



**Canal &
River Trust**

Making life better by water

Restoring Toddbrook Reservoir

Confirmation of new spillway solution
A non-technical summary

March 2021



About the project

The Canal & River Trust is working on a major project to restore Toddbrook Reservoir. This follows an incident in August 2019 when the dam auxiliary spillway was damaged after a period of intense rainfall.

We are currently following an agreed water management plan to ensure the reservoir is maintained safely until a new spillway has been built.

Our water management plan involves maintaining a lower water level in Toddbrook Reservoir. Water that would usually enter the reservoir is travelling down the existing bywash channel. High-capacity pumps have also been installed on site and are activated in periods of wetter weather. In both instances, water is transferred to the River Goyt in the same location as would usually be discharged to from the reservoir.

While these temporary measures are in place, we have been working to develop a new spillway design to permanently restore Toddbrook Reservoir to a safe and usable facility. This document seeks to explain our chosen spillway solution, and how we have considered the consultation feedback we have received to inform this decision.

Developing a new design

Our team has been working to determine the best design for a new spillway to safely transfer water from the reservoir to the River Goyt at times of high rainfall.

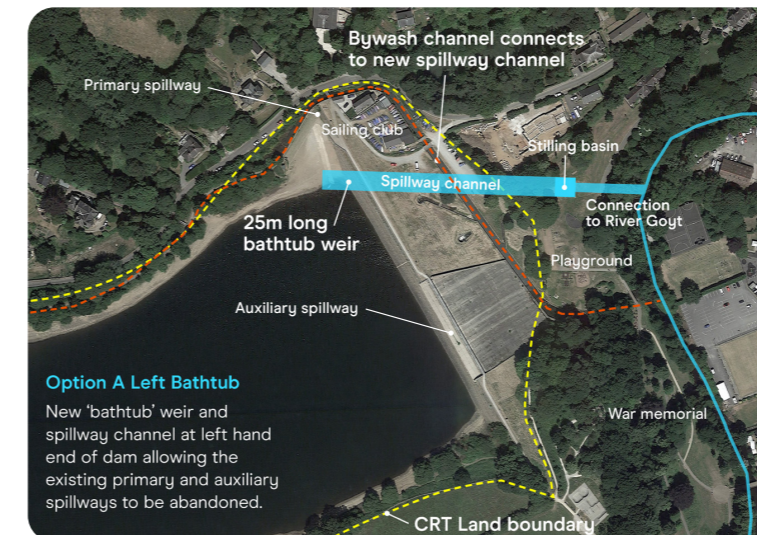
Last year we considered a range of options for this. We identified two preferred potential options and shared these with the public for consultation at an early stage. We are grateful for the strong level of feedback to this consultation and we have been working hard to understand and incorporate the comments we received, where possible.

Following the public consultation in September 2020, we published a Consultation Note on our website ([which can be accessed here](#)). This note summarised the feedback we received through 325 responses to our consultation on the two spillway options.

Consultation feedback was considered alongside further technical information and engineering assessments. Together, this has informed our decision on the preferred spillway design option.

The two spillway options shared at public consultation

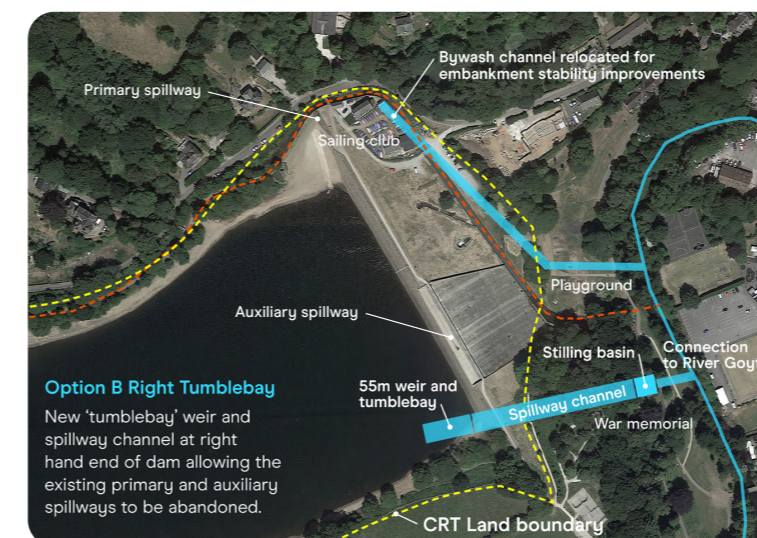
Option A



Option A Left Bathtub

New 'bathtub' weir and spillway channel at left hand end of dam allowing the existing primary and auxiliary spillways to be abandoned.

