The Sydney Children’s Hospital Stage 1 and Minderoo Children's Comprehensive Cancer Centre (SCH1/MCCCC)

Health Infrastructure

Construction Soil and Water Management Plan

Document Reference JHG-SCH-PM-PL-99-XX014

Revision: 03

Date: 17/12/2024

Table of Contents

1 Revisions and Distribution

1.1 Revisions

Draft issues of this document shall be identified as Revision A, B, C, etc. Upon initial issue (Contract Award) this shall be changed to a sequential number commencing at Revision 0. Subsequent revision numbers shall be Rev. 1, 2, etc.

Rev	Date	Prepared By [Name & Signature]	Reviewed By [Name & Signature]	Approved By	Remarks
A	12/05/22	Tim Williams	Michael Wylie	Lizzie Cox	Initial Submission
00	18/07/22	Holly Hofland	Michael Wylie	Lizzie Cox	For Construction
01	12/08/2022	Holly Hofland	Michael Wylie	Lizzie Cox	In response to comments
02	15/08/2022	Holly Hofland	Michael Wylie	Lizzie Cox	In response to comments
03	17/12/2024	Violette Pairault	Ben Johnston	Michael Wylie	Updated ESCP & Table 1 in 3.1.

Copy Holder Details		
Name	Position	Copy Number
Tim Williams	Construction Director	1

1.2 Distribution List

Principal	Via Aconex
Project Manager	Via Aconex
Project Site Manager	Via Aconex
HSEQ Manager	Via Aconex
Project Environment Representative	Via Aconex

The controlled master version of this document is available for distribution as appropriate and maintained on the document management system being used on the project. All circulated hard copies of this document are deemed to be uncontrolled.

2 Definitions

AEP – Annual Exceedance Probability

ARI – Average Recurrence Interval

AMS – Activity Method Statement

CAQMSP – Construction Air Quality Management Sub Plan

SCH1/ MCCCC – The Sydney Children's Hospital Stage 1/ Minderoo Children's Comprehensive Cancer Centre

CEMP – Construction Environmental Management Plan

CPESC – Certified Professional in Erosion and Sediment Control

CSWMSP – Construction Soil and Water Management Plan

ECP – Environmental Control Plan

ENM – Excavated Natural Material

EPA – Environment Protection Authority

ERSED – Erosion and Sediment Control

ESCP – Erosion and Sediment Control Plan

FM – Foreman / Supervisor

GIL – Groundwater Investigation Level

INSW – Infrastructure NSW

JH – John Holland

JHET – John Holland Event Tracker

OEH – Office of Environment and Heritage

PE – Project Engineer

PD – Project Director

PER – Project Environmental Representative

RAC – Remediation Acceptance Criteria

SEP – Site Environmental Plan

SM – Site Manager

TRA – Task Risk Assessment

VENM – Virgin Excavated Natural Material

WQMSP – Water Quality Management Sub-Plan

WQO – Water Quality Objectives

WRA – Workplace Risk Assessment

3 Introduction

This Construction Soil and Water Management Plan (CSWMSP) forms part of the Construction Environmental Management Plan (CEMP) for SCH1/ MCCC (The Project).

This CSWMP has been developed by a suitably qualified and experienced expert with the erosion and sediment control plan developed by senior Civil Engineer CPEng NER George Krzywda from Bonacci, who is a recognised Soil Conservation Consultant, and in consultation with Randwick City Council in accordance with condition B29 if the consent. The (CSWMP) must be endorsed by the Certifier and a copy submitted to Department of Planning and Council prior to the commencement of any works.

An overview of the Project environmental management system is provided in the CEMP. Used together, the CEMP, issue specific environmental management plans, strategies, procedures, and activity method statements (AMS) form management guides that clearly identify required environmental management actions for reference by John Holland's personnel and contractors.

3.1 Compliance Matrix

Construction Soil and Water Management Plan requirements Reference		
B20	The Construction Soil and Water Management Sub-Plan (CSWMP) must address, but not be limited to, the following:	
(a)	Be prepared by a suitably qualified expert, in consultation with Council;	This Plan
(b)	Describe all erosion and sediment controls to be implemented during construction	Section 7 Appendix A
(c)	provide a plan of how all construction works will be managed in a wet-weather events (i.e., storage of equipment, stabilisation of the Site);	Section 7
(d)	detail all off-Site flows from the Site; and	Section 6
(e)	describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 1-year ARI, 1 In 5-year ARI and 1 in 100-year ARI	Section 7 Appendix A
B24	Prior to the commencement of construction, the Applicant must install erosion and sediment controls on the site to manage wet weather events.	Section 6 and 7 Appendix A
B25	Prior to the commencement of construction, erosion and sediment controls must be installed and maintained, as a minimum, in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book'.	Section 6 Appendix A
C20	All erosion and sediment control measures must be effectively implemented and maintained at or above design capacity for the duration of the construction works and until such time as all ground disturbed by the works have been stabilised and rehabilitated so that it no longer acts as a source of sediment. Erosion and sediment control techniques, as a minimum, are to be in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom, 2004) commonly referred to as the 'Blue Book'.	Section 7 Appendix A

C21	The Applicant must (a) ensure that only VENM, ENM, or other material that meets the requirements of a relevant order and exemption issued by the EPA, is brought onto the site; (b) keep accurate records of the volume and type of fill to be used; and **(c)** make these records available to the Certifier upon request.	Section 6, Appendix D Appendix E
C22	Adequate provisions must be made to collect and discharge stormwater drainage during construction of the building to the satisfaction of the Certifier. The prior written approval of Council must be obtained to connect or discharge site stormwater to Council's stormwater drainage system or street gutter.	Section 6

3.2 Development Description

The Project comprises a site area of 9,870m2. The Project will have an indicative building footprint of approximately 5,828m2, whilst the remaining 4,042m2 will comprise of ground plane access, public domain, and landscaping works. The project includes:

A 9 Story Building

- A new children's emergency department and emergency short-stay unit, accessible from Botany Street with direct links to new and existing services
- A new children's intensive care unit
- New inpatient units for medical and surgical specialties
- A new medical short-stay unit
- New front of house and High Street drop- off
- New pharmacy
- Back of house and logistics services.
- Australia's first Children's Comprehensive Cancer Centre will deliver:
- State-of-the-art technologically advanced wet and dry laboratory spaces
- Education, training and research spaces
- New oncology inpatient units, and patient and family focused retreat areas
- A new day oncology unit.
- New Emergency Department
- Short Stay Unit
- Expansion and Relocation of SCH clinical spaces
- Minderoo Children's Comprehensive Cancer Centre

- Construction and operation of a new 9 storey hospital, including 2 levels of basement building, plus upper plant room to provide:
    - A new children's emergency department and emergency short-stay unit, accessible from
    - Botany Street
    - Street with direct links to new and existing services
    - A new children's intensive care unit
    - New inpatient units for medical and surgical specialties
    - A new medical short-stay unit
    - A new pharmacy and pathology collection

  - Australia's first Children's Comprehensive Cancer Centre including:
    - State-of-the-art technologically advanced wet and dry laboratory spaces
    - Education, training and research spaces
    - New oncology inpatient units, and patient and family focused retreat areas
    - A new day oncology unit
  - New front of house and retail facilities; and
  - Building identification signage zones.
- New High Street visitor drop off;
- Integration via pedestrian skybridges with the Integrated Acute Services Building (approved under SSD 10339 and 9113), currently under construction and with the proposed Health Translation Hub (HTH, SSD 10822510);
- Short-stay patient parking connected to existing Botany Street intersection;
- Basement Ambulance access, loading dock, back of house and logistics services via Hospital Road;
- Public domain and associated landscaping, including tree removal; and
- Associated site preparation, civil works, and utilities services.

Table 1 SCH1/MCCCC Staging

CC No.	Proposed Works	Duration	Start Date	Finish Date
CC1	Piling	7 months	September 2022	March 2023
CC2	Retention System & Bulk Excavation	9 months	November 2022	July 2023
CC3	Structure B2 to Roof	13 months	February 2022	March 2024
CC4	Façade and Services Rough In	10 months	August 2023	May 2024
CC5	Fit Out and Finishes	17 months	January 2024	May 2025
CC6	Landscaping and Public Domain	12 months	May 2024	May 2025

3.2.1 Project Location

The SCH1/ MCCCC site is located in the Randwick Health & Innovation Precinct immediately south of the Randwick Town Centre, approximately 150m from the UNSW High Streel light rail stop and 250m from Randwick Light Rail Stop.

The site for the future SCH1/MCCCC is located immediately west of the existing Sydney Children's Hospital, with the Acute Services Building to the south and future HTH building to the west.

The site boundary reflects the scope of works to be delivered as part of this SSD on the ground plane and basement levels which includes the access ramp for the SCH1/MCCCC ED drop-off on Level B1 and access to visitor parking on Level B2, both accessed via Botany Street. Landscaping will be provided around the access ramp on Level 00.

