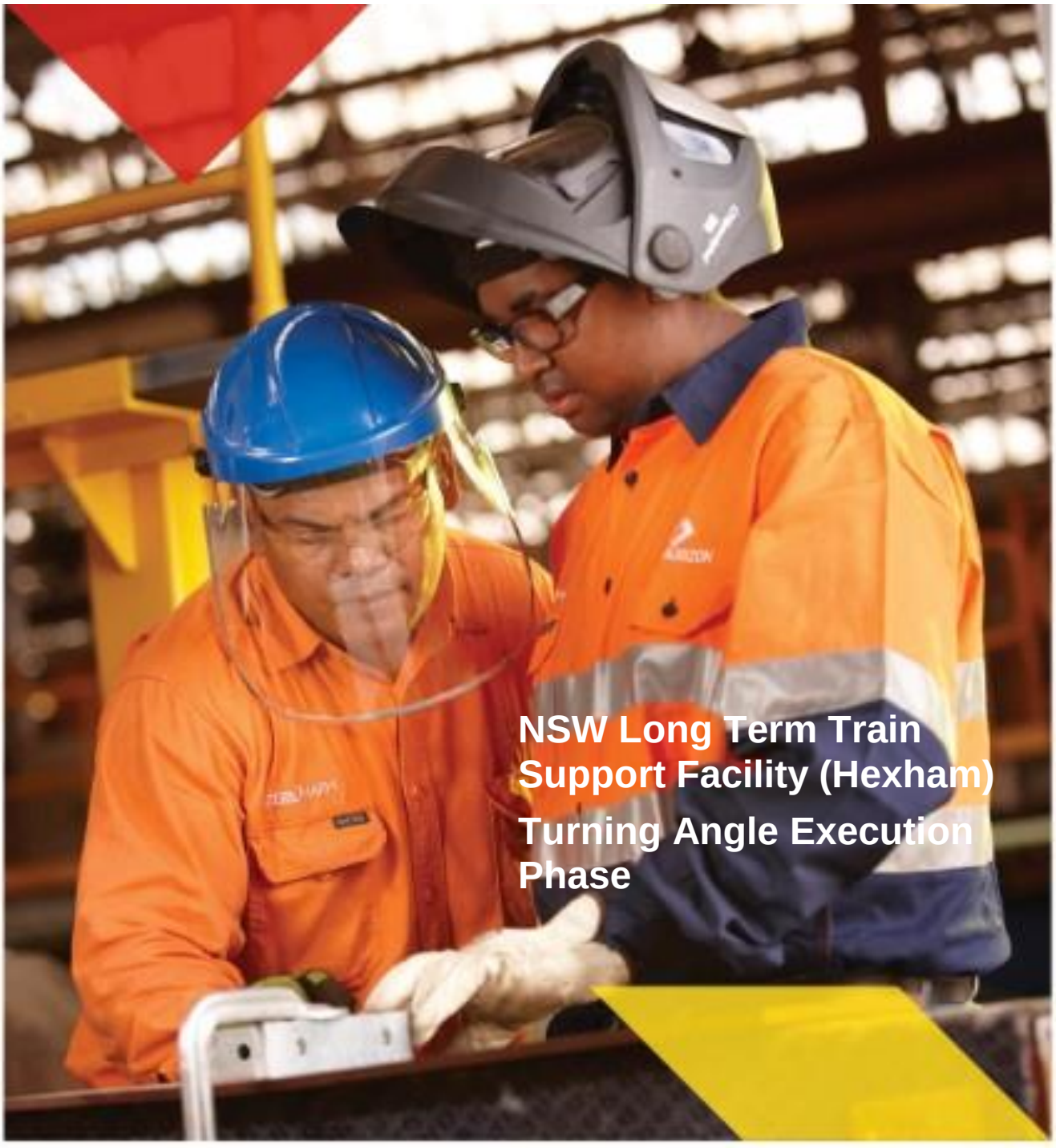
AURIZON

October 2019

Construction Waste and Spoil Management Plan



NSW Long Term Train Support Facility (Hexham)

Turning Angle Execution Phase

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Document Approval/ Sign Off

Position	Name	Signature	Date
Project Manager	Julian Bailey		20/12/19

Version Control

Date	Version	Author/Modified By	Comments
19/01/2019	1.0	Harry Egan	Final

1.0 Purpose

This Construction Waste and Spoil Management Plan (CWSMP) supplements the Project Construction Environmental Management Plan (CEMP) for the construction phase of the NSW Long Term Train Support Facility (TSF).

This CWMP provides:

- Waste identification protocols;
- Waste handling, storage and disposal procedures;
- Spoil management procedures;
- Details in relation to:
    - Sewage treatment and disposal, and
    - Wastewater treatment and disposal.

This CWSMP addresses the relevant Ministers Conditions of Approval (MCoA) as shown in Table 1.1.

