Waterloo Integrated Station Development

Visual Amenity Management Sub Plan

SMCSWSWL-JHG-SWL-EM-PLN-000003

Document and Revision History

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August 2023	Scheduled annual review, no changes to content	T. Rodrigues

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Glossary

Term	Explanation
AHD	Australian Heritage Database
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CPTED	Crime Prevention through Environmental Design
CoA	Conditions of Approval
CSSI	Critical State Significance Infrastructure
DPE	Department of Planning & Environment (previously Department of Planning, Industry & Environment)
DRP	Design Review Panel
EIS	Environmental Impact Statement
ER	Environmental Representative
ISD	Integrated Station Development
Minister, the	NSW Minister for Planning
OEH	Office of Environment and Heritage
REMMs	Revised Environmental Mitigation Measures
RTS	Response to Submissions
SDPP	Station Design and Precinct Plans
SMCSW	Sydney Metro City and Southwest
SWTC	Scope of Work and Technical Criteria
TfNSW	Transport for New South Wales

1 Introduction

1.1 Purpose

John Holland has prepared this Visual Amenity Management Sub-Plan (the Plan) to describe how impacts to visual amenity of the Waterloo Integrated Station Development (ISD) will be managed during design and construction. This Sub-Plan has been prepared to address the relevant requirements of Sydney Metro Construction Environmental Management Framework (CEMF), the Revised Environmental Mitigation Measures (REMMs), the Project Planning Approval, applicable legislation, and contractual requirements, including the Waterloo ISD Project Deed and Scope of Work and Technical Criteria (SWTC). This issue specific sub-plan to the Construction Environmental Management Plan (CEMP) will be submitted to Sydney Metro for review and the Environmental Representative (ER) for endorsement no later than one month before commencement of Construction.

1.2 Background

The Waterloo ISD is located within South Sydney local area in the suburb of Waterloo. The site is situated approximately 3 kilometres from the CBD on one city block bounded by Botany Road to the west, Raglan Street to the north, Cope Street to the east, and Wellington Street to the south.

This Sub Plan builds on the visual assessment undertaken in the Environmental Impact Statement (EIS) and Submissions and Preferred Infrastructure Report. Assessments were undertaken as part of the EIS to set out the visual amenity context of the study area and potential impacts. The demolition of existing buildings has been completed by a contractor for Transport for NSW (TfNSW).

Refer to Figure 1 for site location context.

Figure 1: Waterloo ISD Project Site

1.3 Overview of the Waterloo ISD Project

1.3.1 Permanent works

The Waterloo ISD works under the Project Planning Approval include the design and construction of the Waterloo Metro Station and associated infrastructure within the site. Section 2 of the CEMP provides a detailed description of the works to be completed. In addition to the station works the following will be completed:

- Local area works involving resurfacing or reconstruction of affected roads, footpaths, cycle ways etc
- Utility service works, including the undergrounding of low voltage powerlines, installation of new services to connect to the new facilities
- Property works to existing buildings that are affected by the project
- Retail works to the spaces in the Waterloo Station and precinct
- Enabling works for the over-station development.

The Waterloo ISD will include future over-station development, however the over-station development component is not subject to this Project Planning Approval and therefore does not form part of the scope for the Waterloo ISD as outlined in the CEMP or the Sydney Metro Staging Report.

1.3.2 Temporary works

The proposed temporary works include:

- Site compound, amenities and services establishment, use and demobilisation
- Hoarding, security fencing, handrails and gantry

- Vehicular accesses and diversions
- Piling and crane platforms
- Construction signage
- Traffic and pedestrian management devices
- Lighting
- Existing services protection
- Lay-down and storage areas
- Stockpile areas
- Scaffolding and access platforms
- Formwork and falsework systems and
- All other temporary works and measures required for the construction of the Works.

1.4 Objectives and Targets

The objectives of the Sub Plan are as follows:

- 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.

These objectives conform to Sydney Metro objectives as described in the CEMF.

Furthermore, in accordance with the Environmental Performance Outcomes as stated within the Sydney Metro City & Southwest Chatswood to Sydenham Submissions and Preferred Infrastructure Report, the project *"…minimises adverse impacts on the visual amenity of the built and natural environment (including public open space) and capitalises on opportunities to improve visual amenity.*"

The Compliance Matrix in Appendix A provides a comprehensive list of compliance requirements, environmental documents and the contract documents.

2 Legal and Other Requirements

The legislation and planning instruments considered during development of this plan are outlined in Table 1.

Table 1: Legislation and Planning Instruments

Legislation	Description	Relevance to this Plan
Environmental Planning and Assessment Act 1979	This Act establishes a system of environmental planning and assessment of development proposals for the State.	The approval conditions and obligations are incorporated into this Plan
Commonwealth Copyright Act 1968	This Act establishes the notification process in relation to moral rights for public art and architecture under Commonwealth Copyright Act 1968	The notification process for public art.