Figure 1 SSD10831778 Site Boundary


SCH 1 / CCCC
EXISTING SCH
BOTANY ST
DROP OFF
PUBLIC DROP
AINSWORTH
BUILDING

3.3 Objectives

The key objective of the CSWMP is to ensure all Environmental Impact Statement, Staging Report safeguards and management measures and condition requirements relevant to soil and water quality are described, scheduled and assigned responsibility.

To achieve these objectives, John Holland will undertake the following:

- Installation and maintenance of erosion and sediment controls in accordance with this CSWMP and supporting project documents.
- Minimise the potential for soil erosion as a result of construction activities.
- Implementation of all reasonable and practicable measures to manage and mitigate the potential impacts of spoil removal, haulage and/or placement.
- No discharge of water outside of Water quality objectives (WQOs) is to occur.
- De-watering shall not take place unless a Dewatering Permit has been obtained and completed to the satisfaction of the Project Environmental Representative (PER).
- No complaints relating to erosion or sedimentation.

3.4 Targets

The following WQO will be used to establish the minimum standard any waters on site need to meet before they can be discharged:

Discharge to Stormwater / Watercourse			**Dispersed Discharge to Land**	
Water Parameter	**Objective**	**Units**	**Objective**	**Units**
pH	6.5 – 8.5	pH	6.5 – 8.5	pH
Total Suspended Solids (TSS)	<50	mg/L	N/A	N/A
Turbidity	*To be determined following commencement of works and verification through sampling as per Appendix B.	NTU		
Hydrocarbons / Grease	No hydrocarbon sheens observed	N/A	No hydrocarbon sheens or grease observed	N/A

Notes:

**Measurement of turbidity may only be used where a correlation between TSS (number and type of particles suspended in the water column) and Turbidity (NTU) (the ability of light to penetrate the water column) has been established through sampling and analysis at a NATA accredited laboratory has been established. Until this occurs, a test for TSS must be conducted as a minimum.*

#Dispersed Discharge to land must remain within the project footprint and not interfere or meet watercourses, stormwater or drainage lines leading to watercourses.

4 Legislation and Guidance Documentation

The project is subject to a number of regulatory requirements relevant to this CSWMP which have been or will have been considered as part of via various approvals, licences and permits issued by external Agencies. In addition, the safeguards and management measures set out within the Environmental Impcat Statement (EIS), provide further requirements which are relevant to this CSWMP.

4.1 Federal Legislation

- Environmental Protection and Biodiversity Conservation Act 1999
- National Environmental Protection (National Pollution Inventory Measure), 1998 (as amended)
- National Environmental Protection (Assessment of Site Contamination Measure), 1999 (as amended)

4.2 State legislation

- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (General) Regulations 2008
- Environmentally Hazardous Chemicals Act 1985
- Water Act 1912
- Water Management Act 2000
- Water Management Amendment (Controlled Activities) Regulation 2008
- Soil Conservation Act 1938
- Environmental Planning and Assessment Act 1979
- Fisheries Management Act 1995
- Aquifer Interference Regulation 2011- including Aquifer Interference Policy

4.3 Standards / Codes

- Managing Urban Stormwater Soil and Construction (Landcom, 2004) ('Blue Book')
- Australia and New Zealand Guidelines for Fresh and Marine Water Quality (Australian and New Zealand Environment and Conservation Council, 2000)
- AS/NZS 5667.1.1998 – Water quality – sampling – Guidelines on the design of sampling programs, sampling techniques and the preservation and handling of samples
- AS/NZS 5667.12:1998 – Water quality – Guidance on sampling bottom sediments
- AS/NZS 5667.11.1998 – Water quality – sampling – Guidance of sampling of groundwaters
- EPA Storing and Handling Liquids: Environmental Protection Participants Manual 2007
- Environmental Compliance Report – Liquid Chemical Storage, Handling and Spill Management (DEC 2006)
- Environmental best practice management practice guideline for concreting contractors (DEC 2004)
- NSW Waste Classification Guidelines (NSW EPA, 2014)

4.4 Supporting Documentation

- Construction Environmental Management Plan (CEMP)
- Site Environmental Plan (SEP)
- John Holland Hazardous Chemical Management Procedure
- JH Resource Use Reporting Procedure (JH-MPR-ENV-002)
- JH Incident and Event Management Procedure (JH-MPR-SQE-010)

- Unexpected Finds Protocol for contamination
- State Significant Development approval SSD 10831778

4.5 Ground Investigations Completed to Date

The following investigations contributed to the summary provided regarding ground investigations completed to date:

- Douglas Partners Preliminary Site Investigation (2018)
- Douglas Partners Report on Supplementary Geotechnical Investigation (2018)
- Douglas Partners Stage 1 and 2 RCR Detailed Site Investigation (2019)
- Douglas Partners IASB Addition DSA (2019)
- Douglas Partners Remediation Action Plan (2019)
- Douglas Partners Stage 1 Validation Report (2019)
- Douglas Partners Report on Supplementary Geotechnical Investigation (2019)
- Douglas Partners Contamination Status Report Project (2021)
- Douglas Partners Report on Geotechnical Investigation Project (2020)
- Douglas Partners Detailed Site Investigation (2021)
- Douglas Partners Remediation Action Plan (2021)

4.5.1 Geotechnical, Groundwater and Contamination Investigations

The geotechnical contamination investigations for the Project were undertaken by Douglas Partners over three separate periods between 2018 and 2021. Intrusive investigation for contamination assessment purposes was undertaken at the same time as the geotechnical investigation.

4.5.2 Regional Geology and Hydrology

The Sydney 1:100 000 Geological Series Sheet indicates that the site is underlain by fine to medium grained sand. Hawkesbury Sandstone comprising medium to coarse grained quartz sandstone with minor shale and laminate bands is present in the areas to the north-east, south-east and south-west of the site.

The Acid Sulphate Soils Map sourced from the Randwick Local Environment Plan indicates the site is located in an area not known to have acid sulphate soils.

4.5.3 Sub-surface Condition

The geotechnical boreholes encountered the following materials:

- Pavement – thick asphaltic concrete surfacing underlain by road base gravel to less than 0.5m depth.
- Filling – Fine to medium, grey and brown medium grained sandy gravel, fine to medium igneous gravel and medium grained sandstone gravel to depths of 0.3 m.
- Filling / gravelly sand - Medium, brown, fine sandstone and igneous gravel, from depths of 0.3- 0.8 m, underlying the road base layer. Within the Stage 2 area a layer was observed with crushed sandstone material.
- Filling / Silty sand - Fine to medium, brown with rootlets, trace clay. Encountered within test pits within garden beds on the verges of Hospital Road to depths of 0.4 m.
- Filling / Sand - Fine to medium, brown, with silt and with variable amounts of igneous and sandstone gravel. Trace quantities of anthropogenic materials including glass, brick, tile charcoal at select locations.

- Clayey Sand / Sandy Clay - Fine to medium, orange-brown, low plasticity fines in the northern boreholes (BH604 and 605). From depths starting at 1.5 m extending until sandstone bedrock. This layer is considered to be associated with the Newport soil landscape group.
- Sand - Fine to medium, grey and yellow-brown, trace silt, located in the more southern boreholes. From depths of 0.4 m extending until the sandstone bedrock. A layer of indurated and weakly cemented sand ('coffee rock') was noted at BH602, increased clay content was noted at BH607 and 608. These layers are considered to be associated with Tuggerah soil landscape group.
- Sandstone - Hawkesbury sandstone bedrock was encountered from 2.5 m in the north of Stage 2 (BH608), 3.1 m in the north of Hospital Road (BH606) and 4.02 m in the south of Hospital Road (BH602). The sandstone was generally medium to coarse grained, pale grey and yellow, very low to high strength (increasing with depth) and with slight degrees of fracturing and weathering. Thin layers of residual sandy clay (Extremely weak).

The groundwater level was variable across the site, measured at depths of 3.28m BGL, 3.36m BGL, and 5.88m BGL. Measured groundwater parameters indicated slightly acidic, saline and aerobic conditions and an oxidising environment. It is noted that groundwater levels are transient and will change with time and climatic conditions

4.5.4 Contamination

Soil/Fill

To determine soil conditions, Douglas Partners recently undertook a Detailed Site Investigation (DSI) on the site to assess the contamination characteristics of the soil and groundwater (Ref. 725059.19.R.002 April 2021).

The Douglas report reviewed and identified the following based on the adopted criterion:

Stage 1 and 2 RCS PSI

- Samples of the site fill exceeded EIL for commercial industrial, and residential/open spaces for Nickel and copper. This is not considered significant and may be appropriately managed by using suitable landscaping materials.
- Samples of the site fill contained detectable concentrations of carcinogenic PAHs (reported as B(a)P.TEQ). The elevated levels are not considered to be significant when compared against the higher reliability CRC CARE(2017) guidelines.
- Asbestos was detected in three test pits across the site. Further surficial asbestos was previously identified within parts of Stage 1 and Stage 2 of the RCR area.
- PCB was identified in one sample, however is not considered to pose a significant health risk given the minor exceedance. A 95% UCL of 0.32mg/lg was calculated for all fill samples which is within the SAV, so is considered to be relatively localised.

