

<b>Workshop Title:</b>	Panel Engineer Development (SE) – S12 Visit
<b>Workshop No:</b>	T1 and T6 (Combined)
<b>Date:</b>	15 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 – 17:30
<b>Facilitator:</b>	David Littlemore
<b>Technical Lead:</b>	Anthea Peters
<b>Contributors:</b>	
<p>Double session aimed at those thinking about, or part way through their development towards Supervising Engineer. This is an opportunity to visit a nearby reservoir with a Supervising Engineer &amp; ARPE, where we can share thoughts on not just the reservoir itself but the general role of the Supervising Engineer.</p> <p>Wollaton Park Lake is a Category A dam with a council undertaker. It is located in a well-loved parkland and is publicly accessed at all times. If you are an avid Batman fan, there are fantastic views towards the hall which was used as Wayne Manor in the 2012 film. The dam is earthfill with upstream protection, a concrete spillway and low level drawoff. The downstream face is heavily wooded. Walking distance from the venue of about 15 minutes each way. Depending on numbers, the visit may also take in Newstead Abbey Upper Lake: operated by the same undertaker and a short drive away.</p> <p>To summarise at the end we will discuss:</p> <ul style="list-style-type: none"> <li>• thoughts on the condition and maintenance of the dam;</li> <li>• the constraints faced by a non-water PLC undertaker;</li> <li>• suggestions one might provide in an Annual Statement.</li> </ul>	

<b>Workshop Title:</b>	Concrete dams lessons
<b>Workshop No:</b>	T2
<b>Date:</b>	15 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 – 15:30
<b>Facilitator:</b>	Michael McAree
<b>Technical Lead:</b>	TBC
<b>Contributors:</b>	
<p>Workshop covering various topics of interest including</p> <ul style="list-style-type: none"> <li>• Repairs and modifications</li> <li>• Improvements in stability analysis techniques and procedures</li> <li>• Failure modes and application of drawdown guidance</li> </ul>	

<b>Workshop Title:</b>	Retrofitting of aging dams – drawdown capacity
<b>Workshop No:</b>	T3
<b>Date:</b>	15 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 – 15:30
<b>Facilitator:</b>	Mike Dixon
<b>Technical Lead:</b>	Martin Hewitt
<b>Contributors:</b>	
<p>With a focus of providing sufficient drawdown capacity at reservoirs, a number of sites have been found to have insufficient provision. This session will review the options for improving drawdown capacity and collate good and bad practice and develop a potential flow chart for optioneering to be shared with the industry.</p>	

<b>Workshop Title:</b>	Managing conflict between reservoir safety and other legislation - PART A
<b>Workshop No:</b>	T4
<b>Date:</b>	15 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 – 15:30
<b>Facilitator:</b>	Matt H
<b>Technical Lead:</b>	Jeremy Benn
<b>Contributors:</b>	
<p>Working around an imaginary reservoir, typical environmental and planning constraints are to be discussed and resolved. The first session will consider water framework directive (WFD), sediment awareness and sediment transport – both compliance and restoration themed</p>	

<b>Workshop Title:</b>	ICE review into the supply of Panel Engineers
<b>Workshop No:</b>	T5
<b>Date:</b>	15 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 – 15:30
<b>Facilitator:</b>	Andrew Crudington
<b>Technical Lead:</b>	Robert Mair
<b>Contributors:</b>	
<p>Facilitated workshop, to cover the following two areas: -</p> <ol style="list-style-type: none"> <li>1. Test the review's draft findings with the BDS Community (we'll have closed the call for evidence on 30 June, so we will be able to share a first draft of our conclusions with BDS well in advance of the conference)</li> <li>2. Identify blockers and enablers to implementing the review + action conference attendees would be willing to commit to carry out to tackle the current situation (we don't want the review to be an academic exercise, so while some of our recommendations will no doubt have to go to Ministers, others are likely to need commitment from Panel Engineers, employers, BDS and ICE et al, so we'd like to take the opportunity to test the attendees appetite for change and get their insight on what levers need to be pulled by who)</li> </ol>	

<b>Workshop Title:</b>	Toddbrook virtual site visit
<b>Workshop No:</b>	T7
<b>Date:</b>	15 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	16:00 – 17:30
<b>Facilitator:</b>	Anthea Peters/David Neeve
<b>Technical Lead:</b>	David Prisk
<b>Contributors:</b>	
<p>Virtual site visit of Toddbrook including a vide tour of the site, review of the planning illustrations and open discussion on the current spillway works. Summary of the outcome of the investigations and process for planning.</p>	

