

Item 7 Appendix B – Worsbrough Reservoir Project Mandate

VERSION 6 20.01.2022

1 - PROJECT DETAILS	
Project Name:	<p>Worsbrough and Elsecar Reservoir Surveys and Works Required to Satisfy Statutory Obligations</p> <p><u>Workstreams</u></p> <p>Elsecar</p> <ul style="list-style-type: none"> • Structural investigations on spillway, upstream embankment and crest • Vegetation management • Access management • Flood modelling <p>Worsbrough</p> <ul style="list-style-type: none"> • Replacement of upstream deep draw-off valve • Investigations of spillway underdrainage • Flood modelling • H&S safety improvements for operational staff • Replacement of eroded banking for H&S of site users • Vegetation management
Project Location/ Address, including Post Code and Local Authority Area:	<p><u>Elsecar reservoir</u> Located within Elsecar park Armroyd Ln, Elsecar, Barnsley S74 8EY. Barnsley MBC LA area.</p> <p><u>Worsbrough reservoir</u> Located within Worsbrough Country Park and Mill Site Worsbrough Bridge, Worsbrough, Barnsley S70 5LJ Barnsley MBC LA area.</p>
Organisation Name, Size & Company Registration Number (if applicable):	<p>Barnsley Metropolitan Borough Council PO Box 634, Barnsley S70 9GG Large organisation ~3000 employees Local Authority organisation. <i>[The full (legal and official) name, address, size (S/M/L) and registration number (if applicable) of the applicant organisation – this is the organisation who will receive any funds]</i></p>
Is your organisation an SME? If so, state size of organisation (Micro, Small or Medium)	No
Contact Name and Role:	<p>Nicola Staniforth – Project Manager, Facilities Management – Overall project lead Eddy Allen – Flood Risk Co-ordinator – Technical advisor to PM</p>

	<p>Kathy McArdle – Service Director - Project sponsor</p> <p>Rachel Copley – Group Leader, Facilities Management – PM's line manager</p> <p>Jenny Lockwood – Category Manager – Procurement support</p> <p>Russ Boland – Parks Officer – Operational support at Elsecar</p> <p>Catherine Roebuck – Visitor Services Assistant – Operational support at Worsbrough</p> <p>Rob McCarthy – H&S Officer – advisor on H&S matters/works</p>
Address:	<p>Barnsley Metropolitan Borough Council PO Box 634, Barnsley S70 9GG</p> <p>Please mark any correspondence FAO Nicola Staniforth</p>
Email:	nicolastaniforth@barnsley.gov.uk
Telephone:	07827962007
Other Delivery Partners and Roles:	<p>North Yorkshire County Council (NYCC) – Manage a framework which will be called upon to support design investigation and build works.</p> <p>WSP – Preferred supplier from NYCC framework to coordinate investigations at Elsecar and undertake design work and contractor procurement / oversight for Worsbrough banking replacement.</p> <p>SubScan Ltd - Undertake drainage investigations at Worsbrough.</p> <p>Blackhall Engineering Ltd and Edwards Diving Services - Undertake valve replacement works at Worsbrough.</p> <p>TBC – Contractor (to be appointed) to make H&S improvements to access and work areas around Worsbrough spillways</p> <p>Jacobs – Supervising and Inspecting Engineers for Reservoirs Act 1975</p> <p>Environment Agency and Canal and Rivers Trust – Advisor and licencing for all works</p>
Estimated total project cost	£3,375,000

2 – PROJECT SUMMARY

2.1 – Tell us about the project

Please provide a summary description of your project and what you intend to achieve. Why are you looking to embark on this project? What do you want to achieve? What is the problem you want to address or what is the opportunity? What is the project about?

Brief description of the project – Approx. 200 words

Both sites lie upstream from populated areas – were there to be an uncontrolled release of water from either site, it would cause flooding (up to 3m in the immediate vicinity) to around 30 residential properties and neighbouring business premises.

The Flood and Water Management Act 2010 introduced categorisation of reservoirs and requirements on Local Authorities. Reservoirs with the capacity to threaten human life in the event of a failure are designated Category A and subject to the most stringent inspection and supervision requirements.

Worsborough reservoir was built in 1793 and has a capacity of 266,000m³. This reservoir is flood categorised as 'A', a "High Risk" reservoir due to its size and potential for flooding 20 properties and businesses downstream.

