

REPORT TO CABINET

18 March 2020

Subject:	Park Pools Management and Maintenance
Presenting Cabinet Member:	Cllr Maria Crompton Cabinet Member for Safer Communities
Director:	Dr Alison Knight – Executive Director Neighbourhoods Alan Caddick – Director of Housing and Communities
Contribution towards Vision 2030:	
Key Decision:	Yes
Cabinet Member Approval and Date:	Yes
Director Approval:	Yes
Reason for Urgency:	Urgency provisions do not apply
Exempt Information Ref:	Exemption provisions do not apply
Ward Councillor (s) Consulted (if applicable):	Not consulted
Scrutiny Consultation Considered?	Scrutiny has not been consulted
Contact Officer(s):	Darren Jones - Parks Manager darren_jones@sandwell.gov.uk

DECISION RECOMMENDATIONS

That Cabinet:

1. Authorise the Executive Director – Resources to allocate a total of £0.300m funding from the council’s capital programme to carry out major capital works at Smethwick Hall Park including the reduction of the pool size by 50%.
2. Authorise the Executive Director - Resources to allocate a sum of £42,000 funding from the council’ capital programme to facilitate the purchase and installation of pool diffuser systems for West Smethwick Park, Smethwick Hall Park, Victoria Park Tipton and Victoria Park, Smethwick.
3. Authorise the Director – Housing and Communities to award contracts to undertake major improvements works at Smethwick Hall Park pool.

1 PURPOSE OF THE REPORT

- 1.1 The purpose of this report is to seek approval to procure a contractor to carry out major works at Smethwick Hall Park.

2 IMPLICATION FOR VISION 2030

2.1 Ambition 2

Sandwell is a place where we live healthy lives and live them for longer, and where those of us who are vulnerable feel respected and cared for. We will all be taking more responsibility for improving our own health and the health of our families;

Have a strong approach – with all partner organisations – to prevent ill health and improve long-term health and wellbeing;

- ***Parks and open spaces provide free access for relaxation and exercise.***

2.2 Ambition 8

Our distinctive towns and neighbourhoods are successful centres of community life, leisure and entertainment where people increasingly choose to bring up their families.

The great work already achieved in parks and green spaces will be kept up.

- ***Sandwell will be improving the ecology of its park pools encouraging wildlife to thrive***

2.3 **Ambition 10**

Sandwell now has a national reputation for getting things done, where all local partners are focused on what really matters in people's lives and communities.

Nationally recognised for getting things done by everyone working together;

- ***Sandwell will be taking a pro-active role in protecting wildfowl on all of its open water bodies***

3 **BACKGROUND AND MAIN CONSIDERATIONS**

3.1 Sandwell Parks team are responsible for a number of water bodies located within parks and open spaces throughout the borough including pools and brook courses. The following sites are the main pools within these parks and open spaces:

- Haden Hill Park, Rowley Regis
- Red House Park, West Bromwich
- Victoria Park, Smethwick
- Victoria Park, Tipton
- Hydes Road, Wednesbury
- Smethwick Hall Park, Smethwick
- West Smethwick Park, Smethwick
- Mill Pool, Wednesbury

3.2 Over the past two years there have been significant wildfowl deaths at the following pools: Victoria Park, Smethwick, Smethwick Hall Park and West Smethwick Park. Several other sites have also been affected but to a lesser extent. Avian Botulism was identified as the most probable cause of the bird deaths although post mortems carried out by the Animal Plant Health Authority (APHA) have proved inconclusive. Overall, presumptive diagnosis was made based on the clinical and epidemiological presentation of the disease and absence of other obvious causes of death on post-mortem examination and laboratory testing.

3.3 Avian botulism is a paralytic, often fatal, disease of birds that results when they ingest toxin produced by the bacterium, *Clostridium botulinum*.

3.4 *Clostridium botulinum* requires an energy source for growth and multiplication for example a high protein substrate (silt)

3.5 Animal and Plant Health Agency paper July 2019 identified a number of preventative measures to reduce the possibility of Avian Botulism (**See appendix I**).

- Maintaining good circulation of water. **(See 3.6)**
- Maintaining healthy communities of oxygenating plants.
- Prevention of the water level falling in the lake, preventing deoxygenation and the exposure of putrefying material.
- Removal of decaying plant material (including leaves) from the water. In particular removing vegetative material that collects on branches dipping into the surface of the water. These branches should be removed.
- If appropriate, removal of silts by pump action (in the face of an incident this may temporarily exacerbate the disease due to agitation of material).
- Searching and removal of dead animals in high risk periods e.g. warm summer months.
- The aim is to keep water levels high and reduce or lower the levels of silt.