Table 1.1 Relevant Ministers Conditions of Approval

MCoA	Task Detail	Addressed
C25	The Proponent shall ensure that all liquid and/or non-liquid waste generated on the site is assessed and classified in accordance with *Waste Classification Guidelines* (DECCW, 2009), or any future guideline that may supersede that document, and that it is appropriately handled.	Section 2.0
C26	The Proponent shall maximise the reuse and/or recycling of waste materials generated on site as far as practicable, to minimise the need for treatment or disposal of those materials off site.	Section 2.0
C27	The Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*, if such a licence is required in relation to that waste. This condition is independent of the operation of the Brancourts facility and Sewerage Treatment Plant.	Section 3.4 and 5.1
C28	All waste materials removed from the site shall be appropriately tracked and shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.	Section 3.3
E62iii	Measures to monitor and manage spoil and fill including earthworks volumes, details of how spoil and fill would be handled, stockpiled, classified, used and disposed of, and a stockpile management protocol detailing location criteria that would guide the placement of stockpiles and minimum management measures (including rehabilitation) that would be implemented to avoid and/or minimise amenity impacts to surrounding residents and environmental risks (including to surrounding watercourses and wetlands).	Section 5.1 Table 5.1

1.1. Indicative Construction Activities Schedule

The project is expected to be completed over a nominal duration of 6 months from approval. A range of activities with waste impacts are involved during that time and these are summarised in Table 1.2.

Table 1.2 Indicative Construction Stages and Scheduling

Construction Phase	Activity	Indicative Schedule
Mobilisation	• Tarro interchange dilapidation survey • Delineation of sensitive areas • Site establishment	December 2019
Civil Earthworks	• Clear and grub • Strip topsoil • Prepare and trim subgrade • Boxcut spoil • Replace topsoil and hydro mulch •	06 January 2020 to 30 April 2020
Remediation	• PASS neutralisation	06 January 2020 to 30 April 2020
Rail Pavement	• Rock layer • Structural layer • Capping layer	17 February 2020 to 03 April 2020
Civil Stormwater	• Installation of box culverts	06 March 2020 to 15 April 2020
Headwalls	• Installation of box culverts	23 March 2020 to 15 April 2020
Track Works	• Placement of ballast • Installation of sleepers and rail • Installation of turnouts • Tamping • Construction of level crossing	06 April 2020 to 12 May 2020
Demobilisation	• Site clean-up and demobilisation	13 May 2020 to 15 May 2020

2.0 Construction Waste Generation

Waste will be minimised through accurate quantity estimates to avoid over-ordering of materials and implementation of the NSW Government waste management hierarchy of:

1. Avoid;
2. Reduce;
3. Re-use;
4. Recycle; and
5. Dispose.

Where a waste cannot be avoided, reused or recycled it will be classified and appropriately disposed of. Waste generated by the project will undergo a classification process in accordance with the Waste Classification Guidelines (NSW EPA, 2014) (the Guidelines): refer Section 3.

Waste will be generated from different activities during construction and are listed in Table 2.1 below.

Table 2.1 Waste Sources

Activity	Waste type
Earthworks	• Grass • Vegetation • Spoil • ASS • Contaminated soil
Rail track installation	• Steel
Office/compound use	• General waste (food scraps, plastic, cans, paper) • Sewage • Wastewater
Road construction	• Asphalt • Concrete • Steel • Formwork • Timber

3.0 Classification of Waste Streams

3.1. Spoil and Fill

Spoil is defined as any earthen material that is surplus or unsuitable for reuse on site. Fill is earthen material excavated from either along the corridor and relocated elsewhere as compacted fill or imported from off site for utilisation in earthworks.

The classification of spoil will be undertaken in accordance with the Guidelines, including the implementation of a spoil sampling and analysis program during excavations. This will determine the type of spoil:

- Virgin Excavated Natural Material (VENM) has no specific restrictions from the Office of Environment and Heritage (OEH) for reuse options;
- Clean fill, if deemed suitable by the waste classification, can be used as fill on site. Topsoils are suitable for reuse in rehabilitation works; and
- Potentially contaminated material requires management or disposal in accordance with the Guidelines and the Site Management Plan.

Erosion and sediment controls would be implemented as specified in the Stormwater Management Plan.

3.2. Classification of Waste Streams

Where waste cannot be avoided, reused or recycled it will be classified and appropriately disposed of. Waste generated by the project will undergo a classification process in accordance with the the Guidelines to classify waste into the following streams:

- Special waste (e.g. asbestos and tyres);
- General solid waste (putrescible) (e.g. general litter and food waste);
- General solid waste (non-putrescible) (e.g. glass, paper, building demolition waste, concrete);
- Restricted solid waste;
- Liquid waste (e.g. oil, fuels, chemicals and pesticides); and
- Hazardous waste (e.g. lead-acid batteries and lead paint).

Each waste stream has particular handling, treatment, tracking and disposal requirements under the Guidelines. If a material is re-used on site it is not classified as a waste.

Waste generated by the Project will undergo the following classification process:

Step 1: Is the waste special waste?

Special wastes are:

- Clinical and related;
- Asbestos; and
- Waste tyres.

Definitions and management options are provided in the the Guidelines.

Step 2: If not special, is the waste liquid waste?

If it is established that the waste is not special waste it must be decided whether it is 'liquid waste'. Liquid waste means any waste that:

- Has an angle of repose of less than 5 degrees above horizontal; or
- Becomes free-flowing at or below 60 degrees celsius or when it is transported; or
- Is generally not capable of being picked up by a spade or shovel.

Liquid waste products on this Project would be limited to:

- Water from on site treatment plants and sediment basins;
- Waste oils/fuels/chemicals;
- Concrete washout;
- Paint; and
- Effluent (either connected to sewerage system or in Port-a-loos).

