



Visual Amenity Management Sub-Plan C2B

Line-wide Works Contract Sydney Metro City & Southwest

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Document Approval

	Environment and Sustainability Manager	Project Director
Signature:		
15/10/2020	M Billings	S Hunter

Details of Revision Amendments

Document Control

The Project Director is responsible for ensuring that this plan is reviewed and approved. The Project Environment and Sustainability Manager is responsible for updating this plan to reflect changes to Safety and Health legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Manager and/or client before being distributed / implemented.

Revision Details

Revision	Date	Prepared by	Details
A	18/11/2019	V Tavares	Issued for review. This version of the Sub-Plan addresses compliance requirements under CSSI 7400 and CSSI 8256 Planning Approvals as per the Sydney Metro Staging reports.
B	17/12/2019	A Taylor	Updated to address comments from Sydney Metro.
0	06/03/2020	K Truscott	Issued for Approval
1	15/10/2020	K Truscott	Scheduled review Updates to Section 2.2 Compliance Requirements and Section 4 Existing Environment

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VAMSP COMPLIANCE MATRIX

REMM CSSI 8256		
No.	Requirement	Reference
LV10	A visual amenity management plan would be prepared and implemented during construction, to define the measures to minimise visual impacts during construction. The plan would include requirements in relation to construction site remediation.	This Sub-Plan

Construction Environmental Management Framework – Sydney Metro City & Southwest (2017)		
Condition	Requirement	Reference
3.4a	Subject to Section 3.3(b) and Section 3.2(b) the Principal Contractor will prepare issue-specific environmental sub plans to the CEMP and SMP which address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub plans will include: (vii) Visual amenity management	This Sub-Plan
12.2a	Principal Contractors will develop and implement a Visual Amenity Management Plan for temporary works which will include as a minimum:	
	(i) The visual mitigation measures as detailed in the environmental approval documentation for construction;	Section 7.1
	(ii) Input from an experienced Landscape or Urban Designer;	Section 3 and 7.1
	(iii) The maintenance of outward facing elements of site hoarding or noise barriers, including the removal of graffiti and weeds;	Section 7.5
	(iv) 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;	Section 7.1
	(v) 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 construction of any temporary site facilities; and	Section 5
	(vi) Compliance record generation and management	Element 2:

Note: Additional relevant Construction Environmental Framework, Construction Environmental Management Framework, Planning Approval Conditions, and Revised Environmental Mitigation Measures are referenced in Element 4 – Project Specific Requirements.

Glossary / Abbreviations

Abbreviations	Definition
Ancillary facility	Temporary facility for construction, including for example an office and amenities compound, construction compound, batch plant (concrete or bitumen), materials storage compound, maintenance workshop, testing laboratory or material stockpile area.
BPS	Bulk Power Supply
C2B	Chatswood to Bankstown
C2S	Chatswood to Sydenham
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval as per State Significant Infrastructure Planning Approvals as issue by the NSW Department of Planning and Environment, relevant staging reports and as listed in Schedule E3 of the Line-wide Works Contract, (ITC 600)
CPB	CPB Contractors Pty Limited
CPTED	Crime Prevention Through Environmental Design principles
CSSI 7400	Approval of application SSI 7400 provides for construction and operation of a metro line approximately 16.5 kilometers long (of which approximately 15.5 is in underground rail tunnels) between Chatswood and Sydenham (C2S) including construction of a tunnel under Sydney Harbour, links with the existing rail network, seven metro stations and associated ancillary infrastructure. The proposal is declared as Critical State Significant Infrastructure (CSSI)
CSSI 8256	Approval of application SSI 8256 provides for construction and operation of a metro line, approximately 13 kilometers long between Marrickville and Bankstown (S2B), including ten metro stations and associated infrastructure
DPIE	NSW Department of Planning Industry & Environment (formally Department of Planning and Environment)
EIS	Environmental Impact Statement
EMS	Environmental Management System (integrated as part of the PMS)
Environment and Sustainability Policy	Statement by an organisation of its intention and principles for environmental and sustainability performance.
Environmental aspect	Defined by AS/NZS ISO 14001:2004 as an element of an organization's activities, products or services that can interact with the environment.
Environmental impact	Defined by AS/NZS ISO 14001:2004 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects.
Environmental incident	An occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred or is likely to have occurred.
Environmental Issue	An occurrence or set of circumstances where Environmental Harm or Non-compliance could occur if not rectified.
Environmental Non-Compliance (NC)	A breach of an Environmental Requirement originating from Planning Approvals, Environment Protection Licenses, lease agreements, and other requirements documented in environmental management plans.
Environmental objective	Defined by AS/NZS ISO 14001:2004 as an overall environmental goal, consistent with the Environment Policy, that an organisation sets Line-wide to achieve.

Abbreviations	Definition
Environmental target	Defined by AS/NZS ISO 14001:2004 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
Environmental team	Members of LW environmental team including sub-contractors authorised by the Environment and Sustainability Manager to work on environmental issues related to the Project
EP&A Act	Environmental Planning and Assessment Act 1979
EPL	Environment Protection Licence
ER	The Environmental Representative for the CSSI(s).
Hold Point	Activities which are not to proceed without objective review and approval by the nominated authority.
IC	Independent Certifier
LW	Line-wide
LW Works	Line-wide Works (contract scope under ITC 0600)
PMS	Project Management System
POEO Act	Protection of the Environment Operations Act 1997 (NSW)
REMM	Revised Environmental Mitigation Measures
S2B	Sydenham to Bankstown
SC Project Environmental Representative	Refers to Systems Connect Environment and Sustainability Manager or someone delegated by him to perform a task, release a hold point or approve a document
SEP	Site Environment Plan
SM	Sydney Metro
SMCSW	Sydney Metro City & Southwest (the project)
SMNW	Sydney Metro North West
SMTF	Sydney Metro Train Facility (formerly known as Rapid Transit Rail Facility)
SMTF South	Sydney Metro Train Facility South
Spoil	All material generated by excavation into the ground
SSI 5931	Approval of Application SSI 5931 provided for construction and operation of The Rapid Transit Rail Facility, now known as the Sydney Metro Train Facility (SMTF)
SSI 5931	Approval of Application SSI 5931 provided for construction and operation of The Rapid Transit Rail Facility, now known as the Sydney Metro Train Facility (SMTF)
SSI 7400	Approval of application SSI 7400 provides for construction and operation of a metro line approximately 16.5 kilometers long (of which approximately 15.5 is in underground rail tunnels) between Chatswood and Sydenham (C2S) including construction of a tunnel under Sydney Harbour, links with the existing rail network, seven metro stations and associated ancillary infrastructure. The proposal is declared as Critical State Significant Infrastructure (CSSI)
SSI 8256	Approval of application SSI 8256 provides for construction and operation of a metro line, approximately 13 kilometers long between Marrickville and Bankstown (S2B), including ten metro stations and associated infrastructure
SWTC	Scope of works and technical criteria

Abbreviations	Definition
TfNSW	Transport for New South Wales
UGL	UGL Engineering Pty Limited
VAMSP	Visual Amenity Management Sub-Plan

PART A - OVERVIEW

1. Plan Overview

1.1 Purpose

The purpose of the Visual Amenity Management Sub-Plan (this Sub-Plan) is to describe how Systems Connect will minimise and manage visual impacts throughout the delivery of the Sydney Metro City & Southwest (SMCSW) Line-wide Works (LW Works) between Chatswood and Bankstown (C2B). Line-wide (LW) also referred to as the project, will be delivered by Systems Connect (a CPB Contractors and UGL Engineering joint venture).

This Sub-Plan has been prepared to address the requirements of relevant Minister for Planning's Conditions of Approval (CoA), including CSSI 7400 and CSSI 8256, the Revised Environmental Mitigation Measures (REMMs), applicable legislation, the Environmental Impact Statements (EIS), contractual requirements including Schedule C1 Scope of Works and Technical Criteria (SWTC) of ITC 600, the Sydney Metro Construction Environment Management Framework (CEMF) and the LW Works' Environment Protection Licences. Further details about the above-mentioned compliance requirements are provided in Section 2 and in the Construction Environmental Management Plan – C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033).

1.2 Background

The LW Works has potential to impact landscape character and visual amenity during construction. Potential impacts require management and mitigation in accordance with relevant state legislation, government policies and the compliance requirements as noted in Section 1.1.

Viewpoints from various locations along the Project alignment will be impacted. The removal of vegetation within the rail corridor may lead to unfiltered views of the rail corridor, noise barriers and dive structure. During construction, there would be a moderate adverse visual impact on some locations due to the requirement for vehicle deliveries and haulage outside of daytime construction hours. Other potential impacts resulting from the Project include:

- temporary acquisition or leasing of property to enable construction compounds to be established and/or construction work to occur
- temporary loss of public open space and car parking for construction sites
- indirect positive impacts and land use changes as a result of opportunities for urban renewal near stations.

This Sub-Plan identifies potential visual impacts of the LW Works and sets out an integrated management framework to eliminate, manage, mitigate or minimise the potential impacts. A full overview of the existing environment is provided in Section 4.

1.3 Objectives & Targets

Systems Connect's objectives for management of visual amenity during delivery of scope from Chatswood to Bankstown are aligned with the CEMF, which states that the following management objectives will apply to construction:

- Minimise impacts on existing landscape features as far as feasible and reasonable.
- Ensure the successful implementation of the Landscape Design.
- Reduce visual impact of construction to surrounding community.

Based on the requirements defined at previous sections and in the CEMP, the findings of project risk management processes and the potential impacts to the community, the following targets have been set for managing visual amenity on the project. Any deviance from the targets will result in Project Management implementing corrective actions.