3.6 **Pool Aeration**

- 3.7 Oxygen serves as the most essential component to the health of a body of water. Pond aeration is the simple, yet effective, process of increasing oxygen levels in a pond and can not only greatly enhance the aesthetic beauty of a pond and will also improve the natural systems taking place beneath the water's surface. Aeration creates destratification of the water column, as lakes and ponds typically consist of stratified layers separated mainly by different temperature and oxygen levels. Natural resource and environmental managers are often challenged by problems caused by lake and pond stratification. The main purpose of aeration is to increase and stabilize the amount of dissolved oxygen in the entire water column and this has a widespread effect on many different aspects of pond and lake health.
- 3.8 Dissolved oxygen is higher in colder water and the process of aeration will distribute cooler oxygen rich water to areas of warmer water, thus breaking down the stratification present in the water column.
- 3.9 Water quality is also greatly improved through the use of aeration. Under oxygen deprived or anoxic conditions, lake-bottom sediments release various gases and metals that can cause water quality problems. Proper aeration will allow for many of the factors contributing to poor water quality to be released at the oxygen-water interface. Aeration will enhance water quality by stabilizing pH, reduce alkalinity, and remove carbon dioxide

- 3.10 Aeration can also reduce the amount of pond algae through a variety of processes. Through aeration, algae spores can be mixed towards deeper lake and pond areas, reducing the amount of time it is exposed to valuable sunlight and availability to grow. Higher dissolved oxygen levels can also lead to a shift from harmful blue-green algae to less-noxious green algae.
- 3.11 Another important benefit of aeration is the reduction of Phosphorus (P) concentrations in ponds. Phosphorus is needed to support algae blooms, and once phosphorus enters a pond's ecosystem it is very difficult to remove. Aeration accomplishes this by using an oxidation reaction which causes the phosphorus to bind with naturally occurring iron. Once bound to the iron, this new form of phosphorus precipitates into the sediments where it remains unavailable for plant and algae growth as long as sufficient levels of dissolved oxygen are maintained.
- 3.12 Overall, aeration will provide many different benefits to a pond's ecosystem. Besides enhancing pond fish habitats, improving water quality, reducing algae and removing phosphorus, aeration can also break down unwanted bacteria and remove foul odours from a pond - all by circulating the water and adding dissolved oxygen.
- 3.13 **Pool maintenance team**
- 3.14 In 2016 the council made the decision to disband the dedicated highway /parks brook-course and pools maintenance team. The Director of Neighbourhoods and Communities has agreed to reintroduce this team from April 2020
- 3.15 This team visited all the park pools on a weekly basis removing debris, litter, kept gully gratings clear of debris, removed animal carcasses, cleared embankments of vegetation and maintained the ROSPA safety standards. The knowledge that this team gained for each site allowed them to make informed decisions on priority works for each location, therefore for example reducing the possibility of flooding downstream onto housing estates.
- 3.16 The reintroduction of this team will ensure that maintenance of open water bodies would be managed more proactively ensuring desirable high standards of maintenance are achieved and ensuring water quality and wildfowl issues are dealt with in a timely manner

4 THE CURRENT POSITION

Smethwick Hall Park

- 4.1 Following numerous site visits and meetings with multi agencies including the Environment Agency, Severn Trent, RSPCA, Animal Plant Health Agency, Swan Watch and Council officers, the large build-up of silt at the site was identified as the energy source for the Clostridium Botulism and requires removal.
- 4.2 Silt is classified as contaminated waste, therefore the cost of disposal at land fill could be in the region of £1.798m.
- 4.3 A breakdown of these costs are shown below:

Disposal at Landfill	£'000
Landfill charge (£220/ton)	1,188
Land Fill tax (£94/ton)	508
Contractor fees for removal	
Vehicle x2 (£1000/day)	34
Excavation contractors (£2000/day)	68
Total Cost	1,798

- 4.4 Due to the high costs involved with disposing the silt at landfill above estimated at £1.798m, parks officers have explored other options to retain the silt on site.
- 4.5 Provided below are 2 options:
- 4.6 Option 1- Removal of silt from the most heavily silted area of the pool from the inlet up to the second island (**See appendix ii**).