Prior to the November 2019 flood events the concrete spillway was identified as requiring investigation and possibly requiring works to be carried out. Given the levels of rainfall experienced over the 7/8th November 2019 it was anticipated that extensive re-construction work is now required

As owner (undertaker) of Worsbrough and Elsecar reservoirs, under the Reservoirs Act 1975, BMBC is obliged to ensure the structures remain safe and fit for purpose without posing a flood risk to downstream communities. The failure of a similar structure (Toddbrook in 2019) cast doubts on reservoir structures and so the Investigating Engineer has prescribed carrying out various repairs, investigations and monitoring works at both sites as matters in the interest of safety under the Act.

What do you hope to achieve by delivering the project?

The aims of the project are to minimise the risk of flooding with its associated impact on people and the environment.

In addition, the works will ensure compliance with the Reservoirs Act 1975 and the H&S at Work Act 1974.

As owner of Worsbrough reservoir, BMBC is obliged to ensure visitor safety in line with section 4 of the H&S Act 1974. A 2021 H&S inspection and subsequent structural surveys identified the banks on the perimeter of this site were significantly eroded and, in some areas, pose a real threat to life. Therefore, it has been necessary to close off various sections until an acceptable design proposal is found and can be implemented. This is having a negative impact on visitor and angler experience at this key nature reserve and heritage site in the Borough. The programme of works will have wider benefits by providing safe, attractive, sustainable and accessible sites which are properly maintained and managed for the benefit of visitors, anglers and local wildlife.

3 – STRATEGIC ALIGNMENT

3.1 – Using the table below, please set out which of the MCA's Core Strategic Outcomes (Stronger, Fairer and Greener), as set out in the Strategic Economic Plan and Renewal Action Plan, your programme/project will contribute to.

Projects that deliver against at least one indicator from all three of Strategic Outcomes (Stronger, Greener, Fairer) are more likely to be prioritised for investment.

Useful links:

For details of the Strategic Economic Plan (SEP)

https://sheffieldcityregion.org.uk/getmedia/f958934e-2218-461d-9642-c011d1979644/SCR_SEP_Full_Draft_Jan_21.pdf

For details of the Renewal Action Plan (RAP)

<https://sheffieldcityregion.org.uk/getmedia/bf2c27b2-a5c7-4ac5-ac64-b4f8798df095/Sheffield-City-Region-Renewal-Action-Plan-Document-Final.pdf>

Strategic Outcomes	Indicator	Desired Outcome / Output	Contribution from this Programme/Project
Stronger – an economic transformation to create not just a bigger economy but a better one: higher-tech, higher skill, and higher-value.	Productivity	Our workforce's productivity will increase, and the economy will grow, increasing the prosperity of our residents.	Reducing flood risk to properties and businesses downstream. Both sites have cafes and visitor attractions which generate income for local businesses. It is anticipated that making the sites safer and more attractive will increase visitor numbers and so boost throughput at such businesses.
	Enterprise	Growing a more successful business base, underpinned by more productive and higher growth businesses	Both sites have significant cultural importance in the Barnsley Borough. This brings visitors to the areas and supports local enterprises (eg heritage craft artists such as wood turners, metal forgers and millers).
	Employment	More working-age people are in employment. More and better jobs	Both sites have keen volunteer groups who come to site to learn new skills (eg sustainable horticulture) which could then be put to use in employment settings.
Fairer – a transformation of wellbeing	Education	A higher proportion of working-age population possess higher	

and inclusion, raising our quality of life, reducing inequality, and widening opportunity.		qualifications, indicating progression in education and employment.	
	Wage levels	More employees lifted out of low earnings.	
	Health	Our population live increasingly long, healthy lives. Gap in healthy life expectancy is narrowed	Reduced risk of injury or loss of life through flood events. Making these sites safer and more accessible will also enable more of the population to take advantage of the benefits. The health benefits of spending time outdoors in nature and getting gentle exercise are well reported (eg this Select Health article).
Greener – a green transformation to decarbonise our economy, improve our environment, and revolutionise our transport.	Air quality	Improvement in air quality, as measured by relevant different particulate matter.	
	Flood mitigation	Reduced flood risk and impact	Both sites lie upstream from populated areas – were there to be an uncontrolled release of water from either site, it would cause flooding (up to 3m in the immediate vicinity) to ~30 residential properties and neighbouring business premises. Ensuring the structures are sound, capable of handling future predicted rainfall levels, and properly maintained and managed means these risks are extremely low.
	Net zero	Contribution to net zero carbon target	
<i>[The outcomes and indicators above are draft only for now.]</i>			

4 – SYMCA SUPPORT REQUIRED

4.1 How can the South Yorkshire MCA support the delivery of the project?

If you know what support you need from the MCA, please state this here (include the funding programme if known). This includes any financial or in-kind support and when you will need this. For financial support, a range estimate will suffice at this stage.

