JOHN HOLLAND

Waterloo Integrated Station Development

SPOIL MANAGEMENT PLAN

DOCUMENT No: SMCSWSWL-JHG-SWL-EM-PLN-000002

Document and Revision History

Document Details	
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Client	Sydney Metro City & Southwest

Revisions

Rev #	Date	Description	Prepared by	Reviewed by	Approved by
0	27/05/2020	Endorsed by the ER	M. Jones	S. Reynolds	A. Knispel
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Management reviews

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August 2023	Scheduled Annual review- minor amendment	T. Rodrigues

Glossary

Term	Explanation
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval
CSSI	Critical State Significance Infrastructure
DPE	Department of Planning & Environment (previously Department of Planning, Industry & Environment)
ECM	Environmental Control Map
ENM	Excavated Natural Material
ERSED	Erosion and Sediment
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
ER	Environmental Representative
GSW	General Solid Waste
ISD	Integrated Station Development
Minister, the	NSW Minister for Planning
OEH	Office of Environment and Heritage
RAP	Remediation Action Plan
REMMs	Revised Environmental Mitigation Measures
RSW	Restricted Solid Waste
SERR	Sustainability and Environment Reporting Register
SMCSW	Sydney Metro City and Southwest
SWTC	Scope of Work and Technical Criteria
TSE	Sydney Metro Tunnel and Station Excavation Contractor
VENM	Virgin Excavated Natural Material

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1 Introduction

1.1 Purpose

John Holland has prepared this Spoil Management Sub Plan to describe how spoil will be managed during the construction of the Waterloo Integrated Station Development (ISD).

This Plan forms part of the Construction Environmental Management Plan (CEMP) for Waterloo ISD and 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 the John Holland EMS (including the Global Mandatory Requirements).

This issue specific sub-plan to the CEMP will be submitted to Sydney Metro for review and to the Environmental Representative (ER) for review and endorsement no later than one month prior to 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 Plan builds on the assessment undertaken in the Environmental Impact Statement (EIS) and Submissions and Preferred Infrastructure Report. The EIS envisaged the total volume of spoil generation would be approximately 2.4 million cubic metres which would be generated predominantly from the tunnelling and station excavations which was completed in 2019. The majority of spoil would be uncontaminated crushed sandstone and shale classified as Virgin Excavated Natural Material (VENM). The spoil generated during construction is expected to be manageable through the application of standard management strategies and project-specific sustainability initiatives.

1.3 Overview of the Waterloo ISD Project

For reference for the Waterloo ISD location is provided in Figure 1.

Figure 1: Waterloo ISD Project Site

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 the 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 have been developed in accordance with the CEMF refer to Table 1 for details

Table 1: Spoil objectives and targets

Objective	Target
Minimise spoil generation where possible	100% reuse or recycling (on or off-site) of usable spoil
Spoil will be managed with consideration to minimising adverse traffic and transport related issues.	No complaints with respect to spoil haulage
Spoil will be managed to avoid contamination of land or water.	No contamination of land and water from spoil
Spoil will be managed with consideration of the impacts on residents and other sensitive receivers.	No dust complaints from Spoil Haulage
Site contamination will be effectively managed to limit the potential risk to human health and the environment	Unexpected finds procedure implemented if contamination is found

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 Sub Plan are outlined in Table 2.

Table 2: 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
Protection of the Environment Operations Act 1997 (POEO Act)	The object of the Act is to achieve the protection, restoration and enhancement of the quality of the NSW environment	All works must be in accordance with relevant sections of the act
Protection of the Environment Operations (Waste) Regulations 2005 (NSW)		All works must be in accordance with relevant sections of the act
Waste Avoidance and Resource Recovery Act 2001	This Act promotes waste avoidance and resource recovery to achieve a continual reduction in waste generation. The Act provides for the development of a state-wide Waste Strategy and introduces a scheme to promote extended producer responsibility for the life-cycle of a product	Spoil reuse will be managed in accordance with relevant sections of the act
Roads Act 1993	Regulates the carrying out of various activities on public roads.	Transport of spoil must be managed in accordance with the act
Contaminated Land Management Act 1997	This Act enables the EPA to respond to contamination that it has reason to believe is significant enough to warrant regulation	Contamination must be managed in accordance with the act

