ABRASIVE BLASTING PROCEDURE

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1 Purpose

The purpose of this Procedure is to outline the minimum requirements and provide guidance to ensure abrasive blasting activities conducted on Mid West Ports Authority (**MWPA**) land is conducted in a safe and environmentally acceptable manner.

2 Scope

This Procedure applies to abrasive blasting work being undertaken by MWPA personnel or contractors on MWPA controlled land or operational area.

Should a Contractor's / third party or Port user's standard exceed the requirements outlined in this Procedure, then that standard should apply once a Risk Assessment (RA) has been undertaken and approved.

3 Roles and Responsibilities

Role	Responsibility
Permit Owner	Person who is undertaking the abrasive blasting activity and completes the initial permit request. Permit Owners are responsible to ensure the permit requirements are adhered to during the work activity.
Permit Coordinator	MWPA person who coordinates the permit process once all the applicable supporting information has been submitted and ensures that the activities can be managed so as not to impact other Port users.
Permit Authoriser	MWPA person(s) or their delegates who have relevant qualifications and/or experience to review the activities described in the permit prior to approval. • Maintenance Supervisor • Maintenance Superintendent • Operations Manager • Operations Superintendent • Project and Technical Services Manager
Work Health and Safety Advisors	MWPA personnel who conduct health and safety inspection and audit services of abrasive blasting activities.
Competent Person	A person who has acquired through training, qualification or experience the knowledge and skills to carry out the abrasive blasting.

4 General Requirements

4.1 WHAT IS ABRASIVE BLASTING?

Abrasive blasting may involve using a stream of abrasive material, propelled at high speed by compressed air, water, steam, centrifugal wheels or paddles against a surface, to clean, abrade, etch, or otherwise change the original appearance or condition of the surface.

4.2 DOCUMENTS USED TO MANAGE ABRASIVE BLASTING

Mandatory documents that are required to manage abrasive blasting include the following.

Requirement	Document
Abrasive Blasting – General Work Areas	The mandatory documents used to manage abrasive blasting include: • Job Safety and Environmental Analysis (JSEA); • Permit to Work Procedure; • Authority to Access; and • Application for Abrasive Blasting Permit.
Abrasive Blasting – Specific Hazard Areas	The mandatory documents used to manage specific abrasive blasting requirements include: • Job Safety and Environmental Analysis (JSEA); • Safe Work Method Statement (SWMS) are required where the work is defined as high-risk construction work. Note – blasting activities will not normally meet the criteria for high risk construction work but may be associated with activities that are; • Authority to Access; • Permit to Work Procedure (additional permits may be required); • Safe Work Procedure(s); and • Safety Data Sheets (SDS) for chemicals used in the process.

4.3 RISK ASSESSMENT

A JSEA / Risk assessment must be completed prior to conducting abrasive blasting works and reviewed on site prior to the activity commencing.

Requirement	Topic

Minimum Written Requirements	The minimum written requirements recorded must include the following.
	• **Location of Blasting** – The location of blasting must be stated in the JSEA.
	  • Blasting outside of a chamber shall only be conducted where it is not practicable to use a chamber due to the size, shape, position or location of the object being blasted.
	  • Shrouding should be used to prevent airborne material escaping the work area.
	  • The proximity of hazards such as nearby structures and electrical systems and parts on the activities being undertaken must be listed.

Requirement	Topic

	• Measures must be taken to ensure that:
	  • no visible dust escapes the MWPA site boundary;
	  • no visible dust escapes into any area to which the public has access;
	  • consultation is carried out with any parties whose operations may be adversely impacted by the blasting; and
	  • where blasting is required on an object situated in an area to which the public does have access, then shrouding must be used to prevent dust reaching areas to which the public can access, and barriers should be erected to restrict access to the area and a suitable 'Spotter' should be utilised to ensure members of the public do not enter the operational zone.
	• **Equipment** – The equipment used for the blasting activity must meet the following requirements.
	  • Pressure vessels must be registered as per Schedule 5 Division 2 of the *Work Health and Safety (General) Regulations 2022*.
	  • All blasting equipment such as compressors, blast pots, hoses air purifiers, air supplied helmets PPE including to be serviced and maintained as per the manufacturer's specifications.
	  • All power tools brought to site shall have a current electrical inspection tag attached to the electrical cable or unit.
	  • Hoses shall be made of impregnated carbon to prevent electric shock or fitted with an earth wire or similar earthing system if they are made of any other material.
	  • Hose whip checks or hose coupling safety locks, or both must be fitted.
	  • Where air supply is from a local air compressor, an electrical cut-off control is fitted and regularly checked, and a safety relief valve must be fitted and regularly checked.
	  • Must have an efficient means of discharging static electricity from the blast nozzle when dry blasting.
	• **Signage** – List barricading / exclusion areas / signage that is required to inform and restrict access to the hazardous area surrounding the work.
	• **Chemical Use** – Where chemicals are used as part of the blasting / painting / antifouling process they will be clearly identified, the conditions for their use identified and copies of their Safety Data Sheets (SDS) available with the Risk Assessment.

