ITEM 13

Somerset Rivers Authority (SRA) Board Paper
Bridgwater Tidal Barrier - Key Project Update

Purpose of the item-To update the Board on progress with the detailed design and construction phases of the Bridgwater Tidal Barrier scheme. Further detail can be found on the website About the Bridgwater Tidal Barrier Scheme or in the lastest quarterly newsletter Bridgwater Tidal Barrier Scheme Newsletters.

Context- The Environment Agency and Somerset Council are working in partnership to deliver a tidal barrier and improvements to downstream defences to better protect 12,800 homes and businesses in Bridgwater and the surrounding communities.

Scheme Update
Constructing a Tidal Barrier – significant progress has been made on site with the construction of the barrier (Plates 1 and 2). Construction of the temporary bypass channel is complete, and the channel is now safely carrying river flows around the in-river cofferdam. The cofferdam comprises a steel sheet-piled box structure. Within the cofferdam, tubular steel piles have been driven into the riverbed, and these will support the barrier structure. The contractor has excavated and pumped the central area of the cofferdam dry, and is now working inside it, constructing the concrete substructure of the barrier. Construction of the three towers (Plate 3) is programmed to start later this financial year.

Plate 1-Construction of the Barrier substructure

Plate 2-Working inside the central cofferdam with the tubular piles.

Improving the Downstream Defences- We are anticipating that construction of the downstream defences will be completed this year. Good progress continues.

Chilton Trinity - The 3,000m haul road has been completed, enabling access to construct the final 600m of secondary defences. Archaeological works are nearing completion, with one area remaining which will be completed as the temporary works are removed. Excavation of the largest borrow pit has also progressed well, providing around 60,000m³ of material for embankment construction. Further groundwork

between Chilton Trinity and Perry Green has been completed and the construction of a piled flood embankment is well underway.
Pawlett- The haul road from the A38 has been completed all the way up to the site of the former River Road cottages, which were purchased and demolished before Christmas. Construction will recommence in June with piling materials arriving over the next couple of months.
Combwich - Works have recommenced after the winter pause. Temporary culverts have been installed to complete the construction of the haul road for the area. Clay material is now being transported from Chilton Trinity to construct the primary embankments.
We are anticipating that construction of the downstream defences will be completed this year.

Ongoing Efficiency and Continuous Improvement
The implementation of a 'Design Efficiency Review' in late 2025, has provided an opportunity to reassess and refine elements of the scheme design to mitigate increasing cost pressures. The review focuses on delivering the agreed flood risk reduction outcomes as efficiently as possible by applying value engineering, exploring newer technologies and ensuring decisions prioritise long-term value, carbon reduction and operational efficiency. The primary focus for the review to date, has been on the tidal barrier superstructure. Through the review, the design has been simplified, while maintaining the same level of flood protection.

The revised concept design (Plate 3) relocates the barrier gate lifting winches from the high-level overbridge to abutment level. This has enabled a height reduction of 10m for the towers, and a simplified connecting bridge at the top of the towers (Plate 4). The new concept design features three sculptural towers supporting two vertical lift gates across the River Parrett, creating a cleaner and more efficient structure while retaining a strong architectural identity. The review is ongoing, with further work underway to assess opportunities for efficiencies in areas such as the operational building and landscape design. An updated project timeline and cost forecast will be shared once the design efficiency review is complete later this summer.

More detailed information is available on the project web site
https://www.somerset.gov.uk/beaches-ports-and-flooding/bridgwater-tidal-barrier-scheme/bridgwater-tidal-barrier-scheme-design-efficiency-review/

Plate 3 – Revised concept design for the Barrier

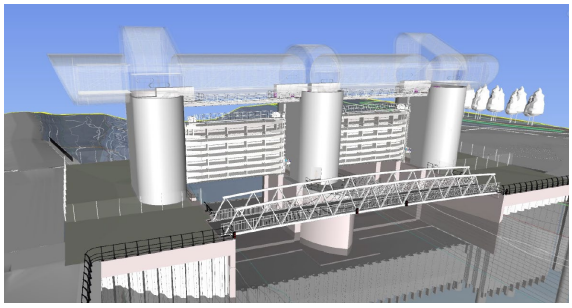

Plate 4- Design review changes to the overbridge and tower height.

Fish and Eel Passes –As mitigation for the disruption to fish and eel passage caused when the barrier is operational, we are constructing 12 new fish and eel passes upstream from the barrier on the Rivers Parrett and Tone, to open up more than 80km of watercourse. Construction is programmed to take place over 2 years starting in 2027

Recommendation

To note the significant progress made in the delivery of the three workstreams comprising the Bridgwater Tidal Barrier scheme (1. barrier, 2. downstream defences and 3. fish and eel passage improvements).

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20 May 2026