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Central Rhyl Coastal Defences

Environmental Statement
Volume 3: Non Technical Summary

September 2021

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Central Rhyl Coastal Defences

Environmental Statement
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Contents

1	Introduction	1
1.1	About this document	1
1.2	Why do we need the Scheme?	2
1.3	What are the alternative options?	3
2	The Proposed Scheme	5
2.1	Scheme location	5
2.2	Scheme design	5
2.3	Planning framework	1
2.4	Scheme construction	1
2.4.1	Programme	1
2.4.2	Works to be completed	1
2.4.3	Construction traffic routes	1
2.4.4	Road and active travel route diversions	2
2.4.5	Beach access	2
2.4.6	Anticipated working hours	3
2.4.7	Construction Compounds	3
3	Summary of Environmental Impacts	5
3.1	Historic environment	5
3.2	Biodiversity	6
3.3	Climate	7
3.4	Coastal processes, flood risk, and coastal water quality	8
3.4.1	Coastal Processes	8
3.4.2	Flood Risk	9
3.4.3	Coastal water quality	9
3.5	Landscape and visual	9
3.6	Materials	10
3.7	Noise and vibration	10
3.8	Population and human health	11
3.9	Other construction effects	12
3.9.1	Air quality	12
3.9.2	Traffic and transport	12
3.9.3	Risk of major accidents and disasters	13
3.10	Cumulative effects	13

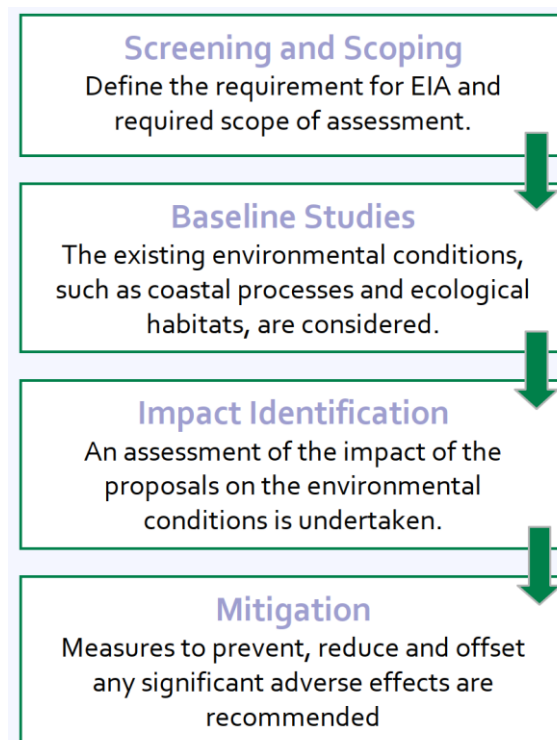
1 Introduction

1.1 About this document

This document forms Volume 3 (the Non-Technical Summary) of the Environmental Statement for the Central Rhyl Coastal Defences Scheme (referred to herein as the “Scheme”).

The Scheme is being delivered by Balfour Beatty Civil Engineering Ltd (Balfour Beatty) for Denbighshire County Council. Mott MacDonald Ltd (Mott MacDonald) has been commissioned by Balfour Beatty to support with the development and delivery of the Scheme including completing the Environmental Impact Assessment (known as an EIA).

An Environmental Statement is the report which presents the findings of an EIA, which is necessary for some development projects where there is the potential for significant effects on the environment. The general stages in the EIA process are as shown below.



Following consultation with Denbighshire County Council and Natural Resources Wales it was decided that this Scheme required an EIA because:

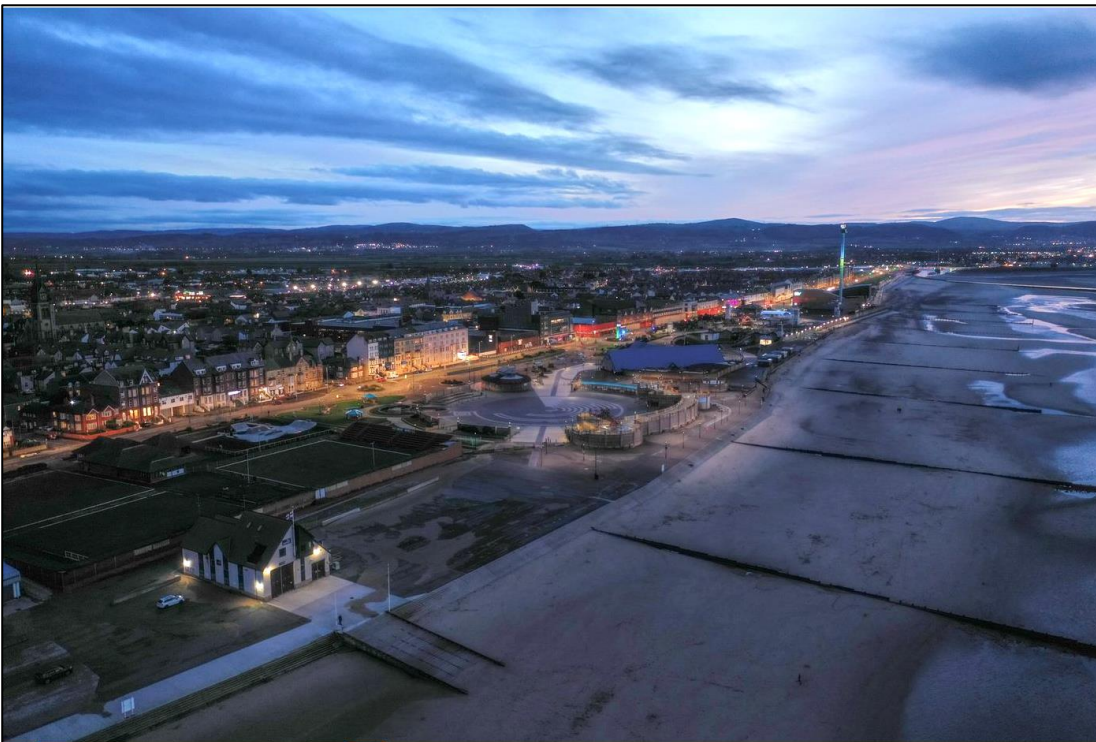
- It is situated on and above the intertidal beach area that is of interest for its ecology and is very close to the Liverpool Bay Special Protection Area, a very important habitat for birds.

