

# Port of Tilbury flood defence gates project

Work is progressing on this project of national importance to install new dual function lock gates on the Thames Estuary in Tilbury.

The £34 million scheme is a project between the Environment Agency and the Port of Tilbury that will better protect thousands of homes and businesses in the local area from flooding.

The project will see 3 pairs of lock gates at the entrance lock to the port replaced. Each gate is approximately 15 metres tall and 19 metres wide; the equivalent approximately of 3 double decker buses high and the length of a cricket pitch wide.

The outer gates will be raised in height and tie into the adjacent flood walls so that they perform the dual function of a navigational and flood risk management asset.

Overview of lock, outer and middle gates and construction areas at outer gates

Since work started in January 2021 the main highlights include:

- the locating and identification of multiple electric cables to be diverted around the works areas
- installation and testing of 2 x 36 metre long test piles to inform the foundation design for the new outer gate ram pits
- construction of the replacement control buildings foundation slabs
- a rolling programme of refurbishments of the sluices which control water levels between the gates

Construction of draw pit chambers for cable diversions

Fabrication of the new middle and inner gates is underway in Holland, and detailed design work is continuing on the new gate control systems.

John Curtin, Environment Agency Executive Director for Local Operations, said:

It has been great to have visited the construction site at Tilbury Port and to meet the team delivering this nationally important collaborative project. It is a complex project, involving construction activities around the busy port entrance – but I've been really impressed by the professional approach of the joint team with the ongoing support of Tilbury Port staff as we make

important strides to better protect over 2,500 properties from flooding.

Helena Henao-Fernandez, Environment Agency Team 2100 Deputy Programme Director, said:

The Tilbury dual function lock gates project is a perfect example of collaborative working between different organisations to tackle the effects of climate change. By working together, we are providing better protection against the risk of flooding to the local communities as well as delivering a suite of wider outcomes and benefits.

Paul Dale, Port of Tilbury's Asset and Site Director, said:

We are pleased that the construction work for this important project is well underway. It is vitally important that we get this new engineering solution in place to provide flood defences for homes and businesses for the future. It is great to welcome the Environment Agency team to the port today for an overview of the progress of the project so far.

Pictured left to right are David Housden, Head of Engineering & Procurement, the Port of Tilbury; Paul Dale, Asset and Site Director, the Port of Tilbury; John Curtin, Executive Director for Local Operations, Environment Agency, and Mark Johnson, Area Flood and Coastal Risk Manager, Environment Agency.

Once completed the new dual function lock gates will ensure a high standard of flood protection for Tilbury along with the new navigation lock for operations at the port.

Jack for pile testing

Formwork and shuttering for new machine house foundation slabs

New timber sluice gate paddles

This scheme is part of the Government's long-term investment in flood and coastal defences. Since 2015 it has invested £2.6 billion to better protect the country from flooding and coastal erosion meeting the target of better protecting 300,000 homes this March.

Earlier this year, the Government announced a record £5.2 billion investment

in flood and coastal defences and the National FCRM Strategy will help build a better prepared and more resilient nation.

## Further information

Work started in January 2021 and is expected to last for 18 months with the new lock gates planned for installation in late 2021/early 2022.

Once the work is completed it will ensure a high standard of flood protection for Tilbury and provide a new navigation lock for operations at the busy port.

Planning for this project has been underway with the [Environment Agency](#) and the [Port of Tilbury](#) for several years.

With total scheme costs of around £34 million, the Port of Tilbury London Ltd (PoTLL) is providing a multi million pound contribution to the project and will take responsibility for operation and maintenance of the new dual function structure. Funding has also been secured from the Anglian (Eastern) Regional Flood and Coastal Committee.

The Environment Agency's [Thames Estuary Asset Management 2100 Programme](#) (TEAM2100) will deliver the works in partnership with a number of contractors including [Jacobs](#) and [Balfour Beatty](#).

## Port of Tilbury and Thames Estuary flood defences

The Environment Agency Tilbury Barrier forms part of the Thames defences that reduce flood risk to the Purfleet, Grays and Tilbury flood cell along with The Port of Tilbury. The Port of Tilbury is the largest multi modal port in the south east. Sitting on the north bank of the Thames just 22 nautical miles east of central London, it is perfectly placed to handle cargo for London and the rest of the south east, with easy access to the M25 and 18 million people within 75 miles.

The port has an annual throughput of 16 million tonnes per annum, estimated to have a value around £8.7 billion. The varied cargoes are spread across an estate in excess of 1,000 acres and are imported and exported by a variety of short and deep sea vessels. Offering operational support for different cargoes, the port can support ro-ro, container, forest products, grain and bulks as well as passenger cruises.

The current Tilbury Barrier was installed in 1981 and has already passed its designed maximum number of closures and had a number of required modifications. The Port of Tilbury London Limited (PoTLL) in planning the replacement of 2 sets of lock gates was keen to partner with the Environment Agency and install an outer set of gates, which can act in both an impoundment function and flood defence function.

The site area falls within the Thames Estuary 2100 strategy, which was approved by the Environment Agency Board in 2010 and by Defra and HM Treasury in 2012. The strategy sets out recommendations for managing tidal flood risk

across the estuary until the end of the century and beyond. In January 1953, over 2,500 properties flooded in Tilbury in a tidal surge that claimed 307 lives in England.

## **The Thames Estuary Asset Management 2100 (TEAM2100) programme**

The TEAM2100 programme pioneers a new asset management approach for the Environment Agency, investing early to maintain the condition of flood defence assets to reduce the risk of failure. The programme aims to ensure that the tidal walls, embankments, and barriers along the Thames Estuary continue to protect 1.4 million people and £321 billion of property from tidal flooding.

The programme of work includes detailed engineering investigation, repair and refurbishment work to flood defence assets across the estuary. This work will maintain or improve the condition of current flood defences and the standard of protection they offer.

The programme started in 2014 and is being jointly delivered by the Environment Agency, Jacobs and Balfour Beatty, along with other suppliers. It is the UK's largest single programme of flood risk management work, valued at over £300 million in total, and is one of the Government's top 40 major infrastructure projects.

## **About Forth Ports/Port of Tilbury and Tilbury2**

Forth Ports Limited owns and operates Tilbury, alongside 7 other commercial ports on the Firth of Forth and the Firth of Tay: Grangemouth, Dundee, Leith, Rosyth, Methil, Burntisland and Kirkcaldy.

The Port of Tilbury is the number one UK port for forestry products, construction materials, paper, grain, recyclables and warehousing space. The port has a strong market presence in bulk commodities, ro ro, cars and cruise vessels. The port's London Container Terminal handles a mix of short and deep sea services, is the UK's number 4 port for containers and has the greatest reefer (refrigerated container) point connectivity in Europe.

Tilbury's strategic location makes it a natural point for distribution, with nearly 20 million people living within 75 miles. Serving the UK's market, the port offers customers excellent transport links to and from the UK's capital and across the south east where over 50% of the population lives and works. The port is a diverse multi modal hub, covering around 1,100 acres (850 acres and the London Distribution Park, in addition to the Tilbury2 site) and is well positioned to access the M25 orbital motorway and the rest of the UK's national motorway network. In addition, there are direct rail connections within the port and dedicated barge facilities.