Option B



Option B Right Tumblebay

New 'tumblebay' weir and spillway channel at right hand end of dam allowing the existing primary and auxiliary spillways to be abandoned.

Consultation feedback indicated a preference for Option A, on balance.

However, a range of comments and opportunities relating to both options were submitted.

The feedback we received demonstrated the importance of managing potential impacts to the local environment, including the park area and surrounding local facilities.

Feedback also reinforced the need to ensure safety, consider potential disruption caused during construction, and explore how best to deliver wider opportunities and benefits through the project to restore Toddbrook Reservoir.

Our team has worked to consider all of the comments we received, including how best to balance avoiding or reducing the potential impacts that were raised, as well as exploring the opportunities that were identified.

Our chosen spillway design

We have concluded that Option A (a spillway from the left side of the dam) is the best option for restoring Toddbrook Reservoir.

Our ongoing design work, including consideration of the consultation feedback we received, has led us to further develop and modify this option. Please see the plan on the next page to understand how.

Further technical detail is provided in the Spillway Options Report Update, which is now also available on our website (<https://canalrivertrust.org.uk/restoring-toddbrook-reservoir>).

The spillway design

A spillway on the left (north) side of the dam

The new spillway will be located on the left side of the dam (looking downstream).

We received feedback that this was considered the better side to locate the spillway, as it reduces potential impacts on important existing features such as the Memorial Park woodland, war memorial and football club facilities.

Our technical assessments also found this to be the best location for the new spillway. We have moved the location further towards the end of the dam than originally shown for Option A. This is beneficial in respect of reservoir safety.

A continuous flow of water

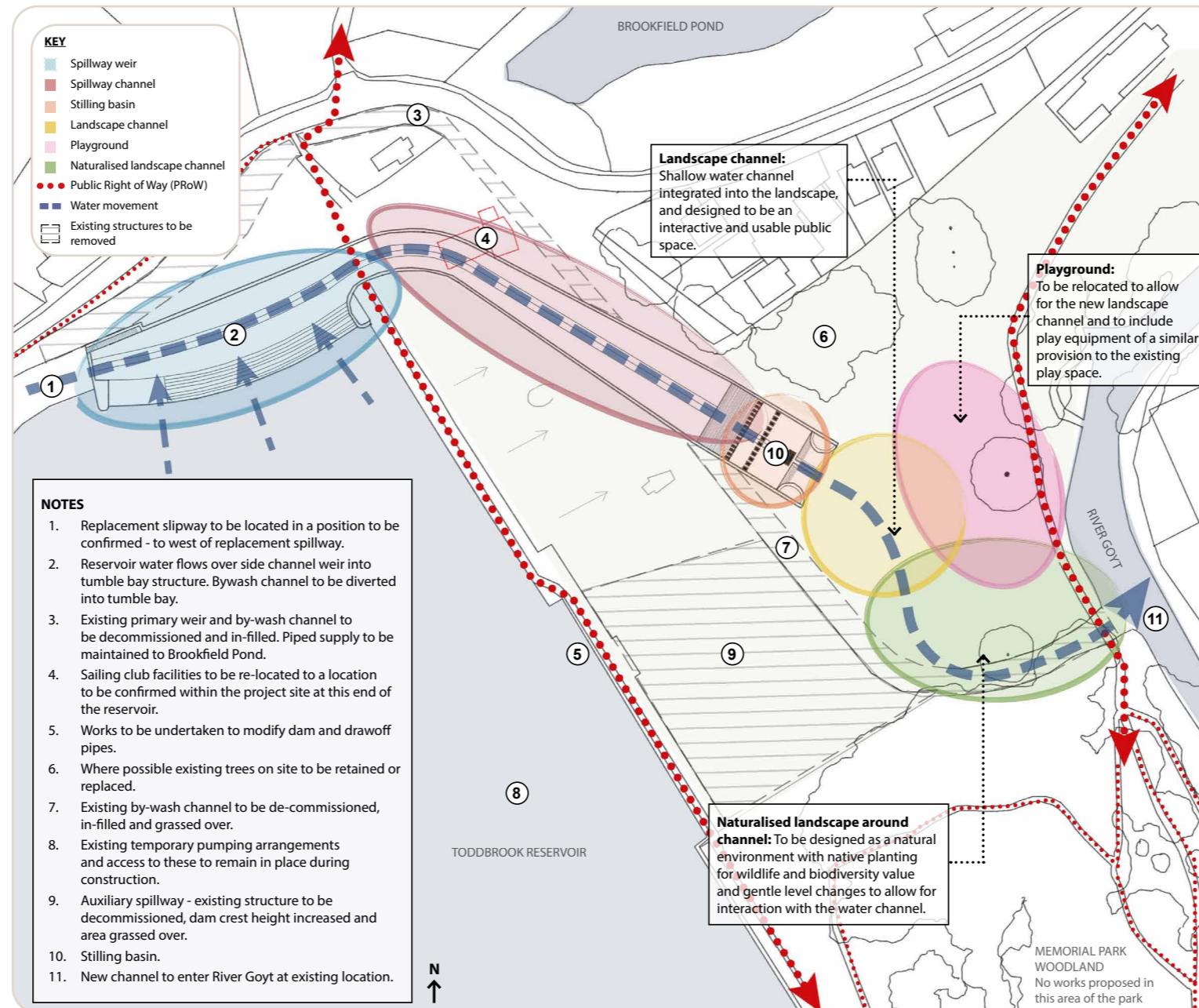
The existing bywash channel will be redirected into the new spillway.