Liquid wastes are sub-classified into:

- Sewer and stormwater effluent;
- Trackable liquid waste according to *Protection of the Environment Operations (waste) Regulation 2005;*
- Schedule 1 waste to which waste tracking requirements apply; and
- Non-Trackable Liquid Waste.

Step 3: If not liquid, has the waste already been pre-classified by OEH?

The NSW EPA has pre-classified several commonly generated wastes in the categories of hazardous, general solid waste (putrescible) and general solid waste (non-putrescible). If a waste is listed as 'pre-classified', no further assessment is required.

Step 4: If not pre-classified, is the waste hazardous?

This is defined in accordance with the Australian Code for the Transport of Dangerous Goods and includes items such as: explosives, flammable solids, substances liable to spontaneous combustion, oxidizing agents, toxic substances and corrosive substances.

Step 5: If not hazardous, undertake chemical assessment to determine classification. If the waste is not chemically assessed, it must be treated as hazardous.

Chemical assessment (as per the Guidelines) Part 1, Appendix 1) will determine if the waste is classified as 'general solid waste', 'restricted solid waste' or 'hazardous waste'. If a chemical assessment is not undertaken, the waste must be treated as hazardous waste.

Step 6: If the waste is chemically assessed as general waste, undertake further testing to determine if the waste is putrescible or non-putrescible. If this test is not undertaken, you must manage the waste as if it were 'general solid (putrescible)'.

Non-putrescible materials typically do not:

- Readily decay under standard conditions;
- Emit offensive odours; and
- Attract vermin or other vectors (such as flies, birds and rodents).

Table 3.1 Waste Disposal

Waste type	Waste Classification	Proposed re-use/recycling/ disposal method
Vegetation	General solid waste (non-putrescible)	Mulch and re-use native vegetation onsite. Weeds will be managed in accordance with the Flora and Fauna Management Plan (CEMP Annexure 13).
Concrete, asphalt and gravel	General solid waste (non-putrescible)	Crushed and used as backfill or road base.
Scrap metal	General solid waste (non-putrescible)	Off site recycling.
Steel reinforcing	General solid waste (non-putrescible)	Off site recycling
Conduits and pipes	General solid waste (non-putrescible)	Off site recycling
Packaging materials (including wood, plastic, cardboard and metals)	General solid waste (non-putrescible)	Off site recycling
Metal and electrical cabling	General solid waste (non-putrescible)	Off site recycling
Timber formwork	General solid waste (non-putrescible)	Reuse onsite where possible or offsite recycling.
ENM (excavated natural material)	If material is taken off site it will be classified in accordance with Waste Classification Guidelines (DECCW 2009)	Beneficial reuse onsite where possible.
Potentially contaminated soils		Off site disposal at an approved facility.
		Off site reuse as engineering fill or used in earthworks.
Empty oil and other drums	General solid waste (non-putrescible)	Off site disposal at an approved facility.
Pesticides, herbicides, used spill materials, paint, radiator fluid, hydraulic fluid and other chemicals	Hazardous waste	Off site disposal at an approved facility.
Tyres	Special waste	Off site disposal at an approved facility.
Oil, grease, fuel, chemicals and other fluids	Liquid waste	Off site disposal at an approved facility.
Lead Batteries	Hazardous waste	Off site disposal at an approved facility.
Domestic waste generated by workers (e.g. food waste)	General solid waste (non putrescible)	Off site disposal at an approved facility.
Paper, cardboard, plastic, aluminium cans, glass bottles	General solid waste (non putrescible)	Off site recycling.
Sewage	Sewer effluent	On site treatment and irrigation (refer CEMP Annexure11).
Ink cartridges and other IT waste	General solid waste (non putrescible)	Off site recycling.
Wastewater (e.g. washdown water, bunded water)	Stormwater effluent	On site recycling system (refer CEMP Annexure 11).
Asbestos	Hazardous waste	Off site disposal at an approved facility.

3.3. Waste Tracking

OEH specifies categories of waste that are subject to specific monitoring and reporting requirements in accordance with the Guidelines. The list of trackable wastes is provided in Schedule 1 of the Protection of the Environment Operations (Waste) Regulation 2005 and reproduced in Annexure 1. The following trackable wastes are likely to be generated by the Project construction:

- Asbestos waste;
- Waste tyres;
- Contaminated soil.

Note: Wastes only need to be tracked under the PoEO Act when they are removed from site.

The construction contractor must:

- Obtain a consignment authorisation number from a licensed waste facility;
- Complete the waste transport certificate for each load (using the EPA approved online tracking system);
- Use a licensed waste transporter to transport the waste to a licensed facility; and
- Keep records for four years for auditing purposes.

3.4. Off Site Waste

Waste generated from off-site activities will not be received at the site for storage, treatment, processing, reprocessing, or disposal, unless permitted by a licence under the PoEO Act.

4.0 Construction Demobilisation

Measures for rehabilitating areas disturbed by construction and that are not required for ongoing activities associated with construction (such as construction compounds and stockpile areas) are detailed in Table 5.1 under the sub-heading Construction Demobilisation.

Disturbed areas will be regraded to their original contours or to a landform that blends in to the surrounding landscape and does not adversely affect surface water runoff. These areas will be seeded and/or planted with locally endemic flora species, and protected from sediment loss and erosion through the installation of controls in accordance with Landcom (2004) Managing Urban Stormwater: Soils and Construction (the Blue Book) and the identification and establishment of these areas as “no-go” zones.