Table 1 - Visual Amenity Management LW Targets

Metric/Measure	Objective	Timeframe	Accountability
Successful implementation of approved landscape design	100%	At all times	Construction Manager
No complaints related with visual amenity from the Regulators as a result of the works undertaken	Zero Complaints	At all times	Project Director

1.4 Plan Structure

Table 2 - Plan structure

Plan Structure	Details
Part A: Overview	<p>This Part defines:</p> <p>Section 1 Purpose, Background, Objectives, Structure, Applicability, Consultation, Plan Revision and Update and Related Documents</p> <p>Section 2 Legal and Other Requirements</p> <p>Section 3. Roles and Responsibilities with regards to Visual Amenity Management</p> <p>Section 4. Existing Environment</p> <p>Section 5. Crime Prevention Through Environmental Design</p> <p>Section 6. Aspects and Impacts</p> <p>Section 7. Visual Amenity Management Strategy</p>
Part B: Implementation	<p>This section outlines in detail the key processes and systems to support implementation of environmental management outcomes for the project:</p> <p>Element 1. Training</p> <p>Element 2. Monitoring and Reporting</p> <p>Element 3. Auditing, Review and Improvement</p> <p>Element 4. Project Specific Requirements</p>
Part C: Appendices	C1 – Agency Consultation Records

1.5 Plan Applicability, Staging and Interface

1.5.1 Applicability

This Visual Amenity Management Sub-Plan is applicable to Portions 2, 3 and 4 of LW, which includes all works associated with the rail corridor from Chatswood to Bankstown (C2B). It is not applicable to Portion 1, SMTF expansion works. The SMTF expansion works have a separate series of Construction Environmental Management Plans and are approved under Planning Approval SSI 5931. An overview of LW scope and portions is provided in the CEMP C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033).

Table 3 below provides a summary of the scope of works covered under each Portion.

Table 3 - Summary of LW Scope for Portions 2, 3 and 4

LW Portions	Scope
Portion 2 – SMTF South (LW are	<p>Construction of Sydney Metro Trains Facility South, in Marrickville, including:</p> <ul style="list-style-type: none"> • Civil works • Track system comprising stabling, shunting and maintenance roads

LW Portions	Scope
Principal Contractor)	<ul style="list-style-type: none"> • Infrastructure maintenance facilities including a maintenance workshop, siding, materials storage facilities and parking • Train maintenance facilities • Overhead wiring for new track systems • Mechanical, hydraulic and electrical services for the facility • Administration buildings • Groundwater treatment plant
Portion 3 – Chatswood to Sydenham tunnels and stations works (LW are Principal Contractor for Northern Dive, Artarmon Substation, BPS routes, tunnels and a small area within Barangaroo site)	<p>Tunnel and underground station works including the systems, services and building works within, and required for operation of the tunnels, Barangaroo crossover cavern, trackway and the Southern Dive.</p> <p>Open Northern Dive works including civil, structural and track systems work to realign the Sydney Trains line and join SMCSW with SMNW systems.</p> <p>Construction of Artarmon bulk supply infeed substation.</p> <p>Bulk Power Supply works including cable routes of 33kV feeders from:</p> <ul style="list-style-type: none"> • Ausgrid’s Willoughby Sub-Transmission Substation to the Artarmon bulk supply infeed substation • Ausgrid’s Surry Hills Sub-Transmission Substation to the bulk supply infeed substation within Waterloo Station
Portion 4 – Sydenham to Bankstown works (LW are Principal Contractors for Substation sites and BPS routes)	<p>Bulk Power Supply works including cable routes of 33kV feeders from Ausgrid’s Canterbury Sub-Transmission Substation to the Campsie bulk supply infeed substation.</p> <p>Southwest corridor power works from Sydenham to Bankstown, including:</p> <ul style="list-style-type: none"> • a HV Reticulation System • a Traction Power System • a Power Control System • an Earthing and Bonding System, Electrolysis Control Measures and Lightning Protection

1.5.2 Staging

To address the staged nature of SMCSW project, Sydney Metro has developed two Staging Reports:

- Chatswood to Sydenham Staging Report (July 2019)
- Sydenham to Bankstown Upgrade Staging Report (March 2019).

Each Staging Report defines the Conditions of Approval (CoA), Revised Environmental Management Mitigation Measures (REMM’s) and the Construction Environmental Management Framework (CEMF) requirements that Systems Connect (and the other Project Stage contractors) must address to deliver works between Chatswood and Bankstown under CSSI 7400 and CSSI 8256. The Staging Reports “turn on or off” whether each condition or requirement is “applicable”, “not applicable” or “partially applicable” to LW. If a requirement is applicable or partially applicable, it is included in the Element 4 table of Project Specific Requirements and addressed in this Sub-Plan.

The EIS assessments addressed all potential project impacts at all Project stages, including impacts during tunnel and station excavation and construction, being completed by other contractors. These activities will be in varying stages of completion at each worksite, by the time LW scope of works commence at each location (in accordance with the Staging Reports).

1.5.3 Interface

This Sub-Plan is applied when Systems Connect is the Principal Contractor at any SMCSW site. When Systems Connect is not the Principal Contractor, elements of this Sub-Plan will be implemented by Systems Connect where reasonable and feasible, to mitigate any impacts on visual amenity and to prevent harm to the environment. In such cases, Systems Connect will

conduct activities in accordance with the Principal Contractors' Regulatory and contractual obligations.

Systems Connect will liaise and work with other SMCSW delivery contractors to plan and carry out all works, aiming to achieve this objective and ensure any potential cumulative impacts are managed and harm to the environment does not occur.

1.6 Consultation

Consultation requirements for the Visual Amenity Management Sub-Plan as set in the Staging Reports, are outlined in Table 4 below. The development of this Sub-Plan is a requirement of the CEMF and REMM LV10 (SSI 8256).

This sub-plan will be submitted for information to the Planning Secretary before commencement of construction, be endorsed by the ER prior to implementation and be implemented for the duration of works.

All comments received during the consultation stage and Systems Connect's response to these comments are included in Appendix C1.

Table 4 - Sub-Plan Consultation according with Staging Reports

Plan	SSI	Contractor's Internal Review & Approval	Sydney Metro Review	Government Agency / Stakeholder Consultation	ER Review & Endorsement prior to Implementation
Visual Amenity Management Sub-Plan	7400	✓	✓	•	•
	8256	✓	✓	•	•

1.7 Revision and Update

The document review process ensures that environmental documentation including this Sub-Plan is updated as appropriate for the specific works that are occurring on-site. This includes the management review process described in Element 3:.

This Sub-Plan was developed to address the visual amenity compliance requirements throughout LW scope of works between C2B and it will be updated as the project progresses through each Portion.

Amendments would typically include those that:

- Are editorial in nature e.g. staff and agency/authority name changes
- Do not increase the magnitude of impacts on the environment when considered individually or cumulatively
- Do not compromise the ability of the Project to meet approval or legislative requirements
- Do not result in new environmental impacts.

Details of the plan and procedure revisions that will occur to address Planning Approval compliance requirements, across the delivery of all portions of LW, are provided in the project CEMPs.

Minor amendments to the Visual Amenity Management Sub-Plan will be submitted to the Environmental Representative (ER) and Sydney Metro for review and approval. Minor amendments would generally include changes to systems or processes.

Where the change will have the potential to result in an additional environmental or community impact that the ER cannot approve, then the plan would be submitted to DPIE for review and approval.

Where necessary, amendments to this Sub-Plan will also be provided to relevant stakeholders for review and comment and/or forwarded for approval.

1.8 Related Documents

This document is a Sub-Plan of the Construction Environmental Management Plan - C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033). Table 2 shows the interrelationship of this Plan with other key environmental management documents.

Table 5 - Interactions with other management plans

Document Name	Reference
Construction Environmental Management Plan C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033)	Describes management system requirements and processes. Provides an overview of the project activities and general project requirements.
Community Communications Strategy (SMCSWLWC-SYC-1NL-PM-PLN-000027)	Includes strategies for community consultation during the LW and SMCSW Project branding.
Station Design and Precinct Plan	Sets out landscaping strategy and opportunities for public art at Artarmon Substation, Chatswood dive and SMTF South.
Waste, Recycling and Spoil Management Sub-Plan (SMCSWLWC-SYC-1NL-PM-PLN-000374)	Details waste management approach, including strategies for maintaining site tidiness and free of litter, as well as spoil stockpiling.
Flora, Fauna and Biodiversity Management Sub-Plan (SMCSWLWC-SYC-CSW-EM-PLN-002579)	Addresses the retention of vegetation, where feasible and reasonable, and weed management strategies, as means of mitigating impacts on visual amenity. Strategies for managing any required tree removal are also detailed.
Soil, Water and Groundwater Management Sub-Plan (SMCSWLWC-SYC-1NL-PM-PLN-000372)	Details management of erosion and sediment control, including mud tracking off site.
Ancillary Facility Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000380)	Provides a strategy for ancillary facilities location, set up and layout, including reducing associated visual impacts.

2. Legal and Other Requirements

2.1 Legislation

Key legislation relevant to visual amenity management includes:

- Environmental Planning and Assessment Act 1979

Refer to the Construction Environmental Management Plan - C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033) for further details of the relevant legislation.

2.2 Compliance Requirements

Line-wide Works have been assessed and approved via number of applications under the Environmental Planning and Assessment Act 1979 (EP&A Act) and are classified as Critical State Significant Infrastructure;

- SSI 7400. Sydney Metro City & Southwest Chatswood to Sydenham and
- SSI 8256. Sydney Metro City & Southwest Sydenham to Bankstown.

Detailed environmental assessments have been carried out to gain the necessary Planning Approval.

Element 4: includes the key compliance requirements for visual amenity management which are applicable to the LW Works. Requirements are drawn from Conditions of Approvals, Revised Environmental Mitigation Measures and the Sydney Metro Construction Environmental Management Framework (CEMF).

