



Ministry of Tourism and
Environment

Guideline for Fiberglass Waste Management

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List of Acronyms

HHW	Household Hazardous Waste
IWMC	Island Waste Management Centre
POPs	Persistent Organic Pollutants
SIDS	Small Island Developing States
S.W.A.P	Sustainable Waste Alternatives Program
VOCs	Volatile Organic Compounds
ESM	Environmentally Sound Management
PPE	Personal Protective Equipment
LED	Light Emitting Diode (lighting)
CFL	Compact Fluorescent Lamp
SAP	Strategic Action Plan
UNDP	United Nations Development Programme
SPREP	Secretariat of the Pacific Regional Environment Programme
NGO	Non-Governmental Organization
WDC	Women's Development Committee
M&E	Monitoring and Evaluation
FENAKA	State-owned utility managing island powerhouses
WAMCO	Waste Management Corporation (Maldives)

Executive Summary

Fiberglass waste is becoming a significant environmental and occupational challenge in the Maldives, especially in island communities where boat building and repair are essential economic activities. As part of the Hazardous Waste Baseline Assessment under the Sustainable Waste Alternatives Program (S.W.A.P.), this guideline provides a complete framework for the safe and responsible management of fiberglass waste in Noonu Atoll. It is also applicable to other atolls facing similar waste management pressures.

Fiberglass waste includes dust from grinding and sanding, resin residues, trim off-cuts, contaminated solvents, discarded PPE, and end-of-life boats and components. These materials can harm workers and the environment if they are not managed properly. Dust and fibres can cause respiratory and skin irritation, resins and solvents can create fire hazards and chemical exposure risks, and the slow breakdown of fiberglass can lead to long-term contamination of island soil and the marine environment.

This guideline brings together the relevant Maldivian laws and regulations that govern fiberglass works, chemical handling, waste management, and occupational health and safety. This includes the Waste Management Act, the Health and Safety Regulations for Fibreglass Works, and the Workplace Health and Safety Act. It also reflects the commitments that the Maldives has made under international agreements such as the Basel Convention, the Stockholm Convention, and the United Nations Convention on the Law of the Sea.

Along with regulatory requirements, the guideline provides practical solutions suited to island conditions. These include reducing waste at the source, improving manufacturing efficiency, establishing safe storage and handling systems, using the correct PPE, and adopting transportation methods that prevent spills and exposure. It also outlines disposal options through regional waste management facilities and encourages small-scale reuse and recycling where feasible.

The guideline highlights the importance of training workers, improving community awareness, maintaining proper documentation, and conducting regular inspections. These actions support councils, boatyards, and local industries in improving safety and environmental performance.

Implementing these guidelines will help island councils and community stakeholders reduce environmental risks, protect worker health, and create a more consistent and reliable fiberglass waste management system. It provides a practical and realistic foundation for improving hazardous waste management in Noonu Atoll and can guide similar efforts across the country.

Section 1: Introduction

These guidelines are designed to provide comprehensive direction for the safe, efficient, and environmentally responsible management of fiberglass waste within Noonu Atoll. The purpose of this document is to:

- a) Ensure compliance with Maldivian environmental regulations
- b) Protect the unique and fragile marine ecosystem of the Maldives
- c) Promote best practices in fiberglass waste reduction, handling, storage, and disposal
- d) Establish standardized procedures across all islands of Noonu Atoll
- e) Foster a culture of environmental stewardship among local communities
- f) Introducing principles of extended producer responsibility for fiberglass waste management at the island level

1.1 Scope

These guidelines apply to all aspects of fiberglass waste management within the atolls of Maldives, including but not limited to:

- a) Identification and characterization of fiberglass waste from boat building, repair and other construction purposes
- b) Waste minimization and potential recycling strategies suitable for island communities
- c) Safe handling and storage procedures considering limited land availability
- d) Personal protective equipment requirements in tropical climate conditions
- e) Compliance with Maldivian environmental protection laws
- f) Inter-Island transportation and disposal of fiberglass waste at Regional Waste Management Facilities
- g) Training and education for local council members and community leaders
- h) Documentation and reporting to relevant Maldivian authorities
- i) Sustainable improvement initiatives aligned with the Maldives' environmental goals

The guidelines cover all types of fiberglass waste commonly generated in island communities, including:

- a) Dust and particulates from boat repair and maintenance
- b) Trim waste and off-cuts from boat building
- c) Resin-rich waste from molding processes
- d) Contaminated solvents used in cleaning
- e) Used personal protective equipment from fiberglass related activities
- f) Empty containers of resins, catalysts, and solvents
- g) End-of-life fiberglass boats and water sports equipment

1.2 Applicability

These guidelines are applicable to:

- a) All local council members involved in waste management decision making
- b) Community members engaged in boat building, repair, and related activities
- c) All inhabited and uninhabited islands within the atoll where fiberglass waste is generated
- d) Transportation of fiberglass waste from islands to regional management facilities

1.3 Regulatory Framework

These guidelines have been developed in accordance with:

- a) Waste Management Act (Act No. 2022/24)
- b) Health and Safety Regulations for Fibreglass Works (R-18/2025)
- c) Environment Protection and Preservation Act (EPPA) 4/93
- d) Workplace Health and Safety Act (R-09/2023)
- e) Regulation for storage and handling of oil and chemicals (R-160/2015)
- f) Land Use and Management Act (16/2024)
- g) Applicable atoll and island-level regulations
- h) Best practices adapted for the unique geographical and environmental context of Maldives

1.4 Review and Updates

These guidelines should be reviewed every five (5) years updated as necessary to reflect:

- a) Changes in Maldivian environmental regulations
- b) Advancements in waste management technologies suitable for island nations
- c) Feedback from local councils and community members
- d) Results of Environmental Impact Assessments
- e) Lessons learned from waste management initiatives across different islands or

Section 2: Waste Characterisation

2.1 Definition of Fiberglass and Its Composition

Fiberglass, commonly used in boat construction and repair in the Maldives, is a composite material consisting of:

- Glass Fibers: Made from silica sand, limestone, and other minerals
- Resins: Typically, thermoset polymers such as:
 - Polyester resin (most common in boat construction)
 - Epoxy resin
 - Vinyl ester resin
- Catalysts: Used to initiate the curing process, including:
 - Methyl ethyl ketone peroxide (MEKP)
 - Benzoyl peroxide

2.2 Hazard Classification Summary

- Environmental Hazards:
 - Potential for marine pollution if improperly disposed
 - Persistence in the environment due to slow degradation
- Health Hazards:
 - Respiratory irritation from dust inhalation
 - Skin and eye irritation from resin contact
 - Potential long-term health effects from prolonged exposure
- Physical Hazards:
 - Fire risks from flammable resins and solvents
 - Potential for cuts from sharp edges of cured fiberglass

2.3 Common Byproducts, Hazards and GHS Classifications

Further details of the GHS Classifications of specific chemicals are included in the appendix in section 14.1. In the general context of the Maldives, common fiberglass byproducts include:

a) Dust and particulates from boat repair and maintenance

- Glass fibre dust
- Cured resin dust
- Mixed glass fibre and resin dust



GHS Classification:

- Health Hazard: Specific Target Organ Toxicity - Single Exposure (Category 3)
- Environmental Hazard: Not classified



Hazard Statements:

- H335: May cause respiratory irritation

Precautionary Statements:

- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P271: Use only outdoors or in a well-ventilated area,
- P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312: Call a POISON CENTER/doctor if you feel unwell.
- P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

b) Trim waste and off-cuts from boat building

- Cured fiberglass sheets or parts
- Partially cured fiberglass materials
- Edge trimmings from finished boats or components

GHS Classification:

- Physical Hazard: Not classified
- Health Hazard: Skin Irritation (Category 2)
- Environmental Hazard: Not classified

**Hazard Statements:**

- H315: Causes skin irritation

Precautionary Statements:

- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves.
- P302 + P352: IF ON SKIN: Wash with plenty of water.
- P332 + P313: If skin irritation occurs: Get medical advice/attention.
- P362 + P364: Take off contaminated clothing and wash it before reuse.

c) Resin-rich waste from molding processes

- Excess mixed resin
- Resin drips and spills
- Gel coat overspray
- Uncured or partially cured resin residues

GHS Classification:

- Physical Hazard: Flammable Liquids (Category 3)
- Health Hazard: Skin Sensitization (Category 1)
- Environmental Hazard: Chronic Aquatic Toxicity (Category 2)

**Hazard Statements:**

- H226: Flammable liquid and vapour
- H317: May cause an allergic skin reaction
- H411: Toxic to aquatic life with long lasting effects

Precautionary Statements:

- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233: Keep container tightly closed.
- P240: Ground and bond container and receiving equipment.
- P241: Use explosion-proof electrical/ventilating/lighting equipment.
- P242: Use non-sparking tools.
- P243: Take action to prevent static discharges.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

- P272: Contaminated work clothing should not be allowed out of the workplace.
- P273: Avoid release to the environment.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P302 + P352: IF ON SKIN: Wash with plenty of water.
- P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.
- P362 + P364: Take off contaminated clothing and wash it before reuse.
- P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
- P391: Collect spillage.
- P403 + P235: Store in a well-ventilated place. Keep cool.

d) Contaminated solvents used in cleaning

- Acetone
- Styrene
- Toluene
- Xylene
- Other local cleaning agents

GHS Classification:

- Physical Hazard: Flammable Liquids (Category 2)
- Health Hazard: Acute Toxicity - Inhalation (Category 4)
- Environmental Hazard: Acute Aquatic Toxicity (Category 2)



Hazard Statements:

- H225: Highly flammable liquid and vapor
- H332: Harmful if inhaled
- H401: Toxic to aquatic life

Precautionary Statements:

- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves.
- P302 + P352: IF ON SKIN: Wash with plenty of water.
- P332 + P313: If skin irritation occurs: Get medical advice/attention.
- P362 + P364: Take off contaminated clothing and wash it before reuse.

e) Additional byproducts

1. Used personal protective equipment (PPE) contaminated with resins or fibers

GHS Classification:

- Depends on the level of contamination.
If heavily contaminated:
 - Health Hazard: Skin Irritation (Category 2)
 - Environmental Hazard: Not classified



Hazard Statements:

- H315: Causes skin irritation

2. Empty containers of resins, catalysts, and solvents

GHS Classification:

- Physical Hazard: Not classified
- Health Hazard: Not classified
- Environmental Hazard: Not classified

Note: While empty containers themselves may not be classified, residual contents may pose hazards as per their original classification.

3. End-of-life fiberglass boats and water sports equipment

GHS Classification:

- Physical Hazard: Not classified
- Health Hazard: Not classified
- Environmental Hazard: Not classified

Note: While the bulk material is not classified, dust generated during dismantling may pose respiratory hazards.

Precautionary Statements:

- P260: Do not breathe dust.
- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P284: [In case of inadequate ventilation] wear respiratory protection.

