

Management Plan for MV Matanuska

Project Name / Location:

DOT Ferry HBMS & Management Plan
MV Matanuska
3801 Tongass Avenue
Ketchikan, AK 99901

Prepared For:

State of Alaska Department of Transportation & Public Facilities
Mr. John Clendenin
2301 Peger Rd.
Fairbanks, Alaska 99709

Prepared By:

Satori Group, Inc.
1310 E 66th Avenue, Suite 2
Anchorage, AK 99518
907-332-0456
Tax ID: 92-0176507

Date Submitted:

December 1, 2023



PREFACE

This Asbestos Management Plan for asbestos-containing materials (ACM) shall serve as the Compliance Plan for the purposes of 40 CFR 763 Subpart E, 40 CFR 61, and the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). These Environmental Protection Agency (EPA) regulations cover “Schools and Public Buildings” and, depending on the type of work being conducted, Occupational Health and Safety Administration (OSHA) regulations under 29 CFR 1926.1101 and 29 CFR 1915.1001 and Alaska Occupational Safety and Health (AKOSH) regulations under 8 AAC 61.60007-720 may be applicable.

This Asbestos Management Plan provides guidance for the safe handling and maintenance of ACM on the Marine Vessel (MV) Matanuska described herein. This plan is to supplement the normal vessel operation and maintenance procedures.

The authors of this Management Plan are certified Management Planners under 40 CFR 763 Appendix C to Subpart E and Toxic Substances Control Act (TSCA) Title II. Nothing in this Management Plan is to be interpreted so rigidly as to allow injury to personnel or damage to the facility. Nothing in this Management Plan is to be construed as professional architectural, engineering, legal, or medical advice as defined by Alaska statutes.

Various vessel components were not sampled during the accompanying asbestos inspection and instead must be presumed ACM. Mechanical components, packings and gaskets, and various common materials such as Thermal System Insulation (TSI) were omitted due to inaccessibility or safety. Additionally, due to small or emergency renovations involving ACM removals and incomplete documentation of these activities, many sampled materials may yield different results even if collected from the same homogeneous area. In light of this, it is Satori’s recommendation that any materials requiring repair or renovation, if not expressly documented in the *DOT Ferry HBMS & Management Plan MV Matanuska*, be tested for asbestos prior to disturbance.

CERTIFICATION

Satori Group, Inc. certifies that this Asbestos Management Plan was developed by the following personnel who are accredited EPA Certified Management Planners in compliance with TSCA Title II.



12/1/2023

Alan Caldwell, Operations Manager IH CSP
AHERA Management Planner CERT # TMP4-820-17489
Satori Group, Inc.
1310 E 66th Ave. Suite 2
Anchorage, AK 99518



12/1/2023

Anna Scheiner, Environmental Technician
AHERA Management Planner CERT # TMP16-1023-18650
Satori Group, Inc.
1310 E 66th Ave. Suite 2
Anchorage, AK 99518



12/1/2023

Talon Masterson, Environmental Technician
AHERA Management Planner CERT # TMP16-1023-18649
Satori Group, Inc.
1310 E 66th Ave. Suite 2
Anchorage, AK 99518

Table of Contents

1.0	General	1
2.0	Definitions for Asbestos-Containing Materials	1
3.0	Asbestos Health Hazards	3
3.1	<i>Asbestos Overview</i>	3
4.0	Management Plan Objectives	4
4.1	<i>MV Matanuska Background</i>	4
4.2	<i>MV Matanuska Identified ACM</i>	5
5.0	Notification to Occupants, Workers, and Contractors	6
5.1	<i>Policies and Procedures for AMHS</i>	6
6.0	Response Action Plan	7
6.1	<i>Encapsulation</i>	7
6.2	<i>Enclosure</i>	7
6.3	<i>Repair</i>	7
6.4	<i>Removal</i>	8
7.0	Periodic Surveillance	8
8.0	Reinspections	8
9.0	Updating the Management Plan	9
10.0	Limitations	9
11.0	Acknowledgement	10

Appendices

- APPENDIX A:** Inspector & Management Planner Certifications
- APPENDIX B:** Asbestos Notification & Recordkeeping Forms
- APPENDIX C:** AMHS Asbestos Awareness Training Presentation
- APPENDIX D:** Operations & Maintenance Plan
- APPENDIX E:** Asbestos Sample Location Diagrams

Acronyms & Abbreviations

ACM	Asbestos-Containing Materials
AHERA	Asbestos Hazard Emergency Response Act
ASHARA	Asbestos School Hazard Abatement Reauthorization Act
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
HBMS	Hazardous Building Materials Survey
MV	Marine Vessel
O & M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PACM	Presumed Asbestos-Containing Material
PPE	Personal Protective Equipment
TSCA	Toxic Substances Control Act
TSI	Thermal System Insulation

1.0 General

The purpose of this Asbestos Management Plan (herein “Plan”) is to provide directions for the safe handling and maintenance of asbestos-containing materials (ACM) on the Marine Vessel (MV) Matanuska. This Plan is designed to ensure proper procedures for cleanup and repair of previously damaged ACM, to prevent future damage by minimizing disturbance of existing ACM, and to monitor the conditions of ACM in the staterooms, work areas, and shared spaces. The Asbestos Operations and Maintenance (O & M) Plan also provides guidance on worker protection, basic O & M procedures, and O & M cleaning practices. This Plan shall be used in conjunction with the accompanying Hazardous Building Materials Survey (HBMS) report, *DOT Ferry HBMS & Management Plan MV Matanuska*, which provides details of all ACM identified on the MV Matanuska and serves as a reference for all vessel personnel to identify location, type, and condition of ACM on the vessel.

2.0 Definitions for Asbestos-Containing Materials

Asbestos is a group of six regulated fiber-like minerals which include chrysotile, amosite, crocidolite, tremolite, anthophyllite, actinolite and any of these minerals that have been chemically treated and/or altered.

ACM any material or product that contains more than 1 percent asbestos.

Class I Asbestos Work defines activities involving the removal of friable asbestos-containing materials such as Thermal System Insulation (TSI), surfacing materials, and Presumed Asbestos-Containing Material (PACM).

Class II Asbestos Work defines activities involving the removal of ACM which is not TSI or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing shingles, siding shingles, gaskets, packings, and construction mastics.

Class III Asbestos Work defines repairs and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed.

Class IV Asbestos Work defines the maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.

Competent Person is, in addition to the definition in 29 CFR 1926.32(f), one who can identify existing asbestos hazards in the workplace and select the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate them.

Disturbance involves activities that disrupt the matrix of ACM or PACM.

Encapsulation means the treatment of ACM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers, as the encapsulant creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant).

Enclosure means an airtight, impermeable, permanent barrier around ACM to prevent the release of asbestos fibers into the air.

Presumed Asbestos-Containing Materials (PACM) is described as any TSI, surfacing materials, asphalt vinyl flooring, and floor tile found in buildings constructed no later than 1980 which are presumed to have ACM unless demonstrated otherwise through testing.

Removal means the taking out or the stripping of substantially all ACM from a damaged area, a functional space, or a homogenous area in a school building.

Renovation is the modification of any existing structure, or portion thereof.

Repair means returning damaged ACM to an undamaged condition or to an intact state so as to prevent fiber release.

Surfacing ACM can be sprayed, troweled-on, or otherwise applied to surfaces, (such as acoustic plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical purposes) and contains more than 1% asbestos.

Thermal System Insulation (TSI) ACM is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent the loss or gain of heat and contains more than 1% asbestos.

Friable ACM is defined by EPA (40 CFR 763 Appendix C to Subpart E) as ACM in a facility which, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM includes previously non-friable ACM which becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

Non-Friable ACM is defined by EPA (40 CFR 763 Appendix C to Subpart E) as ACM in a facility which, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Miscellaneous ACM is found in facilities on structural components, structural members, or fixtures which do not include surfacing or TSI.

3.0 Asbestos Health Hazards

Asbestos can be introduced into the body through inhalation or ingestion of microscopic asbestos fibers. The most common route of exposure is inhalation of the fibers into the respiratory system. The fibers can measure as small as 0.1 millimeters long and 0.003 millimeters thick which is not visible to the human eye.

When asbestos fibers are introduced into the lungs, they can travel into small air sacs called alveoli. Alveoli facilitates the exchange of oxygen and carbon dioxide during the respiratory process of inhalation and exhalation. Once a fiber is there, it can lodge itself into the walls of the alveoli which creates a bodily reaction to attack the foreign object. Asbestos fibers cannot be broken down by the human body and are sharp and rigid. Therefore, once the body's white blood cells attack the lodged asbestos fibers, they become buried in scare tissue, which can lead to an overcrowded alveoli that will no longer take or release oxygen.

Over long periods of time being exposed to asbestos, the effects of those fibers overcrowding the alveolus can result in respiratory health issues. A primary symptom is shortness of breath which can be a sign of a chronic lung disease such as asbestosis or lung cancer.

3.1 Asbestos Overview

Asbestos is a naturally occurring mineral with six specific types of regulated materials. These are chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite. Asbestos is divided into two mineral groups – serpentine and amphibole. The division between the two types of asbestos is based upon crystalline structure. Serpentine have a sheet or layered structure, and amphiboles have a chain-like structure. As the only member of the serpentine group, chrysotile is the most common type of asbestos found in buildings. Also known as “white asbestos”, chrysotile makes up approximately 90%-95% of all asbestos contained in buildings in the United States.

Due to its heat and chemical resistance and its strength and flexibility, asbestos has been used in thousands of different building and non-building-related materials. While some uses of asbestos have been banned, many asbestos-containing products remain on the market today.

The AHERA was promulgated in 1986. AHERA mandated that the EPA develop regulations for addressing asbestos in schools. The mandatory AHERA inspector requirement was implemented for any person who performs inspections for ACM in public and commercial facilities; however, it failed to include residential apartments or detached single family homes. The Asbestos School Hazard Abatement Reauthorization Act (ASHARA), enacted in 1990 and implemented in 1994, governs the training that asbestos workers, inspectors, supervisors, plan management writers, and abatement designers must receive to become

accredited. In addition, ASHARA extended regulations of asbestos abatement to residential and commercial facilities. AHERA instituted the training requirement for any person who inspects for ACM following a recommendation by ASHARA.

Asbestos in buildings does not mean there is an endangerment to workers or occupants unless the condition of the asbestos is damaged or will become damaged or friable due to human or environmental influences.

4.0 Management Plan Objectives

The asbestos management plan is designed to provide documentation of the recommended asbestos response actions, the location of asbestos within the vessel, and any action taken to repair or remove the material.

The management of ACM on the vessel will occur by using specific control methods as chosen by the Port Captain, herein referred to as the Designated Person. The Designated person will assess the relative degree of hazard posed by various ACM identified in the HBMS report, recommend a response action and timeline for the response action, and recommend management practices (Operation & Maintenance program) for any ACM on the vessel.

The Designated Person will also serve as the point of contact for all inquiries regarding this Plan, including access to any part of the Plan, its appendices, or the accompanying HBMS report, and will be responsible for updating the Plan as needed and disseminating all updated information to all occupants and personnel on the MV Matanuska.

4.1 MV Matanuska Background

The MV Matanuska is a State of Alaska passenger ferry used for the transport of vehicles and people. The vessel was built in 1963 and is comprised of eight separate deck areas, excluding the Innerbottom. They are described below:

- **Hold Deck 1:** Main engines and auxiliary machinery (lower level), various storage tanks (including sewage and potable water), bow thruster and steering gear rooms.
- **Second Deck 2:** Main engines and auxiliary machinery (upper level), food stores, engineer stores, steward staterooms.
- **Main Deck 3:** Vehicle space, storage lockers.
- **Gallery Deck 4:** Crew quarters, Bosun stores.
- **Cabin Deck 5:** Passenger staterooms, Chief Steward office, Purser offices, medical supply room, storage lockers.
- **Boat Deck 6:** Forward observation lounge, cocktail lounge, galley, cafeteria.
- **Bridge Deck 7:** Wheelhouse, officer quarters, recliner lounge, solarium.
- **House Top Deck 8:** Mainly exterior components and one interior fan room.

The Innerbottom, located mainly below Hold Deck 1, contained various tanks such as ballast and oily waste tanks. Additional vessel components include the fidley (located midship from Main Deck 3 to House Top Deck 8), a freight elevator (servicing Second Deck 2 to Boat Deck 6), a passenger elevator (servicing Main Deck 3 to Bridge Deck 7), and nine fan rooms located on five decks on the vessel.

The MV Matanuska is largely constructed with aluminum and steel to withstand marine conditions and corrosion. The interior walls of the vessel are constructed with metal panels and wallboard with various types of coverings. The interior flooring of the vessel is separated as follows:

- **Innerbottom, Hold Deck 1, Second Deck 2, and Main Deck 3, House Top Deck 8:** Sheet metal.
- **Gallery Deck 4, Cabin Deck 5, Boat Deck 6, and Bridge Deck 7:** Carpet, tile, sheet vinyl, and epoxy.

The exterior flooring of the vessel is constructed with steel covered with a non-slip coating. Additionally, the HVAC units located throughout the vessel are a mix of insulated and uninsulated metal ducting, and most of the piping throughout the vessel is covered with various types of insulation. The main engines located on Hold Deck 1 and Second Deck 2 are diesel with venting exhaust stacks leading up to House Top Deck 8.

Details about the construction and renovation history of the MV Matanuska can be found in Section 1.3 of the accompanying *DOT Ferry HBMS & Management Plan MV Matanuska* report.

4.2 MV Matanuska Identified ACM

Review of laboratory results from materials revealed asbestos was detected in the following locations:

- **Hold Deck 1:** Black packing material, gray TSI.
- **Second Deck 2:** Sink undercoating, black packing material, brown baseboard adhesive.
- **Gallery Deck 4:** Black packing material, gray floor tile, black mastic, gray wallboard, gray TSI.
- **Cabin Deck 5:** Gray/white laminate flooring. Additionally, some samples have been identified to contain <1% asbestos.
- **Boat Deck 6:** during this inspection indicated no asbestos was detected above the regulatory limit of 1%. However, some samples have been identified to contain <1% asbestos.
- **Bridge Deck 7:** Brown baseboard mastic, black flooring mastic, tan floor tile, pink floor tile. Additionally, some samples have been identified to contain <1% asbestos.

Refer to the accompanying *DOT Ferry HBMS & Management Plan MV Matanuska*, report for additional information pertaining to samples on the MV Matanuska that were found to contain less than 1% asbestos.

5.0 Notification to Occupants, Workers, and Contractors

Occupants, workers, and/or contractors working in areas where ACM has been identified shall be notified of the location of the ACM on the vessel and of any special precautions required in that area.

Notification to any affected personnel shall be accomplished by the Designated Person, who will present this Plan in its entirety and accept a signed statement of acknowledgement from all recipients. All notification shall be complete, and all affected personnel shall sign and submit the *Acknowledgement* form to the Designated Person, prior to any work commencing. This notification and acknowledgement process shall occur for all current personnel and be included in the onboarding process for new personnel. Sample location diagrams showing specific locations of all ACM identified are located in Appendix E of this Plan. Notification forms for asbestos disturbance and asbestos involved work must be completed in accordance with AMHS and regulatory guidelines and are located in Appendix B of this Plan.

5.1 Policies and Procedures for AMHS

The current policies and procedures regarding asbestos disturbance and work involving asbestos, as of the time of this Plan creation, is as follows:

1. All personnel who will work in areas where there is ACM will receive two hours of Asbestos Awareness Training, and all personnel who may be required to work with ACM will receive an additional fourteen (14) hours of additional training. Personnel training shall be recorded, documented, and submitted to the Designated Person using the *Asbestos Training Records* form.
2. Fill out the *Asbestos Notification and Request for Work* form and submit to the Designated Person.
3. After completing asbestos work, fill out the *Asbestos Response Action Report* form, and submit to the Designated Person.
4. Following the implementation of this Plan, conduct periodic surveillance every six months, using the *Asbestos Periodic Surveillance* form. Submit the completed form to the Designated Person.
5. The Designated Person shall maintain records of all submitted forms for inclusion in this Plan.
6. The Designated Person shall provide copies of all forms to the Safety Officer, Engineer, Vessel, and Master in accordance with current AMHS internal recordkeeping procedures.

