Prepared for
DesignInc Sydney Pty Ltd
ABN: 87 003 008 820

BAESA - F35 Facilities AV MRO&U

Waste Management Plan

13-Sep-2022

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Client: DesignInc Sydney Pty Ltd

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Table of Contents

1.0 Introduction

1.1 Project Background

AECOM Australia Pty Ltd (AECOM) was commissioned by DesignInc Sydney Pty Ltd, on behalf of BAE Systems Australia (BAESA), to undertake a desktop assessment of waste management issues associated with the proposed facility improvements at the BAESA Williamtown site for the Defence F-35 Program. BAESA is seeking to upgrade and expand its aircraft maintenance facilities at the Newcastle Airport and Royal Australian Air Force (RAAF) Base Williamtown to support the introduction of Australian F-35 aircraft.

The project comprises two schedules of work:

- Schedule 1 - the adaptive re-use of an existing aircraft maintenance hangar (the South Hangar) at the Newcastle Airport. DesignInc Sydney Pty Ltd proposes to construct four new F-35 General Maintenance Bays located in the existing hanger, hanger floor fit-out, supporting facilities and site services amplification.
- Schedule 2 - the adaptive reuse and extension of the existing North Hangar to provide seven F-35 General Maintenance Bays. This work element includes Enabling Works to be delivered on the adjacent Newcastle Airport Astra Aerolab Subdivision.

1.2 Site Description

The project site is located adjacent to Newcastle Airport Astra Aerolab within Williamtown, New South Wales, within the Port Stephens Local Government Area (LGA). The site for the construction of the project is located within the existing BAESA Williamtown site. The extent of the construction and demolition works to be undertaken under Schedule 1 and Schedule 2 will be generally in accordance with the approved Preliminary Design Review (PDR) Drawings, with the final extent of works to be confirmed during detailed design.

1.3 Purpose of this WMP

The project site is located within the Port Stephens LGA. This Waste Management Plan (WMP) has been prepared to support the lodgement of a development application for the project, in accordance with the Port Stephens Council's Development Control Plan (DCP), requiring the consideration of waste management aspects of the project.

This WMP covers the construction and operation phases of the project and describes the waste types likely to be generated, procedures for the handling, storage and disposal of wastes, and monitoring and tracking requirements throughout the project.

The project would be undertaken in accordance with the overarching Environmental Management Plan (EMP) (BAE System, 2019) prepared for the Williamtown site. This WMP should be read in conjunction with the EMP.

2.0 Waste Legislation and Policy

2.1 National Governance and Policy

Waste management in Australia has primarily been the responsibility of state and territory governments through respective legislation and policy. The Australian Government has been responsible for national legislation and policy frameworks for waste along with obligations under international agreements.

The National Waste Policy provides a framework for waste and resource recovery in Australia. The first National Waste Policy was published in 2009. An updated National Waste Policy was published in 2018 and outlines roles and responsibilities for collective action by businesses, governments, communities, and individuals. The National Waste Policy provides guidance for collaboration among states, territories, businesses, and industry. The 2018 National Waste Policy refers to the waste hierarchy, recognises the need for Australia to shift towards a circular economy, and provides a framework for businesses to embrace innovation and adopt technologies that create new opportunities for sustainable resource management.

The National Waste Policy Action Plan 2019 aims to guide investment and national efforts to 2030 and beyond by setting targets and actions to implement the 2018 National Waste Policy. These include:

- banning the export of waste plastic, paper, glass, and tyres
- reducing the total waste generated in Australia by 10% per person by 2030
- achieving 80% average resource recovery rate from all waste streams by 2030
- significantly increasing the use of recycled content by governments and industry.

The national waste policy framework prompts businesses and organisations to re-evaluate their waste management practices, pursuant to a growing need to increase domestic recycling and increase resource recovery to minimise environmental impacts.

The project would be consistent with the National Waste Policy framework as the project would adopt industry standard waste management principals in accordance with the waste management hierarchy. The project's waste management would involve the separation of recyclables, hazardous and general waste streams, which would be transferred appropriately to a licensed waste management facility, as a means of increasing resource recovery and minimising environmental impacts.

2.2 NSW State Legislation and Guidelines

2.2.1 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) is NSW's principle environmental protection legislation. The Act:

- defines 'waste' for regulatory purposes
- establishes management and licensing requirements for waste
- defines offences relating to waste and sets penalties
- establishes the ability to set various waste management requirements via the *Protection of the Environment Operations (Waste) Regulation 2014* (the Waste Regulation).