2.4 Physical Appearance of Byproducts

i. Dust and particulates

- Appearance: Fine, light-coloured powder or fibres
A cloud of very small, almost weightless particles floating in the air or settling on surfaces. The colour ranges from white to light grey, sometimes with a slight sheen. Individual fibres may be visible upon close inspection, appearing as thin, needle-like structures. When disturbed, the dust easily becomes airborne, catching light and appearing as a hazy cloud.



ii. Trim waste

- Appearance: Solid pieces of varying sizes, often with sharp edges
- Detailed description: Irregular shapes of hardened fiberglass material, ranging from small slivers to larger off-cuts. The pieces have a distinctive layered appearance, showing the fiberglass mat structure within a hardened resin matrix. Edges are often sharp and can appear frayed. Colours typically range from white to light green or blue, depending on the resin and additives used. The surface may be smooth on one side and rough on the other.



iii. Resin-rich waste

- Appearance: Sticky, viscous liquids or semi-solid materials
- Detailed description: Glossy, gel-like substances that range from clear to amber or light blue in colour. Fresh resin waste appears as thick, slow-moving liquids that form rounded droplets or pools. Partially cured resin has a tacky, rubber-like consistency. Fully cured resin forms hard, shiny patches or drips. All forms may trap air bubbles, giving them a cloudy appearance. Strong, chemical odour is often present.



iv. Contaminated solvents

- Appearance: Clear to slightly coloured liquids with strong odours
- Detailed description: Transparent or translucent liquids that may have taken on a slight tint from dissolved resins or pigments. Colours can range from clear to pale yellow, blue, or grey. The liquid has a thin, water-like consistency but evaporates quickly when exposed to air, sometimes leaving a residue. Distinct, often sharp chemical smell that can vary based on the specific solvent (e.g., acetone has a sweet, nail polish remover-like odour).

v. End-of-life boats

- Appearance: Large, solid structures requiring dismantling
- Detailed description: Full-sized boat hulls or large sections of boats, typically showing signs of wear, fading, or damage. The exterior is usually a single colour (often white, blue, or green) with a dulled gelcoat finish. May have algae growth or barnacles if recently removed from water. Interior often shows exposed fiberglass construction with a rough, textured surface. Varies greatly in size, from small dinghies to larger vessels. May include metal fixtures, wooden elements, or foam core materials in addition to the fiberglass structure.

2.5 Physical and Chemical Properties

- Particle size distribution of dust: Typically, 1-100 micrometres
- Chemical composition: Varies based on specific resins and additives used
- Volatile Organic Compound (VOC) content: Present in resins and solvents
- pH levels: Generally neutral for cured fiberglass, may vary for liquid wastes
- Solubility: Cured fiberglass is insoluble in water; uncured resins may be partially soluble
- Flammability: Cured fiberglass is generally non-flammable, but resins and solvents may be highly flammable

Section 3: Regulatory Compliance Requirements

3.1 Maldivian Environmental Regulations

- a) Environmental Protection and Preservation Act of Maldives (Act No. 4/93)
 - Provides the framework for environmental protection and preservation
 - Requires Environmental Impact Assessments for potentially harmful activities
- b) Waste Management Act (Act No. 2022/24)
 - Establishes rules for waste management, including collection, transportation, and disposal
 - Defines responsibilities of island councils in waste management
 - Defines the following financial penalties available under the Waste Management Act for local councils to implement

Article 61:

- ޖ. All fines are to be paid by the business entity.
- ބ. Fine amounts for any violation of the act range from 5,000 to 50,000 MVR.
- ޅ. For entities registered for MIRA GST, fine payments are to be processed in accordance with the Taxation Act 2010/3.

Article 63:

- ޖ. Failure to prepare a required industrial waste management plan: Fine up to 50,000 MVR
- ޖ. Violation of any guideline or failure to comply with an amendment request: Fine up to 5,000 MVR.
- ސ. Import of waste: Fine of 5,000,000 MVR.
- ޖ. Export of waste: Fine of 5,000,000 MVR.
- ބ. General violations or infractions of the act: Fine ranging from 100 to 100,000 MVR, depending on severity.
- ޅ. Operating without a required license or violating terms of permits/licenses: Fine ranging from 50,000 to 500,000 MVR.
- ޅ. Import and distribution of substances or materials banned by the act: Fine up to 100,000 MVR

- c) Regulation on the Protection and Conservation of Environment in the Tourism Industry
 - Outlines environmental standards for tourist resorts, which may impact nearby islands

3.2 Occupational Health and Safety Regulations

a) Health and Safety Regulations for Fibreglass Works (R-18/2025)

- Provides a framework for mandating a standard of health and safety in Fibreglass Works
- Enables fines and closure of premises found in violation of minimum standards set through the regulation

Section 5, Article 14

- ١. Interference in implementation of regulation: Fine up to 2,000 MVR
- ٢. Violation of any guideline or failure to comply with an amendment request: Fine up to 2,000 MVR.
- ٣. Operation after closure for breach of regulation: Fine of 2,000 MVR.

b) Workplace Health and Safety Act (R-09/2023)

- Provides a framework for mandating a safe work environment, stating rights of both employers and employees in determining safety of work environment

Section 4, Article 30:

- ١. Proprietor Failure to maintain safe work environment, Failure to report incident: Fine of 5000 MVR

Section 4, Article 31:

- ٢. Worker/Employee Failure to maintain safe work environment, Failure to report incident: Fine ranging of 1000 MVR
- ٣. Proprietor/Employee intentional harm in work environment: Fine up to 25,000 MVR

Section 4, Article 32:

- ٤. Independent contractor Failure to maintain safe work environment, Failure to report incident - Fine of 1000 MVR

Section 4, Article 35:

- ٥. Employer interference in providing rights to safe work environment /intimidation to maintain unsafe work environment - Fine ranging from 10,000 – 25,000 MVR

Section 5, Article 40:

- ٦. Working while work has been suspended due to health and safety violation - Fine ranging from 5000 – 50000

Section 5, Article 41:

- ٧. Failure to return permit within 7 days of suspension - Fine ranging of 5000 MVR

Section 5, Article 42:

- ٨. Forgery (direct/indirect) of permit - Fine of 100,000 MVR

Section 6, Article 43:

- ✍. Failure to report incidents - Fine of 5000 MVR

Section 6, Article 46:

- ⚠. Modifications/Contamination of site in incidents of fatal incidents - Fine up to 100,000 MVR

Section 7, Article 48:

- ✍. Interference with inspectors/inspection - Fine ranging from 10,000 – 25,000 MVR

Section 7, Article 50:

- ⚠. Failure to amend according to directives from director general - Fine ranging from 5000 – 50,000 MVR
- ✍. Trespassing and/or unauthorised use of machinery/equipment - Fine ranging from 5000 – 50,000 MVR

Section 7, Article 52:

- ✍. Employers allowing employees to work without completing health and safety training when required for role - Fine of 5000 MVR

Section 9, Article 66:

- ✍. Forgery, counterfeiting, impersonation of any authority or documentation related to act - 5000 - 50,000 MVR

Section 9, Article 67:

- ✍. Any Violation related to the regulation - Fine ranging from 1000 – 25,000 MVR
- ✍. Repeat offense of any violation – Fine of 5000 MVR

Section 10, Article 67:

- ✍. Breach of Confidentiality in Inspection - Fine ranging from 5000 – 20,000 MVR

c) Regulation for storage and handling of oil and chemicals (R-160/2015)

- Establishes guidelines for storage, transport and handling of hazardous chemicals including flammable liquids

Section 6, Article 20:

- ✍. Any violation of Section 3: Transport - Fine ranging from 5000 – 20,000 MVR
- ✍. Any violation of Section 4: Storage - Fine ranging from 15,000 – 25,000 MVR
- ✍. Any other nonspecific violation outside of 3 and 4 - Fine ranging from 10,000 – 25,000 MVR

3.3 International Conventions Applicable to Maldives

a) Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal

- Regulates the movement of hazardous waste between countries

b) Stockholm Convention on Persistent Organic Pollutants

- Aims to eliminate or restrict the production and use of persistent organic pollutants

c) United Nations Convention on the Law of the Sea (UNCLOS)

- Provides a framework for marine environmental protection

3.4 Compliance Management and Reporting

The following should be conducted and made available prior to establishment of new fibreglass works in islands.

a) Environmental Impact Assessments (EIAs)

- Required for projects with environmentally significant impact
- Must be conducted by registered EIA consultants

b) Waste Management Plans

- Each island should develop and maintain a waste management plan in accordance with the Waste Management Act
- Plans should be reviewed and updated regularly

c) Permits and Licenses

- Obtain necessary permits for waste storage, transportation, and disposal activities
- Ensure all personnel handling hazardous waste are properly trained and certified

Section 4: Waste Minimization and Recycling Strategies

4.1 Suggested Source Reduction Techniques

a) Optimized Boat Design and Construction:

- Use computer-aided design (CAD) to minimize material waste
- Implement precision cutting techniques for fiberglass sheets
- Encourage modular construction methods to reduce off-cuts

b) Improved Manufacturing Processes:

- Use closed-molding techniques to reduce resin waste and emissions
- Implement resin transfer molding (RTM) for more efficient material use
- Optimize gel coat application to minimize overspray

c) Extended Product Lifespan:

- Promote regular maintenance of fiberglass boats to extend their useful life
- Encourage proper storage and handling of boats to prevent damage
- Provide education on fiberglass repair techniques to boat owners

4.2 Reuse Opportunities

a) Repurposing Fiberglass Materials:

- Use fiberglass off-cuts for smaller components or repairs

b) Reusing Containers and Packaging:

- Implement a system for returning and reusing resin and catalyst containers
- Encourage suppliers to use refillable or recyclable packaging

c) Equipment Maintenance:

- Clean and reuse application tools (brushes, rollers) when possible
- Establish a solvent recycling system for cleaning equipment

4.3 Reuse Methods Suitable for Island Communities

a) Mechanical Recycling:

- Implement small-scale grinding operations to process cured fiberglass waste

b) Centralized Recycling:

- Establish a collection and transportation system to a central recycling facility
- Collaborate with nearby resorts or industries that may have larger recycling capabilities

4.4 Suggested Best Practices in Fiberglass Waste Reduction

a) Material Management:

- Implement a first-in-first-out (FIFO) system for resin and catalyst storage
- Use automated mixing systems to ensure correct resin-to-catalyst ratios
- Train staff on proper material handling and application techniques

b) Process Optimization:

- Regular maintenance of molds and equipment to reduce defects
- Implement quality control measures to minimize rejection rates
- Use vacuum bagging or infusion processes to optimize resin use

c) Waste Segregation:

- Establish clear guidelines for separating different types of fiberglass waste
- Establish specific areas for storage of segregated waste and empty containers of consumables.
- Provide designated containers for each waste stream
- Train all personnel on proper waste segregation procedures

d) Community Engagement:

- Organize awareness programs on the importance of waste reduction
- Encourage boat owners to participate in recycling programs
- Establish incentives for waste reduction and proper disposal

e) Collaboration and Knowledge Sharing:

- Partner with other atolls to share best practices and resources
- Engage with international organizations for the latest waste reduction technologies
- Participate in regional workshops and conferences on sustainable waste management