The Plan addresses applicable requirements within the following documents:

- The Sydney Metro City and Southwest – Project Approval – Determination, dated 9th January 2017 and associated modifications
    - 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 & Southwest - Chatswood to Sydenham Staging Report, Rev 6, dated 2nd July 2019;
- Sydney Metro City & Southwest Sustainability Strategy
- John Holland Waterloo ISD Sustainability Management Plan
- Construction Environmental Framework, Chatswood to Sydenham, Feb 2017

2.1 Guidelines

Guidelines and standards relating to the management of spoil include:

- Waste Classification Guidelines, Part 1: Classifying Waste (EPA, November 2014)
- Waste Classification Guidelines, Part 4: Acid Sulfate Soils (EPA, November 2014)
- NSW Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA 2014)
- NSW Government's Waste Reduction and Purchasing Policy
- Draft Protocol for managing asbestos during resource recovery of construction and demolition waste (NSW EPA 2014)
- Guidelines on Resource Recovery Exemptions (Land Application of Waste Materials as Fill) (DECCW, 2011)
- Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes (DEC, 2004)
- Local government guidelines for waste/recycling as appropriate
- Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme (3rd edition) (EPA 2017)
- Consultants Reporting on Contaminated Land: Contaminated Land Guidelines (EPA 2020)
- Contaminated Land Guidelines: Sampling Design Part 1 – application (EPA, 2022)
- Contaminated Land Guidelines: Sampling Design Part 2 – interpretation (EPA, 2022)
- Acid Sulfate Soil Manual (NSW Acid Sulfate Soil Management Advisory Committee 1998).

3 Roles and Responsibilities

Roles and responsibilities related to spoil management during construction is outlined in Table 3.

Table 3: Roles and Responsibilities for spoil management

Role	Responsibility
Project Director	Managing the delivery of the Works including overseeing implementation of the plan Act as Contractor's Representative
Environment and Sustainability Manager	Oversee the implementation of all waste, resource recycling and spoil reduction initiatives. Responsible for managing ongoing compliance with the CoA and environmental document requirements
Commercial Manager	Ensure that relevant spoil management requirements are considered in procuring services
Construction Manager	Oversee spoil movements (including truck numbers and haulage routes) in consultation with the Environment and Sustainability Manager Review spoil management contracts and provide resources to ensure compliance with this plan Attendance at the Traffic and Transport Liaison Group
Sustainability Manager	Track and report spoil management elements against sustainability targets as applicable
Construction Supervisors & Subcontractors	Manage the delivery of the construction process, in relation to spoil management across the site in conjunction with the Environment & Sustainability Manager Report to the Environment and Sustainability Manager any pollution incidents relating to spoil management
Environment & Sustainability Coordinator	Co-ordinate the on-ground application of spoil management measures during construction Monitor and report spoil volumes during construction as applicable to environment and sustainability targets
Engineers	Implement spoil management requirements during construction works
Specialist Consultant	Specialist consultants may be engaged to undertake investigations and respond to unexpected finds or to classify waste and spoil under the relevant waste classification guidelines
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);

Role	Responsibility
	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 Aspects and Impacts

The key aspects and potential impacts in relation to the management of spoil during the works are described in Table 4. Management measures to address these impacts are contained in Section 5. Implementation of mitigation measures will be included on the Environmental Control Map (ECM).

