

River Dodder Flood Alleviation Works – RDS wall

Part 8 Planning Application

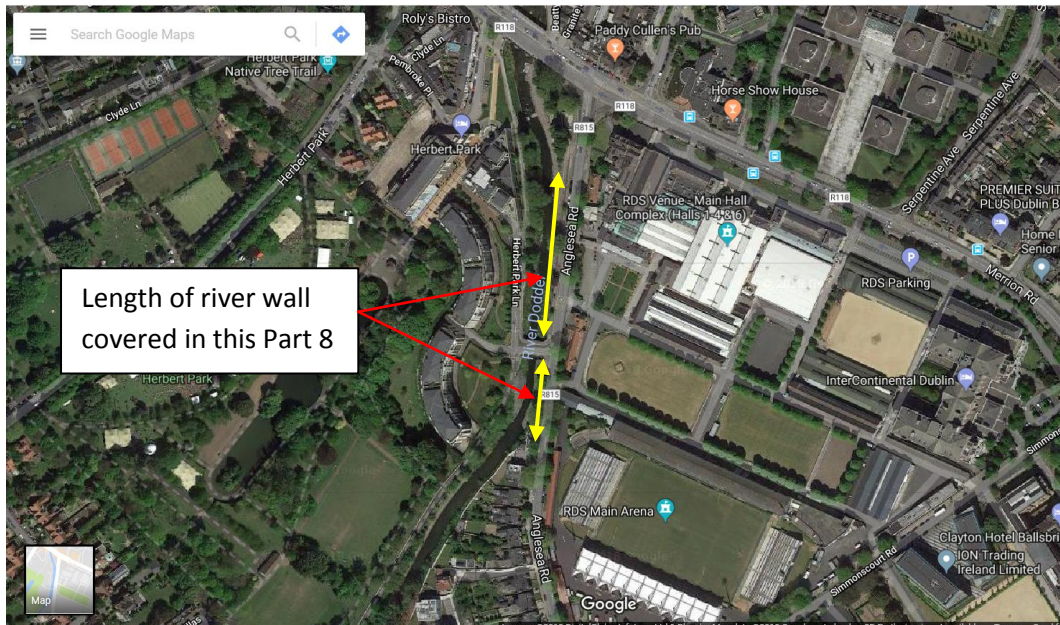
Submission to South East Area Committee



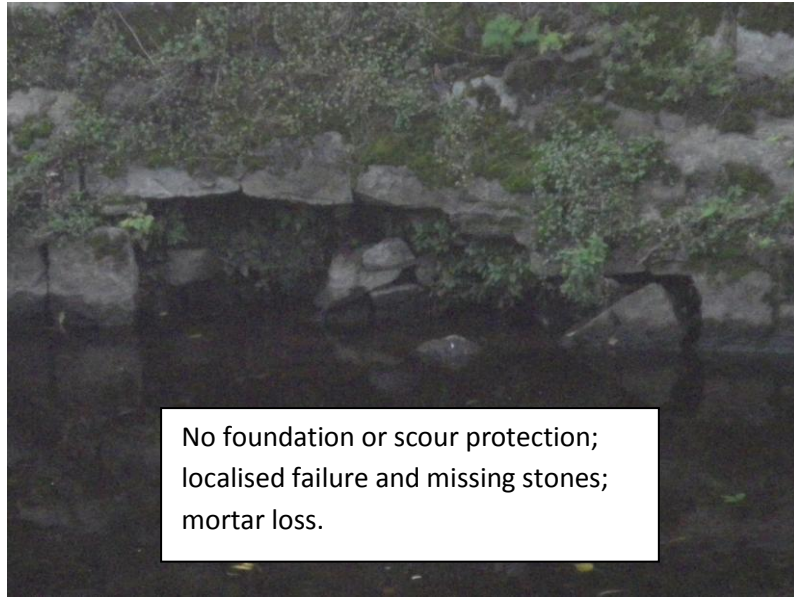
Background to this Part 8 Planning Application

The River Dodder has a history of flooding in both its river and tidal reaches overflowing its banks on numerous occasions. This has caused significant damage to private and commercial properties as well as damage to public infrastructure.

