

S2S and Coastal Protection. Updated March 2026



Coastal Protection Measures in Dublin Bay South

1.1 Introduction:

This is an updated version of the paper that was previously published in 2024. It takes account of the most recent changes to the proposals by NTA /Irish Rail for the coastal protection of the railway between Merrion Gates and Dun Laoghaire and how that relates to NTA/Dublin City Council's ongoing study of the coastal protection of the seafront in Sandymount. More recently, the publication of the government Task Force report titled **Accelerating Infrastructure** has significantly changed the framework in which infrastructure projects will be expected to work.

The S2S projects In Sandymount and Blackrock are inextricably linked. In Sandymount, there is an incomplete seafront walkway but no off-road cycleway. Between Merrion Gates and Dun Laoghaire there is no seafront walkway and an Incomplete inland cycleway. The projects are not joined up at Merrion Gates, and they are incomplete at both ends. The Sandymount brief includes the protection of private and public property whereas the protection of the Railway from Merrion gates to DL Harbour does not. Other objectives for National and Local infrastructural projects, public services and community amenities are not included in either study. The recent catastrophic flooding of the DART line (Feb 2026) illustrates the urgency with which action is required. What is needed is a coordinated approach where all the objectives can be achieved more efficiently, more urgently and at far less cost. What follows is an approach that achieves those objectives.

1.2 Accelerating Infrastructure

Less than a year ago, the Government appointed a taskforce comprised of experienced people from both the public and private sector to investigate the reasons why it took so long to complete projects in Ireland when compared to other countries in Europe. The taskforce was called **Accelerating Infrastructure**, and it delivered its report and recommendations in October 2025. A copy of the Report and Action Plan can be downloaded [here](#). It has highlighted many of the issues that have been the cause, or contributed to, the delays in completing critical infrastructure projects. The taskforce studied three major sectors that exemplified the problems. They were:

- **Power:** ESB/Eirgrid - Electricity Generation, Distribution
- **Water** Uisce Eireann- Supply, Treatment, Drainage
- **Transport** NTA- Roads, Railways, Public Transport, Active Travel.



It may surprise many people to learn that, although small in scale by comparison to some other critical infrastructural projects, the completion of the S2S Walkway and Cycleway in South Dublin Bay is intertwined in one way or another with all three of these sectors. Many of the technical, legal, administrative, and procedural obstacles that have prevented the completion of major national projects have also affected the S2S. It is expected that the proposed changes, when applied, will enable the S2S to be incorporated into a comprehensive, integrated, efficient and cost-efficient project that will benefit the main stakeholders as well as the wider community. The conclusions and recommendations of the Taskforce are now incorporated into Government Policy. Work has already started within the Department of Public Expenditure, Infrastructure and Reform (DPER) under Minister Jack Chambers TD on necessary legislation to implement the legal, planning and environmental reforms together with multi-agency co-ordination processes and public/community buy in.

2: Recent Proposals for Coastal protection of the Railway

2.1 Rock Armour Revetment including a Haul Road

The **2024** NTA/Irish Rail study of this project concluded that a rock armour revetment was the most economic and effective way of achieving the necessary protection of the railway. **Ref. Fig 1.**

Preliminary Option Selection Report Merrion to Dún Laoghaire (Coastal Cell Area 1)