This Plan shall be updated regularly to include training records, documentation of asbestos work, results of periodic surveillance, results of reinspections (discussed in Section 8.0), and any amendments made to AMHS policies regarding asbestos disturbance, work involving asbestos, and asbestos-related recordkeeping procedures.

6.0 Response Action Plan

The *DOT Ferry HBMS & Management Plan MV Matanuska* HBMS report has been created and given to the Designated Person as guidance in creating a Response Action Plan in the event that reported ACM and/or PACM is disturbed or damaged in any manner defined under 40 CFR 763.90.

In accordance with EPA regulations, the Response Action Plan selected shall be sufficient to protect human health and the environment and is the least burdensome. Nothing in this section shall be construed to prohibit removal of ACM from the vessel at any time, should removal be the preferred response action of the Designated Person.

Depending upon the nature of the asbestos-involved work, vessel personnel must identify which control method is most appropriate for the work. There are four control methods to consider when conducting asbestos-involved work: Encapsulation, Enclosure, Repair, and Removal within Operations & Maintenance guidelines. These four control methods are detailed in the following subsections.

6.1 Encapsulation

Encapsulation is a control method used for ACM utilizing encapsulants to mitigate the risks associated with asbestos. The two types of encapsulants are called bridging and penetrating, which are selected depending on the material. Bridging encapsulant coats the material causing the material to develop a tough exterior. Penetrating encapsulant seeps into the material causing the material to harden and bind together. During the process of encapsulation, the encapsulant of choice is sprayed onto the material using a low-pressure spray system in a way that ensures the full coating of the ACM. It is recommended that workers use at least two passes with the encapsulant to completely cover the ACM. Workers must wear the appropriate PPE and follow regulatory requirements for the entirety of the process.

6.2 Enclosure

Enclosure is the control method used for ACM that requires building an air-tight barrier around the material. The enclosure barrier must be built with non-ACM, such as sheet rock, sheet metal, and other non-asbestos-containing materials. **The enclosure barrier must be air-tight or else it is not considered an enclosure.** Workers must wear the appropriate PPE and follow regulatory requirements for the entirety of the process.

6.3 Repair

Repair is a control method that may be used if there is a small amount of damage to the ACM that can be repaired. Multiple repair methods may be used; however, the materials used must be non-ACM and sufficiently mitigate the associated asbestos hazards.

Workers must wear the appropriate PPE and follow regulatory requirements for the entirety of the process.

6.4 Removal

Removal is the control method used for ACM that facilitates the process of removing ACM from its origin. For O & M purposes this is restricted to one 60-inch x 60-inch glove bag or 3 square/ linear feet. The glove bag is not allowed to be moved and doing so will result in the work being reclassified. Anything above these amounts may be classified as Class I or Class II under OSHA guidelines for removal purposes. Under OSHA guidelines, removal work that is classified as Class I or Class II requires a licensed asbestos abatement contractor to remediate in accordance with all State and Federal regulations and does not fall under O & M guidelines.

The use of mini-enclosures or other effective means of isolation methods may be required depending on the method and type of removal.

7.0 Periodic Surveillance

At least every six months beginning with the implementation of this Plan, all areas where ACM has been identified shall be visually inspected for any changes in condition. The visual inspection shall be conducted by a person who has completed the 2-hour Asbestos Awareness Training, following the requirements under 40 CFR 763.92(a)(1), and documented using the *Asbestos Periodic Surveillance* form, found in Appendix B of this Plan. Periodic surveillance documentation shall include, at a minimum, the name of the person conducting the surveillance, the date of the surveillance, and any changes in the condition of the ACM in accordance with 40 CFR 763.92(b).

The completed form shall be submitted to the Designated Person for inclusion in this Plan. Copies of all periodic surveillance forms shall be disseminated to the appropriate personnel as described in Section 5.1 of this Plan.

8.0 Reinspections

At least once every three years after the implementation of this Plan, all areas where ACM or PACM have been identified shall be reinspected for any changes in condition and friability. The reinspection shall be conducted by an accredited AHERA Building Inspector, following the requirements of 40 CFR 763.85(b), and shall include the following elements:

- Reassessment of condition and friability of previously identified ACM and PACM
- Bulk sampling of newly discovered suspected ACM
- Condition and friability of newly discovered ACM

- Condition of newly friable ACM
- Exact location of all documented ACM
- Name, certification number, and signature of accredited AHERA Building Inspector

Results of all reinspections shall be maintained by the Designated Person for inclusion in the Plan.

The need for additional inspections before the recommended three-year reinspection may arise. Events necessitating additional inspections include, but are not limited to:

- Renovation projects
- Demolition projects
- Discovery of previously unidentified ACM
- Earthquakes or other natural disasters

9.0 Updating the Management Plan

This Plan shall be kept current via periodic updates to include any changes resulting from operations and maintenance, periodic surveillance, inspections, reinspections, and response action activities in accordance with 40 CFR 763.93(d). It is recommended that the Plan be reviewed at least once every six months, or as needed following the completion of any of the activities mentioned in this section.

Complete copies of the most current Plan shall be made available for review to EPA and local representatives, the public, and all vessel personnel and their representatives in accordance with 40 CFR 763.93(g).

10.0 Limitations

This Management Plan (Plan) has been prepared for the exclusive use of the Alaska Department of Transportation & Public Facilities. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Satori Group, Inc. accepts no responsibility for damages, if any, suffered by any third party because of decisions made or actions taken based on this Plan. This Plan is based upon and conducted in accordance with EPA rules in effect at the time of this inspection. Satori Group has no duty to update this report based on subsequent regulatory changes.

Satori is not responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared. Satori also notes that the facts and conditions referenced in this report may change over time, and that the conclusions set forth here are applicable to the facts and conditions as described only at the time of this report. We believe that the conditions stated here are factual, but no guarantee is made or implied.

11.0 Acknowledgement

I hereby acknowledge that I have received this Management Plan (Plan) in full, have read and understood my responsibilities as the person designated by AMHS to fulfill all regulatory requirements as cited within this Plan, and certify that all such requirements have been met, or will be met following the implementation of this Plan.

Designated Person
Port Captain

APPENDIX A
Inspector and Management Certifications



1310 E 66th Avenue, Suite 2- Anchorage, AK 99518 - 907.332.0456



Certificate of Training

This is to certify that

Alan Caldwell

Has Attended and Successfully Completed
**Building Inspector Refresher
4 Hour Course**

This course is fully accredited by the Alabama Department of Environmental Management (ADEM) in compliance with TSCA Title II. This course is a synchronous and online course.

Certificate Number: TBI4-1023-18648

Expiration Date: 10/3/2024

Alan Caldwell
Principal Instructor

10/3/2023

Exam Date:

10/3/2023

Course Date:



1310 E 66th Avenue, Suite 2- Anchorage, AK 99518 - 907.332.0456

Certificate of Training

This is to certify that

Alan Caldwell

Has Attended and Successfully Completed

Mgmt Planner Refresher

4 Hour Course

This course is fully accredited by the Alabama Department of Environmental Management (ADEM) in compliance with TSCA Title II.

Certificate Number: TMP4-820-17489

Expiration Date: 1/13/2024

A handwritten signature in black ink that reads 'Alan M Caldwell'.

Alan Caldwell
Training Division Manager

1/13/2023

Exam Date:

1/13/2023

Course Date:



State of Hawai'i Asbestos Certification

Training Course Exp. Dates

W	n/a	MP	n/a
CS	n/a	PD	n/a
INS	01/12/24	PM	n/a

W= Worker
 CS= Cont./Sup.
 INS= Inspector
 PD= Project Designer
 MP= Mgmt. Planner
 PM= Project Monitor

Scheiner

Anna M.

EnviroServices & Training Center, LLC

HIASB-5286

State Exp. Date 01/17/2024

If found, please return to:
 State of Hawaii
 Department of Health
 Indoor and Rad Health Branch
 99-945 Halawa Valley Street
 Aiea, HI 96701
 (808) 586-5800



Postage is guaranteed



1310 E 66th Avenue, Suite 2- Anchorage, AK 99518 - 907.332.0456



Certificate of Training

This is to certify that

Anna Scheiner

Has Attended and Successfully Completed
**Management Planner Initial
16 Hour Course**

This course is fully accredited by the Alabama Department of Environmental Management (ADEM) in compliance with TSCA Title II.

Certificate Number: TMP16-1023-18650

Expiration Date: 10/17/2024

Alan Caldwell
Principal Instructor

10/17/2023

Exam Date:

10/16/2023

Course Date:



1310 E 66th Avenue, Suite 2- Anchorage, AK 99518 - 907.332.0456

Certificate of Training

This is to certify that

Talon Masterson

Has Attended and Successfully Completed

**Building Inspector Initial
24 Hour Course**

This course is fully accredited by the Alabama Department of Environmental Management (ADEM) in compliance with TSCA Title II.

Certificate Number: TBI24-823-18561

Expiration Date: 8/30/2024

A handwritten signature in black ink, appearing to read 'Alan M. Caldwell', is written over a horizontal line.

*Alan Caldwell
Principal Instructor*

8/30/2023

Exam Date:

8/28/2023

Course Date:



1310 E 66th Avenue, Suite 2- Anchorage, AK 99518 - 907.332.0456



Certificate of Training

This is to certify that

Talon Masterson

Has Attended and Successfully Completed
**Management Planner Initial
16 Hour Course**

This course is fully accredited by the Alabama Department of Environmental Management (ADEM) in compliance with TSCA Title II.

Certificate Number: TMP16-1023-18649

Expiration Date: 10/17/2024

Alan Caldwell
Principal Instructor

10/17/2023

Exam Date:

10/16/2023

Course Date:



1310 E 66th Avenue, Suite 2- Anchorage, AK 99518 - 907.332.0456

Certificate of Training

This is to certify that

Jasmine Brown

Has Attended and Successfully Completed
**Building Inspector Refresher
4 Hour Course**



This course is fully accredited by the Alabama Department of Environmental Management (ADEM) in compliance with TSCA Title II.

Certificate Number: TBI4-223-17727

Expiration Date: 2/28/2024

Alan Caldwell
Training Division Manager

2/28/2023

Exam Date:

2/28/2023

Course Date:

APPENDIX B
Asbestos Notification and Recordkeeping Forms



ASBESTOS NOTIFICATION AND REQUEST FOR WORK

(Please print clearly)

Distribution:
Original to Safety Officer
Capt to Port Captain, Engineer
Copy to Vessel
Copy to Master (Weekly Report)

I. EMPLOYEE INFORMATION

Name: _____ Date: ____/____/_____
Occupation: _____ Department Employed In: Purser Steward Deck Engineering
Supervisor: _____
Union: _____ MM&P IBU MEBA
 Employee an assigned crew member Employee assigned as a Relief Employee onboard as a passenger

II. DISTURBANCE/ASBESTOS REMEDIATION INFORMATION

Provide the description of the activity, including workers in the area, and the location where the activity occurred when ACM/PACM was discovered:

Describe the location and type of ACM (Friable, Non-Friable, and PACM):

III. DESCRIPTION OF REQUESTED ASBESTOS WORK

(This section to be filled out by Chief Mate)

Name: _____
Date & Time of Asbestos Report: Date: ____/____/_____
Time: _____ AM/PM
 Vessel Name: _____ Other Location: _____
Does the disturbance/remediation involve a Major or Minor Fiber Release Episode? Major Minor

IF MAJOR FIBER RELEASE EPISODE, THE ASBESTOS WORK MUST BE CONDUCTED BY AN ACCREDITED ASBESTOS ABATEMENT CONTRACTOR

Please check requested Response Action for the above disturbance (check all that apply):

Encapsulation Enclosure Repair Removal Operations & Maintenance

Proposed work dates: From ____/____/_____
to ____/____/_____

IV. EQUIPMENT REQUIRED

Respirator with HEPA filter Yes No Tyvek suit Yes No
Glovebag Yes No HEPA vacuum Yes No
Hand tools (specify): _____ Yes No
Other (specify): _____ Yes No



ASBESTOS RESPONSE ACTION REPORT

Major Fiber Release Episode

(Please print clearly)

Distribution:

- Original to Safety Officer
- Copy to Port Captain, Engineer
- Copy to Vessel
- Copy to Master (Weekly Report)

I. Name of person/s Reporting Asbestos Response Action

EMPLOYEE DATA:

Date: ____/____/____

Name: _____

Occupation: _____ Department Employed In: Purser Steward Deck Engineering

Supervisor: _____

Union: _____ MM&P IBU MEBA

Employee an assigned crew member Employee assigned as a Relief Employee onboard as a passenger

Describe the fiber release episode, including the location and type of ACM (Friable, Non-Friable, and PACM):

Provide a detailed description of each preventive measure and response action taken:

Provide the name and location of the storage or disposal site of the ACM:

II. Description of the asbestos work performed – Major Fiber Release Episode

To be filled out by accredited Asbestos Project Designer: Name: _____ Company: _____

Date & Time Asbestos Report: Date: ____/____/____ Time: _____ AM/PM

Vessel Name: _____ Other Location: _____

Person/s performing the asbestos work have completed the Asbestos Abatement 40-hour course. Yes No

Competent Person: _____

Name and accreditation number of person/s performing the asbestos involved work (please print):

Work started: Date: ____/____/____ Time: _____ AM/PM

Work completed: Date: ____/____/____ Time: _____ AM/PM



ASBESTOS RESPONSE ACTION REPORT

Minor Fiber Release Episode

(Please print clearly)

Distribution:

- Original to Safety Officer
- Copy to Port Captain, Engineer
- Copy to Vessel
- Copy to Master (Weekly Report)

III. Name of person/s Reporting Asbestos Response Action

EMPLOYEE DATA:

Date: ____/____/____

Name: _____

Occupation: _____ Department Employed In: Purser Steward Deck Engineering

Supervisor: _____

Union: _____ MM&P IBU MEBA

Employee an assigned crew member Employee assigned as a Relief Employee onboard as a passenger

Describe the fiber release episode, including the location and type of ACM (Friable, Non-Friable, and PACM):

Provide a detailed description of each preventive measure and response action taken:

Provide the name and location of the storage or disposal site of the ACM:

IV. Description of the asbestos work performed – Minor Fiber Release Episode

To be filled out by the Chief Mate: Name: _____

Date & Time Asbestos Report: Date: ____/____/____ Time: _____ AM/PM

Vessel Name: _____ Other Location: _____

Person/s performing the asbestos work have completed the Asbestos Operations & Maintenance 16-hour course.

Yes No

Name and accreditation number of person/s performing the asbestos involved work (please print):

Work started: Date: ____/____/____ Time: _____ AM/PM

Work completed: Date: ____/____/____ Time: _____ AM/PM

V. Personal Protective Equipment (PPE) and Methods Used

Respirator with HEPA filter being properly worn / used? Yes No

Tyvek suit required? Yes No

Glove bag needed? Yes No

Are the tools used only for asbestos work? Yes No

Approved asbestos HEPA vacuum, wet methods, and prompt clean up used? Yes No



ASBESTOS PERIODIC SURVEILLANCE REPORT

Distribution:

- Original to Safety Officer
- Copy to Port Captain, Engineer
- Copy to Vessel
- Copy to Master (Weekly Report)

(Please print clearly)

I. Name of person/s completing Periodic Surveillance Report

EMPLOYEE DATA:

Date: ____/____/____

Name: _____

Occupation: _____ Department Employed In: Purser Steward Deck Engineering

Supervisor: _____

II. Description of Inspected Materials & Locations (more space on reverse side)

Periodic Surveillance Plan: At least once every six months after the Asbestos Management Plan (AMP) is in effect, facilities that AMHS leases, owns, or use, require periodic surveillance if asbestos is known or assumed present. Each person performing periodic surveillance must: visually inspect all areas identified in the AMP known or presumed as asbestos-containing material (ACM), record the surveillance date, his or her name, and condition changes. The Designated Person (DP) shall maintain a record copy for inclusion in the AMP.