Section 48 and 49 of the POEO Act outlines licensing requirements for scheduled activities that are premise-based and not premise-based, respectively. Schedule 1 of the POEO Act lists the activities that are scheduled activities for the purposes of the Act. Part 1 of Schedule 1 defines a premise-based activity as any scheduled activity for which a licence is required for the premises at which it is carried out.

Construction and operation of the proposed BAESA F35 Program Facility would not include a scheduled activity listed under Schedule 1 of the POEO Act. As such, an Environmental Protection Licence would not be required for the project.

2.2.2 Protection of the Environment Operations (Waste) Regulation 2014

The Waste Regulation sets out provisions for managing waste in terms of storage, transportation, and processing, as well as reporting and record keeping requirements for waste facilities. The Waste Regulation also sets out tracking requirements for the transport and disposal of hazardous waste materials.

2.2.3 Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) includes the majority of NSW's overarching objectives and guiding principles to encourage beneficial re-use and resource recovery. The WARR Act promotes waste avoidance and resource recovery by providing a framework for the development of strategies and programs. It defines the waste hierarchy which aims to ensure that resource management options are considered against the following priorities:

- avoidance, including action taken to reduce the amount of waste generated, to maximise efficiency and avoid unnecessary consumption
- resource recovery, including re-use, recycling, reprocessing and energy recovery. Where avoiding and reducing waste is not possible, the next most preferred option is to re-use the materials without further processing, avoiding the costs of energy and other resources required for recycling
- disposal, including management of all disposal options in the most environmentally sensitive manner. Disposal is the least preferred option and is appropriate for materials that cannot be safely re-used or recycled

The project would aim to reduce the amount of waste generated through strategic selection of materials and optimisation of reuse and recycling strategies. Where reuse or recycling is not possible, wastes would be classified and disposed of at an appropriately licensed facility.

The project would be undertaken in accordance with the waste hierarchy and would be consistent with the objectives of the WARR Act.

2.2.4 NSW Waste and Sustainable Materials Strategy 2041

The *NSW Waste and Sustainable Materials Strategy 2041: Stage 1: 2021 - 2027* (DPIE, 2021), released in June 2021, outlines the targets and actions for NSW for the first stage of the strategy. These actions aim to deliver the long-term objectives of the Strategy, including transitioning to a circular economy and achieving net zero emissions by 2050. To complement this strategy, the NSW Government has also released the NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs, which sets out the investment pathway required for NSW to meet future demand for residual waste management and recycling.

The project would support the aims and objectives of the strategy by implementing the waste hierarchy and appropriately disposing of waste generated during construction and operation of the project.

2.2.5 NSW Waste Classification Guidelines

Waste classification helps to ensure the environmental and human health risks associated with the generation and disposal of waste are appropriately managed according to the POEO Act and its associated regulations. The EPA's *Waste Classification Guidelines* (EPA, 2014) provide a step by step process for classifying waste, including advice and direction on classifying waste into groups that pose similar risks to the environment and human health.

Waste generated during construction and operation of the proposed BAESA F35 Program Facility will be classified in accordance with the NSW Waste Classification Guidelines to inform appropriate management and disposal.

3.0 Demolition and Construction Waste Management

3.1 Overview of Construction Activities

Demolition and construction of the project would be undertaken in accordance with the Construction Environmental Management Plan (CEMP) prepared for the project by the construction contractor. Demolition and construction activities would include:

- demolition, removal and remediation of existing site facilities;
- addition of four new aircraft maintenance bays and associated equipment within the existing South Hangar
- construction of a new 'lean-to' style canopy to the southern end of the South Hangar to provide covered work areas for SE Maintenance
- refurbishment of selected areas within the South Hangar Support Facility, inclusive of workshops, avionics workshops, offices, storage and services
- potential demolition of the linkway between the Administration Building and Support Building to allow future equipment movements from the North Hangar to the Structures Workshop.

3.2 Construction Waste Streams

Waste generated during demolition and construction of the project would primarily include general construction waste such as timber, masonry, steel framing, cabling, and other assorted general waste. An initial desktop waste classification has been undertaken in accordance with the *Waste Classification Guidelines* (NSW EPA, 2014). A summary of likely key waste types arising from demolition and construction activities, along with the associated waste classifications and proposed management methods, is provided in Table 1.

