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Our ref: DC/2022/122897/01-L01

Your ref: P/22/077/FUL

Date: 19 December 2022

Dear Olivia Rickman

APPLICATION FOR THE INSTALLATION OF GEOBAGS AT PERIGLIS TO REPLACE THE CORE OF EXISTING DUNES, WRAPPED IN GEOTEXTILE AND COVERED WITH EXCAVATED MATERIAL AND TO STABILISE THE DUNE CREST WITH GEOMAT TO ENCOURAGE RE-VEGETATION. INSTALLATION OF ROCK BAGS AT PORTH COOSE TO HEIGHTEN THE EXISTING PROTECTION, BACKED BY EARTH BUND AND INSTALLING ROCK ARMOUR AT THE BOTTOM OF THE EXISTING SEA WALL AT PORTH KILLIER. TO REDUCE THE RISK OF COASTAL FLOODING ON ST AGNES. (EIA DEVELOPMENT) (MAJOR DEVELOPMENT) LAND ADJ TO WASTE SITE, THE QUAY, ST AGNES, ISLES OF SCILLY

Thank you for the recent consultation regarding the above proposed development.

Environment Agency position

We object to the proposed scheme and recommend a change in the design for the reasons set out below.

Reasons

We have concerns that the design of the Periglis coast protection works will not provide the intended protection for the drinking water supply and will be prone to undermining and failure in the future. An alternative design whereby the geo-bags are constructed into the rear of the dune ridge (4-5m landward of proposed location), rather than towards the seaward face, would avoid disturbance of the shingle ridge frontage and avoid the risk of undermining within the intended design life of the structure.

The Environmental Statement indicates that the dune ridge appears to be in a long-term erosional trend, with evidence of erosion and steepening in some locations. As the long-term trend of the existing dune crest is predominantly erosional, it can be inferred that both advancing the alignment of the dune crest seaward and raising the elevation of the dune crest within the proposed design is likely to exacerbate the erosion of the dune face during storm events. As the defence prevents natural rollback, the dune face will

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become sacrificial, and exposure and undermining of the geo-bags will occur, as has been observed on other wave-exposed sites where the net dune sediment budget is negative. On exposure to the more vertical, resistant surface of the geo-bags, wave reflection is likely to occur, which could subsequently erode and steepen the beach face. The strandline as viewed in Figure 15 of the non-technical summary is overlapping with the toe of the proposed defence; therefore, it would be anticipated that this sensitive area would be subject to erosion following the construction of the defence.

Advice regarding proposals for Porth Coose frontage of the St Agnes application.

We have further concerns with regard to the design of the Porth Coose coast protection works. Currently, the Armourflex concrete mattress is covered by shingle, although this was partially exposed in the 2014 storms. The proposed rock bag wall, some 1.2m high, along the crest of the dune will impact wave energy by preventing regular overwash and introducing a hard reflective structure within the wave impact zone. Not only is this liable to lead to increased exposure of the concrete mattress, but also has the potential to damage the structure. Should the concrete mattress be damaged, subside or fail, then the rock bag coast protection wall will be prone to undermining and failure itself.

This should be considered within the Environmental Statement by providing information on the standard of protection, design life, wave energy impacts on the concrete mattress, and management responses in event of failure of any element of these combined works.

On review of this information, the rock bag design may need to be amended to provide sufficient resilience over the design life. This might include, setting the base of the rock bags below the level of the concrete mattress, designing a sloping face to reduce wave energy reflection, and redesigning the toe protection provided by the concrete mattress.

Flood Risk

There are no flood risk objections. The proposal is in line with the “Hold the Line” policies set out within the Shoreline Management Plan to reduce the risk of erosion and inundation of the Big Pool.

Big Pool is the island’s freshwater supply and would be considered essential infrastructure. The scheme offers some protection of this for the next 25 years along with reducing flood risk to a number of properties and other infrastructure.

The details submitted make clear that the current proposal has been designed with a lifetime of 25 years only and therefore consideration needs to be made on how the aspirations of the SMP will continue beyond the 25 years of this scheme.

Groundwater comments

We have reviewed the relevant parts of 'Isles of Scilly Sea Defences Environmental Statement - Final Report' - JBA Consulting, November 2022. We support the principle of protecting the aquifers from infiltration by seawater.

Waste comments

The proposed activity needs to identify and correctly manage any waste produced as a result of the work on the Islands

Water quality comments

We would support the proposed coastal defence work to protect drinking water sources on the Isles of Scilly.

We note the application does state that appropriate mitigation measures will be implemented through the construction phase, to ensure that the water quality is not adversely affected by pollution incidents and the release of contaminants from the site.

The proposed coastal defence work may impact on water quality and compliance with WFD standards.

We would request an assessment as to how the applicant will ensure no adverse impact on surface water quality in general, especially as:

- The Isles of Scilly lie within the **WFD TrAC waterbody Scilly Isles (GB620807080000)**. (The Isles of Scilly are also covered by the WFD groundwater waterbody Isles of Scilly (GB40802G081200)).
- The Isles of Scilly are covered by SAC and MCZ designations and include interest features such as *Zostera* (sea-grass) which are known to be sensitive to siltation i.e. suspended solids in the water column can settle out and smother sea-grass.
- Although there are no designated bathing waters on the Isles of Scilly it would be prudent to ensure that any work undertaken does not have an adverse impact on coastal water quality, especially in the bathing water season May – September. This is particularly pertinent given the importance of tourism to the Isles of Scilly economy.

Yours sincerely

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