Please note that the MCA wishes to use its limited funding in a way that that creates a self-sustaining fund and will therefore usually seek a return for our investment. Applicants are required to discuss and agree the broad outline of any financial investment you may be seeking with the relevant MCA Executive Officer, prior to submitting this form. [Grant would be the funding option of last resort]

SYMCA allocated £5.5m of Gainshare funding to help accelerate work on 9 of the 27 schemes within the South Yorkshire 'Priority Programme'. These schemes are progressing through the MCA Assurance process and into delivery.

A separate SBC is being prepared to set out how the remaining £0.5m of contingency funding could be utilised. This is focused on 3 areas:

1. Assist with cost increases with existing Gainshare schemes
2. Help implement the Connected by Water Plan (see update below)
3. Further develop the pipeline of flood alleviation and resilience infrastructure schemes.

This proposal falls within area 3 above, helping to develop the pipeline of schemes. Works to Worsborough reservoir are identified in the Connected by Water Plan (action 3.36) and forms part of the South Yorkshire 'Priority Programme'. Whilst Elsecar Reservoir is not included within the CBWP or Priority Programme the joint programme of works with Worsborough ensures effective and efficiency use of funding.

BMBC is looking for financial support from the Gainshare contingency fund to further develop plans to deliver the range of activities noted in the table below (programmed years of activity are highlighted in bold). MCA funding would be focused on the yellow highlighted activities below.

Activities within scope over 2022/23 to 2027/28 (front loaded up to 2024/25 to address immediate concerns)	Estimated cost
Repair, if possible, or replace upstream dep draw-off release valve at Worsbrough (2022/23)	£120,000
Review flood estimates at both sites to determine if reservoir catchment areas are still sufficient to handle probable maximum flood (PMF) and probable maximum precipitation (PMP) levels. If results indicates requirement is >25% greater than current, carry out hydraulic modelling and investigation of masonry side channel foundations (2022/23)	£60,000
Appoint a supervising engineer to conduct 2ce yearly site inspections; support with updating of Prescribed Form of Record and surveillance checklist; support development of a risk-based approach and associated documentation; review of onsite emergency plan; and oversee any additional works (2022/23 and annually thereafter – scope may alter depending on outcome of other investigations)	£280,000
Masonry chamber upstream of downstream scour valve, (inc exterior of the scour pipe within it) at Worsbrough surveyed either by CCTV or confined space entry with results reviewed by the Supervising Engineer. Survey to be repeated at least every 5 years (2022/23 then 2027/28)	£10,000

The outfall points from the spillway underdrainage at Worsbrough are identified and facilities to monitor the flows are constructed, i.e. a manhole or equivalent (if such facilities do not already exist) (2022/23)	£10,000
A CCTV survey of the underdrainage pipes is carried out at Worsbrough covering the pipe beneath the base of each spillway and the collector drains behind the spillway walls, and the findings shall be reviewed by an All Reservoirs Panel Engineer (2022/23)	£5,000
Surveys of Elsecar reservoir dam structures and embankments - to include tactile inspections, CCTV and GPR surveys and, where necessary, confined space work (2022/23)	£60,000
Replacement of collapsed 'shallows area' banking on northern bank at Worsbrough - to include wheelchair accessible area (2022/23)	£450,000
Replacement of collapsed 'Kips wall' on northern bank at Worsbrough (2022/23)	£450,000
Installation of handrails down to and around downstream outlet chamber at Worsbrough (2022/23)	£10,000
Remove unwanted vegetation from structures and create maintenance schedule to prevent recurrence (2022/23)	£50,000
Replacement of southern and south-eastern banks at Worsbrough (2023/24 and 2024/25)	£1,500,000
Potential remedial works following masonry side channel foundation inspections at Worsbrough (2023/24)	£120,000
Ongoing management of vegetation, fencing, gates, and signage across the site (2023/24 to 2027/28)	£210,000
Close inspection (rope access) of all spillway structures every 5 years and subsequent remedial work as required at Worsbrough (2026/27)	£40,000
Total	£3,375,000

It is proposed to utilise £100,000 of the remaining Gainshare contingency funding to develop this project, releasing it as development funding. MCA investment as a proportion of the overall project cost would be 2.96%.

4.2 Please provide details of any other funding secured and/or details of other funders you are approaching.

Recognising this scheme as a priority and the potential implications of not carrying out these investigations and works BMBC has funded early actions to progress this scheme.