Table 1 Potential Waste Types, Pre-Classification, and Management Methods – Construction

Waste Types	NSW EPA Waste Pre-Classification	Proposed Re-use, Recycling or Disposal Method
General Construction Wastes		
Excavation materials	To be classified following a contamination assessment of the site	Based on outcome of classification
Masonry	General solid (non-putrescible) waste	Offsite recycling or disposal
Steel framing	General solid (non-putrescible) waste	Offsite recycling or disposal
Concrete	General solid (non-putrescible) waste	Offsite recycling or disposal
Steel reinforcement	General solid (non-putrescible) waste	Offsite recycling or disposal
Cladding	General solid (non-putrescible) waste	Offsite recycling or disposal
Linings	General solid (non-putrescible) waste	Offsite recycling or disposal
Fixtures and fittings	General solid (non-putrescible) waste	Offsite recycling or disposal
Cabling	General solid (non-putrescible) waste	Offsite recycling or disposal
HVAC ductwork services	General solid (non-putrescible) waste	Offsite recycling or disposal
Assorted general waste	General solid (non-putrescible) waste	Offsite recycling or disposal
Timber	General solid (non-putrescible) waste	Offsite recycling or disposal
General domestic waste	General solid (putrescible) waste	Offsite disposal
Wastewater from amenities	Liquid waste	Direct to sewer

The quantities of waste to be generated as a result of construction of the project are not yet known and are subject to detailed design. Anticipated quantities of construction waste will be confirmed by the construction contractor and detailed within the CEMP.

Current waste storage provided on-site includes:

- Five 660 L bins for general waste
- Five 660 L bins for general recycling,
- One 10 m^3 skip bin for general waste
- One 10 m^3 skip bin for scrap steel.
- One 55 m^2 waste oil storage area for storing waste oil drums, IBC's and containers
- One 70 m^2 hazardous and dangerous goods storage area.

Additional waste storage areas would be provided for construction as required.

3.3 Management of Construction Wastes

Waste generated during the construction phase of the project would be managed in accordance with the CEMP prepared for the project, the overarching EMP for the site and relevant NSW legislation and policies outlined in **Section 2.0**.

Waste would be managed in accordance with the waste hierarchy to avoid, reduce, re-use and recycle materials where possible, through strategic design and planning.

The project would aim to adopt industry standard waste management principals, broadly involving the separation of recyclable, hazardous and general waste streams and temporary stockpiling of waste in suitable receptacles on site (e.g. skip bins). Waste would be assessed and classified in accordance with the *NSW Waste Classification Guidelines* (EPA, 2014) before being transferred to and disposed of at an appropriately licensed recycling or waste management facility.

The CEMP would outline the induction requirements for construction personnel, as per the EMP for the site. The site induction would include details of the waste management and minimisation measures to be implemented for the project.

Monitoring would be undertaken as part of weekly site inspections to ensure waste and recycling is being managed effectively on site. The observations and outcomes of inspection activities would be recorded in inspection reports, with corrective actions assigned to address potential non-compliances. Deficiencies identified in the waste management systems would be rectified by the construction contractor as soon as practicable.

3.4 Potential Impacts and Mitigation Measures

The following table provides a summary of the potential impact from construction waste and their proposed mitigation measures.

Table 2 Summary of Potential Impacts and Mitigation Measures for Construction waste

Potential Impact	Proposed Mitigation Measure
Human health risks arising from handling of potentially contaminated waste/soils and hazardous waste that could be identified at the site	A Hazardous Materials Survey has been undertaken for the South Hangar and would inform the construction contractor's demolition and waste management activities. The CEMP would provide details of appropriate management of contaminated and/or hazardous waste, where identified, as per the NSW EPA Waste Classification Guidelines.

Potential Impact	Proposed Mitigation Measure
Pollution of land and waterways including surface and ground water pollution from potential spills, solid waste, runoff etc	The CEMP would include methods for managing wastes or wastewater including bunding of liquid storage areas, spill containment kits etc.
Emission of dust, waste or odours	Waste management would be undertaken in accordance with the CEMP prepared for the project. The CEMP would outline measures for appropriate source-separation, handling, storage and transport of waste streams. All waste would be appropriately disposed of at licenced facilities.

4.0 Operational Waste Management

4.1 Overview of Operational Activities

Operation of the project will include the continuation of aircraft maintenance activities. It is noted that under the proposed six bay configuration and with the relocation of the Lead In Fighter maintenance activities across to the adjacent RAAF Williamtown Site, the total number of aircraft being maintained on site would be reduced.

4.2 Operational Waste Streams

Operation of the project would generate general, recyclable and hazardous waste streams of a similar nature to those currently generated at the site by the aircraft maintenance activities. General wastes would include those generated during maintenance activities as well as those generated by site workers. Hazardous waste streams generally consist of contaminated rags, mixing cups, oil tins and filters, batteries, e-waste, and chemicals. The waste streams likely to be generated during operation of the project are outlined in **Table 3**. Existing waste storage volumes provided on-site are listed in **Section 3.2**.