This means that a low level of water will flow down the spillway throughout the year.

We received feedback that a continuous flow of water down the spillway was preferable to having a predominantly dry channel. It is considered to improve its appearance and could provide opportunities for interaction with water in the park.

A side channel weir

The design now includes a side channel weir, instead of the bathtub weir we presented at our consultation last year. Our further assessment has found this weir to be the best solution.



A revised alignment

The spillway design has been developed to better follow the existing shape of the landscape.

This will reduce how visible the spillway is from certain local areas. It also means the structure will be easier to maintain and inspect in the future.

Returning areas to the park

The existing auxiliary spillway will be removed and the dam will be grassed over.

The existing bywash channel (from the existing auxiliary spillway upwards) will also be filled and returned as usable connected space.

Re-providing public facilities

We recognise the value our reservoir brings to local people in providing opportunities to sail and swim.

The new spillway will require some of the land currently occupied by Toddbrook Sailing Club. We are committed to re-providing this facility to secure Toddbrook Sailing Club's continued use of the reservoir for years to come.

We are also exploring how best to re-provide wider amenities, such as the 'beach area' and maintaining access to water for swimmers, where permitted.

Interacting with the park area

Through developing this option, we are seeking to reduce any potential impacts on the southern area of the park, including the woodland and war memorial.

We do recognise that there will be changes to the northern area of the park. We anticipate relocating the play area and undertaking landscaping works to ensure the park remains a place for all to enjoy.

We are working to develop our proposals to ensure this happens as sensitively as possible.

Stilling basin

A stilling basin will be installed at the end of the spillway in the park area. This feature slows the pace of the water after it has travelled down the spillway.

Water will then flow through an open channel to meet the River Goyt.

We anticipate there being opportunities to interact with water in the park.

Connecting to the River Goyt

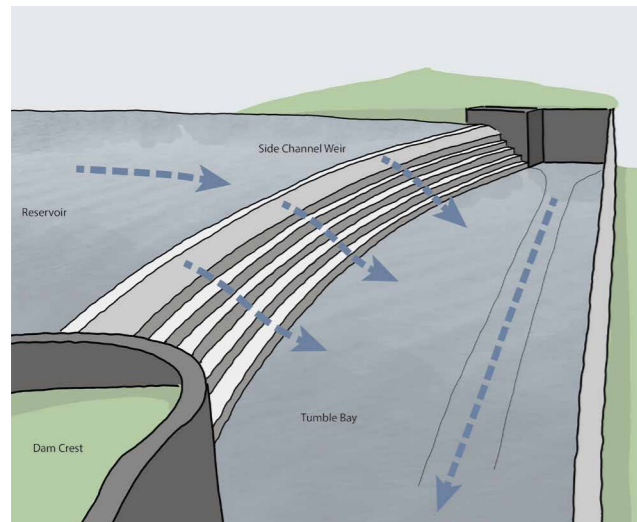
The new spillway will connect to the existing channel, entering the River Goyt in the same location as the reservoir has always discharged.

What will the spillway look like?

While we are still working to develop the detail of our proposals, we appreciate local people will be interested in how the new spillway structure may look.

The artistic sketches below show what the new structure might look like when viewed from the park and from the dam.

Please note, these are early impressions that may change through further design work and engagement with local stakeholders.



Indicative sketch of a side channel weir



An artist's impression of viewing the new weir from the dam (with the reservoir at top water level)



An artist's impression of viewing the new spillway from the park

How did we reach this decision?

Our team has assessed a wide range of factors to identify the best spillway design for restoring Toddbrook Reservoir. This has involved considering all feedback received through our public consultation alongside further engineering and environmental assessments.