- The promenade and beach, together with the businesses in the locality, form important recreational and tourism assets which are significant to the economic and social well-being of Rhyl.
- It covers a large area and would be visible to a large number of users.
- There is the potential for archaeological assets to be present within the intertidal area and there are other heritage assets nearby.

1.2 Why do we need the Scheme?

Rhyl is a Victorian coastal resort and the largest town in Denbighshire, with a well-established history as a tourist destination. Figure 1.1 shows an aerial view along the central Rhyl frontage. There are plans to regenerate Rhyl to make it more appealing to tourists and investors, however the coastal defences in the area of the Scheme are in a poor condition and there is a risk that they could fail without intervention. This could undermine Rhyl's regeneration hopes.

Figure 1.1: Aerial view along the central Rhyl frontage



Source: Eastwood Media, 2020

Historically, central Rhyl has been protected from coastal flooding by hard engineered defence structures constructed over the last century. These comprise a series of stepped revetments, recurve walls and vertical walls in various states of repair (see Figure 1.2). The existing defences no longer meet acceptable performance standards and are known to be deteriorating with some sections close to, or already beyond, their original design lives.

The existing promenade in the area of the Scheme is at risk of becoming inundated with water during storms, causing flooding of the promenade and surrounding areas. In

the future this will be made worse by the effects of climate change, which is predicted to increase sea levels and the frequency and severity of storm events over time.

Figure 1.2: Deteriorating defence condition along the Rhyl frontage



Source: Mott MacDonald Ltd, 2021

The existing coastal defences and promenade require improvements to safeguard Rhyl from coastal erosion and flooding, with consideration given to the effects of climate change in the future.

Subject to obtaining funding, the Scheme aims to improve the existing coastal defences to provide improved flood and erosion protection to people and property in Rhyl together with supporting local regeneration through the protection of this area, achieving wider community benefits.

1.3 What are the alternative options?

Consideration of alternative options is a key part of the EIA process. Adverse (negative) effects can often be avoided by considering different designs or different ways of working.

A detailed assessment process of the different options available was completed as part of an Outline Business Case for the Scheme, which considered constraints and opportunities (including the environment and sustainability) associated with a long list of options and narrowed it down to a short list comprising the following options:

1. Do nothing (known as Walk Away): This involves stopping all repair and maintenance activities, allowing the defences to fail and eventually losing the promenade to the sea as the coast erodes.
2. Do minimum (known as Business As Usual): This involves maintaining and repairing the defences as needed following storm events until it becomes too difficult or costly to carry on (when the defences become too degraded).

3. Installation of scour protection along the base (known as the toe) of the existing defences to prevent them being eroded by the sea and repairing the existing defences (seawalls and revetment steps) where needed.
4. Installation of a concrete stepped revetment (revetments are sloping or stepped structures used to absorb energy from waves) along the seafront.
5. A combination of options 3 and 4 with rock scour protection installed across the eastern half and concrete stepped revetment across the western half shown by modelling wave action along the front to provide the level of protection needed.

Following a detailed assessment of the options, the economic appraisal and taking into account sustainability, well-being, and environmental factors, Option 5 (the combination of rock scour protection in the east and concrete stepped revetment in the west) was selected because it best met the success factors and objectives identified for the Scheme, including:

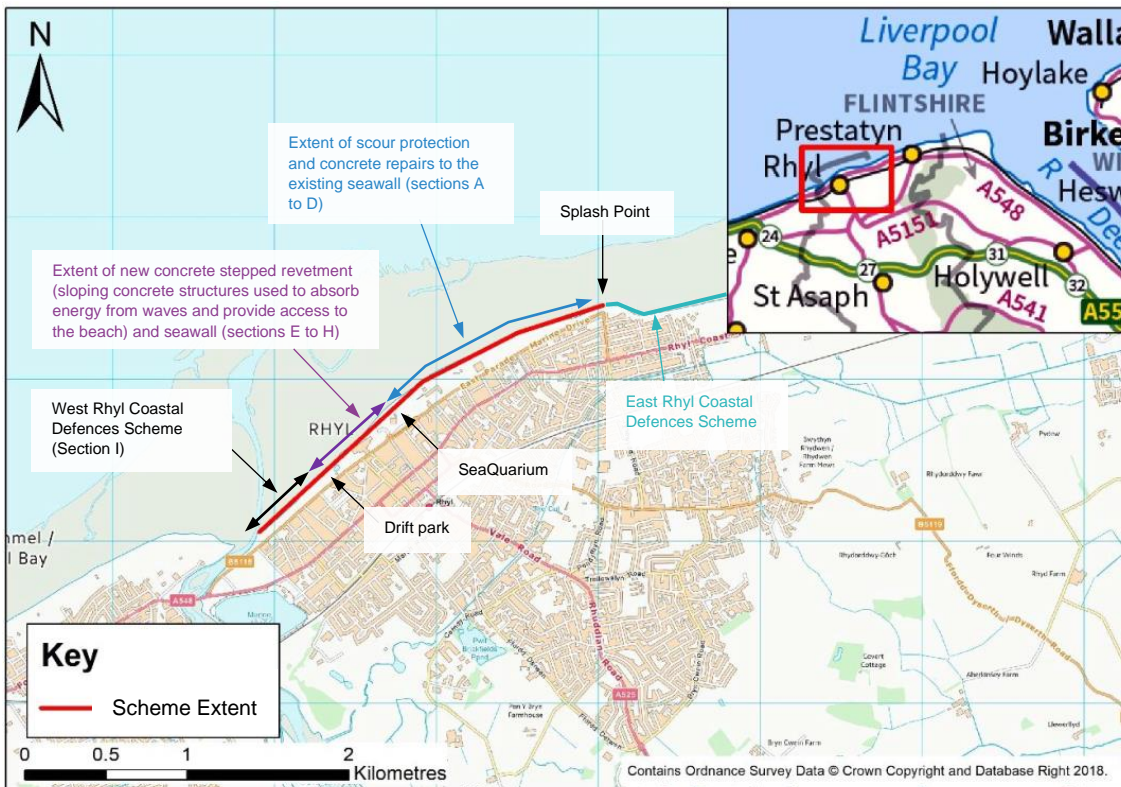
- Providing suitable flood risk and erosion protection for the area.
- Supporting the tourism economy, maintaining the promenade and active travel routes (the Wales Coast Path and National Cycle Route 5).
- The integration of improved beach access to support the regeneration plans for the town centre and high street.
- Being economically viable and affordable.

