

## Tanbury Flood Protection Scheme Progress Report (fictional report)

The delivery of the Tanbury Flood Alleviation Scheme began in 2016, with Phase 1 being completed in 2019 and construction of Phase 2 expected to end in 2024. This project was funded by the Environment Agency and Tanbury Local Partnership, after extensive damaging floods in 2014. It also followed an Environment Agency report that found that Tanbury is in a rapid-response catchment area that is sensitive to changes in precipitation, causing high risk of fluvial flooding. The Flood Protection Scheme aims to improve future resilience, as statistical models predict a 20% increase in rainfall intensity by 2070 and regular flooding of up to 30% of Tanbury by 2100 if no action is taken. While still in progress, Tanbury’s Scheme is currently responsible for protecting 2,000 houses, 400 business, as well as key national transport routes. The project has been developed in close collaboration and integration with the Local Council, businesses, and local stakeholders, enabling critical issues to be highlighted and mitigated early.

The Engineering, Environmental and Hydrology teams have provided Flood Risk Assessments and mapping of the catchment area. They used the Environment Agency’s Long-term Flood Risk Information Service, hydrodynamic modelling, benefit estimation software and historical data to identify the most appropriate technologies and locations, which were then tested in the Feasibility Study Phase. The completed Phase 1 used hard engineering, in the form of mechanical moveable weirs along the riverbed. It also created a flood storage area, to lower flood water levels and reduce peak flow to mimic natural drainage processes. This implementation cost £30 million, with mid-term reviews highlighting a drastic reduction in flood reports within the city (Figure 1).

Phase 2 is being built to extend flood protection measures into upstream catchment areas. Defensive flood walls are being built around 5km of the most populated and vulnerable areas of the city. Additionally, vegetative buffers and sloping 4m embankments alongside the riverbeds are being added to all high flood risk zones, to add natural resilience. The combination of Phases 1 & 2 will provide a double layer of robustness. Current models predict a 60% reduction in flood risk, while quality assurance estimates show a saving of £300 million in total avoided damages. Additionally, the scheme will support Tanbury’s aims for regeneration, protection of natural habitats and business growth outlined by the Tanbury City Plan. The project construction programme remains on track for completion by 2024, with planned continued bi-annual progress evaluations.

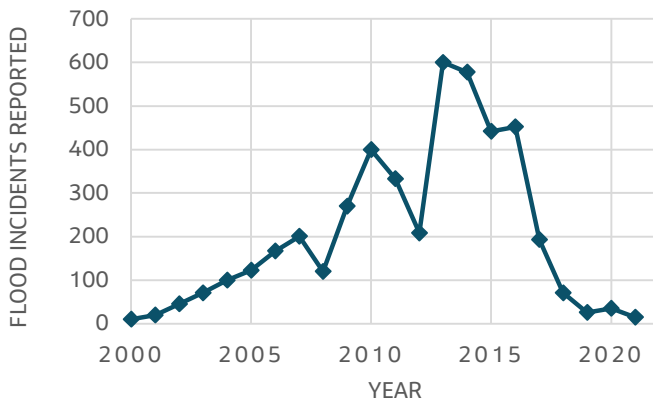


Figure 1: Flood incident reports in Tanbury from 2000-2021



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