Strategic regional water resource solutions: standard gate two final decision for South Lincolnshire Reservoir



Contents

1.	Introdu	ction	3
2.	. Solution	n Summary	4
	2.1 Sol	ution summary	4
3.	. Summa	ry of representations	5
	3.1 Rep	presentations received	5
	3.2 Our	response	11
	3.2.1	Evaluation of Costs & Benefits	11
	3.2.2	Wider public value and 'system' benefits	12
	3.2.4	Historic environment	12
	3.2.5	Stakeholder engagement	13
	3.2.6	Gated allowance	13
	3.2.7	Cost sharing	14
	3.2.8	Efficient spend	14
	3.2.9	Gate three and four timing	14
	3.2.10	Name change	15
	3.2.11	Action and recommendations	15
	3.3 Oth	ner changes to our draft decisions	15
	3.3.1	Gate two actions	15
	Followir	ng feedback from regulatory partners, we have clarified action 4 in Appendix A	15
4.	Solution	n assessment summary	16
	4.1 Sol	ution progression to standard gate three	16

4.2	Solu	ution funding to standard gate three	. 18
4.3	Evic	dence of efficient expenditure	. 20
4.4	Qua	ality of solution development and investigation	. 20
4	.4.1	Solution Design	. 21
4	.4.2	Solution costs	. 22
4	.4.3	Evaluation of Costs and Benefits	. 22
4	.4.4	Programme and Planning	. 22
4	.4.5	Environment	. 23
4	.4.6	Drinking water quality	. 23
4	.4.7	Board Statement and assurance	. 24
5. A	Actions	and recommendations	. 25
5.1	Act	ions and recommendations from gate two assessment	. 25
5.2	Act	ions and recommendations from gate one assessment	. 25
6. E	Delivery	Incentive Penalty	. 27
7. F	Propose	ed changes to partner arrangements	. 28
8. 0	ate thr	ree activities and timing	. 29
8.1	Gat	e three timing	. 29
Appe	ndix A:	Gate two actions and recommendations	.30
Appe	ndix B:	Gate one actions and recommendations	. 34

1. Introduction

The purpose of this publication is to set out our final decision about whether the South Lincolnshire Reservoir¹ solution should continue to receive development funding². The solution owners Anglian Water and Affinity Water submitted their standard gate two reports on 14 November 2022 for assessment. Further information concerning the background and context of the Anglian Water and Affinity Water's South Lincolnshire Reservoir can be found in the South Lincolnshire Reservoir publication document on the Affinity Water website³.

This publication should be read in conjunction with the final decision letter issued to each solution owner. Both this document and final decision letters have been published on our website.

The assessment process is overseen by RAPID, with input from the partner regulators Ofwat, the Environment Agency and the Drinking Water Inspectorate. The Environment Agency together with Natural England and Natural Resources Wales (for solutions involving Wales), have reviewed the environmental sections of the submissions, and provided feedback to RAPID. The Consumer Council for Water provided input to the assessment on customer engagement.

The solution owners and other interested parties had the opportunity to respond to the draft decision during the representation period, which followed the publication of the decisions on 30 March 2023. We have taken all relevant representations into account in making our final decision.

We would like to thank Anglian Water and Affinity Water for the level of engagement, collaboration and innovation that they have exhibited during this stage in the gated process.

¹ Referred to in PR19 final determination as "South Lincolnshire Reservoir"

² PR19 final determinations: Strategic regional water resource solutions appendix

³ South Lincolnshire Reservoir

2. Solution Summary

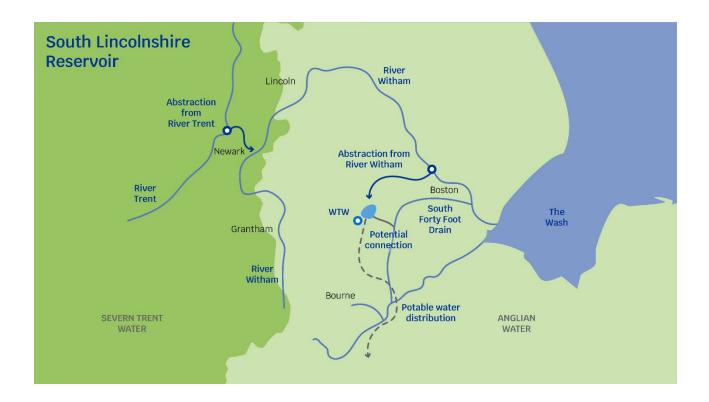
2.1 Solution summary

The South Lincolnshire Reservoir (SLR) solution consists of a 55 million cubic metre (MCM) reservoir, with 50MCM useable volume in Lincolnshire, south of Sleaford. The reservoir plans show a maximum embankment height of 20m covering an area of about 5km. The deployable output is modelled to be 166 megalitres per day (Ml/d). Water will be abstracted from the River Witham (when flows allow) with a 400Ml/d capacity, with a backup transfer to the River Witham from the River Trent sized at 300 Ml/d.

It is anticipated that SLR will also deliver wider social, environmental, and economic benefits beyond water supply. SLR could become a leisure destination for activities such as walking, cycling, sailing, and angling and provide a support system to conserve wildlife and enhance biodiversity, protecting valuable species and creating new habitats.

The project capital expenditure is £2.33 billion (in 2020/21 prices), with an Average Incremental Cost (AIC) of 181p/m3.

Figure 1. South Lincolnshire Reservoir Solution Schematic



3. Summary of representations

3.1 Representations received

We have received the following representations relevant to the South Lincolnshire Reservoir.

