Appendix A

Introduction

The storm outfalls associated with the Moray Coast Wastewater Project are a combination of old and new assets, many of which have been in place since the 1960s and some even older. The facilities were constructed/extended in consultation with local communities, local authorities, The Crown Estate, landowners and many other stakeholders to ensure that they co-existed with other interests.

Maintenance demands have historically been low but recent impacts of exceptional storms have created damage and morphological changes to the coastlines not seen previously. Many coastlines and coastal infrastructure require more protection and relocation of sewage assets is to be expected along with abandonment of some properties due to climate changes.

Forming part of the pumping station and storm overflow network across the Moray and Aberdeenshire coast are 20 storm outfalls including assets at Cummingston, Nook, Portknockie and Inverboyndie (see Figure 1 below). The assets typically include the station for receiving and pumping sewage flows from the local area and upstream station and an outfall that extends to below mean low water spring to ensure dispersion of the storm overflow when there is excessive volume in the sewer system.

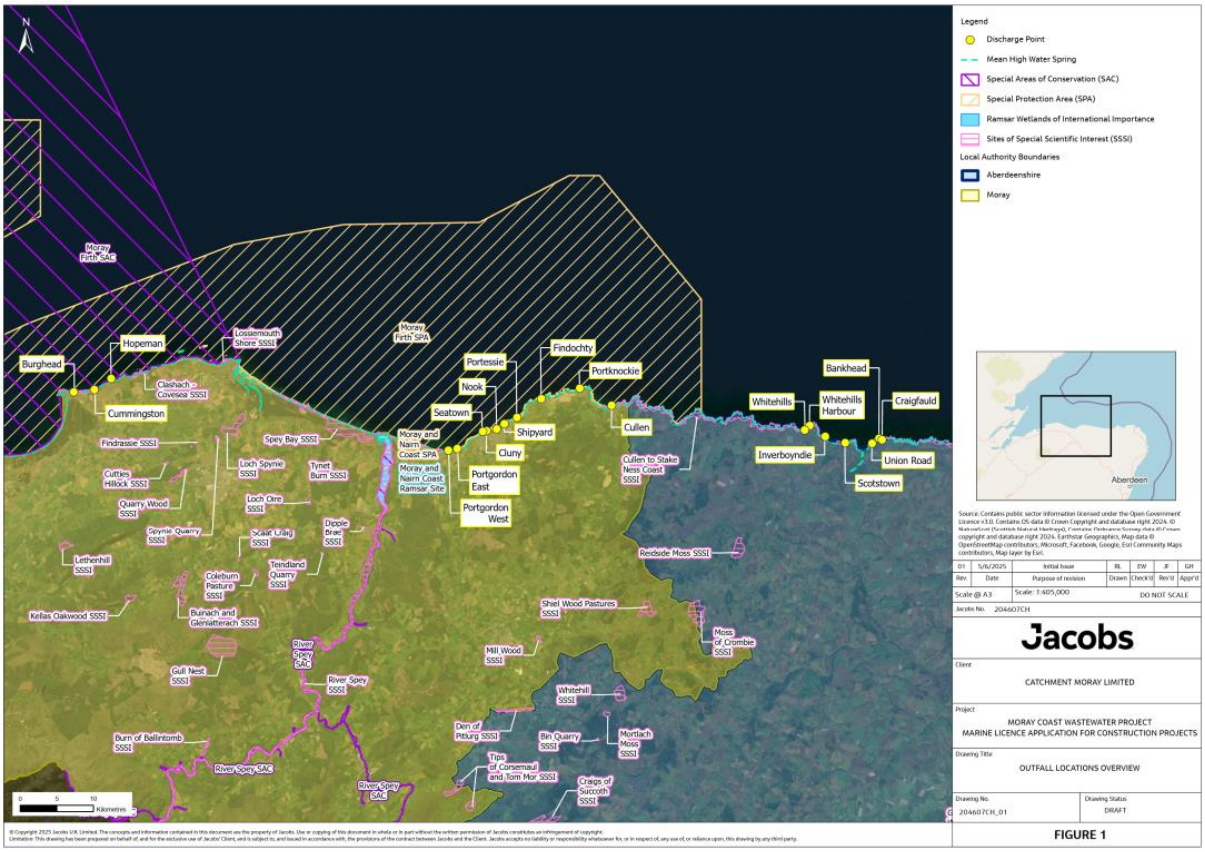

Figure 1 - An overview layout of the Moray Outfalls.

These outfalls are licensed by SEPA as CSOs (Combined Sewer Overflows) and also Emergency Overflows in the event of a failure of the pumping station or downstream pipeline.

The outfall integrity is essential to ensure that the overflows are delivered into a higher volume receiving water to achieve dispersion. Damage to the protection, supports or outfall pipelines themselves will risk compromising the structure and function which is part of meeting the environmental and marine objectives. A collapse of blockage also risks creating onshore flooding of public areas or property.

Programme of Works Summary

The outfalls have all been in place in their current form since 2000 and most had been present in some form for many decades prior to that. Markers are only used on the largest outfalls and in accordance with Northern Lighthouse Board requirements. The outfalls are generally visually unremarkable and develop a surface coating of marine growth that enables them to blend in sufficiently to the shoreline. Even repair work is quickly re-covered by sea growth. They are an established part of the seascape, and no changes are proposed to these structures (repairs are not seen visually to be changes despite the treatment as 'construction' for the purposes of licensing). The proposed repairs are only seeking to restore what has become damaged and they are expected to blend back into the main body of the outfall by the time light intensity rises in Spring to generate sufficient algal growth.

In addition, Cummingston lies within the Moray Firth SAC area (west of Lossiemouth) but the outfall lies across a rocky shore that is flooded to a shallow depth at high tide and not an area associated with bottlenose dolphins. There are no other SAC or MPA designated areas relating to the other outfalls.

All coastal structures populate with native species of marine algae/kelp and none of the materials or equipment proposed for use during outfall repairs represent a risk of introduction of invasive species.

Blockage or collapse of the outfall increases the risk of uncontrolled overflows above low water mark and result in sewage reaching areas of the shore with insufficient dilution. Storm overflows only discharging from the prescribed end of pipe location is at the core of the CAR licenses for each location.

The proposed works are specifically to avoid any deterioration in the receiving water quality in the event that the current damage turns into a full leak or the pipe structure is lost completely. Maintenance and repair of these structures is a normal part of asset care, as it is with any structures and equipment, and this is necessary to maintain the water quality standards in the relevant localities.

The current works will not alter the assets as designed and will not affect access to the shore. The main risk now is the indirect effects of climate change on the energy being dissipated onto the shoreline, in total and severity, by tidal/storm action or rainfall runoff; this is a risk being shared with all asset owners, private and public.

Lastly, a review of the outfalls confirmed that three SSSIs intersected with tenoutfalls. One outfall and/or its pipeline fall within the Cullen to Stake Ness Coast SSSI, two within the Masonshaugh SSSI and seven within the Whitehills to Melrose Coast SSSI. All of the SSSIs are designated for their geological features but Cullen to Stake Ness Coast SSSI is also designated for its biological features. A detailed analysis of the impact is provided in the ***SSSIs and Moray Coast Storm Outfalls*** document attached to the MS application.