The Sub Plan addresses applicable requirements within the following documents:

- The Sydney Metro City and Southwest – Project Approval – Determination, dated 9th January 2017
    - CSSI 7400 MOD 1 – Victoria Cross and Artarmon Substation (determined 18 October 2017)
    - CSSI 7400 MOD 4 – Sydenham Station and Metro Facility South (determined 13 December 2017)
    - CSSI 7400 MOD 2 – Central Walk (determined 21 December 2017)
    - CSSI 7400 MOD 3 – Martin Place Metro Station (determined 22 March 2018)
    - CSSI 7400 MOD 5 – Blues Point Acoustic Shed (determined 2 November 2018)
    - CSSI 7400 MOD6 – Administrative Changes (determined 21 February 2019)
    - CSSI 7400 MOD7 – Administrative Changes (determined 24 June 2020)
    - CSSI 7400 MOD8 – Blues Point Access Site (determined 25 November 2020)
    - CSSI 7400 MOD9 – Extension to standard construction hours (determined 30 June 2022)
- The Sydney Metro City and Southwest - Environmental Impact Statement, dated 3rd May 2016;
- Sydney Metro City and Southwest Heritage Interpretation Plan, dated 28th August 2018
- Sydney Metro City & Southwest - Chatswood to Sydenham Staging Report, Rev 6, dated 2nd July 2019;
- The Sydney Metro Construction Environmental Management Framework, EIS Appendix B dated August 2016;

2.1 Guidelines

Guidelines and standards relating to the management of visual amenity include:

- Crime Prevention through Environmental Design (CPTED) principles
- Sydney Metro Brand Style Guidelines
- AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties
- AS 4282-1997 Control of the Obtrusive Effects of Outdoor Lighting; and
- AS/NZ 1158 - Lighting for Roads and Public Spaces

3 Roles and Responsibilities

The roles and responsibilities of key Waterloo ISD personnel with respect to visual amenity are described in Table 2.

Table 2: Roles and Responsibilities

Role	Responsibilities
Project Director	▪ Managing the delivery of the Waterloo ISD including overseeing implementation of visual amenity management measures ▪ Act as Contractor's Representative
Environment & Sustainability Manager	▪ Oversee the implementation of all visual amenity management initiatives ▪ Responsible for managing ongoing compliance with the CoA and environmental document requirements
Commercial Manager	▪ Ensure that relevant visual amenity management requirements are considered in procuring materials and services
Construction Managers Site Superintendent	▪ Manage the delivery of the construction process, in relation to visual amenity management across the site in conjunction with the Environment & Sustainability Manager
Sustainability Manager	▪ Track and report visual amenity elements against sustainability targets
Environment Coordinator	▪ Manage the on-ground application of visual amenity management measures during construction
Project Engineer	▪ Implement visual amenity management activities during construction works
Environmental Representative	▪ Receive and respond to communications from the Secretary in relation to the environmental performance of the Critical State Significant Infrastructure (CSSI); ▪ Consider and inform the Secretary on matters specified in the terms of the planning approval; ▪ Consider and recommend any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community; ▪ Review all documents required to be prepared under the terms of the planning approval, ensure they address any requirements in or under the planning approval and if so, endorse them before submission to the Secretary (if required to be submitted to the Secretary) or before implementation (if not required to be submitted to the Secretary); ▪ Regularly monitor the implementation of all documents required by the terms of the planning approval for implementation in accordance with what is stated in the document and the terms of the planning approval; ▪ Review the Proponent's notification of incidents in accordance with Condition A41 of this approval; ▪ As may be requested by the Secretary, help plan, attend or undertake Department audits of the CSSI, briefings, and site visits; ▪ Consider any minor amendments to be made to the CEMP, CEMP sub-plans and monitoring programs that comprise updating or are of an administrative nature, and are consistent with the terms of the planning approval and the CEMP, CEMP sub-plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of the planning approval; ▪ Perform the roles under CoA A24 ▪ Must complete project induction covering John Holland environmental management system

4 Existing Environment

The EIS describes the Waterloo site as per the below extract

- The Waterloo Station site comprises one block bounded by Botany Road to the west, Raglan Street to the north, Cope Street to the east, and Wellington Street to the south. The site generally has a strong and consistent building line, with a dense coverage of medium grain built form, including a mix of commercial, light industrial and warehousing. The precinct is characterised by late 19th and early 20th century warehouses many of red brick construction. To the north are a row of two-storey early 20th century commercial buildings and a number of buildings with commercial ground floors and residences above.
- Botany Road is a wide road lined by some small street trees and accommodating mostly large scale factory retail outlets. To the west of the road, the buildings are set back with 'nose-in' parking creating a vehicle-dominant streetscape. To the east, on the site of the proposed metro station, the footpath is narrower and the building line is closer to the roadway. To the south of this block, the buildings are of recent construction. To the north, buildings are mostly historic brick warehouses. Within this block is the Waterloo Congregational Church, which is a local visual landmark.
- Raglan Street is characterised by three-storey brick buildings with shopfronts at street level and residences on the upper levels, creating a small shopping precinct, and stepping up to six-storey modern unit buildings beyond. A number of tall high-rise residential blocks can be seen beyond in the northeast. Leafy streets with mature Brush Box trees on the corner of Raglan and Cope streets, combined with this parkland, create a visual relief from the intensely urban environment of the area around the project site.
- Cope Street has a disjointed overall character with an abrupt change in character from east to west. To the west, the project site has a strong building line, with medium grain, mostly late 19th and early 20th century warehouses. These buildings are mostly red brick or masonry with a mix of pitched, stepped, clerestory and flat roofs. A narrow road verge is fully paved, and includes numerous large garage doors and service access ways. Power lines run parallel to the road, creating a historic, industrial character.