2 The Proposed Scheme

2.1 Scheme location

The Scheme is located along the coastal frontage of the town of Rhyll, North Wales. It extends from approximately 400m east of the mouth of the River Clwyd, to just west of Splash Point (and the start of the East Rhyll Coastal Defences Scheme). Figure 2.1 presents the extent of the Scheme.

Figure 2.1: Scheme Location



Source: Central Rhyll Coastal Defence Scheme Outline Business Case (OBC), DCC, October 2019. Additional annotations Mott MacDonald Ltd, 2021.

2.2 Scheme design

The detailed design is still under development so for the Environmental Statement and supporting assessments, a **reasonable worst case** has been assumed in terms of timescales and methodologies for the Scheme. This will ensure that all environmental effects have been considered.

The Scheme is proposed to include the following key coastal works, see Figure 2.1 above for details of the different sections mentioned below:

- The construction of approximately 1.45km of scour protection and concrete repairs, between Splash Point and the SeaQuarium (sections A to D in the east). The scour protection would consist of rocks being placed at the toe of the existing coastal

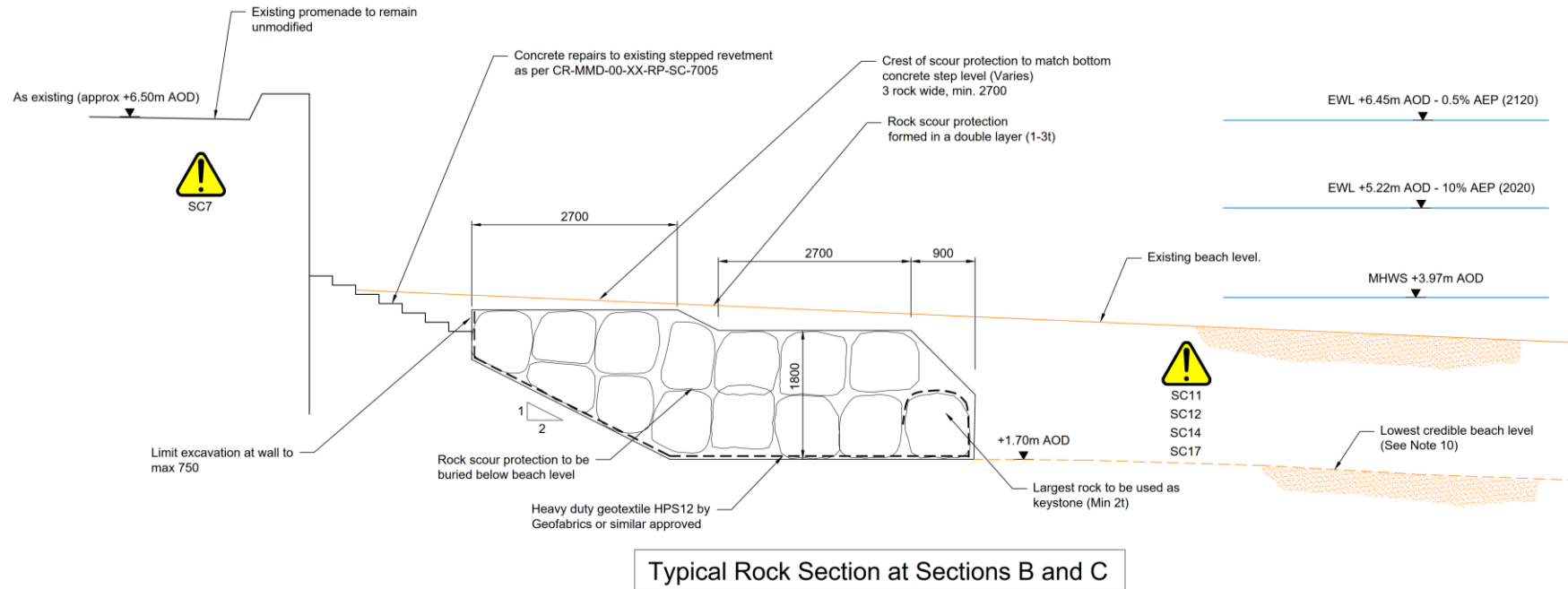
defence structures (see Figure 2.2). Immediately following construction, the rocks would be completely or mostly buried by sand.

