CABINET

Report subject	**Harbourside Park - Strategic infrastructure improvements to the sluice channel linking Poole Park and Poole Harbour.**
Meeting date	25 May 2022
Status	Public Report
Executive summary	The report seeks the allocation of CIL funding to replace the sluice channel at Harbourside Park and upgrade the sluice gate in Poole Park. Due to poor and further declining asset condition, public access is now restricted to the shared path and vehicular access is prohibited, negatively impacting BCP operations. As time goes on the likelihood of catastrophic failure increases, posing a risk to users, lagoon operations and water levels, and dividing up the greenspace. An options study has been undertaken. Two options with similar estimated construction costs for both options have been identified which subject to securing funding need to be narrowed to one preferred option in the detailed design stage for tendering and construction. Working closely with Landscape Architects the project will consider the benefits of a carefully designed open channel that would provide a focal point of interest, against the merits of an enclosed channel. This will consider public access, impact on the landscape, maintenance requirements and overall cost to deliver. This strategic infrastructure improvement extends the work of the heritage funded Poole Park life project, including a new bridge over the sluice channel North of the railway line, will develop in parallel with the forthcoming Harbourside Masterplan and is considered within the current segregated cycleway improvement works. Also linking wider to the Poole Quay public realm improvements to rejuvenate Poole; these works are one of a series of strategic improvements significantly enhancing the quality of place in Poole. The report asks that Cabinet recommend to Council allocating CIL funds to complete detailed design and construction to ensure the tight project delivery programme can be achieved, for two key reasons – to reduce the impact on the active travel fund works in 2023 and to carry out the work as soon as practicable to reduce the risk of failure of the sluice channel. The completed project will maintain a key asset for amenity and habitat in Poole Park and

	improve BCP operations.
Recommendations	**It is RECOMMENDED that:** **Cabinet recommends that Council approves the use of £1.239 million of Community Infrastructure Levy (CIL) to Environment to detail design, obtain consents, and construct the sluice channel replacement and sluice gate upgrade and other associated activities as required to deliver the project to completion.**
Reason for recommendations	The recent collapses within the sluice channel structure highlights the need to prioritise the design and replacement works - all but the shared path is currently cordoned off. There would be significantly higher costs associated with emergency works in a failure situation. The sluice channel has reached the end of its serviceable life and financially unsustainable to maintain. Repair of the channel defects is forecast to be approximately £200,0000 and the annual operating and maintenance costs will be considerably higher than renewal of the structure. Recommendation (a) includes for an upgrade of the Poole Park Lagoon sluice gate. Upgrading to a remotely controlled gate with more variation will improve the ability to regulate the Poole Park Lagoon, increasing the opportunity to better regulate for wildlife and biodiversity, as well as promote officer wellbeing. The sluice gate is currently manually operated, requiring heavy lifting over deep water, at all hours which uses approximately £15,000 per annum of officer time which could be reallocated to other priorities. Without an efficient sluice gate the lagoon in Poole Park will not be maintained and the biodiversity will decline. This means that midges (Chironomids) will proliferate and create large swarms and Algal mats will develop in the fresher water. Both are detrimental to park users, concessions, council reputation and are costly to mitigate. Prioritising this infrastructure issue and allocating the funding now means that the Active Travel Fund improvements will be less impacted by the sluice channel install. The travel improvements are likely to be installed first due to funding deadlines. However, the quicker the sluice is replaced, the shorter period of time that a temporary surface will need to be in place.
Portfolio Holder(s):	Councillor Mark Anderson - Portfolio Holder for Environment and Place
Corporate Director	Kate Langdown – Director Environment
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Wards	Parkstone; Poole Town;
Classification	For Recommendation

Background

1. In November 2021 a paper was submitted to the Futures Fund to request the funding and delivery of the sluice channel and sluice gate renewal. Futures Fund determined that CIL would be more appropriate and recommended submitting the request to Cabinet for Council approval. The Head of Planning has advised the use of CIL is appropriate as financially profiled and the summary of legal implications provides the legal background.
2. Transport & Engineering (Flood & Coastal Erosion Risk Management (FCERM) service and Engineering) is contributing expertise to support Environment deliver the project.
3. The Baiter park surface above the sluice channel has suffered sporadic ground collapses causing hazardous holes at the surface level. Near the structure, the park surface has been cordoned off from the public, all except for the shared path, and vehicular traffic including BCP services is not allowed.
4. A 2021 condition survey identified that repairs would total £190,250 to extend the life of the existing structure for up to 5 years. Not only is this uneconomical, but the issue may also impact the proposed Whitecliff & Baiter segregated foot and cycle path permanent design.
5. Currently the manually operated sluice gates (Poole Park Lagoon side) require two staff to access a difficult location, often at night. This also provides less control of water levels in Poole Park, limiting the management options. The approximate operating costs for this activity are £15,000 per annum.
6. The Engineering team are aware that the surface water drainage at Keyhole Bridge is connected to and outfalls at the sluice channel. The problem with localised flooding is a separate issue. The surface water assets are believed to be owned by Wessex Water and the Officers will engage Wessex Water to seek a partnership solution. In the meantime, the Portfolio Holder will be kept up to date on progress with Wessex Water and the drainage issue and proposed solution.