Table 1. Summary of representations

Representation from	from Summary of representation	
Representation from Water Resources East (WRE)	 Evaluation of Costs & Benefits WRE note the comments made in the draft decision documents about fully demonstrating that the Fens Reservoir (and the SLR) represent low regret options within WRE's best value plan. They will work with the relevant companies to strengthen the evidence base ahead of the October deadline. Wider public value and 'system' benefits WRE welcome the recommendation that Anglian Water should continue to explore the benefits of open water channels to move water to the reservoir site and the potential synergies with the Boston to Peterborough Wetland Corridor and the Lower Witham Flood Resilience Project. They note that they have sponsored work that has explored the potential conjunctive use benefits for irrigators arising from the SLR (and the Fens Reservoir). However, WRE note that their role to catalyse these 'system' benefits is not funded and there will be a limit to how far it is possible and appropriate for the costs of the necessary studies to be met from strategic resource option (SRO) budget allocations. They note that it would be valuable to have a conversation with representatives from Ofwat, the EA and Defra on how to unlock the wider opportunities from the SLR, and how this may be funded. They welcome an update from RAPID on potential commercial and legal models for multi-sector reservoir systems since the CEPA study was published last year, noting 	
	that without progress in this area, the SLR will default to solely meeting the identified public water supply needs.	
Black Sluice Internal	Solution progression	
Drainage Board	The Black Sluice Internal Drainage Board welcome the	
	decision to progress the SLR to gate three.	
	 Emergency drawdown facilities The Black Sluice Internal Drainage Board have concerns with 	
	the emergency drawdown facilities of the reservoir and how	

- these might operate without impacting the flood resilience within their catchments.
- They note that using an emergency drawdown is a highly unlikely event but emphasise that a clear plan for managing emergency situations where this might be required is a vital part of developing the reservoir.
- They note that initial modelling has confirmed that emergency discharge into the existing main river network (South Forty Foot, Glen, Witham) is a viable option and will mitigate the risk of flooding to the local community. However, more work and understanding is required before a solution is finalised.
- They stated that future all party agreed plans for the emergency drawdown must be consulted on during future phases of consultation.

Wider public value and 'system' benefits

- The Black Sluice Internal Drainage Board note that they are pleased to continue to work with Anglian Water as the reservoir is developed, and remain committed to exploring opportunities of open water transfer that also deliver additional flood resilience within their catchments.
- They welcome the action requiring Anglian Water to explore opportunities for open channel transfers within the system design and will look to support this work through their role as a member of the South Lincolnshire Water Partnership.
- They note that there are opportunities for synergies to be realised between the reservoir and other projects, however, appreciate that there are significant pressures regarding time frames and substantial challenges regarding how to achieve integrated decisions.

North Kesteven District Council

Stakeholder engagement

- North Kesteven District Council note that Council Officers have engaged with Anglian Water to inform, influence and shape the project in the interests of local communities and the environment.
- They anticipate and welcome further engagement on the SRO for both the RAPID and Nationally Significant Infrastructure Project (NSIP) processes.
- They note that the Council worked with Anglian Water on the non-statutory consultation launched in Autumn 2022.
- They note that Anglian Water has produced a consultation response, however this does not provide full access to the representations made or provide a sufficiently detailed appraisal of key issues and their responses.
- They agree with the aims of the recommendation set by RAPID for the gate three submission to show how the results of the non-statutory consultation were considered, however they suggest that the database of representations should be made publicly available to ensure transparency.

Wider public value and 'system' benefits

- North Kesteven District Council has been engaged in the discussions on 'systems' work and note the possible benefits that could be secured.
- However they note that systems work is not a substitute for Anglian Water's obligation to invest appropriately in directly mitigating the impact of the reservoir and delivering benefits for the local community.

Biodiversity net gain

 North Kesteven District Council support the recommendation for protected species surveys to be included as a necessary component of the environmental assessment and for ditches to be included within 'standing open water and canals' within the Priority Habitats assessments.

Landscape and visual impact

- North Kesteven District Council note that the embankments of the reservoir will have an impact on the local landscape.
- They note that a challenge for designers will be striking a balance between engineering needs and successfully integrating and assimilating the embankments into the environment.
- They support the recommendation set at gate two for work to be undertaken to mitigate landscape and visual impacts to sensitive receptors, and for a detailed Landscape and Visual Impact Assessment to be carried out.

South Lincolnshire Water Partnership (SLWP)

Solution progression

• SLWP welcome the decision that the solution will continue to be funded to gate three.

Wider public value and 'system' benefits

- SLWP welcome the action set at gate two for the exploration of open channel transfers within the system design of the reservoir and will look to provide support for this work in their role as partner.
- They state that synergies can be realised between the Lincolnshire Reservoir project, the Boston to Peterborough Wetland Corridor, and other water resources, flood risk, water quality, environment and biodiversity, and climate resilience projects.
- They note that in the partnership, work on open channels had been difficult due to pressures on time frames and achieving integrated decision making whilst ensuring that the Development Consent Order (DCO) application is not compromised. They welcome advice from RAPID on how to navigate this challenge.
- They welcome the recommendation for further system work to look into opportunities for developing the wider reservoir system benefits.

Historic England

Historic environment

- Historic England note strong concern that there is little reference to the historic environment in the draft decision document.
- They suggest that the gate two recommendations for the SLR include work to be carried out to consider the historic environment.
- They note that there is no reference to detail of the scheme, with a particular area of concern being the proposed bunding or embankment of the reservoir and the subsequent assessment that will be required.
- They note concern that comments raised previously do not appear to have been considered in the assessment of the SLR.
- They note strong concern about the potential impact the reservoir could have on the historic villages of Scredington, Helpringham and Swaton, and the associated heritage assets and the views between the Grade I churches, particularly kinetic views east to west between settlements.
- They note strong concern regarding the proposed embankment height.
- They note the risk of nationally important archaeological remains and the requirement for a staged process of evaluation to inform the Environmental Impact Assessment.
- They question what the impact of the associated development of the reservoir will be on Gorse Hill and/or Neatfold Hill which appear to be in areas of higher archaeological risk and landscape sensitivity. They question if the additional facilities to be developed with the reservoir need to be built in this area and whether the need for such facilities is as great as the water resource benefit to be provided by the reservoir.
- They note that there are likely to be known and unknown non-designated heritage assets within the footprint of the proposed scheme, some of which could be of equivalent significance to a designated asset.

Actions and recommendations

- Historic England note that no actions have been set in relation to the historic environment.
- They request further clarification on action 8, 'The potential impacts of the reservoir footprint, the abstractions and transfers should come together and be considered 'incombination'.'
- They welcome recommendation 7, in particular the detailed Landscape and Visual Impact Assessment, but note that the historic environment is not referenced in the recommendation.

They recommend that further archaeological investigations are needed in order for a suitable programme of archaeological assessment to be established.

Anglian Water and Affinity Water

Evaluation of Costs & Benefits

- Anglian Water and Affinity Water are confident that the SLR is a low regret, must do option.
- They state that further information on the regional decision—making process will be provided, along with additional explanation regarding option availability, sizing and costs.
- They assert that it would be useful to understand the criteria regulators will be using to judge that sufficient evidence has been provided and that this meets regulators' satisfaction.
- They state that environmental monitoring, assessment and modelling work is planned prior to gate three and an environmental team has been established. Updates for this work will be provided in monthly checkpoint meetings.
- They do not consider it appropriate to take forward all of the recommendations from the systems report by funding them from the SRO RAPID budget, rather they are exploring alternative routes to achieve the same outcome and encouraging representatives from those sectors who will benefit to take a lead in championing specific opportunities.

