



**Australian Government**

**Department of Infrastructure, Transport,  
Regional Development and Communications**

File Reference: F21/3792-16

Ben Armstrong  
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Dear Mr Armstrong

**Visual and Landscape Construction Environmental Management Plan (CEMP)**

I write to notify you that, in accordance with Condition 39 of the Airport Plan, I have today approved the Visual and Landscape CEMP (Rev 5) submitted by Sydney Metro on 18 February 2022. This follows my recent approval of the Construction (Rail) Plan. Thank you for Sydney Metro's engagement with the department over the last few months as these plans were developed.

Now that the Visual and Landscape CEMP has been approved Sydney Metro is required:

- a. To take reasonable steps to ensure that each person involved in carrying out a development that is part of the Rail Development is informed of, and complies with, the approved Visual and Landscape CEMP (Condition 45(3) of the Airport Plan).
- b. To maintain accurate records demonstrating implementation of, and compliance with, the approved Visual and Landscape CEMP, and other applicable conditions contained in Section 3.11.6 of the Airport Plan. Records must be made available to the Infrastructure Department on request (Condition 46 of the Airport Plan).
- c. To publish information in a report about its compliance with the conditions set out in section 3.11.6 of the Airport Plan (Rail Conditions) and its implementation of the approved Visual and Landscape CEMP (Condition 47 of the Airport Plan).
- d. To ensure that an independent audit of its compliance with the conditions set out in section 3.11.6 (except Condition 44) and condition 46 of the Airport Plan (Rail Conditions) is conducted, by an approved independent auditor, in respect of the 12-month period commencing with commencement of Rail Construction Works. The independent audit report must be submitted to the Infrastructure Department, with a copy provided to the Environment Department, within six months of the end of the period in respect of which the audit was conducted (Condition 48 of the Airport Plan).
- e. Unless otherwise agreed by an Approver, to publish the approved Visual and Landscape CEMP on its website (Condition 50 of the Airport Plan).

If you have any queries in relation to this letter, please do not hesitate to contact me.

Yours sincerely

David Jansen

Assistant Secretary  
Western Sydney Airport Regulatory Policy Branch

16 March 2022



# Sydney Metro Western Sydney Airport Visual and Landscape Construction Environmental Management Plan

Sydney Metro Integrated Management System (IMS)

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## Document Control

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## Version Control

Revision	Date	Description
01	18 March 2021	Draft for Tender
02	16 August 2021	Draft for WSA review
03	1 November 2021	Issued for DITRDC
04	25 January 2022	Final to DITRDC
05	18 February 2022	Final

## Terms and Definitions

Terms	Definitions
<b>The Act</b>	Airports Act 1996 (Cth) (Airports Act)
<b>AEPR</b>	Airports (Environment Protection) Regulations 1997
<b>AEW</b>	Advanced and Enabling Works
<b>Airport</b>	The airport located at the Airport Site. Note: The Airport is referred to in the Act as Sydney West Airport and is commonly known as Western Sydney International (Nancy-Bird Walton) Airport
<b>Airport Lease</b>	An airport lease for the Airport granted under section 13 of the Act
<b>Airport Lessee Company</b>	The company that is granted a lease over the Airport Site
<b>Airport Plan</b>	Means the September 2021 approved Airport Plan which includes the Variation for the SM-WSA Rail Development on the WSI airport and which otherwise means airport plan for the Airport Site as determined by the Infrastructure Minister under section 96B of the Airports Act in December 2016 as varied from time to time in accordance with the Airports Act.
<b>AP</b>	Airport Plan
<b>Airport Site</b>	The site for Sydney West Airport as defined by the Airports Act.
<b>AS</b>	Australian Standard
<b>CCS</b>	Community Communication Strategy
<b>CEMF</b>	Construction Environmental Management Framework
<b>CEMP</b>	Construction Environmental Management Plan
<b>CIZ</b>	Construction Impact Zone
<b>CNVIS</b>	Construction Noise and Vibration Impact Statement
<b>CoA</b>	Conditions of Approval
<b>CSSI</b>	Critical State Significant Infrastructure
<b>CTMF</b>	Construction Traffic Management Framework
<b>Cwth</b>	Commonwealth
<b>DAWE</b>	Department of Agriculture, Water and the Environment (Cwth)
<b>DECC</b>	NSW Department of Environment and Climate Change
<b>DITRDC</b>	Department of Infrastructure, Transport, Regional Development and Communications
<b>DPIE</b>	Department of Planning, Industry and Environment
<b>ECM</b>	Environmental Control Map
<b>ECZ</b>	Environmental Conservation Zone
<b>EESG</b>	NSW Environment, Energy and Science Group (formerly OEH)
<b>EIS</b>	Environmental Impact Statement
<b>EP&amp;A Act</b>	Environment Planning and Assessment Act 1979 (NSW)
<b>EPA</b>	NSW Environment Protection Authority
<b>EPBC Act</b>	Environment Protection and Conservation Act 1999 (Cwth)
<b>EPL</b>	Environment Protection Licence under the POEO Act
<b>ER</b>	Environmental Representative

## Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Terms	Definitions
<b>EWMS</b>	Environmental Works Method Statement
<b>E&amp;SMS</b>	Environment and Sustainability Management System
<b>IMS</b>	Sydney Metro Integrated Management System
<b>ISO</b>	International Standardization Organisation
<b>KPI</b>	Key Performance Indicator
<b>Minister, the</b>	The Minister of New South Wales (NSW) Planning
<b>NSW</b>	New South Wales
<b>OCCS</b>	Overarching Community Communication Strategy
<b>POEO Act</b>	Protection of the Environment Operations Act 1997 (NSW)
<b>Preparatory Activities</b>	<p>Preparatory Activities mean the following:</p> <ul style="list-style-type: none"> <li>a. day to day site and property management activities;</li> <li>b. site investigations, surveys (including dilapidation surveys), monitoring, and related works (e.g. geotechnical or other investigative drilling, excavation, or salvage);</li> <li>c. establishing construction work sites, site offices, plant and equipment, and related site mobilisation activities (including access points, access tracks and other minor access works, and safety and security measures such as fencing but excluding bulk earthworks);</li> <li>d. enabling preparatory activities such as: <ul style="list-style-type: none"> <li>i. demolition or relocation of existing structures (including buildings, services, utilities and roads);</li> <li>ii. the disinterment of human remains located in grave sites identified in the European and other heritage technical report in volume 4 of the EIS; and</li> <li>iii. application of environmental impact mitigation measures; and</li> </ul> </li> <li>e. any other activities which an Approver determines are Preparatory Activities for this definition</li> </ul>
<b>Project</b>	The Sydney Metro Western Sydney Airport Construction and operation as approved by the EPBC and Airport Plan as the Action or Rail Development within the Rail Construction Impact Zone on-airport, being the WSI airport, in agreeance with the Deed between SM-WSA and WSA Co.
<b>Proponent</b>	The person or organisation identified as the proponent in Schedule 1 of the planning approval. In this case Sydney Metro Authority
<b>RCIZ</b>	Rail Construction Impact Zone
<b>REMM</b>	Revised Environmental Mitigation Measure
<b>RMS</b>	NSW Roads and Maritime Services
<b>SBT</b>	Station Boxes and Tunnelling Works
<b>SCAW</b>	Surface and Civil Alignment Works
<b>SCO</b>	Sydney Coordination Office
<b>SEMF</b>	Site Environmental Management Framework
<b>SM</b>	Sydney Metro
<b>SMWSA</b>	Sydney Metro Western Sydney Airport
<b>SMWSA EIA</b>	SM - - WSA EIS: EPBC Act Draft Environmental Impact Assessment of On-airport proposed action (EPBC 2019/8541)
<b>SMP</b>	Sustainability Management Plan
<b>SPIR</b>	Submissions and Preferred Infrastructure Report

## Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)



Terms	Definitions
<b>SSI</b>	State Significant Infrastructure
<b>SSTOM</b>	Stations, Systems, Trains, Operations & Maintenance
<b>SWMS</b>	Safe Works Method Statement
<b>TfNSW</b>	Transport for New South Wales
<b>VLCEMP</b>	Visual and Landscape Construction Environmental Management Plan
<b>VAMP</b>	Visual Amenity Management Plan
<b>WSA</b>	Western Sydney Airport Co
<b>WSI airport</b>	Western Sydney International (Nancy-Bird Walton) (WSI) Airport



# 1. Introduction

## 1.1. Sydney Metro

Sydney Metro is Australia's biggest public transport project. Services between Rouse Hill and Chatswood started in May 2019 on the new stand-alone metro railway system. The Sydney Metro network and program of work includes the Metro North West Line (which opened in May 2019), Sydney Metro City & Southwest (which is currently under construction and due to open in 2024), Sydney Metro West (with construction due to start in 2020) and Sydney Metro – Western Sydney Airport (SMWSA) (The Project). Potential future extensions to Schofields/Tallawong in Rouse Hill in the North and to Macarthur in the South are under consideration and are being safeguarded but do not form part of the Project.

The Project is shown in Figure 1-1 and would become the transport spine for Greater Western Sydney, connecting communities and travellers with the new Western Sydney International (Nancy-Bird Walton) Airport (referred to as Western Sydney International) (WSI airport) and the growing region.

The Project is being delivered under the Western Sydney City Deal, a partnership between the NSW Government, Australian Government and eight councils of the Western Parkland City. The NSW and Australian Governments have a shared objective of having the rail line operational when WSI airport is planned to open for passenger services.

The new railway line will service Greater Western Sydney and the new Western Sydney International (WSI) airport. It will become the transport spine for the Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service. The Project will link residential areas with job hubs from St Marys through to the new airport and the Western Sydney Aerotropolis.

It will provide a major economic stimulus for Western Sydney, supporting more than 14,000 jobs during construction for the NSW and national economies, including more than 250 new apprenticeships. The Project comprises components that are located outside WSI airport (off-airport) and components that are located within WSI airport (on-airport).

The approval process for the off-airport and on-airport components of the project are different and are outlined below. One outcome of the on-airport approval is that a condition of working on the WSI airport site will require the Sydney Metro Western Sydney Airport Project to produce and have approved, a series of Construction Environmental Management Plans (CEMP) prior to SMWSA commencing construction on-airport. This Visual and Landscape CEMP (VLCCEMP of Plan) is one of a series of nine CEMPs for the Railway Development (Project) which will be consistent with the WSI airport CEMPs and address all on-airport environmental components of the Project.