Section 5: Waste Handling and Storage

5.1 Containment Methods

a) Selection of appropriate containers

- Use original container that materials were originally provided in to ensure there is minimal leakage into the environment.
- In case of use of other containers use corrosion-resistant containers suitable for marine environments
- Choose container size based on waste generation rate and available space
- Choose container material compatible with waste (e.g., metal drums for flammable liquids, plastic drums for corrosives)
- Ensure containers have tight-fitting lids to prevent water ingress
- Ensure containers are in good condition, free from rust or damage

b) Proper closure and sealing

- Use tight-fitting lids or caps to prevent spills and vapor release
- Implement a system for regular inspection of container integrity
- Train staff on proper sealing techniques to prevent leaks

c) Secondary containment

- Provide impermeable secondary containment (e.g., spill pallets, bermed areas)
- Size secondary containment to hold 110% of the largest container or 10% of the total volume, whichever is greater
- Regularly inspect and maintain secondary containment systems

d) Dust collection systems

- Implement dust collection systems for fiberglass particulates in boat repair and maintenance areas.
- Centralised vacuum collection systems are suggested
- Regularly maintain and clean dust collection equipment
- A PM 2.5 standard air filter should be implemented in the dust collection system

e) Handling procedures

- Use mechanical aids (e.g., drum dollies) for moving containers
- Implement safe pouring and transfer techniques to minimize spills
- Provide spill kits and train employees on their use

5.2 Labelling Requirements

a) Hazardous waste labels

- Clearly label the storage area with contents & hazard information, if possible, label all containers if labelling is not already present on the containers

- Use weather-resistant labels suitable for tropical climates
- Include the words "Hazardous Waste"
- List waste codes and hazard classes
- Provide accumulation start date
- Include source/generator information

b) GHS-compliant labels

- Implement Globally Harmonized System (GHS) labelling for chemical containers
- Provide training on understanding and using GHS labels
- Use appropriate pictograms
- Include signal words (e.g., "Danger," "Warning")
- List hazard and precautionary statements
- Provide product identifier and supplier information

An example of common GHS symbols and their respective hazard and precautionary statements are given below

	<div style="background-color: black; color: white; padding: 5px; text-align: center;">Substance A</div> <p style="font-size: 1.2em; margin-top: 10px;">Danger DANGER</p> <p>GHS Hazard Descriptor:</p> <div style="border: 1px dashed black; padding: 5px; margin: 5px 0;"> Highly flammable liquid and vapor Harmful if inhaled May cause an allergic skin reaction Toxic to aquatic life with long lasting effects </div> <p>GHS Precaution Descriptor:</p> <div style="border: 1px dashed black; padding: 5px; margin: 5px 0;"> Wash hands thoroughly after handling. Wear protective gloves. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. </div> <p style="text-align: center; font-size: 0.8em;">See safety datasheet for further detail regarding safe use of this product</p> <div style="display: flex; justify-content: space-between; font-size: 0.8em; margin-top: 10px;"> Company X, Phone: +960 7777777 </div>
--	--

c) Local language labels

- Ensure all labels are in Dhivehi, English and other commonly used languages at the worksite for clear communication

e) Label maintenance

- Ensure labels are clearly visible and legible
- Replace damaged or faded labels promptly
- Conduct regular label inspections

5.3 Work Site Specification

a) Site location requirements

- Work site must be located 200ft away from residential areas
- Property boundaries must be clearly defined with either fencing or signage

b) Flooring and drainage

- Use impermeable flooring (e.g., sealed concrete)
- Slope floors to containment sumps
- Implement proper drainage systems to manage tropical rainfall
- Implement berms, ridges or land grading measures to prevent the spread of hazardous materials or contaminated runoff beyond the immediate work area
- Install trench drains or catchment basins as needed se impermeable flooring (e.g., sealed concrete)

c) Security measures

- Implement access control to prevent unauthorized entry
- Consider fencing or enclosures with signage to protect from trespassers or wanderers

d) Additional information at Worksite

- Include information about hazardous materials used at site
- Provide emergency contact numbers
- List specific handling precautions
- Explain PPE required at worksite

5.4 Storage Area Specifications

a) Location requirements

- Site storage areas away from sensitive coastal areas and flood zones
- Maintain safe distances from property boundaries
- Consider proximity to water sources and sensitive environments
- Ensure accessibility for waste collection vehicles and other vehicles used by emergency services (ambulance and firefighting)

b) Physical barriers

- Construct storage areas with materials resistant to tropical weather conditions
- Provide adequate ventilation while protecting against rain and sea spray

d) Fire safety measures

- Install appropriate fire suppression systems
- Provide fire extinguishers suitable for chemical fires
- Maintain clear access for emergency responders
- Post fire safety plans

e) Ventilation

- Ensure adequate natural or mechanical ventilation
- Use explosion-proof electrical fixtures in areas with flammable vapours
- Monitor air quality regularly
- Install vapor detection systems where appropriate

f) Segregation of incompatible wastes

- Separate incompatible materials with physical barriers
- Use separate secondary containment systems
- Develop and maintain a waste compatibility chart
- Train employees on proper segregation practices

g) Signage

- Post "No Smoking" signs
- Post "No Open Flame" signs
- Display emergency procedures and contact information
- Indicate locations of safety equipment (e.g., eye wash stations, spill kits)
- Use multilingual signs where appropriate

h) Inspection and maintenance

- Conduct weekly inspections of the storage area
- Maintain inspection logs
- Promptly address any identified issues
- Develop a preventive maintenance schedule

i) Capacity limits

- Adhere to manufacture suggested storage durations and dispose of chemicals past expiry
- Maintain adequate aisle space for inspections and emergency response
- Implement a waste tracking system to monitor inventory levels
- Establish thresholds for empty container removal to prevent overcapacity

j) Security measures

- Implement access control to prevent unauthorized entry
- Consider fencing or enclosures with signage to protect from trespassers or wanderers

5.5 Waste and Chemical Handling Procedures

a) Manual handling techniques

- Train staff on proper lifting and carrying techniques to prevent injuries
- Provide appropriate tools and equipment for safe waste handling

b) Spill prevention and response

- Develop and implement spill prevention and response plans
- Conduct regular drills to ensure staff readiness for spill incidents

c) Waste segregation practices

- Establish clear protocols for separating different types of fiberglass waste
 - Annex __ provides a sample
- Provide separate collection points for hazardous and non-hazardous waste

d) Training and supervision

- Provide comprehensive training on safe handling procedures
- Ensure adequate supervision of waste handling activities

Section 6: Personal Protective Equipment (PPE)

6.1 Required PPE for Different Activities

General waste handling	
<div><ul style="list-style-type: none">Safety glasses or goggles</div>	<div><ul style="list-style-type: none">Cut-resistant gloves</div>
<div><ul style="list-style-type: none">Steel-toed, non-slip footwear</div>	<div><ul style="list-style-type: none">Long-sleeved shirts and long pants</div>

Dust-generating activities (cutting, grinding, sanding)

- Respirators with P100 filters



- Full-face shields



- Hearing protection (if using power tools)



- Long-sleeved shirts and long pants



Handling liquid resins and solvents

- Chemical-resistant gloves (nitrile or neoprene)



- Chemical splash goggles



- Chemical-resistant aprons



- Respiratory protection with P100 organic vapor cartridges



6.2 Proper Use and Maintenance of PPE

a. Fitting and Adjustment

- Ensure proper fit of respirators through fit testing
- Adjust straps and closures for secure fit

b. Inspection Before Use

- Implement a system for daily PPE inspection
- Check for damage, wear, or contamination before each use
- Replace damaged PPE immediately
- Train workers to identify worn or damaged PPE

c. Proper Donning and Doffing Procedures

- Follow established protocols for putting on and removing PPE
- Avoid cross-contamination during removal

d. Cleaning and Disinfection

- Establish procedures for regular cleaning of reusable PPE
- Provide appropriate cleaning supplies and facilities
- Use appropriate cleaning agents as per manufacturer's instructions

e. Storage

- Designate clean, dry storage areas separate from chemical or tool storage for PPE
- Implement a system to keep PPE away from contaminants
- Avoid exposure to sunlight, extreme temperatures, or humidity

f. Replacement Schedule

- Establish and follow replacement schedules for each type of PPE
- Replace disposable PPE after each use

g. Training

- Provide comprehensive training on PPE use and maintenance
- Conduct regular refresher courses

h. Documentation

- Maintain records of PPE assignments (distribution to specified employees), training, and inspections

6.3 PPE Considerations for Tropical Climate

a) Heat stress prevention

- Select breathable, lightweight materials where possible
- Implement work-rest cycles to prevent heat exhaustion
- Provide hydration stations near work areas

b) UV protection

- Include wide-brimmed hats or neck covers for outdoor work
- Provide UV-resistant safety glasses
- Encourage use of high-SPF sunscreen on exposed skin

c) Moisture management

- Select PPE with moisture-wicking properties
- Provide spare sets of PPE to allow for changing during high-humidity conditions

d) Corrosion resistance

- Choose PPE materials resistant to salt air and high humidity
- Implement more frequent inspection and replacement schedules due to accelerated wear

e) Storage in tropical conditions

- Use dehumidifiers in PPE storage areas
- Implement proper ventilation to prevent mould growth on stored PPE

By adhering to these PPE guidelines, we can ensure the safety and comfort of workers handling fiberglass waste in the unique tropical environment of Noonu atoll.

Section 7: Transportation and Disposal Procedures

7.1 Inter-island Transportation Guidelines Labelling Requirements

a) Packaging requirements

- Use sealed, water-resistant containers for liquid wastes
- Securely wrap and band solid waste to prevent shifting during transport
- Label all packages clearly with contents and hazard information

b) Vessel requirements

Use vessels designed or modified for waste transport

Ensure vessels have proper securing mechanisms for waste containers

Implement spill containment measures on transport vessels

c) Documentation

- Maintain detailed manifests of all waste transported
- Implement a chain-of-custody system for waste tracking

d) Route planning

- Develop optimal routes to minimize travel time and fuel consumption
- Consider seasonal weather patterns in transportation scheduling

7.2 Marine Transport Safety Measures

a) Weather monitoring

- Establish protocols for assessing weather conditions before transport
- Develop contingency plans for unexpected weather changes

b) Emergency response

- Equip transport vessels with spill response kits
- Train crew members in emergency response procedures

c) Communication systems

- Implement reliable communication systems between vessels and shore
- Establish protocols for regular check-ins during waste transport

7.3 Disposal Options

a) Regional waste management facilities

- Identify and utilize designated facilities for fiberglass waste disposal
- Ensure compliance with facility-specific acceptance criteria

b) Recycling initiatives

- Explore partnerships with recycling facilities capable of processing fiberglass
- Implement sorting procedures to separate recyclable components

c) Landfill disposal

- Use engineered landfills designed to prevent leaching into groundwater
- Implement proper compaction and covering procedures for fiberglass waste

d) Energy recovery

- Investigate the potential for using fiberglass waste as an alternative fuel source
- Ensure compliance with emissions regulations if implementing energy recovery

7.4 Coordination with Regional Waste Management Facilities

a) Waste acceptance criteria

- Obtain and follow specific acceptance criteria for each disposal facility
- Implement pre-treatment procedures if required by the receiving facility

b) Scheduling and logistics

- Coordinate transportation schedules with receiving facility operations
- Develop contingency plans for facility downtime or closures

c) Feedback and continuous improvement

- Establish a system for regular communication with disposal facilities
- Use feedback to improve waste segregation and packaging practices

d) Cost management

- Develop a transparent system for allocating transportation and disposal costs
- Explore options for economies of scale through inter-atoll cooperation

e) Compliance monitoring

- Conduct periodic audits of disposal facilities to ensure proper waste management
- Maintain records of all waste transfers and final disposal

By implementing these transportation and disposal procedures, local councils can ensure the safe and efficient management of fiberglass waste across the Maldives atolls while minimizing environmental risks and optimizing resource use.