Table 4: Aspects and impact associated with spoil management

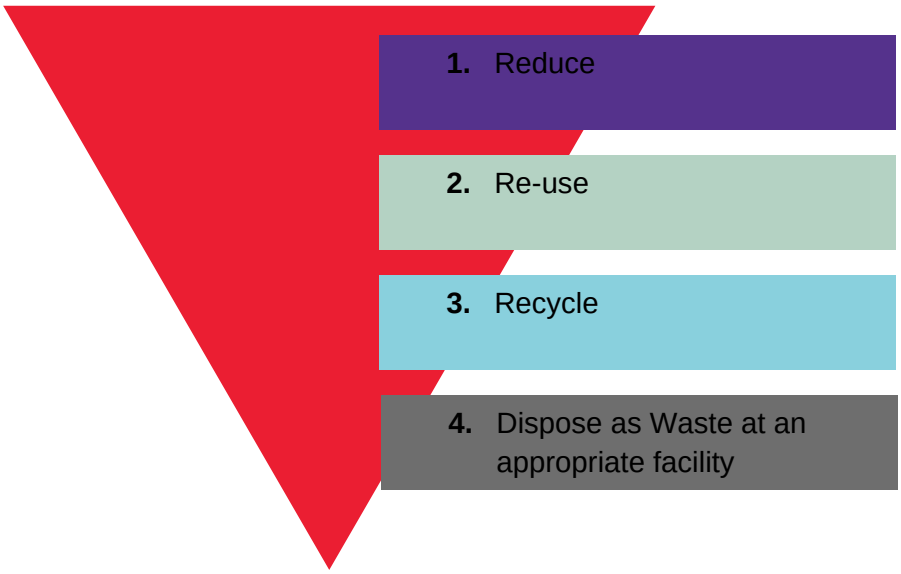
Aspects	Potential Impacts
Air Quality	Dust from temporary spoil stockpiles and loading trucks may reduce air quality
Community	Reduction of air quality as a result of dust generation from spoil handling
Contamination	Cross contamination of spoil from the inappropriate segregation, storage, transport and disposal of spoil
Design specification	Limitations on opportunities to minimise spoil generation further given the current estimated quantities of spoil to be generated during construction
Land use	Licencing and approval requirements may impact (either positively or negatively) on the availability of potential beneficial reuse at off-site locations.
Noise	Disturbance of sensitive receivers as a result of noise associated with spoil management
Resources	Excessive volumes of waste directed to landfill from inadequate collection, segregation, classification and disposal of spoil
Sedimentation	Potential for sediment-laden site runoff from spoil stockpiles
Soil and Water	Pollution from the incorrect storage, handling and disposal of waste.
Sustainability	Availability of suitable reuse sites decreases volume for beneficial reuse Distance to beneficial reuse or disposal sites increases the carbon footprint

5 Spoil Management

5.1 Spoil Management Hierarchy

In alignment with the John Holland commitment to resource use efficiency, the Spoil Management Hierarchy outlined in Figure 2 will be adopted:

Figure 2: Spoil Management Hierarchy



5.2 Spoil Minimisation Initiatives

Spoil minimisation, reuse and recycling practices will be implemented in accordance with the spoil management hierarchy in Figure 2.

Where demolition works are required (e.g. road surfaces), the Project will reuse and recycle materials to the greatest extent practicable.

Further details are included in the Sustainability Management Plan (SMCSWSWL-JHG-SWL-SU-PLN-000001)

5.3 Spoil Generation

The Sydney Metro Tunnel and Station Excavation (TSE) Contractor has completed the majority of excavation and spoil generation on the Waterloo site. The Waterloo ISD project is expected to generate approximately 1640m^3 of spoil during construction. This will generally be generated during piling, utility and landscaping activities.

Spoil, other than Virgin Excavated Natural Material (VENM), generated will be assessed, classified and managed in accordance with the EPA's Waste Classification Guidelines prior to offsite disposal. Different types of spoil will be segregated and stored separately to prevent mixing and across contamination. The EPA's Resource Recovery Orders and Exemptions will be considered when classifying spoil for disposal or reuse.

5.4 Classification

5.4.1 VENM

Virgin excavated natural material means natural material (such as clay, gravel, sand, soil or rock fines) that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities. That does not contain sulfidic ores or soils, or any other waste, and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a public notice published in the NSW Government Gazette.

John Holland as the generator of the VENM, or its Environmental Consultant will consider the following four questions when classifying material as VENM:

1. Are manufactured chemicals or process residues present?
2. Are sulfidic ores or soil present?
3. Are naturally occurring asbestos soils present?
4. Is there any other waste present?

