

Conwy County Borough Council
**Penrhyn Bay Coastal Defence
Improvements**

Outline Site Waste Management
Plan

282129-ARP-XX-RP-ENV-008

P01 | 28 October 2021

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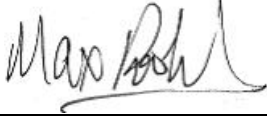
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1 Introduction

1.1 Purpose

The purpose of the Outline Site Waste Management Plan (SWMP) is to identify the expected waste materials that will arise from the Penrhyn Bay Coastal Defence Improvement works, including the quantity, type and EWC codes. The plan sets out proposals for the segregation, storage and management of these material and identifies the associated responsibilities of individuals or project roles. This outline SWMP is to support the marine licence application to NRW and therefore focuses primarily on the works relating to foreshore works. Following detailed design and appointment of the Contractor the SWMP will be developed to include the wider works of the project comprising the land side works. A description of the project is provided below.

The plan will inform the construction stage SWMP, in which the actual waste types and quantities arising during construction will be recorded, together with their management and disposal routes.

The aim of using the SWMP is to direct sustainable materials and waste management to reduce waste produced, by designing out waste, and optimise the reuse and recycling of waste materials during construction. In this way the plan should minimising environmental impacts and result in cost savings.

The Client, Conwy County Borough Council, as well as the Contractor (to be appointed) shall take all reasonable steps to ensure all waste from this site is dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection (Duty of Care Regulations 1991 (b), including that materials will be handled efficiently, and waste managed appropriately.

This document is to be read alongside the Outline Construction Environmental Management Plan (CEMP).

1.2 Project Description

Penrhyn Bay is a coastal embayment, which lends its name to the small town located between the renowned seaside resorts of Llandudno and Colwyn Bay, North Wales. The study frontage is approximately 800m in length contained between the northern breakwater National Grid Reference (NGR): SH8235781963 and south-eastern breakwater NGR: SH8295881523. Of this, approximately 450m is comprised of publicly maintained defences consisting of a 1950s stepped concrete seawall, which has suffered significant levels of deterioration due to the previous on-going erosion of beach levels. The remaining 350m of frontage is in a more self-sustaining natural condition and is in private ownership.

At present, the sand and shingle material which makes up the beach is mobile, particularly during storm events, encouraging transportation from the centre of the bay towards the eastern breakwater. Hence, CCBC must undertake regular beach maintenance activities in order to protect the existing back-shore assets at a significant cost to CCBC's capital maintenance fund.

The proposed scheme comprises a T-shaped rock groyne structure approximately 100m long by 90m in width at the crest and associated beach nourishment. Rock armour (assumed 3-6 ton and 0.3-1-ton gradings) is anticipated to be brought to site by sea and/or road, subject to local quarry availability, and stockpiled on the beach, whilst construction plant access would be via Glan-y-Môr Road.

The works will comprise excavation of the foreshore to the design profile for the groyne toe trench. The quantity of the excavated foreshore material includes 6,200m³. Depending on the particle size and contamination level it will either be re-used in the groyne core or disposed accordingly by the Contractor. Geotextile will then be placed as a separator/filter to the existing seabed within the trench. Core material will be added along the groyne axis by barge/dumper truck. Core material will also be used as a working platform to maximise tidal working windows. The width of the working platform is assumed to be 5.5m. The Contractor may reduce the width, subject to specific construction methodology and plant characteristics. Rock underlayer and rock armour will then be placed on top of the core material.

Beach nourishment is also proposed using shingle, which is effectively coarse pebbles and cobbles. An indicative 20-100mm grading is proposed, subject to availability from the local material supplier in North Wales (Quantities: 55,000m³ bulk volume, 35,000m³ (93,000 tonnes) actual).

Minor sea wall repairs will also be undertaken which will include filling in joints and cracks and concrete reprofiling of concrete steps.

