

# Causeway Coast & Glens Borough Council

To: Environmental Services Committee

HARBOUR AND MARINE ENVIRONMENTAL IMPROVEMENTS  
NORTH PIER PORTRUSH

1<sup>st</sup> September 2015

For Decision

Report to Committee

Linkage to Corporate Plan	
Strategic Priority	Protecting the Environment
Objectives	Protect, enhance and promote opportunities for greater enjoyment of our natural environment.
Lead Officer	John Richardson
Capital Costs	Estimated cost  1. £275,000 – Portrush Sea Defence Repair (Crane Based Methodology Dependent) 2. £50,000 – Pans Rock Footbridge 3. £87,000 – Ballycastle Harbour Quay Wall Protection
Revenue Costs	No Change – Circa £2500

## 1.0 Portrush Sea Defence Repair

### 1.1 Background

Estates have assessed the sea defence rock armour protecting the North Pier at Portrush harbour. Sections of the rock armour protection have reduced significantly as a result of constant aggressive wave action over many years. Appendix 1 identifies the areas where rock armour is missing.

It is essential to carry out remedial replacement of rock armour as soon as possible to eliminate an inevitable risk to the North harbour. It is cost effective to reinstate the armour as soon as possible, to reduce harbour exposure and escalation of sea defence damage.

It is estimated that approximately 1500 tonnes of rock armour in the 6-10 tonne range will be required to provide an adequate reinstatement.

Localised small sections of concrete to sloping pier wall, (located behind wall which formed demolished storage areas), will also be reinstated during this process. Damage to same having occurred due to rock displacement.

To calculate the pre-tender budget cost estimates it was necessary to:

- Appoint Professional independent Civil Engineering Consultants, including a Marine Quantity Surveyor with extensive experience in Marine Civil Engineering works of this nature.
- Use rates previously received through competitive tender competitions for similar rock armour works.
- Allow a 15% risk allowance, which is the normal allowance for this particular work.

The weather risk is by far the greatest risk. The works can only take place during periods of settled weather with limited or no swell. A suitable time to carry out this work is between April to May next year – just after Easter. The estimated works programme is 6 weeks.

There is a limited pool of suitable contractors who would have the necessary skills and experience to carry out works of this scale and nature. Costs are very often driven by market forces – not least the availability of suitable plant and machinery at the time it is required.

In addition, the availability of suitable rock armour is critical. Based on research of similar schemes, the cost estimate is in the order of **£275k + VAT**.

Infrastructure department has completed the above assessment and the associated specification for repair (stage 1 of the procurement process).

## **1.2 Recommendation**

It is recommended to proceed to stage 2 of the procurement process.

## **2.0 Pans Rock Footbridge Repair**

### **2.1 Background**

The Pan's Rock is a rock formation at the eastern end of Ballycastle Beach, being the remains of an Iron Salt pan. The seven span footbridge facilitates access onto the rock as it becomes an island at high tide.



As part of the legacy Moyle District Councils Capital Works programme, a condition survey report was commissioned to ascertain the current condition of the footbridge at Pans Rock.

During the time of this condition survey, the strong winds and tide in December 2014 completely washed away the beachside access steps and foundation. This area of failure has been cordoned off to prevent access until the completion of the report.

The Condition survey and report has now been finalised with budget costings applied to alternative remedial options.

## 2.2 Options

Option 1: Carry out minimum repairs to facilitate a low cost and prompt re-opening. Note this only provides a short term repair solution, approximately 10 years.

... £47,500.00

Option 2: Repair concrete support columns and replace timber deck including balustrades and steps in durable timber. (20 year supports and 10 year deck life span)

... £242,800.00

Option 3: Replace bridge with new concrete support columns with galvanised steel deck and stainless steel handrail, balustrades and steps. (30 year life span)

... £400,000.00

Option 4: Remove bridge and make good existing surfaces.