If material meets the definition of VENM it can be reused on or offsite without prior testing. However, if there is any doubt as to whether the material is VENM, John Holland will sample and test the material as per the excavated natural material resource recovery exemption to confirm that the material is free of contaminants.

5.4.2 ENM

If spoil is unable to be classified as VENM it will be sampled, and tested to determine whether it meets the excavated natural material (ENM) classification criteria in accordance with the Protection of the Environment Operations (Waste) Regulation 2014 (the Regulation) current general resource recovery exemption, the excavated natural material exemption 2014:

Excavated natural material means naturally occurring rock or soil (including but not limited to materials such as sandstone, shale, clay and soil) that has:

(a) Been excavated from the ground, and

(b) Contains at least 98% by weight natural material, and

(c) Does not meet the definition of Virgin Excavated Natural Material in the Act

ENM does not include material that has been processed or contains acid sulphate soils or potentially acid sulphate soils.

5.4.3 General Soil Waste

Spoil not classified as either VENM or ENM due to contamination from either construction material or other sources shall be characterised in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (EPA 2014). General Solid Waste (GSW) (Non putrescible) is any waste that is not classified as special waste, liquid waste, hazardous waste, restricted solid waste or general solid waste (putrescible).

5.4.4 Special Waste

Special waste is a class of waste that has unique regulatory requirements. The potential environmental impacts of special waste need to be managed to minimise the risk or harm to the environment or human health.

Special waste means any of the following:

- Clinical and related waste
- Asbestos waste
- Waste tyres
- Anything classified as special waste under an EPA gazettal notice.

Of the above special waste types, asbestos has the potential to be present (e.g. utility trenches) Disposal of asbestos offsite will be conducted by an appropriately licensed waste contractor who holds a current license to transport such waste. The waste contractor will provide:

- A copy of their current license (record to be retained).
- Waste classification reports (as per EPA Waste Classification Guidelines)
- Clearance certificates
- Asbestos waste disposal quantities via weighbridge dockets
- Confirmation that the asbestos waste was disposed at a suitably licensed facility with an Environmental Protection License.
- Records for all Listed/Controlled/Regulated waste (in the form of a Waste Transport Certificate, EPA's online WasteLocate or equivalent)

Further details have been included in the Health and Safety Management Plan.

All monitoring and reporting of waste will be conducted as outlined in Section 6 of this plan.

5.4.5 Restricted Solid Waste

If either the Specific Contamination Concentration (SCC) or Toxicity Characteristics Leaching Procedure (TCLP) values for spoil exceed threshold guidelines for GSW, the waste must be classified as Restricted Solid Waste. It is not expected that the spoil excavated at Waterloo ISD will be classified as restricted solid waste.

5.4.6 Resource Recovery Exemptions

The Protection of the Environment Operations (Waste) Regulation 2014 enables the EPA to issue 'resource recovery exemptions' which allow for the beneficial reuse of wastes via land application or for use as a fuel. These exemptions enable a project to comply with the principle of 'wastes to resources for beneficial reuse' (where the wastes are fit for beneficial reuse). During the project, materials may be encountered that do not meet the VENM or ENM classification but are also not contaminated material. In these circumstances the Project will check for existing resource recovery exemptions such as:

- The excavated public road material exemption 2014 (EPA);
- The reclaimed asphalt pavement exemption 2014 (EPA);
- The recovered aggregate exemption 2014 (EPA).

5.5 Spoil Quantities

During construction of Waterloo ISD the volume of spoil generated will be minimal as the scope of work does not include large scale excavation as the station box has been excavated by the Sydney Metro TSE Contractor. Spoil generating activities for the project include utilities, piling and landscaping.

The estimated quantities of spoil to be generated (subject to detailed design) are detailed in Table 5.

Table 5: Spoil Generation quantities

Source of Spoil	Approx. Quantities
Utilities	1000 m^3
Piling	500 m^3
Landscaping	140 m^3

5.6 Spoil Reuse

The spoil reuse hierarchy outline in this plan is consistent with the preferred hierarchy identified in Chapter 24 of the EIS. The spoil reuse hierarchy for the project is outlined in Table 6. The target for spoil recycling or reuse for the project is 100%. It is anticipated that the reuse will occur at an off-site location.

