

Polperro Tidal Gate Repair



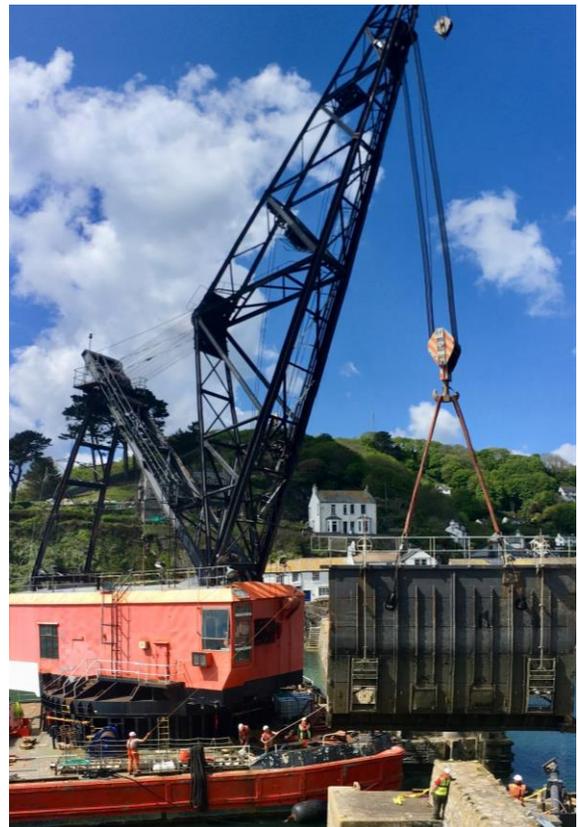
The village of Polperro is a small fishing community with many listed buildings and high tourism appeal. The harbour gate was installed in 1978 and refurbished in 2008 to provide greater flood defence capability. But storms in 2014 damaged the foundations of the gate, requiring a reactive repair. The multidisciplinary partnership project worked to protect people and property from tidal flooding and coastal erosion.

- **Date of completion: Oct 2019**
- **Cost: £1.7m**
- **Location: Polperro, Cornwall**

Challenges and solutions

An innovative solution was required to install new foundations within the listed quay wall, with multiple sewerage services running within the quay, while also replacing the tidal gate. The final design was to install a system of raked piles within the quay and over pump the mains sewer during the project. Tidal working and restricted access presented significant challenges. The new tidal gate was craned into place using a hydraulically operated lifting mechanism.

The project had a key deadline to undertake the replacement of the tidal gate over the summer period when risk of tidal flooding from poor weather and high equinox tides was reduced. With the region sensitive to tourism and visitor numbers estimated at 166,000 per annum, it was crucial works were completed with the minimum impact on the historic and cultural appeal of the village. Working across the summer resulted in a rapid turnaround, reducing conflict with the high tourist season. This also had the environmental benefit of maintaining fish and eel passage, as no temporary works were required to close the harbour entrance.



Benefits and achievements

The completed project has protected 22 commercial and 58 residential properties from flooding, with an additional 20 properties from coastal erosion. The investment means that Polperro is protected against a 1 in 200-year flood event and sea level rises for 30 years, amounting to benefits estimated at £25 million.

The work also ensures future commercial use of the harbour as an important fishing community. Furthermore, collaborative working with South West Water, allowed major sewage upgrades to be completed in parallel, improving the quality of life for residents and reducing risk of pollution to the nearby SSSI.

There was significant interest in the progress of the project, not only by residents but tourists visiting the region. Information on the scheme and others in the area has been communicated with new information leaflets and legacy display boards within the village.



Fascinating facts

- ❑ The new tidal gate was constructed in Cardiff and transported by barge before being moved into place using a heavy lifting crane mounted on a floating barge.
- ❑ The total weight of the gate is 28 tonnes, increasing to 35 tonnes when the counterbalance is included.
- ❑ The scheme will protect 22 commercial and 58 residential properties against a 1 in 200-year flood event, taking into account sea level rises until 2050.

People who made it happen:

- Client: Environment Agency
- Principle Designer: CH2M
- Principle Contractor: NMCN Sustainable Solutions

More about this project:

[gov.uk/government/news/polperro-tidal-gate-repairs-to-start-next-week](https://www.gov.uk/government/news/polperro-tidal-gate-repairs-to-start-next-week)