This Sub-Plan will also deliver compliance with the Systems Connect EMS, contractual requirements including Schedule C1 Scope of Works and Technical Criteria (SWTC) of ITC 600 and any Environmental Protection License (EPL) issued to the Project. The EPA issued EPL 21423 to the Project on 31 July 2020 for the scheduled activity "Railway activities - railway infrastructure construction", which applies to certain prescribed premises between Chatswood Dive Site and Sydenham Dive Site.

2.3 Guidelines and Standards

Additional guidelines and standards relating to the management of visual amenity include:

- Crime Prevention through Environmental Design (CPTED) principles
- NWRL Style Guidelines (Co-branding) (TfNSW, November 2012)
- AS 4282-1997 Control of the obtrusive effects of outdoor lighting
- Guidelines for landscape character and visual impact assessment, EIA-N04, Version 1.0 (RTA, March 2009).

3. Roles and Responsibilities

3.1 Systems Connect Team

The roles and responsibilities of key Systems Connect Personnel with respect to visual amenity are detailed in Table 3.

Table 6 - Key Roles, authority and responsibility

Role	Authority and responsibility
Project Director	<ul style="list-style-type: none"> Managing the delivery of the LW Works including overseeing Planning Approval and environmental management Act as the Contractor's Representative
Environment and Sustainability Manager	<ul style="list-style-type: none"> Oversee the preparation, approval and implementation of this Sub-Plan Oversee the implementation of all visual amenity management initiatives including coordinating Systems Connect's response to complaints regarding visual impacts Manage the ongoing compliance with conditions of approval
Design Manager	<ul style="list-style-type: none"> Ensure relevant visual amenity management requirements are addressed in design development Allocate Systems Connect design team, including experienced urban or landscape designers. Where required they will review any new temporary works required under Line-wide works and provide input into this Visual Amenity Management Sub-Plan
Environmental Advisor	<ul style="list-style-type: none"> Assist the Environment and Sustainability Manager in the development and implementation of this Sub-Plan and other site specific environmental documents Implement the environmental induction program Conduct and participate in environmental audits The investigation and close out of environmental complaints Assist in the implementation of site environmental controls Undertake environmental monitoring and inspections
Stakeholder and Community Manager	<ul style="list-style-type: none"> Manage notifications and consultation for visual amenity Liaise with the Environment and Sustainability Manager in responding to resolving complaints regarding visual impacts
Commercial Manager	<ul style="list-style-type: none"> Ensure that relevant visual amenity management requirements are considered in procuring materials and services
Integration and Interface Manager	<ul style="list-style-type: none"> Ensures that relevant Planning and contract requirements are addressed via the interface process
Construction Manager	<ul style="list-style-type: none"> Manage the delivery of the construction process in relation to visual amenity management for their work activity in conjunction with the Environment Manager and Environmental Coordinators Ensure compliance with this Sub-Plan and associated procedures
Area Managers	<ul style="list-style-type: none"> Manage construction in relation to visual amenity management for their work activity in conjunction with the Environment and Sustainability Manager and Environmental Coordinators Implement and ensure compliance with this Sub-Plan
Environment Coordinator	<ul style="list-style-type: none"> Assist the Environment and Sustainability Manager and Area Managers in implementing this Sub-Plan Oversee training on visual amenity including inductions, toolbox talks and specific technical training on monitoring equipment Monitoring and reporting on noise and vibration compliance Manage, review and continual improvement of this Sub- Plan
Superintendents	<ul style="list-style-type: none"> Implement and ensure compliance with this Sub-Plan

Project Managers Project Engineers Site Engineers Supervisors	<ul style="list-style-type: none"> • Implement and monitor onsite environmental management and compliance measures, including all required mitigation measures, across all sites in conjunction with Environmental Coordinators • Undertake site inspections, provide support to report on environmental performance • Assist the Area Managers and Site Superintendents in implementing this Sub-Plan
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Further details on roles and responsibilities are provided in the Construction Environment Management Plan.

4. Existing Environment

This section provides an overview of the existing environment influencing visual amenity near the LW C2B construction sites. As detailed in section 1.2 this information is based on the comprehensive assessment and analysis work performed for both EIS that cover LW scope of works. Considering the area covered by this project (C2B) the existing environment is described over two sections based on each Planning Approval:

- Chatswood to Sydenham (SSI 7400)
- Sydenham to Bankstown (SSI 8256)

4.1 Chatswood to Sydenham

Table 7 below provides a brief description of the LW worksites and surrounding areas, including elements and activities that are likely to be visible by potentially sensitive receivers. Information has been drawn from the EIS of CSSI 7400, Chapter 16.

As the worksites that will be occupied by Systems Connect between C2S have been previously established by other SMCSW contractors, most of the temporary visual elements will be already in place as Systems Connect takes over the sites. A list of existing visible elements is included in Table 7 based on existing worksites at the time of drafting this document.

Table 7 - Visual Environment Summary - CSSI 7400

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
Northern Connection	<ul style="list-style-type: none"> • Northern Connection works area and several ancillary sites at Valetta Lane, Cleland Road and Chandos Street, all within/adjacent to the rail corridor. <p>The corridor is mostly a residential precinct with a mix of brick detached houses and multi-storey unit blocks. A mixture of light industrial buildings and institutional style office buildings are located to the west of the corridor towards the Pacific Highway. Local visual features surrounding the site include a television site located at Hampden Road near Mowbray Road, Chatswood Bowling Club, Frank Channon Walk and Chatswood Park, including Chatswood Oval.</p>	At all Northern Connection sites, Systems Connect have taken over from previous contractors. All existing visual amenity features will be retained and maintained in accordance with requirements in this plan. The exception to this is the Valetta Lane Ancillary Site, which has ongoing graffiti issues. Sydney Metro have approved changes to the visual amenity requirements at this location to enable efficient and cost-effective management of graffiti. A black hoarding will be installed along the laneway, with signage at either end displaying contact information. The Sydney Metro branded shade cloth screening will be retained at the gateway facing onto Brand Street.	<ul style="list-style-type: none"> • Local residents • Commuters travelling in the rail corridor
Chatswood Dive Site (Northern)	The Chatswood worksite is located at the intersection of Mowbray Road and Pacific Highway, at the former Ausgrid compound.	Visual elements established during TSE stage: <ul style="list-style-type: none"> • 5 m high noise barrier and 3 m high hoarding along the site perimeter on Nelson street; 	<ul style="list-style-type: none"> • Landscape and views in Frank

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
	<p>The dive site comprises a length of railway corridor extending from around Brand Street, Artarmon to Albert Avenue. The corridor is mostly a residential precinct with a mix of brick detached houses and multi-storey unit blocks. A mixture of light industrial buildings and institutional style office buildings are located to the west of the corridor towards the Pacific Highway. Local visual features surrounding the site include a television site located at Hampden Road near Mowbray Road, Chatswood Bowling Club, Frank Channon Walk and Chatswood Park, including Chatswood Oval.</p>	<ul style="list-style-type: none"> • 7.5 m high triple stacked container noise wall along Nelson St behind the noise barrier; • 23.5 m high Colorbond spoil acoustic shed, on the corner of Nelson street and Pacific Highway; • 3 m hoarding along the Pacific Highway, continuing on Mowbray Road to the south section of site and around the Mowbray House heritage building which is excluded from the construction site; • 3 m high site screen on the east side along the railway line; • 4 m high noise wall along Mowbray Road, corner of railway line; • 15 m high Colorbond acoustic shed with segment storage located on the eastern perimeter towards the middle of the site; • 5 m high noise barrier along the railway corridor up to Nelson street; • One Site Exit off Pacific Highway and one-off Mowbray Road plus one Site Access from Mowbray Road; • One public viewing platform on the south east corner; • 5 electrical substations • A water treatment plant and cooling plant; • 8.8 m high water tower; • A grout plant; • 2 conveyor towers, 16 m high, one near Nelson St and another one close to Pacific highway boundary, and • 2 conveyor storage unit cassettes, 33 m high each. <p>Changes to visual elements as LW Works progress: At handover all the above infrastructure will remain in place with the exception of the conveyor belt towers and grout plant. Systems Connect will install 3 x Gantry cranes over tunnel dive area and intention is to extend current acoustic shed to cover penetrations (extend north). Current spoil shed will be utilized as storage and both acoustic sheds and gantry cranes are anticipated to be removed December 2022.</p>	<p>Channon Walk and Chatswood Park</p> <ul style="list-style-type: none"> • Local residents • Commuters travelling in the rail corridor

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
		Duration October 2020 – December 2022.	
Artarmon Substation	<p>The Artarmon substation site is located in the corner of Whiting Street and Reserve Road. This site was already established by the TSE contractor, which performed demolishing works, removal of concrete slab and site preparation at an earlier stage of the project. The site is already fenced off, the ground is currently soil covered with geofabric.</p> <p>The worksite includes grassland and scrubby vegetation around its perimeter. Residential areas are located to the north, east and south of the site, including low residential buildings and brick unit blocks several storeys high. The Gore Hill Freeway forms the southwestern boundary of the site, which is about 13 lanes wide and 10 metres lower than the site. Trees lining Butchers Lan filters views from the rear of properties on the southern side of Milner Street, which have rear gardens directly opposite the project site.</p>	<p>Visual elements established at the Substation area during TSE stage:</p> <ul style="list-style-type: none"> • 2.1 m high chain-link fence around the site at Whiting Street and Reserve Road <p>Changes to visual elements as LW progress (possible changes depending on design finalisation):</p> <ul style="list-style-type: none"> • Temporary crane activities • Pilling rig and excavators • Temporary hoarding office • Temporary material storage areas <p>Systems Connect will install Type B hoarding along the length of Reserve Road to provide security and backing for site office and amenities. Temporary site amenities will be single level and will be visible above the hoarding on Reserve Road. All other visual changes will be part of the permanent works as they progress. Mobile cranes will be used, no permanent tower cranes during construction phase between March 2020 – April 2021.</p>	<ul style="list-style-type: none"> • Local businesses • Local residents
Artarmon Bulk Power Supply Route	<p>The BPS route initiates at Artarmon Substation and crosses Reserve Road which is a main access point to the Gore Hill Freeway. The same key visual elements described in the Artarmon Substation above apply due to its proximity.</p>	<p>The BPS route is trenched from the existing Artarmon Ausgrid substation in the corner of Reserve Road and Campbell Street to the Artarmon substation site. The route will connect both sites through Reserve Road. No temporary works are required to facilitate installation of the BPS route</p> <p>The following elements and activities are likely to be visible during construction:</p> <ul style="list-style-type: none"> • Temporary visual impacts to the streetscape along the route during excavation of cable trenches. • Temporary fencing and signage. • Temporary noise barriers 	<ul style="list-style-type: none"> • Local businesses