Table 6 Spoil Reuse Hierarchy

Priority	Re-use Options	Possible Reuse Options
1	Within the project	Re-use spoil in the project for fill embankments and mounds within a short haulage distance of the source Re-use spoil to restore any pre-existing contaminated sites within the project boundary Re-use spoil as a feed product in construction materials.
2	Environmental Work	Re-use spoil for coastal protection, such as beach nourishment and land raising Re-use spoil in flood mitigation projects
3	Other development projects (including other Sydney Metro projects)	Re-use spoil for fill embankments and mounds on projects within a financially feasible transport distance of the site Re-use spoil for land reclamation or remediation projects Re-use sand for manufacturing concrete and shale for manufacturing bricks and tiles.
4	Land restoration	Re use spoil to fill disused facilities (for example mines and quarries) to enable either future development or site rehabilitation
5	Landfill Management	Re-use spoil to cap completed landfill cells Re-use spoil in daily covering of landfill waste

The estimate volume of spoil generated and the breakdown between potential reuse onsite / offsite is outlined in Table 7. All records detailing the beneficial reuse of spoil either within the project or at offsite locations will be documented and compliance documents will be retained as outlined in Section 8.

Table 7 Potential spoil reuse quantities

Source of Spoil	Approx. Quantities	Onsite reuse	Offsite Reuse / disposal
Utilities	1000 m^3	800 m^3	200 m^3
Piling	500m^3	0 m^3	500 m^3
Landscaping	140 m^3	0 m^3	140 m^3

All spoil movements will be managed through a John Holland Spoil Permit Form. This form will cover:

- Importing spoil to site (such as VENM, ENM, Roadbase etc)
- Exporting material off the project site (to landfill, other developments etc)

This process will ensure the following documentation is obtained:

- Waste Classification, VENM reports etc
- EPL of the licencing facilities
- EPA exemptions of receiving developments and appropriate development consents
- Section 143 certificates
- EPA exemption compliance assessment

All waste would be assessed, classified, managed and disposed of in accordance with the NSW Waste Classification Guidelines. 100 per cent of spoil that can be reused would be beneficially reused in accordance with the project spoil reuse hierarchy. The following general management requirements will be implemented for the Waterloo ISD site:

- Handling spoil to minimise potential for air or water pollution
- Minimise traffic impacts associated with spoil removal
- Ensure that temporary spoil stockpiles are not within or in close proximity to sensitive areas identified in ECM's, or within flood prone areas
- Manage temporary spoil stockpiles in accordance with the Soil & Water Procedure and Air Quality Procedure
- Undertake haulage of spoil off-site in accordance with the Construction Traffic Management Plan which includes haulage roads, hours of work, and queuing
- Implement measures in the Air Quality Procedure and Soil and Water Procedure to prevent the tracking of spoil mud onto roads and the generation of both wheel and load generated dust, for trucks transporting spoil off-site
- Ensure all trucks transporting spoil off-site are appropriately licenced to carry the materials to appropriately licenced waste facilities
- Maintain all waste sampling and classification results and waste transfer dockets/ receipts for the life of the project in the waste register
- Any stockpiles containing weeds that will be reused on site will be appropriately treated to prevent weeds being spread

5.6.1 Onsite Spoil Management

Following excavation of spoil, it will be stockpiled and classified for reuse (either on or offsite) or offsite disposal. Different types of spoil will be segregated as far as practicable and stored separately to prevent mixing and cross-contamination.

All stockpiles will be managed in accordance with the requirements of the 'Blue Book' to prevent erosion and minimise the potential for pollution. Water based organic polymers will be used for short term control of risks associated with erosion and pollution. Stockpiles would be located away from sensitive receivers, where feasible and reasonable, and protected from the elements through barriers, covering or establishing a cover crop.