Areas that are within or adjacent to EECs are acknowledged to be of particular importance and care will be taken to ensure locally endemic flora species are used in their revegetation and weed propagules are kept out of such areas in accordance with the CFFMP.

5.0 Environmental Impacts and Controls

5.1. Environmental Control Measures

Table 5.1 below details the specific waste control measures. The strategies are based on the recommendations of the EA, the Minister's Conditions of Approval and the Statement of Commitments.

Table 5.1: Environmental Control Measures

Environmental Control Measure	Person Responsible	Timing/ Frequency	Completed (initials/date)
Training and Induction			
Waste management training will form part of the site inductions.	Contractor	As required	
Mitigation measures from this plan will be incorporated into relevant Work Method Statements (WMSs).	Contractor	As required	
Pre-construction			
Procurement of materials will be planned and managed to avoid the over-ordering of products and minimise excess packaging.	Contractor	As required	
Procurement will priorities the use of recycled products.	Commercial Manager	As required	
Biodegradable materials are to be used for erosion control matting within riparian areas.	Contractor	As required	
During Construction			
All waste and fill materials, whether imported or removed from site shall be assessed, classified, managed and disposed of in accordance with the Guidelines.	Contractor	As required.	
Waste will be managed and disposed of in accordance with the POEO Act. Wastes that are unable to be reused or recycled will be classified and disposed of offsite at an appropriately licensed waste facility.	Contractor	As required	
All waste will be transported offsite by appropriately licenced contractors.	Contractor	As required	
Waste will be sorted onsite into designated bins for steel, concrete, timber, plastic and scrap metal.	Contractor	As required	
Bins will be provided at the site amenities for the separation and recycling of paper/cardboard, plastic, glass and aluminium. Other general waste will be disposed of to landfill. A separate and designated waste bin must be provided for contaminated soils which result from spills. The bin is to be appropriately identified, have a lid, and be sufficient to accommodate a minimum of 1000L. If a spill occurs, all contaminated soils must be relocated to the bin as soon as is possible within a period of 48 hours. Additionally, separate bins or secure storages are to be provided for hazardous wastes so that they can be stored separately from general, recyclable or else non-compatible wastes.	Project Manager	As required	

Environmental Control Measure	Person Responsible	Timing/ Frequency	Completed (initials/date)
All loads of waste removed form site will be covered to prevent spillage.	Contractor	As required	
Hazardous wastes will be managed by appropriately qualified and licenced contractors, in accordance with the requirements of *Environmentally Hazardous Chemicals Act 1985* and the OEH waste guidelines.	Contractor	As required	
Any coarse woody debris cleared or removed from site (including timber from felled trees, and in particular hollow bearing timber) is to be relocated to the former Northern Offset site to enhance the ecological values of that site. Other cleared vegetation is to be reused or recycled to the greatest extent practicable for example: • Mulching of vegetation for use in landscaping; and • Spreading of vegetation for fauna habitat in suitable areas.	Contractor	As required	
Licensed waste contractors will be made responsible for collection and appropriate disposal of waste. The contractors are to be specifically licenses to collect and dispose of general, special, liquid, hazardous wastes.	Contractor	As required	
Weeds will be managed, in accordance with the Flora and Fauna Management Plan. If disposal is appropriate, the weed material will be transferred to a licensed waste facility. Other disposal methods such as burial will require consultation with OEH and Local Councils Weeds Officers.	Contractor	As required	
Vegetative waste other than weeds that is generated from site activities will be shredded and reused on site, or else transported to a licensed green waste processing facility	Contractor	As required	
Materials generated from cuttings will be reused (and processed if required) where of suitable quality for construction.	Contractor	As required	

Environmental Control Measure	Person Responsible	Timing/ Frequency	Completed (initials/date)
Concrete, asphalt, bricks/masonry and steel products are to be reused on site where possible. If this is not possible, they shall be transported to an approved recycling or waste management facility, as appropriate.	Project Manager	As required	
Burning or incineration of green waste or any other wastes will not be permitted.	Project Manager	As required	
Sediment recovered from erosion and sediment control devices will be reused on site as general fill material or it will be incorporated within landscaping materials.	Contractor	As required	
Materials resulting from the demolition of existing structures onsite will be re-used wherever possible.	Contractor	As required	
Oils and other hazardous liquids (including chemicals, fuels and lubricants) will be labeled and stored in a sealed container within a bunded area. Material collected within the bunded area will be disposed off site at a licensed facility.	Contractor	As required	
Liquid wastes, such as chemicals, fuel and lubricants, and their containers shall be disposed in accordance with their classification as required by the the Guidelines and described in Section 3.	Contractor	As required	
Waste generated from off-site activities will not be received for storage, treatment, processing, reprocessing, or disposal at the site.	Contractor	As required	
Wastewater			
A wastewater collection and treatment system will be provided for all vehicles, plant, and equipment maintenance and cleaning areas to prevent the discharge of pollutants to stormwater. Wastes arising from such activities will be collected and disposed of in accordance with EPA guidelines.	Project Manager	As required	
The collection and reuse of captured water for dust suppression wash down and use in amenities or revegetation will be carried out where possible.	Contractor	As required	
Spoil/Fill Management			
The indicative location of stockpile areas has been identified in Annexure 3.	Contractor	As required	