Demolition works at Waterloo ISD site have been completed by a Sydney Metro Contractor (ie. TSE) prior to John Holland occupying the site. At commencement of the Waterloo ISD hoardings and fencing surround the site excluding the Waterloo Congregational Church were established.

5 Crime Prevention Through Environmental Design Principles

The principle of Crime Prevention Through Environmental Design will be incorporated throughout the design and construction of temporary and permanent facilities. The key principles adopted in relation to the public realm at the Waterloo ISD site include:

- Increasing the perception of risk to criminals by increasing the possibility of detection, challenge and capture.
- Increasing the effort required to commit crime by increasing the time, energy of resources which need to be expended.
- Reducing the potential rewards of crime by minimising, removing or concealing “crime benefits”.
- Removing conditions that create confusion about required norms of behaviour.

Access control minimise opportunities for crime and increase the effort required to commit crime. By making it clear where people are permitted to go or not go, it becomes difficult for potential offenders to reach and victimise people and their property. Fence and barriers are required to be secure however not create a hostile environment.

Natural surveillance increases the threat of apprehension by taking steps to increase the perception that people can be seen. Natural surveillance occurs by designing the placement of physical features, activities and people in such a way as to maximise visibility and foster positive social interaction among legitimate users of private and public space. Potential offenders feel increased scrutiny and limitations on their escape routes.

Territorial reinforcement promotes social control through increased definition of space and improved proprietary concern. By using fences, pavement, signs, lighting and landscape to express ownership and define public, semi-public and private space, natural territorial reinforcement occurs. Territorial reinforcement measures make the normal user feel safe and make the potential offender aware of a substantial risk of apprehension or scrutiny. Display security system signage at access points.

The design of the permanent works considers the CPTED requirements and is addressed in the Security Assurance Plan.

The design and construction of the temporary works incorporate the principles of CPTED. This includes the installation of CCTV around the perimeter of the site. The monitoring requirements for reviewing the implementation is outlined in Section 9.

6 Aspect and Impacts

The key aspects and potential impacts considered in the EIS associated with the management of visual amenity during the delivery of Waterloo ISD are outlined in Table 3.

Table 3: Aspects and Impacts

Aspect	Impact Visual elements during construction	Potentially sensitive receivers
Landscape impact		
Botany Road and Raglan Street Commercial precinct	Parts of Botany Road and Raglan Street adjacent to the site would be required during site establishment and construction vehicle access. This would include the closure of footpaths during some periods of construction. It is likely that north south (on Botany Road) and east west (on Raglan Street) pedestrian connectivity would be reduced at times and connectivity and legibility in this part of Waterloo may be impacted. It is expected that there would be a noticeable reduction in the landscape quality of this streetscape which is of local sensitivity. This results in a minor adverse landscape impact during construction	Surrounding residents and businesses
Cope and Wellington Streets	The closure of footpaths and carparking may be required during construction and utility works. It is expected that there would be a noticeable reduction in the landscape quality of this streetscape which is of neighbourhood sensitivity. This results in a minor adverse landscape impact during construction	Surrounding residents and businesses
Daytime visual impact		
View east from Wellington Street	The construction site includes boundary hoarding. Construction traffic is also seen travelling along Botany Road. Although the character of construction works would be visually absorbed into this urban setting, the loss of the unifying built form of the corner building (by the demolition Contractor) at this intersection would have an adverse impact. It is therefore expected that the project would create a noticeable reduction in the visual amenity of this view, which is of local visual sensitivity, resulting in a minor adverse visual impact during construction	Surrounding residents and businesses