Spoil that is to be stockpiled for an extended period (greater than 10 days) will be managed to prevent erosion and minimise the potential for pollution. Typically water based polymers or vegetative stabilisation will be used. Stockpiles must not be placed in drainage lines, channels or paths.

Stockpiling locations will be shown on Environmental Control Maps (ECM) and the Erosion and Sediment Control Plans (ESCP)s.

5.6.2 Offsite Reuse or Disposal

All material will be classified in accordance with the classifications in Section 5.4. Material that can be reused off site include:

- VENM
- ENM
- EPA Resource Recovery Exemption/Order disposal locations

Off Site disposal would occur for the below:

- GSW
- RSW
- Special or Hazardous Waste

Potential spoil offsite reuse locations will be identified by the Construction Manager and Environment and Sustainability Manager. The following will be completed:

- Check that appropriate approvals are in place for the receiving site,
- Check that a s143 Notice has been completed by the reuse location owner and / or site operator
- Agree to commercial terms with the site operator and / or owner, and
- Ensure that relevant CoA, environmental, community and traffic impacts are managed under the approved CEMP and sub plans, Community Communication Strategy and the Construction Traffic Management Plan (CTMP) including approved haulage routes.

A Waste Receival Site Register will be maintained by the Environment and Sustainability Coordinator and will include details of the recycling, transfer and disposal sites assessed and approved by the Project to receive the Waterloo ISD spoil and waste material.

Further details on this process are included in the John Holland Waste, Recycling and Spoil Procedure.

Beneficial reuse of spoil either onsite or offsite will be conducted in accordance with relevant legislation and resource recovery exemptions. Data on waste recycling and disposal will be included in the Sydney Metro City and Southwest Sustainability Reporting Template (SM-18-00043350) and included in the Contractors Progress Report (refer Section 8.2).

5.7 Tracking

Waste (including spoil) removed from site will be tracked using a docket system which will be recorded in the Sustainability and Environment Reporting Register (SERR) (SMCSWSWL-JHG-SWL-EM-REC-000001). The register will be completed daily (during spoil activities) and capture the following information:

- Date transported
- Material Type
- Waste Classification (and associated report number where relevant)
- Quantity
- Waste receival details, including the site or project name, location, capacity, site owner, and the tier the site is classified as under the spoil reuse hierarchy;
- Truck registration (non-skip waste)
- Docket numbers (haulage and receival site).

Copies of waste dockets will be retained electronically on-site.

5.8 Transportation and Handling

Where spoil produced, cannot be reused on site, it will be transported from site using an appropriately licensed waste management contractor. Contractors will be required to provide tracking receipts to confirm appropriate disposal of spoil from the works and will be required to report spoil quantities monthly.

Specialist licenced waste contractors must be used when removing ‘special waste’ or ‘hazardous waste’ in accordance with the Protection of the Environment Operations (Waste) Regulation 2005.

5.9 Spoil Haulage

Haulage routes associated with the movement of spoil are described in the Construction Traffic Management Plan. Spoil movements would be undertaken via truck. Typical controls would be as follows:

- The public would be notified of proposed traffic changes as outlined in the Waterloo ISD Community Communication Strategy.
- Access to existing properties and buildings will be maintained
- Planning to allow sufficient space for truck layover. Truck queuing can be wholly accommodated on site with minimal risk of truck parking/queuing on surrounding roads.

Notwithstanding Condition E36 of the project approval and subject to Condition E47, Condition E48 (e) allows the haulage and delivery of spoil and materials 24 hours per day, seven (7) days per week. Noise impacts will be managed in accordance with the Construction Noise and Vibration Management Plan.

The key principle for spoil haulage by road is to select the most appropriate route which will minimise impact and facilitate efficient access to arterial roads. The following conditions apply to haulage:

- The body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to minimise any spill or escape of any dust, waste, or spoil from the vehicle or trailer;
- Mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the premises, is removed to the greatest extent practicable before the vehicle, trailer or motorised plant leaves the premises; and
- Road surfaces subject to the tracking of material by vehicles leaving the premises are effectively cleaned at appropriate times where required and subject to traffic volumes.