# Sydney Metro – Integrated Management System (IMS)

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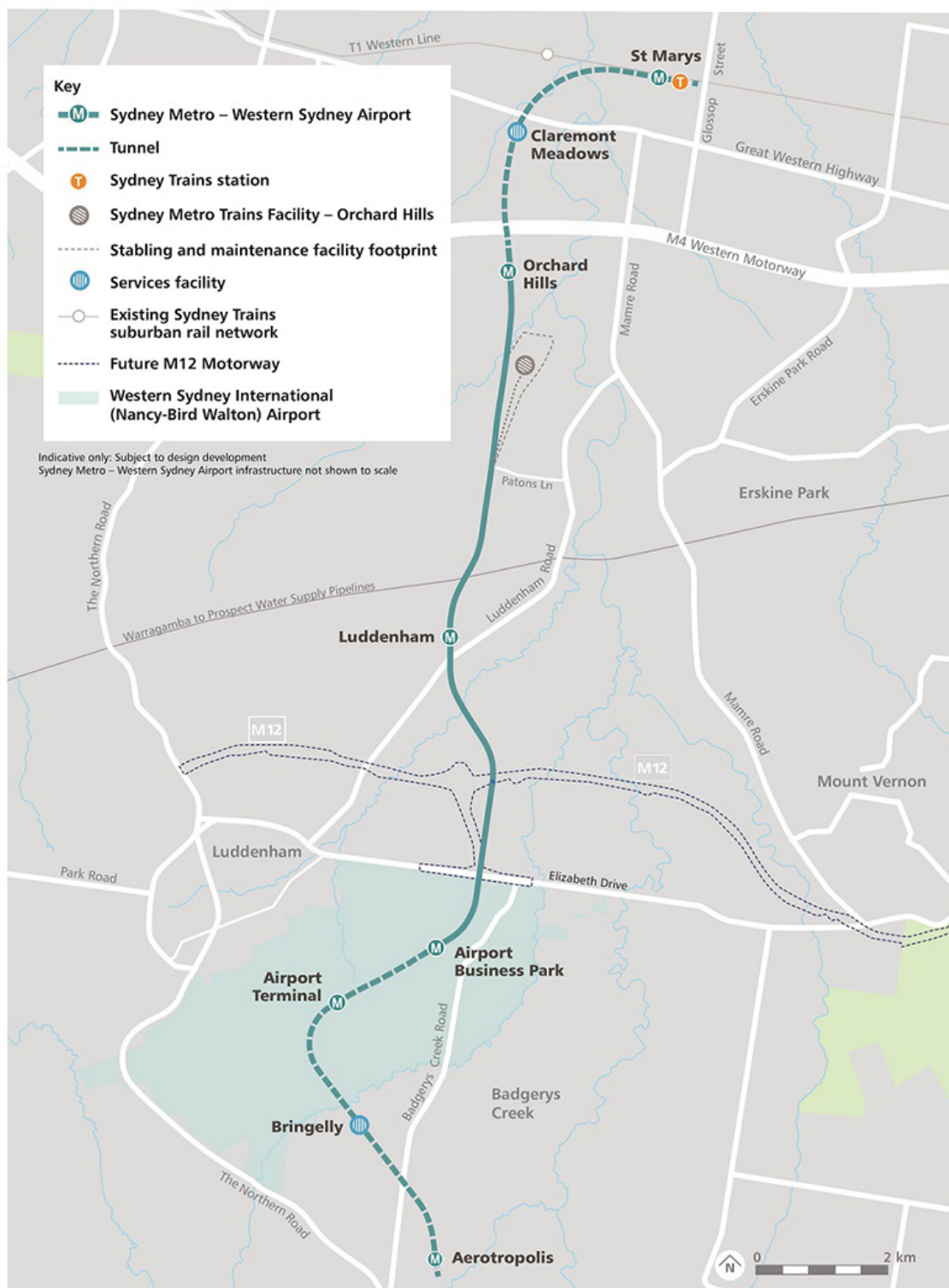


Figure 1-1 Sydney Metro WSA Network

## 1.2. Sydney Metro Western Sydney Airport

The Western Sydney Airport Plan sets out the vision for the development and operation of Western Sydney International and provides authorisation for Stage 1 of the airport. The construction of Stage 1 of the airport is expected to be completed to enable operations to commence in 2026 and will comprise a single runway, a terminal and other relevant facilities to accommodate around 10 million passengers annually as well as air freight traffic. Interface with Western Sydney International Rail access to Western Sydney International Airport will contribute to the success of the airport and the Western Parkland City, as it would facilitate passengers' and workers' journeys, reduce road congestion and support the economic viability of the airport.

The Project is proposed to enter the airport site from the north and would include stations at the Airport Business Park and the Airport Terminal. The rail line will travel through the airport, before exiting the airport site beneath Badgerys Creek in the southeast of the airport site. Sydney Metro has been, and will continue, working closely with Western Sydney Airport to ensure design development and construction (Rail) planning of the project is coordinated with the construction and operation of WSI airport.

## 1.3. Background/Context

The Airport Plan for the Western Sydney International was determined in December 2016, following preparation and exhibition of an Environmental Impact Statement, and incorporates the conditions specified by the Commonwealth Environment Minister. The delivery of the Project on the WSI airport site has been authorised through a variation of the Airport Plan by the Commonwealth Infrastructure Minister, taking into account advice from the Commonwealth Environment Minister.

In September 2019, the Commonwealth Infrastructure Minister referred the on-airport components of the Project to the Commonwealth Environment Minister. In December 2019, the delegate of the Commonwealth Environment Minister decided that advice is required under section 160 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as the proposed action is likely to have a significant impact on the environment and will require further assessment. The following documents were prepared as part of the SMWSA EIS, to respond to the Request for Further Information, and were published, in accordance with the Direction to Publish, from 21 October to 18 November 2020:

- SMWSA EPBC Act Final Environmental Impact Assessment of on-airport proposed action (EPBC 2019/8541)
- SMWSA EIS Technical Paper 3: Biodiversity Development Assessment Report
- SMWSA EIS Appendix F: Construction Environmental Management Framework.

An EPBC Act Final Environmental Impact Assessment of on-airport proposed action

(EPBC 2019/8541) was approved by the Commonwealth Department of Agriculture, Water and the Environment (DAWE) and formed part of the conditions of the Airport Plan which was lodged with the Infrastructure Department and approved by the Commonwealth Infrastructure Minister on 15 September 2021.

This Plan has been prepared to satisfy the requirements of the Visual and Landscape CEMP set out in the Conditions for the Airport Rail Development of the Western Sydney International (Nancy-Bird Walton) (WSI) Airport detailed in Section 3.11.6 of the Airport Plan.

Condition 39 (2(i)) of the Airport Plan requires that a Sydney Metro Visual and Landscape CEMP be approved under the Airport Plan prior to the commencement of the Project.

This Plan provides the management approach and requirements for managing visual and landscape related matters during construction of the Project. This Plan forms one of nine CEMPs which are collectively covered by the SMWSA Construction Environmental Management Framework (CEMF). To ensure the environmental resources, responsibilities and management measures are implemented during the construction activities, the CEMF will be included within the Sydney Metro Construction (Rail) Plan.

The implementation of the Sydney Metro Construction (Rail) Plan and the CEMF are aligned with Project level management plans including the Community Communications Strategy and the Sustainability Plan as illustrated in Figure 1-2.

The Sydney Metro Construction (Rail) Plan, including the CEMF and nine CEMPs provide the environmental management approach and requirements and therefore should not be read in isolation to each other due to interconnecting management outcomes and objectives. Specifically, for the VLCEMP, it is considered that the following management plan linkages can be made:

- Biodiversity CEMP – management of vegetation on-site and prevention of impacts on adjacent vegetation and fauna habitat will be influential in the management of visual impacts.
- Soil and Water CEMP – managing the control of runoff and ensuring receiving waters are not impacted by the works is important in minimising visual impacts. Also, the management of surface water flows is considered a key aspect in landscape management. Preventing mud being tracked onto roadways will also be important in minimising visual impacts.
- Air Quality CEMP – impacts on air quality have the potential to affect the visual amenity and landscape of the receiving environment, particularly with regards to dust generation.
- Waste and Resources CEMP – effective on-site waste management will be influential in minimising visual impacts resulting from works.
- Community Communications Strategy – it is anticipated that the surrounding community and stakeholders will be highly receptive to visual impacts, particularly general tidiness of the site and surrounds.
- Sustainability Plan – management and reduction of greenhouse gas emissions and management of impacts about general health, wellbeing, and quality of life for surrounding communities. Where relevant, linkages to other CEMPs and management objectives have been included in the risk assessment and the environmental control measures (Section 7).

This Plan is to be read in conjunction with the Sydney Metro Construction (Rail) Plan and any relevant CEMP documents as indicated in Table 1-1 below which highlights relationships and linkages of this Visual and Landscape CEMP with other CEMPs within the environmental management framework, including key cross-referencing to the Airport Plan and SMWSA EIA.

Table 1-1 Visual and Landscape CEMP relationship with other CEMP documentation

CEMP	Airport Plan (3.11.6)	SM - WSA EIA Table 8-1: On- airport environmental management framework requirements	SM - WSA EIA Table 8-3: Mitigation measures
Aboriginal Cultural heritage	39 2(f)	CEMF5	AH8
Air quality	39 2(e)	CEMF10	AQ1-3
Biodiversity	39 2(b)	CEMF6	FF1, 3, 5, 6, 9-11 HR2
Community and stakeholder engagement plan	40	N/A	N/A
European and other heritage	39 2(g)	CEMF5	NAH9
Noise and vibration	39 2(a)	CEMF4	NV1
Soil and water	39 2(c)	CEMF3 CEMF8	HYD1 WQ1-2 GW4-6 SC1,5-9, 11 HR1,3
Sustainability plan	41	N/A	SUS1-3 GHG1
Traffic and access	39 2(d)	CTMF	T1,3 ,4,6
Visual landscape	39 2(i)	CEMF7	LV1-3
Waste and resources	39 2(h)	CEMF9 CEMF11	WR1-3

**Key**

Moderate to high relevance to this CEMP

Some relevance to this CEMP

## 1.4. Document purpose

The purpose of this Plan is to provide the foundation for the management of visual and landscape impacts in accordance with best practice and legal requirements (including environmental mitigation measures, controls, monitoring and reporting) during the construction phase of the Project based on the assessment undertaken as part of the SMWSA EIA.

This Plan details the visual and landscape management requirements that must be satisfied in order to demonstrate compliance with Condition 39 (2) of Section 3.11.6 of the Airport Plan for the construction of the Project.

Legal and other requirements are identified within the CEMF (refer CEMF Chapter 2) and maintained in a register and mitigation measures (specific to visual and landscape impacts)



required to satisfy these requirements are derived from the SMWSA EIA and through risk assessment processes (refer Section 6.3) and included within this CEMP (refer Section 7).

Implementation of these measures is ensured through monitoring, training, competence, inspection, audit and reporting actions detailed in Sections 9 and 10, with the responsibilities for implementation identified in Section 8.

In summary, this Plan sets out to achieve the following:

- Provision of details for the management and mitigation measures to be implemented, including timing and responsibilities;
- Ensuring the commitments of the Conditions (as set out in the Airport Plan) and regulatory requirements are met and satisfied by both Sydney Metro and contractors;
- Provision of process for monitoring implementation, reporting, and auditing of visual and landscape impact management and compliance related issues;
- Commitment to meeting the requirements of AS/NZS ISO 14001:2016 Environmental Management Systems including the need for continual improvement;
- Provision of a process to be implemented for the management of complaints, for stakeholder engagement, and for the management of emerging environmental issues as they arise; and
- Provision of a system including procedures, plans and documentation for implementation by Sydney Metro personnel and contractors to enable Project completion in accordance with the environmental requirements.

Effective implementation of this Plan will assist Sydney Metro and relevant contractors to achieve compliance with necessary environmental regulatory and policy requirements in a systematic manner with an outcome of continual environmental management performance.

## 1.5. Consistency

A major requirement of these plans is for Sydney Metro to maintain consistency with the already approved WSA CEMPs. This consistency requirement results in SM not needing to undertake consultation as is the requirement of WSA for their plans.

SM approached the development of these plans to meet the requirements of the Airport Plan, ensure compliance with Tables 8-1, 8-2 and 8-3 of the EPBC 2019/8541 and remain consistent with the WSA CEMPs.

SM have achieved this consistency through the following:

- Consistent format
- Consistent language
- Consistent existing environment with the addition of the SM – WSA RCIZ existing environment
- Consistent aspects and impacts but removing those not applicable and adding specific SM – WSA aspects and impacts
- Consistent risk assessment but removing those not applicable and adding specific SM – WSA risks

- Consistent mitigation measures but removing those not applicable and adding SM – WSA specific mitigation measures
- Consistent monitoring with the addition of any SM – WSA specific monitoring requirements
- Consistent auditing and reporting
- References to SEMF replaced with consistent CEMF requirements.

## 1.6. Sydney Metro environmental management system overview

Sydney Metro co-operates in general accordance with AS/NZS ISO 14001:2016 – Environmental management systems. A copy of the Sydney Metro environmental policy is provided in Appendix A of the CEMF.

The Project will be undertaken in accordance with the Sydney Metro Construction (Rail) Plan including the CEMF and the associated CEMPs (including this Plan).

The CEMF is an appendix to the Sydney Metro Construction (Rail) Plan and is the overarching environmental plan for the implementation of the nine CEMPs. It provides a structured and systematic approach to environmental management and provides an expectation and guidance with regards to environmental management for the overall construction of the Project. The structure of the environmental management system for the Project is shown in Figure 1-2.