Gated allowance

- Anglian Water and Affinity Water assert that they understand the change to solution funding however note that they require the full 100% of the identified increase. Remaining monies which have not been secured as part of the gate three allowance will be moved forward into the gate four / price review 2024 (PR24) application process.
- They state that it may be necessary to start gate four activities ahead of the revised September 2024 gate three milestone.
- They note that in gate two submission, they had already accounted for the forecast underspend at gate two rolling forward to support gate three activities. As such, the 35% disallowed component means they are required to deliver gate three submission with 65% of the extra allowance requested.
- They assert that land or property acquisition or compensation associated with implementing an early Property Support Scheme costs will need to be incorporated into gate four / price control 2024 application process.
- They state that post gate three funding: estimate that a significantly higher gate four allowance will be required to deliver a successful DCO and delivery phase procurement.

Cost sharing

 Anglian Water and Affinity Water question the change in cost sharing rate as it significantly increases development risk and does not recognise the uncertainties of major project

- development often caused by external and third-party events.
- Anglian Water recommend that, instead of the introduction of a new proposed 'pain/gain' mechanism between companies and customers, existing customer protections are further enhanced instead.

Efficient Spend

- Anglian Water and Affinity Water note RAPID's position that expenditure was deemed to be efficient.
- They state that they submitted final accounts for gate two separately.
- They support the change to look at the cumulative gate spend against the cumulative total allowance.
- They assert that efficiencies enabled by the Lincolnshire Reservoir will then be generated on the Fens Reservoir, resulting in differing development costs for the two reservoirs.

Priority action: Evaluation of Costs and Benefits

- Anglian Water and Affinity Water are confident that the Lincolnshire Reservoir is a low regret, must do option.
- They requested in representations on the WRE regional plan and the Anglian Water draft Water Resources Management Plan (WRMP), further information on the regional decisionmaking process will be provided, along with additional explanation regarding option availability, sizing and costs.
- They stated that further evidence will be provided in the updated regional plan and in the revised draft WRMP by October 2023.

Priority action: Programme and Planning

 Anglian Water and Affinity Water state that a strategic meeting has been held with the Environment Agency covering Abstraction Licensing, to develop a strategy on how this will be consented. An updated Consenting Strategy will be shared by 1 October 2023 as requested.

Priority action: Drinking Water Quality

- Anglian Water and Affinity Water assert that the water quality monitoring programme is regularly reviewed, and routine sampling carried out for the specific considerations as set out in the Drinking Water Inspectorate (DWI) long term planning guidance.
- They assert they are currently in consultation with external laboratories to understand the available analytical capability for Endocrine Disrupting Chemicals and trace chemical.
- They state full update of monitoring programme will be provided by June 2023 as requested.

Wider public value and 'system' benefits

 Anglian Water and Affinity Water do not consider it appropriate to take forward all of the recommendations from the systems report by funding them from the SRO RAPID budget, rather they are exploring alternative routes to achieve the same outcome and encouraging representatives from those sectors who will benefit to take a lead in championing specific opportunities.

Gate Timing

- Anglian Water and Affinity Water recognise the benefit of moving gate three back from March 2024 to September 2024. But this means that in some instances key gate four activities will need to start during gate three. Early visibility will be provided at monthly checkpoint meetings.
- They propose revised DCO submission and gate four dates between spring 2026 and autumn 2026, to be further reviewed and confirmed in gate three submission in September 2024.

Name Change

- Anglian Water and Affinity Water request a name change from SLR to Lincolnshire Reservoir. This has been adopted in consultation process and has been proposed for the WRMP and Regional Planning Process.
- They will engage with local community on the final name for the reservoir as part of a future consultation.

3.2 Our response

We have taken the representations into account in our final decisions and set out below our response to the key points and issues raised. For the representations or parts of representations which indicate support, provide information or give an update without raising key points and issues, we do not provide a response below but are grateful for the comments provided and confirm that we have also taken these into account.

3.2.1 Evaluation of Costs & Benefits

Water resources planning at a regional and company level is following a best value approach. This allows consideration of how new water sources can be used to bring about best value at a regional and national scale, therefore going beyond the local area. The need for solutions and the decisions on whether or not solutions ultimately go ahead will be made through water resources planning processes and subsequent applications for planning and environmental consents.

We welcome the work proposed by Water Resources East and Anglian Water to develop and deliver the required evidence on best value planning to meet the priority action number one set for October 2023. RAPID are happy to provide further advice on the scope and content of the action.

3.2.2 Wider public value and 'system' benefits

Stakeholders welcomed the action to continue to explore open channel transfers as part of the solution design and wider 'system' benefits. Reservoir solutions have greater potential to provide wider benefits than other types of solutions.

Anglian Water is continuing to develop its approach to multisector reservoirs - looking at the costs, benefits and funding routes available. RAPID's role is to support companies carrying out this work where possible.

At gate three, we are expecting solution owners to have identified opportunities to realise wider benefits and benefits to third parties through stakeholder consultation and integrated into the solution design and proposed modes of operation. Progress on any modifications or enhancements to the solution design to realise these benefits should be clearly set out at gate three, together with a justification for the inclusion or exclusion of these modifications and enhancements, and associated costs. Solution owners should work with relevant local planning authorities and stakeholders to inform this work. This activity is integral to the development of the solution and should be delivered using the gated allowance.

Where wider benefits are proposed to be provided to third parties, proposals should be submitted demonstrating how those parties propose to contribute a fair share of the costs according to their own responsibilities and the benefits they realise, and evidence of engagement and commitment by those third parties.

Environmental assessments will continue to investigate potential impacts and explore any appropriate mitigation measures.

Taking account of the representations on these issues, we have revised the wording of action four in Appendix A to provide further clarity and alignment with the RAPID gate three guidance on wider public value.

3.2.3 Emergency drawdown facilities

All impacts will be carefully examined by those responsible for the development of the solution, but also through the planning and consenting process. The Environment Agency would be closely involved in the assessment and suitable management of any flood risk created by emergency arrangements for the reservoir.