- The construction of approximately 750m of new concrete stepped revetment, from the SeaQuarium to opposite Drift Park (sections E to H in the west) over the existing buried stepped revetment in this area (see Figure 2.3 and Figure 2.4).
- New pedestrian beach accesses through the proposed revetments to replace the existing ones and extension of existing beach accesses across the rock scour protection.
- The extension of drainage outfalls through the new defences and protection works to existing drainage outfalls where necessary.

The Scheme also includes the following works to the promenade:

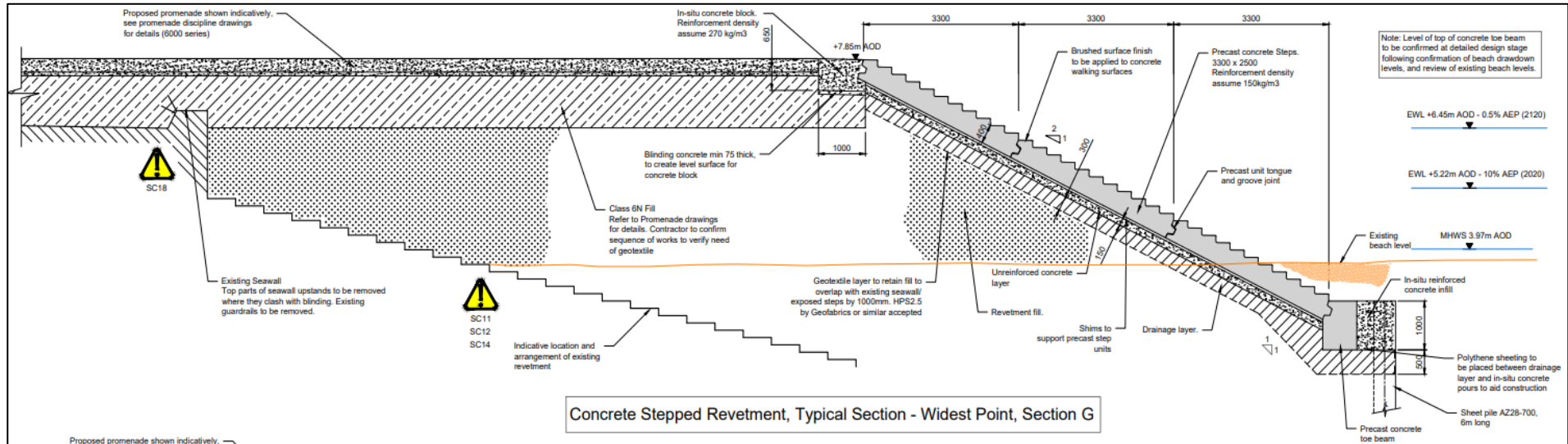
- Raising the promenade from the SeaQuarium to opposite Drift Park by up to approximately 1.6m and widening of narrower sections of the promenade.
- New seawalls at the back of the promenade from the SeaQuarium to Drift Park.
- New flood gates for access points through the new rear seawalls between the SeaQuarium and Drift Park.
- New walls where needed at the back of the promenade between the SeaQuarium and Drift Park, to allow for level (height) differences between the promenade and adjacent land.
- New ramps or steps to provide access to the raised promenade between the SeaQuarium and Drift Park.

Figure 2.2: Proposed scour protection typical cross section



Source: Mott MacDonald Ltd, 2021

Figure 2.3: Proposed concrete stepped revetment typical cross section (widest point)



Source: Mott MacDonald Ltd, 2021

Figure 2.4: Existing buried stepped revetment



Source: Mott MacDonald Ltd, 2021

2.3 Planning framework

The Scheme supports Welsh Government and Denbighshire County Council policy objectives, particularly with regards to enhancing sea defences and reducing flood risk. Additionally, regeneration of the waterfront is considered to support policy objectives to regenerate Rhyl as a desirable tourist destination.

The long-term effects of the Scheme are also considered to support planning objectives concerned with nature conservation and environmental management. Improved flood and coastal erosion protection provided to homes, businesses and active travel infrastructure including the Wales Coast Path and National Cycle Route 5, would support policy objectives in North Wales in particular.

2.4 Scheme construction

The construction methodology is still under development so for the Environmental Statement and supporting assessments, a **reasonable worst case** has been assumed in terms of timescales and methodologies. This will ensure that all environmental effects have been taken into account.

2.4.1 Programme

It is anticipated that construction works would commence in 2022 with an overall construction period of around two and a half years.

Depending on the exact start date, the main construction period may continue until around Spring/Summer 2025.

2.4.2 Works to be completed

The works in the western section would be ongoing throughout the whole construction period while the works in the eastern section would be completed in a shorter duration, anticipated to take approximately one year to complete. It is likely that the eastern works would commence at the start of the main construction period and therefore be completed earlier than the overall end date.

It is anticipated that the placement of the rock scour protection would commence at the easternmost end of the Scheme and work towards the west.

2.4.3 Construction traffic routes

The following two main traffic routes would likely be used to supply the Scheme (see Figure 2.5):

- Primary route: From the A55 following the A525 before turning west onto Ffordd Abergele and then north onto St Asaph Avenue. At this point the route would turn east onto the A548 Foryd Road before crossing the 'Blue Bridge' Ffordd Wellington and then north onto West Parade, entering the Scheme area from the west.
- Secondary route: A secondary route would enter the area from the east via the A548 (Marine Road, Victoria Road West, Rhyl Coast Road, Tynewydd Road and Marine Drive).