... £115,000.00

## 2.3 Recommendation

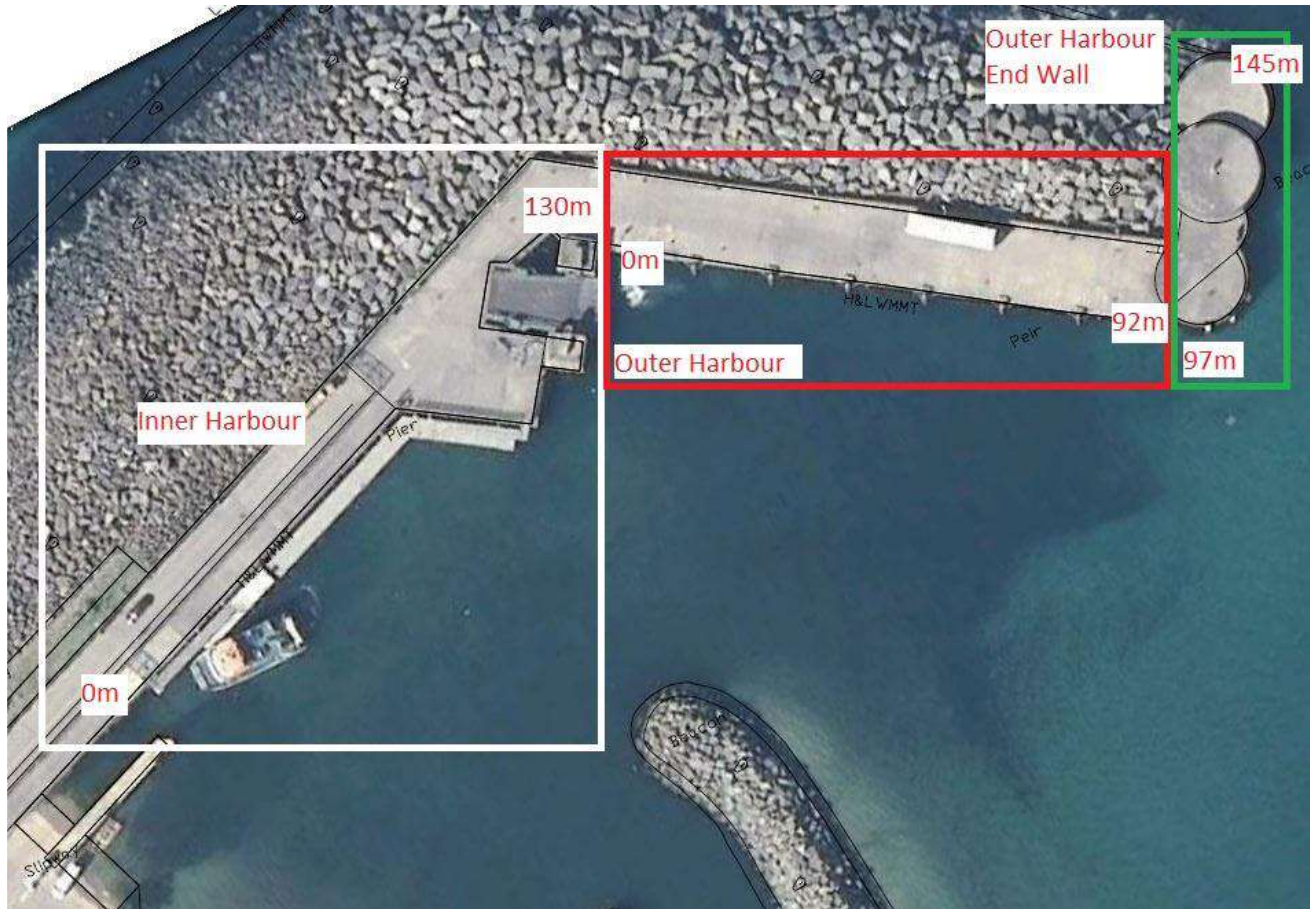
It is recommended the Environmental Services Committee approve the progression of Option 1 to Stage 2 of the Procurement Process.

## 3.0 Ballycastle Harbour Quay Wall Protection

### 3.1 Background

As part of regular maintenance inspections, RPS Consulting Engineers were commissioned by the legacy Moyle District Council to undertake a condition survey and reporting on residual steel pile thickness on the following structures within Ballycastle Harbour:

- Inner Harbour Sheet Piling including the Linkspan
- Outer Harbour Cellular Caissons



The structures have been in place for more than 15 years, and in addition the sheet piles were painted during the construction phase as a protection measure to delay corrosion.

The survey has shown that the sheet piles are experiencing high rates of corrosion, in many locations the section loss is greater than the average predicted section loss assuming the most extreme exposure environment despite the limited protection measures implemented (painting).

In summary the majority of the thickness readings taken at both the Inner Harbour and the Outer Harbour cellular caissons showed corrosion levels higher than would be expected for these structures.

The deterioration of the sheet piles should be addressed by the provision of galvanic anodes to provide protection against ongoing corrosion. It is recommended that the anodes be applied to the full extent of the harbour piling to slow down ongoing corrosion and further deterioration particularly in the low water zone (and submerged pile zone).

The estimated cost for these works is £87,000.00.

### 3.2 Recommendation

It is recommended the Environmental Services Committee approve the progression of this project to Stage 2 of the Procurement Process.