A Catchment Flood Risk Assessment and Management Study for the River Dodder provided a means of addressing the flood risk in the River Dodder catchment. Viable options to manage the flood risk were produced and possible flood alleviation solutions based on multi-criteria analysis were formulated. The first section of flood alleviation works commenced in 2007 on a phased basis from Ringsend Bridge moving upstream. The current phase of works is from Lansdowne Road Railway Bridge to the Lower Smurfit Weir by Beech Hill Road. This phase of works is called River Dodder Flood Alleviation Scheme – Phases 2C, 2D and 2E. It received planning permission in 2013 (ref 2504/13) and is due for completion in early 2019.



As part of the River Dodder Flood Alleviation Scheme – Phases 2C, 2D and 2E it was planned that there would have been localised repairs to the wall on Anglesea Road by the RDS, along with a 100mm rise to this wall to obtain the design flood height. The section of wall in question runs from the green area opposite Pembroke Library to the new house 1A Anglesea Road and is either side of the road bridge into Herbert Park Hotel. It is approximately 200m in total length. During work under the above contract, it was seen that this section of wall was failing. Trial holes were undertaken to the base of the wall and cores were drilled into the wall in order to quantify and calculate how stable the wall was. These investigations and calculations showed that the existing river wall was insufficient to take the current loadings, was failing locally with significant settlement, mortar and stone loss, cracking with separation of the upper parapet from the retaining wall, lack of scour protection and no foundations, and would fail under the design flood conditions. Therefore, major engineering works would have to be undertaken to ensure this section of wall could withstand the design flood loadings. Work to this extent is not covered under the existing planning permission and this current application for planning permission for this section of the River Dodder Flood Scheme is necessary in order to provide and ensure the continuous flood defence necessary to protect people, local property and infrastructure.



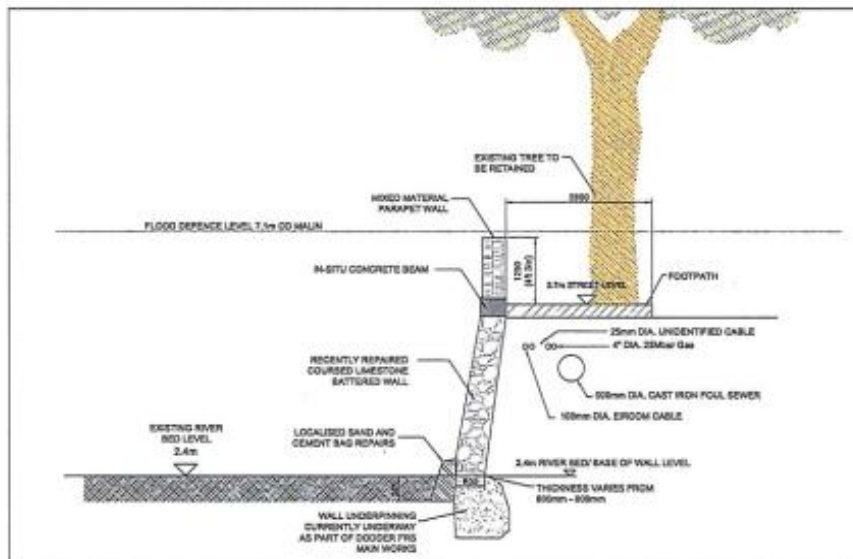
Design Process

In developing a solution for this wall, various design options were analysed. The three main options were a reinforced concrete 'L' wall cast in front of the existing wall, a piled base with mass concrete behind the existing wall, and a piled base and reinforced concrete stem wall in front of the existing wall.

