHALL BE REPLACED WITH A SPRAY-ON TYPE GALVANIZING COATING.

7. DUCTS SHALL BE SUITABLY SUPPORTED BY HANGERS SPACED AT REGULAR INTERVALS. RIGIDLY ATTACHED TO SHIP STRUCTURE AND STIFFENED ON THE OUTSIDE TO PREVENT PANTING.

8. DUCTING SHALL BE RUN AS DIRECTLY AS POSSIBLE WITH A MINIMUM NUMBER OF BENDS AND FITTINGS.

9. TAKEDOWN JOINTS SHALL BE PROVIDED AT INTERVALS WHICH ALLOW DISASSEMBLY AND REMOVAL OF DUCTING WITHOUT REMOVAL OR MODIFICATION OF STRUCTURE.

10. DEMISTER AND WEATHER LOUVERS SHALL HAVE STAINLESS STEEL OR ALUMINUM CONSTRUCTION WITH STAINLESS STEEL BUG SCREENS. THEY SHALL BE REMOVABLE AND FASTENED TO SUPERSTRUCTURE WITH STAINLESS STEEL FASTENINGS. SIZE LOUVERS AND DEMISTERS TO SUIT VENTILATION RATE OF THE ENGINE ROOM. WEATHER LOUVERS AND DEMISTERS SHALL BE EQUIPPED WITH WEATHER CLOSURES OPERABLE FROM THE MAIN DECK.

REFERENCES

1. 24065-200-832-0 SPECIFICATION

STATE OF ALASKA
49TH
SARAH E. NICHOLS
ME 146884
REGISTERED PROFESSIONAL ENGINEER
10/7/2026

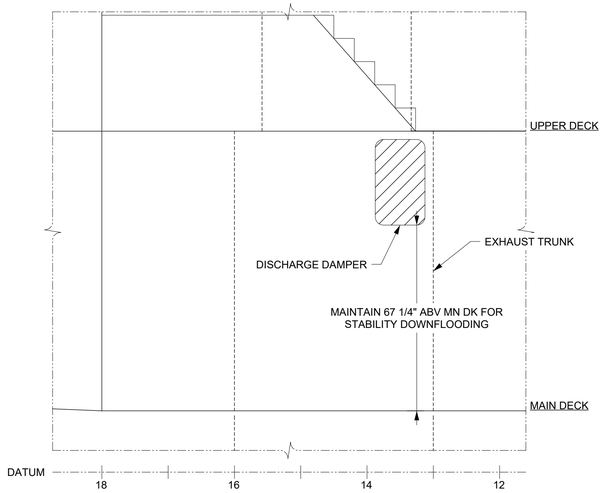
ELLIOTT BAY DESIGN GROUP

CLIENT	ALASKA WILDLIFE TROOPER ANCHORAGE, AK
PROJECT	Large Class Enforcement Vessel
TITLE	ENGINE ROOM AIR SUPPLY AND EXHAUST

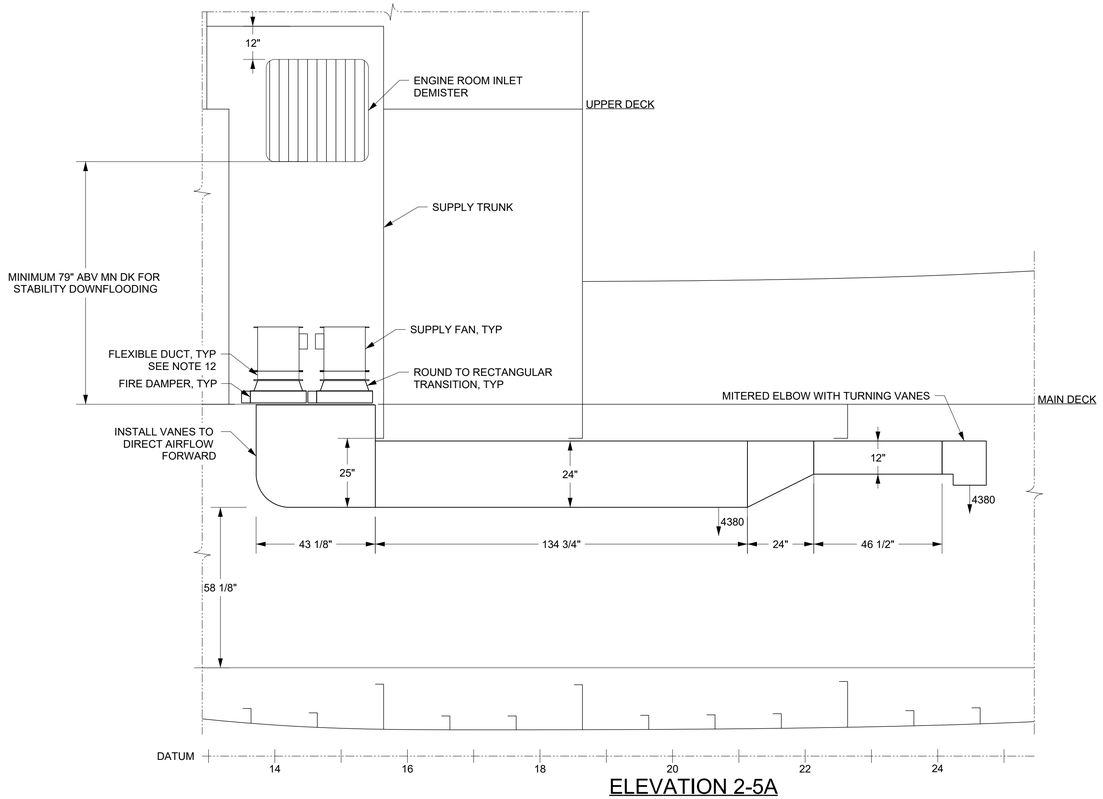
DWN	SEN		
CHK	PTE		
APVD	SEN		
DATE	10/07/26		
SIZE	DWG NO.	REV	SHEET 1 OF 2
D	24065-200-259-2	-	SCALE AS NOTED