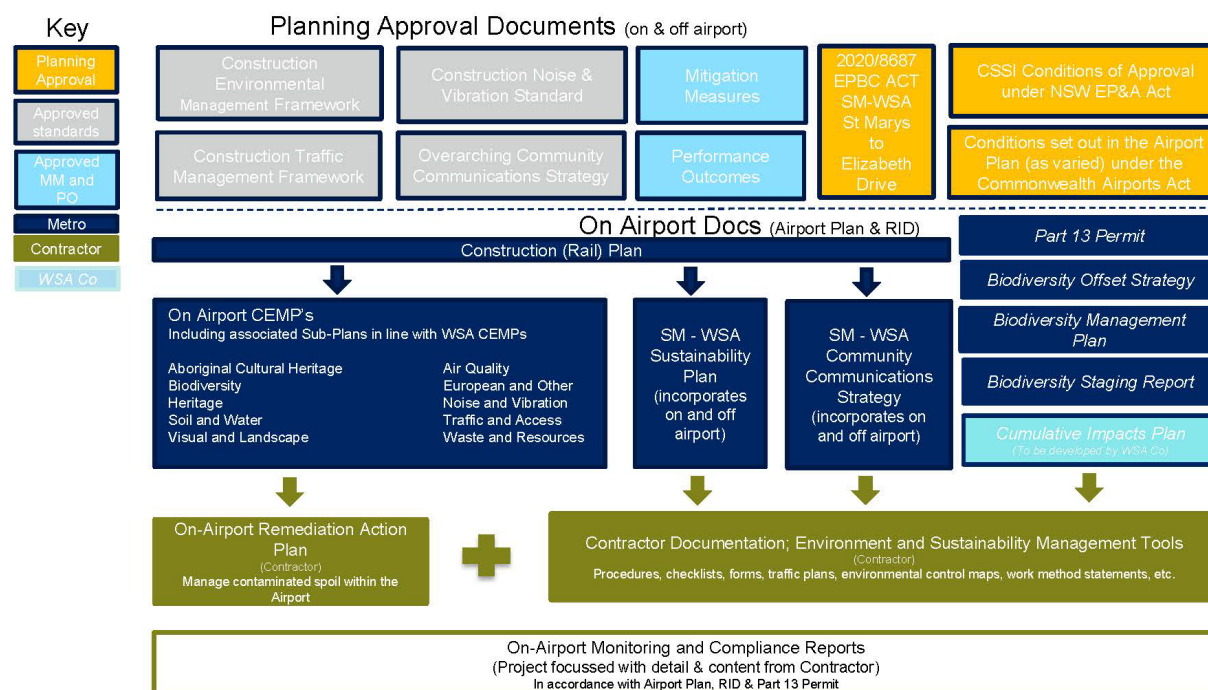


Figure 1-2 SMWSA Environmental Management System and CEMP context

## 1.7. Consultation requirements of this document

There is no direct consultation condition requirement for the Project under the Airport Plan and as such, there has been no direct consultation completed during the development of this CEMP, however, WSA completed consultation during the development of the latest WSA VLCEMP (Revision 0) and subsequently and during the review and update of Revision 0 and 1 in 2018

and Revision 2 in 2019 of their VLCEMP document. SMWSA will continue to consult with WSA in the development of these plans and as required with relevant stakeholders prior to seeking approval for these plans.

SMWSA Consultation will continue with agencies, councils and other relevant stakeholders throughout the Project where there is a change to a WSA CEMP. Where the outcomes of this consultation impact on the scope of the Project, to maintain consistency, the change will be documented in subsequent revisions of the relevant CEMPs, with details of such consultation included in the applicable document.

## 1.8. Certification and approval

This VLCEMP has been reviewed and approved for issue by the SMWSA Environment Manager prior to submission to the Department of Infrastructure, Transport, Regional Development and Communications (Infrastructure Department).

## 1.9. Distribution

All Sydney Metro personnel and contractors will have access to this VLCEMP via the project document control management system. Unless otherwise agreed by the Approver, the Approved Plan must be published on Sydney Metro's website within one month of being approved and be available until the end of the Construction Period. An electronic copy can be found on the Project website.

This document is uncontrolled when printed. One controlled hard copy will be maintained by the quality manager at the project office.



## 2. Scope of works

### 2.1. Overall Project scope

The Sydney Metro Construction Plan details the construction staging of the Airport Railway Development.

The delivery of the Project will be through a packaging strategy with a wide variety of package sizes, risk profiles and contracting entities. Each package will have different levels of environmental risk and environmental obligations, depending on the scope of works, location of works and sensitivity of the receiving environment and cultural heritage issues and relevant statutory requirements and obligations.

The packages have been divided into:

- AEW – Advanced and Enabling Works;
- SCAW – Surface and Civil Alignment Works;
- SBT – Station Boxes and Tunnelling Works;
- SSTOM – Stations, Systems, Trains, Operations and Maintenance.

The On-Airport Railway Development of the Project comprises the following key features as described in the Sydney Metro Construction (Rail) Plan (which is consistent with the Airport Plan and EIA Chapter 4):

- Around two kilometres of surface rail alignment within Western Sydney International (SCAW);
- Around 3.3 kilometres of twin rail tunnels (including tunnel portal) within Western Sydney International (SBT);
- Around three kilometres of twin rail tunnels between Western Sydney International and the Aerotropolis Station (SBT);
- Two new metro stations, Airport Business Park Station and Airport Terminal Station (STOM);
- All operational systems and infrastructure (SSTOM);
- A rail segment factory comprising a concrete batch plant and stockpile area (SBT and SCAW); and
- Spoil stockpile areas (SBT and SCAW).

Details of the Project construction activities, staging and programming including the phases of works is described in the Sydney Metro Construction (Rail) Plan (2021) as required by the Airport Plan Variation.

The proposed construction activities that would be undertaken for the Project include:

- preparatory activities (AEW);
- main construction works including;
  - tunnelling and associated works (SBT);
  - corridor and associated works (SCAW);

- stations and associated works (SSTOM);
- rail systems fitout (SSTOM);
- activities required for tunnel and viaduct segment manufacture and storage and temporary haulage roads (SBT and SCAW); and
- finishing works and testing and commissioning (FAW).

The Project would also include the potential permanent placement of spoil at two sites to support the development of future stages of the airport.

The Rail Construction Impact Zone (CIZ) including the construction footprint and key construction sites proposed for use during the construction of the Project are shown in Figure 2-1. This figure also indicates the Western Sydney International Stage 1 CIZ and the Environmental Conservation Zone within Western Sydney International.

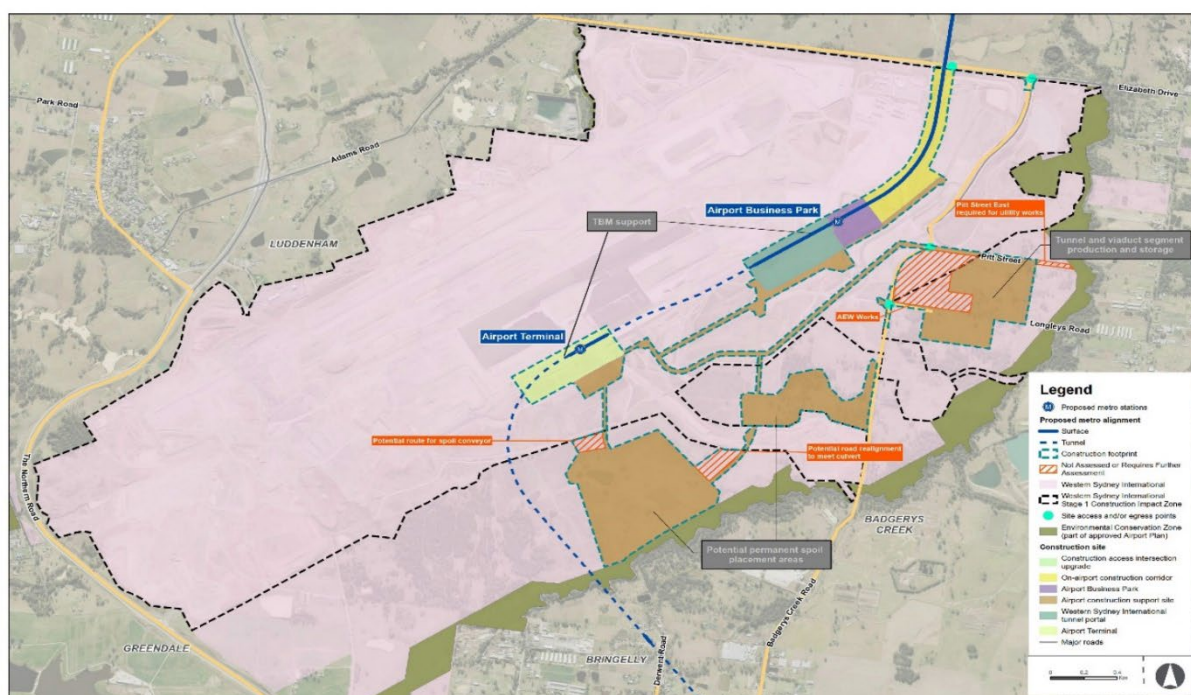


Figure 2-1 SM - WSA RCIZ and key construction sites

It is anticipated that the Project construction works would commence in 2021 and take about five years to complete, subject to planning approval. The Operational Sydney Metro opening is anticipated to align with the opening of passenger services for Western Sydney International in 2026. An indicative main construction program for the project is shown in Figure 2-2.

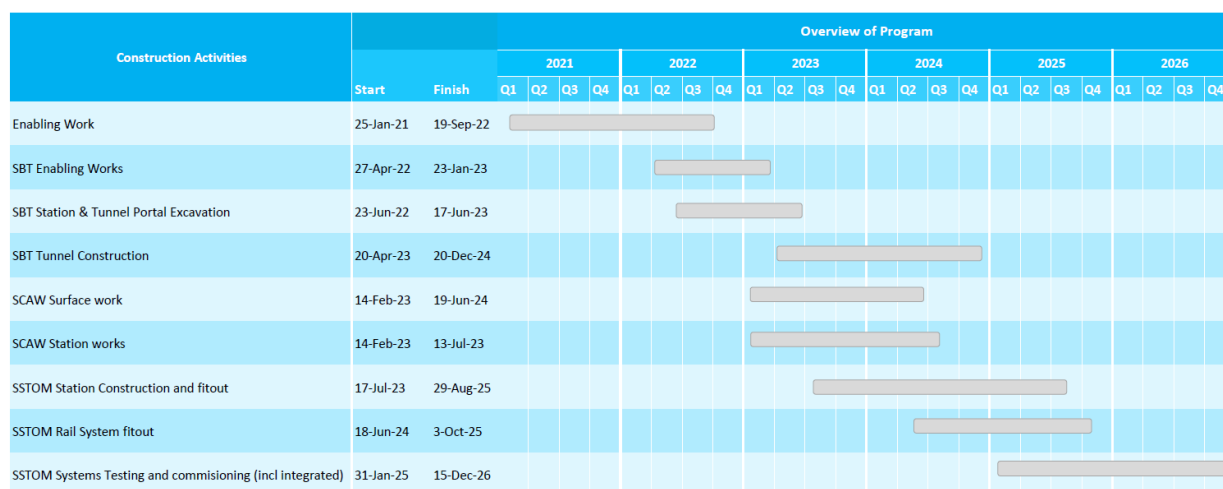


Figure 2-2 Indicative main construction program for the project

## 2.2. Preparatory activities

Preparatory activities for the proposed action are required to establish key construction sites and facilitate construction activities.

The majority of the preparatory activities are expected to commence in advance of main construction works, such as tunnelling and station excavation, while some preparatory activities would continue concurrently with the main construction works. Preparatory activities would include:

- detailed site investigations and subsequent clearance works;
- provision of construction haul roads;
- relocating, adjusting and protecting utilities and services affected by the proposed action;
- supplying power, water and other utilities to construction sites and other areas within the construction footprint;
- vegetation clearance (as required); and
- establishment of construction sites.

## 2.3. Construction sites

The Project's construction activities will be carried out within and to the south-west of the WSI airport Stage 1 CIZ. The indicative works at proposed construction sites required for the construction of the Project are shown in Figure 2-3. The use of these sites will be confirmed by the construction contractor(s) (when appointed) in consultation with Western Sydney Airport.