Aspect	Impact Visual elements during construction	Potentially sensitive receivers
View northeast from Botany Road	The middle ground of this view would change with removal of all existing buildings (by the demolition Contractor) surrounding the heritage listed Congregational Church. Site boundary hoarding would visually contain the construction site and construction vehicles would be seen moving along Botany Road and entering the site. These changes would have an adverse effect on the setting of the State heritage listed church. It is therefore expected that the project would create a reduction in the visual amenity of this view, which is of local visual sensitivity, resulting in a moderate adverse visual impact during construction.	Surrounding residents, businesses and church attendees
View southeast from the intersection of Botany Road and Raglan Street	The removal of existing buildings would be visually prominent in the middle ground of this view (by the demolition Contractor). The site would be contained in site fencing and hoarding. Construction vehicles would be seen traveling along Botany Road and using a site entry in the middle ground of this view. Although the character of construction works would be visually absorbed into this urban setting, the loss of the unifying built form at this intersection would have an adverse effect. It is therefore expected that the project would create a noticeable reduction in the amenity of this view, which is of local visual sensitivity, resulting in a minor adverse visual impact during construction.	Surrounding residents, businesses
View southwest from the corner of Cope and Raglan Streets	The focal point of this view would be removed as the existing buildings on the site are demolished (by the demolition Contractor). Hoarding would be erected upon the site and comprise much of the middle ground of this view. It is expected that the project would create a reduction in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a negligible visual impact during construction.	Surrounding residents, businesses
View south from Cope Street	Hoarding would enclose the construction site and comprise much of this view. The character of construction works would reinforce the visual contrast with the adjacent, leafy residential area. It is therefore expected that the project would create a noticeable reduction in the amenity of this view, which is of neighbourhood visual sensitivity, resulting in a negligible visual impact during construction.	Surrounding residents
Views to power upgrade temporary works	Views will include temporary trenching works including possible temporary road/footpath closures. The existing trees are to be retained.	Surrounding residents

Aspect	Impact Visual elements during construction	Potentially sensitive receivers
	It is expected that due to the relatively small scale of these works there would be a noticeable reduction in the visual amenity of views from these streets and adjacent properties. This route is of neighbourhood visual sensitivity, resulting in a negligible visual impact during construction	
Night time visual impact	It is expected there would be night works occurring that would require lighting. Out of hours deliveries will occur and require traffic control crews with lighting requirements. This would result in the site, as well as adjacent areas extending along Botany Road, being more brightly lit than the existing setting. This would include both static construction site and task illumination and rotating beacon lights mounted on vehicles. It is expected that this lighting would create a noticeable reduction in the amenity of views resulting in a minor adverse visual impact during out of hours works.	Surrounding residents and businesses

7 Visual Amenity Management

7.1 Urban Design and Landscape Team

John Holland have engaged Aspect Studios to complete the Urban and Landscape Design requirements for the Waterloo ISD and contribute to the Station Design Precinct Plan. Aspect Studios involvement with respect to the input into this plan and visual amenity is detailed in Section 7.2

7.2 Visual Amenity Mitigation Measures

The visual amenity mitigation measures to be implemented during the Waterloo ISD works are outlined in Table 4. These are consistent with the Station Design Precinct Plan requirements.

Table 4: Visual Amenity Mitigation Measures

Item	Responsibility
General	
Visual mitigation measures will be implemented as soon as feasible and practical and remain in place during the construction period. John Holland will reinstate the Construction Site and complete the architectural and landscaping work progressively (where feasible). All temporary areas and other land occupied or used as part of the Waterloo ISD activities, including storage and site facilities, will be reinstated to a condition at least equivalent to that existing prior to the occupation or uses.	Environment Manager Project Engineer Site Superintendent
Opportunities for the retention and protection of existing trees will be identified during detailed construction planning	Construction Manager/ Superintendent / Environmental & Sustainability Manager Project Arborist/Aspect Studios
Existing trees to be retained will be protected with suitable tree protection measures prior to the commencement of construction (refer AS 4970 the Australian Standard for Protection of trees on Development Sites and Adjoining Properties)	Environment & Sustainability Manager Project Engineer Site Superintendent Project Arborist
The placement of temporary CCTV cameras associated with Waterloo ISD works will be undertaken in consultation with the relevant public authority and the NSW Police.	Construction Manager/ Superintendent
Keep the Construction Site, Extra Land and the Project Works and Temporary Works clean and tidy and free of refuse	Construction Manager/ Superintendent
Regularly remove rubbish, litter, graffiti and surplus material (including Construction Materials) from the Construction Site and Extra Land	Construction Manager/ Superintendent
Permanent Works	

Item	Responsibility
CPTED principals will be incorporated into relevant design packages and detailed in the Station Design and Precinct Plan	Design Manager
The Station Design and Precinct Plan will be developed in accordance with CoA E101 and CoA E102 requirements	Environment & Sustainability Manager Design Manager
Vegetation will be provided to screen and visually integrate sites with the surrounding area, where feasible and reasonable Planting and landscaping works will take into consideration local conditions, species and maintain clear sight lines	Design Manager/Project Design Team
Temporary Works	
Temporary Works to be designed and constructed in accordance with the CPTED principles.	Construction Manager / Design Manager
Elements (for example material stockpiles) within construction sites would be located to minimise visual impacts, where feasible and reasonable	Superintendent / Environment Coordinator
Site sheds will be located to minimise visual impact where it is feasible and reasonable to do so.	Project Engineer Environment Coordinator
Site sheds to be maintained in an appropriate condition.	Construction Manager
Temporary site facilities must satisfy the sustainability requirements of C1 - SWTC Appendix B8 and B9 - Sustainability.	Construction Manager Sustainability Manager
The design of all temporary works to be approved by TfNSW in relation to urban design and visual impacts.	Construction Manager / Design Manager
Lighting Considerations	
Lighting of construction sites will be oriented to minimise glare and light spill impact on adjacent receivers, where practical and safe to do so.	Superintendent / Project Engineer / Environment Coordinator
Cut off and direct light fittings (or similar technologies) will be used to minimise glare and light spill onto private property, where feasible and practical.	Design Manager / Project Design Team
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.	Design Manager / Project Design Team
Temporary works (including site hoardings) to include: ▪ 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	Construction Manager / Project Engineer/ Communications and Community Liaison Manager

