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| Subject: | ST MARGARET'S BAY SEA DEFENCES REFURBISHMENT SCHEME |
| Meeting and Date: | Cabinet – 1 November 2021 |
| Report of: | Martin Leggatt, Head of Assets and Building Control |
| Portfolio Holder: | Councillor Oliver Richardson, Portfolio Holder for Community and Corporate Property |
| Decision Type: | Executive Non-Key |
| Classification: | Unrestricted |

Purpose of the report: To seek approval to undertake refurbishment works to the sea defences in accordance with the Environment Agency's Shore Line Management Plan.

- Recommendation:**
1. That Cabinet approves the expenditure of the Environment Agency's capital grant funding to undertake refurbishment works to the sea defences at St Margaret's Bay.
 2. That the Strategic Director (Operations and Commercial) be authorised to procure and award the contract of works for the refurbishment of the sea defences at St Margaret's Bay.
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1. Summary

- 1.1 St Margaret's Bay consists of 550m of enclosed shingle beach at the foot of the chalk white cliffs, which forms part of the "The White Cliffs of Dover National Trust Site". The sea defences consist of 12 timber groynes in varying designs due to numerous enhancements over the last 50 or so years. The timber groynes abut the concrete seawall and promenade to the bay.
- 1.2 The sea defences primarily protect the amenities within the bay and toe of the chalk cliff from erosion. The only way of accessing the beach is via the Councils car park being a key element to supporting the Councils tourism, including other facilities such as the beach huts, PH, and toilets. There is also a group of residential cottages to the North East end of the bay that's protected by the sea defences.
- 1.3 St Margaret's Bay falls within the Isle of Grain to South Foreland Shoreline Management Plan, a non-statutory document endorsed by the Environment Agency which lists management policies. The Bay is listed under Policy Unit 4a25 as "hold the Line" for all 3 epochs, which essentially looks to maintain the existing frontage. Consequently, it has been necessary to review the condition of the sea defences due to their ageing condition.
- 1.4 The review has looked at the beach data collected over the last 10 years, and the condition of the sea walls, and timber beach groynes. The report later explains surveys undertaken and recommends, where the EA capital grant funding is best invested enhancing the design life of the sea defences to St Margaret's Bay.

2. Introduction and Background

- 2.1 The frontage at St Margaret's Bay has been defended since the early 1800s with records of timber groynes and seawall construction, however the seawall suffered severe winter storm damage in 1933 and was later reconstructed to an improved standard of protection in 1949 being 5.5m in height and 5.2m in width. The wall lasted another 30 or so years before undergoing further repair works. In 1982 the existing groynes were replaced with 12 new single timber planked groynes supported by steel rail piles, which were later enhanced in 1991 being double planked and bolstered with a concrete infill as seen on site today. It is also understood, (but not confirmed), that there has never been any beach recycling carried out at St Margaret's Bay. This has been evidenced by the beach monitoring team and data collated since 2003, which has proven valuable in understanding beach migration in this cell.
- 2.2 In 2017 Dover District Council was awarded Environment Agency grant funding to conduct a study on the existing coastal processes of St Margaret's Bay. The East Kent Engineering Partnership were employed to work along Dover District Council and submit a project appraisal report for future capital maintenance works. This concluded with Dover District Council being successful in obtaining future capital funding to review and refurbish the existing sea defences. This has now been successfully claimed by the Council equating to £125k with £25k contingency as a retrospective claim to support any further repair works.
- 2.3 In July of this year a condition survey and beach sediment review were carried out by the beach monitoring team through the East Kent Engineering Partnership. This was to firstly understand the scale of maintenance on the sea defences and behaviour of coastal processes taking place within the 550m stretch of beach. This process allowed the Council to prioritise the EA grant funding to best suit the coastal engineering needs of the frontage.
- 2.4 The asset review report looked all the sea defences mentioned above were meticulously inspected and reviewed all past data surveys and history maintenance logs. The report firstly compared sets of beach volumes and cross sections derived by GPS data taken from baseline surveys in 2003, 2007, 2012 and 2017. This allowed engineers to analyse each groyne field and calculate volumes of sediment loses or increases. To summarise, the longer-term analysis between 2003 and 2017 shows the beach lost -3,772m³ (6.8%). This loss is evenly distributed across the entire bay and equates to an average annual loss of - 270m³/yr. This is considered very stable and suggests sediment transport is confined within St Margaret's Bay.
- 2.5 A visual inspection was carried out on every individual groyne and records made of every defect rating from "very good" through to "very poor" (please refer to background paper). Viewing some of the photographs in the report it is self-evident that there are substantial repairs and safety works to be carried out and should be made a priority as part of this capital maintenance program. Consequently, it is recommended to bring these works forward as far as reasonably practical - ideally within this year.
- 2.6 To conclude the review, it is therefore not necessary to carry out beach recycling or beach replenishment to St Margaret's Bay. It is recommended to invest all the EA grant funding in repairing all the beach groynes as per the detailed survey conducted back in July, thus further enhancing the design life of timber and concrete structures. This will also help retain further beach material during the winter months. It has also been noted that some reinforcement has been exposed from the surface of the seawalls and will be repaired at the same time.