The DSI indicated that there is a low to medium risk of contamination at the site, primarily in the existing fill. It has recommended that there be a Remediation Action Plan be developed to address the contamination.

A RAP was prepared by Douglas Partners (72505.19.R.002 Rev3 April 2021).

The RAP concludes that subject to proper implementation of the remediation procedures, unexpected finds protocol and completion of the validation assessment, the site can be made suitable for the proposed development.

The short-term exposure during remediation and construction works should not pose an unacceptable risk to workers provided adequate controls are in place.
The following recommendations were made:

- Prior to excavation or after removal of sealed surface a qualified occupational hygienist will inspect for potential bonded ACM and issue a clearance once clear of visible ACM.

- Where bonded ACM is observed, a licenced asbestos assessor will remove and double bag the bonded ACM and a clearance report will be issued.

In areas of bulk excavation

- Excavate and dispose existing fill from areas under a formal waste classification. Fill across the site has a preliminary waste classification of General Solid Waste – Special Waste (Asbestos) unless further testing shows otherwise.
- Asphalt and road base in Eurimbla Avenue and Hospital Road to be stripped and assessed for land application either on-site or off-site in accordance with RRO 2014.
- Validate the natural soils/ Bedrock post removal of fill, confirm VENM classification.

In areas outside of bulk excavation

- Fill in the vicinity of identified contamination is to be delineated, excavated and assessed for offsite disposal under formal waste classification
- Areas of higher risk asbestos are to be delineated, excavated and disposed off-site as General Solid Waste – Special Waste (asbestos)

In any remaining areas, conduct an assessment in accordance with WA DoH (2009) for asbestos concentration

- If concentrations meet RAC, soils will be found to be suitable to be retained within the site
- If concentrations exceed the RAC, but no friable (AF/FA) the process of 'emu picking' may be undertaken, then re-assessed in accordance with WA RoH (2009); and
- If significant asbestos is found the impacted soils will be removed to landfill under a waste classification

As burial and capping is not proposed - long-term EMP will not be required.

Groundwater

All groundwater results were within the adopted GIL with exception of minor exceedances of copper, zinc and B(a)P. The results indicate similar groundwater conditions with minor elevated levels of metals, considered to be indicative of regional, urban groundwater conditions. Minor detection of B(a)P above the GIL are not considered to be significant given the proposed site usage, and no planned access and use of groundwater within the precinct.

5 Soil and Water Quality Action Planning

Design and Planning	Staff Responsible	When
Prior to works commencing, develop an initial Primary Erosion and Sediment Control Plan (ESCP) developed by the Site Soil Conservationist. The plan would consider topography, flow direction and stormwater infrastructure with site-wide erosion and sediment controls detailed to cater for site specific conditions - (See Appendix A)	PER	Prior to start of works
The risks associated with the management of erosion and sedimentation in relation to particular construction activities are to be identified, and mitigation controls elected in accordance with the JH Safety, Quality & Environment Risk Management Procedure.	SM / PER	Prior to start of each construction activity
As works proceed throughout construction staging, the ESCP is to be amended where necessary to be relevant and effective for site conditions and active work areas.	PER	At all times
Design and installation of erosion and sediment control devices would be undertaken in accordance with the document Managing Urban Stormwater – Soils in Construction Volume 1 'Blue Book' (2004, Landcom). Controls are to be downstream of exposed or disturbed areas and adjacent to the on-site stormwater drainage lines and located within the project footprint. Erosion and sediment controls are to consider the management of stormwater and flood flows for small and large sized events, including, but not limited to a 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI Examples of erosions and sediment controls to be implemented may include, but are not limited to: • Physical demarcation of 'no-go' zones in order to retain existing vegetation / groundcover; • Reinstating groundcover and progressively stabilising disturbed areas once works are complete in a zone or area; • Sediment basins; • On-site detention (OSD) structures); • Clean and dirty water diversion drains; • Rock checks within diversion drains; • Sandbags, gravel socks and/or geo-fabric; • Sediment fences; and • Sterile straw bales and/or coir logs. *Note: The 5 day, 85 percentile rainfall limit under the 'Blue Book' is 38.8mm for the site*	PER	Prior to commencement of construction works, Site Establishment activities and maintained and at all times thereafter.
Appropriate controls for erosion and sediment control should be determined by considering: • Local climatic conditions and seasonal variations; • Soil types, particularly dispersive, sodic and saline soils; • Local hydrology affecting the construction zone; • Local drainage, including temporary and overland flow paths and quantities Availability of existing onsite structures (OSD)	PER	At all times

Construction stormwater diversion, disposal and drainage from the development are to be designed in the Erosion and Sediment Control Plan (ESCP) in accordance with Australian Rainfall and Runoff – A Guide to Flood Estimation, Volumes 1 and 2 (1987); SA/NZA 3500 3.2 National Plumbing and Drainage Part 3.2: Stormwater Drainage – Acceptable Solutions, and; Managing Urban Stormwater - Soils in Construction Volume 1 'Blue Book' (2004, Landcom).	PER	Undertaken as part of the Stage 1 contractors works.
Erosion and sediment controls should be designed to direct run-off away from the structure and direct flows towards onsite catchment.	PER	Prior to start of works – Site Establishment activities
Following rain events, the effectiveness of erosion and sediment controls to be reviewed, controls adjusted accordingly, and plans updated as required.	PER	Throughout works
ESCP's would be periodically updated by the PER following significant change in site conditions during civil works. These would be reviewed in consultation with the Soil Conservationist.	PER	Civil works

Pre-construction	**Staff Responsible**	**When**
An initial ESCP developed by a recognised Soil Conservationist would be developed for the Project.	PER	Prior to commencement of construction
Erosion and sediment controls are to be installed in accordance with the approved ESCP(s).	PD / SM / PER	Prior to commencement of construction works and until site reaches stabilisation
A stabilised construction access / egress will be established where construction traffic enters or leave from a public road.	PD / SM	At start of works
Stabilised access would include wheel wash facilities for the duration of the civil works on-site.	CM	Civil works
Clearing of vegetation shall be planned in accordance with approved design documentation and undertaken in a staged manner to ensure a minimum amount of bare ground is exposed at any one time.	PD / SM	At start of works
Clearly mark out the development footprint including signage to ensure clearing and earthworks remain within these boundaries.	SM / PER	At start of works

Plant Movement and Access	**Staff Responsible**	**When**
Vehicles are to remain on the designated roadways and observe the speed limits.	All personnel	At all times
During civil and excavation works, plant will be required to park in designated lay-down zones when not in use, located in a central location on the site and beyond the 1% AEP (Annual Exceedance Probability) flood line where significant rain events are predicted.	FM / PER	At all times
During periods of wet or hot and dry conditions, construction activities and plant movements to be limited such as to minimise the movement of vehicles on site during these periods.	SM / FM	As required

Tracking of spoil, mud or the like will be required to be monitored daily, and if occurring, consider installation of additional controls such as rumble grids to reduce entrained material on tracks and tyres.	SM	Daily
Spoil, mud or the like spilt onto internal sealed roads to be removed within a reasonable timeframe through use of a street sweeper or other means.	SM / FM	At all times

General Requirements	Staff Responsible	When
Washout facilities must be in place and used for cleaning plant and equipment, concrete, paint, or other environmentally hazardous substances.	PER	At all times
Water diversion controls must be in place to prevent water entering the work area to minimise erosion and prevent pollution.	PER	At all times
Areas of exposed earth must have erosion and sediment controls designed, installed, maintained and continually monitored for effectiveness.	PER	At all times
The Erosion and Sediment Control Plan would be updated where required by the Environmental Team as the site changes through construction staging.	PER	As required during earthworks
All project personnel shall be made aware of erosion and sediment control devices and equipment at induction and the ESCP is to be displayed in prominent location at site sheds.	FM / PER	At induction and at all times
All project personnel to be made aware of the use of available spill kits in response to spills and/or leaks.	PER	At induction
Erosion and sediment controls shall be cleaned or replaced prior to accumulated sediments and obstructions reducing their effective operating capacity by 60%. Controls which are damaged or otherwise rendered ineffective shall be immediately replaced.	FM / PER	At all times
Prolonged open excavations shall have berms and/or diversion drains on their perimeter to divert overland storm water runoff away from the excavation. Where appropriate, utilise sandbags and/or geofabric to reduce flow velocity and minimize erosion within the drainage channel.	SM / FM / PER	At all times
Erosion and sediment control decisions shall be made to encompass reasonable and practical prevention, and will consider the receiving environment, water quality objectives, quality and quantity of water, location and accessibility, and other requirements.	SM / PER	At all times
All stormwater drainage inlets within the site and other discharge points where there is potential for sedimentation to occur as a result of construction activity shall be protected by geofabric and/or sandbags as appropriate in accordance with the ESCP.	FM / PER	At all times
The PER will provide direction for the location, installation, maintenance and removal of erosion control devices in accordance with the ESCP.	PER	At all times
Any trenches excavated will be backfilled as soon as practicable after services have been laid.	FM	At all times
Connect downpipes to the stormwater drainage system as soon as roofing is completed.	FM	Once roofing is completed
Concrete washout activities will be carried out within designated sealed bunded areas or carried out off-site. All construction water will either be treated to appropriate levels for reuse or be removed from site to an appropriately licensed facility.	PER/CM	During concrete works