3.2.4 Historic environment

During further progress through the gated process, solution owners will continue to develop their environmental assessments, including consideration of the historic environment. A DCO

application or an application for local planning permission for the solution will need to be supported by an Environmental Impact Assessment in which the effects of the solution on the historic environment will be assessed and proposals for mitigating any adverse effects will be included. The acceptability of the effects and mitigation will be a matter for the authorities determining those applications and will not be a decision reached by the gated process.

A programme of archaeological work is set out in the project plan and proposed list of gate three activities within the gate two submission. The solution owner will be expected to engage with Historic England through the development of the project.

To date, the potential impacts from elements of the reservoir (the abstraction locations, the transfer routes and the reservoir footprint) have been considered separately. It is necessary to consider the potential impacts from elements of the reservoir in-combination.

We have added a recommendation that the solution owners continue to engage closely with Historic England on the work required to consider the historic environment.

3.2.5 Stakeholder engagement

We agree that stakeholder engagement is important. Engagement with stakeholders as identified in the solution owner's gate two submission is expected to be an integral part of the solution evidence base.

Solutions will need to follow gate three engagement guidance which include:

- Pre-planning statutory consultation as outlined in and described in The Planning Inspectorate Advice Note 11: Working with public bodies in the infrastructure planning process and Annexes A-H.⁴
- Plans showing ongoing and continued engagement, that have been shared with public and statutory bodies, including any required enhanced advisory services.
- Customer engagement, particularly on changes of source where relevant.
- Engagement with all stakeholders affected by the solution's development.

3.2.6 Gated allowance

We have considered the representations made on the gate three allowance and have considered further the interests of customers over the lifecycle of the solution's development and delivery. As a consequence, we have decided to increase funding for gate three. We will consider gate four expenditure either as part of the gate three decision or PR24, as appropriate.

⁴ National Infrastructure Planning, Advice Notes

We have adjusted Table 4 of the final decision to reflect these changes and have added some explanatory text to section 4.2.

3.2.7 Cost sharing

We have considered the representations made on the appropriateness of the cost-sharing mechanism which appeared in the draft decision and have considered further the interests of customers over the lifecycle of the solution's development and delivery. As a consequence, we have decided to remove the cost sharing arrangements for gate three and are instead capping the gate three allowance at a higher level. This means that the solution may pass on to customers the costs of gate three activities but only up to the higher cap. The solution will be allowed to use its previous underspends to offset expenditure above the cap to provide some flexibility against cost uncertainty.

We have added some explanatory text to section 4.2 to reflect these changes.

3.2.8 Efficient spend

We acknowledge the representations raised on efficient spend. We have updated the text in section 4.3 to reflect the change in final gate two expenditure derived from the final gate two accounts.

3.2.9 Gate three and four timing

Anglian Water recognise the benefit of gate three being moved back from March 2024 to September 2024. We will therefore retain September 2024 as the timing for gate three.

Anglian Water suggest that, as a result of the gate three timing, some gate four activities will need to be started during the gate four period. In principle this is acceptable and should be discussed with us before expenditure is incurred. Such expenditure should be clearly delineated as gate four spend when completing the efficiency of expenditure annex and in gate accounts. We refer Anglian Water to the RAPID gate three guidance⁵, section 1.1.7 on 'Early Gate Four Spend'.

Anglian Water propose that a revised gate four date will be offered within the gate three submission. The need for flexibility and bespoke solution gate timings will be reflected in future decisions.

⁵ Strategic regional water resource solutions guidance for gate three, RAPID, August 2022

3.2.10 Name change

We accept Anglian Water's proposal of 17 May 2023 regarding the solution name. We are changing the solution name to Lincolnshire Reservoir from gate two onwards.

3.2.11 Action and recommendations

We welcome the work proposed by the solution owners on the priority actions, actions and recommendations set out in the Appendix. RAPID is happy to discuss any aspect of these.

We expect the companies to engage regularly and thoroughly with the Environment Agency and Drinking Water Inspectorate on environmental, consenting/ permitting and water quality actions.

3.3 Other changes to our draft decisions

3.3.1 Gate two actions

Comments made in the representations on the wider benefits of the solution have prompted us to reconsider the wording of action four and revise it to provide greater clarity on what we expect from the solution owners to complete this action and further alignment with the RAPID gate three guidance on wider public value.

Following feedback from regulatory partners, we have clarified action 4 in Appendix A.

4. Solution assessment summary

Table 2. Final decision summary

Recommendation item	South Lincolnshire Reservoir	
Solution owners	Anglian Water and Affinity Water	
Should further funding be allowed for the solution to progress to gate three?	Yes	
Is there evidence all expenditure is efficient and should be allowed?	Yes	
Delivery incentive penalty?	No	
Is there any change to partner arrangements?	Yes, refer to section 7	
Are there priority actions for urgent completion?	Yes, refer to section 5.1	
Are all priority actions and actions from previous gates addressed?	Yes	
Suitable timing for gate three has been proposed	No, RAPID have decided a gate three of September 2024 to align with other solutions.	

4.1 Solution progression to standard gate three

The evidence suggests that the solution is a potentially valuable way of supplying water to customers. Based on our assessment of a wide range of areas that could concern the progression of the solution, we have concluded that the solution should progress through the gated process to gate three. Figure 2 below summarises the area of any progression concerns, including indication of the significance. The reasons for this assessment conclusion are set out in table 3 below.

Decisions on funding, as a result of this progression decision, are set out in section 4.2.