Concrete supply would be more likely to come from the east and utilise the secondary route. The routes cater for rock and aggregate deliveries from various possible North

Wales quarries as well as (if required) rock from further afield delivered by sea to Mostyn Dock or Ellesmere Port. The use of both routes would also assist in balancing out traffic movements through the neighbouring local authority areas.

Figure 2.5: Construction traffic routes



Source: Mott MacDonald Ltd, 2021

Very few construction traffic movements may be designated as ‘abnormal loads’ and in these cases they may require alternative routes due to route restrictions. The routes and timings of these movements would be subject to agreement with the relevant highway authorities and the police.

2.4.4 Road and active travel route diversions

No road closures are anticipated to be required as part of the Scheme although some temporary traffic management may be necessary for certain Scheme phases. This would be to provide safe access and working areas for the construction workforce and their vehicles, plant, and equipment. It would also permit safe passage of vehicles and non-motorised users, such as pedestrians and cyclists, through and adjacent to the works.

With the promenade works, diversions of the Wales Coast Path and National Cycle Route 5 would be required. Diversions would be along other parts of the promenade where it is wide enough, and/or otherwise along the footway, shared use surface, or highway (as appropriate) to the south.

2.4.5 Beach access

To minimise impacts on existing infrastructure and maintain access for the RNLI Lifeboat Station, access to the beach would be gained by construction of temporary access ramps where needed. Most of these ramps would be removed on completion

with the exception of a new central access point near the SeaQuarium. This ramp would be converted into a permanent public access ramp and tie in with future regeneration proposals for Rhyl.

Sections of the promenade would need to be used for construction plant access to the intertidal working area as well as for the physical promenade works aspects. Beach access points and areas of the beach would be closed in phases for public safety whilst construction works are ongoing, with appropriate signage directing people to accessible beach areas.

The works in the western section (sections E-H) would be ongoing throughout the whole construction period and require closure of the promenade and access to the beach in the area of works during this time. However, the works in the eastern section (sections A-D) would commence at the start of the main construction period and be completed earlier than the overall end date. The works in this section are also likely to be more localised in nature and cause less disruption to the promenade as most activity would be carried out from the beach.

Subject to agreement with Denbighshire County Council, the works would be handed back by the contractor in sections or stages once completed. This would enable the beach and promenade in these completed sections to be re-opened for public access as soon as is practicable.

2.4.6 Anticipated working hours

No works are to be planned by Balfour Beatty for Sundays or Public Holidays, nor during the week immediately following Christmas. Deliveries of materials and plant would be at times as agreed with Denbighshire County Council.

The normal working hours within the Site for promenade working would be Monday to Friday between 07:00 and 19:00 hours. Any work on a Saturday would be by prior agreement with Denbighshire County Council. Due to their location in relation to the high tide, works on the beach would take place around the daily tidal window with one tidal working window per day.

There may need to be exceptions to these hours for oversize deliveries and tie-ins, or for traffic management reasons.

Where construction works could have a significant impact on neighbouring properties, businesses or residents, the affected parties would be advised of these works prior to their commencement. Denbighshire County Council would be consulted with regard to the nature and extent of any such works. In addition, Balfour Beatty would liaise closely with members of the public and businesses to minimise the disruption and impacts resulting from the construction works.

2.4.7 Construction Compounds

At the current time the following compounds would be anticipated to be in use at some point during the Scheme construction window:

- Quay Street Car Park, opposite Aldi (West Rhyl).
- Land enclosed by Sydenham Avenue, West Parade and Sandringham Avenue.

- The promenade (north of West Parade opposite John Street).
- Land to the north of Marine Drive currently used as a site compound for the East Rhyl Coastal Defences Scheme.

There would also be a central construction access point to the intertidal area near the SeaQuarium with the potential for an additional area to the west of the RNLI Station to be used as additional compound space if necessary.

3 Summary of Environmental Impacts

Following a thorough EIA scoping process, a number of different environmental topics were “scoped-in” for assessment, and these are reported within the Environmental Statement. A summary of the findings of each of these environmental topics is provided below.

3.1 Historic environment

Excavation for the coastal defences and movement of heavy construction vehicles on the beach during the construction phase have the potential to cause a significant adverse effect upon the remains of the submerged prehistoric landscape in the area (see Figure 3.1, which shows exposure of peat and estuarine clays). There may also be adverse effects upon unknown archaeology and heritage assets.

Figure 3.1: Exposure of peat and estuarine clays at the eastern end of the Scheme



Source: Mott MacDonald Ltd, 2021

Effects on the prehistoric landscape are likely to be small in area and would be compensated by the completion of additional investigation and the creation of a geo-archaeological deposit model that would allow a greater understanding of the nature and extent of the landscape within the area of the Scheme. Any archaeological and heritage assets identified during site works (for example areas of the prehistoric landscape, exposed archaeological features, or exposed heritage assets) would be noted and avoided by vehicles and the areas protected from stockpiling. Archaeology would also be protected through reporting procedures and raising awareness of archaeology among the construction personnel.

The construction of the Scheme would be likely to cause a temporary increase in the noise and vibration levels in the vicinity of the grade II listed war memorial on the Promenade. This may temporarily disrupt the peaceful nature of the memorial and its surroundings. These slight adverse (not significant) effects would be managed through

a Construction Environmental Management Plan (CEMP). There would be no working near the memorial during planned commemoration services, such as Armistice Day.

During the operational phase, the Scheme would reduce the risk of coastal erosion across the Rhyl sea front with the standard of flood protection improving in sections E-H. This would have significant beneficial effects on various heritage assets located close to the seafront due to the reduced risk of damage in the future.