			Previous Inspection Date: _____	Current Inspection Date: _____	
Vessel or Other Location	Description of ACM (component, material, etc)	Area Inspected (room, compartment, etc)	ACM Condition (good, damaged, significantly damaged)	ACM Condition (good, damaged, significantly damaged)	Date ACM Removed (if applicable)

*If no change in condition, write N/C

Surveillance Inspector's Name

Surveillance Inspector's Signature

Date



ACKNOWLEDGEMENT

Distribution:

Original to Safety Officer
Copy to Port Captain, Engineer
Copy to Vessel
Copy to Master (Weekly Report)

(Please print clearly)

Statement of Acknowledgement

I hereby acknowledge that I have been presented the *Management Plan for MV Matanuska* in its entirety and provided an opportunity to read and understand the information contained therein, and certify that I will follow all policies and procedures set forth by AMHS regarding the requests for all asbestos-related work and reporting of all asbestos-related activities.

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date



ACKNOWLEDGEMENT

Distribution:

- Original to Safety Officer
- Copy to Port Captain, Engineer
- Copy to Vessel
- Copy to Master (Weekly Report)

(Please print clearly)

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

Name (Print)

Signature

Date

APPENDIX C
AMHS Asbestos Awareness Training Presentation

AMHS Asbestos Awareness Training



AMHS Asbestos Awareness Training

PREFACE

- This Asbestos Awareness Training has been prepared by members of Satori Group, Inc.
- The purpose of the session is to provide a basic overview of asbestos and its associated hazards. The scope and content of this course is limited to the information essential to your experience on the AMHS vessels.

WHY YOU?

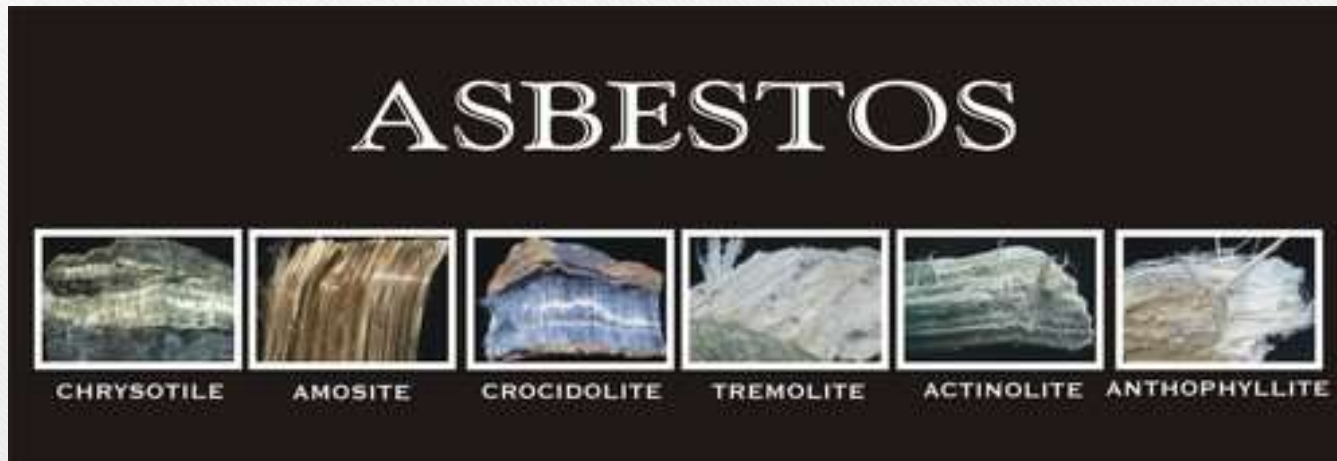
On August 10, 1994, the Occupational Safety and Health Administration (OSHA) issued new regulations covering asbestos. These regulations became effective on October 10, 1995. This training is being presented in the hope that you may avoid any exposure by becoming more aware of the locations and types of asbestos.

ASBESTOS - ITS VARIOUS USES

Asbestos is a generic term for a group of naturally occurring silicate minerals. They are mined primarily in Russia, Brazil, and China. Asbestos appears as a fibrous crystal form, and when crushed, separates into flexible fibers. Six forms of asbestos are regulated.



Six Types of Regulated Asbestos



While onboard, you may run into materials that contain chrysotile, amosite and crocidolite. Tremolite, actinolite and anthophyllite are rarely found in building materials.

Common Types of Asbestos

- Chrysotile (white asbestos) is used as insulation, fireproofing, and soundproofing.
- Amosite (brown asbestos) is used in high friction applications like brake shoes & clutches.
- Crocidolite (blue asbestos) is used in cement, tiles, and insulation.



Common Types of Asbestos

- Chrysotile accounts for over 95% of the asbestos used in building products in the U.S.
- Amosite is used in heat insulation materials.
- Crocidolite is occasionally found with amosite or chrysotile in pipe or boiler wrap.
- Tremolite, actinolite, and anthophyllite are rarely found in building or commercial products.

Asbestos Mineral Characteristics

- Separate into small fiber when disturbed or handled
- Resistant to heat, bacteria, and chemicals
- Great tensile strength and stiffness
- Excellent electrical, thermal, and noise insulator
- Resistant to the effects of friction and wear

Materials Onboard That May Contain Asbestos

- Cement asbestos wall boards
- Thermal system insulation on piping
- Flooring
- Conduit Packing
- Gaskets
- HVAC duct tape
- Cove base mastic
- Caulking
- Mastic at drop ceiling L channel connections
- Under sink coatings

Cement Asbestos Wall Board



Thermal System Insulation on Piping



Asbestos Flooring Black Mastic



Asbestos Flooring 9X9 Tiles



Conduit Packing



Gaskets



HVAC Duct Tape



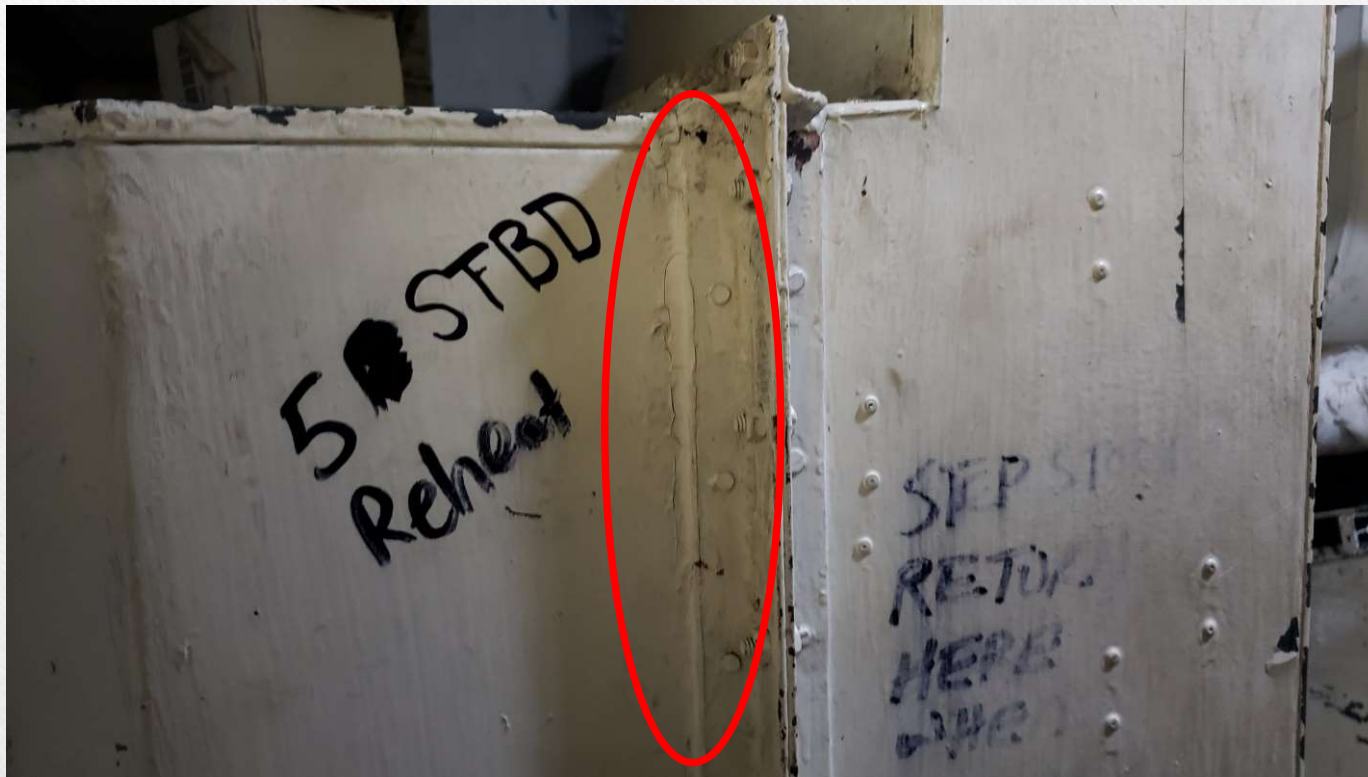
Cove Base Mastic



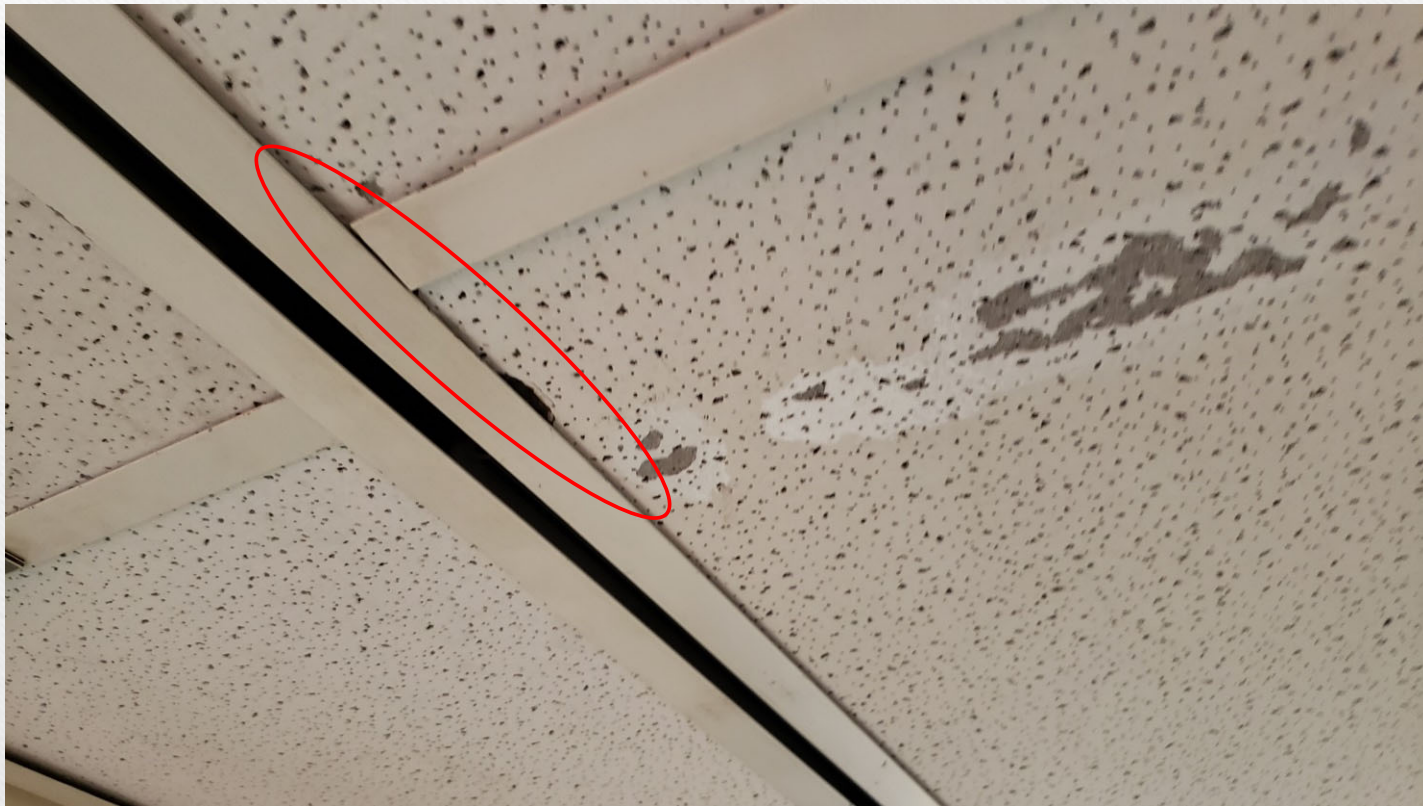
Caulking



Caulking



Mastic on L Channel Connections



Under Sink Coating



Can Asbestos Be Visually Confirmed?

There is no way to visually confirm asbestos. Many materials that contain asbestos look the same as materials that don't. The only way to confirm that a material contains asbestos is to have it samples and analyze in a laboratory. Therefore, it is best to treat anything that looks like it may contain asbestos as if it does until it is analyzed and proven to not contain asbestos.



FRIABLE

A material is considered **friable** if it can be reduced to powder by hand pressure when dry. Friable asbestos has the potential to easily release asbestos fibers that can become airborne, and create a health hazard.



Non-friable

A material is considered **non-friable** if it can not be reduced to powder by hand pressure when dry. Many materials that contain asbestos are non-friable. **A non-friable material can become friable** during the removal or renovation process.



Asbestos Building Products

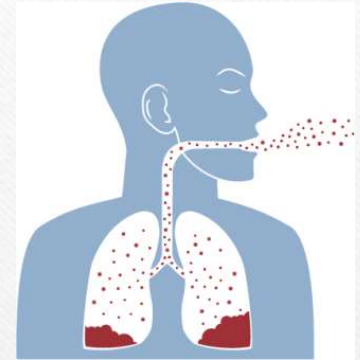
Although the use of asbestos in thermal, surfacing and fire proofing materials was banned in 1973, some buildings constructed as late as 1978 have been found to contain asbestos building materials.