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
Crows Nest Station*	<p>The Crows Nest worksite is located along the Pacific Highway between Oxley Street and Willoughby Road, within the commercial district of Crows Nest. The eastern boundary of the site flanks Clarke Lane.</p> <p>The Crows Nest Station site is surrounded by a mixture of buildings with varying ages, heights, styles, uses and setbacks. The Pacific Highway near Hume Street is lined with 19th century two storey shopfront facades. Oxley, Hume and Clarke streets are lined with office and apartment buildings, as well as an indoor sports complex, child care centre, community centre, post office and a historic substation. As Clarke Street rises to Willoughby Road, the street is lined with two storey Victorian terraces with ground level retail. St Leonards Centre is a local visual landmark, along with mature London planetrees along the Pacific Highway and surrounding streets to soften views. The site is near a retail and restaurant precinct along Willoughby Road that prioritises pedestrian movement. Several high-rise apartment buildings have recently been constructed in the vicinity.</p>	<p>Systems Connect will be principal contractor for this site during the early access period (August 2020 to December 2020). During this time Systems Connect will remove the existing acoustic enclosure.</p> <p>In January 2021 another SMC&SW contractor will take over, and a section within the principal contractor's worksite will be used to support the LW tunnel works. This will include areas for:</p> <ul style="list-style-type: none"> • concrete drop pipes • washout areas 	<ul style="list-style-type: none"> • Local residents and businesses
Victoria Cross Station*	<p>The Victoria Cross North worksite is located on the corner of Miller Street and McLaren Street, opposite to the North Sydney Council Chambers. The site's location is at the interface of high rise with low rise buildings at the northern perimeter of North Sydney's CBD.</p> <p>Victoria Cross South worksite is located south of Berry Street between Miller Street and Denison Street. The setting is highly urbanised with high rise office buildings surrounding the site, intermixed with mid-rise and historic buildings.</p>	<p>Systems Connect will not be principal contractor in this site. A section within the principal contractor's worksite will be used to support the LW tunnel works. This will include areas for:</p> <ul style="list-style-type: none"> • concrete drop pipes • washout areas 	<ul style="list-style-type: none"> • Landscape and views in the council chambers and Miller Street • Local residents and businesses
Blues Point Site	<p>The Blues Point temporary construction site covers an area of about 2,100 square metres within Henry Lawson Reserve, at the end of Blues Point Road.</p>	<p>Systems Connect will take over this site from the TSE Contractor. The existing acoustic shed at Blues Point will be retained and the site will be used as a delivery and access point for another 12 months. The acoustic shed will be removed prior to New Years of 2021/2022 and the site rehabilitated in early 2022.</p>	<ul style="list-style-type: none"> • Landscape and views • Local residents and businesses

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
Barangaroo Station*	<p>The work site is situated along Hickson Road in Millers Point, nearby Argyle Street.</p> <p>Hickson Road is located at the base of a distinctive cliff about four storeys high. The cliff is a local visual feature, with its exposed sandstone rock face and masonry, heritage railings and staircase cut into the stone. The cliff also creates a strong spatial 'edge' to the Barangaroo peninsular between Munn Street and the High Street stairs in the south, and a physical barrier to east-west movement. High Street runs along the top of the escarpment, offering panoramic, open views across Barangaroo, and the harbour beyond.</p>	<p>Visual elements established during TSE stage:</p> <ul style="list-style-type: none"> • A spoil shed along the waterfront approx. 42 m x 22 m x 10 m high • One spoil barge • Water treatment plant and slurry treatment plant along the water edge; • Two excavation roof coverings along Hickson Road • Northern Shaft shed at Hickson Road, 32 m x 14 m x 21 m high • A 2.5 m high hoarding on the western side of High Street • A 3.5 m high hoarding on the eastern side of High Street • Jersey barriers with mesh screen shade cloth along Hickson Road • Concrete barriers along the water • Chainlink fence around the temporary site • Fence with shade cloth along western side of Hickson Road. <p>Elements highlighted in grey will be removed prior to Systems Connect access.</p> <p>Systems Connect will exclusively utilise the Northern shaft building to access the cavern via gantry crane concurrently with the station contractor controlling the adjoining station site. PC coordination for this location is ongoing, no external variations to occur outside of the highlighted exclusions above. Duration of works between August 2021 – December 2022</p>	<ul style="list-style-type: none"> • Landscape and views in Barangaroo Reserve • Local residents and businesses
Martin Place Station*	<p>The Martin Place North worksite is situated in Sydney's CBD at 55 Hunter Street between Castlereagh and Elizabeth Streets. The Martin Place South worksite is situated in Sydney's CBD adjacent to Martin Place, and between Castlereagh Street and Elizabeth Street.</p> <p>The area around Martin Place Station precinct is influenced by two of central Sydney's most prominent urban plazas – Chifley Square and Martin Place. The precinct is traversed by several important civic streets, including Elizabeth, Castlereagh and</p>	<p>Systems Connect will not be principal contractor in this site. A section within the principal contractor's worksite will be used to support the LW tunnel works. This will include areas for:</p> <ul style="list-style-type: none"> • concrete drop pipes • washout areas • the decline at Bligh St for deliveries into the tunnels 	<ul style="list-style-type: none"> • Landscape and views in Martin Place • Local residents and businesses

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
	Hunter streets, which are lined by office towers, with intermittent mature trees, creating important streetscape vistas.		
Pitt Street Station*	<p>Located towards the mid-town precinct of Sydney's CBD, the Pitt Street North site flanks Parks Street and is situated between Pitt Street and Castlereagh Street. The Pitt Street South worksite is situated towards the southern end of the mid-town district, flanking Bathurst Street, between Pitt Street and Castlereagh Street.</p> <p>The Pitt Street Station precinct is located in one of the busiest parts of the city for vehicular and pedestrian movement. The site is a short walk, and in view of, some of Sydney's most prominent landmarks and attractions including Hyde Park, Town Hall, Pitt Street Mall, St Andrew's Cathedral and World Square. The nearby streets are lined by a mixture of low and high-rise office, commercial and apartment buildings of varying ages and styles.</p>	<p>Systems Connect will not be principal contractor in this site. A section within the principal contractor's worksite will be used to support the LW tunnel works. This will include areas for:</p> <ul style="list-style-type: none"> • concrete drop pipes • washout areas 	<ul style="list-style-type: none"> • Views from Hyde Park • Local residents and businesses
Surry Hills Bulk Power Supply Route (including Central station*)	<p>The BPS route crosses two major traffic corridors:</p> <ul style="list-style-type: none"> • Elizabeth is a major hub for bus and rail interchange • Albion Street, also notable for its historical background and heritage-listed buildings. <p>The areas crossed by the BPS route are of mixed commercial and residential use, including a wide variety of styles, including high rise buildings, Terraced houses, Victorian and Federation styles, as well as significant examples of ecclesiastical architecture.</p> <p>Frog Hollow Reserve is a neighbourhood park with an extensive heritage history. The heritage listed O'Hears Steps are a heritage listed item located within the reserve.</p>	<p>The BPS route is trenched from the existing Ausgrid substation in Surry Hills to Central Station. From the Ausgrid substation, the route initially goes through Frog Hollow Reserve and on the road through mixed residential and commercial areas, entering the rail corridor at the east of Central Station through Randle Lane.</p> <p>No temporary works are required to facilitate installation of the BPS route.</p> <p>The following elements and activities are likely to be visible during construction:</p> <ul style="list-style-type: none"> • Temporary visual impacts to the streetscape along the route during excavation of cable trenches. • Temporary fencing and signage. • Temporary noise barriers 	<ul style="list-style-type: none"> • Landscape and views Frog Hollow Reserve • Local residents and businesses • Commuters travelling in the rail corridor
Waterloo* Station	The site is bordered by Botany Road to the west, Cope Street to the east, Wellington Street to the south and Raglan Street to the north. Situated within the construction site block is the Waterloo Congregational Church, which is excluded from the site.	<p>Systems Connect will not be principal contractor in this site. A section within the principal contractor's worksite will be used to support the LW tunnel works. This will include areas for:</p> <ul style="list-style-type: none"> • Rail welding and distribution 	<ul style="list-style-type: none"> • Local residents and businesses

