Aberystwyth OBC Investigations

As part of Marine Licence application RML2349 for the Aberystwyth investigations, NRW have requested additional information noted in bold.

The following additional information has been provided to support this request for the Band 1 application:

1. **Detailed method statement including oil spill contingency for any machinery**

1.1 Outline proposals

The investigations are planned to take place outside of the busy summer period.

The investigations are planned to take place between October 2023 and December 2023, during daylight hours. Investigations on the beach will be at low tide i.e. undertaken in the dry. Total duration on site could be between 2 to 4 weeks for the land and beach based investigations and depending on tidal state at the time of the investigations. There are three types of investigations required - firstly taking small samples of beach material for lab testing, secondly, visual inspection of seawall foundations and finally bathymetric and geophysical surveys.

For the beach sampling, the contractor will use a bucket and spade to retrieve samples of the existing sand and shingle at low water. These will be placed in bags and taken to a laboratory for testing. These are shown on plans numbered P2HP01 through to P2HP030 (30 locations). 3 kilograms of material is required at each location. The retrieval of samples is a licensable activity. Machine excavated trial pits to determine by visual inspection the sea wall foundation depths. No material sampling will be undertaken at these locations, and these will be reinstated using the original material. These are shown on plans numbered P1TP001 through to P1TP0015 (15 locations).

The investigations will also involve non-intrusive bathymetric and geophysical surveys by boat at hightide, using sensor equipment.

The details and locations are shown on the drawings included with this application.

Note that the drawings also show work on land which is not subject to the marine license i.e. the trial pitting and boreholes on the promenade which are above high water: P1DCP001 to P1DCP007 and P1HP001 to P1HP007.

No scaffolding will be used for these investigations.

1.2 Site compound and storage areas

The site compound is likely to be located at the end of Victoria Terrace at the end of the Promenade above the high-water mark (outside of the marine licensable area). This will be gated and fenced off.

The site compound will be used to store plant, equipment, and basic welfare facilities (self-contained kitchen/toilets) for the contractors.

On completion, the site compound will be removed following construction activities and the area will be returned to its pre-existing condition.

All plant and equipment for these investigations, including the site compound units, will be delivered to site by road.

1.3 Site Access

Access to the site will be via Marine Terrace for the North Beach and South Marine Terrace for the South beach.

Access to the beach for the trial pits will be by excavator from the existing slipways. From here it is possible to simply drive the all-terrain tracked excavator onto the beach and then towards the areas where the investigations will take place. It is not anticipated that preparation of an access route is required in the contract.

1.3 Plant / machinery to be used

An excavator or JCB will be used for the trial pits in order to investigate and observe the wall foundations. No samples will be taken from the trial pits. Excavations will be backfilled with existing material.

The excavator shown below is the largest tracked vehicle likely, (but a smaller excavator or JCB may be used) which will be transported by lorry by road to the site and will travel down the slipways to access the North and South beaches.

Typical plant that will be used in these investigations are shown below.

Figure 1.3.1 - Excavator

Figure 1.3.2 - Wheeled JCB

1.4 Proposals for spill contingency

The bespoke proposals for spill contingency are as follows:

- ✓ Spill kits (held on plant and equipment) will be employed to contain and prevent the accidental spread of fuel, oils and chemicals associated with the plant and equipment into the marine environment.
- ✓ Plant, vehicles and equipment will not be refuelled on site or the foreshore.
- ✓ All equipment, materials, plant and PPE used will be in a clean condition prior to their arrival on site, and upon removal from site, to minimise risk of introducing non-native species into the marine environment.
- ✓ All equipment, temporary compound, waste and/or debris associated with the investigations will be removed on completion of the works.

- ✓ The conditions of contract will require that the contractor has arrangements for spill contingency as noted above.

1.5 Proposals for minimise risk to the marine environment

The bespoke mitigations to minimise risk to the marine environment are as follows:

- ✓ The investigations are planned to take place outside of the busy summer period which will reduce disruption to tourists, boat users and locals. Planned for October.
- ✓ In terms of the beach investigations, these will be planned at low tide and will be above low water, in the dry, in day light hours. Therefore, will not pose a risk to navigation.
- ✓ The contractor will use a bucket and spade to retrieve samples of existing sand and shingle at low water. These will be timed to avoid inconvenience to any beach users.
- ✓ The contractor will ensure samples are only taken in the top 500mm of the beach.
- ✓ Pre-engagement has been undertaken with Dyfed Archaeological Trust, Royal Commission on the Ancient and Historical Monuments of Wales, Trinity House and the Maritime and Coastguard Agency. All stating that they agree with our conclusions of no anticipated impacts.
- ✓ We have discussed these investigations with Ceredigion County Council's harbourmaster and he has confirmed that he cannot foresee any impact on navigation.
- ✓ The mitigation measures to be put in place will be a Notice to Mariners to advise when the investigations will take place and the likely duration.
- ✓ The conditions of contract will require that the contractor has arrangements for the emergency removal of plant and equipment which may need to be abandoned due to tides.

2. Predicted noise levels

The human ear responds to a wide range of sound pressures, from 0dB (the threshold of hearing) up to about 130dB (approximating to the threshold of pain).

For the excavation of the trial pits at the base of the walls by a tracked excavator or JCB this equates to a typical noise level of 77 dBA at 10m. This is in comparison to a car at 25 mph at 7.5m and less than a busy street as can be seen in Table 2-1 below.

Table 2.1 below shows indicative noise levels associated with different noise sources. They are intended to give an appreciation of noise levels commonly experienced in various situations.

Table 2-1 Typical dB(A) Noise Levels

Noise Source	**dB(A) Level**
Rural night-time background	20-40
Quiet country bedroom at night	30-35
Quiet library	40
Quiet office, air conditioner	50
Car at 40mph at 100m	55
General office or supermarket	60
Conversational speech at 1m	60-65
Car at 25 mph at 7.5m	**70**
Pavement of busy street	**85**
Hand held hydraulic breaker (20kg) at 7m	95

Jet aircraft at 250m	105

3. A shapefile containing a polygon encompassing all of the trial pit locations. Co-ordinates for the boundary of the polygon will be required.

Refer to the email sent on 03/10/23 which includes a Marine licence area.zip file.

This contains 2 polygons areas for each beach covering the extent of the hand pits and trial pits up to the sea wall. All the investigations are within the polygons.

There is also a datafile containing the polygon coordinates. An excel table showing coordinates in Lat/Long is also provided.

Marine_licence_area.zip

Marine Licence Area - Coordinates in OSGB