Stockpiling, Stabilisation, Rehabilitation and De-mobilisation	Staff Responsible	When
Suppress earthworks, batters, access tracks and other exposed areas with a bonding agent or water on dry windy days to minimise soil erosion and dust in accordance with requirements in the Construction Air Quality Management Sub Plan.	SM / PER	At all times
Long term (greater than 28 days) non active stockpiles, batters and other erosion sensitive areas shall be adequately stabilised through velocity reduction covering, grassing, vegetation, soil binding, water diversion or other as appropriate.	SM / PER	At all times
Where suitable, sediment fencing shall be installed around the perimeter of exposed/disturbed soil stockpiles and at the toe of exposed batters.	SM / PER	As appropriate
Stockpiling locations will be outside the drip line of trees and will be kept on non-permeable surfaces.	SM	At all times
Stockpile locations will be in areas not prone to flash flooding and away from drainage lines and diversion drains as far as practicable.	SM	At all times
Imported materials, and excavated materials of different types must be separately stockpiled, stabilised and/or bunded, and clearly labelled with laminated sign on star picket.	SM / PER	At all times
All imported material will be sampled in accordance with section 13.7 of the RAP	PER Subcontractor	At all times
All imported material will be recorded on a truck running sheet that will record time, date, truck registration, truck size (volume), source site and visual description of material. The placement location on site will be recorded.	SM / PER /PE Subcontractor	At all times
All material for export is to be managed in accordance with NSW Waste Classification Guidelines (NSW EPA, 2014). All exported material will be sampled in accordance with section 13.6 of the RAP	PD / SM / PER	At start of works and throughout the works
Rehabilitate areas progressively throughout construction, as activities are complete in areas, and immediately on completion of works where practicable.	SM	Throughout the works and on completion of works

Imported Soil	**Staff Responsible**	**When**
Soil will be imported in accordance with the procedure in Appendix D.	PER/SM	At all times
Imported soil must be VENM, ENM, meet a current resource recovery exemption or other material approved in writing by EPA. All imported material must be reviewed by the Environmental Consultant	SM / PER	At all times
Imported material will be sampled in accordance with Section 13.7 of the RAP.	PER Subcontractor	At all times
All imported material will be recorded on a truck running sheet that will record time, date, truck registration, truck size (volume), source site and visual description of material. The placement location on site will be recorded.	SM / PER /PE Subcontractor	At all times
Maintain accurate records of the volume and type of material(s) imported to site. These records are to be made available to the Department and the Certifying Authority upon request.	SM / PER	At all times

Potential Acid Sulphate Soils (PASS)	Staff Responsible	When
The results of testing and the understanding of the history of the formation of these soils on site do not indicate the typical formation of Acid Sulphate Soils. This is because the soils do not contain sulphides and are non-estuarine in origin. The NSW Office of Environment and Heritage Acid Sulfate Soil Risk Map does not identify the site as being at risk of acid sulfate soils, or for these soils as being in vicinity of the site. The site is also not mapped as being at risk of soil salinity, and the data acquired from bores demonstrates that salinity levels are indicative of 'fresh' water quality. If Acid Sulphate Soils (ASS) or Potential Acid Sulphate Soils (PASS) are thought to be uncovered throughout construction, these will be dealt with under the unexpected finds protocol (Appendix C).	PD / PER	Prior to commencement of works.

Management and Removal of Excavated Materials	Staff Responsible	When
Excavated materials of different types must be segregated, stockpiled, stabilised and/or bunded, and clearly labelled with laminated sign on star picket.	PER	At all times
Topsoil will be stockpiled separately from other materials on site.	SM / FM	At all times
Topsoil will be reinstated as soon as practicable.	SM / FM	At all times
Dispersive (sodic) soils to be treated and managed appropriately to address its stability, structure and potential mixing with adjacent materials.	SM / FM	At all times
All stockpiles to be inspected immediately following the cessation of rainfall to assess stability and remedial works undertaken as soon as safe to do so.	SM / FM	Post Rainfall
Replace soils in their original order if excavations are undertaken to ensure that materials are buried appropriately.	SM / FM	At all times
Re-direct water away from areas where dispersive (sodic) subsoils have been exposed or stockpiled.	SM / FM	At all times
Bulk earthworks on-site will not commence for Stage 2 activities until the erosion and sediment controls are in place as per the ESCP for the works.	SM / PER	At start of works
All contaminated and non-contaminated material to be excavated onsite shall be managed in the following manner: • Where disposal is required off-site, material is to be managed in accordance with NSW Waste Classification Guidelines (NSW EPA, 2014). • Re-use / Placement elsewhere on site, material is to be managed in accordance with NEPM (Assessment of Site Contamination) 1999. • Any material that contains asbestos would be classified as Special Waste – Asbestos if being removed from site. Special Waste Asbestos is to be tracked with NSW EPA WasteLocate to comply with clause 79 of the Protection of the Environment Operations (Waste) Regulation 2014.	PD / SM / PER	At start of works and throughout the works
If excavations uncover or are suspected to have uncovered contaminated soils (including asbestos or ASS / PASS) due to staining/odours, works are to cease immediately in the area and the SM and PER contacted and the unexpected finds protocol (Appendix C) followed. Specialist advice may be required to test and classify	PER / SM	At all times

soils.		
Movement of material off-site would be undertaken as part of waste tracking procedures under the waste management plan and as the procedure in Appendix E	PER	At all times
All materials leaving the site will be recorded on a tracking sheet which will be reconciled with landfill dockets.		
All contaminated spoil and/or materials will be contained in appropriate contaminated waste containers or bins prior to remediation or offsite disposal at an appropriately licensed facility. If material is unable to be contained, it will be stockpiled on a bunded, impermeable surface and covered.	PER / SM	Where contamination is encountered
Implement any control measures required to divert surface water run-off away from contaminated materials onsite, and appropriately manage any surface run-off water exposed to contaminated material.	PER/SM	Where contamination is encountered

Materials Handling and Storage	**Staff Responsible**	**When**
When planning the location of facilities, plant laydown areas, refueling areas, stockpiles, or chemical storage areas that drain towards surface water or stormwater systems must be avoided in order to minimise risk of pollution. Any higher risk items (i.e. Generators) must be in a bunded location.	SM / PER	At all times
All fuels, chemicals, and liquids will be stored at least 20 meters away from waterways (including existing stormwater drainage system) and will be stored in a sealed bunded area.	SM/PER	At all times
Chemicals and fuel must be labelled and stored in accordance with the safety data sheets (SDS) requirements and JH Hazardous Substances and Dangerous Goods Procedure.	SM / FM / PER	At all times
Spill kits and fire response equipment must be located where chemicals and fueled plant or equipment is being stored, operated or maintained.	FM	At all times
No refuelling, stockpiling or chemical storage to occur near stormwater drainage pits.		At all times
Refuelling activities would be conducted in accordance with an approved TRA.	FM	At all times
The location of spill kits will be provided on the Site Environmental Plan.	PER	At all times
Spill kits (site kits or plant kits) to be located in close proximity to machines refuelling or chemical storage locations.	FM	At all times
A copy of the EPA Storing and Handling Liquids: Environmental Protection Participants Manual will be kept onsite for the duration of the project (this document supersedes EPA Bunding and Spill Management Guidelines).	PER	At all times
A site-specific Emergency Response Plan will be developed for the project, with consideration of spill response management.	PER / PM	Prior to works commencing

Dewatering and Discharge	Staff Responsible	When
In the event that groundwater is intercepted during construction works and dewatering is required, written approval and relevant licences must be obtained from the relevant authorities (such as the Water Group within the Department (i.e. DPIE) or Council's Public Domain Unit for any discharge of groundwater into Council's stormwater system)	PER	If dewatering of groundwater requires discharge from site and prior to discharge
All dewatering systems must be planned and monitored to avoid spills, overflows and pollution.	PER / SM	Prior to works commencing and throughout the works
All run off emanating from the site must be effectively filtered or otherwise treated so that the water quality meets water discharge limits specified in Section 4.2.	PER	At all times
No discharge of surface or groundwater is to occur unless the water quality is within project Water Quality limits set out in Section 4.2. Where compliance with Water Quality limits is not met, water shall be treated as per corrective actions in Section 10. Field testing by the PER shall record compliance with project WQOs prior to discharge.	FM / PER	At all times
Dewatering activities shall not take place unless a Dewatering Permit (Appendix B) has been obtained and completed to the satisfaction of the PER.	PER	At all times
All personnel involved in discharge of water from site would be appropriately trained including in monitoring, treatment and discharge requirements. All dewatering will be as per Dewatering Permit (Appendix B).	PER	At all times
Implement non-structural measures to wet-weather response onsite. These measures do not change flooding behaviour but alter how people and property are affected by wet-weather events. The following mitigation measures would be implemented: a) Wet-weather and flood awareness training b) Pre-start briefings / toolbox talks held daily and summarising the forecast predictions provided by Site Manager c) Daily monitoring of weather conditions and long-term forecasting of construction activities.	PER / SM / PD	Prior to works commencing and throughout the works
Work should not take place during or after heavy rain when doing so is likely to cause soil erosion or soil structural damage or result in indirect impacts to any neighboring vegetation or riparian corridors.	SM	At all times
Following rain events (+20mm over 24hrs), the effectiveness of erosion and sediment controls to be reviewed, controls adjusted accordingly, and plans updated if required.	PER	Following rainfall event
Specific measures to manage flood flows for small and large sized events, including, but not limited to 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI include: a) storage of hazardous materials away from flow paths and known drainage channel b) layout of site compound facilities to take into consideration of the flow paths c) ensure evacuation routes are kept clear during high risk periods d) ensure loose materials, fuel, chemicals and equipment can either be secured or removed during a flood event if required.	FM /CM	As required

6 Stormwater and Flooding Management

The following mitigation measures will be implemented for the following scenarios.

