

STATEMENT ISSUED ON BEHALF OF THE LOWER LEE FLOOD RELIEF SCHEME

The presentation of a Tidal Barrier as a kind of a ‘silver bullet’ to solve Cork’s flooding issues is fundamentally flawed and must be challenged. Further, any attempt to delay or prevent the development of necessary flood defences in Cork city on the premise that a Tidal Barrier is necessary would be wholly irresponsible and put hundreds of homes and businesses at risk in the years ahead.

Climate Change poses an existential threat to our society and the world as we know it and represents the critical challenge of our time. It is imperative that our response to that challenge is immediate and must be based on the best available science.

A Tidal Surge Barrier (TSB), of which there are only around twenty in the world, only tackles tidal flooding and has generally only been implemented when all other viable options have been exhausted. The most significant damage caused in Cork is from river flooding which would not be resolved by a tidal barrier. In the catastrophic flooding of 2009, for example, a TSB would not have protected the city.

The recently published Intergovernmental Panel on Climate Change (IPCC) report (Sept 2019) on sea level rise confirms a potential extreme case sea level rise of approximately 1m by 2100, assuming average global temperatures are allowed to rise by about 5 degrees by 2100. This scenario is consistent with the OPW’s high end future scenario (HEFS) for climate change, which has been considered in the Scheme’s development. This scenario assumes that governments and society don’t change behaviour at all.

The scenario, which most closely matches the Paris Accord, aims to limit average global temperature rise to well below 2 degrees. In this case, the associated IPCC model predicts a mean sea level rise of approximately 300 mm by 2070.

The Lower Lee Flood Relief Scheme (LLFRS) provides flood protection to a level of 400mm higher than the estimated 1 in 200year tide level. To do this, we are fortunate in Cork that only knee-high defences are required along our quaysides to achieve that level of protection. The LLFRS’s recently issued photomontages demonstrate that such defences can be sensitively integrated into the landscape in a very positive way. These defences have been designed so that they can, if necessary, be raised in the future to a level 1m above the current 1 in 200 year tide level. Based on the science, it is clear that the proposed scheme will provide the necessary protection for a long time into the future, even if the worst-case scenario were to arise.

It is clear that the proposed Scheme provides the appropriate protection in the medium to long term, and ensures that we have a significant period of time, before being forced to implement such an extreme intervention as a tidal barrier, with all of its associated ecological and navigation impacts.

If the various initiatives to combat climate change in the coming decades are unsuccessful, and if a tidal barrier does become necessary in the future, the currently proposed quayside defences will be an essential component of an integrated solution, as they are in all other cities where tidal barriers exist.



Based on all current science from bodies such as IPCC, a tidal surge barrier is unlikely to be needed for 50 years or more at which stage greater certainty of sea level rise and improvements in technology will ensure that an informed decision can be made at an appropriate future time, on the location, type and design of a tidal barrier or barrage.

This being the case, it should be pointed out that the Tidal Barrier concept at Little Island as proposed by the Save Cork City (SCC) group is the most ecologically damaging option available to protect Cork city from tidal flooding. It would have a significant, permanent impact on the designated environmental sites in Cork Harbour and would likely have a carbon footprint many multiples greater than that of the proposed scheme (LLFRS).

It is misconceived to seriously advocate for a Tidal Surge Barrier for Cork when it is unlikely to be needed for over 50 years at least. It would be completely unacceptable to place such a major piece of infrastructure, an unnecessary, deteriorating mass of concrete and steel, with ongoing extremely high maintenance and operation costs as well as ongoing carbon generation, in Cork harbour.

By effectively blocking over 85% of the channel cross-sectional area, the SCC concept barrier would also be detrimental to ecological habitats in Cork harbour – the Special Area of Conservation and Special Protection Area. Best practice would be to minimise the change to the existing flow regime, thus minimising changes to the local ecology. The SCC proposal does the opposite.

In addition to the unnecessary environmental impacts, SCC's concept barrier would also be extremely unsafe for navigation as it gives rise to peak currents twice as fast as any other TSB in the world and three times as fast as in the present shipping lane in Cork.

In making its argument, SCC have heavily referenced a report produced by HR Wallingford. This report is not, as asserted by SCC, either an 'independent' report or a prefeasibility study of the viability of a tidal barrier. It was commissioned by SCC with a limited brief which was solely to provide an indicative cost estimate for SCC's concept. The Wallingford report clearly states that the cost estimate relates to the barrier concept produced by SCC and rightly points out that 'further examination is needed to confirm the dimensions and number of gated openings for water flows and navigation so that a 'more defined cost estimate may then be prepared'. The OPW and its consultants have considered all of these issues in their extensive work which confirms without any doubt that the SCC concept simply does not work.

In suggesting that Wallingford have designed the barrier or that it outlines definitive costs for its tidal barrier concept, SCC is, in fact, misrepresenting the report.

The optimum long-term location for a Tidal Surge Barrier, should it become necessary, is likely to be at Great Island. It would require a large gated area to minimise environmental impacts, and provide for safe navigation. Such a barrier would have an estimated whole of life cost of well in excess of €1 billion. This figure is based on the most current cost estimate models used for tidal surge barrier projects, including the model that was used in considering the largest flood defence project in the world at present, for the city of New York.

Issued by the Office of Public Works and Cork City Council for the Lower Lee Flood Relief Scheme.



Comhairle Cathrach Chorcaí
Cork City Council



Tionscadal Éireann
Project Ireland
2040



OPW

Oifig na
n'Obbreacha Poiblí
Office of Public Works