Section 8: Occupational Health & Safety Considerations

8.1 Occupational Health and Safety Considerations Marine Transport Safety Measures

a) Physical hazards

- Cuts and abrasions from sharp edges of fiberglass materials
- Ergonomic risks from lifting and handling waste materials
- Slips, trips, and falls in waste handling areas

b) Chemical hazards

- Exposure to uncured resins, catalysts, and solvents
- Inhalation of fiberglass dust and particulates
- Skin irritation from contact with fiberglass fibers

c) Environmental hazards

- Heat stress from working in tropical climate
- UV exposure during outdoor waste handling activities
- Risks associated with marine transportation of waste

8.2 Safety Measures for Waste Management Activities

a) Engineering controls

- Implement ventilation systems in enclosed waste handling areas
- Install dust collection systems in fiberglass cutting and grinding areas
- Provide mechanical lifting aids for heavy waste containers

b) Administrative controls

- Develop and enforce standard operating procedures for all waste handling activities
- Implement a job rotation system to limit exposure to hazardous tasks
- Establish work-rest schedules to prevent heat stress

c) Personal Protective Equipment (PPE)

- Provide and enforce the use of appropriate PPE as outlined in Section 6
- Ensure PPE is suitable for the tropical climate of the Maldives

8.3 Health Surveillance Programs

a) Pre-employment health screenings

- Conduct baseline health assessments for all workers involved in waste management

- Identify any pre-existing conditions that may increase risk

b) Periodic health check-ups

- Implement annual medical examinations for all waste management workers
- Include specific tests for respiratory function and skin conditions

c) Exposure monitoring

- Conduct regular air sampling to assess worker exposure to fiberglass dust and chemical vapors
- Implement personal exposure monitoring for high-risk activities

8.4 Incident Reporting and Investigation

a) Incident reporting system

- Develop clear procedures for reporting all accidents, injuries, and near-misses
- Implement an easy-to-use reporting format accessible to all workers

b) Investigation process

- Establish a team approach to incident investigations
- Train supervisors and safety representatives in incident investigation techniques

c) Root cause analysis

- Use systematic methods (e.g., 5 Whys, Fishbone Diagram) to identify root causes of incidents
- Develop corrective actions that address systemic issues

d) Lessons learned and communication

- Share findings and lessons learned from incidents across all atolls
- Implement a system for tracking the implementation of corrective actions

e) Trend analysis

- Regularly analyse incident data to identify trends and emerging risks
- Use trend analysis to inform safety program improvements

8.5 Emergency Preparedness

a) Emergency response plans

- Develop specific plans for potential emergencies (e.g., fires, spills, medical emergencies)
- Ensure plans are adapted to the unique geography of atoll environments

b) First aid provisions

- Ensure adequate first aid supplies are available at all waste management sites
- Train workers in first aid and CPR, including marine-specific first aid

c) Emergency drills

- Conduct regular emergency drills, including scenarios specific to marine environments
- Collaborate with local emergency services in drill planning and execution

8.6 Continuous Improvement for Fibreglass Industry

a) Safety committee

- Establish a safety committee with representation from workers and management
- Conduct regular safety meetings to address ongoing concerns and improvement opportunities

b) Safety audits

- Implement a program of regular safety audits of all waste management activities
- Engage external safety experts for periodic comprehensive audits

c) Performance metrics

- Develop and track key safety performance indicators
- Set ambitious targets for continuous improvement in safety performance

Section 9: Emergency Response Procedures

9.1 Spill Response

a) Initial assessment and notification

- Establish a clear chain of command for spill response
- Implement a rapid notification system to alert relevant authorities and stakeholders

b) Containment strategies

- Provide appropriate spill containment equipment (e.g., booms, absorbents) at all waste handling sites
- Train personnel in the deployment of containment equipment in marine environments

c) Clean-up procedures

- Develop specific procedures for cleaning up different types of fiberglass waste spills
- Ensure clean-up methods minimize further environmental damage

d) Monitoring and follow-up

- Implement post-spill monitoring protocols to assess environmental impact
- Conduct thorough investigations to prevent future incidents

9.2 Fire Safety and Response

a) Fire prevention measures

- Follow the national regulations and guidelines for fire prevention and control
- Implement proper storage practices for flammable resins and solvents
- Install and maintain appropriate fire detection and suppression systems

b) Evacuation procedures

- Develop clear evacuation routes and assembly points for all waste management facilities
- Conduct regular fire drills, including scenarios specific to boat-based activities

c) Firefighting strategies

- Train personnel in the use of fire extinguishers suitable for chemical fires
- Coordinate with local fire services for larger-scale response capabilities

d) Post-fire assessment

- Develop procedures for assessing structural integrity after a fire
- Implement protocols for managing potentially hazardous fire residues

9.3 Medical Emergencies Related to Fiberglass Exposure

a) First aid procedures

- Develop specific first aid protocols for different types of fiberglass-related injuries
- Ensure first aid kits are well-stocked and include items for treating chemical exposures

b) Emergency medical services coordination

- Establish clear communication channels with nearest medical facilities
- Develop procedures for emergency medical evacuations from remote atolls

c) Decontamination procedures

- Set up emergency shower and eyewash stations at waste handling sites
- Train personnel in proper decontamination techniques for chemical exposures

Section 10: Employee Training Requirements

10.1 Basic Fiberglass Waste Management Training

a) Introduction to fiberglass waste

- Composition and properties of fiberglass materials
- Common sources of fiberglass waste in the Maldives (e.g., boat building and repair)
- Environmental and health risks associated with fiberglass waste

b) Waste identification and segregation

- Recognizing different types of fiberglass waste
- Proper segregation techniques for recyclable and non-recyclable components
- Understanding local waste classification systems

c) Safe handling procedures

- Proper lifting and carrying techniques
- Use of personal protective equipment (PPE)
- Basic spill prevention and response

d) Environmental awareness

- Local ecosystem sensitivity and importance of proper waste management
- Impacts of improper waste disposal on marine environments
- Conservation of Maldives' natural resources

10.2 Specialized Training for Handling and Disposal

a) Advanced handling techniques

- Safe operation of waste handling equipment (e.g., forklifts, compactors)
- Proper packaging and containment of different waste types
- Techniques for minimizing dust generation during handling

b) Transportation procedures

- Securing loads for marine transportation
- Documentation requirements for waste transfer
- Emergency procedures during waste transport

c) Disposal methods

- Understanding different disposal options (e.g., recycling, landfill, energy recovery)
- Proper techniques for each disposal method
- Compliance with local and national disposal regulations

d) Hazardous waste management

- Identification and handling of hazardous components (e.g., resins, solvents)
- Specific storage requirements for hazardous waste
- Decontamination procedures

10.3 Emergency Response Training

a) Spill response

- Use of spill containment equipment
- Deployment of booms and absorbents in marine environments
- Reporting and documentation of spill incidents

b) Fire safety

- Fire prevention in waste storage areas
- Use of different types of fire extinguishers
- Evacuation procedures and assembly points

c) First aid and medical emergencies

- Basic first aid for cuts, chemical exposures, and heat-related illnesses
- Use of emergency shower and eyewash stations
- Procedures for contacting and coordinating with medical services

d) Marine safety

- Basic seamanship and marine safety for waste transport operations
- Man overboard and rescue procedures
- Use of marine communication equipment

Section 11: Documentation and Record-keeping

11.1 Waste Tracking Systems

- Implementation of a waste tracking system
- Recording waste generation, storage, and disposal data
- Tracking waste movement between islands and to central facilities
- Regular reporting and data analysis

11.2 Incident and Near-Miss Reporting

- Standardized incident report forms
- Process for reporting near-misses and potential hazards
- Investigation procedures for incidents
- Corrective action plans and follow-up documentation

11.3 Training Records

- Maintenance of employee training logs
- Recording attendance, course content, and completion dates
- Tracking of certifications and expiration dates
- Regular review of training effectiveness

11.4 Inspection and Maintenance Logs

- Daily, weekly, and monthly inspection checklists
- Equipment maintenance schedules and records
- Facility inspection reports
- Corrective actions and follow-up documentation

11.5 Regulatory Compliance Documentation

- Permits and licenses for waste handling and disposal
- Environmental impact assessments and reports
- Correspondence with regulatory bodies
- Audit reports and compliance certificates

Section 12: Community Engagement and Education

12.1 Awareness Programs for Local Communities

- Development of culturally appropriate educational materials
- Regular community meetings and workshops
- School programs on waste management and environmental protection
- Use of media (radio, newspapers, social media) for information dissemination

12.2 Stakeholder Consultation Processes

- Identification of key stakeholders (fishermen, tourism operators, etc.)
- Regular stakeholder meetings and feedback sessions
- Incorporation of local knowledge in waste management strategies
- Transparent communication of waste management plans and progress

12.3 Collaborative Initiatives with Local Businesses

- Partnerships with resorts and guesthouses for waste reduction
- Support for local recycling and upcycling businesses
- Joint clean-up campaigns and environmental protection initiatives
- Recognition programs for businesses with exemplary waste management practices

12.4 Educational Materials and Resources

- Development of multilingual brochures and posters
- Creation of online resources and social media campaigns
- Production of educational videos on proper waste handling
- Distribution of practical guides for household waste segregation

Section 13: Continuous Improvement & Review Process

13.1 Performance Indicators and Benchmarks

- Establishment of key performance indicators (KPIs) for waste reduction
- Setting of annual targets for recycling and proper disposal
- Benchmarking against international best practices
- Regular assessment and reporting of progress against KPIs

13.2 Audit Procedures

- Annual internal audits of waste management practices
- Biennial third-party audits for compliance and effectiveness
- Unannounced spot checks on waste handling and storage
- Development and implementation of audit action plans

13.3 Management Review Process

- Quarterly review meetings with key stakeholders
- Annual comprehensive review of the waste management system
- Analysis of audit findings, incident reports, and community feedback
- Decision-making process for system improvements and resource allocation

13.4 Continuous Improvement Strategy

- Establishment of a suggestion system for employees and community members
- Regular review and update of best practices based on new research
- Participation in regional and international waste management forums
- Pilot programs for innovative waste reduction and recycling techniques

Section 14: Appendix

14.1 Glossary of Terms

A

Atoll: A ring-shaped coral reef, island, or series of islets.

B

Basel Convention: An international treaty designed to reduce the movements of hazardous waste between nations.