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Location	Preparatory activities	TBM launch	TBM support	TBM retrieval	Spoil handling and removal	Roadheader launch/support	Ancillary facility construction	Stabling and maintenance facility construction	Major earthworks	Bridge and viaduct construction	General civil works	Concrete batch plant	Equipment and material laydown	Rail system fitout	Site offices and worker amenities	Water treatment plant	Potential acoustic shed	Vehicle parking
<b>On-airport</b>																		
On-airport construction corridor	✓				✓		✓		✓	✓	✓		✓	✓	✓			✓
Airport Business Park	✓				✓		✓		✓		✓		✓	✓	✓			✓
Western Sydney International tunnel portal	✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓
Airport Terminal	✓		✓		✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓
Airport construction support site	✓				✓				✓		✓	✓	✓	✓	✓			✓

Note: TBM retrieval would occur outside the Project at the Aerotropolis Station site

**Figure 2-3 Indicative construction activities at the Project construction sites**

### 3. Objectives and targets

#### 3.1. Objectives

The key objective of this VLCEMP is to ensure that impacts associated with visual and landscape quality are managed as far as practicable and within best practice standards during the construction phase to reduce associated impacts to acceptable levels for sensitive receivers and neighbours surrounding the Project site.

To achieve this objective, the following will be undertaken:

Ensure the Project makes a positive contribution to the changing identity and character of Western Sydney;

- Ensure the successful implementation of the Landscape Design;
- Landscape and visual amenity impacts will be minimised during construction;
- Impacts associated with light spill during construction will be minimised (AS4282:1997);
- Appropriate measures will be implemented to comply with all relevant legislation and other requirements as described in Sections 4 and 7 of this Plan; and
- Detail all the visual amenity and landscaping management objectives, and be consistent with, the WSA Visual and Landscape CEMP, including all the appendices to the CEMP.

#### 3.2. Targets and Performance criteria

Targets and performance criteria have been established for the management of waste and resources during the construction phase of the works, which have been, in part, derived from the performance criteria identified in the WSA VLCEMP and SM-WSA CEMP as presented in Table 3-1.

Table 3-1 Visual and landscape objectives and targets

Objective	Target	Document Reference
<b>Ensure the Airport makes a positive contribution to the changing identity and character of Western Sydney</b>	The airport stations are appropriately integrated into the surrounding region and land uses, taking into account the changing nature of Western Sydney.	Community and stakeholder Engagement Plan Detailed design
<b>Landscape and visual amenity impacts minimised during construction</b>	Appropriate landscape treatments are identified and implemented to reduce visual amenity impacts in accordance with this CEMP and detailed design	Complaints database
<b>Impacts associated with light spill during construction will be minimised</b>	All lights where possible to be downward facing and directed away from receivers in accordance with AS4282:1997	Environmental inspection checklist
<b>Comply with legislation and other requirements</b>	No non-conformance with the requirements of the CEMP	CEMP Audit report

The targets in Table 3-1 have been set to provide a benchmark performance objective to which Sydney Metro will endeavour to achieve. Failure to achieve the targets will not be considered a non-conformance, however will prompt internal review of environmental management and assessment of potential improvement opportunities.



## 4. Legal and other requirements

Relevant environmental legislation and other requirements are identified below.

### 4.1. Relevant legislation and guidelines

As the Project is to be developed under the Airport Plan determined under the Airports Act, some state laws will not be applicable to the Project (s112 of this Act). Where state law is applicable, this Plan will set out the relevant applicable state legislation and requirements and demonstrate how compliance with those laws including obtaining relevant permits will be achieved. Where state laws are not applicable, there may nonetheless be a requirement to have regard to those laws, for example, through mitigation measures to be incorporated in CEMPs to satisfy conditions under the Airport Plan.

#### 4.1.1. Legislation

Relevant Legislation and regulations for this Plan are summarised in Table 4-1.

**Table 4-1 Principal legislation and relevance**

Legislation or regulation	Relevance	CEMP compliance provisions
<b>Commonwealth</b>		
<b>Airports Act 1996 (Cth) (Airports Act)</b>	The Airports Act and regulations made under the Airports Act set out the framework for the regulation and management of activities at airports that could have potential to cause environmental harm. This includes offences related to environmental harm, environmental management standards, monitoring and incident response requirements. The Airport Plan prepared under the Airports Act covers several environmental matters and details specific measures to be carried out for the purposes of preventing, controlling or reducing the environmental impact associated with the airport. Criminal offences are applicable if these measures are not complied with.	<p>This CEMP forms part of the overall Sydney Metro environmental management system which has as a target, full compliance with the Airport Plan. Relevant mechanisms within this CEMP that will contribute to this include but are not limited to:</p> <ul style="list-style-type: none"> <li>• Section 3.1 – Objectives</li> <li>• Section 4.3 – Airport Plan Conditions</li> <li>• Section 4.4.1 – Environmental Impact Statement requirements</li> <li>• Section 6.2 – Risk Assessment</li> <li>• Section 7 – Environmental Control Measures</li> <li>• Section 8 – Environmental Roles and Responsibilities</li> <li>• Section 9 – Environmental Inspection, Monitoring and Auditing</li> <li>• Section 9.6 – Environmental Incidents and complaints management</li> <li>• Section 9.5 – Review of approved plans</li> </ul>

Legislation or regulation	Relevance	CEMP compliance provisions
<b>Airports (Environment Protection) Regulations 1997 (AEPR)</b>	Imposes various duties including a general duty to avoid adverse impacts on existing aesthetic values of the local area. Promotes improved environmental management practices at airports. Includes provisions setting out acceptable limits as well as environmental monitoring and reporting requirements.	Refer to commentary on Airport Plan above.
<b>Airports (Building Control) Regulations 1996</b>	The Regulations set out the standards that WSA need to meet for specific hazards and risks, such as noise, machinery, and manual handling. The Regulations also set out the licenses that may be required for specific activities, the records you need to keep, and the reports you need to make.	This document.
<b>NSW: As the Airport is to be developed under the Airport Plan determined under the Airports Act, 1996 (Cth), some state laws will not be applicable to the project (see for example S 112 of that Act). Where state laws are not applicable, it is still intended to have regard to relevant laws for example through inclusion of mitigation measures incorporated into this CEMP. These laws are identified below.</b>		
<b>Environmental Planning and Assessment Act 1979 (EPA Act)</b>	Objects of the Act include the encouragement of proper management and conservation of natural and artificial resources and the promotion of the orderly and economic use and development of land in NSW. The EP&A Act also provides for the making of environmental planning instruments including State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs), which include land use controls, such as development standards applicable to the land within the area covered by each instrument.	Section 7 – Environmental Control Measures
<b>Roads Act 1993</b>	Governs the opening, operation and management, and closure, of public roads in NSW	Section 7 – Environmental Control Measures
<b>Work Health and Safety Act 2011 &amp; Work Health and Safety Regulation 2017.</b>	The Work Health and Safety Act 2011 (NSW) (the Act) provides a framework to protect the health, safety and welfare of all workers and others in relation to NSW workplaces and work activities.  The Work Health and Safety Regulation 2017 set out specific requirements for particular hazards and risks, such as noise, machinery, and manual handling.	This document.



Legislation or regulation	Relevance	CEMP compliance provisions
<b>State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 (Aerotropolis SEPP)</b>	The Aerotropolis SEPP was made in accordance with division 3.3 of the EP&A Act and provides planning controls for development within the Western Sydney Aerotropolis. The Aerotropolis SEPP overrides any LEP provisions that apply to that land.	Section 7 – Environmental Control Measures
<b>Liverpool Local Environmental Plan 2008 (Liverpool LEP)</b>	The Liverpool LEP provides local environmental planning controls and standards for land in the Liverpool LGA in accordance with the standard environmental planning instrument under section 3.20 of the EPA Act.	Section 7 – Environmental Control Measures
<b>Penrith Local Environmental Plan 2010 (Penrith LEP)</b>	The Penrith LEP provides local environmental planning controls and standards for land in the Penrith LGA in accordance with the standard environmental planning instrument under section 3.20 of the EPA Act.	Section 7 – Environmental Control Measures

#### 4.1.2. Guidelines and standards

Guidelines and standards that are relevant to visual and landscape management and this Plan are summarised in Table 4-2.

**Table 4-2 Relevant guidelines and standards**

Guidelines and standards
Creating Places for People – an urban design protocol for Australian Cities (Infrastructure Australia, 2011)
Western City District Plan (Greater Sydney Commission 2016)
ISO 14001 – Environmental Management Systems
AS4282-1997 Control of the obtrusive effects of outdoor lighting
Sydney Metro – Western Sydney Airport Design Guidelines.
National Airports Safeguarding Framework (Guideline E): Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports (Australian Government, 2014)
Technical guideline for Urban Green Cover in NSW (NSW Office of Environment and Heritage 2015)
Crime Prevention through Environmental Design (CPTED) (NSW DUAP, 2001)
Better Placed - An integrated design policy for the built environment of New South Wales (Government Architect)
Sydney Green Grid (Government Architect)
Beyond the Pavement: urban design policy, procedures and design principles (RMS, 2014)
Bridge Aesthetics: Design guidelines to improve the appearance of bridges in NSW (RMS, 2012)
Western Sydney Aerotropolis Development Control Plan 2020 Phase 1
National Airports Safeguarding Framework Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports (Australian Government, 2014)

**Guidelines and standards**

Recommended Practices No. 1 – Standards for Aerodrome Bird/Wildlife Control (International Birdstrike Committee, 2006)

## 4.2. Approvals and other specifications

- Functional Specifications
- Sydney Metro Airport Plan
- Sydney Metro Western Sydney Airport Environmental Impact Statement
- Sydney Metro Sustainability Plan
- Sydney Metro Community and Stakeholder Engagement Plan
- Sydney Metro Sydney Metro Construction (Rail) Plan including the Construction Environmental Management Framework.

### 4.3. Airport Plan Conditions

Construction conditions relevant to visual and landscape management during construction of the Airport Rail Development are provided in Section 3.11.6 of the Airport Plan and summarised in Table 4-3 below. Compliance with the Airport Plan conditions is a statutory requirement and as such, failure to comply may constitute a criminal offence liable to criminal prosecution under the relevant legislation.

**Table 4-3 Airport Plan Conditions relevant to visual and landscape management**

Condition no.	Condition	Timing	Responsibility	Reference within this CEMP
<b>39.1</b>	The rail authority must not: (a) Commence Rail Construction Works until each and all of the CEMPs specified in paragraph (2) have been prepared and approved in accordance with this condition; or (b) Carry out any Rail Development inconsistently with any of the approved Rail CEMPs.	Prior to Construction Works	Sydney Metro	CEMP Sections 6, 7, 9 and 10
<b>39.2</b>	The Rail Authority must prepare and submit to an Approver for approval; (i) a Visual and Landscape CEMP; in relation to the carrying out of the Rail Development.	Prior to Construction Works	Sydney Metro All contractors	This document
<b>39.3</b>	The criteria for approval of each of the Rail CEMPs are that an Approver is satisfied that (a) The CEMP complies with the mitigation measures and other requirements set out in Table 8-1 and Table 8-3 of the EIA which are relevant to that CEMP; and (b) The Rail Authority, in preparing the CEMP has taken into account any performance outcomes specified in Table 8-2 of the EIA relevant to the CEMP; and (c) the CEMP is otherwise appropriate	Prior to Construction Works	Sydney Metro	This document Table 4-3
<b>39.4</b>	The Rail Authority must ensure that: (a) a Rail CEMP is to the extent possible, consistent with a CEMP of the Site Occupier; and (b) no Rail CEMP is inconsistent with the approved Construction (Rail) Plan.	CEMP preparation	Sydney Metro	This document Section 1.3 Section 4.4 Section 7
<b>45.3</b>	The Rail Authority must take reasonable steps to ensure that:	Prior to construction	Sydney Metro	Section 10