6 Training, Compliance and Reporting

6.1 Compliance and Monitoring

Spoil management will be inspected as part of a weekly environment and sustainability site inspection as outlined in Section 11.1 of the CEMP. The inspections would typically include the following:

- Stockpile locations, volume, effectiveness of ERSED controls and classification
- Compliance with haul routes and gates
- Checking that loads are covered
- Exit controls and mud tracking on roads

Results of the weekly inspection will be recorded and findings and any associated corrective actions will be communicated to staff during pre-starts, toolbox and team meetings as appropriate.

Compliance records will be retained and will include:

- Material movement approval forms
- Records of inspections in relation to spoil management
- Records detailing the beneficial re-use of spoil.
- Waste dockets for any spoil disposed of to landfill sites.
- Sustainability & Environmental Reporting Register SERR
- 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.

Auditing of the implementation of this Plan will be undertaken in accordance with the CEMP Section 7.

6.2 Training

Personnel will receive training appropriate to their role in spoil management on the project. Ongoing toolbox talks covering the requirements for management of spoil will be used to raise awareness to the wider project team.

The site induction will be utilised to train all staff in the general requirements of spoil management.

Specific training relating to aspects associated with the management of spoil will be provided to John Holland project staff as identified in the CEMP and training matrix, or as otherwise deemed necessary to address an event or to manage risk.

6.3 Reporting

John Holland will track all spoil generated by the project. All spoil data will be reported monthly and recorded in the projects SERR. Applicable data will be provided to Sydney Metro using the Sustainability Reporting Template and as required by the compliance tracking program (CoA A30).

Progress against spoil targets outlined in Section 1.4 will be reported on in accordance with section 7.3 of the CEMP. All compliance records, spoil classification reports and waste disposal records will be retained by John Holland as required.

7 Review & Improvement

This Plan will be reviewed by Sydney Metro and endorsed by the ER prior to the commencement of Construction. This Plan will be reviewed by John Holland annually and updated as applicable to ensure it remains consistent with Project priorities, risk management, Sydney Metro requirements 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 the Project Plans as directed by Sydney Metro under the Deed.
- Where deemed appropriate in relation to items raised within inspections or audits.

Where a review of Spoil Management performance, based on inspection and audit results, indicates that current mitigation measures are not effective, the Environment and 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.

7.1 Records

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

8 Enquiries, Complaints and Incident Management

The procedure for the management of environmental and social impacts associated with spoil transfer and reuse will be undertaken in accordance with the CEMP Section 12 Incident and Emergency Management and the Community Consultation Strategy.

All 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.

9 Appendix A – Spoil Compliance Matrix

Clause	Detail	Reference
Construction Environmental Management Framework		
6.1 a	The following spoil management objectives will apply to the construction of the project: i. Minimise spoil generation where possible; ii. The project will mandate 100% reuse or recycling (on or off-site) of usable spoil; iii. Spoil will be managed with consideration to minimising adverse traffic and transport related issues; iv. Spoil will be managed to avoid contamination of land or water; v. Spoil will be managed with consideration of the impacts on residents and other sensitive receivers; and vi. Site contamination will be effectively managed to limit the potential risk to human health and the environment.	Section 1.4
6.2 a	Principal Contractors will develop and implement a Spoil Management Plan for their scope of works. The Spoil Management Plan will include as a minimum: i. The spoil mitigation measures as detailed in the environmental approval documentation	This table
	ii. The responsibilities of key project personnel with respect to the implementation of the plan;	Section 3
	iii. Procedures and methodologies for the haulage and disposal locations, storage and stockpiling arrangements, including those for virgin excavated natural material, contaminated and unsuitable material;	Section 5
	iv. Procedures for the testing, excavation, classification, handling and reuse of spoil;	Section 5.6
	v. Measures that will be implemented to both reduce spoil quantities and maximise the beneficial reuse of spoil which will be generated during the performance of the TSE Contractor's Activities, including how spoil generation is minimised through the design development process;	N/A for Waterloo ISD