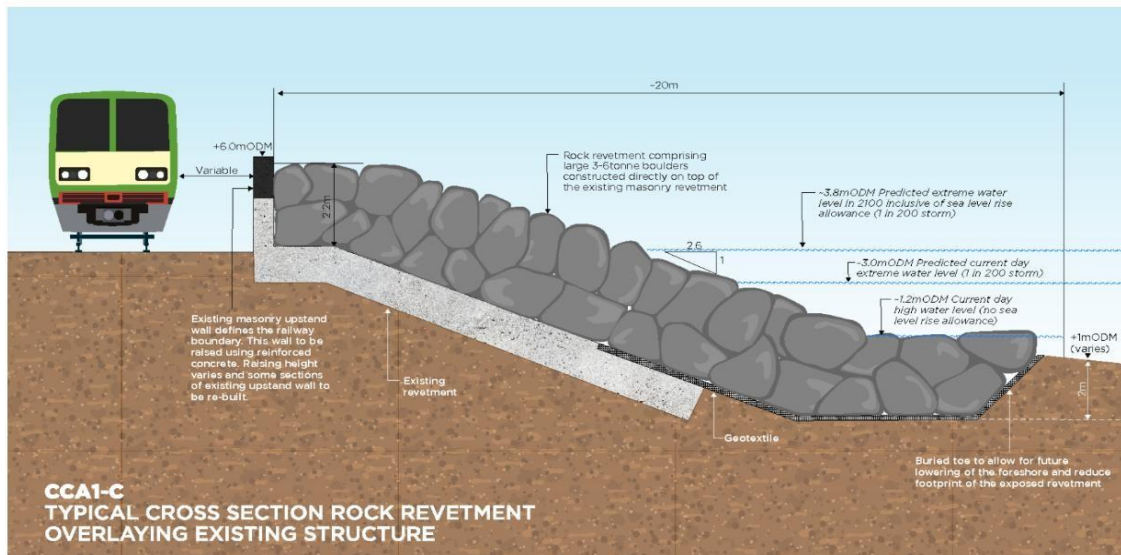


Figure 5-2 CCA1-C Option A typical cross section

Fig 1: This shows the Irish Rail preferred proposal in 2024. It comprises a Rock Revetment with a raised sea wall as the basic protection of the Railway between Merrion Gates and Blackrock. There are other variations on it in sections between Blackrock and Dun Laoghaire

In the **2025** study that approach has been replaced by a plan to demolish the old sea wall down to the level of the tracks and to replace it with precast concrete slabs that will be about 1.3m higher than the old wall making it about 3.0m high overall. **Ref. Fig 2.** This will preclude other infrastructure objectives being incorporated. In addition, it will result in the view from the Dart being obliterated forever.

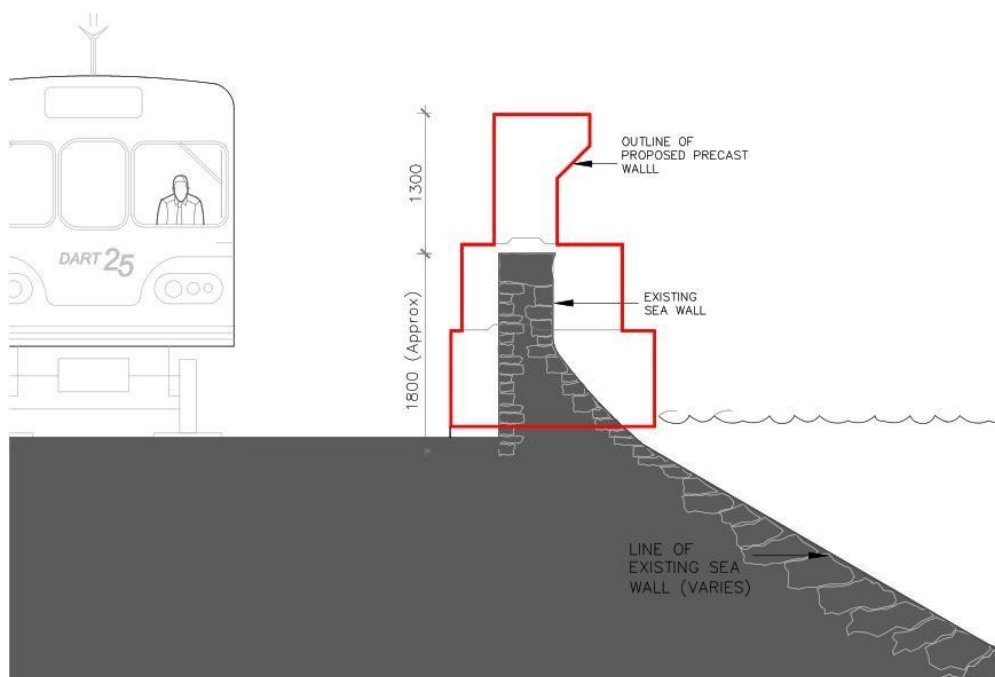


Fig 2: This shows the new proposal in 2025- The Rock Armour is abandoned, the old sea wall demolished down to the level of the tracks and replaced with precast concrete slabs that will be about 1.3m higher than the existing wall making it about 3.0m high overall.