3.2 Biodiversity

The biodiversity assessment considered a range of terrestrial and marine designated sites, habitats, and species. The Scheme is located adjacent to the Liverpool Bay Special Protection Area which is of international importance for some bird species, including wintering common scoter and red-throated diver. To inform the ecology assessment, surveys of habitats and wintering birds were completed alongside a desk study of local records. This confirmed the presence of these species, as well as identifying the presence of small areas of blue mussel beds and honeycomb reefs. The biodiversity assessment considered these features, as well as potential impacts on fish, marine mammals, and creatures that live on the seabed.

The key potential impacts from the Scheme would be anticipated during the construction phase, where works could, in the absence of mitigation:

- Cause damage to habitats (through pollution events and vehicle tracking).
- Harm animals (such as covering them in sand or through pollution events).
- Disturb birds, marine mammals, and fish (from vibration, noise, lighting, visual disturbances from works and changes in water quality).

As mitigation, measures would be included in a CEMP to specifically protect these features and minimise disturbance.

In the long-term, the operational Scheme will be more resilient to storms and require less maintenance when compared with the existing conditions, therefore reducing disruption to species and habitats.

A narrow strip of intertidal sand would be lost during construction of the Scheme. To compensate for this, an area of land owned by Denbighshire County Council to the south of Barkby Beach in Prestatyn (previously used as a pitch and putt) has been identified for use as an ecological mitigation area (Figure 3.2). Proposals for the ecological mitigation area include:

- Habitat creation including wildflower meadow and the provision of a dune grassland buffer.
- Pond creation with habitat measures to improve connectivity to populations of sand lizard and natterjack toad to the east.
- Wildlife signage to raise awareness of the importance and sensitivity of the ecology at this location.
- Improved accessibility of existing pathways to reduce disturbance to areas of greater ecological sensitivity and to promote recreational use through select areas of the site.

Figure 3.2: Location of Barkby ecological compensation area



Source: Mott MacDonald Ltd, 2021

It is also proposed that there would be partnership working to support some existing work being completed by Denbighshire County Council along the dunes to the east. This work includes removing invasive plant species and creating sand-patches which are of benefit to reptiles, amphibians and invertebrates.

3.3 Climate

A carbon assessment has been completed for the Scheme to determine the impact the construction and operation of the Scheme would have upon climate change. The production and use of construction materials generates greenhouse gas emissions (also known as carbon emissions). Emissions also occur during the use of construction equipment and transport of materials to site. In addition, the energy requirement for lighting through operation would result in emissions. As a result, the assessment considered these activities and the carbon emissions associated with them.

Throughout the design process large carbon savings have been discussed and are currently being implemented. Given that climate change is a global issue, and that the Welsh Government has committed to reaching net-zero emissions by 2050, any greenhouse gas emissions would be considered as significant. However, the underlying purpose of the Scheme is to increase the resilience of the coastline in this area to coastal processes and the predicted effects of climate change.

3.4 Coastal processes, flood risk, and coastal water quality

3.4.1 Coastal Processes

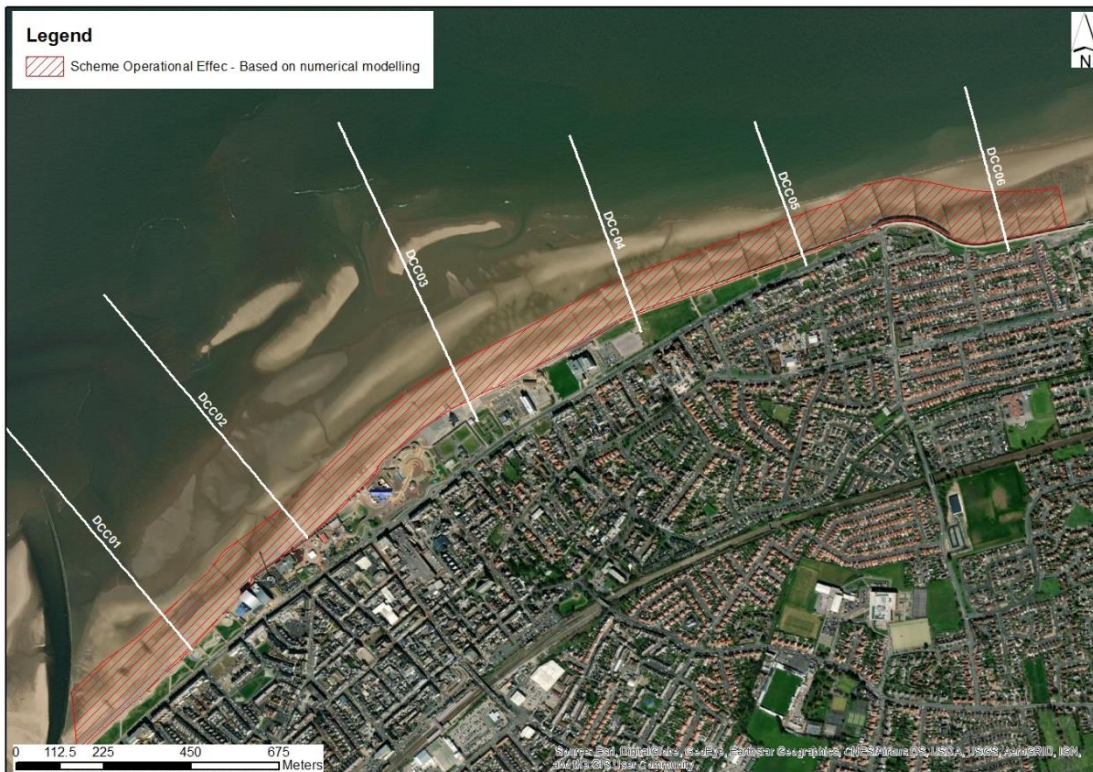
The way our coasts change is controlled by coastal processes (erosion, transportation and deposition of material), which is affected by the geology of an area and the presence and type of any coastal and flood defences. Coastal defences provide protection against coastal erosion, while flood defences provide protection against flooding. In reality, structures can serve both roles.