AMHS Vessel Construction Dates:

- MV Matanuska 1963
- MV Tustumena 1964
- MV Columbia 1973
- MV Kennicott 1998

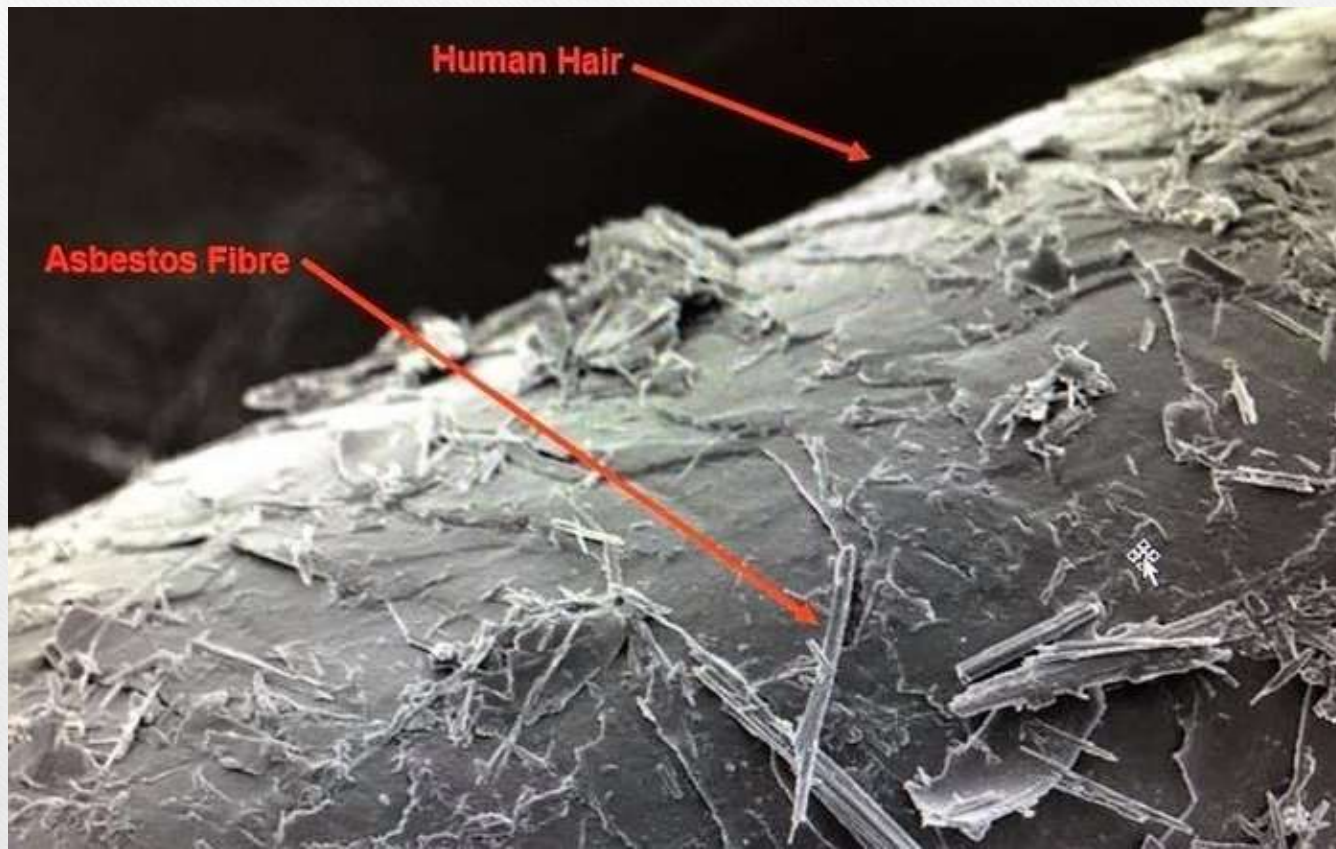


Routes of Entry

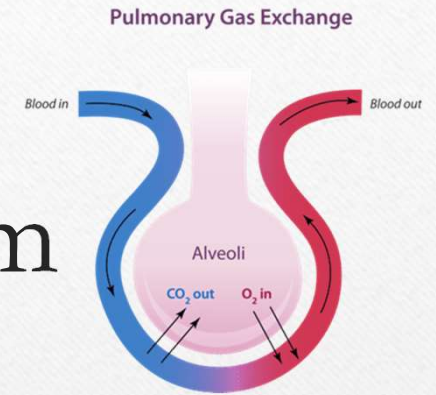


- The primary route of asbestos entry into the body is inhalation of air that contains asbestos fibers. Asbestos can also enter the body via ingestion.
- Asbestos fibers that are able to be inhaled are odorless, tasteless, and invisible to the naked eye.

Size of Inhaled Fibers



The Respiratory System

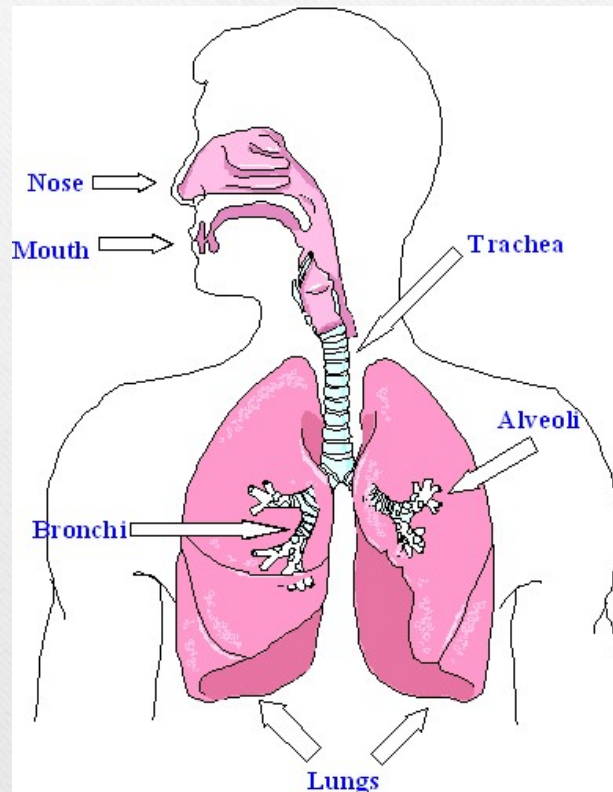


- Your respiratory system includes the mouth, nose, wind pipe (trachea), bronchi and lungs. The lungs are located within the pleural cavity. Lying within the cavity and covering the lungs is a lining called the pleural mesothelium.
- The lungs contain air sacks called **alveoli**. The alveoli are the sites where oxygen is absorbed into the blood and carbon dioxide is removed from the blood. Your body's respiratory system has defense mechanisms that work to keep foreign particles from causing damage.

Respiratory Defense Mechanisms

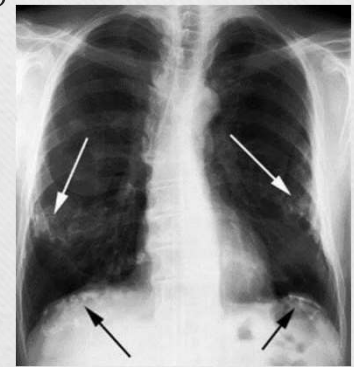
- The mouth and nose filter out large particles.
- Coated bronchi filter out small particles.
- Cilia, which are hair like protrusions on cells lining the airways (bronchial tree), move particles up to the back of the mouth where they are swallowed or expelled.

Respiratory Defense Mechanisms



Respiratory Defense Mechanisms

- The smallest particles that are not previously trapped may travel to the alveoli in the lower respiratory system. Here they may be attacked by large cells, known as macrophages.
- Because asbestos is a mineral fiber, the macrophages are often not successful. This leaves the lungs scarred.

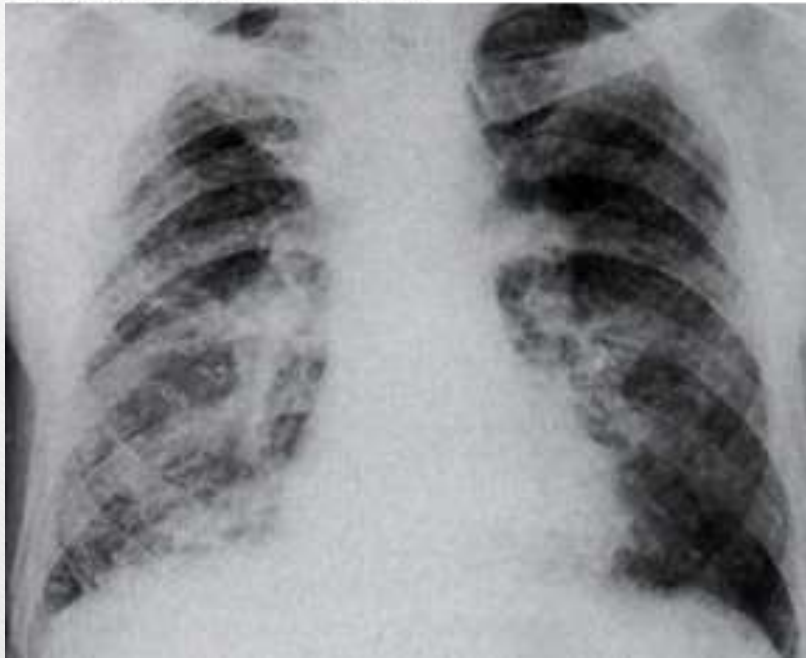


Asbestosis

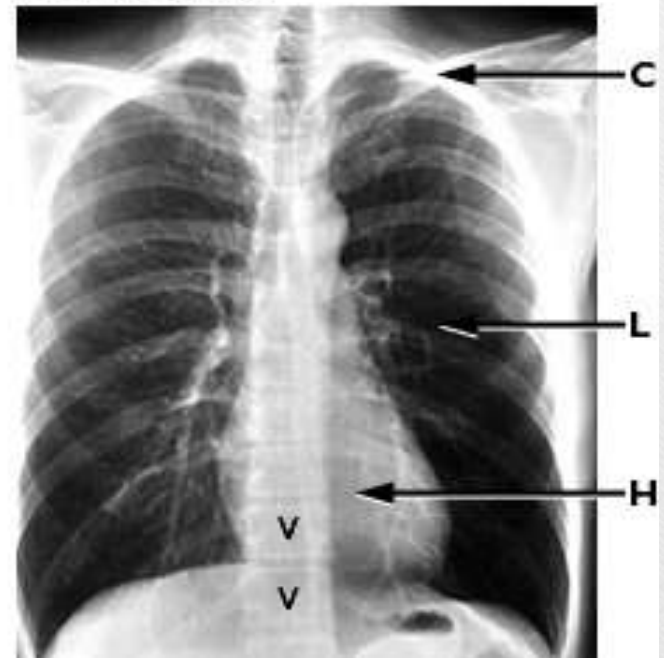
Is a chronic disease in which lungs become scarred (fibrosis) as a result of a biological reaction to the inhalation of asbestos fibers. Scarring causes thickening of the walls of the lungs and a reduction in the capacity for transfer of oxygen to the bloodstream. Victims usually die from heart failure, as the heart overworks in an attempt to deliver the required oxygen to the body. Asbestosis usually results after exposure to high concentrations of fibers over a long period of time. Symptoms usually occur 15 to 35 years after the first exposure.

Asbestosis

Chest X-Ray: Asbestosis



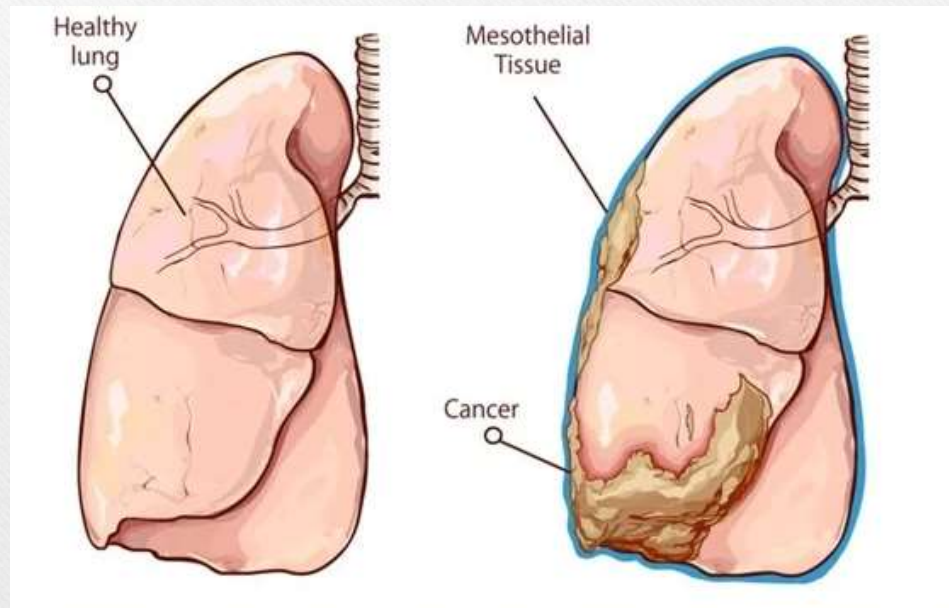
Normal X-Ray



Mesothelioma

Is a cancer of the covering of the lung or lining of the chest or abdominal cavities. It is the rarest form of the asbestos-related diseases. This disease is rapidly fatal, usually within a year after diagnosis. The latency period is usually 25 to 30 years.

Mesothelioma



Lung Cancer

Lung cancer is responsible for roughly one half of the deaths that occur from asbestos exposure. Lung cancer usually begins as a tumor in the lower lobes of the lungs. Other cancers have been noted in a very small number of individuals who are occupationally exposed to asbestos. These tumors are usually cancers of the gastrointestinal tract.

Signs and symptoms:

- Coughing that gets worse or doesn't go away.
- Chest pain.
- Shortness of breath.
- Wheezing.
- Coughing up blood.
- Feeling very tired all the time.
- Weight loss with no known cause.

Lung Cancer



Cigarette smokers who are exposed to asbestos are 80 times more likely to develop asbestos-related lung cancer.

POTENTIAL EXPOSURE

OSHA regulations are geared to be effective when an employee is “occupationally exposed.” Occupationally exposed is defined as an exposure at or above 0.1 fibers per cubic centimeter for 30 or more days a year. Friable materials are more likely to release fibers into the air where they can be a source of exposure to you.

** There is no known safe amount of asbestos exposure. **

Signs You Will See Onboard



Avoid Fiber Releases

When building maintenance, repair, renovation or other activities disturb asbestos containing material (ACM), asbestos fibers can be released creating a potential hazard to building occupants. Fiber releases may occur in several ways: fallout, contact, or re-entrainment.



Fallout

Old or deteriorated asbestos fibers may become airborne due to damage or destruction of the bonding agents used to hold the asbestos products together. Fallout may result in fibers being deposited on horizontal surfaces over time due to humidity, vibration, or aging.



Contact

Striking, cutting, drilling, grinding, or abrading may release fibers into the environment.



Re-entrainment

Sweeping, dusting or unfiltered vacuuming of settled dust may result in asbestos fibers being re-suspended into the atmosphere.



Avoid Fiber Releases

When ACM degrades or is damaged, it may release asbestos into the air.

- **Avoid** touching or disturbing ACM on ceilings, pipes or boilers.
- Do **not** drill, puncture, sand or scrape materials that contain ACM.
- Do **not** attempt to clean any material that appears to contain ACM

Contact your supervisor immediately to arrange proper cleaning of any material that you suspect may contain asbestos.



APPENDIX D
Operations & Maintenance Plan

Operations & Maintenance Plan for Asbestos-Containing Materials

Project Name / Location:

DOT Ferry HBMS & Management Plan
MV Matanuska
3801 Tongass Avenue
Ketchikan, AK 99901

Prepared For:

State of Alaska Department of Transportation & Public Facilities
Mr. John Clendenin
2301 Peger Rd.
Fairbanks, Alaska 99709

Prepared By:

Satori Group, Inc.
1310 E 66th Avenue, Suite 2
Anchorage, AK 99518
907-332-0456
Tax ID: 92-0176507

Date Submitted:

December 1, 2023



Table of Contents

1.0	General	1
2.0	Notifications	1
3.0	Previous Vessel Inspections	2
4.0	Worker Protection Program	2
4.1	<i>Asbestos Awareness</i>	3
4.2	<i>Operations and Maintenance Training</i>	3
4.3	<i>Outside Contractors</i>	4
4.4	<i>Recordkeeping</i>	4
5.0	Medical Surveillance	4
5.1	<i>Information Provided to the Physician</i>	4
5.2	<i>Physician’s Written Opinion</i>	5
5.3	<i>Records</i>	5
6.0	Response Action Plan	5
6.1	<i>Encapsulation</i>	5
6.2	<i>Enclosure</i>	6
6.3	<i>Repair</i>	6
6.4	<i>Removal</i>	6
7.0	Fiber Release Episodes	6
7.1	<i>Minor Fiber Release Episodes</i>	7
7.2	<i>Major Fiber Release Episodes</i>	7
8.0	Routine Work Practices	8
8.1	<i>Undisturbed NON-FRIABLE ACM</i>	8
8.2	<i>Loose or Broken NON-FRIABLE ACM</i>	8
8.3	<i>Removal of Intact NON-FRIABLE ACM</i>	8
8.4	<i>Repair or Emergency Removal FRIABLE ACM</i>	9
8.5	<i>Removal of FRIABLE ACM</i>	9
9.0	Renovation Projects	9
9.1	<i>Recordkeeping</i>	9
10.0	Routine Cleaning Practices	10
11.0	Periodic Surveillance	10
11.1	<i>ACM in Good Condition</i>	11

<i>11.2 Damaged ACM</i>	11
<i>11.3 Significantly Damaged ACM</i>	11
<i>11.4 ACM With Potential for Damage or Significant Damage</i>	12
12.0 Periodic Inspections	12
<i>12.1 Management Plan and O & M Plan Updates</i>	12
<i>12.2 Additional Inspections</i>	12

Figures

FIGURE 1: Asbestos Response Flow Chart

Acronyms & Abbreviations

ACM	Asbestos-Containing Materials
AHERA	Asbestos Hazard Emergency Response Act
ASHARA	Asbestos School Hazard Abatement Reauthorization Act
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
HBMS	Hazardous Building Materials Survey
MV	Marine Vessel
NESHAP	National Emissions and Standards for Hazardous Air Pollutants
O & M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PACM	Presumed Asbestos-Containing Material
PPE	Personal Protective Equipment
TSI	Thermal System Insulation

1.0 General

The Operations and Maintenance (O & M) Program for the Marine Vessel (MV) Matanuska utilizes management methods for the asbestos-containing materials (ACM) on the vessel. The three primary objectives of an O&M program are:

1. Clean up existing contamination
2. Minimize future fiber release by controlling access to ACM
3. Maintain ACM until it is eventually removed

These three objectives will be covered in this O & M Plan as part of the Management Plan created for the MV Matanuska. All asbestos work performed on the MV Matanuska shall be conducted in accordance with this O & M Plan. The requirements and procedures contained herein address the following:

1. Notification process for asbestos disturbance events and asbestos-related work
2. Required personnel training for conducting asbestos-related work in accordance with 40 CFR 763.92 for Minor Fiber Release Episodes
3. Medical surveillance procedures
4. Work practices to be followed while conducting asbestos-related work in accordance with 40 CFR 763.91 for Minor Fiber Release Episodes
5. Post-disturbance cleaning procedures
6. ACM surveillance procedures

2.0 Notifications

All personnel onboard the MV Matanuska shall be notified of the types and locations of all ACM, and of any special precautions required. Notification to any affected personnel shall be accomplished by the Designated Person, who will present this Plan in its entirety and accept a signed statement of acknowledgement from all recipients. All notification shall be complete, and all affected personnel shall sign and submit the *Acknowledgement* form to the Designated Person, prior to any work commencing. This notification and acknowledgement process shall occur for all current personnel and be included in the onboarding process for new personnel.

