

Project Overview and Need

Coastal Erosion along the sand dune foreshore of Tràigh Bhàigh (Crossapol Beach), Tiree, has been exposing metal and concrete demolition waste materials.

HIAL commissioned Jacobs (a specialist Engineering and Environmental Consultant) to complete a desktop review and site inspection for this occurrence in December 2020. These studies confirmed that the materials being exposed on the beach are most likely to be related to demolition waste from the former World War II RAF base buildings and camps and comprised primarily concrete and metal with localised occurrences of corrugated asbestos cement roofing. No evidence of radiological materials were encountered by the initial screening.

Whilst the desk-based reviews suggest that the current 225m exposure of these materials is likely to represent the majority of the length of dunes containing waste materials, there remains a potential risk that other more substantial areas of waste may be present that could be exposed by future erosion events.

To manage this, HIAL has commissioned further studies and site surveys of Tràigh Bhàigh to ascertain the potential extent of the buried materials and gain topographical information to support further assessment of the need and extent of any coastal protection measures that may be warranted. HIAL are also taking the opportunity to investigate the south of Sruthan Terrace and delineate whether other buried waste deposits may be present within their land ownership attributable to historical waste deposition by the local authority prior to the early 1990s.

These studies and surveys will comprise a variety of techniques and visits by specialist teams to the coastal area as shown in the attached figures over the next 3 months. None of these works will require the exclusion of the public from the areas or interrupt the local use of the areas during the surveys. The surveys include the following:

- Non-intrusive topographical surveys along the full length of the Tràigh Bhàigh from the crest of the dunes to the Low Water Mark to obtain georeferenced level data and beach profiles.
- Non-intrusive geophysical walkover surveys to determine the likely extent of buried waste materials located south of Sruthan Terrace between the stream immediately east of the Island Centre and the access track to the buildings halfway along the beach.
- Soil Sampling of the exposed waste materials on the edge of the beach for chemical analysis and radiological screening of the wider site area south of Sruthan Terrace between the stream immediately east of the Island Centre and the access track to the buildings halfway along the beach.

It is highlighted that the completion of radiological surveys is standard and precautionary practice when assessing former RAF sites to prove the negative and there is no direct evidence of any buried radiological materials in the area. The initial near surface radiological survey completed in December 2020 did not record any radiological activity substantially above background levels but a more formal survey is required to satisfy the Regulators in accordance with industry guidance.

All survey works will be completed by technical specialists in accordance with statutory and industry guidance and best practice.

Topographical Survey

As part of the Coastal Protection works on Tràigh Bhàigh, HIAL have commissioned a topographical survey along the full length of the beach from the crest of the dunes to the Low Water Mark to obtain georeferenced level data and beach profiles.

This will be conducted by a 3 person team commencing in November 2021 (exact date tbc). The team will set up a temporary base station and will traverse the sand dunes and beach foreshore on foot as shown in Figure 1. They will be using portable equipment to record ground levels and notable features. The works will take circa 2 weeks to complete and due to tide times, some of these works may be completed at dawn and dusk using head torches. Please do not disturb the base station as this will mean the survey will need to be repeated.

Geophysical Survey

As part of the Coastal Protection works on Tràigh Bhàigh, HIAL have commissioned a non-intrusive geophysical walkover survey to determine the likely extent of buried waste materials located south of Sruthan Terrace between the stream immediately east of the Island Centre and the access track to the buildings halfway along the beach.

These works will also be conducted by a 3 person team commencing in November 2021 (exact date tbc). The team will traverse the sand dune area on foot, using equipment that detects variations in the conductivity and magnetism of the underlying ground. These variations will be interpreted to identify areas with different material properties that can be correlated with buried wastes and sands etc. The works will take between 2 and 3 weeks to complete.

Soil Sampling

As part of the Coastal Protection works on Tràigh Bhàigh, HIAL have commissioned the soil sampling of the exposed waste materials on the edge of the beach. The analysis will provide data to determine if there are any potentially contaminative materials that may require further consideration when designing any coastal protection measures.

These works will also be conducted by a 2 person team commencing in November 2021 (exact date tbc). The soil sampling team will collect samples of near surface sand and debris from the area of waste exposure for chemical laboratory analysis using hand tools only. This work will take a single day to complete.

Radiological Survey

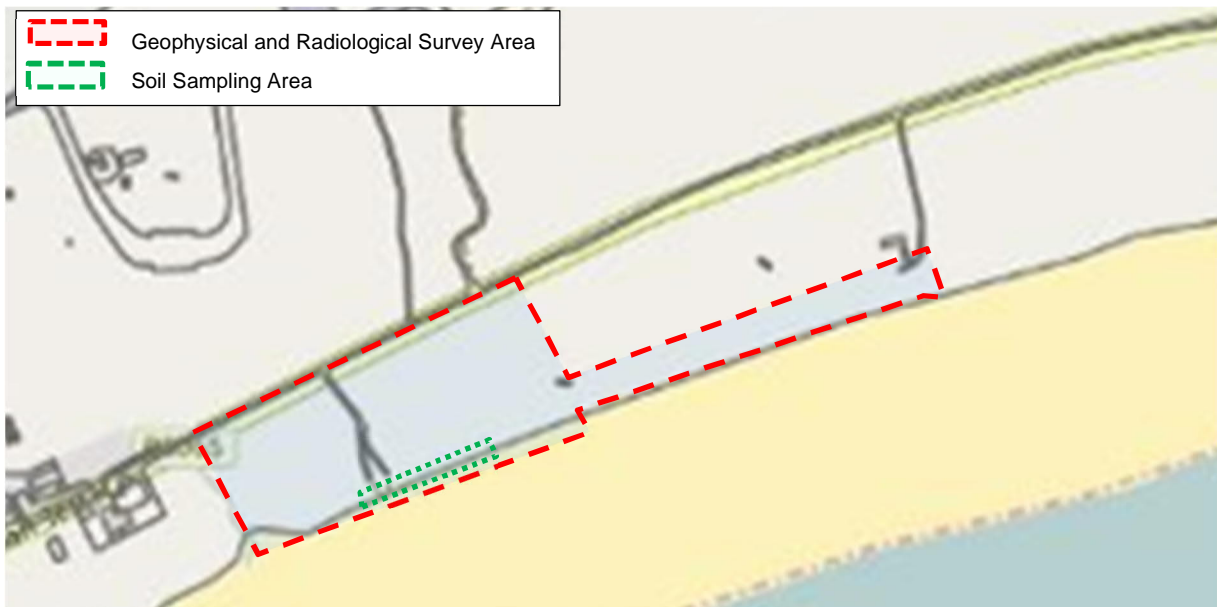
As part of the Coastal Protection works on Tràigh Bhàigh, HIAL have commissioned a non-intrusive radiological screening walkover of the area south of Sruthan Terrace between the stream immediately east of the Island Centre and the access track to the buildings halfway along the beach.

These works will be conducted by a 2 person team commencing in November 2021 (exact date tbc). The team will traverse the sand dune area on foot using hand portable equipment to collect measurements of background radiation. These variations will be interpreted in accordance with SEPA guidance to confirm that there is no evidence of elevated radiological levels above natural background levels. The works will take circa 1 week to complete.

Figure 1 – Topographical Survey Area



Figure 2 – Geophysical, Radiological and Soil Sampling Survey Areas





Electro-magnetometer Survey



Hand Held GPS Receiver



GPS Base Station