Figure 2. Assessment of solution's progression concerns

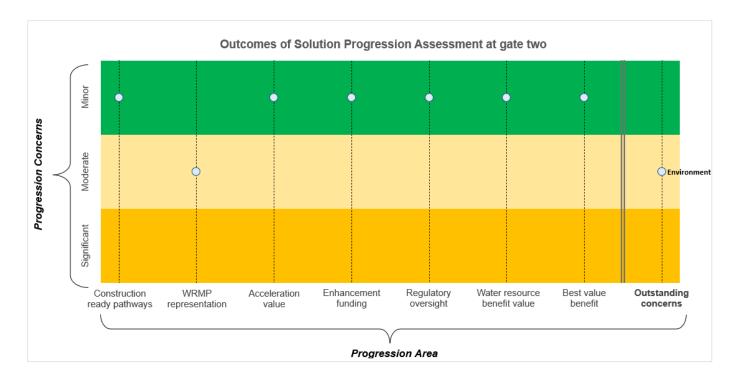


Table 3. Final decision progression criteria

Progression criteria	South Lincolnshire Reservoir	
Solution owners	Anglian Water and Affinity Water	
Is the solution in a preferred or alternative pathway in relevant regional plan or WRMP (where applicable) to be construction ready by 2030?	Yes, the solution is chosen in Anglian Water's draft 2024 Water Resource Management Plan (WRMP24), as a solution on its preferred pathway, which is the relevant plan for the standard track. The solution is also in the Water Resources East (WRE) draft regional plan. The solution will be construction ready by 2029.	
.,	No further action is required on this progression criteria.	
Do regulators have any significant concerns with the solution's inclusion or non-inclusion in a WRMP or regional plan or with any aspects that may impact its selection, to a level that they have (or intend to) represent on it when consulted?	considered necessary for confidence in the draft regional plan process. Sufficient evidence is needed to demonstrate to regulators' satisfaction that SLR is a 'low regret' and 'must do' option and to give regulators confidence that SLR is a better value option than others.	
	This progression concern is addressed in section 4.4.3 and priority action 1 of this document.	
Is there value in accelerating the solution's development to meet a	Yes. A solution is required to address Anglian Water's forecast deficit.	
company's or region's forecast supply deficit?	No further action is required on this progression criteria.	

Does the solution need continued enhancement funding for	Yes. Continued funding is required to develop a solution to be delivered in time for the planned construction ready date.	
investigations and development to progress?	No further action is required on this progression criteria.	
Does the solution need the continued regulatory support and oversight	Yes. The solution will continue to benefit from the regulatory support and oversight provided by being included in the RAPID programme.	
provided by the Ofwat gated process and RAPID?	No further action is required on this progression criteria.	
Does the solution provide a similar or better cost / water resource benefit ratio compared to other solutions?	Yes. This solution does provide a similar or better cost / water resource benefit ratio compared to other solutions, subject to the regulators being satisfied with the technical evidence supporting the solution's inclusion in the WRE draft regional plan, as noted above.	
	No further action is required on this progression criteria, other than under section 3.4.3 and priority action 1 of this document.	
Does the solution have the potential to provide similar or better value (environmental, social and economic value – aligned with the Water	Yes. This solution has the potential to provide similar or better value (environmental, social and economic value – aligned with the Water Resources Planning Guideline) compared to other solutions.	
Resources Planning Guideline) compared to other solutions?	No further action is required on this progression criteria.	
Does a regulator or regulators have outstanding concerns that have not been addressed through the strategic planning processes taking into account proposed mitigation?	Yes. There remains a significant programme of environmental monitoring, assessment and modelling required to determine potential environmental impacts with confidence. Work is also required to develop the design in detail and on mitigation measures. Flood risk assessments will be complex and the timescales within which all of the necessary environmental work will need to be completed are ambitious.	
	This progression concern is addressed in section 4.4.5 and actions 7 to 19 in Appendix A.	

4.2 Solution funding to standard gate three

We are changing the funding of this solution. This solution's total allowance and gate allowances remain the same as the final determination. The details of this funding decision are set out in table 4 below, and details on forward programme in section 8.1.

Table 4. South Lincolnshire Reservoir funding allowances (2017/18 Prices)

	Gate one	Gate two	Gate three	Gate four	Total
South Lincolnshire Reservoir gated allowance	£3.86m	£5.79m	£27.15m	£15.44m	£52.24m
Comment	10% of development allowance calculated as 6% of total solution costs	15% of development allowance calculated as 6% of total solution costs	Allowance has been revised and capped.	We will review gate four expenditure as part of gate three assessment or PR24.	Updated to reflect revised gate three expenditure cap.
Previous Allowance	£3.86m	£5.79m	£13.51m	£15.44m	£38.6m
Change from Previous Allowance	£0.00m	£0.00m	£13.64m	£0.00m	£13.64m

We note that Anglian Water set out that continuing to develop the solution to the standard required to achieve a successful DCO and to enable water to be brought into supply between 2039 and 2041 is subject to confirmation of adequate funding of the development costs being made available by Ofwat. The solution sponsors have identified a shortfall of around £36.3m

This funding has been revised to account for forecast costs at gate three. We have determined that across all solutions, gate three costs have risen due to factors such as increases in solution design costs, changes in scope and additional funding required to develop the environmental impact assessment (EIA), water quality assessments, ground investigations and other environmental field studies and assessments.

The SLR will be allowed to spend up to £27.15 million to undertake gate three activities, representing an increase of £4.78 million from our draft decision. This figure has been reached based on funding 100% of the forecast costs for gate three. We are not amending the gate 4 allowances at this point.

We are removing the cost sharing arrangements for gate three which were in our draft decision and are instead capping the allowance at a higher level. This means that the solution may pass on the costs of gate three development but only up to the higher cap. The solution will be allowed to use its previous underspends to offset expenditure above the cap to provide some flexibility against cost uncertainty.

These arrangements will be implemented through the price review 2019 (PR19) reconciliation mechanism. The impact on the solution owner(s) of any expenditure above or below the cap will depend on the extent to which the solution was already funded at PR19.

The solution may bring forward some gate 4 activities, which can be funded from the gate 4 allowance. There must be a clear rationale for undertaking the expenditure early, including evidence of the benefits of doing so instead of waiting for greater solution certainty.

We confirm that any funding for AMP 8 will be decided through the PR24 process.

4.3 Evidence of efficient expenditure

The PR19 final determination specified that any expenditure on activities outside the gate activities for the identified solutions (or solutions that transfer in) will be considered as inefficient and be returned to customers. We will consider whether gate activity is efficient by considering the relevance, timeliness, completeness, and quality of the submission which should be supported by benchmarking and assurance.

SLR has carried forward £1.48m underspend from gate one, increasing the allowance available to them at gate two to £7.27m.

Our assessment of the efficient costs as spent on standard gate two activities results in an allowance for this solution of £5.39m (of £5.39m claimed). SLR has therefore underspent its combined gates one and two allowance by £1.88m and may take this underspend forward to gate three, increasing the allowance available to them at gate three to £29.03m.

From gate two, we will move to look at the cumulative gate spend against the cumulative total allowance, across all gates consistent with the activities being undertaken. For example, any gate four allowance that is brought forward towards gate three should be for the purpose of early gate four activities. As SLR is progressing to gate three, this will apply here.