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Condition no.	Condition	Timing	Responsibility	Reference within this CEMP
	<p>(a) each person involved in carrying out a development which is part of the Rail Development:</p> <p>(i) is informed of the conditions that are relevant to the carrying out of the Rail Development; and</p> <p>(ii) in carrying out the Rail Development, complies with those conditions as if they applied to the person in the same way as they apply to the Rail Authority; and</p> <p>(b) each person involved in operating a development described in section 3.10 of Part 3 of the Airport Plan:</p> <p>(i) is informed of the conditions that are relevant to the operation of the development; and</p> <p>(ii) in operating the development, complies with those conditions as if they applied to the person in the same way as they apply to the Rail Authority.</p>			
46	Each Site Occupier, the Rail Authority and each Plan Owner must maintain accurate records which demonstrate its compliance with the conditions, including measures taken to implement the Approved Plans, and must make the records available upon request to the Infrastructure Department.	During construction	Sydney Metro	Section 9
47.4	<p>Unless otherwise agreed in writing by an Approver, the Rail Authority must prepare a report addressing its compliance with each condition set out in section 3.11.6, including implementation of any Approved Plan, in respect of:</p> <p>(a) the 12-month period commencing with the commencement of Rail Construction Works; and</p> <p>(b) each subsequent 12-month period until the end of the Rail Construction Period; and</p> <p>(c) any period between the commencement of Rail Construction Works and the end of the Rail Construction Period that is not covered by paragraph (a) or (b).</p>	During construction	Sydney Metro	Section 9
47.5	<p>Unless otherwise agreed in writing by an Approver, the Rail Authority must publish each report prepared under subcondition (4) on its website within three months of the end of the period in respect of which the report was prepared.</p> <p>Documentary evidence providing proof of the date of publication must be provided to the Infrastructure Department at the same time as each report is published (with a copy to be provided to the Environment Department). Each report must remain on the Rail Authority's website for a minimum of 12 months (beginning on the date of publication).</p>	During construction	Sydney Metro	Section 9.4

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Condition no.	Condition	Timing	Responsibility	Reference within this CEMP
48.4	The Rail Authority must ensure that an independent audit of its compliance with the conditions set out in section 3.11.6 (except condition 44) is conducted in respect of the 12-month period commencing with the commencement of Rail Construction Works.	During construction	Sydney Metro	Section 9.4
48.5	The Rail Authority must ensure that an independent audit of its compliance with condition 46 is conducted in respect of the 12-month period from commencement of Rail Operations.	During construction	Sydney Metro	Section 9.4
48.6	The Rail Authority must submit the report of each audit conducted under subcondition (4) or (5) to an Approver (with a copy to the Environment Department) within six months of the end of the period in respect of which the audit was conducted. For each audit, the independent auditor must be approved by an Approver prior to the commencement of the audit. Audit criteria must be agreed by an Approver and the report of the audit must address the criteria to the satisfaction of an Approver.	During construction	Sydney Metro	Section 9.4
49.1	The Plan Owner may seek approval for a variation of an Approved Plan by submitting to an Approver a version of the plan with the proposed variation clearly marked in it (varied plan).	During construction	Sydney Metro	Section 9.5
49.2	The criteria for approval of the varied plan are the same as those in the Approval Condition, but only to the extent that they are relevant to the proposed variation.	During construction	Sydney Metro	Section 8.5
49.3	If an Approver approves a varied plan prepared under subcondition (1) or paragraph (5)(b), or the Infrastructure Minister varies an Approved Plan under paragraph (5)(a), then, from the date when it is approved or varied (as the case may be), the plan as varied is taken to be the Approved Plan for the purposes of the conditions.	During construction	Sydney Metro	Section 8.5
49.6	The Infrastructure Minister may: (a) vary an Approved Plan; or (b) request in writing that the Plan Owner prepare and seek approval for a specified variation of an Approved Plan in accordance with subcondition (1), if the Infrastructure Minister believes on reasonable grounds that: (c) a condition has been contravened and the nature of the contravention is relevant to the subject matter of the Approved Plan; and (d) the variation or the request for a specified variation (as the case may be) will address the contravention.	During construction	Sydney Metro	Section 9.5

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Condition no.	Condition	Timing	Responsibility	Reference within this CEMP
49.7	The Plan Owner must comply with a request made by the Infrastructure Minister in accordance with subcondition (5) within three months of the date of the request.	During construction	Sydney Metro	Section 9.5
50.1	Unless otherwise agreed in writing by an Approver, the Plan Owner must publish all Approved Plans on its website.	During construction	Sydney Metro	Section 9.5
50.2	Each Approved Plan must be published on the Plan Owner's website within one month of being approved and remain so published: (a) for CEMPs – until the end of the Airport Construction Period or Rail Construction Period as relevant; (e) for all other plans – until there is a Master plan for the Airport.	During construction	Sydney Metro	Section 9.5

## 4.4. Environmental impact statement requirements

### 4.4.1. WSA EIA requirements

The requirements of visual and landscape management to be taken into account and addressed during the construction phase of the Project on the Stage 1 area are included in the WSA VLCEMP. In line with the requirement of the SMWSA CEMPs to be consistent with the WSA CEMPs, Sydney Metro have ensured that the implementation, risk assessment, management measures, monitoring, auditing, reporting and responsibility for visual and landscape management by the Project is aligned with the requirements of the WSA.

### 4.4.2. SMWSA EIA requirements

The requirements of Visual and Landscape management to be taken into account and addressed during the construction phase of the Railway Development are included in the SM - WSA EIA Table 8-1 CEMF 7. A summary of these requirements and how they have been addressed in this VLCEMP is presented in Table 4-4.

Table 4-4 Summary of Visual and Landscape management requirements for the SMWSA EIA

EIA reference	Topic	Summary	Visual and landscape CEMP reference
<b>Table 8-1 CEMF 7</b>	Framework requirements	The on-airport Visual and Landscape CEMP would detail the Sydney Metro – Western Sydney Airport visual amenity and landscaping management objectives, including:	
		<ul style="list-style-type: none"> <li>minimise impacts on existing landscape features as far as feasible and reasonable</li> </ul>	Section 7 - Environmental control measures
		<ul style="list-style-type: none"> <li>ensure the successful implementation of the Landscape Design and</li> </ul>	Section 7 - Environmental control measures
		<ul style="list-style-type: none"> <li>reduce visual impact of construction to surrounding community.</li> </ul>	Section 7 - Environmental control measures
		The on-airport Visual and Landscape CEMP would be consistent with the Western Sydney Airport Visual and Landscape CEMP, including all the appendices (and sub plans) to the CEMP. The plan would include as a minimum:	
		<ul style="list-style-type: none"> <li>visual mitigation measures</li> </ul>	Section 7 - Environmental control measures
		<ul style="list-style-type: none"> <li>maintenance of outward facing elements of site hoarding or noise barriers, including the removal of graffiti and weeds</li> </ul>	Section 7 - Environmental control measures
		<ul style="list-style-type: none"> <li>apply the principles of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant safety design requirements and detail mitigation measures to minimise lighting impacts on sensitive receivers for all permanent, temporary and mobile light sources</li> </ul>	Section 7 - Environmental control measures
		<ul style="list-style-type: none"> <li>identify the processes and procedures that will be used for the incorporation of the principles of Crime Prevention Through Environmental Design (CPTED) in the design and construction of any temporary site facilities.</li> </ul>	Section 4 - Legal and other requirements
		The on-airport Visual and Landscape CEMP would include the following visual amenity and landscaping management objectives mitigation measures:	
		<ul style="list-style-type: none"> <li>wherever feasible and reasonable, vegetation around the perimeter of the construction sites will be maintained</li> </ul>	Section 7 -Environmental Control Measures



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EIA reference	Topic	Summary	Visual and landscape CEMP reference
		<ul style="list-style-type: none"> <li>existing vegetation not affected by the construction works will be retained</li> </ul>	Section 7 -Environmental Control Measures
		<ul style="list-style-type: none"> <li>temporary site lighting, for security purposes or night works will be installed and operated in accordance with AS4282:1997 Control of the obtrusive effects of outdoor lighting.</li> </ul>	Section 7 -Environmental Control Measures
<b>Table 8-3 Consolidated list of on-airport mitigation measures</b>	LV1	Not required/applicable	Not required
	LV2	Existing trees to be retained would be protected prior to the commencement of construction in the vicinity of these trees in accordance with AS4970-2009 Protection of Trees on Development Sites	Section 7 -Environmental Control Measures
	LV3	All structures (including potential acoustic sheds, site offices, workshop sheds and site hoarding) would be finished in a colour which aims to minimise their visual impact where appropriate. This finish is to be applied to all visible fixtures and fittings (such as exposed downpipes)	Section 7 -Environmental Control Measures
	OLV1	<p>The landscape design for the project would include consideration of appropriate species lists to minimise opportunities to attract wildlife at levels likely to present a hazard to aviation operations.</p> <p>The landscape design would have regard to relevant requirements and species lists under Western Sydney Airport's Wildlife Management Plan and other relevant guidelines, including the <i>National Airports Safeguarding Framework (Guideline C)</i> and <i>Recommended Practices No. 1 – Standards for Aerodrome Bird/Wildlife Control</i> (International Birdstrike Committee 2006)</p>	Section 7 - Environmental Control Measures
	OLV2	Lighting at stations would be designed and operated in accordance with AS4282- 2019 Control of the obtrusive effects of outdoor lighting and the National Airports Safeguarding Framework Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports (where relevant)	Section 7 - Environmental Control Measures
	OLV3	Not required/applicable	Not required
	OLV4	Landscape screening would be provided along the corridor including restoring vegetation along the creeks to contain local views, in accordance	Section 7 - Environmental Control Measures

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EIA reference	Topic	Summary	Visual and landscape CEMP reference
		with the Sydney Metro – Western Sydney Airport Design Guidelines, to minimise adverse visual impacts where feasible	
	OLV5	Corridor services, including the combined services route would be designed to reduce visual clutter and minimise visual impact ensuring these structures have a low profile and do not obstruct views across the corridor	Section 7 - Environmental Control Measures
	OLV6	Proposed engineering batters and water management measures would be designed to integrate with the existing landforms and natural features	Section 7 - Environmental Control Measures
	OLV7	The landscape design for the project would incorporate salvaged native trees (including tree hollows and root balls), to enhance fauna habitat in suitable locations, including riparian corridors, where practicable use native species from the relevant native vegetation communities within the local area for tree planting programs.	Section 7 - Environmental Control Measures

## 4.5. Existing environment

The following information is summarised from the both the WSA EIS and SMWSA EIA and refers to the Project site and surrounding environment. The existing environment described herein is considered consistent and acceptable for consideration in the risk assessment process and the identification of suitable environmental mitigation measures and controls.

## 4.6. Site context

The Project surrounding areas include ridgelines and rolling hills within the visual context of the Blue Mountains to the west, which provides the backdrop for many views from the east.

The immediate Project site and surrounds are typified by gently undulating landform within a highly modified landscape. The overall landscape character is open and rural with expansive views possible from surrounding hill tops and higher elevations to the west. The area's character is also defined by cleared pastureland, and large lot residences (both single and double storey) set back from the road network and punctuated with exotic planting. Patches of remnant vegetation exist within the Project site, particularly along creek lines, road edges and near farm dams.

Immediately north of the site, farm buildings are generally well set back from Elizabeth Drive. The area north of Elizabeth Drive is rural pasture land with scattered remnant vegetation, farm dams and open views of the landscape.

North-east of the Project site is a landfill, which is set back and screened from Elizabeth Drive and therefore has only a minor visual presence. Badgerys Creek runs north-south forming the eastern, and part of the southern, site boundary. The remnant vegetation along its edges establishes a natural character which contrasts with the open rural vegetation along its edges and establishes a natural character which contrasts with the open rural character of the rest of the site.

East of the Project site there is a more regular pattern of lots, residences and farm buildings, with smaller lot sizes aligned perpendicular to the streets. Roads in the area have undefined edges and contribute to the overall rural character.

South of the airport is characterised by large, rural residential lots and farms on undulating topography. Homes are generally set back from the road and characterised by a mix of remnant vegetation, exotic planting, farm dams and open lawn.