Prior to conducting any asbestos work, the *Asbestos Notification and Request for Work* form shall be completed by crew member(s) or an accredited Project Designer and submitted to the Designated Person. This notification requirement includes custodial work resulting in any minor fiber release episodes. In addition, any accidental or unintentional disturbances of ACM, suspect ACM or presumed ACM (PACM) shall include the Designated Person notification process by completion and submission of this form.

Any vessel crew completing asbestos-related work shall complete and submit the *Asbestos Response Action Report* form to the Designated Person. Both the *Asbestos Notification and Request for Work* and the *Asbestos Response Action Report* forms are included in Appendix B of the Management Plan.

Under AHERA guidelines (40 CFR 763.95), a posting of warning signs is mandatory adjacent to any friable and non-friable ACM and suspect ACM in routine maintenance areas. Labeling is not intended as general notification and should be in conjunction with notification requirements. Labels shall be prominently displayed in readily available locations and shall remain posted until the ACM that is labeled is removed. The warning label shall read, in print, which is readily visible in large size or bright color, as follows: CAUTION: ASBESTOS. HAZARDOUS. DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT.

Additional forms to be maintained by the Designated Person include the *Training Records for Maintenance Custodial Staff* and *Periodic Surveillance Report* forms found in Appendix B of the Management Plan.

Refer to Figure 1: Asbestos Response Flow Chart for detailed steps involved in the notification and workflow processes for asbestos-related work. Records of all asbestos notifications shall be maintained by the Designated Person for inclusion in the Management Plan.

3.0 Previous Vessel Inspections

A complete Hazardous Building Materials Survey (HBMS) for ACM has been conducted in accordance with 40 CFR 763 and can be found as a separate document accompanying this O & M Plan. This report, *DOT Ferry HBMS & Management Plans MV Matanuska* (October 2023), documents the condition of all identified ACM located inside the vessel, and includes maps specifying sampling locations. Specific locations of all identified ACM can be found in Appendix B of the HBMS report.

4.0 Worker Protection Program

With respect to the protection of workers from the potential harm from exposure to asbestos, the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) each have regulatory responsibility. For Alaska-based operations the requirements under Alaska Occupational Safety and Health (AKOSH) and Alaska Department of Labor (AKDOL) may apply under 8 AAC 61.600-720. Additional requirements under 40 CFR 763 and 29 CFR 1910.1001 may apply.

The AMHS Asbestos Awareness Training presentation details a basic overview of hazards associated with asbestos, common types of asbestos, potential ACM onboard the vessel, and ways to avoid contact and unintentional fiber releases. This presentation is required for all personnel who work in areas where ACM is present. An additional fourteen (14) hours of training will be required for all personnel who may be required to work with ACM. All personnel training shall be conducted within sixty (60) days after commencement of employment as required by 40 CFR 763.92(a). Details of required personnel training are provided in the following subsections.

Proper protection of the workers who may encounter asbestos should include the appropriate level of training, personal protective equipment (PPE), and any other additional regulatory requirements for the job duties involved under EPA, OSHA, and AKOSH guidelines.

4.1 Asbestos Awareness

All employees who perform maintenance or custodial operations in an area which contains ACM shall be provided a two-hour Asbestos Awareness Training course in accordance with 40 CFR 763.92(a), which shall at a minimum contain the following elements:

- Information regarding asbestos and its various uses and forms
- Information on the health effects associated with asbestos exposure
- Locations of ACM identified throughout the MV Matanuska
- Recognition of damage, deterioration, and delamination of ACM
- Proper notification of fiber release episodes
- Name and telephone number of the Designated Person
- Location of the Management Plan

Training shall be provided prior to, or at the time of, the initial assignment and updated as needed or as conditions change. All new employees shall be trained within sixty (60) days of employment start date.

4.2 Operations and Maintenance Training

Training is required for all staff who conduct activities that result in the disturbance of ACM. These activities, referred to as small-scale, short-duration activities generally involve the repair, or sometimes the removal (using the glove bag methods), of no more than three square feet or three linear feet of friable ACM.

All employees whose work requires them to encounter or handle ACM shall be trained, in addition to the asbestos awareness training course, with a minimum of fourteen hours of Operations and Maintenance (O & M) Training in accordance with 40 CFR 763.92(a), including:

- All topics covered in the Asbestos Awareness course
- Descriptions of the proper methods of handling ACM
- Information on the use of respiratory protection and other personal protection measures
- Specific work practices and safety procedures
- Information on federal asbestos regulations that apply to AHERA and ASHARA
- Hands-on training in the use of respiratory protection and good work practices

It is important to note that this federal regulation (40 CFR 763.92) requires that any individual who performs O & M activities that disturb asbestos must be monitored under the medical surveillance program, described in Section 5.0 of this O & M Plan. Additional air monitoring operations must be performed by qualified individuals completely independent of the abatement contractor to avoid possible conflict of interest.

4.3 Outside Contractors

All outside contractors working in an area of a facility where ACM is located must be notified of the presence, location, and present condition of ACM and are responsible for the appropriate required level of training for their employees. Contractors must provide verification that their workers are currently trained in accordance with this O & M Plan and applicable regulations to the Designated Person. Certification, notification, and air monitoring may be required under 8 AAC 61.600-720, 29 CFR 1910.1001, and 40 CFR 763.

Notification to the Designated Person of the presence and intended activities of outside workers shall be made prior to the workers beginning their activities. The Designated Person shall then determine if any possible disturbance of ACM may occur. The Designated Person will release the workers to proceed after evaluation has occurred.

4.4 Recordkeeping

Documentation of training, certifications, and notifications shall be kept in accordance with 40 CFR 763 and any other applicable OSHA recordkeeping standards. A copy of the *Asbestos Training Records* form shall be submitted to the Designated Person for retention. Further documentation shall be kept following AMHS policies and procedures.

5.0 Medical Surveillance

Medical examinations and consultations are required for all employees prior to beginning work, who are involved with asbestos work including:

- A combined total of thirty (30) or more days per year engaging in Class I, II, and III work or being exposed at or above the permissible exposure limit (PEL) under OSHA guidelines.
- Being exposed at or above the PEL or excursion limit (EL).
- For employees who wear negative pressure respirators, days when fewer than sixty (60) minutes of asbestos work are completed are not included in the twenty-nine (29) day count.

Examinations are repeated annually thereafter, at a minimum. Medical examinations include a medical and work history with special emphasis on the pulmonary, cardiovascular, and gastrointestinal systems. Along with a pulmonary function test, any examinations or tests deemed necessary by the examining physician are included. A respiratory protection program may be required under 29 CFR 1910.134.

5.1 Information Provided to the Physician

The following information must be provided to the physician by the employees' supervisor before the physical:

- A description of the employee's duties as they relate to the employee's potential exposure.
- The employee's representative exposure level or anticipated exposure level.
- A description of personal protection equipment planned for use by the employee.

- Any information from previous medical examinations regarding the employee which is not otherwise available to the examining physician.

5.2 Physician's Written Opinion

Once the physical examination has been conducted, the examining physician will provide a written statement consisting of the physician's opinion whether the employee has any detected medical conditions that would place the employee at an increased risk of health impairment from exposure to asbestos. Any recommended limitations on the employee, or on the use of personal protective equipment such as respirators, will be noted in the opinion.

The opinion will also include statements that the employee has been informed by the physician of the results of the medical examination, and any medical conditions that may result from asbestos exposure. A statement will also be included that the employee has been informed by the physician of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure.

The physician will not reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure to asbestos. The supervisor will provide a copy of the physician's written opinion to the affected employee within thirty (30) days from its receipt.

5.3 Records

All written opinions and other information relevant to workers' exposure will be kept in accordance with 29 CFR 1910.1001(m)(3)(iii). The employer shall maintain these records for the duration of employment plus thirty (30) years in accordance with 29 CFR 1910.1020.

6.0 Response Action Plan

A complete HBMS report, *DOT Ferry HBMS & Management Plans MV Matanuska*, has been completed and submitted to the Designated Person as guidance in creating a Response Action Plan in any case the reported ACM and/or PACM is disturbed or damaged in any manner defined under 40 CFR 763.90.

In accordance with EPA regulations, the Response Action Plan selected shall be sufficient to protect human health and the environment and is the least burdensome. Nothing in this section shall be construed to prohibit removal of ACM from the vessel at any time, should removal be the preferred response action of the Designated Person.

Depending upon the nature of the asbestos-related work, vessel personnel must identify which control method is most appropriate. There are four control methods to consider when conducting asbestos-related work: Encapsulation, Enclosure, Repair, and Removal within O & M guidelines. These four control methods are detailed in the following subsections.

6.1 Encapsulation

Encapsulation is a control method for ACM utilizing encapsulants to mitigate the risks associated with asbestos. The two types of encapsulants are called bridging and penetrating, which are selected depending on the material. Bridging encapsulants coat the material, causing the material to develop a tough exterior. Penetrating encapsulants seep into the material, causing the material

to harden and bind together. During the process of encapsulation, the encapsulant of choice is sprayed onto the material using a low-pressure spray system in a way that ensures the full coating of the ACM. It is recommended that workers use at least two passes with the encapsulant to completely cover the ACM. Workers must wear the appropriate PPE and follow regulatory requirements for the entirety of the process.

6.2 Enclosure

Enclosure is the control method for ACM that requires building an air-tight barrier around the material. The enclosure barrier must be built with non-ACM, such as sheet rock, sheet metal, and other non-asbestos containing materials. **The enclosure barrier must be air-tight or else it is not considered an enclosure.** Workers must wear the appropriate PPE and follow regulatory requirements for the entirety of the process.

6.3 Repair

Repair is a control method that may be used if there is a small amount of damage to the ACM that can be repaired. Multiple repair methods may be used; however, the materials used must be non-ACM and sufficiently mitigate the associated asbestos hazards.

Workers must wear the appropriate PPE and follow regulatory requirements for the entirety of the process.

6.4 Removal

Removal is the control method for ACM that facilitates the process of removing ACM from its origin. For O & M purposes this is restricted to one 60-inch x 60-inch glove bag or three square or linear feet. The glove bag is not allowed to be moved and doing so will result in the work being reclassified. Anything above these amounts may be classified as Class I or Class II under OSHA guidelines for removal purposes. Under OSHA guidelines, removal work that is classified as Class I or Class II requires a licensed asbestos abatement contractor to remediate in accordance with all State and Federal regulations and does not fall under O & M guidelines.

The use of mini-enclosures or other effective means of isolation may be required depending on the method and type of removal.

7.0 Fiber Release Episodes

During normal vessel maintenance or uncontrolled events (such as an earthquake) a fiber release episode may occur. A fiber release episode means any uncontrolled or unintentional disturbance of ACM resulting in visible emission. Fiber release episodes are divided into two different categories depending on the size of disturbance. Responses to each episode will vary and should be addressed in the Response Action Plan. The current AMHS policies and procedures for disturbance of asbestos require the vessel personnel to complete the *Asbestos Notification and Request for Work* form with all pertinent data filled out in as much detail as possible. This form is then required to be submitted to the Designated Person and retained following AMHS

recordkeeping procedures. The following information details the requirements set forth in 40 CFR 763 for each episode.

7.1 Minor Fiber Release Episodes

In case of a Minor Fiber Release Episode (involving less than three square feet or three linear feet of ACM) the Designated Person must:

- Restrict access into the area where the cleanup will occur and post signs to prevent entry into the area by persons other than those necessary to perform the response action
- Thoroughly wet the debris
- Clean all surfaces, fixtures, and components in the area
- Carefully restore the area of damaged ACM with an appropriate compound such as plaster, spackling, or fiberglass pipe insulation

7.2 Major Fiber Release Episodes

In the case of a Major Fiber Release Episode (involving greater than three square feet or three linear feet of ACM) the Designated Person must:

- Restrict access into the area where the cleanup will occur and post signs to prevent entry into the area by persons other than those necessary to perform the response action
- Shut off or temporarily modify air handling systems to prevent the distribution of fibers to other areas in the vessel
- Contact appropriate persons accredited to conduct response action
- Receive documentation from the accredited contractor pertaining to required notification, certification, completed work, and proper disposal

A Major Fiber Release Episode may be classified under OSHA guidelines as Class I or Class II work depending on the quantity, type of materials being disturbed, and the methods used during the disturbance process.

Class I work involves the removal of High-Risk ACM, such as friable materials, and is considered the most hazardous.

Class II work involves the removal of ACM that is not high-risk, such as floor tile, wall board, ceiling tile, and mastics. Class II can become Class I when the materials are made friable. This includes but is not limited to sanding, cutting, or the use of power tools on these materials.

Any work that is classified under OSHA guidelines as Class I or Class II must be accomplished by a licensed asbestos abatement contractor in accordance with all State and Federal regulations and do not fall under O & M guidelines.

8.0 Routine Work Practices

The following routine work practices outline procedures to be taken during any accidental release of the remaining non-friable or friable ACM.

For any work that may involve asbestos it is crucial to follow current AMHS policies and procedures by completing the *Asbestos Notification and Request for Work* form with all pertinent information filled out in as much detail as possible. This form is then required to be submitted to the Designated Person and retained following AMHS recordkeeping procedures. At the conclusion of the work the Response Action Report form shall be retained according to AMHS recordkeeping procedures.

8.1 Undisturbed NON-FRIABLE ACM

The undisturbed non-friable ACM that remains on the vessel may include, but is not limited to, floor tiles, mastic, caulking, gaskets, and wallboard and is considered to be in good condition. These components can continue to be cleaned by non-abrasive methods. No special personal protective equipment is required for this work. Further information regarding undisturbed non-friable ACM that has been tested is located in the *DOT Ferry HBMS & Management Plans MV Matanuska* HBMS report.

Prohibited cleaning practices for these materials include:

- Sanding
- Grinding
- High speed buffing of floors
- Chipping tiles
- Any other methods causing the ACM to break down and become friable

8.2 Loose or Broken NON-FRIABLE ACM

Any non-friable ACM that is discovered during custodial or maintenance operations to be damaged or broken will be treated as follows:

- Notify appropriate personnel of the damaged ACM.
- Ensure all personnel affected are trained in accordance with section 4.0 of this O & M plan (16-hour training needed).
- Wet the broken pieces and the surrounding area with an amended water solution and place the broken pieces in approved disposal bags. All ACM shall be removed in intact sections whenever possible.
- Begin cleaning the area using a HEPA filtered vacuum.
- Removed sections shall be stored and disposed of in accordance with applicable regulations.