During the construction of the Scheme it is considered likely that there would be small-scale impacts to the coastal processes along this section of the North Wales coast that result from the stockpiling of materials and the movement of vehicles and equipment along the beach. As requested by Natural Resources Wales, sediment excavated during construction would be redistributed across the intertidal area so that it would not be removed from the overall amount of sediment available to move along the coast.

There are not anticipated to be any significant effects on the intertidal area during construction. Construction works on the beach would be undertaken at lower tidal states and in addition, where practicable, the works would be constructed in sections that could be completed during a single tidal period. Working in this way would help to minimise the amount of sediment that becomes mobilised into local coastal waters. Works would also cease during storm events.

The effects of the fully constructed Scheme have been assessed using a sediment model for a 10 year period. The results indicate that the scheme has no material effect on the coastal processes 400m to the east of Splash Point. The results also indicate that there is minimal change in the coastline over a 10 year period and it is therefore considered that the Scheme would have no significant impacts on coastal processes over its lifetime. The finished Scheme would reduce the impact of coastal erosion to key tourism infrastructure over the next 100 years.

Figure 3.3: Maximum extent of the Scheme effect over a period of 10 years as per numerical modelling results



Source: Mott MacDonald Ltd, 2021

3.4.2 Flood Risk

The promenade is currently at risk of coastal flooding. During the Scheme's construction, there could be an increased risk of flooding along the frontage. To reduce the potential effects of this, a construction-phase Flood Risk Management Plan would be produced by Balfour Beatty containing appropriate risk management measures.

Once operational, the Scheme would have a permanent significant beneficial effect in reducing the current overtopping risk along the frontage and providing durability to the coastal defences in the longer term. The proposed scheme will reduce flood risk to 548 residential and 44 non-residential properties over the next 100 years.

3.4.3 Coastal water quality

During construction, slight adverse effects may arise on coastal waters due to the potential for pollution within the intertidal zone. This risk would be managed by Balfour Beatty working to best practice methodologies to be detailed within the CEMP. Once operational, there would be no effect on coastal water quality.

3.5 Landscape and visual

During the development of the Scheme design, an iterative process has been followed to minimise adverse landscape and visual effects relating to the operation of the proposed development.

The construction phase of the Scheme is likely to cause a temporary reduction in the scenic quality, physical condition, and tranquillity of the local landscape character along the Rhyl seafront area. This would result in a temporary significant reduction in the value of this landscape. In addition, pedestrians and visitors to the seafront and visitors to the beach side amenities would have views of the promenade raising and revetment work. This would result in the demolition and construction activities, along with site hoarding, being visible in these views resulting in a temporary significant reduction in the quality of these views in the short term.

Mitigation detailed in the CEMP includes the careful design of construction lighting, site screening, effective active travel route diversions (with suitable public communication) and good construction site management and maintenance.

Areas where works are complete would be reopened to the public as soon as it is safe and practicable to do so. Any complaints would be recorded by Balfour Beatty and, where appropriate, mitigation actions undertaken.

3.6 Materials

The Scheme has the potential to impact on the availability of material resources for other projects locally and in the future. As a worst-case scenario, it has been assumed that greater than 50% of primary materials required for the rock scour protection would need to be sourced internationally, resulting in a permanent (significant) effect on non-renewable material resources. There is not anticipated to be the opportunity for recovering materials on-site (given the nature of the Scheme) in sufficient quantities to substantially reduce this requirement.

Measures completed to date for minimising the potential effects of materials usage have included materials reduction workshops at the early design stages. Balfour Beatty would continue to manage waste during construction in accordance with a Site Waste Management Plan, which would set out good practice measures for minimising waste.

3.7 Noise and vibration

A study has been completed to assess the effects of airborne construction noise, construction vibration, and indirect construction noise, due to increased volumes of traffic at all noise sensitive receptors defined within the area of the Scheme.

A number of residential receptors have been identified which would be closest to the construction works. The minimum distance between the construction site boundary and the closest residential property is approximately 20m. The noise assessment has been undertaken at identified noise sensitive receptors by comparing predicted levels against published assessment criteria. Non-residential noise sensitive receptors have also been included in the assessment.

The construction noise assessment has determined that the associated levels are expected to give rise to significant effects. However, these effects would be temporary, and the predictions have been based on reasonable worst-case assumptions. A number of mitigation measures have been proposed to reduce the effect from airborne construction noise. These include avoiding work during anti-social hours, and barriers for providing noise screening.

An assessment of marine noise has been completed, which concluded that there would be no significant effects anticipated from the Scheme construction.

An assessment of underwater noise on the SeaQuarium has also been carried out and showed that there would be the potential for significant adverse effects on fish. In addition, an assessment of airborne noise on the seals has been carried out and this showed that there would also be the potential for significant adverse effects. Mitigation to reduce these effects would therefore be required and has been detailed within the ES, including a monitoring programme and relocation of the most sensitive fish within the aquarium where necessary, together with outdoor noise barriers to control airborne noise. In both cases it is anticipated that this mitigation would reduce the effects so that they were no longer significant.