## 4.7. Site topography

The Airport Site is located in an area of elevated ridge systems dividing the Nepean River and South Creek catchments. Prior to construction the site was characterised by rolling landscapes typical of Bringelly Shale. The site featured a prominent ridge in the west, reaching an elevation of about 120 metres Australian Height Datum (mAHD), and smaller ridge lines in the vicinity with elevations of about 100 mAHD. The broad topography of the Airport Site generally sloped away from the ridges in the west, with elevations generally between 40 mAHD and 90 mAHD, with the lower elevations toward Badgerys Creek. Following bulk earthworks, the majority of the Stage 1 CIZ will be generally level (excluding drains and basins) with a surface elevation of around 90 mAHD at the western end of the runway down to 75 mAHD at the eastern end. The area to be occupied by the terminal has an elevation of around 80 m AHD. Site contours of the Project site and the area immediately surrounding the site are provided in Figure 5-1.

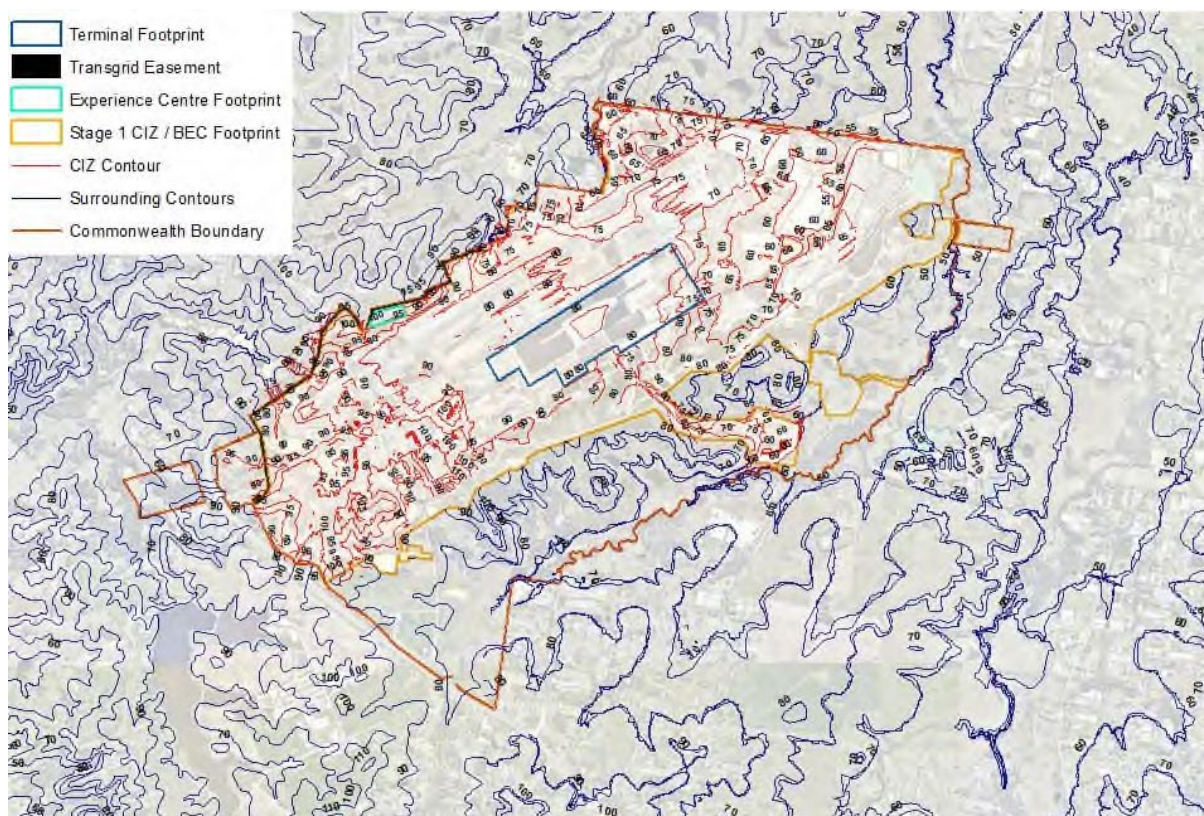


Figure 4-1 Site topography

#### 4.8. Land use

The Airport Plan sets the land use plan for the airport and identifies the vision for the development and operation of Western Sydney International, in addition to providing authorisation for Stage 1 of the airport. At the time of commencement of operation of the proposed action, Stage 1 of Western Sydney International is being developed consistent with the land use plan.

The land immediately surrounding Western Sydney International comprises of the following land use zones under the State Environmental Planning Policy (Western Sydney Aerotropolis) 2020: Environment and Recreation, Enterprise, Agribusiness and Infrastructure – Airport, MIC (State Environmental Planning Policy (Major Infrastructure Corridors) 2020.

The area to the north of Western Sydney International, includes the suburbs of Luddenham, Badgerys Creek and Kemps Creek, located to the north and east of Western Sydney International. The land uses in this area include large rural properties with some semi-rural residential properties bordering Luddenham Road within an open, rural landscape. The area also includes a number of agricultural uses including equine and poultry facilities and market gardens. There is a waste management facility on the eastern side of Badgerys Creek.

The University of Sydney owns and operates two commercial farms in Badgerys Creek and Kemps Creek that provide agricultural teaching and learning opportunities.

To the south of Badgerys Creek and Western Sydney International are the suburbs of Bringelly and Rossmore. Existing land uses in this area comprise a mixture of rural industries and rural-



residential properties. Land use to the west of South Creek is predominantly rural, with a rural-residential subdivision at Kelvin Park.

A summary of the various land uses immediately surrounding the Project site is provided below in Table 4-5.

**Table 4-5 Surrounding land use**

Site	Description	Impact Source	Impact level
<b>Elizabeth Drive Landfill (EDL)</b>	Land use contains non-putrescible and industrial waste located approximately one kilometre north of the Airport Site.	Potential for minor increase in traffic on Elizabeth drive and potential for plant/machinery to be seen by line of sight.	The EDL is 500m from the Airport Site and is considered a construction site, impact level is low.
<b>Twin Creeks Golf and Country Club (club)</b>	A 200-lot of residential estate and golf course approximately five kilometres north of the Airport Site.	None	Sparse vegetation is located in between the club and the Airport Site. The impact level is low.
<b>Boral Brickworks (BB)</b>	Brick pit and production facility located approximately one kilometre east of the Airport Site.	None	The Environmental Conservation Zone runs in between the site and the BB eliminating any visual aspect disturbance and/or noise impacts. The impact level is low.
<b>Ingham's Multiplication Farm (farm)</b>	A large commercial agricultural use located approximately one kilometre east of the Airport Site.	None	Sparse vegetation is located between the farm and the Airport Site, the impact level is low.
<b>The University of Sydney, Camden, Wolverson and Coates Park Farms (University farms)</b>	A rural farm located approximately four kilometres southwest of the Airport Site.	None	Given the distance and vegetation present between the University farms and the Airport Site the impact level is very low for the initial early earthworks stage of the project.
<b>Bents Basin State Conservation Area (BBSCA)</b>	A recreational area located approximately five kilometres southwest of the Airport Site.	None	Given the distance and vegetation present between the BBSCA and the Airport Site the impact level is very low for the initial Early Earthworks stage of the project.

## 4.9. Visual catchment and viewpoints

The visual catchment of a site is the extent of the landscape that can be viewed from the site and the extent of locations from which the site can be seen. Landscape vegetation, land use and landform all play a large role in determining the visual catchment.

The Project site would be theoretically visible from various areas based on existing topography and the maximum allowed building heights of key buildings and structures that would be constructed, such as the airport control tower, terminal buildings and other major structures.

A list of key representative visual viewpoints from the Project site, including view point type, elevation and distance from site (taken from the proposed traffic control tower) is provided in Table 4-6.

**Table 4-6 Relative heights and offsets of representative viewpoints**

Viewpoint no.	Location	Height (approx. AHD)	Distance (approx. km)*	Land use type
1	Luddenham Village	100-105	3	Commercial and residential
2	Elizabeth Drive, Badgerys Creek	65-90	2	Road
3	Lawson Road, Badgerys Creek	60-95	3	Rural residential and agricultural
4	Badgerys Creek Road, Bringelly	60-75	2	Rural residential and agricultural
5	Dwyer Road, Bringelly	105	5	Rural residential
6	Mount Vernon Road, Mount Vernon	80	7	Rural residential
7	Rossmore Avenue West, Rossmore	90	7	Rural residential
8	Bents Basin State Conservation Area	45	10	Rural residential
9	Silverdale Road, Silverdale	210	13	Rural residential
10	Warragamba Dam and Recreational Area	155	12	Recreational
11	Glenbrook Nepean Lookout	115	13	Recreational
12	Mount Portal Lookout	150	14	Recreational
13	Twin Creeks Gold and Country Club	45-50	6	Recreational and residential

## 5. Visual and landscape aspects and impacts

### 5.1. Construction activities

Construction activities with the potential to impact visual and landscape covered by this plan include:

- Detailed site investigations and subsequent clearance works;
- Provision and use of construction haul roads to support construction;
- Vegetation clearance and grubbing (as required);
- Establishment of construction sites;
- Excavations and earthworks;
- Construction of the rail alignment including earthworks for the transition of the rail alignment from surface to in-cutting to in-tunnel;
- Construction of the tunnel portal;
- Construction of Airport Terminal and Business Park Station structures, finishes and fitout;
- Construction of an access road to Airport Business Park Station from Badgerys Creek Road;
- Finishing works;
- Activities required for the production and storage of viaduct and tunnel lining segments, including concrete batching, site offices and construction worker car parking; and
- Potential permanent placement of spoil.

### 5.2. Visual and landscape impact

Construction of the Airport Railway Development will have a mixture of temporary and permanent visual impacts for the nearest sensitive receivers in Luddenham and Bringelly.

Temporary visual impacts would be largely due to the visual effect of earthworks and construction activities to facilitate the build and would include the presence of Construction Plant, equipment, stockpiling areas, concrete batching plants, tower cranes, scaffolding and storage areas.

Permanent visual impacts will evolve as the Airport and Business Park station precinct works progress, including the construction of the station boxes, roof, and façade, fixed link bridges, aerobridges, ancillary buildings and final landscaping.

Viewpoints that are further away would have more restricted views of the site and would therefore be less affected. Potential impacts on landscape visual settings specific to heritage values are dealt with in the European and Other Heritage and Aboriginal Cultural Heritage CEMPs.

During construction, recycled water will be used for dust suppression and to water vegetation and landscaping where required. Management of this water is covered by the Soil and Water CEMP.

### 5.2.1. Landscape character impacts

During construction, there would be a negligible landscape impact on the airport site, as Western Sydney International is currently under construction and the works would be absorbed into this changing landscape.

### 5.2.2. Visual amenity impacts

During daytime construction, the proposed action would be visible from parts of Elizabeth Drive and the rural areas to the north of the airport site. Public access within the airport site is restricted; however, there would be views to the on-airport corridor construction site, tunnel and viaduct segment production and storage, potential permanent spoil placement areas and haulage routes from Badgerys Creek Road, which has recently been realigned to the east between Elizabeth Drive and Longleys Road. There are broad, panoramic views across the airport site from the Western Sydney International Airport Experience Centre and views to Badgerys Creek from rural areas to the south in Bringelly.

The scale of the proposed action during construction would be largely consistent with, albeit of a lesser scale than, the Western Sydney International Stage 1 construction works. There would be a negligible visual impact on views from the Western Sydney International Airport Experience Centre, Elizabeth Drive and Badgerys Creek Road due to the visual absorption capacity of this setting. There would also be a negligible visual impact on views of the Kemps Creek construction power corridor due to the minor scale of the works, which would be constructed to avoid vegetation impacts along the South Creek and Badgerys Creek corridors.

During night-time construction, there would be a negligible visual impact on the Western Sydney International landscape character area due to the minor nature of the lighting required for the proposed action during construction.

Visual sensitivity is based primarily upon the character, land use and quality of views from the surrounding view points and would be relatively consistent throughout each phase of the proposed development. The visual magnitude or effect of the airport would change based on the scale and visibility of activities undertaken during the construction of the Project.

## 5.3. Risk assessment

A risk assessment has been undertaken as part of the review and development of this VLCEMP and in accordance with the Environmental risk analysis process in Chapter 26 of the SMWSA EIA and the WSA VLCEMP. The parts of the overall risk assessment relevant to visual and landscape have been extracted and summarised in Table 6-1 and would apply to all phases of works that the Sydney Metro Construction (Rail) Plan authorises.