Environmental Control Measure	Person Responsible	Timing/ Frequency	Completed (initials/date)
Potential acid sulphate and actual acid sulphate soils will be stockpiled for treatment in the specially designed storage and treatment areas. ASS will be managed in accordance with the Acid Sulphate Soil Management Plan (ASSMP).	Contractor	As required	
Potentially contaminated spoil will be classified in accordance with Section 3 of this CWSMP and managed as described in the SMP .	Contractor	As required	
Dust generation and erosion of spoil stockpiles will be managed in accordance with the Construction Air Quality Management Plan (CAQMP) and Construction Soil and Water Management Plan (CSWMP).	Contractor	Daily	
Restoration of stockpile areas must be undertaken progressively following completion of stockpiling operations in each area.	Contractor	As required	
Stockpiles that are to remain disused for a period in excess of 10 days are to be stabilised using appropriate groundcover or stabilising agent and must be bordered by appropriately installed sediment fencing.	Contractor	As required	
Verification of the source and quality of imported materials will be undertaken to confirm that the material is not contaminated.	Contractor	As required	
Excavated material will be reused onsite where possible.	Contractor	As required	
Spoil stockpiles must be placed above the 1% AEP flood level.	Contractor	As required	
Topsoil shall be reused for re-vegetation of cleared areas and where practical, vegetative matter (excluding weeds) shall be chipped and reused as mulch on site.	Contractor	As required	

Environmental Control Measure	Person Responsible	Timing/ Frequency	Completed (initials/date)
All reusable spoil will be placed onsite where possible or alternatively transferred to local pre-determined sites for reuse.	Contractor	As required	
The cell construction methodology (as described in the Construction Soil and Water Management Plan) will be followed at all times to manage spoil volumes, schedule testing, treatment and validation, and coordinate backfill of the borrow pit excavations. This will involve sequential excavation of individual cells to: ○ manage spoil volumes. ○ schedule testing, treatment and validation; and ○ coordinate backfill of the borrow pit excavations.	Contractor	As required	
PASS spoil will be isolated for testing and treatment in accordance with Section 6.1of the Acid Sulphate Soils Management Plan.	Contractor	As required	
Potentially contaminated soil will be segregated from other spoil, stockpiled, signposted as potentially contaminated, and details of the provenance of the spoil recorded, including the location on site where the material was excavated, the depth, and the date (refer Construction Contamination Management Plan).	Contractor	As required	
Construction Demobilisation			
Areas disturbed during construction will be rehabilitated to their pre-construction status in accordance with the specifications outlined in Section 7.1 Site Stabilisation of Landcom (2004) Managing Urban Stormwater: Soils and Construction (the Blue Book).	Project Manager	As required and following construction	
Seeds to be used in rehabilitation of disturbed areas will be sown at the application rates specified by the supplier.	Contractor	As required and following construction	
All native tubestock or propagules (e.g. seed) will be locally sourced – ideally within a 10km radius of the study area where practicable.	Contractor	As required and following construction	
Weed propagules will be kept out of such areas through adherence to the FFMP and the weed	Contractor	As required and	

Environmental Control Measure	Person Responsible	Timing/ Frequency	Completed (initials/date)
management priorities and techniques provided in Table 4.1 of that plan.		following construction	
Sediment controls and erosion protection will be installed around areas under rehabilitation in accordance with the Landcom (date) “Blue Book” *Managing Urban Stormwater: Soils and Construction”.*	Contractor	As required and following construction	
“No-go” zones will be established, appropriately fenced and/or signed and communicated to construction personnel to protect areas under rehabilitation.	Contractor	As required and following construction	
Waste Tracking			
All waste leaving the site will be logged by type, volume and destination.	Contractor	As required	
Monthly reports will be prepared that detail: • total weight and percentage of waste recycled • total weight of waste going to landfill • total weight per waste type • destination of all waste types	Contractor	Monthly	
The demolition contractor will submit a monthly report detailing the amount of different types of materials removed from site and their destination.	Contractor	Monthly	
All wastes listed in *Schedule 1 of the Protection of the Environment Operations (Waste) Regulation 2005* and reproduced in Attachment 2 that are transported offsite will be recorded in accordance with the EPA waste tracking requirements.	Contractor	As required	
Monitoring			
All environmental records including monitoring and complaints records shall be kept for a period of 4 years and produced to an authorised EPA officer on demand.	Project Manager	As required	
The proponent shall nominate an appropriate person to receive, log, track and respond to complaints within the specified timeframes.	Senior Adviser Environment	As required	

Environmental Control Measure	Person Responsible	Timing/ Frequency	Completed (initials/date)
Ensure site managers regularly check the site and nearby residences for problems such that solutions can be quickly applied.	Senior Adviser Environment	Daily	
Reporting and Non-conformance			
Non-conformance report will be completed in accordance with the CEMP.	Senior Adviser Environment	As required	
Submit reports to the client (and OEH when requested) outlining environmental performance and compliance with the MCoA.	Project Manager	As required	
Community Consultation and Complaint Handling			
A Community Communication Strategy (CCS) will be implemented for handling complaints that includes recording, reporting and acting on complaints.	Senior Adviser Environment	Prior to Project commencing	
Implementation of mitigation measures detailed in the CAQMP, CNVMP, CCMP and CTMP to prevent impacts to amenity of sensitive receivers.	Contractor/Project Manager, Senior Adviser Environment	As required	
Establish and maintain complaints management system.	Senior Adviser Environment	Prior to Project commencing	
Community liaison (agreements where applicable) with local communities and affected residents.	Senior Adviser Environment	Prior to Project commencing	
Consult with potentially affected receivers at an early stage and engage effective communication strategies.	Senior Adviser Environment	Prior to Project commencing	