The construction of the rock groyne and beach nourishment are part of a wider package of works. The proposed project will also include landside works which will include:

- Pedestrian and cycle crossing on Glan-Y-Môr Road;
- Promenade re-surfacing in some areas;
- Demolition of an existing beach access ramp and construction of a new beach access ramp;
- Soft landscaping to the garden at the western end of the site;
- Relocation of car park and bus stop;
- Replacement of handrails and new handrails in some locations;
- New street furniture; and
- Beach showers.

1.3 Structure and Scope

This Outline SWMP has been prepared during the outline design period. Detailed information on the waste arisings is not yet available, due to the early design stage details. This information will become available during the detailed design stage upon appointment of the Contractor. Once the Contractor is appointed the SWMP

will also be developed to include the wider scope of works of the project which comprise the land side works on the promenade, once detailed design information is available. This outline SWMP focuses on the foreshore works below Mean High Water Springs (MHWS) in order to support the marine licence application.

For a full description of the construction method, refer to the outline CEMP.

The SWMP is a 'live' document that will be reviewed and updated to incorporate the detailed waste information, during detailed design and the construction stages.

1.4 Responsibilities

Key roles and responsibilities associated with this plan are outlined below.

Conwy County Borough Council would be responsible for the following:

- appointing the Contractors for the purpose of the SWMP;
- ensuring that the SWMP is implemented effectively; and
- reviewing, revising and refining the SWMP (where necessary) in conjunction with the Contractor.

The Contractor has the overall responsibility for:

- updating and delivering this SWMP on behalf of the Client;
- ensuring all procedures in this SWMP are followed;
- ensuring all of the Contractor's staff and Sub-contractors are suitably qualified and experienced in implementing the measures within this SWMP. These measures would be contained within the terms of contract to ensure understanding and accountability;
- making and maintaining arrangements that enable those engaged in construction and demolition to co-operate effectively in promoting measures to manage waste in accordance with the terms of the SWMP;
- ensuring that waste produced during construction is managed in line with the waste hierarchy, so reduced, or re-used, or recycled, otherwise recovered and only disposed of where necessary;
- regularly reviewing (every three months as a minimum) the SWMP and updating where necessary;
- reporting on the performance of the SWMP within three months of the work being completed (see Section 6.3);
- establishing procedures for the regular review and recording of the quality of the works as part of the Quality Management System; and
- maintaining records relevant to this SWMP.

Table 1: Responsibilities details

Name	Position/Responsibility	Contact details
Oliver Edwards	Project Officer – Conwy County Borough Council	Oliver.edwards@conwy.gov.uk
TBC	Principal Contractor Environmental manager	TBC
TBC	Site manager	TBC
TBC	Safety, Health and Environment Manager	TBC

2 Regulatory Framework

The Environment (Amendment etc.) (EU Exit) Regulations 2019

These came into force in accordance with the European Union (Withdrawal) Act 2018 on 31 December 2020. Part 2 amends the primary legislation including and of relevant to the SWMP, The Environmental Protection Act 1990.

Environmental Protection Act 1990

Environmental Protection Act 1990 makes provision for the control of pollution arising from certain industrial and other processes. Anyone who produces, imports, keeps, stores, transports, treats or disposes of waste must take all reasonable steps to ensure that waste is managed properly. This duty of care is imposed under section 34 of the Environmental Protection Act 1990.

The Waste (Circular Economy) (Amendment) Regulations 2020

This legislation transposes the EU's 2020 Circular Economy Package (2020 CEP) in England and Wales, and Scotland and Northern Ireland. The Statutory Instrument (SI) transposes EU Directives, including and of relevant to the SWMP:

- Directive (EU) 2018/851 amended 2008/98/EC on waste (“the Waste Framework Directive”)

EU Waste Framework Directive 2008/98/EC

The overarching policy in relation to the handling of material resources is the EU Waste Framework Directive 2008/98/EC. This provides the framework legislation for the collection, transport, recovery and disposal of waste. It includes a common definition of ‘waste’, which is ‘any substance or object which the holder discards or intends or is required to discard’, with the term ‘discard’ including the disposal, recovery or recycling of a substance.