Item	Responsibility
▪ Logos/branding, including Sydney Metro, NSW Government, and Waterloo ISD branding.	
Hoarding Banners, Fencing and Signs	
The design and maintenance of construction site hoardings will aim to minimise visual amenity and landscape character impacts, including the prompt removal of graffiti (refer section on Graffiti within this table) and any advertising not authorised by TfNSW. External banners must be made of vinyl where installed on solid hoarding, and made of shadecloth where installed on chainlink fencing. Banners on site hoarding and fencing will be replaced every 12 months if their condition has deteriorated such that they are no longer appropriate for their intended use.	Environment & Sustainability Manager Superintendent Project Engineer Communications and Community Liaison Manager
Viewing holes and transparent panels must be provided in the hoardings at various locations, to be determined by the Principal's Representative in consultation with the Contractor	Construction Manager Site Superintendent Communications and Community Liaison Manager
Site hoarding and fencing banners including vinyl (on solid hoarding), shade cloth or other material on the external face of any hoarding or fence will be installed within 20 business days of Site establishment.	Construction Manager / Project Engineer/ Site Superintendent
Site hoarding and fencing banners must be replaced every 12 months if their condition has deteriorated such that they are no longer appropriate for their intended use.	Construction Manager / Project Engineer / Site Superintendent
Hoarding / noise barriers (during construction phase) will be inspected regularly and kept free of dust build up. Graffiti will be promptly removed/paint over.	Superintendent / Environment Coordinator
Fencing, walls, and hoarding will be designed and implemented to increase natural surveillance with straight runs.	Construction Manager / Design Manager/ Superintendent
Install way-finding signage to direct pedestrians, commuters and vehicles around the Construction Site.	Superintendent / Project Engineer / Communications and Community Liaison Manager
Temporary works (including site hoardings) to include: ▪ 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 Waterloo ISD branding.	Construction Manager / Project Engineer/ Communications and Community Liaison Manager

Item	Responsibility
Hoardings and fencing installed must be made from as-new materials and must at all times be maintained in a neat and tidy condition and be sympathetic with the surroundings.	Construction Manager / Project Engineer/Superintendent
Graffiti	
Waterloo ISD must monitor (every business day) and remove graffiti within the following timeframes: ▪ Offensive graffiti must be removed or covered within 24 hours ▪ Highly visible yet non-offensive graffiti must be cleaned or covered within one week; ▪ Graffiti that is neither offensive nor highly visible must be cleaned or covered during normal operations within one month; and ▪ Any advertising material including bill posters must be removed or covered within 24 hours.	Construction Manager / Project Engineer/Site Superintendent

8 Training

All personnel working on the site will undertake the John Holland Waterloo ISD project induction, which will provide initial training on various environmental aspects including the management of visual amenity.

Additional training will be provided to the workforce during toolbox talk, which will explain the visual amenity requirements related to issues such as:

- Hoarding
- Graffiti removal
- Lighting direction

9 Vegetation planted/retained for screening purposes. Monitoring, Auditing and Reporting

9.1 Monitoring

9.1.1 Inspections

Weekly Environmental site inspections will be undertaken by the Environment & Sustainability Manager / Environment Coordinator, Site Supervisor and nominated Site and Project Engineers. The visual inspections will target:

- Rubbish
- Litter
- Graffiti
- Surplus Material
- Review of access points, including locks and security measures

Daily inspections by Site Supervisors, including inspection of the following:

- Construction site hoarding and perimeter site areas
- Scaffolding, and other site structures
- Lighting structures
- Presence of graffiti
- Identification of any damage as a result of a break-in or attempted break-in

Periodic Joint Environment Inspections attended by representatives of the Environment and Sustainability Team, Environment Representative, and representatives from TfNSW. This will include inspection of the following:

- Health of retained vegetation around site boundaries
- The condition of any site hoarding and fencing
- Position and direction of any site lighting
- Landscaping works.

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.

A review of CCTV will be completed as required following the outcome of an inspection.

9.2 Auditing

Auditing will be completed in accordance with Section 7 of the CEMP.

9.3 Reporting

Typical Compliance records would consist of:

- Inspections undertaken in relation to visual amenity management (such as graffiti and deterioration of hoarding or vegetation)
- Weekly Environmental Inspection forms, including applicable CPTED requirements
- Toolbox training records.