6.0 Environmental Monitoring and Reporting

6.1. Waste Monitoring

Details of all wastes leaving the site will be recorded including:

- Date and time of departure;
- Waste classification:
    - Special waste (e.g. Asbestos and tyres),
    - General solid waste (putrescible) (e.g. general litter and food waste),
    - General solid waste (non-putrescible) (e.g. glass, paper, building demolition waste, concrete),
    - Restricted solid waste,
    - Liquid waste (e.g. oil, fuels, chemicals and pesticides),
    - Hazardous waste (e.g. lead-acid batteries and lead paint),
    - Spoil (clean fill);
- Waste description;
- Amount;
- Transport name;
- Receiving facility name and address;
- Waste use (recycled / stored / treated / disposed);
- Reference (docket / transport certificate / invoice).

Each load of waste taken offsite will be recorded via the EPA online waste tracking system and reported in the monthly Environmental Report (refer the CEMP).

6.1.1. Non-conformance Response

As soon as it is identified that a waste is not being managed in accordance with Table 3.1, the Environment Representative must be notified. The source, handling and destination of the waste will be recorded. The waste management procedures of this CWSMP would be reviewed to identify and rectify the cause of the non-compliance.

Non-conformance will be resolved in accordance with the CEMP.

6.2. Reporting

Reporting will be undertaken as described in the CEMP. Any complaints or non-compliances will be reported.

6.2.1. Review and Improvement of the CEMP

The Senior Adviser Environment will review this Plan and its implementation at least every six months from commencement of construction. The purpose of the review is to ensure that the CEMP and sub-plans and operating system is meeting the project's statutory requirements.

The review will consider:

- Clients, site personnel and agency comments;
- Audit findings;
- Environmental monitoring records;
- Complaints;

- Incident reports;
- Corrective actions taken;
- Environmental non-conformance;
- Changes in organisational structure;
- Changes in construction methodology; and
- Changes in legislation and standards.

The Environment Representative will review the compliance reports and any proposed updates to the CEMP. The ER has authority to approve/reject minor amendments to this CEMP. Minor amendments are changes that do not have a detrimental effect on the environment or increase the risk profile. Major changes to the CEMP will require Director-General approval.

7.0 References

- ADW Johnson (2013) Environmental Assessment, NSW Train Support Facility, 16 November 2012, Project No. 37417.
- Department of Environment, Climate Change and Water (2008) Waste Classification Guidelines.
- JBA (2013) Preferred Project Report and Response to Submissions Project Application MP07_0171, Maitland Road, Hexham, PPR NSW Train Support Facility, June 2013, Ref: 12599.

Annexure 1 – Trackable Wastes

Wastes that require tracking in accordance with DECCW requirements as specified in *Schedule 1 of the Protection of the Environment Operations (Waste) Regulation 2005.*

Waste described in Table A1 must be tracked if it is transported to or from another state or territory, unless it does not have any of the characteristics listed in Table A2, or if it is subject to an exemption.

Table A1. Wastes that must be tracked

Description	Waste Code
Acidic solutions or acids in solid form	B100
Antimony; antimony compounds	D170
Arsenic; arsenic compounds	D130
Barium compounds (excluding barium sulphate)	D290
Basic solutions or bases in solid form	C100
Beryllium; beryllium compounds	D160
Boron compounds	D310
Cadmium; cadmium compounds	D150
Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	N230
Chlorates	D350
Chromium compounds (hexavalent and trivalent)	D140
Clinical and related wastes	R100
Cobalt compounds	D200
Containers and drums that are contaminated with residues of substances referred to in this list	N100
Copper compounds	D190
Cyanides (inorganic)	A130
Cyanides (organic)	M210
Encapsulated, chemically-fixed, solidified or polymerised wastes	N160
Ethers	G100
Filter cake	N190
Fire debris and fire wash waters	N140
Fly ash	N150
Halogenated organic solvents	G150
Highly odorous organic chemicals (including mercaptans and acrylates)	M260
Inorganic fluorine compounds excluding calcium fluoride	D110
Inorganic sulfides	D330
Isocyanate compounds	M220
Lead; lead compounds	D220
Mercury; mercury compounds	D120
Metal carbonyls	D100
Nickel compounds	D210
Non toxic salts	D300
Organic phosphorous compounds	H110

Description	Waste Code
Organic solvents excluding halogenated solvents	G110
Organo halogen compounds—other than substances referred to in this Table	M160
Perchlorates	D340
Phenols, phenol compounds including chlorophenols	M150
Phosphorus compounds excluding mineral phosphates	D360
Polychlorinated dibenzo-furan (any congener)	M170
Polychlorinated dibenzo-p-dioxin (any congener)	M180
Residues from industrial waste treatment/disposal operations	N205
Selenium; selenium compounds	D240
Soils contaminated with a substance or waste referred to in this Table	N120
Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	M250
Tellurium; tellurium compounds	D250
Thallium; thallium compounds	D180
Triethylamine catalysts for setting foundry sands	M230
Vanadium compounds	D270
Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known	T100
Waste containing peroxides other than hydrogen peroxide	E100
Waste from heat treatment and tempering operations containing cyanides	A110
Waste from manufacture, formulation and use of wood-preserving chemicals	H170
Waste from the production, formulation and use of biocides and phytopharmaceuticals	H100
Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	F100
Waste from the production, formulation and use of organic solvents	G160
Waste from the production, formulation and use of photographic chemicals and processing materials	T120
Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives	F110
Waste from the production and preparation of pharmaceutical products	R140
Waste mineral oils unfit for their original intended use	J100
Waste oil/water, hydrocarbons/water mixtures or emulsions	J120
Waste pharmaceuticals, drugs and medicines	R120
Waste resulting from surface treatment of metals and plastics	A100
Waste tarry residues arising from refining, distillation, and any pyrolytic treatment	J160
Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls	M100
Waste of an explosive nature not subject to other legislation	T200
Zinc compounds	D230