<b>Workshop Title:</b>	Geotechnical and geophysical investigation of dams
<b>Workshop No:</b>	T8
<b>Date:</b>	15 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	16:00 – 17:30
<b>Facilitator:</b>	Jennifer Clifford and David Hughes
<b>Technical Lead:</b>	Alan Brown
<b>Contributors:</b>	
<p>A good understanding of geotechnical engineering and engineering geology underpin the safety of all dams. The object of the workshop is to raise the awareness of key aspects of these disciplines, and provide links to core references as further reading. The workshop is aimed at all aspects of dam safety management, including Supervising and Inspecting Engineers and those responsible for specifying and overseeing physical upgrading works on dams.</p> <p>The workshop will be split into two parts, with discussion following each part:</p> <p>Part 1 Principles and assessment</p> <ul style="list-style-type: none"><li>• Key concepts – pore pressure, drained vs undrained etc.</li><li>• Geotechnical Failure modes</li><li>• Desk study incl Open source data</li><li>• Monitoring and surveillance</li><li>• Tools to assess likelihood of failure - overview</li></ul> <p>Part 2 Investigations, design and construction. Principles and case histories</p> <ul style="list-style-type: none"><li>• Investigation techniques</li><li>• Structures eg spillway, culverts, tunnels</li><li>• Earthfill incl filters</li><li>• Grouting</li></ul>	

<b>Workshop Title:</b>	Managing conflict between reservoir safety and other legislation - PART B
<b>Workshop No:</b>	T9
<b>Date:</b>	15 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	16:00 – 17:30
<b>Facilitator:</b>	Kieran S & Dave S
<b>Technical Lead:</b>	Jeremy Benn
<b>Contributors:</b>	
Working around an imaginary reservoir, typical environmental and planning constraints are to be discussed and resolved. The second session will consider:- <ul style="list-style-type: none"><li>• Planning and permitting</li><li>• Ecological considerations</li></ul>	

<b>Workshop Title:</b>	Emergency planning/Onsite Plans Pt 1 - Emergency planning for small owners
<b>Workshop No:</b>	F1
<b>Date:</b>	16 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 - 15:30
<b>Facilitator:</b>	Ian Davies
<b>Technical Lead:</b>	Jon Holland & Tom Wanner
<b>Contributors:</b>	
Workshop to discuss and collate ideas on how emergency planning can be effectively managed for reservoir owners - and in particular how individual, small owners can be assisted to maintain emergency plans.	

<b>Workshop Title:</b>	Service reservoirs
<b>Workshop No:</b>	F2
<b>Date:</b>	16 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 - 15:30
<b>Facilitator:</b>	Barry Dooley
<b>Technical Lead:</b>	Steven Cavanagh
<b>Contributors:</b>	
<p>All water retaining structures have a finite life, but how do we forecast when a service reservoir will require reconstruction? In this workshop we will discuss methods of inspection including the use of technology, destructive and non-destructive testing and analysis of the data to assess residual life of construction materials. The various modes of deterioration will be considered, and we will also look at repairs and treatments which can be used to extend the economic life of the structure. Case studies will be visited to demonstrate the process in action.</p>	

<b>Workshop Title:</b>	Reservoir surveying techniques
<b>Workshop No:</b>	F3
<b>Date:</b>	16 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 - 15:30
<b>Facilitator:</b>	Neil Harding
<b>Technical Lead:</b>	Steve Richings
<b>Contributors:</b>	
<p>This workshop will focus on the principal surveying and inspection methods applicable to the terrestrial, aquatic and aerial environments associated with reservoirs and dams. The presenters are experienced surveyors and include Supervising Engineers. An introduction to some important surveying topics including Ordnance Survey datum and survey data file management will be illustrated before moving onto explore the different available and emerging techniques using a combination of formal classroom presentation plus practical demonstration of selected equipment on a pond within the campus. The workshop is designed to give an understanding and appreciation of the capabilities and limitations of the different methods and how to identify the most appropriate for different purposes including what to consider when preparing specifications for surveys.</p>	

<b>Workshop Title:</b>	Panel Engineer Development (SE) – experience and application for panel
<b>Workshop No:</b>	F4
<b>Date:</b>	16 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 - 15:30
<b>Facilitator:</b>	Kyle McLean
<b>Technical Lead:</b>	Rachel Pether
<b>Contributors:</b>	
<p>The Supervising Panel Engineer Development workshop session will include a 20 minute presentation on the attributes and experience required for Supervising Engineers followed by a brief talk by a recently appointed Supervising Engineer on how to navigate through the process. The session will conclude with an hour long open forum, exploring the common themes relating to the application and interview process. Delegates will have the opportunity to ask questions on the challenges, blockers and opportunities associated with becoming a Supervising Engineer.</p>	