S2S suggests that NTA/Irish Rail revert to their 2024 preferred solution using rock armour, but to do so by first constructing a haul road. This is a common, practical and environmental approach that would reduce the cost and provide a permanent facility by which all the other objectives could be achieved. **Ref Fig 3**

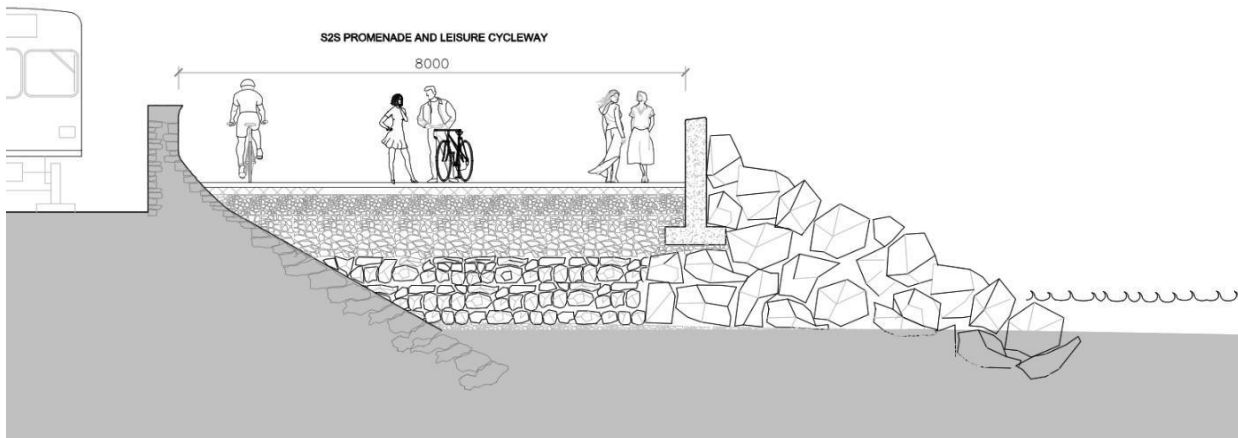


Fig 3: S2S Proposal: A similar Rock Armour Revetment including a haul road/permanent way that would accommodate a walkway/leisure cycleway and access for ongoing maintenance and repair of the railway and other infrastructure.

This would allow most if not all of the construction plant and materials to be brought to the worksite as the work proceeds. Critically it reduces the need to travel back and forth on the strand - with all the implications that would entail for the habitats. This is the method by which similar work has been carried out by Fingal County Council/ NTA/Irish Rail in Wexford Harbour and the Malahide Estuary. **Ref Appendix Fig 4**



Fig 4. Building on the initial haul road, Fingal Co Council commenced a project to extend it across the Estuary and on to Donabate as a walkway/cycleway. Started in late 2023 by building a haul road, it will be completed in early 2026. (Irish Times Picture August 2023)

Rock Armour is the traditional means of building effective marine structures - for good reasons. In a storm such as we have seen in recent days, when large waves meet a **vertical surface**, they explode up to twice or three times their original height. On-shore winds carry the spray over the top of the wall, causing flooding to the space behind. In some cases, they just knock the walls down as we have seen at Seapoint. Because of its sloping and rugged surface **rock armour** takes most of the energy out of the wave before it reaches the top - significantly reducing the over spray. By providing a space between the top of the slope and the railway line (in this case the walkway and cycleway) it allows the residual overspray to be collected and returned before it reaches the railway line.