4.4 Quality of solution development and investigation

The aim of the assessment was to determine whether gate two activities have been progressed to the completion and quality expected, for the continued development of the solution.

Figure 3 shows our assessment of the work completed on the solution, which was presented in the gate two submission. Our assessment was made against the criteria of robustness, consistency, and uncertainty to grade each area of the submission as good, satisfactory, or poor in accordance with the <u>standard gate two guidance</u>, (updated version published on 12 April 2022). We also assessed the Board assurance provided.

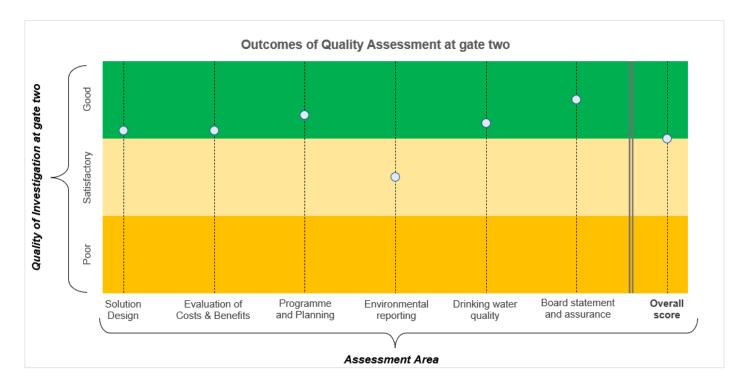


Figure 3. Assessment of quality of investigation

Our overall assessment for the solution submission is that it is a good submission that meets expectations of gate two.

In addition to the overall assessment score, there is some variance in expectations being met across the submission, with the environmental reporting falling short of expectations and not as developed as would be expected at gate two.

We explain our assessment of each individual area, including any shortfalls in expectations, in the sections below. We have not applied any delivery incentive penalties as a result of this assessment of quality, as further detailed in section 6.

4.4.1 Solution Design

Our assessment of the Solution Design considered the quality of the evidence provided on the initial solution and sub-options; the anticipated operational utilisation of solutions; the interaction of the solution with other proposed water resource solutions and stakeholder and customer engagement. The assessment also considered whether information was provided on the context of the solution's place within company, regional and national plans.

We consider Anglian Water and Affinity Water to have provided sufficient evidence of progress in developing the solution design for gate two.

The solution falls short in some areas as there are uncertainties with the design relating to the abstraction and transfers linked to the proposed reservoir. The findings from non-

statutory consultations also need to be considered in future work on the reservoir design. The actions and recommendations identified in the solution design assessment are expected to ensure that these issues are addressed in the gate three submission.

4.4.2 Solution costs

Our assessment of the unit costs of delivering SLR is that they are reasonable at this stage and cost changes from gate one to gate two have been sufficiently explained and are as a result of detailed development of the solution or changing market conditions. For instance, there has been a significant increase in the price of steel, and new unit cost data is available on large diameter installations. The assessment also considered the use of the solution as a drought resilience asset, and therefore cost per capacity is often a more appropriate metric than cost per projected utilisation. We will continue to scrutinise cost estimate changes from gate two to gate three.

4.4.3 Evaluation of Costs and Benefits

Our assessment of the evaluation of costs and benefits considered the quality of the information provided on initial solution costs; the social, environmental and economic cost and benefits, water resource benefits and wider resilience benefits. The assessment also considered whether evidence was provided on how the solution delivers a best value outcome for customers and the environment.

We consider that Anglian Water and Affinity Water have provided sufficient evidence of evaluating the costs and benefits of the solution to an appropriate standard for gate two.

A priority action has been set for Anglian Water and Affinity Water to provide regulators with evidence to support the selection of SLR as a 'low regret' and 'must do' option in the Water Resources East draft regional plan. This is due for completion by 30 October 2023. Uncertainties with the Natural Capital Assessment and the best value assessment should be addressed in the gate three submission to provide evidence that the solution represents the best value option for customers, society and the environment.

4.4.4 Programme and Planning

Our assessment of the Programme and Planning considered whether Anglian Water and Affinity Water presented a programme with key milestones and whether its delivery is on track. The assessment also considered the quality of the information provided on risks and issues to solution progression, the procurement and planning route strategy and subsequent gate activities with outcomes, penalty assessment criteria and incentives.

We consider the evidence provided by Anglian Water and Affinity Water regarding the programme and planning, risks and issues and the procurement and planning route strategy for SLR to be of sufficient detail and quality for gate two.

The solution falls short in some areas as there are risks which do not have the appropriate level of mitigation developed to address them. A priority action has been set for Anglian Water and Affinity Water to engage with the Environment Agency on abstraction licencing and for a consenting strategy to be shared with Environment Agency and Natural England for review. This is due for completion by October 2023.

4.4.5 Environment

Our assessment of Environment considered the initial option-level environmental assessment; the identification of environmental risks and an outline of potential mitigation measures; the detailed programme of work used to address environmental assessment requirements and the initial outline of how the solution will take into account the carbon commitments.

We consider Anglian Water and Affinity Water to have provided satisfactory evidence of progress in the environmental assessment, potential mitigations, future work programmes and embodied and operational carbon commitments for gate two. Areas of shortfall identified relate to environmental assessments and investigation, and the monitoring of environmental risks.

The solution falls short in some areas of the environment assessment as there are environmental risks identified in the submission which do not have the appropriate level of mitigation developed to address them. A number of actions and recommendations have been identified to establish a programme of work to address environmental issues in the gate three submission.

4.4.6 Drinking water quality

Our assessment of Drinking Water Quality considered drinking water quality and risk assessments; evidence that the solution has been presented to the drinking water quality team and a plan for future work to develop Drinking Water Safety Plans.

We consider Anglian Water and Affinity Water to have provided sufficient evidence of progress in the drinking water quality and risk assessment, and future work around Drinking Water Safety Plans for gate two.

We expect to see comprehensive water quality monitoring, including for emerging contaminants of concern, from gate two onwards, with plans to include computational fluid

dynamics (CFD) or similar to ascertain water quality risks associated with thermal stratification and algal blooms.

4.4.7 Board Statement and assurance

The evidence provided relating to assurance is good for this stage of the gated process.

We consider that the Boards of Anglian Water and Affinity Water have provided a comprehensive assurance statement and have clearly explained the evidence, information and external/internal assurance that they have relied on in giving the statement.