1-year ARI

- Brief personnel at prestart
- Review of all current Erosion and Sediment (ERSED) controls and ensure ESCP is still current
- Stormwater would be managed using the following controls
- Sediment fencing
- Diversion bunds / swales
- Coir logs/ sandbags/ silt socks
- Stormwater is expected to be contained on site and be diverted to the sediment basin and discharged in accordance with the permit in Appendix B

5 Year ARI

- Implement as above for the 1-year ARI event
- Ensure all plant and equipment are removed from areas of concentrated flow
- Sedimentation basins maximum capacities will be maintained where practically possible

100 Year ARI

- Implement as above for the 1-year ARI event
- Remove all plant and equipment from site areas where there is potential for inundation – see Figure 2 below
- Perimeter controls are expected to be breached and sediment basin likely to overtop
- It is not anticipated that the site/ excavation area will be affected by stormwater flows. Site stormwater flows will be directed towards the Temporary Sedimentation Basin as described in Appendix A

Figure 1 1% AEP

Wet Weather Events (Stormwater & Flooding)	Staff Responsible	When
Daily monitoring and long-term forecasting of activities referencing Bureau of Meteorology forecasts and NSW rain and river data and flood warnings. Relevant information is to be conveyed in toolbox talks and on-site notice boards and construction activities re-scheduled where necessary.	SM	At start and throughout the works, daily
Where practically possible, working and storage areas and any proposed stockpile sites would be located above the 100-year ARI peak flood level.	SM / FM / PER	At all times
Temporary works such as hardstand areas and access tracks are to be designed, constructed and maintained to withstand flooding.	SM	Prior to works commencing and throughout the works
Erosion and Sediment control measures are implemented as per Appendix A – Site Specific ESCP	SM	Prior to works commencing and throughout the works
Ensure constructed access tracks are free draining from crown of track to shoulder edge to decrease delays from re-access following wet-weather events and carry out temporary repairs to access tracks to reduce long term damage where possible.	SM	Prior to commencing and throughout the works

Management of Fine Particulates to sensitive areas (Stormwater Entrainment)	Staff Responsible	When
In terms of soil and water management, temporary swale drains and temporary sediment basins will be designed in accordance with applicable guidelines e.g. Blue Book (Landcom, 2004). Basins and temporary swale drains will be appropriately lined to prevent infiltration of fines to groundwater or impacts on downstream sensitive areas.	SM /FM / PER	Prior to works commencing and throughout the works
Where feasible and reasonable, catchment areas outside the main civil footprint may be broken up into catchment areas (and within work zones where appropriate) to reduce the risk of fine particulates leaving site and impacting on downstream properties and groundwater resources. Measures employed may include but not limited to: • Temporary stabilisation or revegetation/management works to reduce the extent of disturbed surfaces • Application of temporary surface treatments or blanketing on exposed earth surfaces • Sediment barriers • Stabilised drainage lines incorporating rock check dams at regular intervals Measures would be detailed in the ESCP for the works.	SM/FM/PER	During earthworks
Sediment controls will be de-silted (cleaned out) as required within 5 days following rainfall to ensure they have adequate capacity and are ready for the next rainfall. Material removed from sediment controls will be placed on a stockpile or into general fill.	SM / FM / PER	During works
All stormwater drainage inlets and other discharge points where there is potential for sedimentation to occur as a result of construction activity shall be protected by geofabric and/or sandbags as appropriate.	SM / FM / PER	Prior to works commencing and throughout the works

Sediment controls such as sediment fences, check dams, inlet protection, mulch bunds, coir logs or sediment traps will be installed around the lower perimeter of work areas where dirty onsite water could run off.	SM / FM / PER	Prior to works commencing and throughout the works
Use geotextile linings, black plastic, organic fibre matting, rock or similar to provide temporary surface protection in areas of concentrated flows (e.g. working platforms).	SM / FM / PER	During works
As much as possible, separate 'clean' (offsite) run-on water from 'dirty' (onsite) construction area runoff. All dirty water must be graded to or directed to sediment controls.	SM / FM / PER	Prior to works commencing and throughout the works
Construction Activities would be staged and managed to ensure no sediment is transferred to the adjacent streets or introduced into the existing stormwater drainage lines which could impact on downstream stakeholders.	SM / FM / PER	Prior to works commencing and throughout the works
Other sediment control measures to be implemented (as appropriate) include sediment fences, straw bales, coir logs, fabric stocking sediment traps around existing pit/drain inlets, diversion banks and truck shaker grids at points of exit.	SM / FM / PER	Prior to works commencing and throughout the works
John Holland has engaged a Certified Professional in Erosion and Sediment Control (CPESC) to support its development of an overarching Erosion and Sediment Control Plan (ESCP). The preliminary ESCP is provided in Appendix A.	PER	Prior to works commencing and as required throughout the works.

7 Monitoring

Monitoring Required	Staff Responsible	When
General observations for the daily management of erosion and sediment controls shall be documented in site dairies.	FM	Daily as required
Regular visual water quality checks in stormwater pits on-site will be carried out on a weekly basis and post rainfall event during civil construction activities. If a plume or spill is detected, it would be investigated to determine the source and if attributable to the Project.	FM	As required
Regular inspection of erosion and sediment controls shall be undertaken using the Weekly Environmental Management Inspection Checklist and uploaded to Project Pack Web.	PER	Weekly and during and after storm events >10mm in 24 hours
Effectiveness of erosion and sediment controls shall be regularly reviewed for adequacy having regard for changing circumstances.	PER	Throughout works
The project specific Discharge Checklist is to be used prior to discharge of water from site where and records to be kept in Project Pack Web.	FM / PER	Prior to discharge
Prior to any off-site discharge, water to be tested and adjusted as appropriate to meet WQO limits as specified in Section 4.4	FM / PER	Prior to discharge
Water quality monitoring results to be maintained in John Holland document management system (Project Pack Web) and made available to agencies upon request.	PER	As required

8 Reporting

Reporting Required	Staff Responsible	When
Details of field observations shall be reported via the Enviro Inspection Checklist, and communicated to all staff during pre-starts, toolbox and/or team meetings.	PER / SM	All times
All complaints / incidents regarding soil & water shall be reported immediately to the PER.	All staff	Following receipt of incident/ complaint
The Project Director shall be notified immediately of all incidents and valid complaints. Relevant JH procedures for incidents and complaints handling reporting shall be followed.	PER	Following receipt of incident/ complaint
JH Operations HSE Team is to be immediately informed of any incident that has caused or is likely to cause material harm to the environment and will advise on the notification of relevant regulators and stakeholders (As required by the Protection of the Environment Operations Act 1997).	PD / PER	Following incident
The JH Project Director shall notify the Principal of all critical and significant incidents immediately as per the Health Infrastructure Incident Stakeholder Management Plan, and Randwick Campus Redevelopment Incident Management Framework	PD	Immediately via WhatsApp
All monitoring results are to be recorded on the John Holland internal record system (Project Pack Web). Agencies will be provided results if requested,	PER	Throughout works
A summary of soil and water management to be included in the project monthly environmental report and issued to the Project Director.	PD / PER	Monthly
A summary of incidents, valid complaints and monitoring results (if any) shall be provided monthly to the Principal and include the actions that were taken to address the incident/complaint.	PD / PER	Monthly

9 Corrective Action Plan

Problem	Suggested Corrective Action
Contamination of surface water identified.	▪ Associated construction activities to cease immediately upon becoming aware of an environmental incident. ▪ Manage the incident in accordance with JH Incident Management and Investigation Procedure and comply with Conditions of Consent. ▪ Revision of construction activities and further mitigation measures to be considered and implemented as appropriate to prevent further environmental harm from occurring.
Sustained exceedance of water quality criteria	▪ Investigate and identify potential sources causing the exceedance. ▪ Control the source. ▪ Clean up or rehabilitate any impacts. ▪ Implement appropriate controls. ▪ Review construction methods, control effectiveness and device design. ▪ Report exceedance to Principal.
Poor quality of erosion and sediment controls	▪ Repair/reinstate controls. ▪ Review maintenance, staff responsible and resources.