Detailed Description of the Issue

7. The sluice channel supplies seawater to Poole Park Lagoon from Poole Harbour and allows freshwater from the Freshwater lakes and upstream catchment to run out to the harbour (see Figure 1).

Figure 1. Key Map

8. The channel underneath Harbourside Park (not including the brick-built section underneath the railway line) was built in the 1960s. Due to the asset age and harsh seawater environment the sheet piling has become heavily corroded along much of the channel and several significant holes have formed exposing the soil behind the sheet piling to the sea. The tidal water washes out the exposed soil causing voids behind the sluice channel walls and resulting in holes forming in the ground of the open space posing a hazard to park users.
9. Reactive patch-up work has been undertaken as and when needed to maintain the channel and keep both Harbourside Park and Poole Park lagoon functioning as expected by park users. Condition surveys, undertaken in August 2016 and more recently in April 2021, illustrate the heavily corroded sheet piling and show how the condition has worsened over the last 5 years.
10. The condition of the sluice channel underneath the shared path has now deteriorated to a point that it is no longer safe for service vehicles to drive over due to the potential for collapse and therefore it was closed off to vehicular movement in 2021. It is likely that this section will need to be closed permanently for all users sometime in the short-term future as the condition of the channel continues to worsen if nothing is done.
11. A detailed options appraisal was commissioned through WSP and completed in March 2018. The next stage of design would be to engage with statutory consultees, select the preferred sluice channel option and gate, detail design the structure and seek appropriate consents.
12. Parkstone Bay is environmentally designated as a Special Site for Scientific Interest (SSSI) and a Specially Protected Area (SPA). It is anticipated there will be constraints and limitations applied to the time of year construction can take place and methods of construction that can be used. The cost implication has been factored into the forecast as contingency. However, engagement with consultees through the detailed design stage will confirm these assumptions.

13. The works may be subject to an Environmental Statement Review by the Marine Management Organisation (MMO) and will require a Marine Licence prior to proceeding.
14. Central Government has awarded BCP Council 'Active Travel Funding' to introduce changes to help increase the number of journeys completed by walking and cycling. The existing path which runs along the seafront of Harbourside Park has been selected for this scheme and the plan is to provide a segregated path to better accommodate cycling and walking.
15. Phase 1 of the segregated cycleway and footpath works will commence this April 2022 from the Turks Ln end and tie into the existing path at the western side of the sluice channel. Phase 2 of the segregated cycleway and footpath is proposed to commence in April 2023 and will continue the segregated cycleway and footpath from Green Gardens and connect to the Phase 1 section by August 2023.
16. The Active Travel Fund has a funding deadline for delivery. Though it would be preferable to carry out the sluice channel works first, it puts the Active Travel Fund at risk. The delivery teams are collaborating on minimising the impact, ways to avoid re-work and ensure connectivity through the temporary and permanent works. The sluice channel needs to be prioritised for construction commencement by Spring 2023 to ensure that the channel works is complete before the Active Travel Fund Phase 2 ties into Phase 1 and does not cause additional disruption to the upgraded route.

Project Governance

17. The internal client and budget holder will be Environment, with the Service Director – Environment as the Senior Responsible Owner (SRO).
18. The service specific Project Executive within Environment will be the Strategic Lead for Greenspace & Conservation.
19. Subject to Council funding the SRO will arrange the delivery structure. Environment will lead the project supported by the FCERM team and Engineering teams as Senior Users, utilising experiences in commissioning design and construction of engineering assets, forming a cross department delivery team.

Options Appraisal

20. The WSP Options Appraisal (2018) presented and costed three possible solutions. The options assessment ruled out one of the options and recommended that a preferred option would need to be found through detailed design of the scheme. The two recommended options were:
    - Option 1: Landscaped open channel with one or more foot/cycle bridges ≈ £639,600 (2018 valuations)
    - Option 3: Precast box culvert sections with foot/cycle path reinstated ≈ £599,500 (2018 valuations)
21. The current manually operated sluice gate is an inefficient and costly method for managing the water in Poole Park Lagoon. A safer and easier method of operating the sluice gate would reduce the time taken to service and operate the gate.