8.3 Removal of Intact NON-FRIABLE ACM

Only licensed contractors should conduct the removal of intact non-friable ACM from the vessel. The ACM shall be removed by methods that will not cause it to break down or become friable.

Removal of more than three square feet or three linear feet of ACM is considered a Major Fiber release and must be done by a certified asbestos contractor. The accredited contractor must meet all State and Federal regulations and follow proper notification requirements under EPA and OSHA guidelines. These regulations may include 8 AAC 61.600-720 and 40 CFR 61 Subpart M. The contractor should provide the proper insurances for the job. Non-friable materials include but are not limited to ceiling tiles, mastics, roofing, wallboard, and other materials that do not crumble under hand pressure.

8.4 Repair or Emergency Removal FRIABLE ACM

Repair or emergency removal shall consist of small-scale, short-duration renovation and maintenance activities including:

- Removal or repair of ACM pipe insulations
- Cleanup of delaminated fireproofing lying on top of ceiling tiles or other surfaces

All such work shall be in strict accordance with OSHA Standards and is recommended that a licensed asbestos contractor conduct this work.

8.5 Removal of FRIABLE ACM

Any removal of the friable ACM on the vessel shall be accomplished by a licensed asbestos abatement contractor in accordance with all State and Federal regulations. The accredited contractor must meet all State and Federal regulations and follow proper notification requirements under EPA and OSHA guidelines. These regulations may include 8 AAC 61.600-720 and 40 CFR 61 Subpart M. The contractor should provide the proper insurances for the job. Friable materials include but are not limited to TSI, spray-on insulation, surfacing materials, and other materials that may be crumbled under hand pressure.

9.0 Renovation Projects

Renovation and/or demolition projects may require additional inspections of the MV Matanuska at the discretion of the Designated Person. AMHS will utilize the services of an accredited building inspector to perform any additional inspections.

9.1 Recordkeeping

Once the fiber release episode is complete, the following information is given to the Designated Person to complete the Response Action Report as provided in Appendix B of the Management Plan:

Minor Release Episode

- Date of episode
- Location of episode
- Control method(s) used

- Preventive measures or response actions taken
- Name, address, telephone number, and affiliation of each person performing the work
- If ACM is removed, the name and location of the storage or disposal site for ACM

Major Release Episode

- Date of episode
- Location of episode
- Control method(s) used
- Preventive measures or response actions taken
- Name, address, telephone number, and affiliation of each person performing the work
- If ACM is removed, the name and location of the storage or disposal site for ACM
- Certificates of workers
- Air monitoring data, including worker and clearance air monitoring

10.0 Routine Cleaning Practices

There are multiple requirements under 40 CFR 763 that must be met regardless of the work involved with asbestos, and general housekeeping rules that should be followed. These are as follows:

1. Clean up all debris using appropriate methods and cleaning procedures. ACM should be bagged, labelled, and recorded using methods that follow all Federal and local regulations. There should be no visible debris left after asbestos-related work.
2. Use a HEPA vacuum with the correct rating (99.97% efficiency) to collect any dust generated. Wipe down surfaces with a damp rag using the ceiling to floor, top to bottom method.
3. After cleaning the work site make sure to properly collect, label, record, and bag all asbestos related waste, including disposable suits and respirator filters, and dispose of them in an EPA-approved disposal site. EPA regulations 40 CFR 61.150 and 40 CFR 763 Subpart E Appendix D may apply.

11.0 Periodic Surveillance

It is recommended that all existing ACM on the MV Matanuska be monitored at least once every six months for any accidental disturbance or change in condition, in accordance with 40 CFR 763.92(b). This monitoring is to be conducted by the vessel crew or Designated Person by visually inspecting the ACM left in place, and completing the *Periodic Surveillance Report* form, located in Appendix B of the Management Plan. This form, along with all other asbestos documentation forms, is to be maintained by the Designated Person for inclusion in the Management Plan.

The following subsections describe the various conditions of ACM as defined under 40 CFR 763, as well as the necessary steps to maintain ACM in good condition and mitigate ACM in damaged condition.

11.1 ACM in Good Condition

ACM that is in good condition is any ACM which remains intact both in its own internal structure as well as its adhesion to the substrate to which it is applied. ACM in good condition does not display any signs of flaking, blistering, water damage, gouging, delamination, tearing, punctures, or other deterioration which may affect the material's internal structure or adhesion to the substrate.

ACM in good condition may remain in place and may be cleaned using non-abrasive methods by staff which have successfully completed the 2-hour Asbestos Awareness Training.

11.2 Damaged ACM

Damaged ACM means any ACM that shows signs of deterioration including flaking, blistering, water damage, gouging, delamination, tearing, punctures, or other deterioration which may affect the material's internal structure or adhesion to the substrate which covers up to 10% of the surface if evenly distributed, or 25% of the surface if damage is localized. For TSI ACM, this damage may also include missing jackets on the piping or other equipment or sections of crushed insulation. In addition to visual assessment of the material, damage may be confirmed by any debris of similar physical description to the ACM which has accumulated beneath the insulated piping or other equipment or structures.

Damaged ACM may be remediated by vessel personnel who have completed 16 hours of Operations & Maintenance training in the event of a minor fiber release episode, as defined under EPA 40 CFR 763.92(f)(1). All major fiber release episodes, as defined under EPA 40 CFR 763.92(f)(2), must be remediated by an accredited abatement contractor and the project must be designed by a certified Project Designer.

11.3 Significantly Damaged ACM

Significantly damaged ACM means any ACM that shows signs of deterioration including flaking, blistering, water damage, gouging, delamination, tearing, punctures, or other deterioration which may affect the material's internal structure or adhesion to the substrate which covers more than 10% of the surface if evenly distributed, or more than 25% of the surface if damage is localized. For TSI ACM, this damage may also include missing jackets on the piping or other equipment or sections of crushed insulation. In addition to visual assessment of the material, significant damage may be confirmed by any debris of similar physical description to the ACM which has accumulated beneath the insulated piping or other equipment or structures.

Significantly damaged ACM may be remediated by vessel personnel who have completed 16 hours of Operations & Maintenance training in the event of a minor fiber release episode, as defined under EPA 40 CFR 763.92(f)(1). All major fiber release episodes, as defined under EPA 40 CFR 763.92(f)(2), must be remediated by an accredited abatement contractor and the project must be designed by a certified Project Designer.

11.4 ACM With Potential for Damage or Significant Damage

In some cases, ACM that is identified to be in good condition at the time of inspection may be at risk for future damage or significant damage. ACM which has potential for damage or significant damage are defined under EPA 40 CFR 763.83 as friable ACM located in an area that is regularly used by vessel occupants, including maintenance personnel, during normal activity, or any ACM which has a reasonable likelihood of becoming deteriorated. Additionally, potential for significant damage may be indicated by the potential for major or ongoing disturbance by way of accessibility to the material, vibration or erosion of the material, or any other major or ongoing disturbance that may affect the ACM in question.

It is recommended that any ACM with potential for damage or significant damage be monitored by maintenance personnel and appropriately documented using the *Periodic Surveillance Report* form found in Appendix B of the Management Plan.

12.0 Periodic Re-Inspections

At least every three years, beginning with the implementation of the Management Plan, all areas where ACM has been identified shall be re-inspected for any changes in condition. The re-inspection shall be conducted by an accredited building inspector, following the requirements under 40 CFR 763.85(b). Results of the periodic re-inspections shall be maintained by the Designated Person for inclusion in the Management Plan.

12.1 Management Plan and O & M Plan Updates

The Management Plan and O & M Plan should be updated with any changes in results from the re-inspection of ACM. A new copy of the Management Plan and O & M Plan shall be kept in accordance with 40 CFR 763 and available for review.

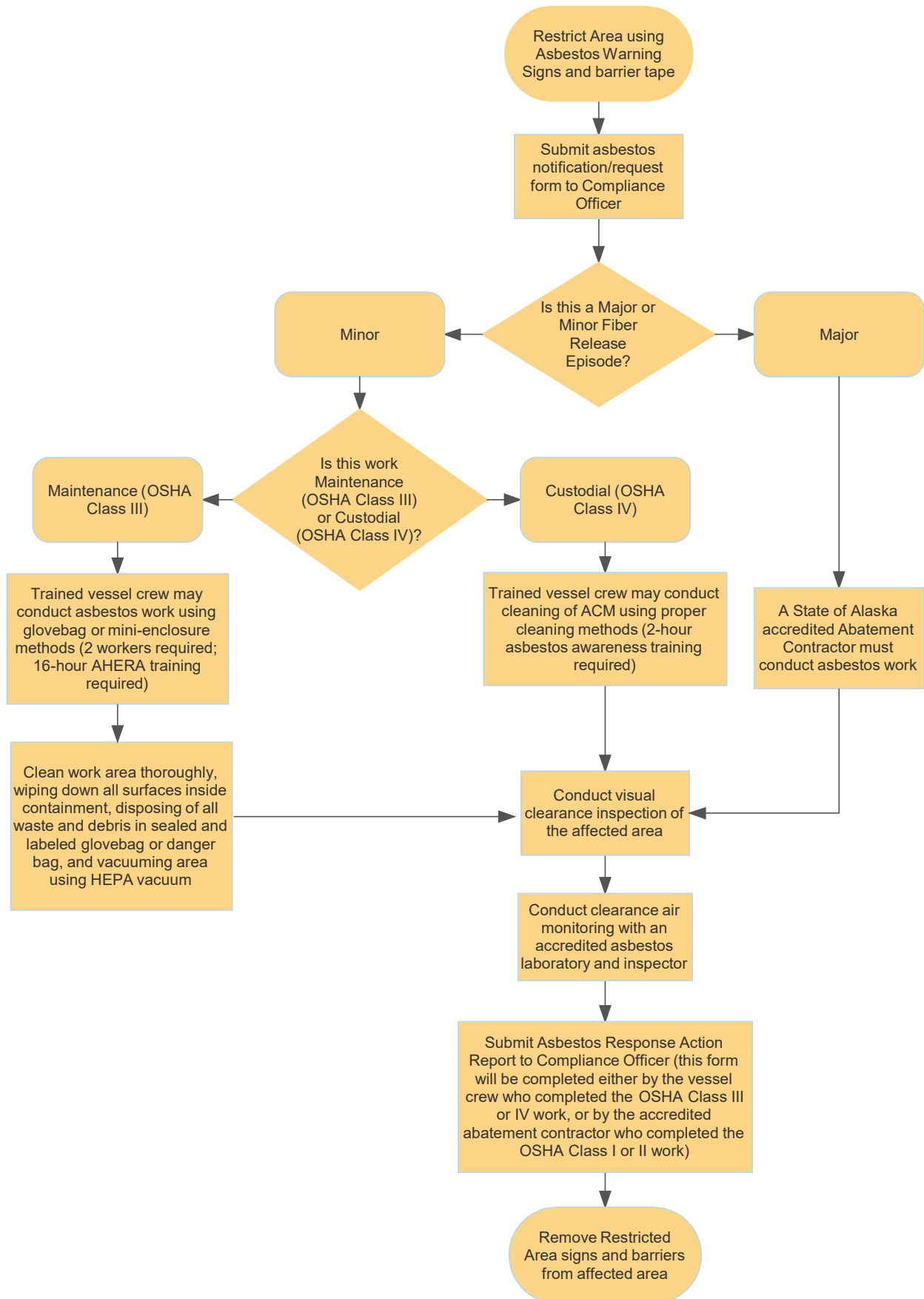
12.2 Additional Inspections

The need for additional inspections before the recommended three-year time duration may occur. The following is a listing of occurrences that may result in additional inspections:

- Renovation projects
- Demolition projects
- Discovery of previously unidentified PACM
- Earthquakes or other natural disasters

FIGURE 1
ASBESTOS RESPONSE FLOW CHART

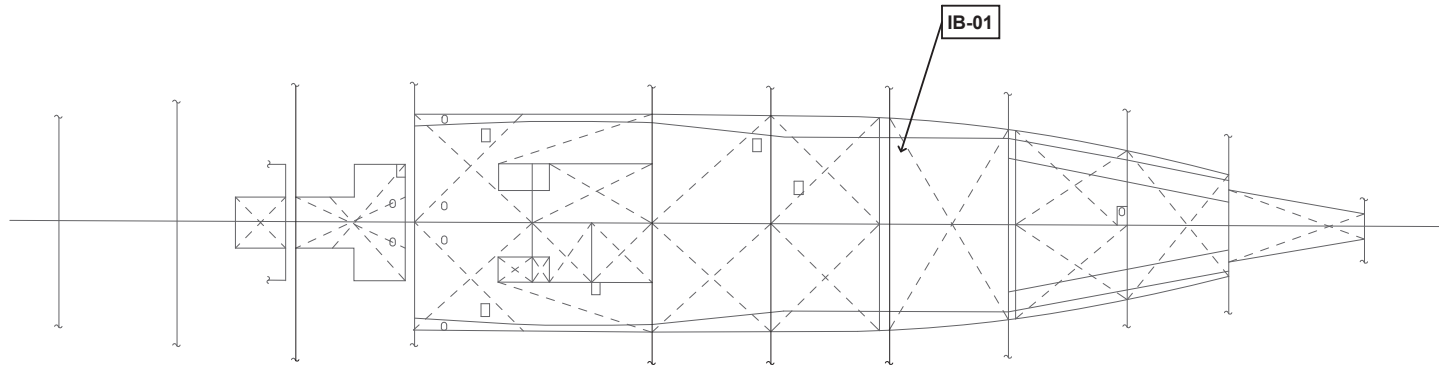
Figure 1. Asbestos Response Flow Chart



APPENDIX E
Asbestos Sample Location Diagrams



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
DOT FERRY HBMS & MANAGEMENT PLAN

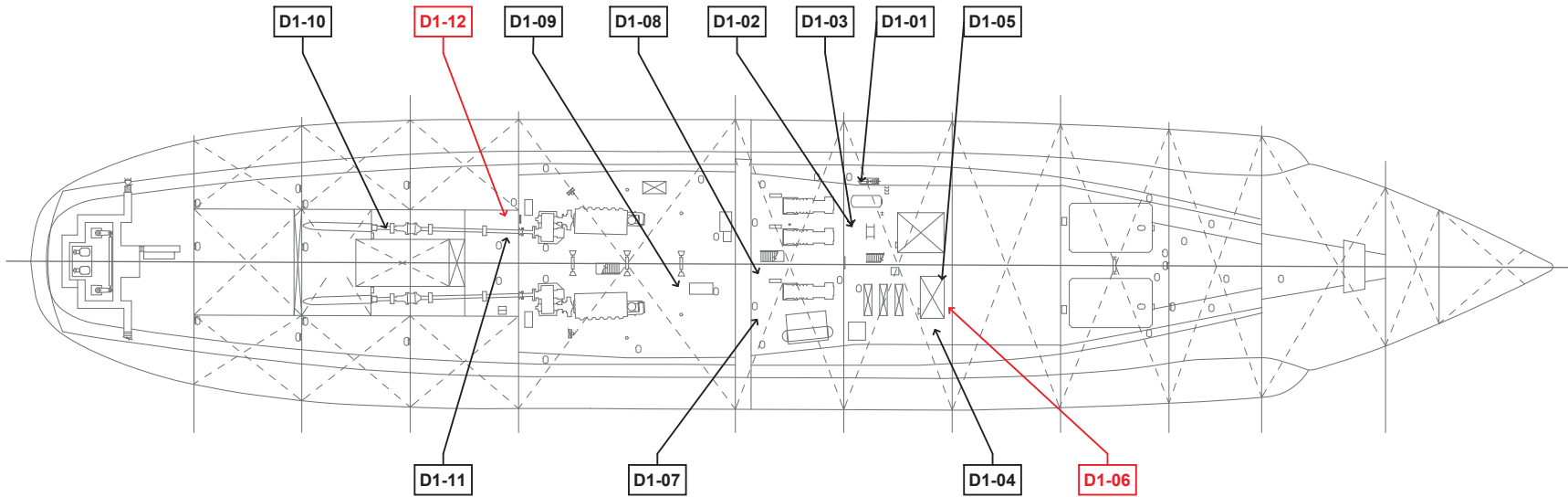
TITLE
**MV MATANUSKA
 INNERBOTTOM**

CLIENT
**DEPARTMENT OF
 TRANSPORTATION &
 PUBLIC FACILITIES**

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D0		REV



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
DOT FERRY HBMS & MANAGEMENT PLAN