Spills or leaks of chemicals or hydrocarbons	▪ Spills/leaks to be contained, cleaned up and reported. ▪ Spill kits to be used as appropriate. ▪ Review refuelling/plant maintenance practices and modify if appropriate.
Failure of erosion and sediment controls	▪ Repair or replace controls. ▪ Clean up or rehabilitate any impacts. ▪ Evaluate failure, investigate alternative controls, site, soils and required water quality levels.
pH levels outside WQO	▪ *pH under WQO*: increase the pH by adding a base such as agricultural lime. Note. Aglime can take time to become soluble. Other, more soluble products may be available. ▪ *pH over WQO,* lower the pH by adding hydrochloric acid. As a guide, 500mL hydrochloric acid lowers 7000L of water by a pH of approximately 1.5pH. To apply the acid safely all safety requirements specified in SDS and Safety Plans must be followed. ▪ When adjusting water levels any additive should be evenly dispersed throughout. Limit the amount of adjustments done as this may affect other water qualities. Determine the correct adjustment amounts first and apply accordingly and sparingly.
Turbidity outside WQO	▪ Either wait for the water to settle naturally or floc the water to speed up the process. Treating water with flocculent (e.g. gypsum, liquid alum or flocculent blocks) will make the sediments drop to the bottom. Where possible, follow manufacturer's instructions in the first instance. ▪ Gypsum: Can take 48hrs+ to act, should be dissolved into a slurry before dispersed into a holding tank/pond to increase its absorption/solubility. Dosing rates of 30kg per 100m3 (100,000L) can be used as a guide. Quantities should be tested prior in a sample bucket or drum. ▪ Floc blocks: Can be situated in flow paths to ensure incoming water is dosed with flocculent as it enters holding pond/tank, fine tuning of flocculent can then be completed on the pond/tank. Floc blocks should not be left permanently in a pond/tank, instead they should be in a flow path leading to the pond/tank that is dry when no water is flowing into the system. ▪ Liquid alum: Only to be used in accordance with manufacturer's specifications, or residual alums test conducted prior to discharge. ▪ Synthetic flocculants: Many products are available for flocking purposes, when using other products, ensure they are environmentally friendly and suitable for your application. ▪ Always re-test pH levels after you have allowed the flocculent to work and adjust accordingly. Most flocculants will lower the pH level and lime may be required. Avoid over-flocking. ▪ Remaining flocked sediment can turn into a thick jelly consistency over time. If pH levels are acceptable and no visible hydrocarbons, this sediment may be thinly dispersed somewhere on-site and seeded.
Contaminated soils (if identified)	▪ Associated construction activities to cease immediately upon becoming aware of contamination. ▪ Notify the Site Auditor and Environmental Consultant ▪ Manage the removal of contaminated soils from site in accordance with regulatory approvals. ▪ Revision of construction activities and further mitigation measures to be considered and implemented as appropriate to prevent further environmental harm from occurring.

10 Appendix A – SCH1 / MCCCC Erosion Sediment Control Plan (ESCP)

SCH1-MCCCC

PROGRESSIVE EROSION AND SEDIMENT CONTROL PLAN

JOHN HOLLAND

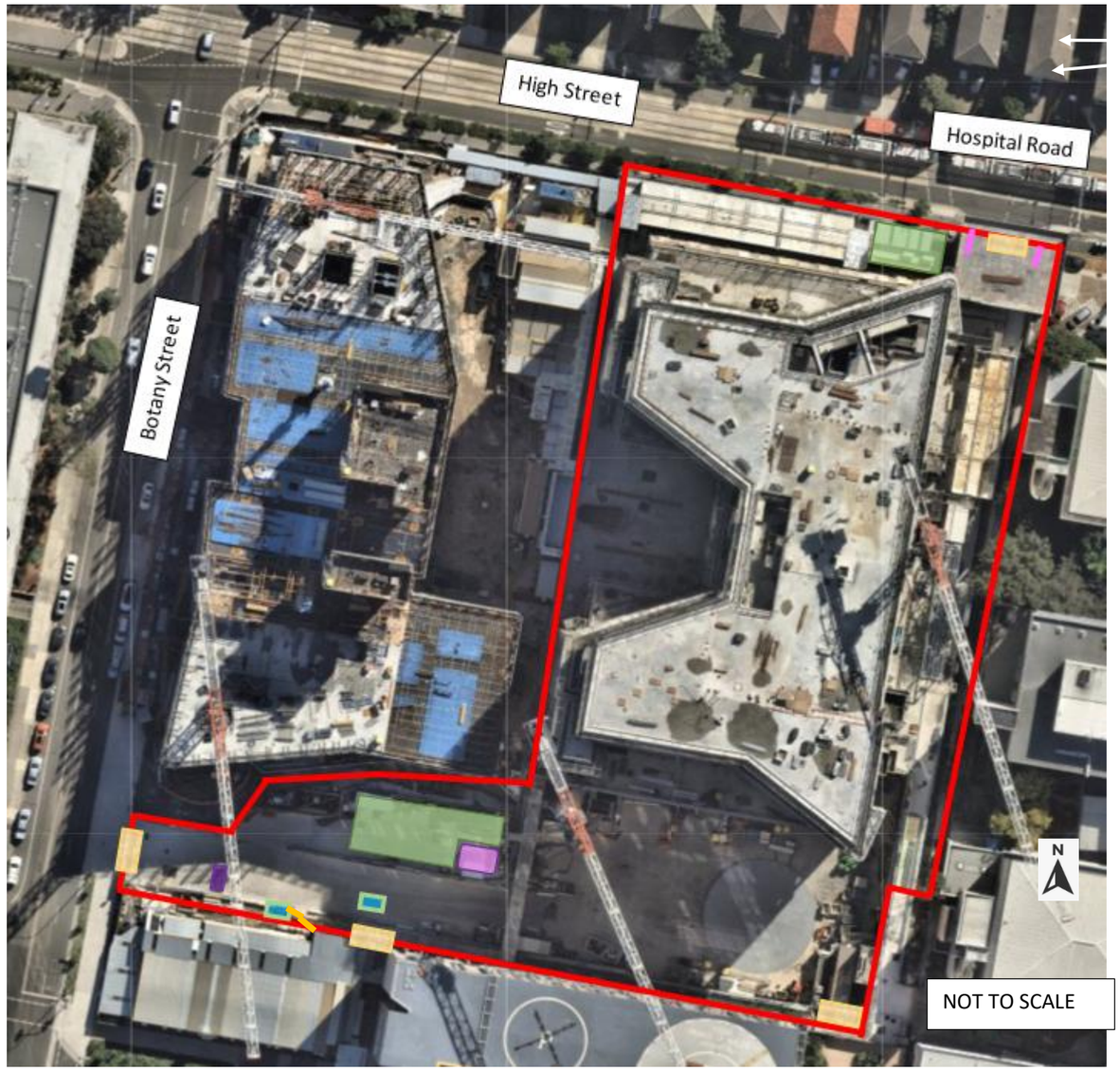
GENERAL NOTES:

1. THIS PLAN TO BE READ TOGETHER WITH RELEVANT ENVIRONMENTAL DOCUMENTATION (eg SWMP).
2. WEATHER FORECASTS TO BE REGUARLY MONITORED.
3. PRIORITY TO BE PLACED ON THE CONSTRUCTION OF PERMANENT DRAINAGE WORKS FOR 'CLEAN' WATER MANAG
4. 'CLEAN' AND 'DIRTY' OR CONSTRUCTION RUNOFF TO BE SEPARATED WHERE POSSIBLE.
5. SEDIMENT BASIN AND 'CLEAN' AND 'DIRTY' WATER DRAINS TO BE CONSTRUCTED IMMEDIATELY AS PERMITTED
6. TEMPORARY EROSION AND SEDIMENT CONTROLS TO BE INSTALLED PRIOR TO SITE DISTURBANCE WHERE REASONABLE AND FEASIBLE.
7. STOCKPILE LOCATIONS ARE INDICATED ON THE PLAN WHERE RELEVANT WITH TEMPORARY CONTROLS AS NECESS/ (eg SEDIMENT FENCES)
8. THE DIVERSION OF 'DIRTY' RUNOFF TO THE SEDIMENT BASIN AND TRAPS IS TO BE MAXIMISED.
9. THE SEDIMENT BASIN TO BE MANAGED IN ACCORDANCE WITH THE SWMP (eg FLOCCULATION, TESTING & DISCHA REUSE).
10. PIPELINE INLET AND OUTLET PROTECTION TO BE CONSTRUCTED IMMEDIATELY AFTER PIPE OR BOX UNIT INSTALLA (eg. HEAD & WING WALLS, DISSIPATERS).
11. THE LOCATIONS OF TEMPORARY CONTROLS ON THIS PLAN ARE INDICIDIVE ONLY WITH ACTUAL SITES TO BE DETER DURING WORKS.
12. TEMPORARY CONTROLS IN ADDITION TO THOSE SHOWN ON THE DRAWINGS TO BE CONSTRUCTED AT 'KEY' LOCAT AS REQUIRED AND CONSIST OF:
    : EROSION CONTROLS (eg WINDROWS ON CONTOURS TO REDUCE SLOPE LENGTH AND SURFACE FLOW VELOCITIES
    : SEDIMENT CONTROLS (eg SEDIMENT FENCE).
13. DISTURBED AREAS ARE TO BE PROGRESSIVELY STABILISED.
14. CONTROLS REMOVED OR DISTURBED DURING WORKS TO BE REINSTATED PRIOR TO FORECAST RAIN AS PER MANA PLANS.
15. ADEQUATE TIME TO BE PERMITTED TO 'SECURE' THE PROJECT PRIOR TO FORCAST RAIN.
16. DEWATERING OF EXCAVATIONS TO BE CONDUCTED AS PER THE REQUIRMENTS OF THE SWMP.
17. DUST TO BE CONTROLLED ON SITE WITH CONTROLS SUCH AS WATER CARTS AND OR LIMITING VEHICLE SPEEDS.
18. TEMPORARY CONTROLS TO BE INSPECTED REGULARLY WITH MAINTENANCE/REPAIRS UNDERTAKEN AS REQUIRED
19. THIS PLAN HAS BEEN PREPARED AS PER 'BLUE BOOK' GUIDELINES AND STANDARD DRAWINGS – VOLUME 1.
20. THIS PLAN IS TO BE REVISED WHEN REQUIRED (CHANGE IN CONSTRUCTION METHODS AND / OR SITE CONDITION

Water to be retained and tested before discharge from site. Results from the testing must be included in the JH Dewatering Permit and the permit must be completed and signed off prior to discharge.

This is to be read in conjunction with the overall PESCP prepared by Meinhardt group 10/08/2022

POSITION	NAME	PHONE NO
SENIOR SAFETY ADVISOR	TANEL SCHNEIDER	0447 314 364
SITE MANAGER	BILL DENKOV	0437 040 656
HSEQ MANAGER	ELYSIA RANGI	0437 441 354
PROJECT MANAGER	MICHAEL WYLIE	0431 864 234



NOT TO SCALE

LEGEND

	Site Entry/Exit		Timbers (with silicone edge)		OSD Tank		Protected stormwater pit
	Coir Logs		Cattle Grid		Pump out tank		Site Boundary

Title:	PESCP				
Document No.:		Rev:	03	Date:	17/12/2024
Prepared By:	Violette Pairault				

11 Appendix B – Discharge Permit

Section 1: Permit Details	**Permit Number:**
External Permit Required? Yes / No	**If yes, specify external permit number:**
Location (Sediment Basin No. / Chainage / GPS Coordinates):	**Site Environmental Plan (SEP) number:**
Proposed Start Date / Time: _____	**Proposed Completion Date / Time:** _____
Receiving Water Body:	

Section 2: Water Quality Record (to be completed by authorised water quality monitoring personnel only)		
Parameter	**Water to be Discharged**	**Receiving Water**
Turbidity: (Site specific correlation to be developed if NTU used)		
Total Suspended Solids (TSS <50)		
pH: (6.5-8.5)		
Oil and Grease (nonvisible)		
Comments:		

Section 3: Permit Conditions / Approval

Mandatory Permit Conditions:

- Float the foot valve to ensure it does not sit in mud at the base of the sediment basin.
- Ensure that the water discharge point is located so that it will not cause erosion and re-suspension of sediment.
- Check the discharge regularly to ensure it remains clear of visible sediment and appears clean. The person issuing this permit must test water quality in the receiving water on an hourly basis
- Cease dewatering immediately if water quality in the receiving waterway is adversely affected or if a turbidity plume is visible.

(Hand write any additional conditions / instructions below)

I understand and accept the permit conditions detailed above.
Supervisor / Engineer / Subcontractor

Name: ..... Signature: .....

Permit Issuer / Project Environment Representative:	**Issue Date: ___/___/___**
Name: ..... Signature:	**Expiry Date: ___/___/___** *Note: This permit is no longer valid after a rain event following the issue date and time.*

Section 4: Permit Closure

I confirm all work for which this permit was issued has been completed.

Supervisor / Engineer / Subcontractor:

Name: ..... Signature: ..... Date: .....

I confirm all work for which this permit was issued has been completed and verified.

Permit Issuer / Project Environment Representative:

Name: ..... Signature: ..... Date: .....

12 Appendix C – Unexpected Finds Protocol

This Unexpected Contamination Finds Protocol (the Protocol) outlines the work requirements in the event of unexpected finds occurring during construction at the SCH1/MCCCC.

The aim of this Protocol is to manage the risk of potential exposure to asbestos/hazardous materials and limit disturbance from unexpected finds. All subcontractors are to adopt this protocol into their own site-specific SWMS based on individual tasks and associated risks where needed.

This Protocol has been prepared to satisfy Condition B15(b) in the SCH1/ MCCCC development consent 10831778, which requires that:

A detailed unexpected finds protocol for contamination and associated communications procedure being consistent with the Unexpected Contamination Finds Protocol-V2.1 prepared by Lendlease dated June 2019 and including a chain of responsibilities for undertaking the unexpected finds protocol.

Potential Unexpected Finds

Based on findings of site history and site contamination investigation works undertaken at the site, unexpected finds which could reasonably occur within the site are summarised below.

Potential Unexpected Find	Observed Characteristic
Buried dry waste materials including asbestos	May include a variety of waste materials including wood, plastic, metal fragments, building rubble (e.g. concrete, brick, asphalt, forms of asbestos etc.).
Buried putrescible wastes	Putrescible waste materials typically comprise decomposed organic waste materials intermixed within the fill materials on site, with an associated characteristic rotten egg type odour. Such materials should not be confused with decomposed plant matter and/or marine sediments found within the natural sandy soils.
Structures or conduits containing deleterious materials	• A buried tank or former process pipelines; • Deeper sand fill sometimes with visual/olfactory indications of contamination • Presence of small concrete footings surrounding by odorous of visually impacted soils and/or groundwater.
Ash or slag deposits	Ash materials typically light weight, black, grey and/or white and generally gravel sized (1mm to 10mm) particles. Slag materials can be varied in consistency and colour and may comprise pale grey to blue/green/grey/black and be loose or cemented. Slag gravels can be very angular and appear to have a 'honeycomb' texture.
Hydrocarbon Compounds	May be identified by a hydrocarbon odour which may vary in strength from weak (just detectable) to very strong (easily detectable at a distance from the source). The odour may or may not be accompanied by specific areas of dark staining (black-grey) or larger scale discolouration of strata from a previously identified 'natural colour' e.g. staining of orange and brown clay to dark grey and green. May also be visible as a distinct coloured sheen on water within an excavation.
Other unusual odours	• Solvent/acetone odour • Alcohol odour • Caustic odour • Acidic (Acetic/Formic/Citric) odour • Ammonia odour • Sulphur (rotten egg) odour

Douglas Partners undertook a Detailed Site Investigation (DSI) in 2021 (725059.19.R.002) to further assess the contamination characteristics of the soils and groundwater in accessible areas of the site.