Considering feedback

The table below summarises some of the ways consultation feedback has informed our spillway design.

What we heard at consultation	How this has been considered by our design team
<p>A preference for the spillway to be located on the left side of the dam.</p> <ul style="list-style-type: none"> A majority of responses indicated a preference for Option A (a spillway on the left side of the dam). This was primarily because it avoids potential impacts to key local facilities and features of the park. 	<p>Our spillway will be located on the left side of the dam.</p> <ul style="list-style-type: none"> By locating the new spillway here, we avoid the woodland in the southern area of the park, including any potential wider impacts to the football club facilities, skate park and war memorial. Unfortunately, the new spillway will require land currently occupied by Toddbrook Sailing Club. We are committed to re-providing these facilities and working with the sailing club on this.
<p>A preference for the new channel travelling through the park to be kept open, so that it can become an attractive water feature.</p> <ul style="list-style-type: none"> A key theme raised was a preference for the new spillway to provide opportunities to interact with water within the park area. 	<p>The channel will be open and has been designed to provide a continuous flow of water.</p> <ul style="list-style-type: none"> Redirecting the existing bywash channel into the new structure means that a low level of water will continuously flow down the spillway, instead of it being a predominantly dry channel. This water will flow through an open channel within the park area, before connecting into the River Goyt. This could provide opportunities for interaction with water in the park.

What we heard at consultation	How this has been considered by our design team
<p>The importance of the Memorial Park as a place for local people to enjoy.</p> <ul style="list-style-type: none"> Feedback clearly showed the importance of the park area. Requests to design a solution that maintained connectivity through the park, space for people to enjoy, and minimised potential impacts to existing facilities. 	<p>The spillway avoids impacts to the southern area of the park, and we are exploring how best to reinstate the northern area of the park following the completion of our project.</p> <ul style="list-style-type: none"> We are working with High Peak Borough Council to explore options for relocating the play area close to its existing location and providing landscaping to better interact with the new structure. The spillway alignment more closely follows the existing bywash channel and maintains the current paths through the park. We will return new usable space to the park through filling in the existing bywash channel where no longer required and grassing over the dam.
<p>The importance of considering how the new spillway will look to local communities.</p> <ul style="list-style-type: none"> Feedback showed that there are concerns regarding the appearance of the new spillway, and how this may impact users of the park and local residents. 	<p>While we do need to build a new structure, we are working to minimise the visual impacts this may cause.</p> <ul style="list-style-type: none"> The spillway alignment has been refined to more closely follow the existing bywash channel and the shape of the landscape. Further landscaping and planting works will be explored to help integrate the spillway and downstream channel with its setting. The continuous flow of water down the spillway will improve its appearance and provide a feature to enjoy.
<p>The need to ensure safety for all throughout the construction and lifetime of the new structure.</p> <ul style="list-style-type: none"> Understandably, safety was considered a key issue in selecting a new spillway design. 	<p>This spillway design has been assessed against key criteria including reservoir safety, operational health and safety, and geotechnical risk. It outperformed all other identified options.</p> <ul style="list-style-type: none"> The proposed spillway has been moved closer to the end of dam, to optimise the design in terms of reservoir safety. The revised alignment means the spillway is less steep, making it easier to inspect and maintain going forwards. The spillway will connect to the River Goyt in the same location as the reservoir has always discharged.

Engineering constraints

The team has also been assessing a wide range of technical and environmental factors. These include the process of constructing the spillway, the ground conditions of the area, the local environment and ecology, and modelling to ensure safety and flood resilience.

We have now published a technical report on our website (<https://canalrivertrust.org.uk/restoring-toddbrook-reservoir>) that describes this process in more detail.

What happens next?

We are pleased to be sharing our chosen spillway option, but the work doesn't stop here.

We are continuing to develop the design of the new spillway. This includes further technical work to develop key areas of our proposals. We are keen to engage with local groups and people on these topics.

The Memorial Park

We recognise the importance of the park to local people, and that our proposals will temporarily impact the current play area.

We are working with High Peak Borough Council to develop our proposals. We are considering how best to interact with the park, both during construction and once the project has been completed.

We hope this will involve opportunities to introduce new landscape features and opportunities to interact with water.

Site Access and Traffic

Planning how best to construct the new structure has been a key consideration.

We have assessed a number of options for accessing the site. It is clear these are limited, and all routes considered present challenges for us to overcome and mitigate.

We currently anticipate construction traffic to primarily access the site from Reservoir Road. This would also have been the case for large parts of the scheme had we proceeded with Option B.

We appreciate there may be concerns about potential impacts this will have on local roads and traffic. We are working to further assess the details of this and how best to minimise any potential impacts.