The overall purpose of the Waste Framework Directive is to set out measures to protect the environment and human health by preventing or reducing effects of waste generation and its management, and by improving the efficiency of resource use. Where waste is unavoidable the Waste Hierarchy sets out how materials, subject to regulatory controls, should be used again for the same, or different, purpose. If not possible, resources should be recycled or value can also be gained

through generating energy from waste but only if the other solutions are impossible.

CL:AIRE's Definition of Waste: Development Industry Code of Practice (CoP) (CL:AIRE, 2011)

The CoP is voluntary and applies to Wales and England only. The CoP sets out good practice for the development industry to use on a site-specific basis when assessing if excavated materials are classified as waste or not and, when treated, excavated waste can cease to be a waste for a particular use. If materials are dealt with in accordance with the CoP, it is considered that those materials are unlikely to be waste if they are used for the purposes of "land development".

The scope of the CoP relates to "excavated materials", which include:

- soil, both topsoil and sub soil, parent material and underlying geology;
- soil and mineral based dredgings (following appropriate dewatering);
- ground based infrastructure that is capable of reuse within earthworks projects, for example road base, concrete floors any processing would have to be in-line with permitted controls before considered suitable for reuse);
- made ground;
- source segregated aggregate material arising from demolition activities, such as crushed brick and concrete, to be reused on the site of production within earthworks projects or as sub-base or drainage materials; and
- stockpiled excavated materials that include the above.

3 Waste forecast

In order to identify the types of waste generated by the proposed development, the construction programme is divided into two key stages. The key programme stages that have the potential to generate waste include:

- site remediation/preparation; and
- construction.

The quantities of waste are not yet available but will be updated for the final SWMP by the appointed Contractor.

3.1 Waste types

The key waste streams produced on site can be classified as:

- Inert – wastes that will not cause adverse effects to the environment when disposed of, or do not decompose and they have no potentially hazardous content when placed in a landfill. Examples of inert wastes are rocks, concrete, glass, uncontaminated soils and aggregates;
- Non-hazardous – wastes that includes material that will degrade, such as timber, paper and cardboard, and stable material such as plastic;
- Hazardous – wastes that are harmful to human health or the environment if they are inappropriately contained, treated or disposed of. Hazardous wastes may have one or more of the following properties: explosive, corrosive, flammable, highly flammable, infectious, oxidising or sensitising.

The waste generated during construction would be assigned a EWC code¹ when recorded in the SWMP. A list of relevant codes is provided in Appendix A. These codes will be provided on each waste transfer note that would accompany every movement of waste from the site.

3.2 Estimated Waste Arisings

The type and quantities of waste likely to arise at each stage of the project have been listed in Table 2. The intended use of each waste arising has been identified, based on the current available design information. It is not an exhaustive list of waste types and may be extended as the design develops.

¹ UK Government guidance on European Waste Codes. <https://www.gov.uk/how-to-classify-different-types-of-waste/construction-and-demolition-waste>.

Table 2: Estimated waste arisings from foreshore works

Project activity	Waste arisings from the project	EWC code	Quantities of waste arisings	Potential material reuse or waste management options
Site remediation/ preparation/ earthworks	Excavated material from foreshore	01 04 09	Unknown number at this stage but small volume	To be reused in the groyne if deemed suitable. If deemed too fine/plastic for use in the groyne but not contaminated it can be left on the foreshore to be dispersed naturally by the tide. If found to be contaminated (which is considered unlikely) the Contractor will contain and dispose of the material at a suitable waste treatment facility.
Site construction	Temporary access causeway material	01 04 08	Unknown	To be removed and reused or recycled if not similar to permanent works beach nourishment. If the material is shingle sourced from the beach this will be left on site.
	Small amount of concrete from re-forming of steps	17 01 01	Unknown, but very small. Breaking of existing only to allow new concrete	To be crushed and reused as secondary aggregate, if possible.
	Excess rock armour or beach replenishment stones	01 04 08	Unknown	Any excess rock armour or beach replenishment stones to be used at the groyne and western embayment.