22. Two sluice gate replacement and installation options have been provided by Aquatic Control Engineering Ltd (Apr 2022), which is a budget quotation:
    - ACE Channel Penstock = £36,760
    - ACE Double Leaf Weir Penstock = £67,145
23. Automation, installation, and management for either sluice gate option is quoted at £19,015.
24. The double leaf weir provides more control of water levels, which is the preferred option for Environment. Site survey, measuring and up a detailed quote will need to be provided in the design stage to raise the purchase request.
25. Officer time operating the sluice would be significantly reduced and the current operation is high risk. The sluice operation follows the tide - a minimum of two Officers visit the sluice often at night carrying out manual handling over the structure and deep water approximately once a month.
26. With a remotely operated sluice gate the Environment team can have more control over the lagoon to manage the water level for maximum benefit for wildlife, such as having a winter tidal regime to expose mud flats for wading birds; or in summer for recreational use, creating a more efficient flushing regime.

Summary of financial implications

27. Preferred Option Cost Summary
28. A construction option has been costed and provided in Table 1 below. WSP engineers have been contacted to verify that the 2018 options are still current, and to verify officer estimates on items 1, 3 and 6 in Table 1.
29. The operations and maintenance implication once the project is commissioned should decrease by £15,000 per annum. Along with this, the prevention of future maintenance repairs is forecast at £190,250 over a 5 year period alone.
30. The costs provided in the WSP options appraisal were for 2018 valuations. Table 1 below includes for Construction Indices inflation of 15.9% from early 2018 to early 2022.
31. The construction material price index in the UK for 'all work' rose by 22.7% between November 2020 and November 2021, with fabricated structural steel having the greatest increase of 66.1% (Department for Business, Energy & Industrial Strategy, 2021). Ready mix concrete costs have increased by 12.9% between January 2021 and January 2022 (Office for National Statistics, 2022). The Royal Institute of Chartered Surveyors (RICS) forecasted General Building Cost Index increases of 4 – 5% per annum in 2022 and 2023 based on an October 2021 outlook (RICS, 2021), which doesn't include recent impacts of geo-political tensions.
32. The cost summary forecasts 5% inflation between 2022 and 2023 and increases the risk allowance to 17.5%, which is 2.5% greater than typically expected at this project definition stage, to account for market volatility and provide project assurance.

Item		Cost Summary	Comments
1	Site investigations	£35,500.00	Assumes £30k ground investigation, £3,000 topographic survey and £2,500 environmental survey.
2	ES Review and Marine Licence	£3,600.00	Est. £1,400 pre-app and Band 2b application.
3	Design Fees	£69,100.00	As a percentage of construction cost (8%).
4	Project management	£43,375.00	Environment project management resource for delivery.
5	Site Supervision and CDM Advisor Fees	£34,550.00	As a percentage of construction cost (4%).
6	Sluice Channel construction	£773,276.00	Construction Inflation Index 2018-22 = 15.9%; Building inflation at Oct 2021 for 2022/23 = 5% (forecast).
7	Sluice Gate installation	£94,991.00	Equipment and installation (quote received Apr 22) + Building inflation at Oct 2021 for 2022/23 = 5% (forecast)
8	Risk and Contingency	£184,608.00	17.5% of items 1 – 7.
9	**Total**	**£1,239,000.00**	

Table 1. Summary of costs

33. Preferred Option Cost Profile

34. The forecast cost profile over the following financial years are as follows:

    a. FY 2022/2023 – £144,018.38

    b. FY 2023/2024 – £1,094,989.62

35. The Head of Planning has confirmed that this financial profile is satisfactory.

36. Do Nothing Scenario

- Adds continued pressure to reducing maintenance budgets.
- As time goes on the likelihood of catastrophic failure increases. The sluice channel structure would have a significant collapse which, as well as posing a risk to Harbourside Park user safety, would divide up the greenspace hampering maintenance access and cost significantly more to replace in emergency works.
- The more repairs which are made on the sluice channel the more complex and costly the ultimate replacement will be due to increased amounts of concrete which will need to be removed.
- Could negatively impact on the concessions such as the water sport activities.

- Impacts the Active Travel Fund project, with potential knock-on effect to secure future funding bids.

Summary of legal implications

37. The legal implications of this proposal are summarised as follows:

    a. The procurement and contractual arrangements will need to be undertaken with support and advice from legal services and procurement teams.

    b. The decision should be taken within the thresholds of the financial regulations.

    c. There are legal risks of not progressing the work as the Council may be liable for claims arising from personal injury or damage to property should the lack of repair cause incidents of damage to occur, and danger to arise.

    d. The allocation of Community Infrastructure Levy funds is appropriate in this case as the proposed work meets the statutory tests in respect of the spending of the Levy. The national Guidance in respect of the spending of the Levy is set out below, and the proposal will support development in the area by ensuring the provision of the active travel routes can be completed and the access to the open space and recreational area maintained and improved. The Guidance states:

What can the Community Infrastructure Levy be spent on?