C

Catalyst: A substance that increases the rate of a chemical reaction without itself undergoing any permanent chemical change.

E

Environmental Impact Assessment (EIA): A process of evaluating the likely environmental impacts of a proposed project or development.

Environmental Protection Agency (EPA) of Maldives: The government agency responsible for environmental protection and regulation in the Maldives.

F

Fiberglass: A type of fiber-reinforced plastic where the reinforcement fiber is specifically glass fiber.

G

Gel coat: A material used to provide a high-quality finish on the visible surface of a fiber-reinforced composite material.

Globally Harmonized System (GHS):

An internationally agreed-upon standard managed by the United Nations that sets out the classification of chemicals by types of hazard and proposes harmonized hazard communication elements.

H

Hazardous waste: Waste that poses substantial or potential threats to public health or the environment.

L

Landfill: A site for the disposal of waste materials by burial.

M

Methyl Ethyl Ketone Peroxide (MEKP):

A type of organic peroxide, used as a catalyst (initiator) in the curing of unsaturated polyester resins.

P

Personal Protective Equipment (PPE):

Protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection.

Polyester resin: A type of resin used in fiberglass and other composite materials.

R

Recycling: The process of converting waste materials into new materials and objects.

Resin: A solid or highly viscous substance of plant or synthetic origin that is typically convertible into polymers.

Resin Transfer Molding (RTM): A manufacturing process for producing composite materials.

S

Secondary containment: A system designed to prevent release of materials

into the environment if the primary containment fails.

Stockholm Convention: An international environmental treaty signed in 2001 that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs).

V

Volatile Organic Compounds (VOCs): Organic chemicals that have a high vapor pressure at ordinary room temperature.

W

Waste Management Regulation: A set of rules established by the Maldivian government (Regulation No. 2022/24) that governs the management of waste in the country.

14.2 Empowering Regulations and Fines Summary

Act/Regulation	Act/ Regulation	Section	Clause	Sub Clause	Detail	Lower Fine Amount	Upper Fine Amount	Fine Modifier
Health and Safety Regulations for Fibreglass Works	R-18/2025	5	14	✓	Interference	-	2,000	
	R-18/2025	5	14	✓	Any Violation - Non-Specific	-	2,000	
	R-18/2025	5	14	✓	Operating after penalisation	-	2,000	
Workplace Health and Safety Act	R-09/2023	4	30	✓	Proprietor Failure to maintain safe work environment, Failure to report incident	-	5,000	
	R-09/2023	4	31	✓	Worker/Employee Failure to maintain safe work environment, Failure to report incident	-	1,000	
	R-09/2023	4	31	✗	Proprietor/Employee intentional harm in work environment	-	25,000	
	R-09/2023	4	32	✓	Independent contractor Failure to maintain safe work environment, Failure to report incident	-	1,000	
	R-09/2023	4	35	✓	Employer interference in providing rights to safe work environment/intimidation to maintain unsafe work environment	10,000	25,000	
	R-09/2023	5	40	✓	Working while work has been suspended due to health and safety violation	5,000	50,000	

Workplace Health and Safety Act	R-09/2023	5	41	✓	Failure to return permit within 7 days of suspension	-	5,000	
	R-09/2023	5	42	✓	Forgery (direct/indirect) of permit	-	100,000	
	R-09/2023	6	43	✓	Failure to report incidents	-	5,000	
	R-09/2023	6	46	⊗	Modifications/Contamination of site in incidents of fatal incidents	-	100,000	
	R-09/2023	7	48	✗	Interference with inspectors/inspection	10,000	25,000	
	R-09/2023	7	50	⊗	Failure to amend according to directives from director general	5,000	50,000	3% increase per day
	R-09/2023	7	50	✓	Trespassing and/or unauthorised use of machinery/equipment	5,000	50,000	
	R-09/2023	7	52	✓	Employers allowing employees to work without completing health and safety training when required for role	-	5,000	
	R-09/2023	9	66	✓	Forgery, counterfeiting, impersonation of any authority or documentation related to act	5,000	50,000	
	R-09/2023	9	67	✓	Any Violation related to the regulation	1,000	25,000	additional 5000 per day
	R-09/2023	9	67	✓	Repeat offense of any violation		5,000	
	R-09/2023	10	71	✓	Breach of Confidentiality in Inspection	5,000	20,000	

Waste Management Act	24/2022	10	47	✗	Import and Distribution of Hazardous Waste	100,000	5,000,000	
	24/2022	11	57	✓	Illegal Dumping of Hazardous Waste	1,000,000	5,000,000	
	24/2022	13	61	∅	Use of Plastic Packaging	5,000	50,000	
	24/2022	13	63	✓	Lack of Waste Management Plan	-	50,000	
	24/2022	13	63	✓	Interference	-	5,000	
	24/2022	13	63	✗	Importing Waste	5,000,000	5,000,000	
	24/2022	13	63	∅	Exporting Waste	5,000,000	5,000,000	
	24/2022	13	63	✓	Operation without a license or against the terms of license	50,000	500,000	
	24/2022	13	63	✓	Import, use of any banned material under hazardous materials list	-	100,000	
Regulation for storage and handling of oil and chemicals	R-160/2015	6	20	✓	Any violation of Section 3: Transport	5,000	20,000	
	R-160/2015	6	20	✓	Any violation of Section 4: Storage	15,000	25,000	
	R-160/2015	6	20	✓	Any other non-specific violation outside of 3 and 4	10,000	25,000	

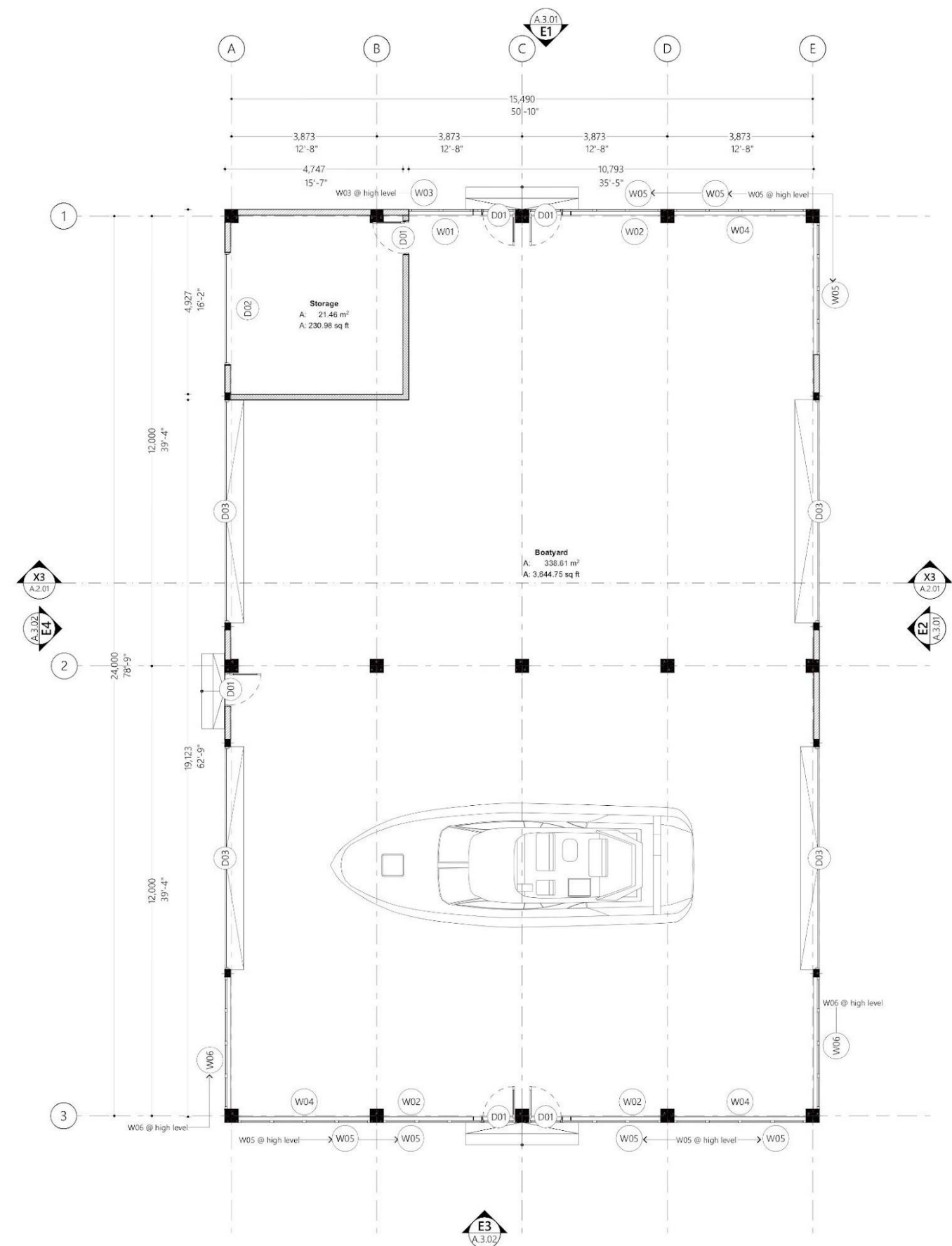
14.3 United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Tenth Edition Sample Sheet

Details for other chemicals available at: <https://chemicalsafety.ilo.org/dyn/icsc/>

BENZOYL PEROXIDE Dibenzoyl peroxide Benzoyl superoxide CAS #: 94-36-0 UN #: 3104 EC Number: 202-327-6		ICSC: 0225 (April 2002)	
	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Many reactions may cause fire or explosion. Risk of fire and explosion. Explosive. See Chemical Dangers.	NO open flames, NO sparks and NO smoking. NO contact with flammables. NO contact with hot surfaces. Do NOT expose to friction or shock. Use non-sparking handtools.	Use water in large amounts. In case of fire: keep drums, etc., cool by spraying with water. Combat fire from a sheltered position.
PREVENT DISPERSION OF DUST!			
	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Cough. Sore throat.	Use local exhaust or breathing protection.	Fresh air, rest.
Skin	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eyes	Redness.	Wear safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Ingestion		Do not eat, drink, or smoke during work.	Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention.
SPILLAGE DISPOSAL		CLASSIFICATION & LABELLING	
Evacuate danger area! Remove all ignition sources. Wash away remainder with plenty of water. Do NOT absorb in saw-dust or other combustible absorbents.		According to UN GHS Criteria Transportation UN Classification UN Hazard Class: 5.2; UN Pack Group: II	
STORAGE			
Fireproof. Separated from combustible substances and reducing agents. Store only in original packaging. See Chemical Dangers.			
PACKAGING			
 			
Prepared by an international group of experts on behalf of ILO and WHO, with the financial assistance of the European Commission. © ILO and WHO 2021			