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
	<p>The precinct is characterised by late 19th and early 20th century warehouses many of red brick construction. Botany Road is a wide road lined by some small street trees and accommodating mostly large scale factory retail outlets.</p>	<ul style="list-style-type: none"> • concrete drop pipes • washout areas 	
<p>Marrickville Dive and SMTF South</p>	<p>The Marrickville worksite is located adjacent to the T3 Bankstown train line in the Marrickville industrial area, bordered by Sydney Steel Road to the northwest and Edinburgh Road to the north.</p> <p>The character of this area is strongly influenced by its industrial history and transport network including the railway, busy main roads and Sydney Airport. Buildings in this area are mainly one and two-storey industrial buildings. There are also some three and four-storey commercial / industrial buildings. The area comprises a mix of residential and industrial buildings reflective of its historical development. Important views in the vicinity of the Marrickville dive site include those from Sydenham Station, local views from Camdensville Park, and from the Bedwin Road bridge.</p>	<p>Visual elements established during TSE stage:</p> <ul style="list-style-type: none"> • 3 m high hoarding along corner of Murray Street and Sydney Steel Road, and adjacent to rail corridor • 5 m high noise barrier along the railway corridor and to the corner of Railway Parade and Edinburgh Road • 8.5 m high acoustic shed with up to 17 m sheltered batch plant area in northeast-southwest direction • Segment Storage along the Sydney Steel Road • Existing shed on the south corner of the site • Spoil storage along Edinburgh Road • 3 cranes near the south perimeter • Grout plant with three, 27 m high mixing towers • Water treatment plant • 2 existing water tanks • Electrical substation • 2 aggregate bins close to segment factory shed • 2 access points off Murray Street and 3 access points off Sydney Steel Road. <p>Elements highlighted in grey will be removed prior to Systems Connect access. Systems Connect access will be progressive with the first small section being handed over to Systems Connect in August 2020. Majority of the site will be handed over in Q2 2021.</p> <p>Changes to visual elements as LW progress:</p> <p>Systems Connect will install a 40t gantry crane and acoustic shed at the tunnel dive access, requirement for acoustic shed is currently being reviewed. Additional storage shed will be constructed by Systems Connect inside the existing site boundary in the corner of Edinburgh Road & Railway Parade, dimensions are currently under review.</p> <p>Duration August 2020 – December 2022</p>	<ul style="list-style-type: none"> • Local residents and businesses • Commuters travelling in the rail corridor

- * Sites where other SMCSW Contractors will act as Principal Contractor

4.2 Sydenham to Bankstown

Table 8 below provides a brief description of the LW worksites and surrounding areas, including elements and activities that are likely to be visible by potentially sensitive receivers. Information has been drawn from the EIS (SSI 8256), Chapter 19 and the EIS Technical Paper 7.

According with the EIS, the works along the southwest rail corridor are expected to generate minor adverse landscape impacts resulting from the presence of construction works, compounds and worksites and the removal of vegetation.

Table 8 - Visual Environment Summary - CSSI 8256

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
Punchbowl Traction Substation (within rail corridor)	To the south, the corridor runs parallel to South Terrace which is a residential esplanade road extending essentially along the length of the corridor in this area. Views from South Terrace are filtered by mature trees scattered along the rail corridor and within the road reserve.	A minor ancillary facility will be set up within the rail corridor adjacent to the Traction Substation. The area will be fenced off and include: <ul style="list-style-type: none"> • Site office with amenities • Storage containers for small materials • Laydown area for cable drums • Plant Parking Access to the site will be through existing boundary gates or temporary gates if required.	<ul style="list-style-type: none"> • Landscape and views in South Terrace • Local residents • Commuters travelling in the rail corridor
Lakemba Traction Substation (within rail corridor)	At the Moreton Street overbridge, views to the corridor open up as the corridor descends into a shallow cutting towards Lakemba Station and there is less filtering due to fewer adjacent street trees. Mature street trees provide an avenue setting to The Boulevarde and are near the proposed location of the substation and southern rail boundary corridor. The substation will be within the rail corridor, cross the road from residential properties in The Boulevarde.	A minor ancillary facility area will be set up within the rail corridor adjacent to the Traction Substation. The area will be fenced off and include: <ul style="list-style-type: none"> • Site office with amenities • Storage containers for small materials • Laydown area for cable drums • Plant Parking Access to the site will be through existing boundary gates or temporary gates if required.	<ul style="list-style-type: none"> • Landscape and views in The Boulevarde • Local residents • Commuters travelling in the rail corridor
Campsie Traction Substation (within rail corridor)	The proposed substation is located to the west of Campsie Station, in an elevated location along Lilian Street at the top	A minor ancillary facility area will be set up within the rail corridor adjacent to the Traction Substation. The area will be fenced off and include:	<ul style="list-style-type: none"> • Local residents

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
Campsie Bulk Power Supply Route	<p>of the rail cutting. It is a visually prominent location, situated across the road from residential properties in Lilian Street. Mature street trees along Lilian Street provide streetscape planting and partial screening of the rail corridor.</p>	<ul style="list-style-type: none"> • Site office with amenities • Storage containers for small materials • Laydown area for cable drums • Plant Parking <p>Access to the site will be through existing boundary gates or temporary gates if required.</p>	<ul style="list-style-type: none"> • Commuters travelling in the rail corridor
	<p>The BPS route crosses two major transport corridors:</p> <ul style="list-style-type: none"> • Beamish Street is a major hub for bus and rail interchange. • Canterbury Road, which is zoned Business Development, having a range of commercial and retail premises as well as residences. <p>The commercial centre of Campsie is centered on Beamish Street.</p> <p>The residential area surrounding Campsie station precinct include a variety of residential buildings including medium rise flats and apartment buildings, duplexes and detached houses.</p> <p>The landscape and visual values are of varied character. Pat O'Conner reserve consists of a recreation area with grass and some tree areas. It's also part of the local cycleway network.</p>	<p>The BPS route is trenched from the existing Ausgrid substation in Canterbury to the new Campsie Traction Substation (described above). From the Ausgrid substation, the route initially goes through Pat O'Conner Reserve and through residential areas.</p> <p>The following elements and activities are likely to be visible during construction along the route:</p> <ul style="list-style-type: none"> • Temporary visual impacts to the streetscape along the route during excavation of cable trenches. • Temporary fencing and signage. • Temporary noise barriers <p>A minor ancillary facility area has been approved and set up in Hughes Park, Earlwood, close to the BPS route and adjacent to the Ausgrid substation. The area is fenced off and includes:</p> <ul style="list-style-type: none"> • Site offices with amenities • Storage containers for small materials • Laydown area for cable drums 	<ul style="list-style-type: none"> • Surrounding residents and businesses. • Existing fauna within Pat O'Conner Reserve (light spill). • Landscape and views in South Parade
Canterbury Traction Substation (within rail corridor)	<p>This section is characterized by elevated residential areas offering views across the surrounding landscape towards the Cooks River.</p> <p>The rail corridor at this point is in a deep cutting, with the exposed sandstone rock face along the northern rail corridor boundary providing the local visual feature.</p> <p>The traction substation will be located on the southern side of the rail corridor, directly adjacent to Hutton St. A number of properties back onto Hutton St, so that vegetation in</p>	<p>A minor ancillary facility area will be set up within the rail corridor adjacent to the Traction Substation. The area will be fenced off and include:</p> <ul style="list-style-type: none"> • Site office with amenities • Storage containers for small materials • Laydown area for cable drums • Plant Parking <p>Access to the site will be through existing boundary gates or temporary gates if required.</p>	<ul style="list-style-type: none"> • Warwick Reserve's views • Landscape and views from Church Street pedestrian bridge • Local residents

Construction Site	Site/Area Character	Visual Elements During Construction	Potential Sensitive Receivers
	private backyards and fences filter views to the rail infrastructure.		
Dulwich Hill Traction Substation (within rail corridor)	Most properties back on to the corridor in this section, so that vegetation in private backyards and fences filter views to the corridor. Street trees and vegetation within this corridor also filter views to the corridor along this section. Mature street trees provide an avenue setting to Randall Street near the location of the proposed substation and southern rail corridor boundary.	<p>A minor ancillary facility area will be set up within the rail corridor adjacent to the Traction Substation. The area will be fenced off and include:</p> <ul style="list-style-type: none"> • Site office with amenities • Storage containers for small materials • Laydown area for cable drums • Plant Parking <p>Access to the site will be through existing boundary gates or temporary gates if required.</p>	<ul style="list-style-type: none"> • Local residents • Commuters travelling in the rail corridor
High Voltage Cable Installation Bankstown to Sydenham (within rail corridor)	<p>The project area extends through a typical cross section of southwestern Sydney, with a mix of low and medium density residential areas, rail side industry and local commercial town centres built around the stations.</p> <p>The project area interfaces with the light rail at Dulwich Hill and several recreation and open space areas.</p> <p>The topography is undulating, resulting in a series of rail embankments and cuttings, with several points of exposed sandstone rock face and shale rock embankments along the rail corridor, providing local visual features.</p> <p>Vegetation within and adjacent to the existing rail corridor boundary is mature and dense in several locations, screening views from adjacent residential and commercial properties, streets and parkland.</p>	<p>High voltage cable will be pulled through existing conduit and cable trays in the rail corridor between each substation from Bankstown to Sydenham.</p> <p>No temporary works are required to facilitate installation of the BPS route</p> <p>Main visual elements include:</p> <ul style="list-style-type: none"> • Cable drums on trailers • Telehandler • Mobile cranes • Flatbed trucks 	<ul style="list-style-type: none"> • Commuters travelling in the rail corridor

5. Crime Prevention Through Environmental Design

The principle of *Crime Prevention Through Environmental Design* (CPTED) will be incorporated throughout the design and construction of temporary and permanent facilities during LW Works. CPTED aims to create the perception that the risk of committing the crime is greater than the likely benefits. Key principles adopted for the safety of public areas around the stations include:

- increasing the possibility of detection, challenge and capture
- increasing the effort required to commit crime
- reducing the potential rewards of crime by minimizing, removing or concealing 'crime benefits'
- removing conditions that create confusion about required norms of behavior.

5.1 Surveillance

The effect of having high levels of surveillance often prevents offenders from committing crime. Designing a public space should utilise natural, physical features that will enhance visibility and promote social interaction between users of the area. Effective surveillance includes both natural and technical resources. By limiting potential escape routes and places to hide, the design reduces the appeal of crime by making the offender feel uneasy.

Such prevention methods from a design perspective include:

- clear sightlines between public and private places
- sufficient lighting of public places
- landscaping that is attractive and inviting but does not provide offenders a place to hide and entrap victims.