Requirement	Topic

	• **Personal Protective Equipment (PPE)** – identify and list the minimum requirements for:
	  • eye protection;
	  • hand protection;
	  • foot protection;
	  • body protection;
	  • hearing protection; and
	  • respiratory protection.
	• **Manual Handling** – State what controls are in place to reduce manual handling risk to personnel. Considerations include:
	  • the risks associated with lifting / pushing / carrying / handling of equipment; and
	  • working in awkward positions / postures.
	• **Heat and Fatigue** – The effect of working in heavy / impervious protective clothing (multiplied in hot environments) must be identified and suitable control measures implemented. Considerations may include:
	  • rest / work cycles including task rotation between workers;
	  • the use of cooling devices during rest breaks;
	  • scheduling work for cooler parts of the day; and
	  • availability of cool fluids at worksite.

	• **Waste Containment and Disposal** – It must be noted that:
	  • no waste material be allowed to escape the premises or to escape to any place to which the public has access;
	  • abrasive blasting waste must be cleaned up at the conclusion of each shift where abrasive blasting operations are conducted in an area where waste material is likely to be blown away by wind and/or in a common use area where other Port users are likely to be operating;
	  • consideration should be given to organising for a mechanical cleaning system, such as a vacuum truck or street sweeper, to be available for removal of waste when blasting is conducted in the open. In particular, consideration should be given to seasonal wind conditions which may result in waste being spread over a large area;
	  • in accordance with the *Environmental Protection (Abrasive Blasting) Regulations 1998* all waste material produced during abrasive blasting operations within MWPA controlled land must be disposed of at a landfill facility which holds a licence under Part V of the *Environmental Protection Act 1986* (for example, Meru Waste Disposal Facility); and
	  • refer to Specific Considerations identified in this Section regarding blasting near the marine environment.

Requirement	Topic

	• **Emergency Procedures** – Emergency procedures must be identified in the JSEA or separate document and need to ensure they have adequately identified:
	  ◦ local / job site emergency response, ensuring personnel are aware of immediate response requirements;
	  ◦ emergency contacts for notification and escalation; and
	  ◦ emergency equipment that is suitable for the nature and scale of the work (for example, first aid equipment).
	• **Personnel and Training** – Identify and list the minimum number of Competent Person(s) required to safely complete the task including mandatory standby personnel and the training and competence requirements that must be met.

Specific Considerations – Abrasive Blasting Near the Marine Environment	Specific considerations regarding abrasive blasting are identified in the *Environmental Protection (Abrasive Blasting) Regulations 1998* to contain discharged abrasive materials and prevent waste from entering the marine environment.
	• Mandatory requirements shall apply when abrasive blasting operations involve the use or removal of Organotin or other heavy metal coatings near the marine environment, and Operators must not carry on abrasive blasting in, or near marine environments unless:
	  ◦ the size, shape, position or location of the object being blasted makes it impractical to move the object out of the way, or away from, that environment;
	  ◦ water which contains waste material must be collected in an impervious sump prior to disposal at a licenced waste facility (for example, Meru waste disposal facility);
	  ◦ overflow from the holding sump must drain into a soakwell and not be allowed to enter the marine environment;
	  ◦ the holding sump and soakwell are emptied as often as necessary to ensure efficient operation; or
	  ◦ in the event that a sump is not practicable, there is to be a catchment area setup under the blast works filtered to capture all removed particles as much as possible (filter cloth on floor of scaffolding under berth). This material shall be disposed of at a licensed waste facility.

Requirement	Topic
Specific Considerations – Confined Space	Specific considerations regarding abrasive blasting within a confined space are identified within AS2865:2009 – Confined spaces, Appendix G. The following requirements must be identified in the risk assessment. • Cleaning by abrasive blasting shall only be conducted where suitable supplied air respiratory protective devices are used. • Grit and dust shall be contained to prevent airborne dust issues. • Actuating devices that require positive effort by the operator to keep the blasting apparatus supply valve open ('dead person') type actuation. The following requirements should be considered in the risk assessment. • Illumination and visibility within the confined space. • Mechanical protection of the respirable air-line to the air supplied respirator. • Escape equipment suitable for protective equipment worn.

5 Definitions

Blasting Chamber	A fully enclosed structure in which abrasive blasting is conducted.
Construction Work	Construction work means any work carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning, or dismantling of a structure.
JSEA	Job Safety and Environmental Analysis.
Organotin	An anti-fouling coating, paint or treatment that contains an organic derivative of tin. This product has been banned within Australia since 2003, however, it is possible but unlikely that some older anti-foul coatings are of this type.
Safe Work Method Statement (SWMS)	Must identify the work that is high risk construction work, specify hazards relating to the task and risks to health and safety associated with those hazards, describe the measures to be implemented to control the risks; and describe how the control measures are to be implemented, monitored and reviewed.
Wet Abrasive Blasting	Abrasive blasting during which water is added to the abrasive material or its propellant or is used as the propellant.