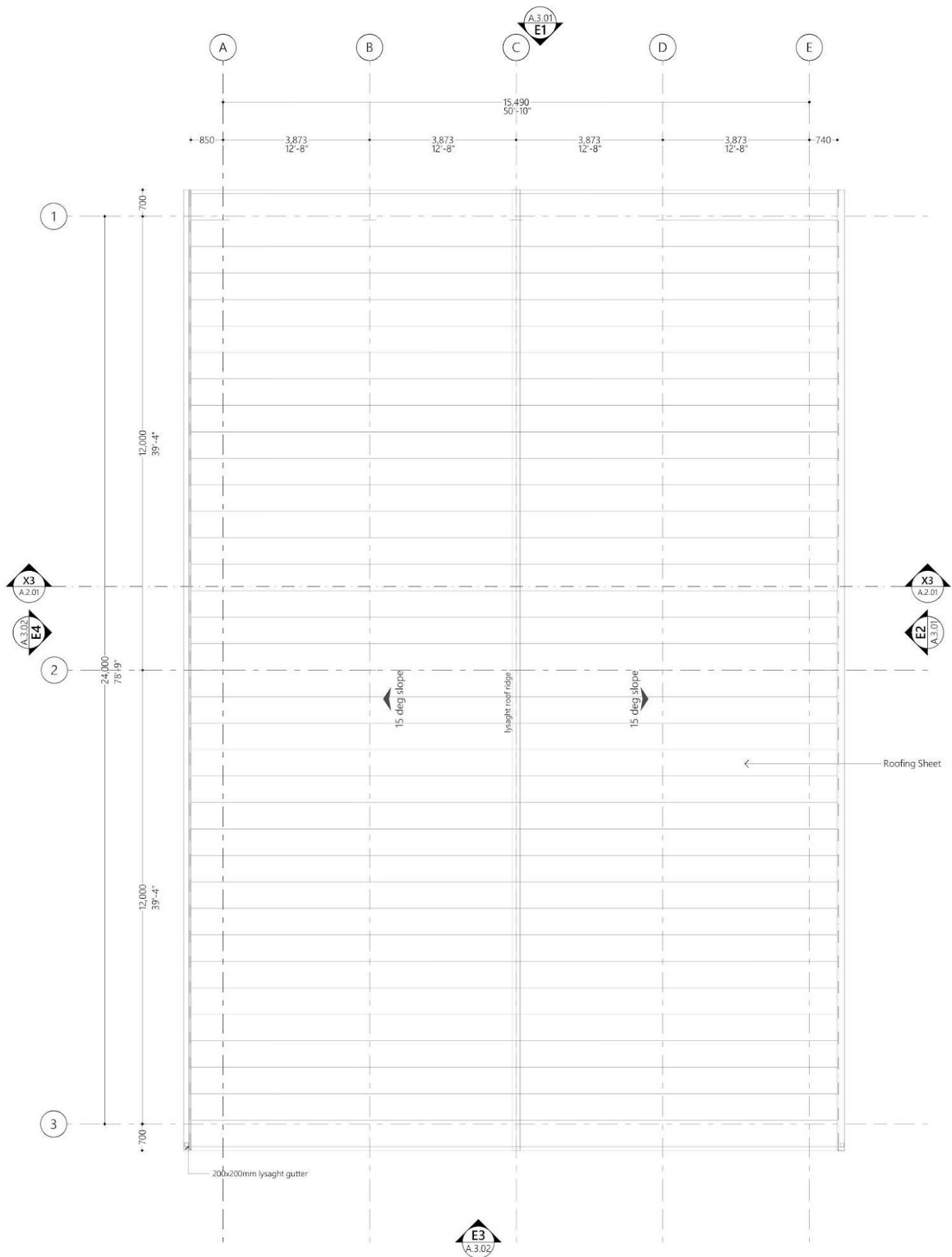
BENZOYL PEROXIDE		ICSC: 0225
PHYSICAL & CHEMICAL INFORMATION		
<p>Physical State; Appearance WHITE CRYSTALS OR POWDER.</p> <p>Physical dangers</p> <p>Chemical dangers May decompose explosively on shock, friction or concussion. May explode on heating above 103-105°C. On combustion, forms irritating and toxic fumes and gases of benzoic acid (see ICSC 0103) and carbon monoxide (see ICSC 0023). The substance is a strong oxidant. It reacts violently with combustible and reducing materials. Reacts violently with many organic acids, inorganic acids, alcohols and amines. This generates fire and explosion hazard.</p>	<p>Formula: C₁₄H₁₀O₄ Molecular mass: 242.2 Decomposes at 103-105°C Density: 1.3 g/cm³ Solubility in water: poor Vapour pressure, kPa at 20°C: <0.1 Auto-ignition temperature: 80°C Octanol/water partition coefficient as log Pow: 3.46</p>	
EXPOSURE & HEALTH EFFECTS		
<p>Routes of exposure The substance can be absorbed into the body by inhalation of its aerosol.</p> <p>Effects of short-term exposure The substance is irritating to the eyes, skin and respiratory tract.</p>	<p>Inhalation risk Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed, especially if powdered.</p> <p>Effects of long-term or repeated exposure Repeated or prolonged contact may cause skin sensitization.</p>	
OCCUPATIONAL EXPOSURE LIMITS		
<p>TLV: 5 mg/m³, as TWA; A4 (not classifiable as a human carcinogen). MAK: 5 mg/m³; peak limitation category: I(1)</p>		
ENVIRONMENT		
NOTES		
<p>Carrier solvents used in commercial formulations may change physical and toxicological properties. Rinse contaminated clothing with plenty of water because of fire hazard.</p>		
ADDITIONAL INFORMATION		
<p>EC Classification Symbol: E, Xi; R: 2-36-43; S: (1/2)-3/7-14-36/37/39</p>		
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14.4 Sample Boatyard Technical Drawing

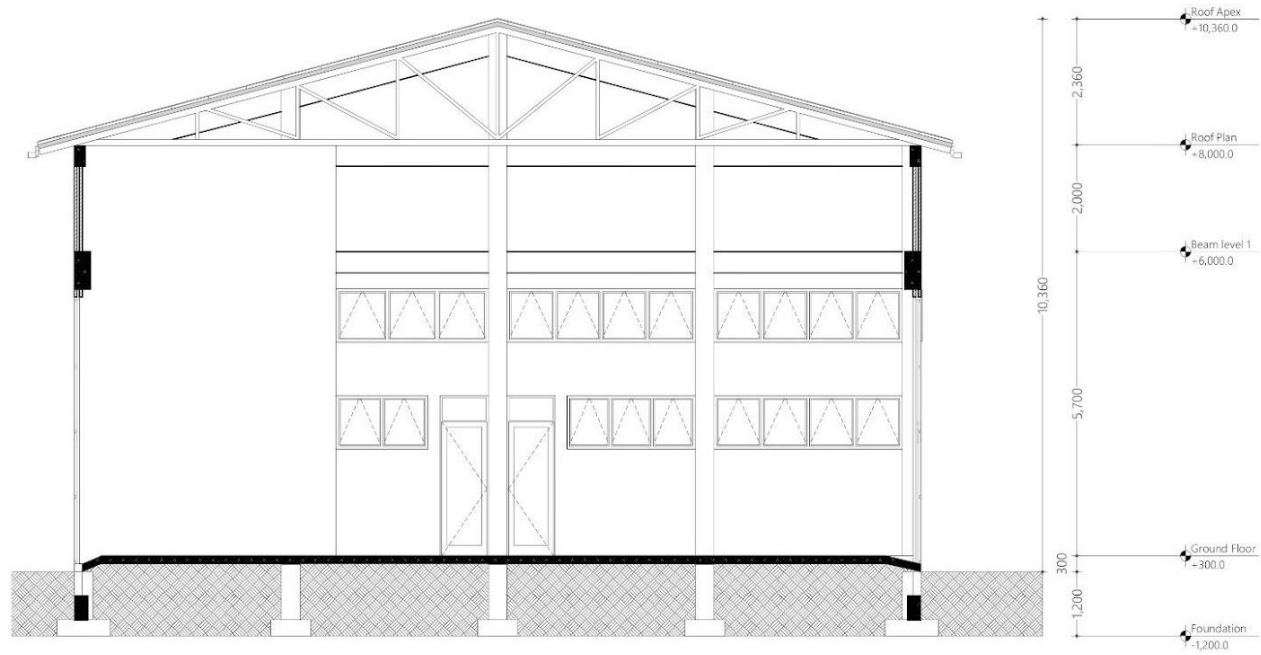


Wall Legend	
2D Plan View	Description
	100mm thick reinforced concrete wall per engineers detail, waterproofed with waterproofing agent
	100mm thick solid masonry block exterior wall with 25mm plaster on exterior and 16mm plaster on interior finished with smoothed putty and semi gloss white paint
	100mm thick solid masonry block interior wall with 16mm plaster on both sides finished with smoothed putty and semi gloss white paint