The Sailing Club

The new spillway will require the relocation of Toddbrook Sailing Club's clubhouse building and slipway. We acknowledge this is a substantial impact to the club, and the decisions around the position of the spillway have not been taken lightly.

We are committed to working with the club to ensure we re-provide a suitable facility to safeguard their continued use of the reservoir once the project is complete.

The Beach Area

We recognise the popularity and use of the 'beach' area currently situated near the sailing club.

This will need to be removed as part of our works. We will look to relocate the beach area if possible, as we are keen to maintain opportunities for people to enjoy being by water.

Further Public Consultation

We look forward to sharing more information through a further round of public consultation in the coming months.

At this point, we will be able to share more details on our proposed spillway design, including our plans for ensuring we limit potential disruption where possible. We want to hear what local residents, businesses and organisations think of our proposals.

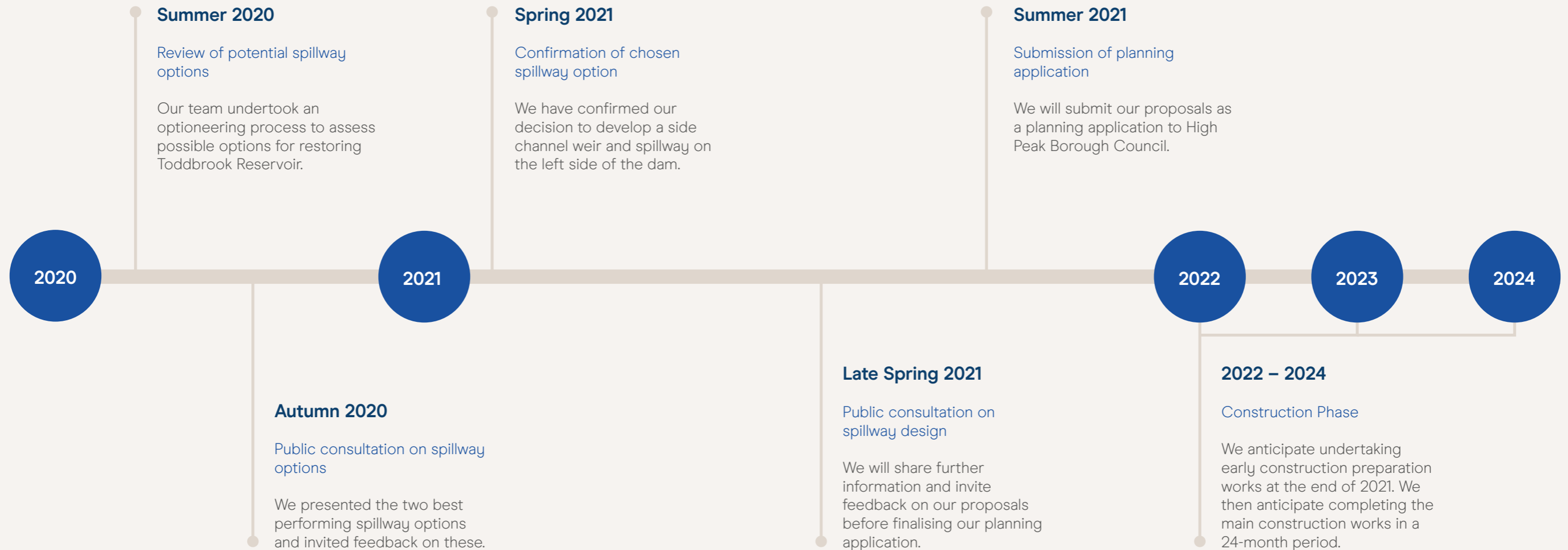
Following this, we will submit our proposals as a planning application. This will likely be in summer 2021, and we hope to be able to start work on site towards the end of the year.



An aerial photograph of Toddbrook Reservoir and existing auxiliary spillway

Timeline for restoring Toddbrook Reservoir

Please note this timeline is indicative, and dates may change.



Keeping in touch

In the meantime, we are keen to continue the conversation and answer any questions about our proposals.

Visit our website

Regular updates, including information about the upcoming consultation, will continue to be provided on our dedicated web page: <https://canalrivertrust.org.uk/restoring-toddbrook-reservoir>.

Speak to the project team

Please don't hesitate to get in touch with any comments or questions regarding our project to restore Toddbrook Reservoir, including any requirements you have to receive our information in alternative accessibility formats.

You can contact members of the project team by:



Emailing: toddbrook@canalrivertrust.org.uk



Calling: 0808 196 8809



Writing: Freepost CRT Toddbrook (no stamp required)