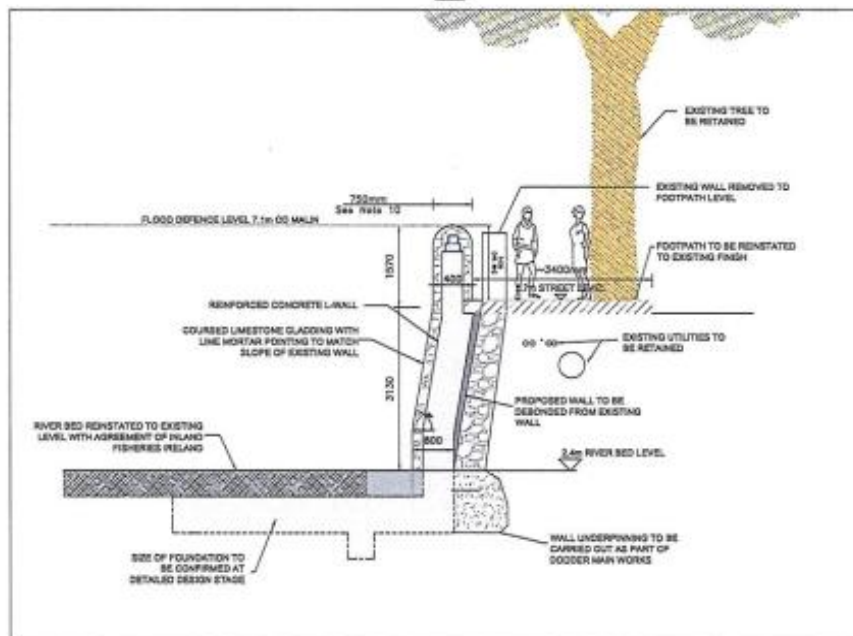
These options were assessed on constructability, aesthetics, environmental impact, cost and design. The reinforced concrete 'L' wall is the recommended solution as it gives the greatest technical certainty regarding design and construction, is environmentally sound and allows for the retention of trees, is the most economic and it gives archaeological reversibility regarding the main part of the original structure.

Description of Works

The new flood wall will be a reinforced concrete wall cast in-situ. The top of the new foundation will be a minimum of 0.5m below the river bed. The stem of the new wall will be cast against the outside face of the existing wall with a separation membrane between them allowing for reversibility. The existing river wall will be demolished from the footpath up and a new wall constructed on top of the proposed new floodwall. This will widen the existing footpath by approximately 600mm. The cladding is to be of imported salvaged limestone, pointed with lime mortar and to be placed to the approval of the site conservation architect. The final flood height is 100mm higher than the existing flood wall.



EXISTING RIVER WALL
(1:50)



PROPOSED REPLACEMENT L WALL IN THE RIVER
(1:50)

During construction there will be a construction easement to facilitate materials and machinery. This easement will take over the footpath adjacent the wall and 2.5m of the inbound carriageway. Pedestrians will be directed to use the footpath by the RDS grounds. Eight paid parking spaces on the inbound carriageway opposite Pembroke library will also

be temporarily suspended for the duration of the works. The bus stop will be unaffected. Inbound and outbound traffic will be maintained on Anglesea Road at all times. Access to Herbert Park Hotel and associated offices and apartment complexes will be maintained at all times via Herbert Park Hotel Bridge. Rampart Lane, which is the pedestrian laneway between Herbert Park and Herbert Park Hotel Bridge, will be closed for the duration of the works with pedestrian diversions in operation through the Herbert Park Hotel complex. The existing construction haul road in the river will be widened to approximately 10m to allow for the construction of the floodwall bases. The temporary river crossing currently placed just upstream of Herbert Park Hotel Bridge would be maintained. This will be done under agreement with Inland Fisheries Ireland with riverbed reinstatement to 2009 levels. A Consulting Environmentalist and a Consultant Conservation Architect shall be employed for the duration of this scheme. The construction period is estimated to be 12 months. This estimation may vary based upon rainfall events, high river flow events, unforeseen ground conditions and other such eventualities.

Environmental and Architectural Reports

The Report for Screening for Appropriate Assessment (AA) is in the Part 8 planning application. It gives a background to screening for AA and determines if this proposed scheme has any significant impact or effect on Natura 2000 sites. The report finds that it is possible to rule out likely significant impacts on any Natura 2000 sites and that it is not necessary to carry out any further stage of the AA process.

The Report for the Screening for Environmental Impact Assessment (EIA) is in the Part 8 planning application. The report gives a background to EIA's, examines the characteristics and location of the proposed development along with any potential impacts, and provides the EC Guidance Checklist on EIA Screening. An ecological survey is appended to this report. The conclusion of the report is that there is no potential for any significant impacts arising from the proposed development and that an EIA is not required for the proposed development.

The Architectural Heritage Impact Assessment (AHIA) is in the Part 8 planning application. The report outlines the proposal, gives potential adverse and positive effects as well as the mitigation measures, and it concurs that the proposed solution is the best available.