3. Identification of Options

3.1 Proceed with the Environment Agency capital grant funding to refurbish all 12 timber groynes.

3.2 Not to proceed with the Environment Agency capital grant funding and leave the current sea defences in their existing state of condition.

4. Evaluation of Options

4.1 Proceed with the Environment Agency capital grant funding to refurbish all 12 timber groynes. Since the Council has conducted a full survey of the timber groynes, its current levels of condition will accelerate over the coming winters leading to full replacements in approximately 3-5 years. Surplus timber from the Kingsdown timber groyne replacement scheme will make good use of this and help prolong the lifespan of the groynes for a further 10-15 years. This is the recommended option.

4.2 Not to proceed with the Environment Agency capital grant funding and leave the current sea defences in their existing state of condition. This option does not produce the benefits outlined in paragraph 4.1. Additionally, there will still be expenditure required to potentially replace all the groynes in 3 years' time and pose further health safety risks to beach users. This option is not recommended.

5. Resource Implications

5.1 Dover District Council has successfully claimed £125k capital grant funding from the Environment Agency and £25k contingency can be retrospectively claimed if required. It is expected that to fully repair all the groynes to a suitable standard of protection, the contingency will need to be included in these works.

6. Climate Change and Environmental Implications

6.1 In 2014 Dover District Council replaced the Kingsdown Beach timber groynes and it's planned to use the surplus timber to repair the groynes at St Margaret's Bay. All timber purchased by the council for sea defences is FSC certified from sustainable sources governed in Guyana, South America. The use of this timber will help save project costs, but equally an additional order with oversea suppliers for long haulage and transportation making a small saving in carbon emissions. This project is key in adding further protection from future impacts of our changing climate.

6.2 Local contractors will be encouraged to tender for the works to try and minimise contractors travelling longer distances for working helping to reduce unnecessary carbon emissions.

7. Corporate Implications

7.1 Comment from the Director of Finance (linked to the MTFP): Accountancy has been consulted and has no further comment. (DL)

7.2 Comment from the Solicitor to the Council: The Solicitor to the Council has been consulted in the preparation of this report and has no further comments to make.

7.3 Comment from the Equalities Officer: This report does not specifically highlight any equality implications, however in discharging their duties members are required to comply with the public sector equality duty as set out in Section 149 of the Equality Act 2010 <http://www.legislation.gov.uk/ukpga/2010/15/section/149>

7.4 Comment from Principal Climate Change Officer: Has been consulted and has no further comments.

8. Appendices

None.

9. **Background Papers**

9.1 Asset Performance Review on St Margaret's Bay Sea defences

Contact Officer: Keith Watson Corporate Estate and Coastal Engineer.