Create a containment area by removing the top layer of top soil from the existing grass embankment approximately 1500m² and retain on site. Remove the sub soil from the same area to a depth of 1.5 metres and create retaining bund to stop contaminated water leaching back into the pool. The silt from the pool would then be excavated and deposited into this area and allowed to dry for approximately 12-24 months. The sub soil and top soil would then be re-instated on top of the silt.

- 4.7 This option would require further investigation as this level of work has been carried out in the last ten years and the ground conditions might not be suitable.
- 4.8 The life expectancy of works is 5 years before similar works would be required.

- 4.9 Estimated costs at £45,000.
- 4.10 Option 2 - Removal of silt from the entire pool area and re use the silt within the pool to reduce the total area of open water by 50% (**see appendix iii**).
- 4.11 The pool would be drained of water and inlet water would be diverted from the inlet to the existing outlet for the duration of the works, approximately 3000m³ of silt would be excavated and reused to fill approximately 1500m² of the pool reducing the size by 50%. Construction works would also include the Installation of 80m of new linear pipe work, construction of a new headwall and chamber and a new trash screen.
- 4.12 A reduction in pool size will not affect the capacity of the surface water system and will in fact provide a reduction in flood risk to downstream residential properties and infrastructure by moving the proximity of any potential obstruction further away.
- 4.13 Silt deposits found in the pool have been sourced back to the open ditch located within the Londonderry Lane allotment site. This option includes the clearance of 175m of allotment ditch and lining the ditch with aquatic membrane to reduce the amount of silt being deposited into the pool (**See appendix iv**).
- 4.14 The life expectancy of works is 60 years.
- 4.15 Estimated Cost £0.300m.
- 4.16 Given the estimated cost received for partial silt removal of £45,000 (and the potential £1.798m for disposal) which will require repeating every 5 years, this would, over the lifespan of the reduction works (60 years) in option 2, cost £540,000 compared to £0.300m for Option 2.
- 4.17 **Pool Aerators**
- 4.18 The Director of Neighbourhoods and Communities has agreed to external company will be procured to provide suitable aeration systems tailored to suit the type, depth and size of the water body (**See appendix v for example of pool aeration**).
- 4.19 Due to the shallow nature of the park pools, Splash aerators or a combination of Splash and surface circulators are more suitable due to the common problem on park pools, where they are likely to clog with debris.
- 4.20 The installation of these aerators would resolve and support a number of the preventative measures to reduce the possibility of Avian Botulism, identified within the Animal and Plant Health Agency paper July 2019 and considerably approve the ecology of the site.

- Maintaining good circulation of water.
- Support the growth of oxygenating plants.

4.21 Supply and installation of aerators all electrical connections and remedial works £10,500 x 4 locations will be £42,000.

4.22 **Maintenance Team**

4.23 The council currently does not have a dedicated team responsible for the maintenance and care of the open water bodies. This has contributed to the large builds up of silt, decaying vegetation within the pools, litter and fly tipping and overgrown vegetation around the perimeter of pools.

4.24 The Parks team have carried out reactive works as and when required and when funds have been available.

5 **CONSULTATION (CUSTOMERS AND OTHER STAKEHOLDERS)**

Environment Agency
 Severn Trent
 RSPCA
 Animal Plant Health Agency
 Swan Watch

6 **ALTERNATIVE OPTIONS**

6.1 The council could decide not to carry out the works to the pools resulting in further deterioration of the parks pools which, in turn, could lead to further wildfowl deaths. This could potentially increased customer dissatisfaction and increased risks to animal and human health.

6.2 As identified in 4.8 another option has been explored to include the excavation of some of the silt from the pool located near to the inlet and retain the silt on site, however this task would be required every 5 years and would therefore not provide value for money of the life expectancy of the preferred option of reducing the pool in size by 50% over a 60 year period. Due to this task being carried out before there is also a possibility that the land where the silt is deposited becoming unstable.

7 **STRATEGIC RESOURCE IMPLICATIONS**

7.1 **Smethwick Hall Park**

7.2 The delivery of major improvements required at Smethwick Hall Park pool is dependent upon the allocation of £0.342m resources from the council's capital funding programme.

- 7.3 An ongoing revenue contribution will be required to maintain all of the park pools at an approximate cost of £85,000 per annum. The revenue contribution will be found by redirection of existing directorate resources.

8 LEGAL AND GOVERNANCE CONSIDERATIONS

- 8.1 N/A

9 EQUALITY IMPACT ASSESSMENT

- 9.1 An initial Equality Impact Assessment (EIA) has been carried out by the service area for the proposals. No issues have been identified which impact on a particular group and therefore a full EIA is not required.