4 Management of waste

4.1 Waste hierarchy

Construction waste generated from the scheme would be managed according to the principles of the waste hierarchy. The waste hierarchy identifies “waste prevention” as the most favourable management option to reduce waste and retain materials at its highest value. “Disposal” is as identified as the least favourable.

The SWMP sets out how waste would be managed throughout each stage of the project. Prior to the commencement of site development, the Contractor would identify suitable waste management Contractors and investigate opportunities to reduce waste generation, reuse materials onsite or recycle any waste that is predicted to arise.

Prevention

The Contractor will ensure that waste is prevented where possible by using less material in design and manufacture and only ordering quantities of material required.

The SWMP will record identified measures to be implemented to prevent and minimise the quantity of waste produced during the project. For example, measures shall include identifying re-usable materials on site and removal for storage and the re-use of subsequent projects to minimise the quantity of waste.

Re-use and recycling

The Contractor will review opportunities for the reuse of any materials generated within the same site. All waste arisings will be segregated on site. The materials that have the potential to be re-used on site are restricted to those materials which will be excavated from the foreshore to the design profile. This will be tested for contamination and particle size and, if suitable, will be reused within the core footprint, where possible.

Opportunities to reuse excess materials at alternative sites, such as rock for the rock armour and stones for the beach replenishment, will be sought over disposal of the material. These materials will require the necessary waste permits for use at other sites.

Recyclable materials are to be removed from site for processing in licenced facilities. Aggregate and inert waste processing facilities will be identified in the vicinity of the proposed scheme location by the Contractor. Only appropriately permitted facilities will be used. It is the responsibility of the Contractor to review the availability for waste management facilities and identify suitable options.

Disposal

Any waste that cannot be prevented, re-used, recycled or recovered, will be disposed of at a permitted landfill site.

Local waste management facilities will be identified and assessed to ensure they have adequate capacity for the waste generated by the proposed scheme. It is not anticipated that there will be a large amount of waste associated with the proposed scheme.

4.2 Storage of waste

Waste will be stored in line with best practice measures, which include Pollution Prevention Guidelines. Whilst these guidelines have now been withdrawn and are undergoing a review, a replacement guidance series, Guidance for Pollution Prevention (GPPs), are available, in addition to some PPGs which remain the most up to date guidance. In particular, PPG 6 will be followed which sets out general measures for storing waste. Further details associated with storage of waste on-site will be confirmed at detailed design stage.

4.3 Site waste management

Waste management facilities will be provided within the construction compound onsite. Details about construction waste storage will be confirmed once a Contractor has been appointed.

5 Implementation

5.1 Training

A training regime focused on the provisions of the SWMP would be implemented for all relevant members of the construction team to ensure their competence in carrying out their duties on the scheme.

Any SWMP training would be additional to the mandatory training requirements for on site Health and Safety.

A general site induction would be developed to include an introduction to the main provisions of the SWMP, important environmental controls associated with the construction of the scheme and effective delivery of the SWMP (for example, waste storage arrangements and waste segregation at source). A full register of induction attendance would be maintained on site.

Toolbox talks and method statement briefings would be given to the construction teams as work proceeds and would cover the types of wastes produced at each key build stage, and the SWMP controls related to specific activities undertaken during the works. A full register of toolbox talks and method statement briefing attendance would be maintained on site.

All training records would be maintained and filed on site. The records would include the content of the training courses (induction and toolbox training), record of attendance and schedule of review.