Clause	Detail	Reference
	vi. Details, links or references to where traffic movements in relation to spoil are described, and measures that will be implemented to minimise traffic and noise impacts associated with haulage and disposal of spoil;	Section 5.8 & 5.9
	vii. Quantities for reuse of spoil within the Construction Site, for beneficial reuse of spoil off site and for spoil disposal	Section 5.6
	viii. Processes and procedures for the management of the environmental and social impacts of spoil transfer and reuse	Section 8.0
	ix. A register of spoil receipt sites that includes the site or project name, location, capacity, site owner and which tier the site is classified as under the spoil reuse hierarchy;	Section 5.7
	x. Spoil management monitoring requirements; and	Section 6.1
	xi. Compliance record generation and management.	Section 6.1
6.2 b	Spoil management measures will be included in the regular inspections undertaken by the Contractor, and compliance records will be retained. These will include: I Records detailing the beneficial re-use of spoil either within the project or at off-site locations; and ii. Waste dockets for any spoil disposed of to landfill sites.	Section 6.1
Project Conditions of Approval		
C1	A Construction Environmental Management Plan (CEMP) must be prepared in accordance with the Construction Environmental Management Framework (CEMF) included in the PIR and the Department's Guideline for the Preparation of Environmental Management Plans to detail how the performance outcomes, commitments and mitigation measures specified in Chapter 11 of the PIR, as amended by the documents listed in A1, will be implemented and achieved during construction.	Waterloo ISD Construction Environmental Management Plan and this Plan
C8	Construction must not commence until the CEMP and all CEMP sub-plans have been approved by the Secretary. The CEMP and CEMP sub-plans, as approved by the Secretary, including any minor amendments approved by the ER (or AA in regards to the Noise and Vibration sub-plan), must be implemented for the	Waterloo ISD Construction Environmental

Clause	Detail	Reference
	duration of construction. Where the CSSI is being staged, construction of that stage is not to commence until the relevant CEMP and sub-plans have been approved by the Secretary.	Management Plan and this Plan Section 7
E47	An Out of Hours Work Protocol for the assessment, management and approval of work outside of standard construction hours, as defined in Condition E36 of this approval, must be prepared in consultation with the EPA and submitted to the Secretary for approval before construction commences for works not subject to an EPL. The protocol must include: a) the identification of low and high risk construction activities; b) a risk assessment process in which the AA reviews all proposed out of hours activities and identifies their risk levels; c) a process for the endorsement of out of hours activities by the AA and approval by the ER for construction activities deemed to be of: i. low environmental risk; or ii. high risk where all construction works cease by 9pm. All other high risk out of hours construction must be submitted to the Secretary for approval unless otherwise approved through an EPL. The protocol must detail standard assessment, mitigation and notification requirements for high and low risk out of hours works, and detail a standard protocol for referring applications to the Secretary.	Section 5.9
E106	Waste generated during construction and operation is to be dealt with in accordance with the following priorities; a) waste generation is to be avoided and where avoidance is not reasonably practicable, waste generation is to be reduced b) where avoiding or reducing waste is not possible, waste is to be re-used, recycled, or recovered c) where re-using, recycling or recovering waste is not possible, waste is to be treated or disposed of.	Section 5.1

Clause	Detail	Reference
Revised Environmental Management Measures		
WM1	All waste would be assessed, classified, managed and disposed of in accordance with the NSW Waste Classification Guidelines	Section 5.4
WM2	100 per cent of spoil that can be reused would be beneficially reused in accordance with the project spoil reuse hierarchy	Section 5.1
John Holland Global Mandatory Requirements		
11.1	A plan, describing methods to minimise waste and maximise efficient use of resources must be implemented and monitored	This Plan
11.6	Recycled materials procured for use on site must be assessed to ensure they meet quality, contractual and legal requirements	Section 5.0
11.7	Materials for re-use, recycling or disposal must be segregated and located in areas that are clearly defined and well signed	Section 5.0
11.8	Spoil and inert waste to be reused off site must be risk assessed and meet legal requirements prior to transportation	Section 5.6
11.9	Spoil and waste for disposal must be classified and transported by appropriately licenced contractors to licenced or approved facilities	Section 5.7 and 5.8