10 DATA PROTECTION IMPACT ASSESSMENT

- 10.1 There are no specific data protection measures to consider, all data relating to the matter is maintained in accordance with the Data Protection measures previously implemented by the Council.

11 CRIME AND DISORDER AND RISK ASSESSMENT

- 11.1 N/A

12 SUSTAINABILITY OF PROPOSALS

- 12.1 Removal of silt at Smethwick Hall Park (option 1) will resolve the existing issues for approximately 5 years before similar work is required. Option 2 will resolve the existing issues for approximately 60 years.
- 12.2 Installation of pond aerators will improve the ecology of each site for the duration of the life of the aerators.
- 12.3 The recruitment of a maintenance team will improve water quality and ecology of each site for the duration of their employment.

13 HEALTH AND WELLBEING IMPLICATIONS (INCLUDING SOCIAL VALUE)

- 13.1 Type C avian botulism has not been reported to be associated with human disease. The risk to human health from Type C botulism is therefore considered to be very low. However, other types of botulism, and other water-borne diseases associated with stagnant or poor-quality water can cause human illness and consequently consideration of precautionary principles should apply, such as not swimming or bathing in affected waters, not drinking water from lakes and waterways, and avoiding water sports in lakes / waterways where affected / dead birds have been found.
- 13.2 The installation of air diffusers will reduce the possibility of blue green algae developing. Blue green algae present a risk to humans who are directly exposed to or consume the algae. Symptoms can include skin/mucosa irritation, flu-like symptoms, and gastrointestinal illness. Severe cases could include seizures, liver failure, respiratory arrest-even death, although this is rare.
- 13.3 Blue green algae are also a danger to animals. Dogs will sometimes drink from the bodies of water to rehydrate. The algae are incredibly toxic to dogs and other animals and can be fatal to the animal within as little as 15 minutes.

14 IMPACT ON ANY COUNCIL MANAGED PROPERTY OR LAND

- 14.1 The reduction of the pool in size by 50% at Smethwick Hall Park would increase the area of usable green space by approximately 1500m²
- 14.2 A reduction in pool size will provide a reduction in flood risk to downstream residential properties and infrastructure by moving the proximity of any potential obstruction farther away.
- 14.3 Improved water quality and ecology at all the sites.
- 14.4 Considerably improve the appearance of our pool areas (removal of litter/debris regularly).

15 CONCLUSIONS AND SUMMARY OF REASONS FOR THE RECOMMENDATIONS

15.1 Smethwick Hall Park

- 15.2 Works identified in the following options would resolve the main causes of Avian Botulism at this site.

15.3 Option 1 would provide a short-term solution and similar works would be required every 5 years (estimated costs of £45,000 – increasing to £1.798m if silt cannot be retained on site). Option 2 would provide a long-term solution of approximately 60 years (estimated costs of £0.342m) and also provide additional usable green space at the site.

15.4 Given the estimated cost received for partial silt removal of £45,000 (and the potential £1.7m for disposal) which will require repeating every 5 years, this would, over the lifespan of the reduction works (60 years) in option 2, cost £540,000 compared to £300,000 for Option 2.

15.5 **Aeration systems**

15.6 The installation of aeration systems to Victoria Park, Smethwick, West Smethwick park, Victoria Park, Tipton and Smethwick Hall Park will assist in the reduction of Avian Botulism at these sites and will drastically improve the health and ecology of the water body.

15.7 Supply and installation of aerators all electrical connections and remedial works £10,500 x 4 locations = £42,000.

15.8 Annual inspection and maintenance carried out by installation company £835 x 4 locations = £3,340 per annum.

15.9 **Pool maintenance team**

15.10 The recruitment of a dedicated pool maintenance team would reduce the majority of the Avian Botulism causes identified in the Animal and Plant Health Agency paper July 2019 and responsible for maintaining the trash screens, clearance of all litter and brash, check water quality monthly for Nitrates, Nitrites, Phosphates and oxygen levels all of which can have an effect on water quality. Responsible for the monitoring and management of the wildfowl at all sites.

15.11 There would be a revenue implication of £85,000 per annum to provide this service.

15.12 The combination of the above proposals will substantially improve the water quality at these sites, reduce wildfowl deaths and improve the ecology and diversity of plant and animals.

16 **APPENDICES:**

Appendix i- Animal and Plant Health Agency paper July 2019

Appendix ii- Smethwick Hall Park Option 1

Appendix iii- Smethwick Hall Park Option 2

Appendix iv- Londonderry lane allotment plan

Appendix v-Pool aerators

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