6 Associated Documents

Document Title
Application for Abrasive Blasting Permit
Contaminated Sites Management Procedure
Permit to Work Procedure
Personal Protective Equipment (PPE) Procedure

Location – Mid West Ports Intranet – Document Centre

7 References

Act or Regulation
Abrasive Blasting – Code of Practice (Safe Work Australia) 2020
Environmental Protection Act 1986
Environmental Protection (Abrasive Blasting) Regulations 1998
Work Health and Safety Act 2020
Work Health and Safety (General) Regulations 2022

Location - Western Australian - https://www.legislation.wa.gov.au | Australian - https://www.legislation.gov.au

8 Monitoring, Evaluation and Review

This document is required to be reviewed every two years from the last scheduled review date.

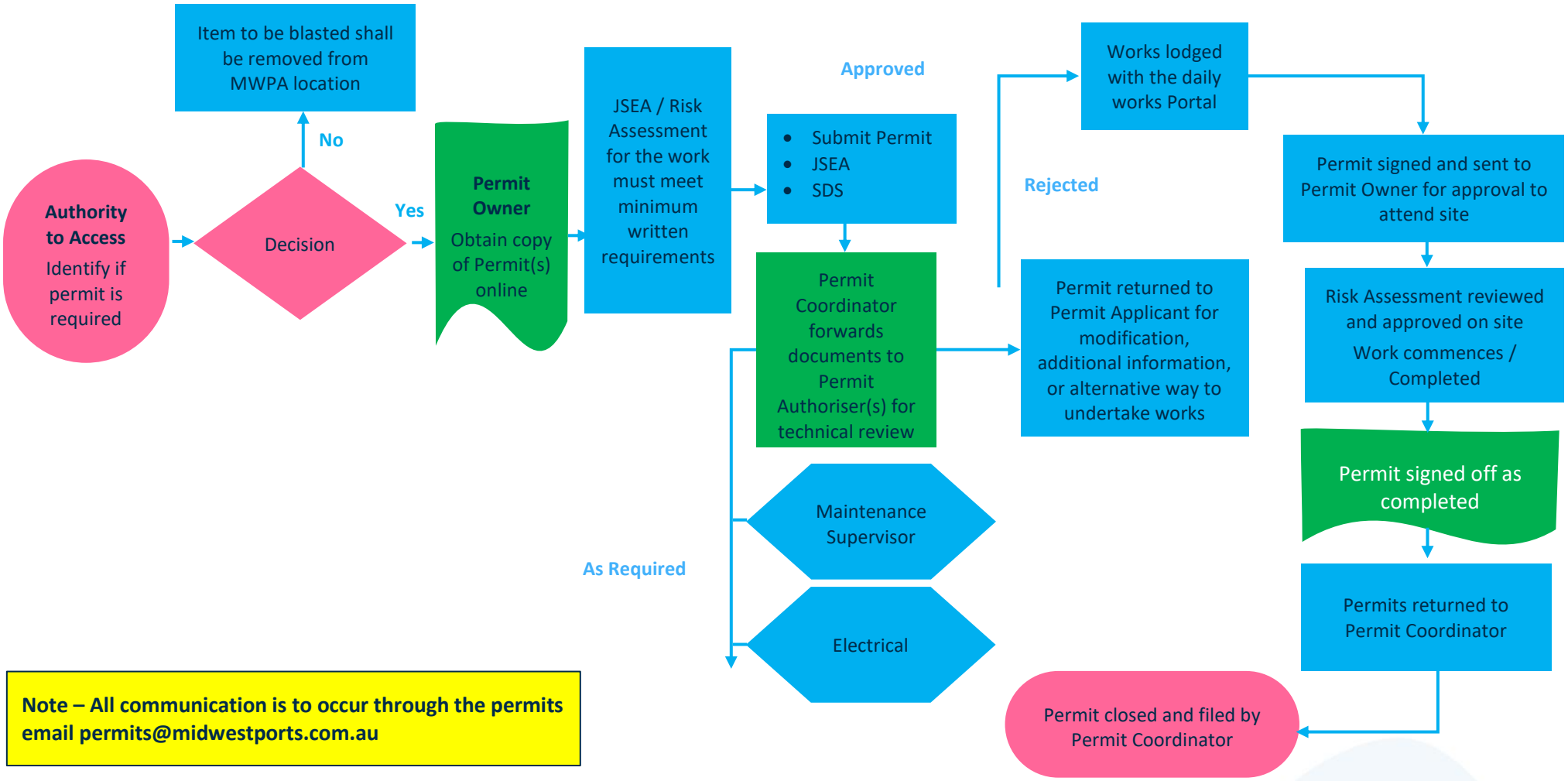
Minor updates made within this two year period, will not be taken as a *full review*.

The Document Custodian is responsible for conducting the review in accordance with **Controlled Documents Review and Approval Process Work Instruction**.

9 Administration

Document Custodian:	Maintenance Superintendent
Document Approver:	Maintenance Services Manager
Approval Date:	14 January 2023
Document Review Period:	2 yrs

Attachment A – Permit Process Diagram



Note – All communication is to occur through the permits email permits@midwestports.com.au