The levy can be used to fund a wide range of infrastructure, including transport, flood defences, schools, hospitals, and other health and social care facilities (for further details, see section 216(2) of the Planning Act 2008, and regulation 59, as amended by the 2012 and 2013 Regulations). This definition allows the levy to be used to fund a very broad range of facilities such as play areas, open spaces, parks and green spaces, cultural and sports facilities, healthcare facilities, academies and free schools, district heating schemes and police stations and other community safety facilities. This flexibility gives local areas the opportunity to choose what infrastructure they need to deliver their relevant plan (the Development Plan and the London Plan in London). Charging authorities may not use the levy to fund affordable housing.

Local authorities must spend the levy on infrastructure needed to support the development of their area, and they will decide what infrastructure is needed.

The levy can be used to increase the capacity of existing infrastructure or to repair failing existing infrastructure, if that is necessary to support development.

In London, the regulations restrict spending by the Mayor to funding roads or other transport facilities, including Crossrail, to ensure a balance between the spending priorities of the London boroughs and the Mayor.

Paragraph: 144 Reference ID: 25-144-20190901

Summary of human resources implications

38. The renewal of the sluice channel will reduce the officer time required to frequently inspect the asset and ground conditions and risk of failure.
39. The project is positive for officer wellbeing as the manual operation of the sluice will be removed, meaning that officers do not need to attend the site at times, in the dark and poor weather conditions to manually operate a structure adjacent to deep or fast flowing water.
40. The Officer time saved can be better allocated to Environment operational activities.

Summary of sustainability impact

41. The sustainable development goals supported by this proposal are:
    a. Decent work and economic growth
    b. Industry, innovation and infrastructure
    c. Sustainable cities and communities
    d. Life below water
    e. Life on land
42. The construction will require the consumption of finite materials and produce greenhouse gas emissions throughout the supply chain to on-site. As the Council has signed up to the climate emergency this is a risk to implementation. Sustainability goals can be imposed on the design and construction contracts. The re-use of materials, use of local labour and materials and innovation will be priority.
43. The ability to regulate the lagoon better should have a positive trade-off by contributing to better biodiversity, possibly increasing mudflat for overwintering birds and reducing the travelling to and from the sluice gates for operation by officers.
44. The Marine Licence consenting process and the Councils Decision Impact Assessment will bring out these opportunities.

Summary of public health implications

45. The public health implications of doing nothing are detrimental.
46. Baiter Park is a well utilised walking and leisure amenity. If the entire sluice channel section were to be inaccessible, the amount of people commuting and using the park as a leisure route would significantly reduce. These members of the community may be able to find alternative routes, however, this may cause disruption for two reasons:
    a. Accessibility – the alternative routes may not be viable for wheelchair users or others with impaired mobility.
    b. The Keyhole bridge would be the most likely diversion route. This floods during rainfall events and high tides and can be inaccessible to non-vehicular traffic.
47. The public health implications of progressing with scheme are beneficial:

a. The remote operated sluice channel may promote more diverse wildlife (such as overwintering birds), increasing connectivity with nature.

b. The renewal of the sluice channel will open up the park again and enable the Active Travel Fund plans to be implemented in this section increasing opportunity for active travel.

Summary of equality implications

48. There is no EIA or EIA conversation record as the decision to renew the sluice channel and upgrade the sluice gate does not change the public use in and around the asset, or impact people who identify with one or more of the protected characteristics set out in the Equality Act 2010.

Summary of risk assessment

49. The risk of implementing the business case is far less than the risk of a do nothing or do minimum scenarios.

50. The construction works (and any site investigation during design that requires heavy equipment) will most likely require temporary closure of the footpath. Due to the instability of the grassed surface and potential works area required by a contractor, it is possible the diversion will not be able to follow the bay and follow the Poole Park Lagoon footpath, north of the rail track and through Keyhole Bridge. It is the responsibility of a suitably qualified contractor to propose their works areas and proposed traffic management, and this will be assessed by the relevant departments when proposed. However, a diversion may cause some inconvenience in the short term. If the diversion was undertaken during spring, summer or autumn, the Keyhole bridge could be closed to vehicular traffic to reduce the hazard to the diverted users.

51. The land area around the sluice channel is infill ground made up of various waste-derived materials, most notably from the former power station site. Ground investigation is included in the costs and shall include for full appraisal of how to handle, treat, dispose or re-use this infill material.

52. The upgraded sluice will enable to Environment team to consider revised operation schedules, as mentioned in the report this will be a benefit and should not impact amenity. To achieve the best benefit for amenity and biodiversity it may require the Environment team to procure a water engineers assessment. This cost has not been included in this business case proposal.

Background papers

1. WSP Options Appraisal, March 2018.
2. Structure Inspection Report, April 2021.

References

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Appendices

None