Results and outcomes of inspections, monitoring and auditing will be reported internally on a monthly basis. Six-monthly construction compliance reports will be prepared to report on compliance with the Project Approval.

10 Review and Improvement

The Plan will be reviewed at least annually. John Holland will undertake the ongoing development, amendment and updating of the Plan to ensure it remains consistent with Project priorities, risk management, client requirements and Project objectives, taking into account:

- The status and progress of Waterloo ISD activities
- Changes in the design, delivery and operations processes and conditions
- Lessons learnt during delivery and operations
- Changes in other related Project Plans
- Requirements and matters not covered by the existing Project Plans
- Changes to Project Plans as directed by TfNSW's Representative under the Deed.
- Where deemed appropriate in relation to items raised within inspections or audits

10.1 Review of Mitigation Measures

Where a review of visual amenity performance, based on inspection and audit results, indicates that current mitigation measures are not effective the Environment & Sustainability Manager will consult with the construction team in regards to additional mitigation measures. These additional mitigation measures may include additional controls or changed work practices.

10.2 Records

Records associated with this management plan and monitoring programme will be maintained in accordance with Section 8 of the CEMP.

11 Enquires, Complaints and Incident Management

Environmental incidents and complaints are to be investigated, reported, documented, actioned and closed out as per the details provided in the Community Consultation Strategy and the CEMP.

Appendix A – Visual Amenity Management Measures and Compliance Matrix

Appendix A: Visual Amenity Management Measures and Compliance Matrix

No.	Measures	Timing	Requirement	Responsibility	Reference
	Project Approval – Specific Management Plan Requirements				
1.	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.	During Construction	CoA – E99	Environment & Sustainability Manager Project Engineer Site Superintendent	This Plan
2.	The Proponent must establish a Design Review Panel (DRP) to refine design objectives for place making, public realm and urban and heritage integration applicable to the length of the project and provide advice on the application of the objectives to key design elements in relation to place making, architecture, heritage, urban and landscape design and artistic aspects of the CSSI. The DRP must: (a) comprise five members who are experts in one of the identified design elements; (b) include: i. the NSW Government Architect as Chair; ii. a representative from the Heritage Council, (c) meet at least four times a year, or any other timeframe agreed by the DRP; and (d) keep meeting minutes and a schedule of action items arising from each meeting. Relevant Council(s) and other key stakeholders such as UrbanGrowth NSW and must be invited to participate in DRP meetings to advise on local issues and applicability of design review outcomes as they relate to the local context of each station location.	During Construction	CoA – E100	TfNSW	Noted

No.	Measures	Timing	Requirement	Responsibility	Reference
3.	Before commencement of permanent built surface works and/or landscaping, the Proponent must prepare Station Design and Precinct Plans (SDPP) for each station. The SDPP must be prepared by a suitably qualified and experienced person(s), in collaboration and consultation with relevant stakeholders including but not limited to relevant council(s), UrbanGrowth NSW, the Department, Chambers of Commerce and the local community. The SDPP(s) must present an integrated urban and place making outcome for each station or end state element. The SDPP(s) must be approved by the Secretary following review by the DRP and before commencement of permanent aboveground work. Each SDPP must include, but not be limited to: (a) identification of specific design objectives, principles and standards based on i. the project design objectives as refined by the DRP; ii. maximising the amenity of public spaces and permeability around entrances to stations; iii. local environmental, heritage and place making values; iv. urban design context; v. sustainable design and maintenance; vi. community safety, amenity and privacy, including 'safer by design' principles where relevant; vii. relevant urban design and infrastructure standards and guidelines (including relevant council standards, policies and guidelines); viii. minimising the footprint of the project (including at operational facilities); (b) opportunities for public art; (c) landscaping and building design opportunities to mitigate the visual impacts of rail infrastructure and operational fixed facilities (including the Chatswood Dive, Marrickville Dive, Sydney Metro Trains Facility South Artarmon Substation, station structures and services, noise walls etc.);	Prior to permanent aboveground work commencing	CoA – E101	Environment & Sustainability Manager Design Manager	Section 7.2 SDPP

No.	Measures	Timing	Requirement	Responsibility	Reference
	(d) the incorporation of salvaged historic and artistic elements onto the project design, including but not limited to the Tom Bass P&O fountain, the Douglas Annand glass screen (if present), the Douglas Annand wall frieze and heritage fabric from Martin Place Station, unless otherwise agreed by the Secretary; (e) details on the location of existing vegetation and proposed landscaping (including use of endemic and advanced tree species where practicable). Details of species to be replanted/revegetated must be provided, including their appropriateness to the area and habitat for threatened species; (f) a description of the CSSI design features, including graphics such as sections, perspective views and sketches for key elements of the CSSI; (g) the location, design and impacts of operational lighting associated with the CSSI and measures proposed to minimise lighting impacts; (h) details of where and how recommendations from the DRP have been considered in the plan; (i) the timing for implementation of access, landscaping and public realm initiatives; (j) monitoring and maintenance procedures for vegetation and landscaping (including weed control), performance indicators, responsibilities, timing and duration and contingencies where rehabilitation of vegetation and landscaping measures fail; and (k) evidence of consultation with the community, local Councils and agencies in the preparation of on the SDPP(s) and how feedback has been addressed before seeking endorsement by the DRP. Elements covered by SDPP(s) must be complete no later than the commencement of operation of the Sydney Metro to paid services, unless otherwise agreed with the Secretary. Note: The SDPP may be submitted in stages to address the built elements of the CSSI and landscaping aspects of the CSSI.				