5. Actions and recommendations

Where the submission has not been assessed as 'meeting expectations' in the quality assessment, or progression concerns have been raised, we have provided feedback on where we will seek remediation of the issues. We have also identified specific steps that solution owners should take in preparing for standard gate three.

We have categorised these remediation issues and steps into priority actions, actions and recommendations.

Priority actions are those that should have been completed at gate two and must now be addressed on a short timescale in order to make sure the solutions stay on track. They require urgent remediation in full.

Actions are those that should be addressed in full in the standard gate three submission. The response to these actions will influence the assessment of the gate three submission.

Recommendations are issues where additional information or clarification could improve the quality of future submissions.

We have also assessed progress on actions and recommendations from gate one.

5.1 Actions and recommendations from gate two assessment

Three priority actions have been identified for SLR which should be delivered no later than the dates specified against each priority action.

28 actions and recommendations have been identified for SLR, which should be fully addressed at the gate three submission. Progress against actions will be tracked as part of regular checkpoints the solution holds with us whilst undertaking gate three activities.

The full list of priority actions, actions and recommendation for the SLR can be found in Appendix A.

5.2 Actions and recommendations from gate one assessment

We have assessed whether SLR has met actions that were set out as a result of our gate one assessment.

No priority actions were identified for SLR.

Seven actions and recommendations were identified for SLR, which were expected to be fully addressed at the gate two submission.

Further detail of our conclusion against each individual action is shown in Appendix B.

6. Delivery Incentive Penalty

We have not applied delivery incentive penalties to this solution, as a result of the assessment carried out on the gate two submission.

7. Proposed changes to partner arrangements

There are the following changes proposed to partner arrangements from gate two.

Anglian Water and Affinity Water propose that Affinity Water formally cease to be a partner on SLR and that responsibility for the delivery of SLR lies solely with Anglian Water from gate two onwards. This is due to the associated Anglian to Affinity Transfer (A2AT) not being progressed in full beyond gate two.

Anglian Water propose to take full responsibility for the development costs of SLR and propose that the allocation of funding from gate three reflects this.

We accept the reasoning behind the proposal to change accountability and funding arrangements and agree that Affinity Water will cease to be a partner on SLR from gate two onwards. This will be given effect through the revenue reconciliation that will take place at PR24.

8. Gate three activities and timing

The solution will continue to be funded to gate three as part of the standard gate track.

For its gate three submission, we expect Anglian Water to complete the activities listed in PR19 final determinations: strategic regional water resources solutions appendix, as expanded on in section 7 of the solutions gate two submission. Activities are expected to be completed in line with delivery incentives and expectations set out in RAPID's gate three guidance. We also expect the actions listed in appendix A to be addressed.

8.1 Gate three timing

Anglian Water and Affinity Water have proposed a date for gate three of March 2024. This is proposed alongside a forward programme of gate four in November 2025, proposed planning application submitted in 2025, solution construction ready in 2029, and solution operational between 2039 and 2041.

We have decided that the SLR gate three should be September 2024. This is to align gate three with solutions on a similar programme, and for RAPID to efficiently assess progress of activities, ahead of the solutions proposed planning application.

We agree with the forward programme for gate four.

The forward programme proposed by the solution is in line with the principles of RAPID's standard programme. Funding arrangements are set out in section 4.2 of this document.

Appendix A: Gate two actions and recommendations

Priority Actions – to be addressed by the date specified against each priority action				
Number	Area	Detail		
1	Evaluation of Costs and Benefits	Engage with the WRE regional group to provide regulators with the technical evidence that has informed the inclusion of the solution in the draft WRE regional plan and the selection of the South Lincolnshire Reservoir and Fens Reservoir as low regret and must do. This must include evidence that the timing and sizing of the reservoirs represent best value for the region. The scope and content of the information required should be worked up with RAPID and its partner regulators, and information to the regulators' satisfaction presented to RAPID and its partner regulators by 30 October 2023.		
2	Programme and Planning	Engage with the Environment Agency on abstraction licensing as soon as possible. By 01 October 2023, share a consenting strategy (including but not limited to abstraction licensing) with RAPID and its partner regulators for review.		
3	Drinking Water Quality	Emerging contaminants must be included in the water quality monitoring programme from gate two onwards. Provide a monitoring programme to RAPID and its partner regulators by 30 June 2023.		
Actions –	to be addressed	in standard gate three submission		
Number	Area	Detail		
1	Solution Design	Confirm to RAPID that the solution aligns with Anglian Water's Water Resource Management Plan (WRMP) and relevant Regional Plans at the next available regular checkpoint meeting after the publication of the WRMPs and Regional Plans.		
2	Evaluation of Costs and Benefits	Update the Natural Capital Assessment so that valuation of ecosystem services are comparable and demonstrate benefit to the environment and society. The scoping out of recreation requires additional justification and explanation and amenity enhancements should be assessed fully.		
3	Evaluation of Costs and Benefits	Update the Biodiversity Net Gain assessment to include figures for three unit types, with a conservative approach applied to calculating benefits.		
4	Evaluation of Costs and Benefits	Carry out a detailed study of potential open channel transfers between the Witham and South Forty Foot Drain (SFFD) and the SFFD to the reservoir site and potential synergies with the Boston to Peterborough Wetland Corridor (B2PWC) concept and Environment Agency Lower Witham Flood Resilience project, and present the findings of that study at gate three. Additionally, progress work on feasibility and design of potential modifications or enhancements (including mitigation measures for invasive non-native species) to the solution design to realise wider benefits to third parties, including those from open channel transfers, identified by, amongst others, the work of the South Lincolnshire Water Partnership (SLWP), and present the findings of this work at gate three, together with a justification for the inclusion or exclusion of these modifications and enhancements, and		