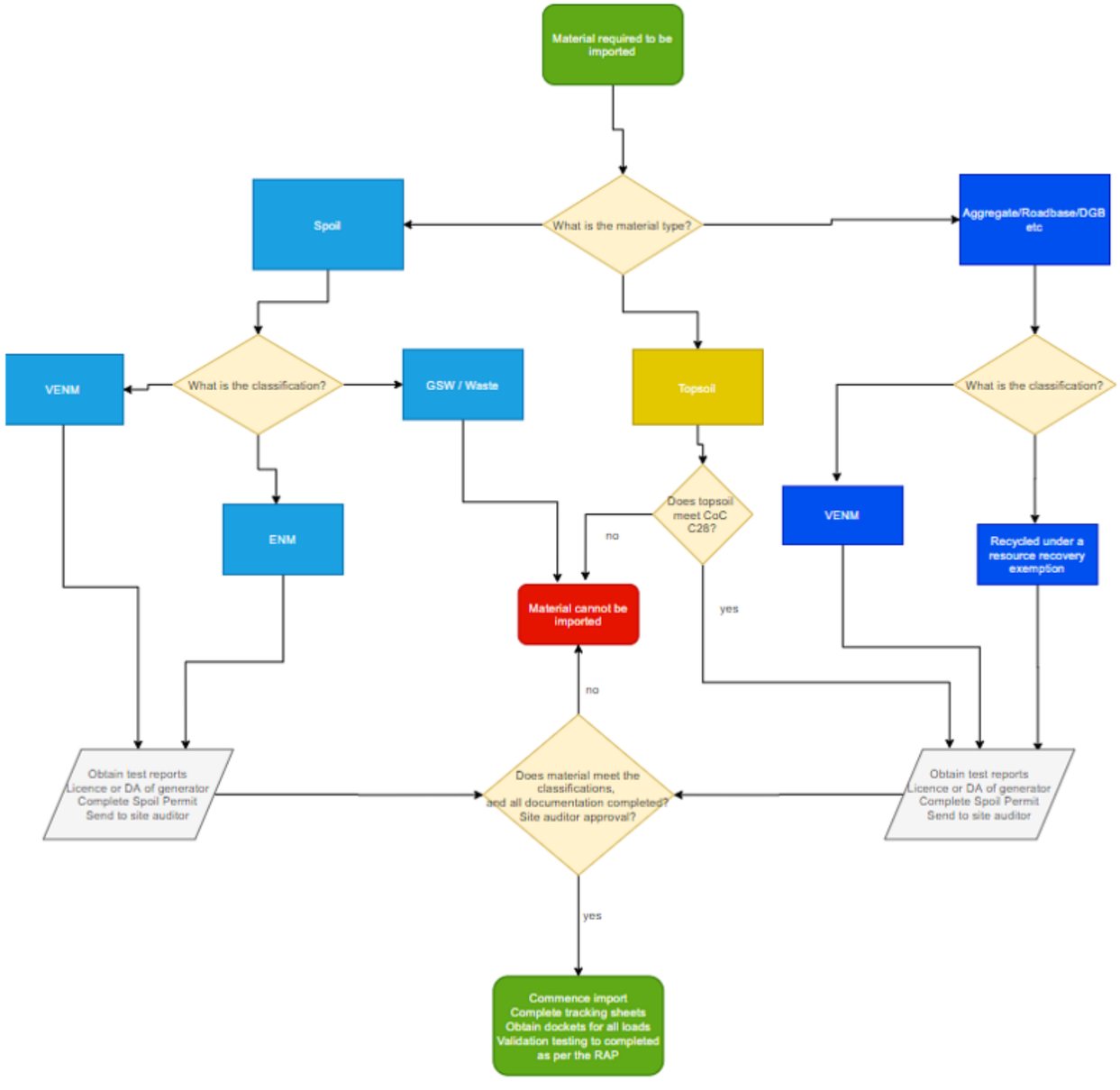
A Remediation Action Plan was prepared by Douglas Partners (72505.19.R.003 Rev3 April 2021). The RAP concluded that Subject to proper implementation of the RAP and validation reporting, DP considers that the site can be made suitable for the proposed redevelopment. The short-term exposure during remediation and construction works should not pose an unacceptable risk to workers provided adequate controls are in place. A long-term EMP will be required to manage the risks associated with the ACM-impacted soils that will be encapsulated on the site.

The aim of the procedure is to minimise the risk of potential exposure to hazardous substances and limit the disturbance of such substances. Workers should be inducted into the unexpected finds procedure and encouraged to notify the John Holland Group project manager or site foreman in the event that unexpected finds are encountered.

13 Appendix D – Spoil Import Procedure

SPOIL IMPORT PROCEDURE

JOHN HOLLAND



RESPONSIBLITIES

Environment Manager
- Review all documentation and sign off permits
- Conduct site inspections

Project Engineer
- Communicate requirements to subcontractor

Site Manager
- Ensure tracking requirements on site are being conducted
- Monitor material coming in and inspect stockpiles

Subcontractor
- Provide all relevant test reports, tracking sheets and dockets
- Comply with the permit

Environmental Consultant
- Review and approve imported material

PROCEDURE

This is to be carried out in accordance with the following relevant plans
- Construction Environmental Management Plan
- Construction Soil and Water Management Plan
- Construction Air Quality Management Plan
- Waste Management Plan

VENM must have a VENM certificate

ENM must have testing completed demonstrating compliance with the Resource Recovering Exemption

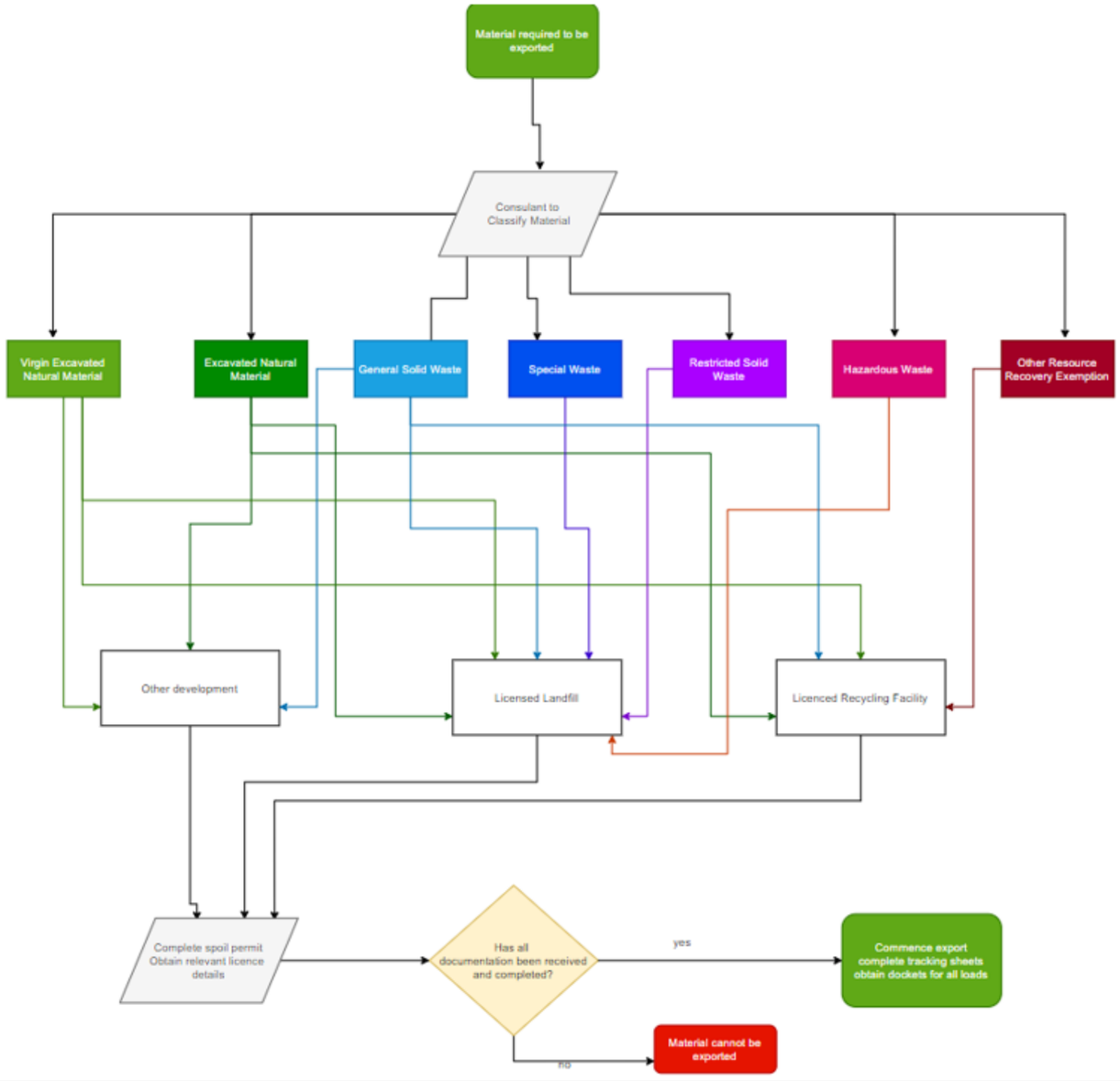
Soil permit to be completed and approved prior to importing any material

In the event of any unexpected finds, implement the contamination unexpected finds procedure.

14 Appendix E – Spoil Export Procedure

SPOIL EXPORT PROCEDURE

JOHN HOLLAND



RESPONSIBILITIES

Environment Manager

- Review all documentation and sign off permits

Project Engineer

- Communicate requirements to subcontractor

Site Manager

- Ensure tracking requirements on site are being conducted
- Monitor material going out and inspect stockpiles

Subcontractor

- Provide all relevant test reports, tracking sheets and dockets
- Comply with the permit

Environmental Consultant

- Classify Material

PROCEDURE

This is to be carried out in accordance with the following relevant plans

- Construction Environmental Management Plan
- Construction Soil and Water Management Plan
- Construction Air Quality Management Plan
- Waste Management Plan

VENM must have a VENM certificate and should not go to landfill if it can be beneficially reused

ENM must be tested in accordance with the resource recovery exemption

Any material going to another development must have a Section 143 Certificate. The DA conditions must allow the site to receive the material.

GSW can only go to another development site if the site has a DA condition that allows it, and a current EPA exemption

GSW (recyclable) can only go to a recycling facility if it meets the licence criteria of that facility

Hazardous waste may need to be treated on site first

Soil permit to be completed and approved prior to importing any material

In the event of any unexpected finds, implement the contamination unexpected finds procedure.