No.	Measures	Timing	Requirement	Responsibility	Reference
4.	The SDPP must achieve a minimum visual impact rating of at least "Minor Benefit" as defined in the EIS, as amended by the documents listed in A1, for all design elements of the project, where feasible and reasonable. Where it can be demonstrated, to the DRP's satisfaction, that a "Minor Benefit" is not achievable, then a "Negligible" visual impact rating must be achieved as a minimum.	Prior to permanent aboveground work commencing	CoA – E102	Environment & Sustainability Manager Design Manager	Section 6 Section 7.2 SDPP
5.	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.	Design	CoA – E104	Design Manager	Section 7.2
6.	The placement of CCTV cameras associated with the CSSI must be undertaken in consultation with the relevant public authority and the NSW Police.	Construction	CoA – E105	Construction Manager	Section 7.2
	EIS Environmental Management Measures				
7.	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.	During Construction	EIS REMM – LV1	Environment Coordinator Project Engineer Site Superintendent	Section 7.2
8.	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	During Construction	EIS REMM – LV2	Environment & Sustainability Manager Project Engineer Site Superintendent	Section 7.2
9.	Lighting of construction sites would be oriented to minimise glare and light spill impact on adjacent receivers.	During Construction	EIS REMM – LV3	Environment Coordinator Project Engineer Site Superintendent	Section 7.2
10.	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.	During Construction	EIS REMM – LV4	Environment & Sustainability Manager	Section 7.2

No.	Measures	Timing	Requirement	Responsibility	Reference
				Project Engineer Site Superintendent	
11.	Opportunities for the retention and protection of existing trees would be identified during detailed construction planning	During Construction	EIS REMM – LV5	Design Manager Construction Manager	Section 7.2
12.	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.	During Construction	EIS REMM – LV6	Environment & Sustainability Manager Project Engineer Site Superintendent Communications and Community Liaison Manager	Section 7.2
13.	Temporary impacts to public open space would be rehabilitated in consultation with the relevant local council and / or landowner.	During Construction	EIS REMM – LV10	Environment Coordinator Project Engineer Site Superintendent	CEMP Section 6.5
	Contractual requirements				
14	In carrying out the Waterloo ISD activities, John Holland must: (a) keep the Construction Site, Extra Land and the Project Works and Temporary Works clean and tidy and free of refuse (b) regularly remove rubbish, litter, graffiti and surplus material (including Construction Materials) from the Construction Site and Extra Land; and	During Construction	General Conditions – 6.10 Cleaning up	Environment Coordinator Project Engineer Site Superintendent	Section 7.2

No.	Measures	Timing	Requirement	Responsibility	Reference
	(c) as a condition precedent to Substantial Completion of the Trackway Portion and Completion of each Non-Trackway Portion, remove all rubbish, surplus materials (including Construction Materials), Construction Plant and Temporary Works from the relevant parts of the Construction Site and Extra Land relevant to that Portion except where the retention of any of these are required for the correction of Defects during the Defects Correction Period and this is approved in writing by the Principal's Representative.				
15.	Hoardings and fencing installed by the Contractor must be made from as-new materials and must at all times be maintained in a neat and tidy condition and be sympathetic with the surroundings. The Contractor must prepare and install way finding signage to direct pedestrians, commuters and vehicles around the Construction Site.	Prior to Construction	Schedule C1 – SWTC Main body – 5.2 Hoarding, fencing and walls	Environment Coordinator Project Engineer Site Superintendent	Section 7.2
16.	John Holland must reinstate the Construction Site and complete the architectural and landscaping work forming part of the Project Works progressively as each part of the Project Works is completed. All Temporary Areas and other land occupied or used as part of the Waterloo ISD Activities, including storage and site facilities, must be reinstated to a condition at least equivalent to that existing prior to the occupation or uses.	During Construction	Schedule C1 – SWTC Main Body – 5.1 Site Restoration	Construction Manager Project Engineer Site Superintendent	Section 7.2
17.	John Holland must arrange for the production and installation of external banners for any site hoarding and fencing. The external banners must be installed within 20 Business Days of the date of installation of the hoarding or fencing.	During Construction	Schedule C1 – SWTC Appendix F5 – 12.1 Contractor's Hoardings and Fences	Construction Manager Project Engineer Communications and Community Liaison Manager	Section 7.2