The identification of construction activities and associated impacts that could eventuate during construction of the Project is central to the selection of appropriate environmental safeguards.

The risk management process involved an assessment of all specific Project activities/aspects in or near environmentally sensitive areas and resulted in the development of a list of environmental risks (effects and impacts) and a corresponding risk mitigation strategy and risk ranking.

### 5.3.1. Risk Assessment process

The following tables outline the risk assessment process using 3 steps to identify the appropriate management measures required.



Table 5-1 is used to determine the likelihood that the aspect will have an impact on the environment. Table 5-2 is used to determine the potential consequence rating of the risk identified.

From these two tables, a risk rating can then be assigned using Figure 5-1 to determine the potential severity of the risk and the appropriate management response as per Table 5-4.

**Table 5-1 Likelihood descriptor**

Rating	Likelihood	Description
<b>A</b>	Rare / improbable	<ul style="list-style-type: none"> <li>The event may only occur in exceptional circumstances.</li> </ul>
<b>B</b>	Unlikely / remote	<ul style="list-style-type: none"> <li>The event may occur at some time (about once every five years).</li> </ul>
<b>C</b>	Possible	<ul style="list-style-type: none"> <li>The event is likely to occur at some time (about once every year).</li> </ul>
<b>D</b>	Likely	<ul style="list-style-type: none"> <li>The event will probably occur in most circumstances (at least once every six months).</li> </ul>
<b>E</b>	Almost certain	<ul style="list-style-type: none"> <li>The event is expected to occur in most circumstances (at least once every month).</li> </ul>

**Table 5-2 Consequence descriptor**

Rating	Consequence (impact)	Description
<b>1</b>	Insignificant/ Negligible (1-3)	<ul style="list-style-type: none"> <li>Short-term disturbance with minor environmental release or damage that is non-reportable.</li> <li>No impact outside site boundary.</li> <li>No community complaints or media reports.</li> </ul>
<b>2</b>	Minor/low (4-10)	<ul style="list-style-type: none"> <li>Minor violation of regulation or guideline with minimal damage to the environment and small clean-up.</li> <li>Immediately contained on site.</li> <li>Local government action, minor community complaints.</li> <li>Potential or actual breach of legislation.</li> </ul>
<b>3</b>	Moderate (11-15)	<ul style="list-style-type: none"> <li>Violation of regulation or guideline with moderate temporary damage to the environment and significant clean-up costs.</li> <li>Release of pollution off site.</li> <li>Detrimental media reports, community concerns and complaints.</li> </ul>
<b>4</b>	Major / High (16-22)	<ul style="list-style-type: none"> <li>Major environmental damage with potentially permanent consequences.</li> <li>Release of pollution off site. Significant loss of environmental resources.</li> <li>Detrimental media reports in the national or state media, organised community concern.</li> <li>High likelihood of fine or court action.</li> </ul>
<b>5</b>	Catastrophic / Priority (23-25)	<ul style="list-style-type: none"> <li>Long-term environmental harm.</li> <li>Permanent irreparable damage to the environment.</li> <li>Sustained detrimental state and national media reports. Sustained community outrage.</li> </ul>

Rating	Consequence (impact)	Description
		<ul style="list-style-type: none"> <li>Penalty Infringement Notice/court action.</li> </ul>

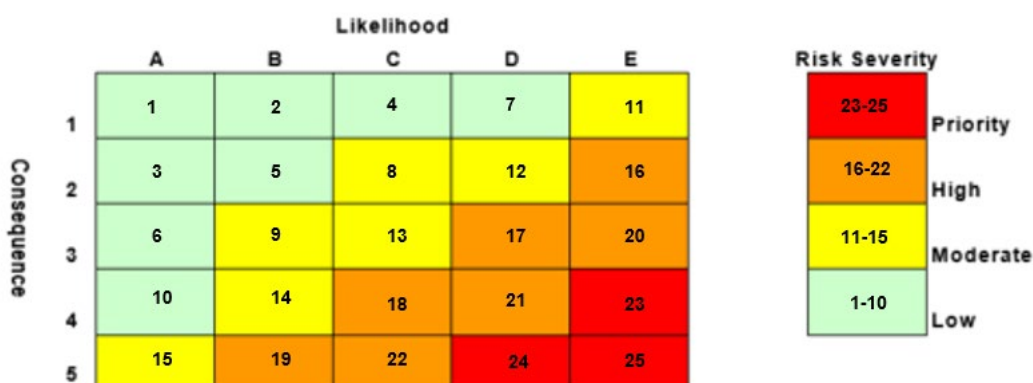


Figure 5-1 Risk severity ranking

Table 5-3 Risk severity and management response

Risk severity	Management response
<b>Priority</b>	<ul style="list-style-type: none"> <li>Immediate and detailed management action required. (e.g. stop or change activity)</li> </ul>
<b>High</b>	<ul style="list-style-type: none"> <li>Priority management action warranted</li> </ul>
<b>Moderate</b>	<ul style="list-style-type: none"> <li>Management action warranted</li> </ul>
<b>Low</b>	<ul style="list-style-type: none"> <li>Management action should be considered, particularly for low-level impacts that nevertheless occur on a continual basis</li> </ul>

Table 5-4 Landscape and visual risk assessment

Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level <sup>2</sup> pre-mitigation	Mitigation measure <sup>1</sup>	Risk level <sup>2</sup> post-mitigation	Management tools
01	Use of site Compound	Light vehicle parking	Visual aesthetic	Visual interruption of landscape due to construction vehicles and plant	Med (14)	VL09	Low (10)	<ul style="list-style-type: none"> <li>Community and Stakeholder Engagement Plan</li> <li>Traffic and Access CEMP</li> <li>Traffic Control Plans</li> <li>Complaints Procedure</li> <li>Induction</li> <li>Environmental Control Map (ECM)</li> </ul>
02	Use of site Compound	Installation of temporary fencing during compound establishment	Visual aesthetic	Long runs of fencing will visually interrupt landscape	Med (14)	VL04	Low (10)	<ul style="list-style-type: none"> <li>Community and Stakeholder Engagement Plan</li> <li>Complaints Procedure</li> <li>Induction</li> <li>ECM</li> </ul>
03	Construction works	Multiple construction vehicles onsite	Visual aesthetic	Visual interruption of landscape due to construction vehicles and plant	Med (14)	VL09	Low (10)	<ul style="list-style-type: none"> <li>Community and Stakeholder Engagement Plan</li> <li>Traffic and Access CEMP</li> <li>Traffic Control Plans</li> <li>Complaints Procedure</li> <li>Induction</li> <li>ECM</li> </ul>
04	Construction works	Large spoil stockpiles present onsite	Visual aesthetic	Visual interruption of landscape due to stockpiles	Med (14)		Low (10)	<ul style="list-style-type: none"> <li>Community and Stakeholder Engagement Plan</li> <li>Complaints Procedure</li> </ul>

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Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level <sup>2</sup> pre-mitigation	Mitigation measure <sup>1</sup>	Risk level <sup>2</sup> post-mitigation	Management tools
								<ul style="list-style-type: none"> <li>• Induction</li> <li>• ECM</li> </ul>
05	Construction works	Plant movement throughout site	Visual aesthetic	Visual interruption of landscape due to plant parked near boundaries of site	Low (5)	VL09	Low (3)	<ul style="list-style-type: none"> <li>• Community and Stakeholder Engagement Plan</li> <li>• Traffic and Access CEMP</li> <li>• Traffic Control Plans</li> <li>• Complaints Procedure</li> <li>• Induction</li> <li>• ECM</li> </ul>
06		Out of hours works	Light disturbance	Light disturbance to the nearby community and environmental conservation zone	Med (14)	VL09 VL10	Low (9)	<ul style="list-style-type: none"> <li>• Community and Stakeholder Engagement Plan</li> <li>• Complaints Procedure</li> <li>• Induction</li> <li>• ECM</li> </ul>
07	Stations and associated works, rail systems fitout	Cable and equipment installation	Visual aesthetic	Visual interruption of landscape due to the instalment of cables and equipment	Low	NA	Low	<ul style="list-style-type: none"> <li>• Community and Stakeholder Engagement Plan</li> <li>• Complaints Procedure</li> <li>• Induction</li> <li>• ECM</li> </ul>
09		Overhead wiring	Visual aesthetic	Visual interruption of landscape due to overhead wiring	Low	NA	Low	<ul style="list-style-type: none"> <li>• Community and Stakeholder Engagement Plan</li> <li>• Complaints Procedure</li> </ul>

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Ref	Activity	Construction Aspect	Environmental Aspect	Potential Impact	Risk level <sup>2</sup> pre-mitigation	Mitigation measure <sup>1</sup>	Risk level <sup>2</sup> post-mitigation	Management tools
								<ul style="list-style-type: none"> <li>• Induction</li> <li>• ECM</li> </ul>
10		Construction of station structures, finished and fitouts	Visual Aesthetic	Scale of Construction is significant and as a result, temporary interruption of landscape will occur	Med	LV3	Med	<ul style="list-style-type: none"> <li>• Community and Stakeholder Engagement Plan</li> <li>• Complaints Procedure</li> <li>• Induction</li> <li>• ECM</li> </ul>

## 6. Environmental Control Measures

A range of environmental requirements and control measures are identified in the various environmental documents, including the WSA EIS, the subsequent Submission Report, SM WSA EIA and the Airport Plan Conditions. Specific measures and requirements to address impacts on visual and landscape are outlined in Table 6-1.

Table 6-1 Environmental mitigation and management measures

Ref	Measure/ Requirement	When to Implement	How to Implement	Responsibility for Implementation	Reference
<b>Urban Design</b>					
<b>VL01</b>	Site context analysis to inform the early stages of detailed design	Detailed design	To be incorporated into detailed design	SCAW Design team All contractors	WSA EIS Table 28-19
<b>VL02</b>	Consultation with NSW Department of Planning, Industry and Environment and relevant local councils, on the detailed design of Stage 1 development	Detailed design	To be incorporated into detailed design.	Sydney Metro Design team	WSA EIS Table 28-19
<b>VL03</b>	Plant species selection for landscaping to be selected to minimise opportunities to attract wildlife at levels likely to present a hazard to aviation operations (birdstrike).	Detailed design	To be incorporated into detailed design in accordance with. <ul style="list-style-type: none"> <li>Species section to be consistent with: Western Sydney Airport Wildlife Management Plan</li> <li>National Airports Safeguarding Framework Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports (Australian Government, 2014); and</li> <li>Recommended Practices No. 1 – Standards for Aerodrome Bird/Wildlife Control (International</li> </ul>	SCAW Design team	SMWSA EIS Table 8-3, OLV1

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Ref	Measure/ Requirement	When to Implement	How to Implement	Responsibility for Implementation	Reference
			Birdstrike Committee, 2006).		
<b>VL04</b>	The Landscape Design to include screening along the corridor, including restoring vegetation along the creeks, to contain local views to minimise adverse visual impacts where feasible.	Detailed design	To be incorporated into detailed design in accordance with Sydney Metro – Western Sydney Airport Design Guidelines.		SMWSA EIS Table 8-3, OLV4
<b>VL05</b>	Corridor services, including the combined services route, to be designed to reduce visual clutter and minimise visual impact.	Detailed design	To be incorporated into detailed design of the corridor service ensuring these structures have a low profile and do not obstruct views across the corridor	All contractors	SMWSA EIS Table 8-3, OLV5
<b>VL06</b>	Proposed engineering batters and water management measures would be designed to integrate with the existing landforms and natural features.	Detailed design	To be incorporated into detailed design in accordance with Sydney Metro – Western Sydney Airport Design Guidelines.	All contractors	SMWSA EIS Table 8-3, OLV6
<b>VL07</b>	The landscape design will include an evaluation of compliance with the CPTED principles.	Detailed design	To be incorporated into detailed design in accordance with Principles for minimising crime risk outlined in Crime prevention and the assessment of development applications (DUAP, 2001)	SCAW	SMWSA EIS Table 8-1, CEMF7
<b>Airport lighting impacts</b>					