Application to LW construction sites:

- Technological and/or personnel-based surveillance and monitoring systems will be used at the LW worksites. Details will be defined and implemented on a case by case basis for each site and considering interface contractors accessing the site.
- Hoarding and noise walls will be set up in a way that maximizes natural surveillance as much as practicable.
- Adequate levels of lighting will be provided around the worksites to increase visibility at night, where it does not negatively impact the surrounding community or light spill.

5.2 Access Control

The movement of people can be influenced by having physical and symbolic barriers, increasing the effort required to commit a crime. By having legible and clear boundary markers, people can easily identify where they are permitted to go or not go. However, such barriers should create a hostile environment that will discourage the use of the area.

Effective access control can be achieved by creating:

- landscapes and physical locations that channel pedestrians into target areas
- public spaces that are attractive and inviting for people to gather
- restricted access to internal areas or high-risk areas.

Application to LW construction sites:

- Worksites will be protected using industry standard physical barriers and clear delineation of the boundaries.
- Fencing/hoarding is to be set away from fixed infrastructure where possible, so that it does not create access to climbing onto buildings or structures.
- Requirements for pruning of vegetation adjacent to the worksites will be assessed to reduce the risk of climbing over hoarding.
- Each worksite will have vehicle and pedestrian access points with adequate access control (e.g. ID checkpoints, sign-in and sign-out).

5.3 Territorial Reinforcement

Community ownership of public spaces promotes social control and encourages people to gather and enjoy that space, increasing the number of pedestrians that can witness a potential crime. The principle of territorial reinforcement is designed to make general users feel safe and make potential offenders aware of the risk of prosecution.

Territorial reinforcement can be achieved through:

- design that encourages people to gather in a public space whilst feeling some responsibility for its use and condition
- design with clear boundaries between public and private space
- clear cues on what the space is design for and who it is to be used by.

Application to LW construction sites:

- Surrounding community will be notified and updated as required during the progress of LW Works.
- Clear signage will be displayed around the worksites.
- Visual amenity strategies will be in place and maintained for temporary construction works, as detailed in section 7.

6. Aspects and Impacts

The key aspects and potential impacts in relation to the management of visual amenity during the Line-wide Works are listed in Table 9.

Table 9 - Aspects and potential impacts

Aspect	Potential Impacts
Litter	<ul style="list-style-type: none"> • Potential for waste to be disposed of incorrectly, resulting in litter around the construction worksites
Graffiti	<ul style="list-style-type: none"> • Potential for site hoardings or other exposed surfaces to be vandalised
Lighting	<ul style="list-style-type: none"> • Potential for site lighting to affect this amenity of surrounding land uses
Traffic and Transport	<ul style="list-style-type: none"> • Potential for required traffic control signage to increase visual clutter surrounding construction sites
Fencing and Temporary Structures	<ul style="list-style-type: none"> • Potential to create visual impacts and graffiti space
Erosion and Sediment Control	<ul style="list-style-type: none"> • Potential for tracking of mud and other debris onto public roads
Vegetation	<ul style="list-style-type: none"> • Removal of trees and vegetation potentially reducing visual screening of the rail corridor and construction sites or impact landscape character

The visual amenity management strategy outlined in this Sub-Plan has been developed taking into consideration the potential environmental impacts detailed above.

7. Visual Amenity Management Strategy

The key visual amenity mitigation measures to be implemented during the LW Works between C2B are detailed in the sections below. Controls that are adequate to ensure compliance and to reduce risk to the lowest acceptable rating achievable are planned before any relevant works commence.

7.1 Design of Temporary Works at Construction Sites

Development of the temporary works design will take into account the CPTED principles and application opportunities identified in Section 5.

Systems Connect will coordinate with interface contractors previously occupying the worksites, and discuss opportunities for keeping temporary site facilities, hoardings, sheds or fencing, to the extent possible. This will allow consistency to be maintained across SMCSW project areas and limit the visual amenity impacts.

All temporary site facilities, including hoardings and site sheds, must be maintained in excellent condition. Existing structures will be used where possible and required maintenance identified and implemented. Where practicable, the elements within construction sites would be located to minimise visual impacts on adjacent receivers.

The selection of materials and colours of temporary structures and compounds will aim to minimise their visual prominence. Where required an experienced urban or landscape designer (from within the Systems Connect Design team) will be engaged to provide input to temporary works developed as part of LW.

Visual mitigation will be implemented as soon as feasible and reasonable and will remain in place for the duration of the LW Works.

7.1.1 Site Lighting

Temporary site lighting, for security purposes or night works, will be installed and operated in accordance with AS4282:1997 Control of the Obtrusive Effect of Outdoor Lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces. A lighting strategy will be assessed during detailed construction planning for each site to minimise any glare or light spill issues.

Any security and warning lighting used at the LW construction sites will be installed so that light is not directed at or reflected onto neighboring properties. Cut-off and directed lighting will be used where required to ensure glare and light trespass/spill are minimised.

7.1.2 Hoardings and Fencing

Hoardings, fencing and/or walls will be in place around the LW worksites as necessary prior to commencement of works, to provide safety and security. Hoardings and fencing will be maintained in a neat and tidy condition, and be sympathetic with the surroundings, where feasible.

Hoarding banners for the external faces of hoardings and fences at each construction site will be produced in accordance with designs provided by Sydney Metro, and are to comply with the hoarding requirements of the Sydney Metro City & Southwest Brand Guidelines. Signage will also be installed to provide the community with details of the Sydney Metro City & Southwest information line.

Hoarding banners and signage will be installed and maintained by Systems Connect. Installation of hoarding banners helps to minimise opportunities for vandalism, such as bill posting and graffiti.

Where Systems Connect establishes an ancillary facility adjacent to sensitive receivers, boundary fencing must be erected at this site(s) and must incorporate screening, unless otherwise agreed with Relevant Council(s), and affected residents, business operators and landowners. This boundary screening must minimise visual, noise and air quality impacts on adjacent sensitive receivers. Where boundary fencing and screening is required, this is to be in place for the duration of construction. Note that screening will not be used when sight lines are affected in relation to traffic safety or security.

7.2 Vegetation Management

Worksite layouts will be refined to conserve vegetation where practicable. Due to the staging nature of this project, it is anticipated that most of the vegetation would have already been removed by the previous contractors. Vegetation adjacent to or within construction sites that is to be retained and protected will be appropriately demarcated (e.g. fenced, flagged, etc.), and signage will be erected identifying these areas as 'Tree Protection Zone – No Access', in accordance with AS 4970–2009. These areas will also be clearly marked on Site Environment Plans (SEPs) as 'Tree Protection Zone – No Access'.

Where any tree pruning is required during site set up or construction, this will be undertaken in accordance with the project's tree management strategy prepared by Sydney Metro, and guided by a tree report prepared by a qualified arborist.

During construction planning, Systems Connect will consider the use of vegetation to screen and visually integrate sites with the surrounding area, where feasible and reasonable. Any other temporary landscaping that might be required during LW Works will be implemented under the direction of Sydney Metro.

If trees are required to be removed for the scope of LW, a Tree Report will be prepared by a suitable qualified arborist and appropriate mitigation measures and tree replacement will be implemented as defined in the relevant Planning Approval requirements. Further details relating to the management and removal of trees are provided in the Flora, Fauna and Biodiversity Management Sub-Plan (SMCSWLWC-SYC-CSW-EM-PLN-002579).

7.3 Public Art

Systems Connect is assessing the opportunity for a permanent wall to be provided for street art at the Marrickville dive site, to improve amenity and precinct activation. If the opportunity exists, further details will be provided in the relevant design package. Systems Connect will engage with Inner West Council for consultation and implementation.

7.4 Blues Point Requirements

Systems Connect will occupy Blues Point site under LW scope. Works will be coordinated in consultation with Events NSW, North Sydney Council and City of Sydney Council, to ensure the works don't interfere with special events, including key harbour viewing events. Further details about consultation processes are provided in the LW Community Communications Strategy C2B (SMCSWLWC-SYC-1NL-PM-PLN-000027).

7.5 Site Maintenance and Housekeeping

All site facilities, including hoardings, will be maintained in excellent condition, and must remain fit for their intended purpose for the project duration.

All LW construction sites, and other areas affected by LW construction activities, will be kept clean and tidy and free of refuse. This includes the regular removal of:

- Rubbish
- Litter
- Graffiti
- Surplus material
- Weeds

Rubbish or loose items will be frequently removed from the construction sites to avoid extended storage.

All site facilities, hoardings and fencing, as well as banners and signage on hoardings and fencing must be maintained free of graffiti and any advertising material not authorised by Sydney Metro. As set out in Element 2:, regular site inspections will be undertaken to ensure these structures are free of graffiti and unauthorised advertising material. If graffiti or unauthorised advertising material is identified on any of the abovementioned structures, it must be removed within the following timeframes:

- Offensive graffiti must be cleaned (removed) or covered within 24 hours
- Highly visible yet non-offensive graffiti must be cleaned (removed) or covered within one week
- Graffiti that is neither offensive nor highly visible must be cleaned (removed) or covered within one month
- Any advertising material including bill posters must be removed or covered within 24 hours.

If hoarding banners/signs become irreparably damaged, Systems Connect will install replacement banners or fencing signage within 24 hours of this damage occurring, or as soon as practicable.

7.6 Site Restoration and Handover

The established worksites will be handed over to Sydney Metro to allow the operation stage of SMCSW. As such full construction site demobilisation and revegetation of these worksites is not within the scope of the LW Works, except for the BPS routes where the construction areas impacted by LW will be returned to their pre-existing condition.

Where temporary facilities are to be utilised by Systems Connect, these will be returned to their pre-agreed condition following completion of LW Works. Rehabilitation of public spaces will take place in consultation with the relevant Councils.