3.8 Population and human health

The construction phase of the Scheme would likely to cause temporary disruption to people using the beach and promenade for recreation. This is because of reduced access to the promenade and beach area. Construction would reduce the ability for people to walk, cycle, or undertake other recreational activities on the beach or on the water. The adverse effect on the promenade and beaches would be managed by planning construction activities to allow access to portions of the beach temporarily during the overall period of construction. Balfour Beatty would implement and publicise diversions to walking and cycling routes so that recreation can continue on these well utilised routes.

Temporary significant adverse amenity effects are also anticipated for the Royal Alexandra Hospital in relation to noise and visual effects with mitigation as previously discussed.

Local businesses are likely to experience temporary significant adverse effects due to disruption to access and potential amenity effects, given the close proximity of the construction activity, which might result in reduced footfall. Balfour Beatty would work to minimise disruption to businesses, for customers, deliveries, and staff.

To accommodate mitigation for fish and seals, there is likely to be disruption to the SeaQuarium's business operations during construction. Additionally, due to the temporary closure of sections of the promenade adjacent to SeaQuarium and construction activity, there is likely to be a reduction in amenity and a temporary impact on footfall.

The demolition of five kiosks is required as part of the construction of the Scheme. This would have a permanent significant adverse effect on these businesses and their employees. For those businesses premises that would need to be demolished to enable the construction of the scheme, Denbighshire County Council, who own the buildings, would enter into discussions with the property tenants regarding what arrangements, if any, would be put in place during and following the construction phase of the Scheme.

Additionally, the loss of open recreational space (in the form of a children's play area) as a result of land requirements for the construction of the Scheme would result in large adverse effects on the provision of open space for children in Rhyl during the

construction period. Therefore, Balfour Beatty would discuss with Denbighshire County Council the feasibility of a replacement play area to be provided at a location suitably removed from the works. Provision of land for any such alternative play area would need to be facilitated by the Council.

During the operational phase, the improved coastal protection would safeguard the community from coastal erosion and flood risk in the long term, having a significant permanent beneficial effect for businesses, community facilities, and residents.

A permanent beneficial effect would also be anticipated for the population close to the Barkby ecological mitigation area through the provision of the ecological and recreational improvements.

3.9 Other construction effects

3.9.1 Air quality

Existing air quality in the vicinity of the Scheme is good, with no exceedances of the air quality standards recorded at local authority monitoring sites within the last three years. Air quality was scoped out of the Environmental Statement because:

- The Scheme would not lead to an increase in vehicle movements exceeding certain key thresholds or lead to road closures or diversions during construction of the Scheme.
- The Scheme proposes improvements to the existing coastal defences, as such there would be no operational changes to the transport network.

A construction dust risk assessment has been completed for the Scheme, which would be used to inform working methods to minimise dust from activities during construction.

3.9.2 Traffic and transport

From a traffic and transport perspective, operational phase effects associated with the Scheme would be negligible.

During the construction phase, there would be a temporary short-term increase in traffic flows due to the delivery of plant, construction materials, and construction vehicles, as well as construction employee vehicles. The increases in flow however are calculated to be well below the threshold required for scoping into an EIA and not likely to result in any discernible delays or congestion for highway users including users of bus services.

Construction vehicle movements (materials, goods, and workers) would be managed to minimise disruption to other road users. This includes use of the dedicated construction routes, as well as dedicated staff parking areas to reduce impact upon local communities. Impacts associated with closures to active travel routes would be managed through the implementation of suitable temporary diversion routes.

A Transport Statement has been produced for the Scheme, which is a high-level assessment of a development's predicted travel impacts and includes a summary of proposed measures required to manage those impacts.

3.9.3 Risk of major accidents and disasters

Given that the principal aim of the Scheme is to improve coastal defence and reduce the risk of erosion (and hence damage to key infrastructure in the central Rhyl area) and that construction best practice would be utilised to manage risks during construction, the creation of a new or different risk of major accidents and disasters is not considered to be significant and was scoped out of the Environmental Statement.

3.10 Cumulative effects

An assessment of effects that occur both as a result of combining different environmental topic effects (“in combination”), along with considering the effects that might be generated “cumulatively” by the Scheme alongside other proposed developments in the area, has been undertaken.

During construction, these effects would potentially include the cumulation of disturbance from construction dust, noise, vibration, and lighting or other visual intrusions on sensitive wildlife, human and visual receptors in addition to construction traffic and disruption to journeys. However, these effects would be temporary in nature and best practice mitigation measures detailed within the ES and included in the CEMP would ensure that combined effects are reduced as far as reasonably practicable. No additional significant in-combination effects have been identified when considering the different environmental topics together.

A number of other developments in the area have been considered alongside the Scheme for their potential to generate cumulative effects, including developments on and adjacent to the promenade, and along the North Wales coastline

The potential for additional significant adverse cumulative effects has been identified in relation to the need for large quantities of construction materials for large developments in the local and wider area with construction likely to be at the same time as the Scheme. While the material requirement can be reduced through good design and use of recycled/reclaimed materials, for coastal developments with specific material requirements mitigating this cumulative effect can be difficult.

In addition, the potential for significant beneficial cumulative effects has been identified in relation to other coastal defence developments proposed to be constructed across the North Wales coast within Conwy and Denbighshire. Together these developments would improve resilience to coastal erosion and reduce the current overtopping and associated flood risk at some of the most vulnerable and highly populated locations along the North Wales coastline. Once operational, the cumulative developments would provide an improved overall standard of protection against flooding and structural durability to the coastal defences in the longer term, facilitating investment and regeneration in the defended areas along with protecting and improving active travel routes and other key infrastructure.