Table A2 Characteristics of Trackable Wastes

Dangerous Goods Class (UN Class)	UN Code	Characteristics
1	H1	Explosive An explosive substance or waste is a solid or liquid substance or waste (or mixture of substances or wastes) which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings.
3	H3	Flammable liquids The word “flammable” has the same meaning as “inflammable”. Flammable liquids are liquids, or mixtures of liquids, or liquids containing solids in solution or suspension (for example, paints, varnishes, lacquers, etc. but not including substances or wastes) which give off flammable vapour at temperatures of not more than 60.5 degrees Celsius, closed-cup test, of not more than 65.6 degree Celsius, open-cup test.
4.1	H4.1	Flammable solids Solids or waste solids which under conditions encountered in transport are readily combustible, or may cause or contribute to fire through friction.
4.2	H4.2	Substances or wastes liable to spontaneous combustion Substances or wastes which are liable to spontaneous heating under normal conditions encountered in transport, or to heating up in contact with air, and being liable to catch fire.
4.3	H4.3	Substances or wastes which, in contact with water, emit flammable gases Substances or wastes which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities.
5.1	H5.1	Oxidising Substances or wastes which, while in themselves not necessarily combustible, may, generally by yielding oxygen, cause or contribute to, the combustion of other materials.
5.2	H5.2	Organic peroxides Organic substances or wastes which contain the bivalent-O-O structure are thermally unstable substances which may undergo exothermic self-accelerating decomposition.
6.1	H6.1	Poisonous (acute) Substances or wastes liable either to cause death or serious injury or to harm human health if swallowed or inhaled or by skin contact.
6.2	H6.2	Infectious substances Substances or wastes containing viable micro-organisms or their toxins which are known or suspected to cause disease in animals or humans.
8	H8	Corrosives Substances or wastes which, by chemical action, will cause severe damage when in contact with living tissue, or in the case of leakage, will materially damage, or even destroy, other goods or the means of transport; they may also cause other hazards.
9	H10	Liberation of toxic gases in contact with air or water Substances or wastes which, by liberation with air or water, are liable to give off toxic gases in dangerous quantities.
9	H11	Toxic (delayed or chronic) Substances or wastes which, if they are inhaled or ingested or if they penetrate the skin, may involve delayed or chronic effects, including

Dangerous Goods Class (UN Class)	UN Code	Characteristics
		carcinogenicity.
9	H12	Ecotoxic Substances or wastes which if released present or may present immediate or delayed adverse impacts to the environment by means of bioaccumulation and/or toxic effects upon biotic systems.
9	H13	Capable of yielding another material which possesses H1–H12 Capable by any means, after disposal, of yielding another material, e.g. leachate, which possesses any of the characteristics listed above.
		Other reasons Potential to have a significant adverse impact on ambient air quality. Potential to have significant adverse impact on ambient marine, estuarine or fresh water quality.

Note: UN Class and UN Code relate to the hazard classification system included in the United Nations Recommendations on the Transport of Dangerous Goods as used in Australia.