PART B - IMPLEMENTATION

Elements and Expectations

Part B of this Sub-Plan explains how potential visual impacts during the LW will be minimised and managed. Compliance with all elements is required at all times to minimise the likelihood of causing unauthorised environmental harm and maximise the uptake of opportunities to reduce environmental impact.

Part B contains the following:

- **Environmental Elements and Expectations:** These describe what is required of Systems Connect to Implement the Objectives of the Environment and Sustainability Policy Statement:
 - **Element** – Key aspects for managing this function in delivering the LW Works
 - **Intent** – A one-line statement describing the overall purpose of the Element
 - **Expectation** – The outcomes achieved as part of each element.
- **Requirements:** These are the specific actions required to demonstrate compliance with the Elements and Expectations.
- **Responsibility and Key Contributor:** Designation of responsibility or achieving compliance with the stated Expectation. Key contributors assist / contribute to achieving compliance.
- **Deliverables:** Tangible outcomes produced to demonstrate compliance with the environmental Elements and Expectations.

Element 1: Training

Expectations	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
1.1 All personnel have completed an induction containing relevant environmental information before they are authorized to work on the Project	<p>The induction will provide initial training on various environmental aspects, including visual amenity.</p> <p>Induction presentation will include general information on the following:</p> <ul style="list-style-type: none"> • Overview of visual amenity requirements • Retaining vegetation where practicable for screening purposes • Site maintenance and housekeeping • Graffiti removal 	<p>Human Resources Manager</p> <p>Environment and Sustainability Manager</p> <p>Environmental Coordinators</p>	<p>Induction Presentation</p> <p>Induction Records</p>
1.2 Additional toolbox talks are used to reinforce key management requirements and lessons learnt	<p>Toolbox talks will be held regularly during site establishment and investigations. They will reinforce and reiterate information from inductions, including:</p> <ul style="list-style-type: none"> • Hoarding • Graffiti removal • Lighting direction • Vegetation planted for screening purposes 	<p>Environment and Sustainability Manager</p> <p>Site Supervisors</p> <p>Environmental Coordinators</p>	<p>Toolbox Records</p>

Element 2: Monitoring and Reporting

All staff, employees and subcontractors will actively drive compliant environmental performance of the LW.

Expectations	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
2.1 Worksites are regularly inspected to ensure the adequacy of controls	<p>Systems Connect will regularly review the LW sites to ensure compliance with this Sub-Plan. A regular inspection program for visual amenity will be conducted as follows:</p> <ul style="list-style-type: none"> • Details of daily inspections undertaken by the Site Supervisor will be logged in their respective site diaries. • Routine weekly inspections are to be conducted to monitor visual amenity mitigation measures in active worksites, including: <ul style="list-style-type: none"> – Site hoarding and perimeter site areas – Acoustic sheds and any other site structures – Lighting structures, including position and direction of lighting – Health of retained vegetation around site boundaries – Litter and rubbish – Materials storage and surplus material – Graffiti – General housekeeping • Weekly inspections will be documented in System Connect’s electronic system. 	<p>Environment and Sustainability Manager Superintendents Site Supervisors Environmental Coordinators</p>	<p>Environmental Inspection Reports Site Diary Entries</p>
2.2 Periodic ER inspections and records maintained	<p>Periodic Joint Environment Inspections attended by representatives of the Environment Team, ER, the IC (if required) and representatives from Sydney Metro will include inspection of the following:</p> <ul style="list-style-type: none"> • Health of retained vegetation around site boundaries • The condition of any site hoarding and acoustic sheds • Position and direction of any site lighting. <p>Inspection reports will be prepared following site inspections to document any relevant observations made and identify any issues to be rectified in relation to visual amenity and timing for rectification.</p>		

Element 3: Auditing, Review and Improvement

Expectations	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
<p>3.1 Audits are undertaken to ensure compliance with the requirements of this Sub-Plan</p>	<p>Procedures for corrective actions are addressed in the CEMP (SMCSWLWC-SYC-1NL-PM-PLN-000033). Audits will be performed in accordance with the CEMP C2B and this Sub-Plan and/or associated documents or procedures will be updated if required.</p>	<p>Environment and Sustainability Manager Environmental Coordinators Sustainability Manager</p>	<p>Audit Reports Corrective Action Reports</p>
<p>3.2 All non-compliances are reported and actioned</p>	<p>A visual amenity non-compliance can generally be defined as a failure to comply with:</p> <ul style="list-style-type: none"> • Relevant environmental legislation • Project Planning Approvals • Environmental Protection Licences • Deed • Visual Amenity Management Sub-Plan and related documents <p>Where a non-compliance is raised as part of an audit or an incident or complaint investigation the audit, incident or complaint report may be used to close out the non-compliance and it is not necessary to raise a separate non-compliance reporting process.</p> <p>Corrective and Preventative Actions may also be raised in accordance with the Construction Environmental Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000033)</p>	<p>Environment and Sustainability Manager Sustainability Manager Environmental Coordinators</p>	<p>Audit Reports Corrective Action Reports</p>

Element 4: Project Specific Requirements

Planning Approval CSSI 8256 – Sydenham to Bankstown

CoA CSSI 8256				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
A20	Boundary screening must be erected around all ancillary facilities that are adjacent to sensitive receivers for the duration of Construction of the CSSI unless otherwise agreed with relevant council(s), and affected residents, business operators or landowners	Section 7.1	Senior Project Engineer Area Managers	Pre-Construction and Construction
A21	Boundary screening required under Condition A20 of this approval must minimise visual, noise and air quality impacts on adjacent sensitive receivers	Section 7.1	Senior Project Engineer Area Managers	Pre-Construction and Construction
E54	The Proponent must construct and operate the CSSI with the objective of minimising light spillage to surrounding properties. All lighting associated with the Construction and Operation of the CSSI must be consistent with the requirements of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces.	Section 7.1	Senior Project Engineer Superintendent Design Manager Environment and Sustainability Manager	During Construction

Planning Approval CSSI 7400 – Applicable CoA to LW

CoA CSSI 7400				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
A19	Boundary fencing that incorporates screening must be erected around all ancillary facilities that are adjacent to sensitive receivers for the duration of construction unless otherwise agreed with Relevant Council(s), and affected residents, business operators or landowners.	Section 7.1	Senior Project Engineer Area Managers	Pre-Construction and Construction

CoA CSSI 7400				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
A20	Boundary screening required under Condition A19 of this approval must minimise visual, noise and air quality impacts on adjacent sensitive receivers.	Section 7.1	Area Managers Environment and Sustainability Manager	Pre-Construction and Construction
E57	Works at the Blues Point Temporary site must be avoided during key harbour viewing events (with the key harbour viewing events determined in consultation with Events NSW, North Sydney and City of Sydney council(s)).	Section 7.4	Senior Project Engineer Stakeholder Engagement Manager Environment and Sustainability Manager	During Construction
E99	The CSSI must be constructed in a manner that minimises visual impacts of construction sites, including, providing temporary landscaping where appropriate to soften views of the construction sites, minimising light spill, and incorporating architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located.	Section 7.1	Senior Project Engineer Design Manager Environment and Sustainability Manager	During Construction
E104	All permanent external lighting must be the minimum level of illumination necessary and must comply with AS: 4282:1997 – Control of the Obtrusive Effects of Outdoor Lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces.	Section 7.1	Senior Project Engineer Design Manager	During Construction
E105	The placement of CCTV cameras associated with the CSSI must be undertaken in consultation with the relevant public authority and the NSW Police.	Addressed in the relevant design packages.	Design Manager	During Construction

Revised Environmental Mitigation Measures (CSSI 7400) – Applicable to LW

REMMs CSSI 7400				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
LV1	Where feasible and reasonable, the elements within construction sites would be located to minimise visual impacts, for example materials and machinery would be stored behind fencing.	Section 7.1	Senior Project Engineer Superintendents	During Construction
LV2	Existing trees to be retained would be protected prior to the commencement of construction in accordance with Australian Standard AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties.	Section 7.2 Refer to Flora, Fauna and Biodiversity Management Sub-Plan (SMCSWLWC-SYC-CSW-EM-PLN-002579)	Senior Project Engineer Superintendent Environment and Sustainability Manager	Prior and During Construction
LV3	Lighting of construction sites would be oriented to minimise glare and light spill impact on adjacent receivers.	Section 7.1	Senior Project Engineer Superintendent Environment and Sustainability Manager	During Construction
LV4	Visual mitigation would be implemented as soon as feasible and reasonable after the commencement of construction and remain for the duration of the construction period.	Section 7.1	Senior Project Engineer Superintendent Environment and Sustainability Manager	During Construction
LV5	Opportunities for the retention and protection of existing street trees would be identified during detailed construction planning.	Section 7.2	Area Managers Superintendent Design Manager Environment and Sustainability Manager	Prior to start Construction

REMMs CSSI 7400				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
LV6	The design and maintenance of construction site hoardings would aim to minimise visual amenity and landscape character impacts, including the prompt removal of graffiti. Public art opportunities would be considered.	Section 7.1 Section 7.5	Area Manager Senior Project Engineer Superintendent Design Manager Environment and Sustainability Manager	During Construction
LV11	Cut off and direct light fittings (or similar technologies) would be used to minimise glare and light spill onto private property.	Section 7.1	Senior Project Engineer Superintendent Environment and Sustainability Manager	During Construction
LV12	Where feasible and reasonable, vegetation would be provided to screen and visually integrate sites with the surrounding area.	Section 7.2	Senior Project Engineer Superintendent Environment and Sustainability Manager	During Construction
LV14	The architectural treatment of Artarmon substation would minimise visual amenity and landscape character impacts.	Addressed in the relevant design package and Station Design and Precinct Plan	Design Manager Environment and Sustainability Manager	After construction
LV17	Opportunities would be investigated to provide a permanent wall for street art at Marrickville dive site in consultation with Marrickville Council.	Section 7.3	Design Manager Environment and Sustainability Manager	Prior and during construction