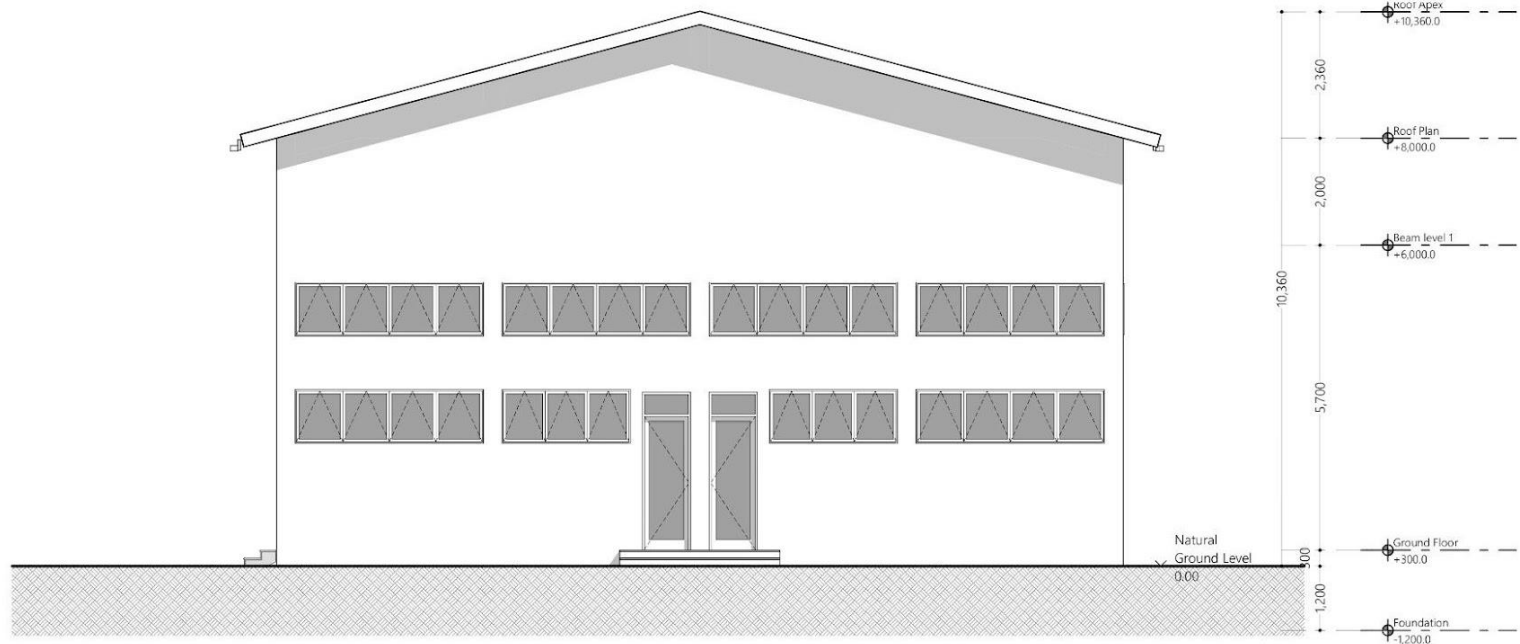
Ground Floor Plan
1:100



Roof Plan
1:100



Building Section
1:100



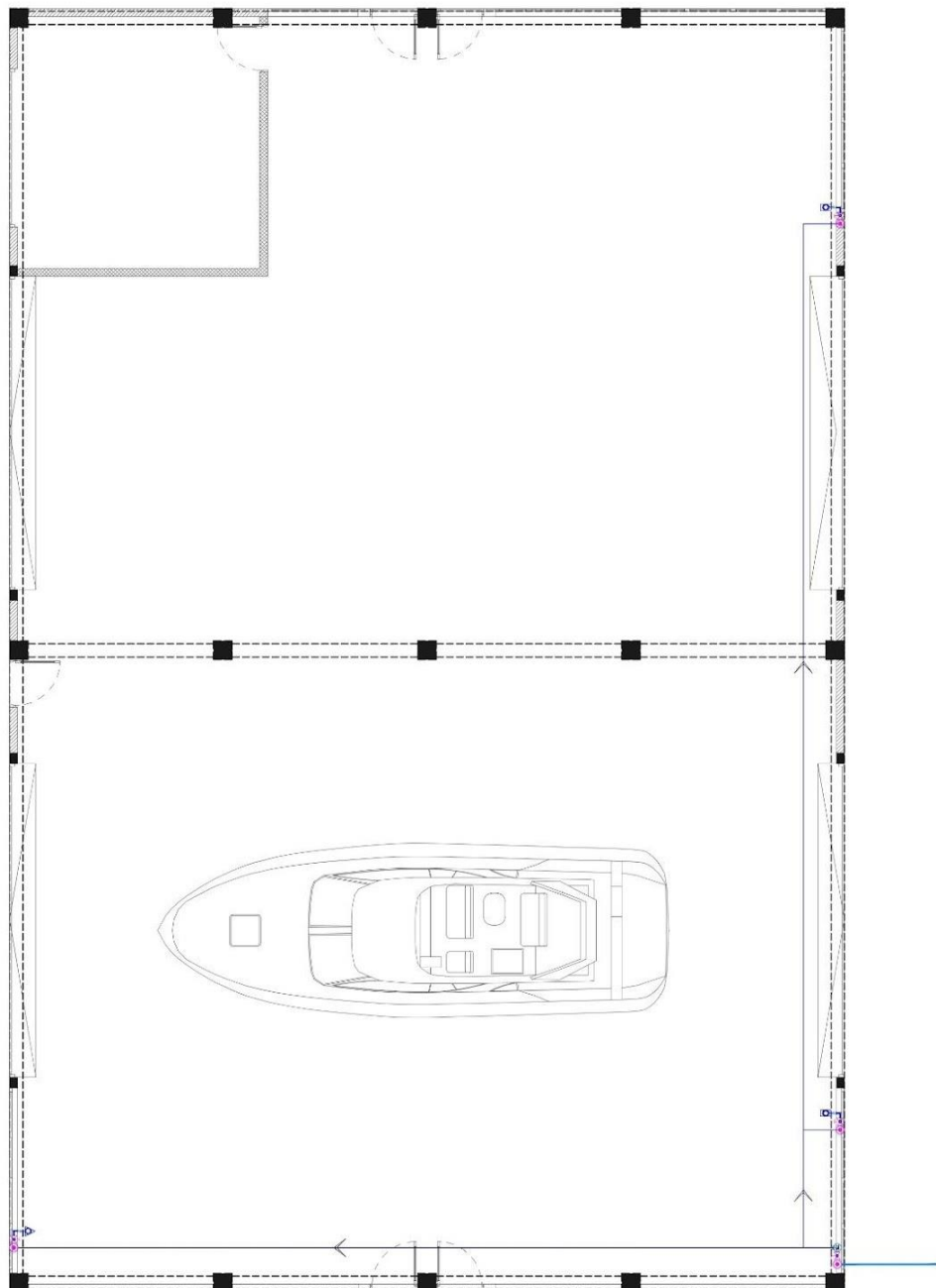
Elevation E3
1:100



Elevation E4
1:100

Legend

-  16Ø Cold Water Supply To Wall Tap
-  16Ø Cold Water Supply To Sink Tap
-  Gate Valve
-  Rise In Wall
-  MWSC Meter
-  20Ø Cold Water Supply Pipes Running In Wall
-  25Ø Cold Water Supply Pipes Running Underground
-  Pipe From Main Supply



GROUND FLOOR PLUMBING LAYOUT

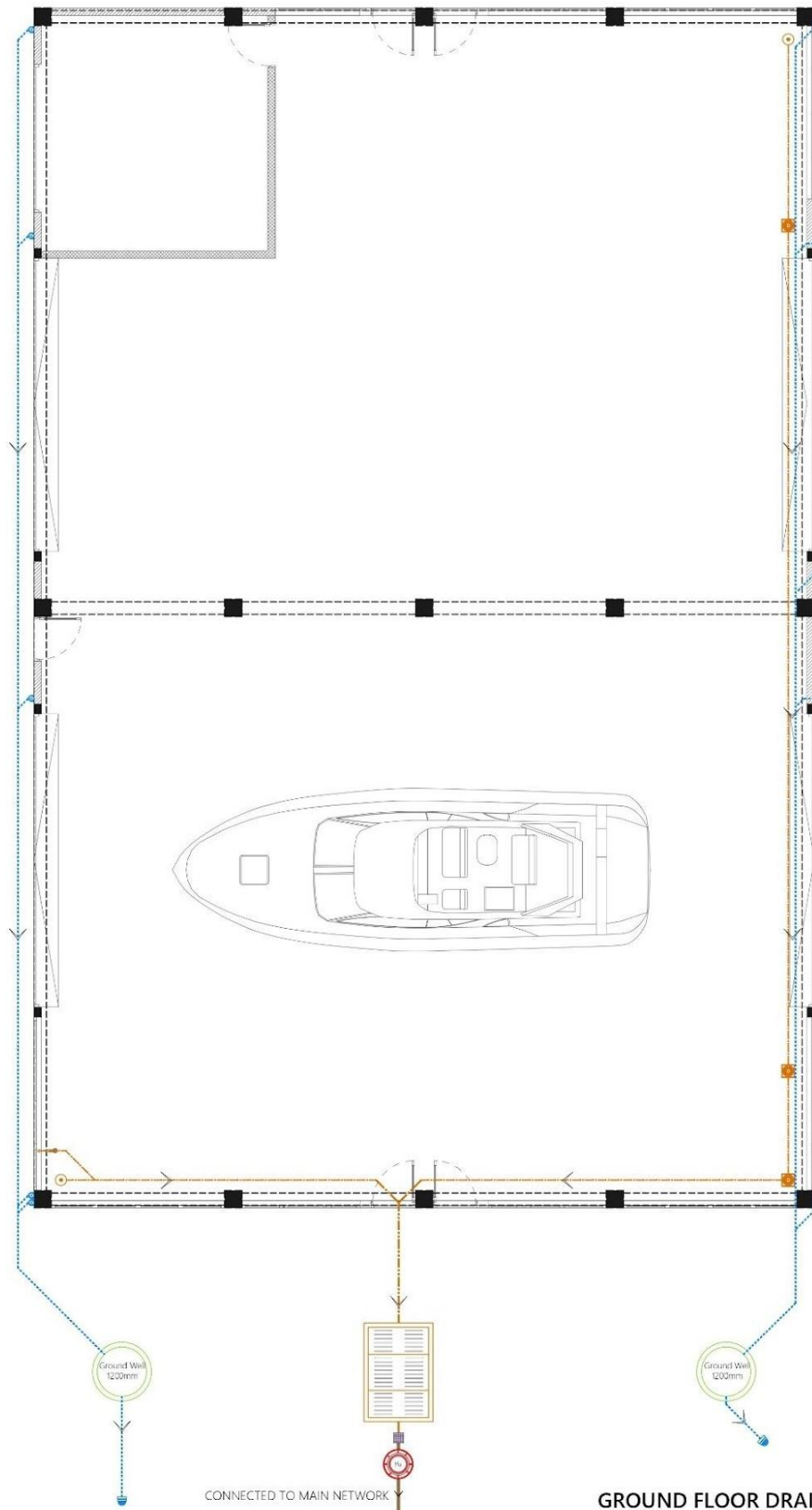
1:100

Legend

	Floor Drain		110Ø Rain Water Pipes (uPVC Pipe)
	Floor Gully		110Ø Rainwater Outlet Perforated Cowl
	Bottle Trap		Gully Trap
	82Ø Waste Pipe (uPVC Pipe)		Manhole
	40Ø Waste Pipe (uPVC Pipe)		
	Drain Pit		

Notes: -

- All Drainage Pipes Should Have At A Slope Of 1/150
- All Floor Drains Should Have 'P' Traps