2.2 Other Projects in South Dublin Bay:

The NPWS guidance in relation to Appropriate Assessments makes it clear that, when planning a project, consideration must be given to all other projects that might have an impact on it. It states:

“A key protection mechanism, and the subject of this guidance, is the requirement to consider the possible nature conversation implications of any plan or project on the Natura 2000 site network before any decision is made to allow that plan or project to proceed. Not only is every new plan or project captured by this rerequirement but each plan or project, when being considered for approval at any stage, must take into consideration the possible effects it may have in combination with other plans and projects when going through the process known as appropriate assessment.”

Although they have not yet reached that stage, it is obvious that all of them will have to do so before they can proceed. For stakeholders to pin their hopes on a single solution at this stage will inevitably lead to problems for those projects at subsequent stages. The Sandymount project is proceeding without reference to its potential to resolve the issue of the badly needed cycleway. Between Merrion Gates and Seapoint, several other objectives are being ignored, most importantly the 225KV_a Carrickmines to Poolbeg electrical link by Eirgrid. This is proposed to be laid in an 8.5km route in the seabed in Dublin Bay.

The same cable could be laid in a duct installed under the haul road along the coast. It could be incorporated in the works to the sea wall, it would be about 4kms long and be achieved at much less cost. All of these projects could be achieved by starting with a haul road. This creates a multi-function asset that would enable the protection of other public and private assets such as the ongoing planning by DLRC for Blackrock Seafront, Maretimo, Brighton Vale and Seapoint, all of which are currently excluded. Once the basic haul road is complete it would allow much of the finishing construction work to proceed every day, regardless of tides. It has the potential to significantly reduce the time and cost required to complete the work on all these projects individually. It could provide a route for the installation of public services and the routine maintenance of the railway and other public assets. Ref. Fig 5 and 6