Table 3 Wastes generated during operation

Waste Types	NSW EPA Waste Pre-Classification	Proposed Re-use, Recycling or Disposal Method
General and Recyclable Wastes		
General Waste	General solid waste (non-putrescible) mixed with putrescible waste	Site storage and offsite disposal
Recyclable Wastes	General solid (non-putrescible) waste	Site storage and offsite recycling
Scrap Steel	General solid (non-putrescible) waste	Site storage and offsite disposal
Hazardous Wastes		
Oil drums, IBCs and Containers	Hazardous waste	Site storage and offsite disposal
Hazardous and Dangerous Goods	Hazardous waste	Site storage and offsite disposal

4.3 Management of Operational Wastes

The management of operational waste would be undertaken in accordance with the overarching EMP prepared for the Williamtown site. Waste management would adopt the waste hierarchy as a framework to avoid, reduce, re-use and recycle materials where possible, through efficient operational practices.

Waste would be assessed and classified in accordance with the *NSW Waste Classification Guidelines* (EPA, 2014). All waste oil, hazardous and dangerous goods are securely packaged in accordance with the appropriate Material Safety Data Sheet and placed in various sized bins within the designated hazardous and dangerous goods storage areas.

Waste items are collected from site by an accredited waste management company and transported to appropriately licensed waste management facilities for processing. An EPA online waste tracking document is provided for each item disposed of from site for tracking and auditing purposes.

Monitoring of the site's waste management systems would be undertaken in accordance with the environmental site inspection and auditing programme specified in the overarching EMP for the site. Records of the outcomes of site inspections and audits would be maintained on site, including the status of any corrective actions that may be required.

4.4 Potential Impacts and Mitigation Measures

The following table provides a summary of the potential impact from operational waste and the proposed mitigation measures.

Table 4 Summary of Potential Impacts and Mitigation Measures for Operational waste

Potential Impact	Proposed Mitigation Measure
Human health risks arising from handling of potentially contaminated wastes and hazardous waste	All wastes would be handled and stored in accordance with the Material Safety Data Sheets and would be transported from site by an accredited waste management company.
Pollution of land and waterways including surface and ground water pollution from potential spills, solid waste, runoff etc	Wastes would be managed in accordance with existing operational waste procedures set out in the overarching EMP for the site. Wastes would be stored within the appropriate designated areas for each waste stream. Transport of wastes from site will be undertaken by an accredited waste management company.
Noise impacts associated with waste residues collection, movement and transport	Adequately sized storage areas would be provided on site to minimise traffic movements. Waste removal would be scheduled during approved operating hours.
Emission of dust, waste and odours	During operations, all waste streams would be separated and stored within appropriate receptacles within the relevant designated waste storage areas. All waste would be appropriately disposed of at licenced facilities by an accredited waste management company.

5.0 Compliance and Review

Waste would be managed in accordance with the CEMP prepared for the project, the overarching EMP for the site, and relevant NSW legislation and policies. Waste management would incorporate the principles of the waste hierarchy, which involves management of waste to avoid, reduce, reuse and recycle in preference to disposal.

All waste generated on site during construction and operation would be assessed and classified in accordance with the *NSW Waste Classification Guidelines* (EPA, 2014). Wastes would be stored within designated areas suitable for each waste stream and would be transported from site by an accredited waste management company and disposed of at an appropriately licensed waste or recycling facility.

Monitoring and auditing would be undertaken to ensure waste and recycling is being managed effectively on site. Site inspections and environmental auditing would be undertaken in accordance with the procedures set out in the CEMP and EMP for the site.

Records of the receipt and disposal of relevant waste streams would be maintained and kept on site with project documentation. The transport of hazardous wastes would be tracked and records maintained in accordance with EPA requirements.

This WMP would be reviewed every three years and updated, if necessary, to incorporate changes to environmental management, legislation or operational procedures relating to waste management. The WMP would also be reviewed in response to an incident, environmental audit or at the direction of the regulatory authority.

6.0 References

BGIS, 2019) *Environmental Management Plan, BAE Systems*, BGIS Pty Ltd, 25 March 2019.

DPIE (2021) *NSW Waste and Sustainable Materials Strategy 2041: Stage 1: 2021 – 2027*, Department of Planning, Industry and Environment, Sydney.

EPA (2014) *Waste Classification Guidelines 2014*, NSW Environment Protection Authority, Sydney.

EPA (2021) *NSW Energy from Waste Policy Statement*, NSW Environment Protection Authority, Sydney.