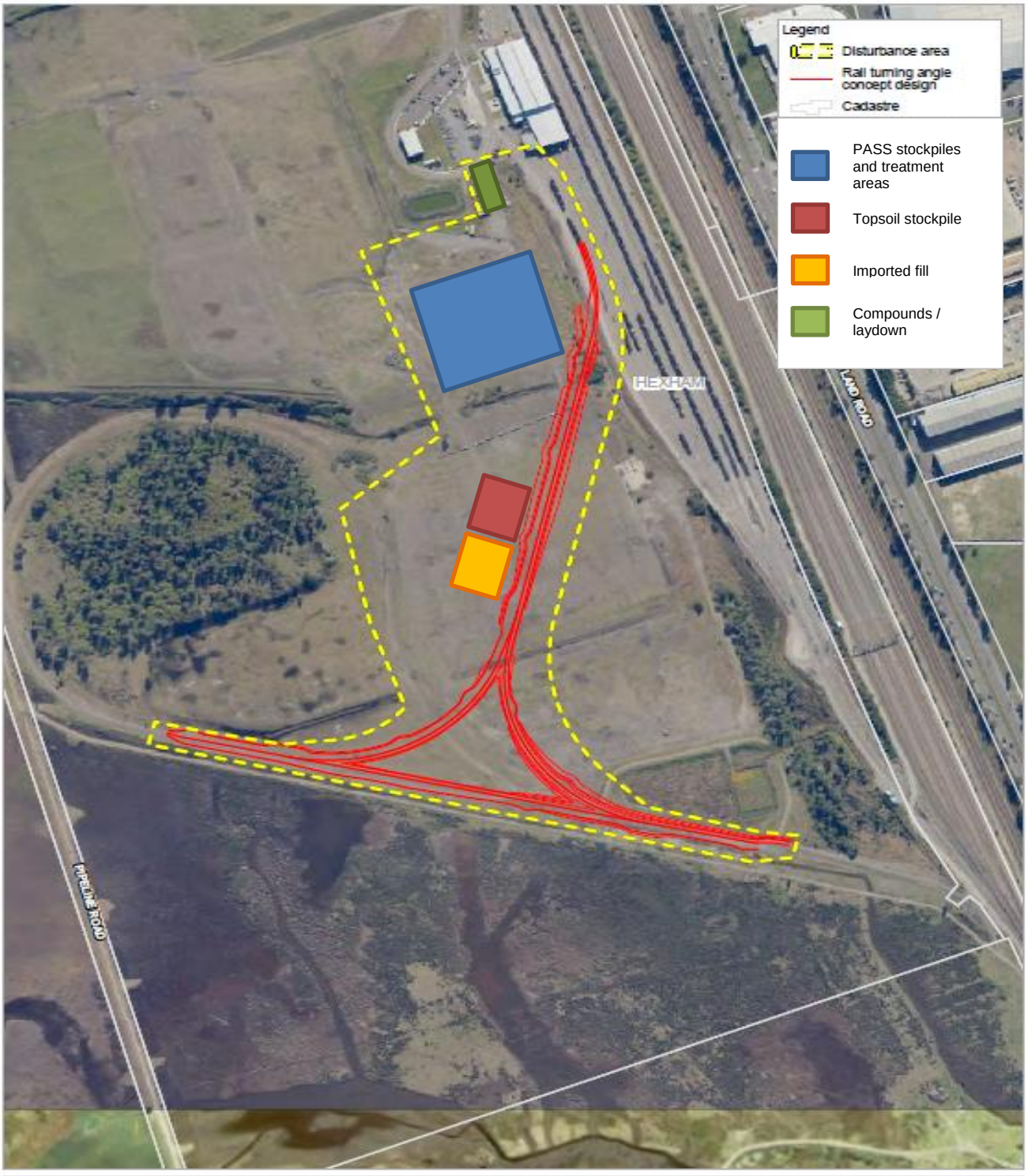
Annexure 2 – Risk Assessment

6	**Waste management** **Note: To satisfy Condition 62(e)(ii) of MP07_0171**	A) Improper waste management and disposal resulting in regulatory non-compliances or harm to the environment.	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** A) All waste water, sludge and hazardous material tanks are to be stored in a bunded area prior to removal offsite by a licenced waste contractor. A) If required all tanks are to be pumped out in identified bunded areas. **Administration** A) All waste is to be removed by a licenced waste contractor and disposed of at a licenced facility. A) Cardboard, paper and commingled waste recycling receptacles available in key work areas. A) Hydrocarbon receptacles (for oily rags and oil filters) available onsite. A) All waste classified in accordance with the Waste Classification Guidelines (DECCW 2009). A) Metals / steel / aluminium components recycled where feasible. A) Waste oil filters collected in dedicated hydrocarbon receptacles for off-site	**Guidance:** The selected HOC is justified on the basis that the controls form part of the accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control. Controls considered but rejected: NIL	**3**	**2**	**M**	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied **PPE** Not applied **<u>Control Effectiveness:</u>** SE	**Guidance:** Risk Controls are subject to ongoing due diligence in accordance with the authorised implementation and review timeframes.	Project Manager and Principal Contractor		02/12/2020

			reprocessing and re-use. A) National waste management contractor engaged and utilised for all waste management. A) Spoil and Waste Management Plan. **PPE** Not applied. **<u>Control Effectiveness:</u>** SE									
7	**Spoil management** **Note: To satisfy Condition 62(e)(iii) of MP07_0171**	A) Conducting earthworks in an improper manner resulting in regulatory non-compliances, impacts to landholders or harm to the environment.	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** A) Detailed design has identified project footprint, excavation area and likely excavation volumes (14 000m3). A) All PASS contained and neutralised within bunded area. **Administration** A) Generalised construction methodology and soil handling procedures detailed in the CEMP and supporting management plans.	Guidance: The selected HOC is justified on the basis that the controls form part of the accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control. **Controls considered but rejected:** NIL	**3**	**2**	**M**	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied **PPE** Not applied **Control Effectiveness:** SE	**Guidance: Risk Controls are subject to ongoing due diligence in accordance with the authorised implementation and review timeframes.**	Project Manager and Principal Contractor		02/12/2020

			A) Spoil characterisation and validation methodology for identified PASS and unidentified contamination detailed in the Site Management Plans and Acid Sulphate Soil Management Plan. A) Stockpile location area identified in the CEMP Annexure 2 with all stockpiles restricted to no greater than 2 meters in height. A) Management of stockpiles detailed in the SMP/ASSMP and Spoil and Waste Management Plan A) Rehabilitation requirements for disturbed areas specified in the FFMP. **PPE** Not applied. **Control Effectiveness:** **SE**									

Annexure 3 – Indicative Stockpile Areas and Coding


Legend
Disturbance area
Rail turning angle concept design
Cadastre
PASS stockpiles and treatment areas
Topsoil stockpile
Imported fill
Compounds / laydown
HEXHAM
PIPELINE ROAD