Ref	Measure/ Requirement	When to Implement	How to Implement	Responsibility for Implementation	Reference
<b>VL08</b>	Airport lighting impacts will be mitigated using low angle, cut off LED fixtures in the design of airport infrastructure, where practicable.	Detailed design Pre-construction	To be incorporated into detailed design.  Design are to address requirements of AS 4282-1997 and National Airports Safeguarding Framework (Guideline E): Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports (Australian Government, 2014) (where relevant)	SSTOM	WSA EIS Table 28-19 SMWSA CEMF Table 8-1 SMWSA EIS Table 8-3, OLV2
<b>Visual Disturbance and clutter from construction</b>					
<b>VL09</b>	Large grade cut and fill transitions will be avoided where practicable, particularly near the Airport Site boundary	Construction	Investigate other construction alternatives.	SCAW SSTOM SBT	WSA EIS Table 28-19
<b>VL10</b>	Construction plant, machinery and vehicle parking areas will be located as far as practicable from sensitive receptors	Construction	Combine the site layout design with the location of sensitive receivers.	All Contractors	WSA EIS Table 28-19
<b>VL11</b>	Any night lighting required for construction works will be located as far as practicable from sensitive receptors with appropriate screening as required	Construction	Ensure the location of sensitive receivers are considered when positioning lighting.	All Contractors	WSA EIS Table 28-19 SMWSA EIA- Table 8-3, LV5 Table 8-1, CEMF 7
<b>VL12</b>	Earthworks and construction of other infrastructure, earthworks areas will be rehabilitated where it is practical to do so	Construction	Progressively rehabilitate works areas with consideration of the Soil and Water CEMP and urban design requirements.	All Contractors	EIS Table 28-19
<b>VL13</b>	All structures (including potential acoustic sheds, site offices, workshop sheds and site hoarding) would be finished in a colour which	Construction	This finish is to be applied to all visible fixtures and fittings (such as exposed downpipes)	SSTOM	SMWSA EIA- table 8-3

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Ref	Measure/ Requirement	When to Implement	How to Implement	Responsibility for Implementation	Reference
	aims to minimise their visual impact where appropriate.		This will be addressed in the design process.		
<b>Visual screening</b>					
<b>VL14</b>	Retaining existing vegetation on the edges of the construction impact zone where practicable and outside of the construction impact zone to provide visual screening	Construction	ECM to include requirement to minimise vegetation removal and progressively clear areas. Inform all personnel during induction and reinforce through ongoing training.	SCAW STOM SBT AEW	WSA EIS Table 28-19
<b>VL15</b>	Opportunities for native vegetation screening will be investigated, particularly in relation to the identified moderate-high impact viewpoints. The appropriateness and use of vegetation for visual screening will take into consideration bushfire risks, airport safety and security, potential impacts on aviation operations, and opportunities for the reestablishment of endemic native species and ecological communities.	Pre-Construction Construction	Combine the site layout design with the location of sensitive receivers to assess opportunities  Any vegetation installed by SM – WSA will need to be retained for life of rail operations unless handed to WSA Co.  Maintenance will form a contract handed over from construction to SSTOM as part of the ongoing operations	SSTOM	WSA EIS Table 28-19 SMWSA EIA- Table 8-3, LV7
<b>VL16</b>	Existing trees to be retained.	Construction	Trees would be protected prior to the commencement of construction in the vicinity of these trees in accordance with AS4970-2009 Protection of Trees on Development Sites. BCEMP includes pre clearance checks.	AEW SBT SCAW	SMWSA EIA- - table 8-3, LV2
<b>VL17</b>	Maintenance of outward facing elements of site hoarding or noise barriers, including the removal of graffiti and weeds	Construction	Ensure that maintenance is conducted for outward facing elements of site hoarding or	All contractors	SMWSA Table 8-1, CEMF 7

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Ref	Measure/ Requirement	When to Implement	How to Implement	Responsibility for Implementation	Reference
			noise barriers, including the removal of graffiti and weeds		CPTED Space Management
<b>Construction sites and compounds crime prevention</b>					
<b>VL18</b>	Construction sites and compounds to be designed with consideration to the principles of Crime Prevention Through Environmental Design (CPTED) including: <ul style="list-style-type: none"> <li>• surveillance</li> <li>• access control</li> <li>• territorial reinforcement</li> <li>• space management.</li> </ul>	Construction	Environmental design review of site compound.	All contractors	CPTED SMWSA Table 8-1, CEMF 7

## 7. Environmental roles and responsibilities

The key environmental management roles and responsibilities for the construction phase of the work are detailed in the SMWSA CEMF (Section 3.15).

Sydney Metro will ensure enough resources are allocated on an ongoing basis to ensure effective implementation by both Sydney Metro and the responsible contractors.

## 8. Environmental inspection, monitoring and auditing and reporting

Monitoring, inspection and auditing will be undertaken to measure effectiveness and facilitate continuous improvement of visual amenity and landscape management.

Refer to section 3.16 of the SM CEMF for general environmental monitoring, inspection and auditing requirements.

A summary of the environmental inspection, monitoring and auditing requirements is provided below, with details of how they apply to visual amenity and landscape management where applicable.

### 8.1. Environmental inspections

#### 8.1.1. Sydney Metro environmental inspections

Environmental site inspections at active, exposed work sites will be undertaken by the Sydney Metro Environment Manager (or delegate) on a monthly basis to evaluate the effectiveness of environmental controls implemented by the contractor.

The monthly site inspection is to include a visual check of general construction activities and any visual amenity and landscape mitigation measures and or controls, including but not limited to the following:

- Observation of general site cleanliness and housekeeping, ensuring the site is of a reasonable state with consideration given the current stage of work and level of construction activity;
- Observation and of visual screening devices / structures and ensuring they remain effective and fit for purpose; and
- Inspection of any sterile cover crops planted on temporary stockpiles to assess their ongoing effectiveness as not only a stabilisation control, but also as a visual screening measure.

The findings of the Sydney Metro site environmental inspection will be recorded in a Sydney Metro Site Environmental Inspection report with an accompanying photographic style inspection report.

#### 8.1.2. Contractor environmental inspection

Regular site inspections will be undertaken to monitor compliance with this plan at active, exposed work sites. Inspection results will be recorded, and the inspection log made available to the Infrastructure Department upon request. Any non-conformance with landscape and visual criteria will be reported in the monthly report and discussed at the Environmental Coordination meeting and appropriate remedial action will be taken.

More frequent site inspections by the person accountable for visual and landscape factors will be conducted onsite when activities with a high potential to impact visual or landscape factors are being carried out.

The Contractor's Environmental Manager and/or Environmental Coordinators will undertake inspections in accordance with the Contractor Environmental Management Framework. The

Contractor's Environmental Coordinators will record inspection findings on an inspection checklist form.

If any maintenance and/or deficiencies in environmental controls or in the standard of environmental performance are observed, they will be recorded on the checklist form. Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority.

### 8.1.3. Pre-start inspection

Prior to the commencement of works on each shift, an informal inspection will be carried out by the relevant contractor and will include a check of relevant environmental controls and resources required to ensure effective operation and maintenance. This is to include an inspection of relevant visual amenity and landscape management mitigation measures and controls where applicable. Works are not to commence unless inspections are found to be satisfactory.

The foreman will undertake the pre-work inspections.

## 8.2. Visual and landscape monitoring

General environmental monitoring requirements are set out in the AEPR which include the following:

- Monitoring must take place under the direction of an appropriately qualified person; and
- The results of the monitoring must be kept in a written record.

Specific visual and landscape monitoring requirements, including timing and responsibilities, are included in Table 8-1.

**Table 8-1 Visual and landscape monitoring requirements**

Reference	Requirement	Timing	Responsibility
VL_M_01	Environmental site inspection to monitor for visual and landscape impacts, particularly in response to any complaints (as per the Community and Stakeholder Engagement Plan).	Construction	All Contractors

## 8.3. Environmental auditing

Refer to Section 3.16 of the SM CEMF for environmental auditing requirements, including internal audits, independent audits and audits to be undertaken by contractors.

Auditing and subsequent reporting will be undertaken annually to ensure compliance with:

- this VLCEMP;
- Airport Plan Conditions of Approval; and
- Conditions 40.4, 40.5, 40.6 Independent audits about compliance with conditions identified in Section 4 of this CEMP.

## 8.4. Environmental reporting

General environmental reporting requirements are detailed in Section 3.18 of the SM CEMF. In addition, a summary of reporting requirements required under this Visual and Landscape CEMP (including environmental reporting requirements under the Airport Plan specific to this Visual and Landscape CEMP) is provided below in Table 9-2.

**Table 8-2 Visual and landscape reporting**

Action	Scope	Timing/ frequency	Responsibility
<b>Annual reporting</b>	Unless otherwise agreed in writing by an Approver, an annual report will be prepared in relation to compliance with the Visual and Landscape CEMP (Condition 39). Unless otherwise agreed in writing by an Approver, Sydney Metro will publish each of the annual reports on its website within three months of the end of the period in respect of which the report was prepared, with evidence providing proof of the date of publication to the Infrastructure Department with a copy to the Environment Department. The report must remain on the website for a period of at least 12 months (Condition 39).	Annually	Sydney Metro
<b>Monthly compliance reporting</b>	Provide SM - WSA with a monthly summary of the weekly inspection outcomes with regards to the management and compliance with the relevant visual amenity and landscape management mitigation measures and controls.	Monthly	All contractors
<b>Complaints reporting</b>	Recording of complaints and stakeholder interactions	As required	Sydney Metro Environmental Manager Sydney Metro Community and Stakeholder All contractor
<b>General environmental inspection</b>	Inspection of environmental management controls and site documentation for contractor works (as required by the contractor's CEMP).	As per contractor environmental management system (at least weekly)	All Contractors
<b>Reporting of non-conformances and improvement opportunities</b>	The management and reporting requirements of environmental non-conformances and improvement opportunities will be in accordance with Section 3.17 of the CEMF.	As required	Sydney Metro

## 8.5. Review of approved plans

Sydney Metro will review each approved plan at least every five years (from the date of approval) as required by the Airport Plan. A review will also be completed annually to ensure that it continues to meet the approval criteria. Details of the review will be included in the annual report (refer to Section 3.18 of the CEMF). If the review identifies areas where the plan does not continue to meet the approval criteria for that plan, a variation to the approved plan will be



prepared and submitted for approval. Once the reviewed plan is approved by the Approver, this reviewed plan will be the Approved Plan.

Sydney Metro may initiate reviews of Approved Plans at other times in response to improvement opportunities, non-conformances, and changes to scope of work or construction methodology or alterations to legal or contractual requirements. If there is a material change to a WSA CEMP which impacts on an area of the RCZI, then SM - WSA will review their CEMPs to reflect that change addressed by the WSA review.

Any changes identified and implemented through the variation and review process identified above will be communicated to relevant contractors through re-issue of the revised Sydney Metro Approved Plan and subsequent training and awareness (refer to Section 3.4 of the CEMF).

A formal review of the management systems by the Principal Contractor's Senior Management Team will also occur on an annual basis, as a minimum. This review shall generate actions for the continual improvement of the systems and supporting management plans.

## **8.6. Environmental incidents and complaints management**

The management and reporting of environmental incidents shall be undertaken by the appropriate person as detailed in Section 3.18 of the CEMF.

All communications and complaints management will be implemented and managed in accordance with Section 4.2 and 4.3 of the CEMF and the Community Communications Strategy.

## 9. Competence, training and awareness

To ensure this Visual and Landscape CEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements within. The Sydney Metro Environment Manager will coordinate the necessary and relevant environmental training in conjunction with other training and development activities.

All competence, training and awareness requirements will be implemented as detailed in section 3.11 of the SM CEMP.

## 10. References

Bannerman and Hazelton (1990). Soil Conservation Service of NSW, Sydney, Soil Landscapes of the Penrith Area 1:100,000 Sheet.

Commonwealth Department of Infrastructure and Regional Development, 2016. *Airport Plan (December 2016)*

Commonwealth Department of Infrastructure and Regional Development, 2016. *Western Sydney Airport Environmental Impact Statement, 2016*

Standards Australia 2001. Australian and New Zealand environmental management international standard (AS/NZS ISO 14001)

## Appendix A – State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 Land Zoning Map

## Sydney Metro – Integrated Management System (IMS)

(Uncontrolled when printed)