10/7/2026 2:08:25

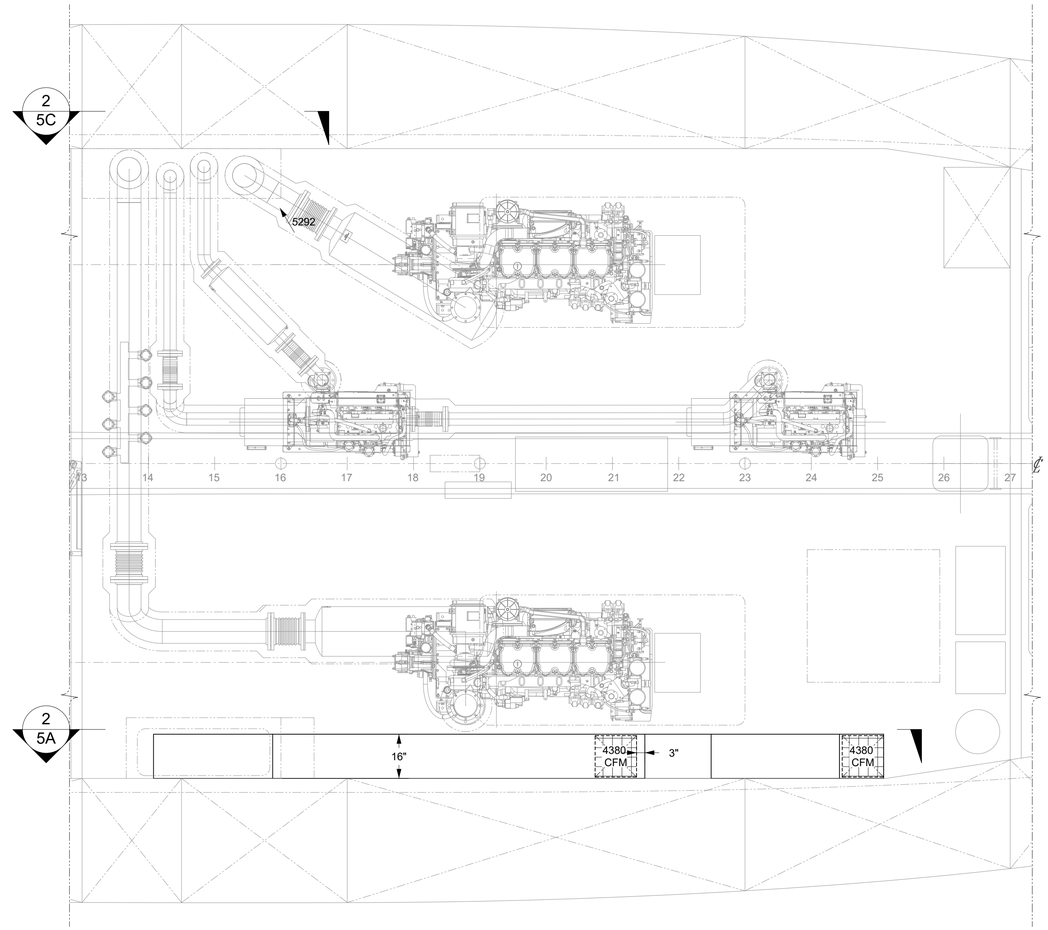
CONFIDENTIAL AND PROPRIETARY PROPERTY OF
ELLIOTT BAY DESIGN GROUP, LLC
MAY NOT BE USED FOR CONSTRUCTION OR PROVIDED TO
ANY THIRD PARTIES WITHOUT PRIOR WRITTEN CONSENT.
© 2026 ELLIOTT BAY DESIGN GROUP.



ELEVATION 2-5C
ENGINE ROOM EXHAUST
12'-6" OCL PORT - LKG TO CL
STIFFENERS HIDDEN FOR CLARITY



ELEVATION 2-5A
ENGINE ROOM SUPPLY



PLAN 2-2A
ENGINE ROOM

STATE OF ALASKA
49TH
SARAH E. NICHOLS
ME 146884
REGISTERED PROFESSIONAL ENGINEER
10/7/2026

SIZE	DWG NO.	REV	SHEET
D	24065-200-259-2	-	2 OF 2
			SCALE 7/16"=1'-0"

10/7/2026 2:08:26