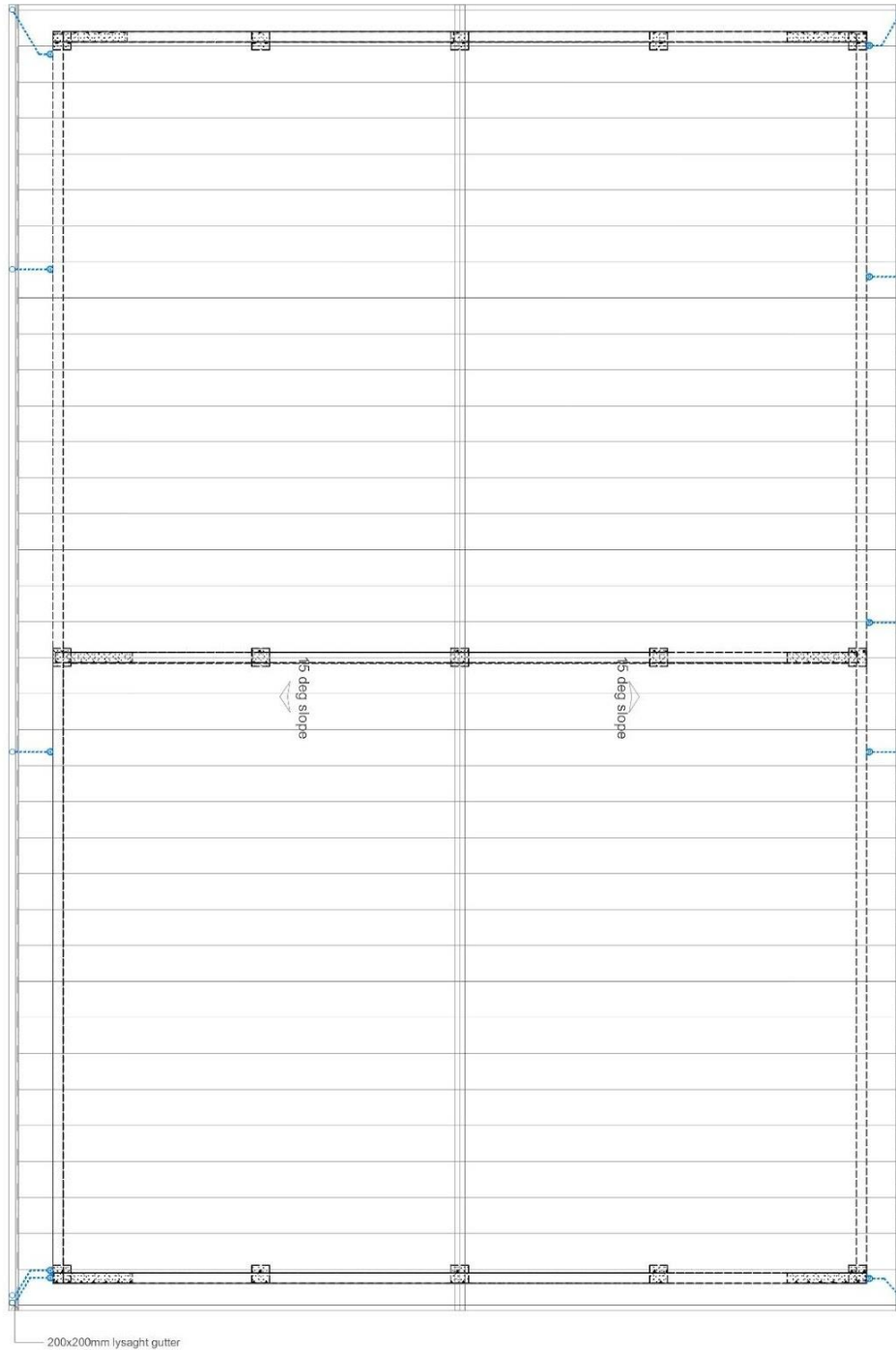
GROUND FLOOR DRAINAGE LAYOUT

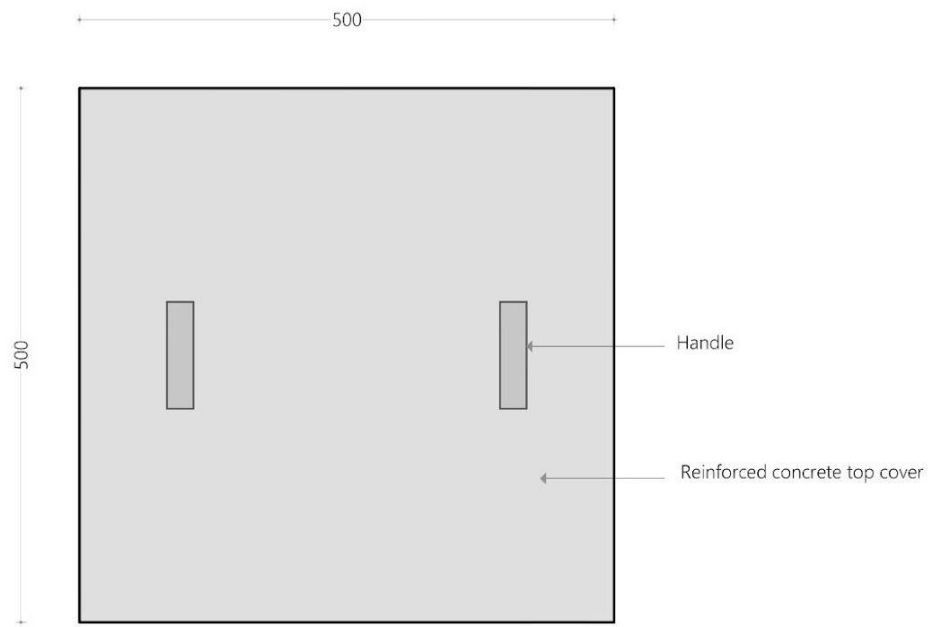
Legend

	Floor Drain		110Ø Rain Water Pipes (uPVC Pipe)
	Floor Gully		110Ø Rainwater Outlet Perforated Cowl
	Bottle Trap		Gully Trap
	82Ø Waste Pipe (uPVC Pipe)		Manhole
	40Ø Waste Pipe (uPVC Pipe)		
	Drain Pit		

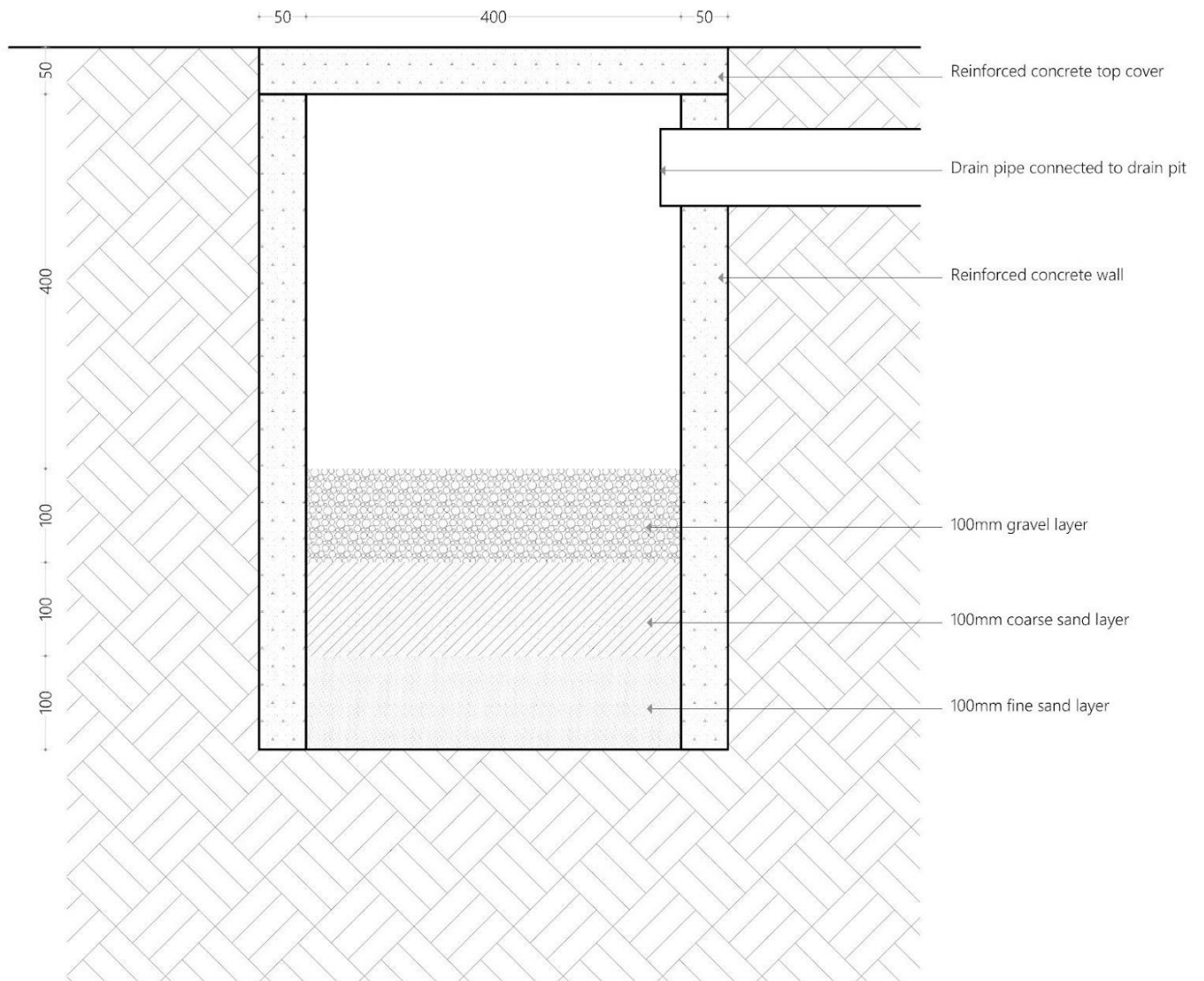
Notes: -

- All Drainage Pipes Should Have At A Slope Of 1/150
- All Floor Drains Should Have 'P' Traps





PLAN VIEW



SECTION

14.5 Sample Forms and Checklists

Online Reporting Form Fields

Incident Report Form

Reporter Information

1. Reporter's Name: [Text field]

Incident Details

2. Incident Date: [Date field]

3. Incident Time: [Time field]

4. Location: [Text field]

Incident Classification

5. Incident Type: [Select one]

- Personnel Injury
- Chemical Spill
- Fire
- Equipment Failure
- Environmental Hazard
- Other

Incident Description

6. Incident Description: [Large text area]

Provide a detailed account of what happened.

7. Immediate Actions Taken: [Text area]

Describe the steps taken immediately following the incident.

Impact Assessment

8. Injuries (if any): [Text area]

Describe any injuries sustained, including severity and treatment provided.

9. Witnesses: [Text field]

List names of any witnesses to the incident.

10. Personal Protective Equipment (PPE) Used: [Text field]

Specify what PPE was in use at the time of the incident.

11. Environmental Impact (if any): [Text area]

Describe any effects on the surrounding environment, particularly marine ecosystems.

Analysis and Prevention

12. Potential Root Cause: [Text area]

Provide initial thoughts on what may have led to this incident.

13. Suggested Preventive Measures: [Text area]

Propose actions to prevent similar incidents in the future.

Emergency Contact Information

To be created separated by island

Island 1:

On-Site Safety Officer:

Name: _____

Phone: +960 7777-1234

Medical Facility: Medical Centre Phone: +960 3335-266 Address: _____

Maldives Police Service: Emergency Hotline: 119

Maldives National Defence Force (MNDF) Fire and Rescue:

Emergency Hotline: 118

Environmental Protection Agency (EPA):

Phone: +960 333-5949 (for chemical spills or environmental hazards)

National Disaster Management Authority: Hotline: 130

Maldives Coast Guard: Search and Rescue Coordination Center: +960 331-8995

- .
- .
- .
- .
- .
- .

Island 13:_____

14.6 Signage

GHS Hazard Pictograms (1 sign)

PPE Requirements (1 sign for each work area)

Show required PPE for different areas/tasks

Donning and Doffing Procedure (1 sign)

Emergency Eyewash and Shower Locations (1 sign)

Map showing locations of emergency eyewash stations

Fire Extinguisher Locations (1 sign)

Chemical Storage Rules (1 sign)

Guidelines for proper storage of resins, catalysts, and solvents

Ventilation Reminder (1 sign)

Reminder to use ventilation systems and keep work areas well-ventilated

Spill Response Kit Locations (1 sign)

Map showing locations of spill response kits

Waste Segregation Guide (1 sign)

Instructions for proper segregation of different types of fibreglass waste

Hand Washing Reminder (1 sign)

Reminder and instructions for proper hand washing

Clean up procedure for different types of Fibreglass Waste(1 sign)

