

Aberdeen Harbour Expansion Project

Meet the Team

Ian Taylor, Geo-Environmental Project Manager



Q. When did your involvement with the project begin and how?

A. My involvement with the project began in 2011, when I was working with the Engineering Consultants, Arch Henderson LLP, who were appointed to commence a reference design for what was to become South Harbour. In 2015, I left Arch Henderson after 21 years with them to join Aberdeen Harbour as their Geo-Environmental Project Manager.

Q. How would you describe your role?

A. Varied! Five years ago, I was initially helping with the preparation of the Environmental Assessment, then I moved to site and became involved with the construction team. My focus has been on rock quality, water quality, aggregate/core material quality, dredging, blasting and construction supervision on the North Breakwater.

Q. What can a work week involve?

A. At the moment, most of my work involves daily inspections of the contractors' work practices to protect land and marine environment. I am also getting back into rock and aggregate quality and grading, and water sampling in the Bay and adjacent water courses.

Q. Can you tell us what specific properties the rock used to construct the Harbour needs to have for different structures?

A. The armour stone rock is highly durable and compact – its technical name is igneous Anorthosite Rock. It is blasted from the bedrock in a quarry in Norway (Rekefjord) with very little wastage and produces reliable quality and size of blocks which are critical to the design of the structures – particularly the Breakwaters and open quay sections of the Castlegate Quay (North) and Balmoral Quay (West). The rock armour is divided between 1-3T, 2-5T and 3-6T, depending on where it needs to be used in the structures.

Q. How do you quality check the rock?

A. I have made many trips to Norway to inspect and quality control the rock. The rock is first graded into size, shape and weight with representative blocks measured for each shipment. We also carry out a 'drop test' for block strength. This involves dropping each grade from a three-meter height onto an equivalent bed, to try and replicate the slamming forces of the sea against the Breakwater structures. All breakages are recorded and only the best rocks are allowed to be shipped to site.

Q. Can you tell us some of the ways the project is reducing waste by reusing material?

A. It is a huge focus of everyone on site to reuse as much material as possible within the project. Any rocks that do not meet our grade are crushed on site and used as general infill for the caissons and behind the quay walls. Rock that has been dredged from the seabed and solid rocks beneath the Bay are assessed, graded and either used as core material in the South Breakwater or as general infill. Only the soft silts and sediments and clay are taken to the marine disposal site, and this operation is very carefully regulated and managed by a variety of organisations.

Q. How do you work with the contractors on site and other stakeholders?

A: We hold weekly meetings with our contractors, and a monthly Environmental Advisor Group (EAG) with SEPA, NatureScot, Marine Scotland, the RSPB, Whale and Dolphin Conservation, the Dee District Salmon Fisheries Board, Aberdeen City Council and Aberdeen University. These meetings can cover items such as noise levels from construction, road issues, coastal paths, and cliff stability.

Q. What does it mean to you to be part of a project like this?

A: This is a totally unique project as brand-new harbours are extremely rare to work on. When completed, South Harbour will be an excellent asset for both the North East of Scotland the whole of the UK, as we see the gradual diversification of industries and users over the next century. These are exciting times indeed!