BMBC are actively exploring funding options which would enable delivery of this scheme. Securing additional funds would allow Council funding to be redirected to other priority projects. Regular checks on Grant Finder are being undertaken to identify potential funding streams. Initial discussions have been held with the Environment Agency regarding potential funding via an asset replacement allowance but it is not anticipated this will bear fruit in the next two years

4.3 What additionality will MCA investment bring?

*What would happen with MCA intervention that wouldn't happen without it?
What would happen without MCA intervention?*

The MCA contribution to develop this project would allow the scheme to be delivered. It would allow BMBC to release funds to support delivery of its wider [strategic objectives](#), which in turn are linked to the MCA's Core Strategic Outcomes.

5 - CONSULTATION

5.1 – Who have you consulted with about the project idea?

Please insert South Yorkshire MCA	Ryan Shepherd
Local Authority	Barnsley MBC
Other consultees, for example:	
Local community	Angling Associations by email, in person and by telephone as they are key stakeholders. General public including volunteer groups, site visitors, neighbouring residents through informal discussions.
Relevant businesses	Café and shop operators in the vicinity. BMBC staff working at or in the locality of the sites.
Environment Agency	Katie Burnham for advice re timing of and approvals for works to minimise impact on the local ecology. BMBC Biodiversity team.
Planning Authority	BMBC Planning Officer James Hyde BMBC Heritage Planning Officer Tony Wiles
Highway Authority	BMBC Head of Highways and Engineering – Matthew Bell BMBC Flood Risk Co-ordinator - Eddy Allen
Health and Safety and Emergency Planning	BMBC Health, Safety and Emergency Resilience Officer - Rob McCarthy BMBC Civil Contingencies Advisor - Emily Turner
Supervising and Inspecting Engineers under Reservoirs Act 1975	Iain Edmonds (Supervisor) and Andy Courtnadge (Inspector) of Jacobs.
Yorkshire Water	Newman Booth – Reservoir Safety Manager
Barnsley MBC	Discussions and approvals through Cabinet and Overview and Scrutiny Committee

6 – TIMESCALES FOR DELIVERY

6.1 – What is the preferred date that the project can commence delivery? If this is currently unknown, please set out your proposed next steps below

[Please advise the date and any dependencies]

Flood management emergency plans have been submitted to the Environment Agency (April 2022) in line with EA requirements.

Preliminary activities have commenced to appoint suitable contractors to conduct the works. Delivery of the bulk of activities are planned to take place by the end of FY 2024/25, with follow up inspections, surveys and works in following years.

- The main limitations and dependencies are:
Availability of suitably qualified and experienced contractors
- Logistical restrictions to get materials and equipment on sites
- Ecological restrictions on timing of activities (many will have to take place in autumn/winter months which will bring its own challenges)

6.2 – If currently known, please outline the key milestones required to deliver the project and provide forecast dates for achievement.

[e.g. complete outline design, secure all funding, procurement complete, statutory processes complete]

30th June 2022	Detailed plans for repair or replacement of upstream emergency release valve at Worsbrough established and contractor assigned
30 th July 2022	Detailed designs for Worsbrough banking works complete ready for contractor tender exercise
30 th September 2022	Underdrainage inspections completed and future works understood for Worsbrough
1 st November 2022	Banks at Worsbrough - repair works commence
30 th November 2022	Prescribed inspections of Elsecar conducted and bill of works created
15 th December 2022	Safety rails to downstream deep draw valve installed at Worsbrough
30 th January 2023	Flood modelling completed and future works understood for both sites
1 st April 2023	Future works required under Reservoirs Act (for both sites) are prescribed by Supervising Engineer
15 th December 2023	Cabinet report submitted to seek funding/approval to undertake any necessary works at Elsecar
15 th February 2025	Worsbrough banks works complete
31 st March 2025	Inspecting Engineer signs off completion of all works required under the Reservoirs Act 1975
1 st April 2025	Future years inspections, maintenance and surveying plans in place

7 – DEPENDENCIES

7.1 – Is the project linked to or dependent on any other project or activity, especially one the MCA may be involved in?

[Please advise if the delivery or success of the project is dependent on any other project or activity taking place]

At this time, there are no known dependencies on other projects to enable these activities to proceed.

7.2 – Are there any statutory processes required for you to deliver the project?

[Please advise if the project will require planning permission or other statutory approvals prior to commencement. If so, please provide more detail on progress and the forecast timescales for achievement?]

The banking work at Worsbrough will require formal planning permission. A pre-application enquiry has been logged and can be progressed as soon as the detailed design has been developed.

The EA are being kept abreast of all activities to advise where any restrictions or licences are required.

Please attach any document(s) or provide links to reference material that support any of the information presented above.