6 Monitor, review and report

6.1 Monitoring

Monitoring of the SWMP would principally be achieved through the completion of the Waste Management Data sheets and regular inspections of the works areas by the Contractor to ensure that the provisions of this SWMP and control measures outlined in relevant method statements are being implemented.

Duty of Care paperwork documenting the movements of waste from the site (i.e. Waste Transfer Notes) and the registered carriers' details would be retained.

6.2 Review

During the construction process, the SWMP would be reviewed as often as necessary or at least once every three months to ensure that the plan accurately reflects the progress of the scheme in terms of waste estimates and targets. As part of the review, the Contractor must record the following:

- the types and volumes of waste produced;
- identify on the plan the work area where the waste was removed from; and
- the types and volumes of waste that have been:
 - re-used (and whether this was on or off site);
 - recycled (and whether this was on or off site); or
 - sent to landfill.

6.3 Report

Within three months of the end of construction, the Contractor would report on the performance of the SWMP. This would include confirmation that the plan has been monitored on a regular basis to ensure compliance with the provisions of the SWMP, that the plan was updated accordingly and that any deviations from the plan would be explained. The Contractor would continue to report on the performance of the SWMP on an annual basis throughout the construction period.

In addition to the above, the report would include a comparison of the estimated quantities of each waste type against the actual quantities of each waste type, performance against the scheme standards and an estimate of the cost savings achieved by and costs incurred in completing and implementing the plan.

Appendix A

List of waste categories for construction wastes (adapted from the European Waste Codes)

17 Construction and demolition wastes (including excavated soil from contaminated sites)
17 01 Concrete, bricks, tiles and ceramics
17 01 01 Concrete
17 01 02 Bricks
17 01 03 Tiles and ceramics
17 01 06* Mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances
17 01 07 Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02 Wood, glass and plastic
17 02 01 Wood
17 02 02 Glass
17 02 03 Plastic
17 02 04* Glass, plastic and wood containing or contaminated with dangerous substances
17 03 Bituminous mixtures, coal tar and tarred products
17 03 01* Bituminous mixtures containing coal tar
17 03 02 Bituminous mixtures other than those mentioned in 17 03 01
17 03 03* Coal tar and tarred products
17 04 Metals (including their alloys)
17 04 01 Copper, bronze, brass
17 04 02 Aluminium
17 04 03 Lead
17 04 04 Zinc
17 04 05 Iron and steel
17 04 06 Tin
17 04 07 Mixed metals
17 04 09* Metal waste contaminated with dangerous substances
17 04 10* Cables containing oil, coal tar and other dangerous substances
17 04 11 Cables other than those mentioned in 17 04 10
17 05 Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03* Soil and stones containing dangerous substances
17 05 04 Soil and stones other than those mentioned in 17 05 03
17 05 05* Dredging spoil containing dangerous substances
17 05 06 Dredging spoil other than those mentioned in 17 05 05
17 05 07* Track ballast containing dangerous substances

17 Construction and demolition wastes (including excavated soil from contaminated sites)
17 05 08 Track ballast other than those mentioned in 17 05 07
17 06 Insulation materials and asbestos-containing construction materials
17 06 01* Insulation materials containing asbestos
17 06 03* Other insulation materials consisting of or containing dangerous substances
17 06 04 Insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 06 05* Construction materials containing asbestos
17 08 Gypsum – based construction material
17 08 01* Gypsum-based construction materials contaminated with dangerous substances
17 08 02 Gypsum-based construction materials other than those mentioned in 17 08 01
17 09 Other construction and demolition wastes
17 09 01* Construction and demolition wastes containing mercury
17 09 02* Construction and demolition wastes containing PCB (for example PCB-containing sealants, PCB-containing resin-based floorings, PCB-containing sealed glazing units, PCB-containing capacitors)
17 09 03* Other construction and demolition wastes (including mixed wastes) containing dangerous substances
Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03