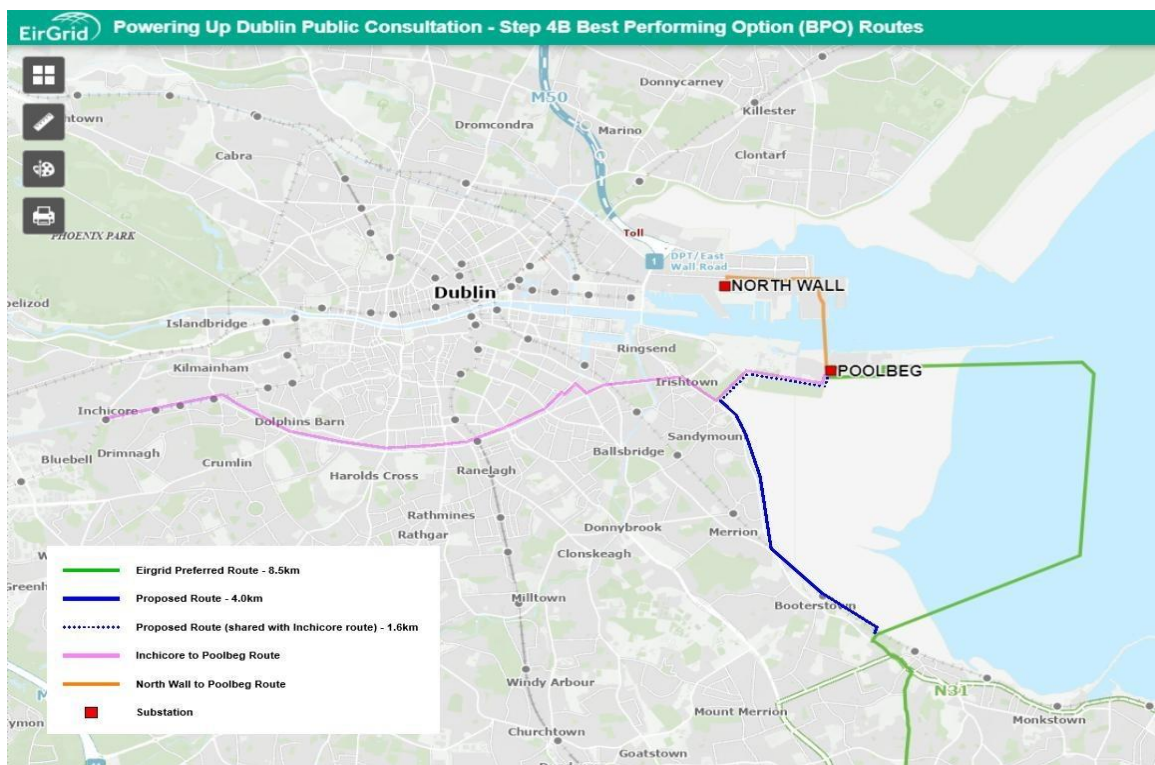


Fig 5: The current proposed 8.5 km undersea route across Dublin Bay and an alternative 4 Km onshore route for the proposed Eirgrid 225 KV_a line from Carrickmines to Seam Moore Park. A further 1.6Km line could be laid along with the line from Inchicore to reach the substation at Poolbeg.



Fig 8. Segregated Road and Cycleway level crossing at Amersfoort Netherlands. All barriers operated simultaneously by one control system. Such systems are common in the Netherlands and Scandinavia.

This arrangement would allow cyclists and pedestrians to safely transfer from a cycleway on the seafront coming from Sandymount to the Merrion Road where it could be extended to the point where it currently terminates at the County boundary. This would create a continuous segregated commuter cycleway all the way from Blackrock to Sean Moore Park in Sandymount. It also enables pedestrians to cross the railway more safely at Merrion Gates, not having to share the main crossing with motor vehicles. The general intention for this arrangement is shown in **Fig 9**.



Fig 9.. The new greenway outside the railway line (shown in yellow and red) would connect the coastal protection and walkway on in Sandymount to the section in Merrion and Blackrock. It could have a link across the new level crossing to the cycleway coming from Blackrock if it was extended to the Merrion Gates.

The objective to achieve a walkway and cycleway from Merrion Gates to Sean Moore Park can be achieved on the seafront in a holistic solution that combines flood protection with routes for essential electrical and other infrastructural needs and a permanent way to facilitate ongoing maintenance and repair. **Ref Fig, 10**



Fig 10: Merrion Gates to Sean Moore Park: a holistic solution that combines flood protection with routes for essential electrical and other infrastructural installations, a continuous traffic free walkway and cycleway together with a permanent way to facilitate ongoing maintenance and repair.

The Potential Benefits

This proposal combines all the various infrastructural objectives that are required to be completed in South Dublin Bay in a single coordinated project. It takes account of the needs of the main utilities- **Energy, Water and Transport** and combines them with the needs and aspirations of the **Local Community and Businesses** in a practical and comprehensive way.

- It provides an efficient and less risky way to carry out major civil engineering work on the seafront, minimizing the intrusion into the Bay.
- It will significantly reduce the comparative time and cost and complete the individual component projects.
- It is a solution that will provide full protection of the railway and make it possible to retain the view from the DART.
- The inclusion of the main Eirgrid Carrickmines – Poolbeg link within the coastal protection will reduce the cost and time of that project.
- The inclusion of cableways, pipes and drainage for other infrastructural services will reduce the overall the cost and make for greater efficiency.
- It resolves the problem of how to get around the bottleneck at Merrion Gates and connects the unfinished cycleway on the Merrion Road with the new cycleway in Sandymount.
- It will provide an important new public amenity together with access for routine maintenance of the railway line and other seafront infrastructure and historic structures.
- It allows people to enjoy the seafront without having to intrude into the habitats.
- It will allow extended bird roosts to be created and easy monitoring of the habitat by NPWS rangers where they currently do not exist.

In summary it is a practical proposal that will meet all requirements of the Stakeholders in a manner that will transform the project from one that will face challenges not least from the community and Irish Rail's passengers to one that will have significant community gain and universal support.

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for
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