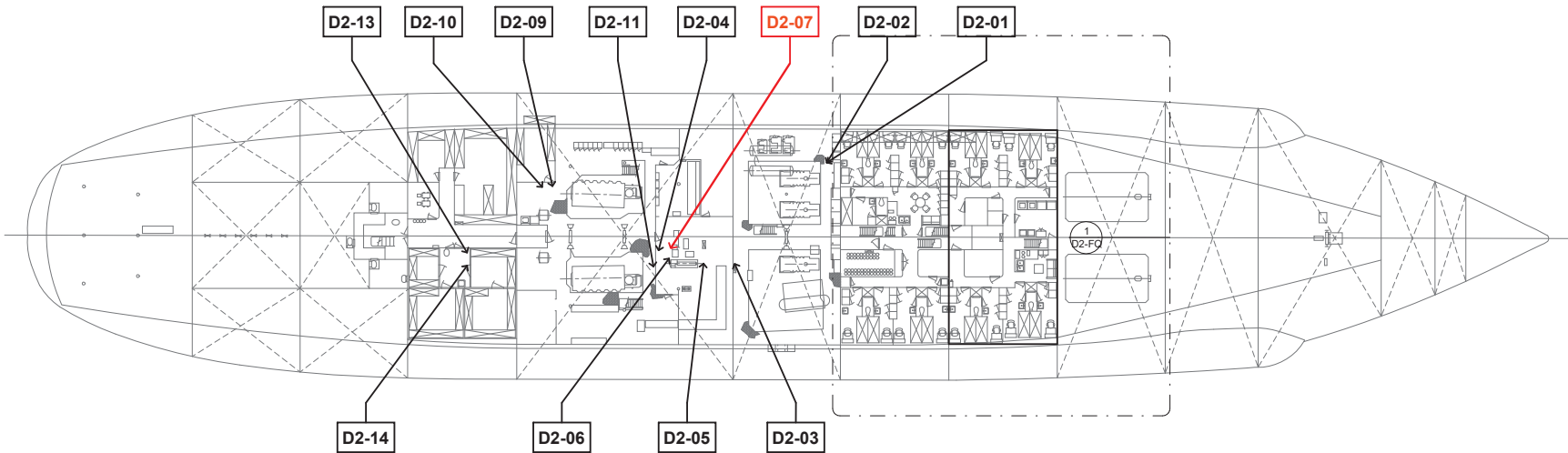
TITLE
MV MATANUSKA HOLD DECK 1

CLIENT
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D1		REV



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
DOT FERRY HBMS & MANAGEMENT PLAN

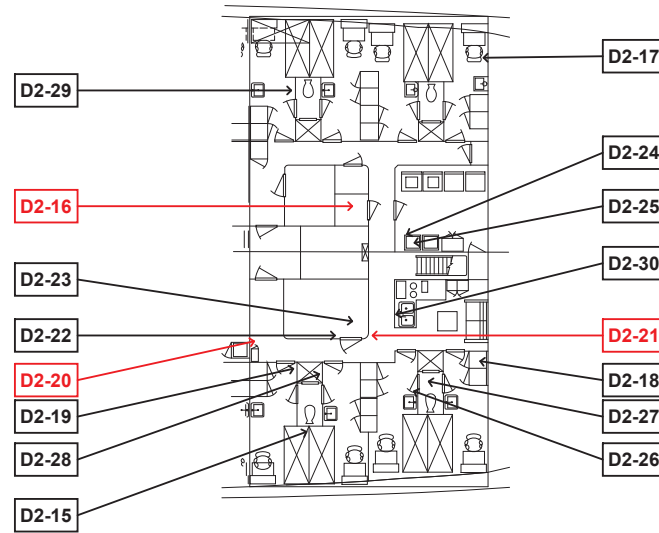
TITLE
**MV MATANUSKA
 SECOND DECK 2**

CLIENT
**DEPARTMENT OF
 TRANSPORTATION &
 PUBLIC FACILITIES**

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D2	REV	



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
 DOT FERRY HBMS & MANAGEMENT PLAN

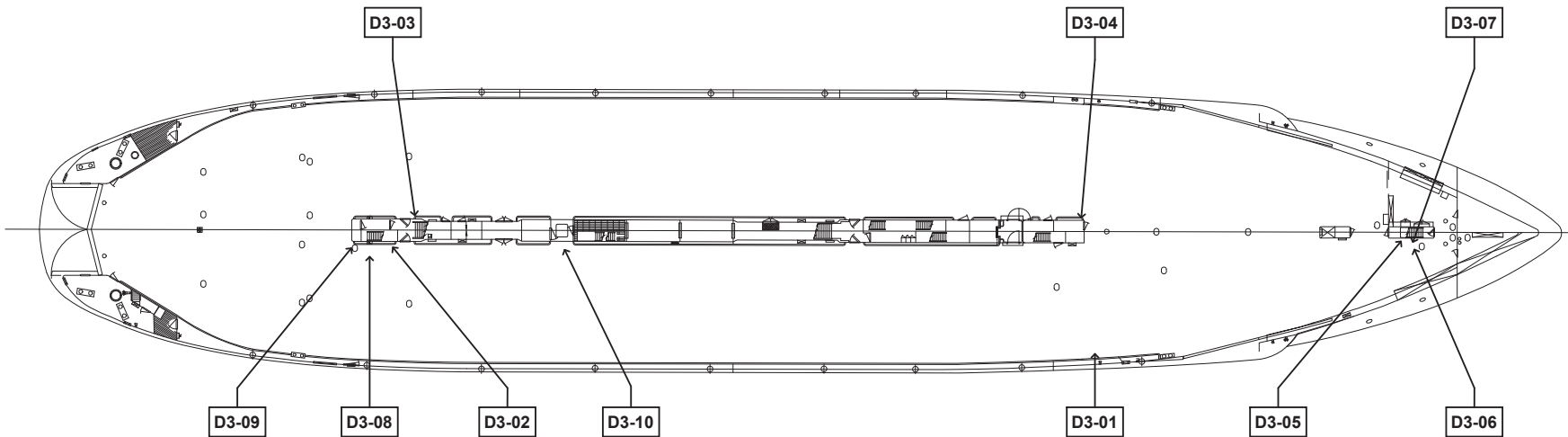
TITLE
 MV MATANUSKA
 SECOND DECK 2 -
 FORWARD QUARTERS

CLIENT
 DEPARTMENT OF
 TRANSPORTATION &
 PUBLIC FACILITIES

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D2-FQ		REV



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
DOT FERRY HBMS & MANAGEMENT PLAN

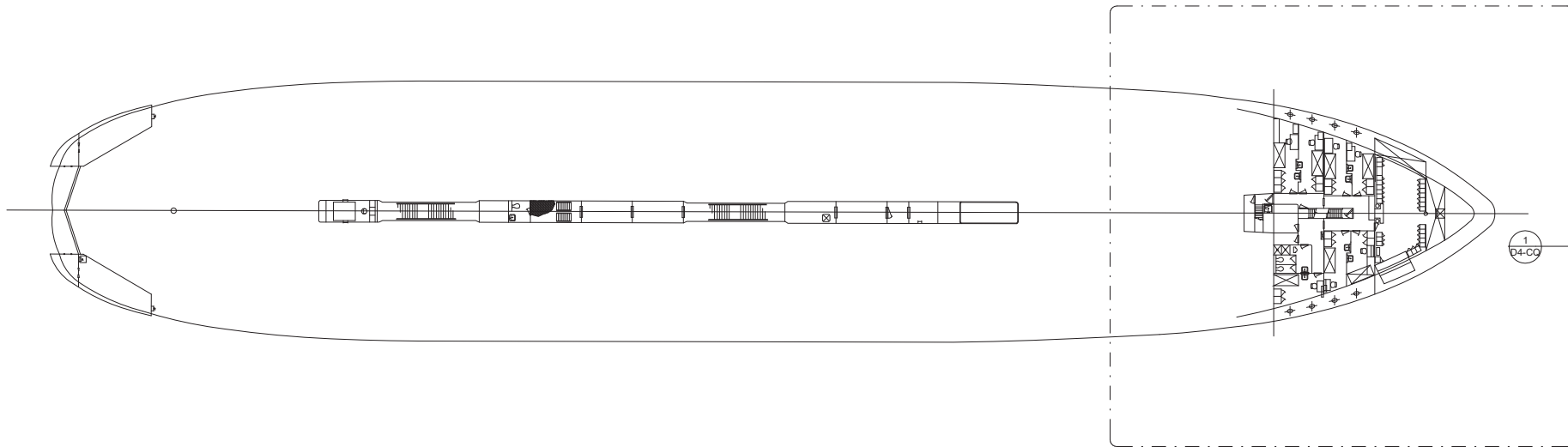
TITLE
**MV MATANUSKA
 MAIN DECK 3**

CLIENT
**DEPARTMENT OF
 TRANSPORTATION &
 PUBLIC FACILITIES**

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D3		REV



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT

DOT FERRY HBMS &
MANAGEMENT PLAN

TITLE

MV MATANUSKA
GALLERY DECK 4

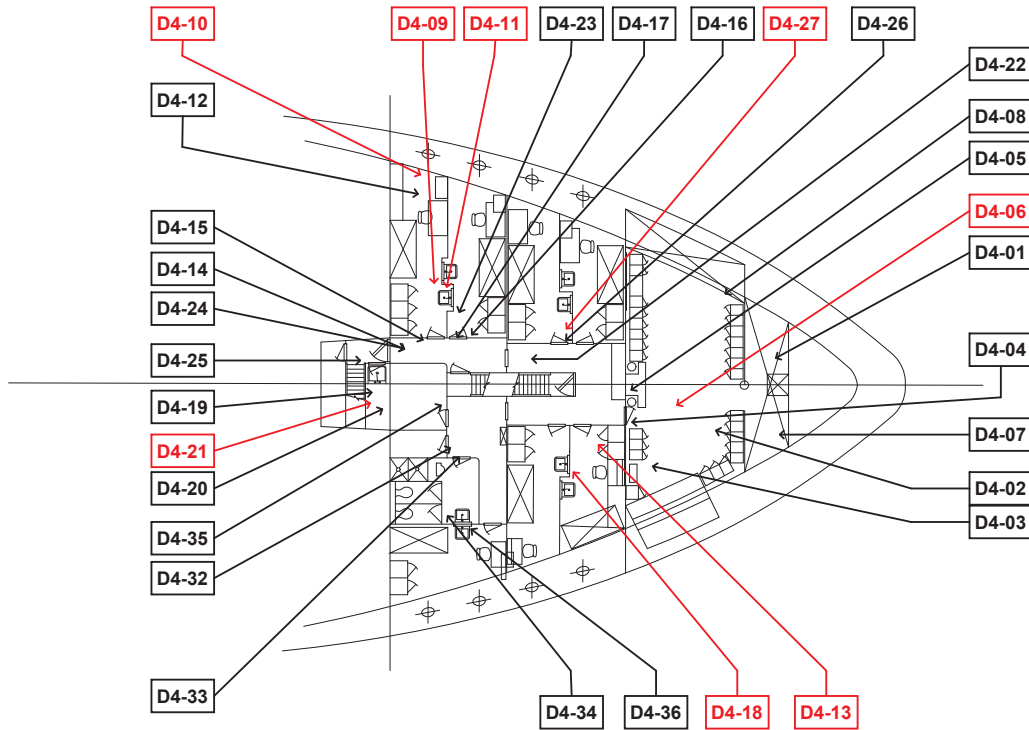
CLIENT

DEPARTMENT OF
TRANSPORTATION &
PUBLIC FACILITIES

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D4	REV	



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
DOT FERRY HBMS & MANAGEMENT PLAN

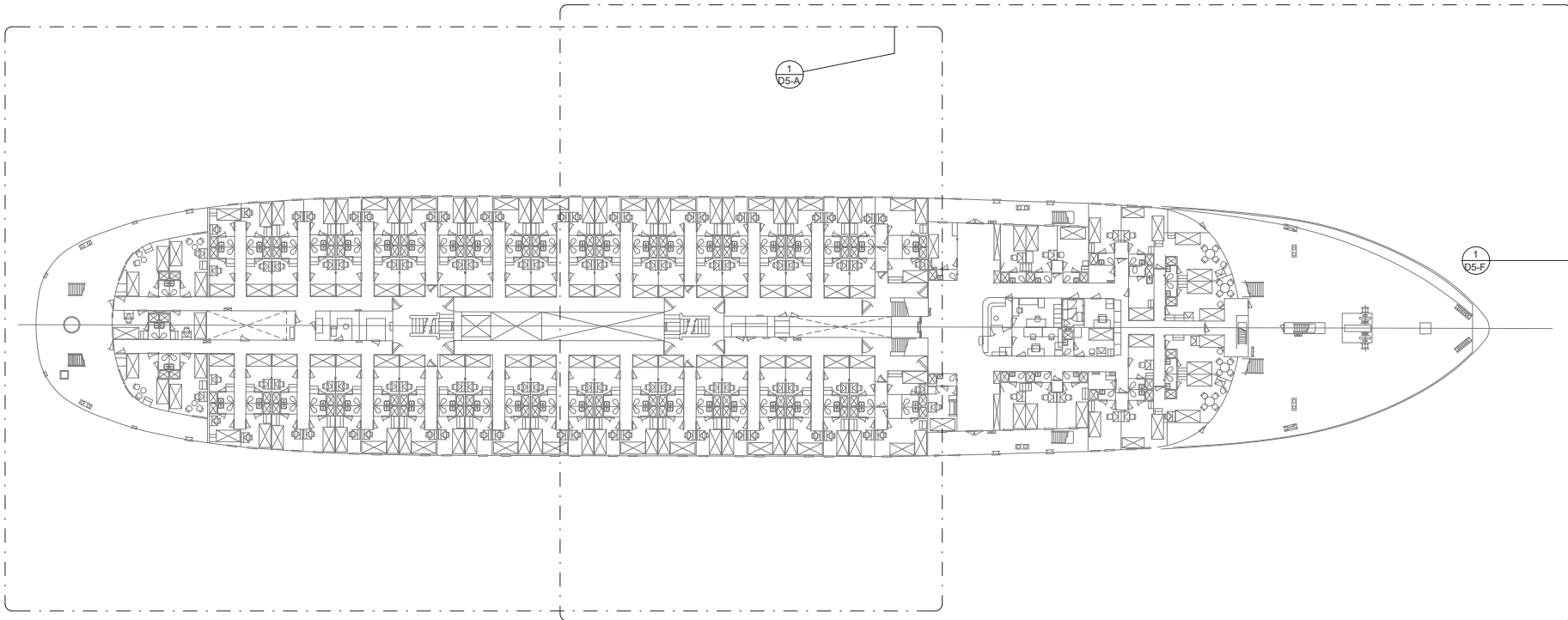
TITLE
**MV MATANUSKA
 GALLERY DECK 4 -
 CREW QUARTERS**

CLIENT
**DEPARTMENT OF
 TRANSPORTATION &
 PUBLIC FACILITIES**

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D4-CQ	REV	



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



PROJECT

DOT FERRY HBMS & MANAGEMENT PLAN

TITLE

**MV MATANUSKA
CABIN DECK 5**

CLIENT

**DEPARTMENT OF
TRANSPORTATION &
PUBLIC FACILITIES**

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
-------------------------------	-----------------------------	-----------------

SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225
------------------------------	-------------------------