Revised Environmental Mitigation Measures (CSSI 8256) – Applicable to LW

REMMs CSSI 8256				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
LV4	<p>The management of trees during detailed design and construction planning would be guided by the project's tree management strategy, which would be developed in consultation with councils and include consideration of relevant local plans and strategies. Where removal cannot be avoided, trees would be replaced in accordance with the tree management strategy, including replacement of removed trees in a two for one ratio.</p> <p>Opportunities to retain and protect existing trees would be defined during detailed design and construction planning, in accordance with the project's tree management strategy. The design would aim to reduce tree removal to the extent practicable, particularly where they contribute to screening vegetation or landscape character.</p>	<p>Section 7.2</p> <p>Refer to Flora, Fauna and Biodiversity Management Sub-Plan (SMCSWLWC-SYC-CSW-EM-PLN-002579)</p>	<p>Area Manager Design Manager Environment and Sustainability Manager Superintendent</p>	Prior and During Construction
LV6	The selection of materials and colours for noise barriers and hoardings would aim to minimise their visual prominence.	Section 7.1	<p>Area Manager Superintendent Environment and Sustainability Manager</p>	Prior and During Construction
LV10	A visual amenity management plan would be prepared and implemented during construction, to define the measures to minimise visual impacts during construction. The plan would include requirements in relation to construction site remediation.	This Plan Section 7.6	Environment and Sustainability Manager	Prior to start construction
LV11	Mitigation measures for landscape and visual impacts would be implemented as soon as feasible and reasonable after the commencement of construction, and remain for the duration of the construction period.	Section 7.1	<p>Senior Project Engineer Superintendent Environment and Sustainability Manager</p>	During Construction

REMMs CSSI 8256				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
LV12	Trees to be retained would be protected prior to the commencement of construction in accordance with AS4970-2009 Protection of trees on development sites and the project's tree management Any tree pruning would be undertaken in accordance with the project's tree management strategy, guided by a tree report prepared by a qualified arborist.	Section 7.2 Refer to Flora, Fauna and Biodiversity Management Sub-Plan (SMCSWLWC-SYC-CSW-EM-PLN-002579)	Area Manager Design Manager Environment and Sustainability Manager Superintendent	Prior and During Construction
LV13	The design and maintenance of construction compound hoardings would aim to minimise visual amenity and landscape character impacts. Graffiti would be removed promptly, and public art opportunities would be considered.	Section 7.1 Section 7.5	Area Manager Senior Project Engineer Superintendent Design Manager Environment and Sustainability Manager	During Construction
LV14	The selection of materials and colours would aim to minimise their visual prominence.	Section 7.1	Area Manager Superintendent Environment and Sustainability Manager	Prior and During Construction
LV15	Lighting of work areas, compounds and work sites would be oriented to minimise glare and light spill impact on adjacent receivers.	Section 7.1	Senior Project Engineer Superintendent Environment and Sustainability Manager	During Construction
LV16	Following completion of construction, site restoration would be undertaken in accordance with the visual amenity management plan. Temporary impacts to public open space would be	Section 7.6	Area Manager Senior Project Engineer	After Construction

REMMs CSSI 8256				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
	rehabilitated in consultation with the relevant local council and/or landowner.			

Construction Environmental Management Framework – Sydney Metro City & Southwest (2017)

Construction Environmental Management Framework				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
4.4. a	Principal Contractors will ensure as a minimum:			
	(i) Temporary construction works including site hoardings and acoustic sheds consider urban design and visual impacts, including: <ul style="list-style-type: none"> • Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations; • Project information to raise awareness on benefits, explain the proposed works at each site and provide updates on construction progress; • Community information, including contact numbers for enquiries / complaints; • Signage and information to mitigate impacts on local businesses which may be obscured by the construction site; • Sydney Metro advertising / public awareness campaigns; and • Logos / branding, including Sydney Metro, NSW Government, and Contractor branding. 	Section 7.1	Environment and Sustainability Manager Stakeholder Engagement Manager Area Managers	Pre-Construction and Construction
	(ii) The design of all temporary works will require TfNSW approval in relation to urban design and visual impacts and TfNSW will stipulate the design of hording artwork, including: <ul style="list-style-type: none"> • Sydney Metro advertising / public awareness campaigns; and • Logos / branding, including Sydney Metro, NSW Government, and Contractor branding. 	Section 7.1	Environment and Sustainability Manager Stakeholder Engagement Manager	Pre-Construction

Construction Environmental Management Framework				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
4.4. b	Construction hoardings, scaffolding and acoustic sheds will be regularly inspected and kept clean and free of dust build up. Graffiti on construction hoardings, scaffolding or acoustic sheds will be removed or painted over promptly.	Section 7.6 Element 2: Monitoring and Reporting	Site Superintendent Environmental Coordinators	During Construction
4.4. c	The principles of Crime Prevention Through Environmental Design will be applied to all works, including temporary works, that have a public interface.	Section 5	Senior Project Engineer Area Managers	Pre-Construction and Construction
12.1 a	The following visual and landscape management objectives will apply to the construction of the project:	Section 1.3	Environment and Sustainability Manager Area Managers	Pre-Construction and Construction
	(i) Minimise impacts on existing landscape features as far as feasible and reasonable;	Section 1.3	Environment and Sustainability Manager Area Managers	Pre-Construction and Construction
	(ii) Ensure the successful implementation of the Landscape Design; and	Section 1.3	Environment and Sustainability Manager Area Managers	Pre-Construction and Construction
	(iii) Reduce visual impact of construction to surrounding community.	Section 1.3	Environment and Sustainability Manager Area Managers	Pre-Construction and Construction
12.2b	Visual and landscape measures will be incorporated into the Principal Contractor's regular inspections including checking the health of retained vegetation around site boundaries, checking the condition of any site hoarding and acoustic sheds, and checking the position and direction of any sight lighting.	Section 7.6 Element 2: Monitoring and Reporting	Site Superintendent Environmental Coordinators	During Construction

Construction Environmental Management Framework				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
12.2c	The Contractor will retain compliance records of any inspection undertaken in relation to visual and landscape measures.	Element 2: Monitoring and Reporting	Environment and Sustainability Manager Site Superintendent Environmental Coordinators	During Construction
12.3a	Examples of visual amenity mitigation measures include:	Section 7		
	(i) Wherever feasible and reasonable, vegetation around the perimeter of the construction sites will be maintained;	Section 7.2	Environment and Sustainability Manager Area Managers	Pre-Construction and Construction
	(ii) Temporary construction works will be designed with consideration of urban design and visual amenity as per Section 4.4; and	Section 7.1	Design Manager Senior Project Engineers	Pre-Construction and Construction
	(iii) Temporary site lighting, for security purposes or night works will be installed and operated in accordance with AS4282:1997 Control of the Obtrusive Effect of Outdoor Lighting.	Section 7.1	Design Manager Senior Project Engineers	Pre-Construction and Construction

PART C – APPENDICES

Appendix C1 – Consultation Records

Document Title: Visual Amenity Management Sub-Plan - C2B Rev 0

Stakeholder	Raised By	Date	Comment No.	Document reference	Topic	Stakeholder comment	Project team response	Amendment made, Y/N?	Section	Closed Out
Sydney Metro	Chris Berg	22/11/2019	1	Section 1.1	LW Abbreviation	Consider changing abbreviation of Line-wide Works to LWW, as LW is used for Line-wide. Apply this change to CEMP and all sub-plans.	Our Contract for the project is called "Sydney Metro Line-wide Works ITC Contract". The General Conditions Executed 20 November 2018 contains definitions for LW Contractor and LW Works, which have been used in development of our CEMP and Sub-plans. So, Line-wide is abbreviated to "LW" and "LW Works" is used when applicable in the documents. We will check and edit plans to reflect this approach.	Y	Glossary / Abbreviations	Y
Sydney Metro	Chris Berg	22/11/2019	2	Section 1.7	DPIE Abbreviation	Use DPIE as abbreviation for the NSW Department of Planning Industry & Environment instead of DPI&E as per glossary.	Noted. Abbreviation changed to 'DPIE' as defined in Glossary / Abbreviations.	Y	Section 1.7	Y
Sydney Metro	Chris Berg	22/11/2019	3	Section 4.1	Incorrect table reference	Table 4 below provides a brief description of the LW worksites and surrounding areas [...]. There is no table 4 below... Table 4 above does not provide any info on worksites. Revise Section 4.1	Noted. Cross-reference in paragraph has been updated to reflect table number change.	Y	Section 4.1, Table 7	Y
Sydney Metro	Chris Berg	22/11/2019	4	Section 4.1 Table 7	Sensitive receivers	Table 7, Artarmon Sub: potentially sensitive receivers are local businesses, rather than local residents.	Whilst potentially sensitive receivers in the immediate vicinity of the Artarmon Substation works are local businesses, there are medium density apartment blocks across the freeway. Both 'local businesses' and 'local residents' will be included.	Y	Section 4.1, Table 7	Y
Sydney Metro	Chris Berg	22/11/2019	5	Section 7.1	Line-wide Works spelling	Inconsistent spelling of Line-wide works. I would suggest pick on style and apply it consistently throughout this document, the CEMP and all sub-plans.	Noted. See comment 1 (section 1.1).	Y	Section 7.1	Y
Sydney Metro	Chris Berg	22/11/2019	6	Section 7.5	Graffiti Removal	Check timeframes for graffiti removal. This should be outlined here.	Noted. Removal timeframes for graffiti and unauthorised advertising have been included in Section 7.5 as required in SWTC Appendix F05 - Stakeholder and Community Engagement (Section 12.2 b).	Y	Section 7.5	Y
Sydney Metro	Chris Berg	19/12/2019	7	TOC	Hyperlinks	TOC: broken hyperlink reference	Table of contents has been updated to amend broken hyperlink	Y	TOC	Y