No.	Measures	Timing	Requirement	Responsibility	Reference
18.	External banners must be made of vinyl where installed on solid hoarding, and made of shadecloth where installed on chainlink fencing.	During Construction	Schedule C1 – SWTC Appendix F5 – 12.1 Contractor's Hoardings and Fences	Environment Coordinator Project Engineer Site Superintendent	Section 7.2
19.	Banners on site hoarding and fencing must be replaced every 12 months if their condition has deteriorated such that they are no longer appropriate for their intended use.	During Construction	Schedule C1 – SWTC Appendix F5 – 12.1 Contractor's Hoardings and Fences	Environment Coordinator Project Engineer Site Superintendent	Section 7.2
20	Viewing holes and transparent panels must be provided in the hoardings at various locations, to be determined by the Principal's Representative in consultation with the Contractor.	During Construction	Schedule C1 – SWTC Appendix F5 – 12.1 Contractor's Hoardings and Fences	TfNSW Environment Coordinator Project Engineer Site Superintendent	Section 7.2
21	Hoardings, site sheds, fencing, acoustic walls around the perimeter of the Construction Site and any other structures built as part of the Project Works and Temporary Works must be maintained free of graffiti and any advertising not authorised by the Principal's Representative.	During Construction	Schedule C1 – SWTC Appendix F5 – 12.2 Contractor's Hoardings and Fences	Environment Coordinator Project Engineer Site Superintendent	Section 7.2
22	The Contractor must carry out regular (at least every Business Day) inspections for graffiti and unauthorised advertising and must remove or cover any such graffiti or unauthorised advertising identified within the following timeframes: (i) offensive graffiti must be cleaned (removed) or covered within 24 hours;	During Construction	Schedule C1 – SWTC Appendix F5 – 12.2 Contractor's Hoardings and Fences	Environment Coordinator Project Engineer Site Superintendent	Section 7.2

No.	Measures	Timing	Requirement	Responsibility	Reference
	(ii) highly visible yet non-offensive graffiti must be cleaned (removed) or covered within one week; (iii) graffiti that is neither offensive nor highly visible must be cleaned (removed) or covered within one month; and (iv) any advertising material including bill posters must be removed or covered within 24 hours.				
	Construction Environmental Management Framework				
23.	Principal Contractors will develop and implement a Landscape and Temporary Works Management Plan for their scope of works. The Landscape and Temporary Works Management Plan will ensure as a minimum: ▪ Temporary construction works including site hoardings and acoustic sheds consider urban design and visual impacts, including: ▪ 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 business 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	During Construction	CEMF Section 4.4 (a)	Environment & Sustainability Manager Project Engineer Communications and Community Liaison Manager	Section 7.2
24.	The design of all temporary works will require TfNSW approval in relation to urban design and visual impacts	During Construction	CEMF Section 4.4 (b)	Environment & Sustainability Manager Project Engineer Construction Manager	Section 7.2

No.	Measures	Timing	Requirement	Responsibility	Reference
25.	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.	During Construction	CEMF Section 4.4 (c)	Environment & Sustainability Manager Project Engineer Site Supervisor	Section 7.2
26	The principles of Crime Prevention Through Environmental Design will be applied to all works, including temporary works, which have a public interface.	During Construction	CEMF Section 4.4 (d)	Environment & Sustainability Manager Project Engineer Site Supervisor	Section 6 Section 9
27	The following visual and landscape management objectives will apply to the construction of the project: ▪ 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.	During Construction	CEMF Section 12.1	Environment & Sustainability Manager Project Engineer Site Supervisor	Section 1.4
28	Principal Contractors will develop and implement a Visual Amenity Management Plan for temporary works which will include as a minimum: ▪ The visual mitigation measures as detailed in the environmental approval documentation for construction. ▪ Input from an experienced Landscape or Urban Designer. ▪ The maintenance of outward facing elements of site hoarding or noise barriers, including the removal of graffiti and weeds. ▪ 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.	During Construction	CEMF Section 12.2 (a)	Environment & Sustainability Manager Aspect Studios	This Plan Section 7.2

No.	Measures	Timing	Requirement	Responsibility	Reference
	▪ Apply the principals of the NSW Government Crime Prevention through Environmental Design guidelines. ▪ Monitoring requirements. ▪ Compliance record generation and management.				
29.	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.	During Construction	CEMF Section 12.2 (b)	Environment & Sustainability Manager Project Engineer Site Supervisor	Section 9
30.	The Contractor will retain compliance records of any inspections undertaken in relation to visual and landscape measures	During Construction	CEMF Section 12.2 (c)	Environment & Sustainability Manager	Section 9
31.	Examples of visual amenity mitigation measures include: ▪ Wherever feasible and reasonable, vegetation around the perimeter of the construction sites will be maintained. ▪ Temporary construction works will be designed with consideration of urban design and visual amenity as per Section 4.4. ▪ 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.	During Construction	CEMF Section 12.3	Environment & Sustainability Manager	Section 7.2