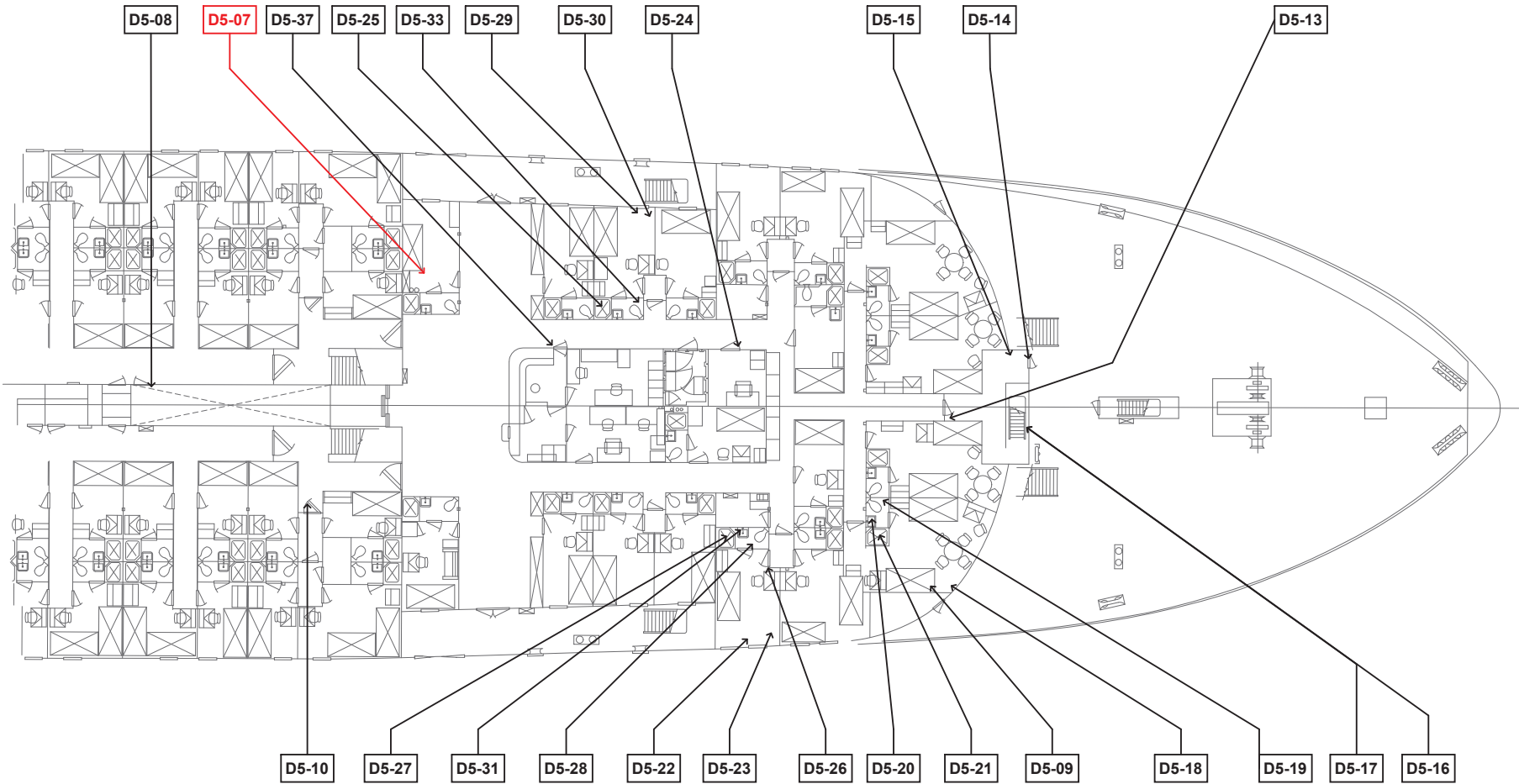
DRAWING NUMBER D5	REV
----------------------	-----

XX-XX → = SAMPLE POSITIVE

XX-XX → = SAMPLE NEGATIVE



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
DOT FERRY HBMS & MANAGEMENT PLAN

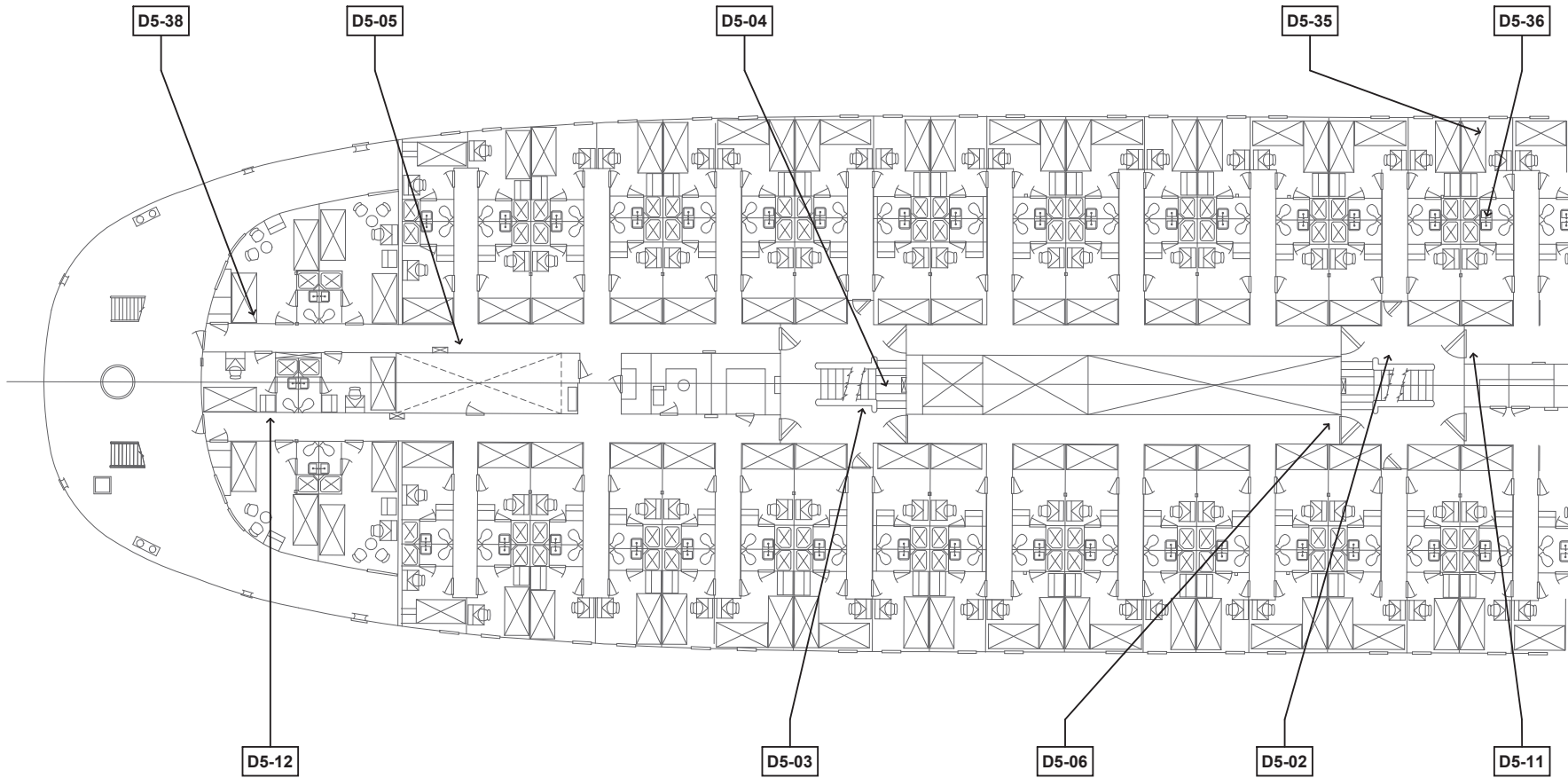
TITLE
MV MATANUSKA CABIN DECK 5 - FORWARD

CLIENT
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D5-F		REV



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
DOT FERRY HBMS & MANAGEMENT PLAN

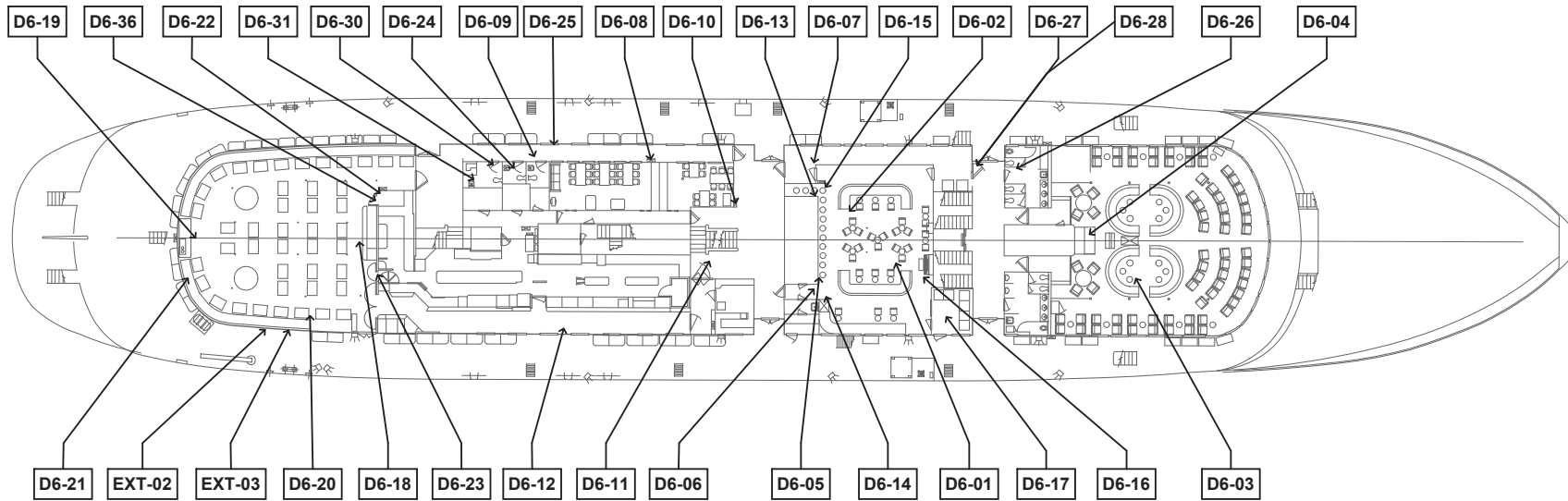
TITLE
MV MATANUSKA CABIN DECK 5 - AFT

CLIENT
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D5-A	REV	



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



PROJECT

DOT FERRY HBMS & MANAGEMENT PLAN

TITLE

MV MATANUSKA
BOAT DECK 6

CLIENT

DEPARTMENT OF
TRANSPORTATION &
PUBLIC FACILITIES

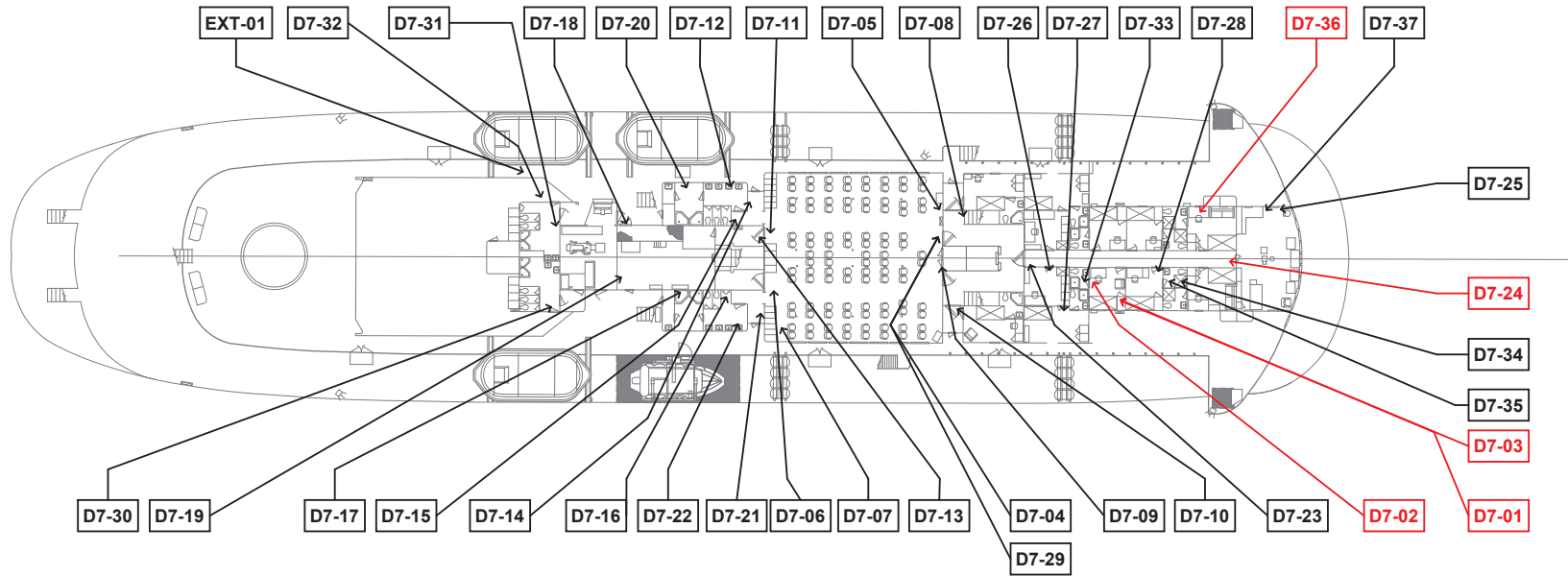
DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
-------------------------------	-----------------------------	-----------------

SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225
------------------------------	-------------------------

DRAWING NUMBER D6	REV
----------------------	-----



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
DOT FERRY HBMS & MANAGEMENT PLAN

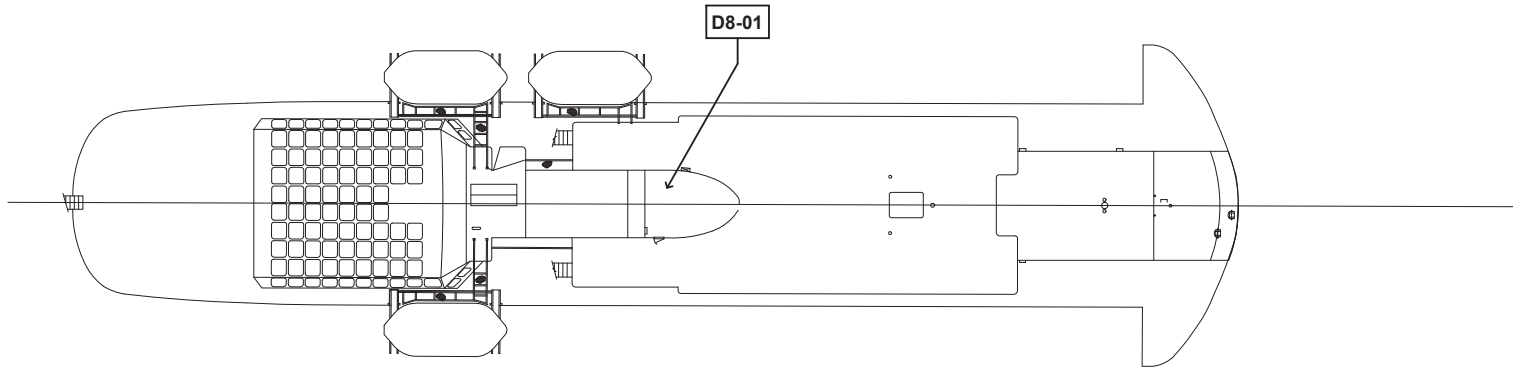
TITLE
MV MATANUSKA BRIDGE DECK 7

CLIENT
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D7		REV



1310 E 66th Avenue, Suite 2
Anchorage, AK 99518



XX-XX → = SAMPLE POSITIVE
XX-XX → = SAMPLE NEGATIVE

PROJECT
**DOT FERRY HBMS &
MANAGEMENT PLAN**

TITLE
**MV MATANUSKA
HOUSE TOP DECK 8**

CLIENT
**DEPARTMENT OF
TRANSPORTATION &
PUBLIC FACILITIES**

DRAWN BY Godlove Ikegwuonu	CHECKED BY Anna Scheiner	DATE 12/1/23
SCALE (@ A1) NOT TO SCALE	PROJECT NUMBER 31225	
DRAWING NUMBER D8	REV	