<b>Workshop Title:</b>	Design of flood storage reservoirs
<b>Workshop No:</b>	F5
<b>Date:</b>	16 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	14:00 - 15:30
<b>Facilitator:</b>	Paul Dickens
<b>Technical Lead:</b>	Andy Courtnadge
<b>Contributors:</b>	
<p>There are currently around four new flood detention reservoirs (FDRs) built each year in UK, and although they are generally only modest height structures, they pose some unique technical challenges compared to conventional dams and the consequences of their failure can be significant due to their proximity to populated communities downstream.</p> <p>This workshop is targeted at those involved in the planning and design of FDRs but could be beneficial to anyone involved in supervising, maintaining, managing or assessing them. Indeed, feedback will be invited from such attendees to the pass back to designers. It is assumed that delegates will already have a basic understanding of the principles and key features of FSRs. The session will debate various recent developments and ‘hot topics’ including those listed below. In each case a technical specialist will present on the subject before an open discussion forum.</p> <ul style="list-style-type: none"> <li>• Overview of papers and guidance related to FSRs published in the last 5 years, including the 2019 trash screen guidance , papers on resilience and Environment Agency draft Minimum Technical Requirements (MTR).</li> <li>• Ground investigation, assessment of internal erosion and design of cut-offs</li> <li>• Joint use of road/rail infrastructure embankments</li> <li>• Climate change allowances</li> <li>• Development of flood plans for FDRs and washland reservoirs</li> <li>• Risk assessment and application of ALARP principles to existing FDRs.</li> <li>• Unique challenges associated with washland reservoirs</li> <li>• Case studies</li> <li>• Clinic (please bring along any queries on issues related to FDR design, construction, surveillance or monitoring)</li> </ul>	

<b>Workshop Title:</b>	Emergency planning/Onsite Plans Pt 2 - Testing of plans
<b>Workshop No:</b>	F6
<b>Date:</b>	16 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	16:00 - 17:30
<b>Facilitator:</b>	Ian Davies
<b>Technical Lead:</b>	Jon Holland & Tom Wanner
<b>Contributors:</b>	
<p>Preparation for emergency planning - aim of workshop is to pull together a list of planning for an emergency test - both desk based and physical. To identify areas requiring further development towards developing guidance for the industry and reservoir owners.</p>	

<b>Workshop Title:</b>	Gated structures on dams – design, actuation, testing, maintenance
<b>Workshop No:</b>	F7
<b>Date:</b>	16 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	16:00 - 17:30
<b>Facilitator:</b>	Russ Digby
<b>Technical Lead:</b>	Jonathan Hinks
<b>Contributors:</b>	
<p>Workshop on what can go wrong with gated structures and what can be done to minimise the risk. The format of the workshop is as undertaking a quantitative risk assessment for failure modes associated with gated structures.</p>	

<b>Workshop Title:</b>	Sustainable reservoir management
<b>Workshop No:</b>	F8
<b>Date:</b>	16 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	16:00 - 17:30
<b>Facilitator:</b>	Graham Clark
<b>Technical Lead:</b>	Mike Hughes
<b>Contributors:</b>	
<p>An interactive workshop focussed on the mechanisms and principles to minimising whole life carbon impacts associated dams and reservoirs. The workshop will be run by a whole life carbon specialist and the majority of the session will involve open discussions and working in groups to identify carbon reduction opportunities in hypothetical scenarios. The workshop will explore key themes from PAS 2080 – the gold standard for carbon management in infrastructure – and aims to provide attendees with the understanding and experience to consider low carbon actions, and integrate carbon into their own project decision making.</p>	

<b>Workshop Title:</b>	Discontinuance of reservoirs
<b>Workshop No:</b>	F9
<b>Date:</b>	16 <sup>th</sup> September 2022
<b>Workshop Room:</b>	
<b>Time:</b>	16:00 - 17:30
<b>Facilitator:</b>	Jo Parkinson
<b>Technical Lead:</b>	Matt Coombs
<b>Contributors:</b>	
<p>Open discussion on the development of discontinuance projects. Sharing of good practice and noting areas of legislation which require attention. Aim to summarise the areas of activities from inception to completion.</p>	