		associated costs. You should liaise and consult with relevant local planning authorities and stakeholders, such as the SLWP, to inform this work.	
5	Programme and Planning	Provide information and assurance about how uncertainty with developing environmental advice will be managed by the project. This should also include uncertainty with updates to abstraction licensing strategies.	
6	Programme and Planning	Reference to a formal Flood Risk Assessment should also be included in the list of gate three activities and a panel engineer appointed into the project team to support development of the Flood Risk Assessment. Consultation with the Environment Agency on risks and their categorisation relating to the Flood Risk Assessment is necessary.	
7	Environment	Work is needed to better understand not just average water quality and salinity effects on The Wash, but any significant deviations within the tidal cycle.	
8	Environment	The potential impacts of the reservoir footprint, the abstractions and transfers should come together and be considered 'in-combination'.	
9	Environment	The approach to assessing the impact of changes in ecology from abstractions and transfers associated with the proposed reservoir needs to focus on water level changes and the associated pressures of reduced water volume, not just flow changes. Incorporate consideration of climate change and temperature in hydroecology investigations.	
10	Environment	Bring together transfer, abstraction and site impacts to determine the potential effect of the solution. This should include clearer presentation of risks and potential impacts associated with transfer (Anglian to Affinity transfer legacy) infrastructure.	
11	Environment	The impact of the reservoir on the complex system of existing water management assets in the area needs appropriate consideration.	
12	Environment	More work is needed on the Flood Risk Assessment to properly explore the dynamic flood defence system this project will be reliant upon and how it will support its maintenance. Emergency drawdown options need to be developed in consultation with the Environment Agency and Natural England.	
13	Environment	Sediment and flushing flows should be appropriately investigated. Changes in flows and siltation in affected watercourses need to be investigated at gate three.	
14	Environment	Reliance on the application of Regulation 19 for Water Framework Directive (WFD) compliance should be noted as a risk.	
15	Environment	More detail on further environmental investigations is necessary. A clear plan to continue investigating the potential "in–combination" impacts with Minworth and the Upper Derwent Valley Reservoir Expansion should be set out. The "incombination" assessment should be expanded to include other plans, permissions and projects within the sector and within other sectors (notably the energy sector). Detailed investigation of the potential impact on fish passage and fish passes on the Tame and Trent is necessary, and any identified impact should have feasible mitigation proposed in detail. Update and bring together modelling work and monitoring on the Trent to better understand potential hydroecological impacts on the Trent from the Lincolnshire Reservoir and Strategic Resource Options with other plans, permissions and projects.	

	1		
16	Environment	A robust "in-combination" assessment investigating the potential impact of the South Lincolnshire Reservoir and Fens Reservoir on The Wash designated site is necessary.	
17	Environment	Invasive Non-Native Species (INNS) treatment must be factored into the development of the reservoir and in particular any open channel transfers proposed as part of the wider systems project.	
18	Environment	Baseline monitoring should be prioritised to better understand potential impacts and development of mitigation measures.	
19	Environment	Recommendations made by the Environment Agency and Natural England through gate engagement should be used to inform gate three environmental work. Recommendations set out in the environmental assessments are also expected to be actioned.	
Recomme	endations		
Number	Area	Detail	
1	Solution Design	Provide clear evidence in the gate three submission of the results from your non-statutory consultations and show the actions you have taken as a result of the consultation findings.	
2	Evaluation of Costs and Benefits	Reference Ofwat's Public Value principles in the gated submissions and provide narrative on how the principles have been followed during solution development.	
3	Evaluation of Costs and Benefits	The gate three programme is expected to complete investigative work on the potential losses of the proposed Trent - Witham transfer. This should be presented in the gate three submission.	
4	Programme and Planning	In future gated submissions explain where the project risks presented in the submission vary from the quarterly risk reporting to RAPID.	
5	Programme and Planning	Gate three activities – We recommend including a reference in this list to the systems work and further exploration (and funding) of the system report recommendations. The companies should still have a key role in this. The inclusion (advanced in Annex D) of developing the wider reservoir system benefits including conjunctive use for agriculture with improvement to water quality, water retention and flood risk is welcomed. Catchment-based approaches that recognise the unique nature of the fenland setting for this strategic option, including synergies with the Future Fens Integrated Adaptation project, are supported.	
6	Environment	Protected species surveys to be included as a necessary component of the environmental assessment. Many ditches within the Fens are of significant biodiversity value. It is recommended that ditches are included within 'standing open water and canals' within the Priority Habitats assessments.	
7	Environment	Measures will be required to mitigate landscape and visual impacts to sensitive receptors, such that the site is assimilated successfully into the wider landscape both visually and in terms of landscape functionality. Detailed site-specific identification of landscape and mitigation measures will need to be informed by a	

		detailed Landscape and Visual Impact Assessment carried out in accordance with the latest Landscape Institute GLVIA guidelines, (3rd edition) and should be accompanied by visual representations, locations, number and type agreed with the LPA and produced in accordance with the Landscape Institute technical guidance note LI_TGN-06-19_Visual_Representation.	
8	Drinking Water Quality	We recommend that further monitoring will inform any additional treatment required for Invasive Non-Native Species (INNS) and nitrates. Decide if the treated water will be chloraminated. Computational fluid dynamics (CFD) modelling of reservoir to be undertaken by gate three.	
9	Environment	We recommend that the solution owner continues to engage with Historic England on the work required to consider the historic environment. We recommend that the programme of planned investigations and assessments planned is reviewed regularly with Historic England.	

Appendix B: Gate one actions and recommendations

Actions –	Actions – addressed in standard gate two submission					
Number	Area	Detail	RAPID assessment outcome			
1	Evaluation of Costs and Benefits	Report the deployable outputs for 1:200 years drought and explain why the 1 in 500 years deployable output figures are higher than the 1 in 200 figure in the 2019 water resources management plan.	Complete			
2	Solution Design	The in-combination assessment should include all relevant interactions between options. It will be beneficial to consider the potential competing resources from the energy sector.	Complete			
3	Programme and Planning	The invasive non-native species (INNS) treatment design should consider pathways, likely future risks and mitigation measures for the River Trent.	Complete			
4	Evaluation of Costs and Benefits	Engage third parties who will benefit from the solution to contribute a fair share of the development costs, particularly where this significantly increases solution costs.	Complete			
Recomme	ndations					
Number	Area	Detail	RAPID assessment outcome			
1	Solution Design	A permanent siphon into the South Forty Foot Drain (SFFD) is proposed for the safe removal of the water from the reservoir in an emergency. Evidence is needed to show the SFFD has capacity to accommodate high volumes of water in an emergency.	Complete			
2	Evaluation of Costs and Benefits	Include which option is considered best value (rather than just least cost) for customers and the environment and the criteria and method used for best value. More detail on amenity features should be provided when the site has been selected.	Complete			
3	Evaluation of Costs and Benefits	Develop as a priority environmental modelling, monitoring plans and approach to in-combination assessment. The yield of the solution should be	Complete			

considered in combination with the Fens
reservoir, the Anglian to Affinity transfer
and existing water resources assets.

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales.

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