Technical Departments Reports

As part of the pre Part 8 planning process, the planning application was circulated to the relevant Dublin City Council technical departments. Below are their responses.

The Waste Management and Drainage & Wastewater Divisions had no issue or comment on the submission.

The Parks & Landscaping Division stated *'I wish to advise that in regard to the Part 8 Consulting Process for the proposed Flood Alleviation Works along the River Dodder at RDS Wall, Parks & Landscape Services would request that Environmental /Ecology Consultants are present to monitor and advise during the works. Also that an Arboricultural consultant is appointed and submits details to minimise the impact on the tree roots, crown and trunk of existing trees arising from the proposed works for approval by this Division.'*

The Office for Director of Traffic stated *'Further to the referral of the Pre-Part 8 submission for the River Dodder Flood Alleviation Works, the Roads and Traffic Planning Division has no objection in principle to the proposed development. Traffic management proposals during the construction phase of the development are noted. In the event that permission is forthcoming this division would recommend that a condition should apply requiring a Construction Management Plan and Traffic Management Plan to be submitted for written agreement upon the appointment of a contractor and prior to commencement of any construction works. The Traffic Management Plan should address the maintenance of traffic flow in and about the works and should detail any requirements for active traffic management.'*

The City Architects Office stated *'The works generally involve the demolition of the existing wall and the construction of a new wall. It is not considered that the existing character of the area will be negatively impacted by the proposed works as all the existing trees located in the adjacent footpath will be retained and the existing footpath widened and resurfaced. Confirmation is sought however on the proposed finish and the extent of footpath resurfacing, i.e., is it proposed to resurface the full width of the footpath? Consideration should be given to further enhancing the area by replacing the existing in-situ concrete footpath in the area with concrete paving slabs. The new wall should be visually consistent with the old wall, i.e., the material type, size and coursing of the proposed wall should match the existing. The existing stone should be re-used in the new wall where possible. Where this is not feasible, all stone should be salvaged and stored for possible re-use on other projects. The detail of the junction between the new wall and the existing stone wall at the bridge at Herbert Park Hotel needs to be carefully considered in terms of height and material. The building of a new wall and the widening of the footpath creates an opportunity to design and incorporate public seating into the depth and length of the wall, thus adding to the amenity of the public realm. The City Architects Division would welcome an opportunity to explore and develop this in more detail with the Engineering Division.'*

The Conservation Officer stated *'I am satisfied with the proposed works providing they are carried out under the guidance of a Conservation Expert and in accordance with best conservation practice, to ensure that the works are executed to minimise the impact on the historic architectural fabric in the vicinity, and that mature trees are protected and retained where indicated.'*

Planners Report

As part of the pre Part 8 planning process, the planning application plus technical department reports was circulated to the Area Planner. Below is her report.

'It is acknowledged that the proposed Part 8 is required in order to fully implement the flood alleviation works which were permitted under Reg. Ref. 2504/13. The existing wall was found to be unstable and required additional works to stabilise it which were outside of the scope of the original works proposed. The proposed works are in accordance with the policies and objectives of the Dublin City Development Plan 2016-2022 and in particular policies CC5, SI9, SI10, SI11 and SI12 and also the Strategic Flood Risk Assessment. As per the documentation supplied, the works will include the following;

- *The construction of a reinforced concrete wall inside the existing wall,*

- *The demolition from the footpath up and the construction of a new wall on top of the new reinforced wall,*
- *The new wall would be clad in imported salvaged limestone, pointed with lime mortar to the approval of the Conservation Officer,*
- *The final flood height would be 100mm higher than the existing wall,*
- *As the existing wall would be removed, the footpath would be made approximately 600mm wider.*
- *The existing trees would be retained in situ.*

The site is located within a designated Conservation Area. It is anticipated that the main planning issues would be mainly visual impact and environmental concerns. It is noted that the Part 8 proposal would include the following supporting documentation;

- *Stage 1 AA Assessment,*
- *Ecological Survey Report,*
- *Environmental Impact Assessment Screening Report,*
- *Architectural Heritage Impact Assessment.*

The Environmental Assessment Screening Report concludes that 'there is no potential for any significant impacts arising from the proposed development'. Based on the findings of the EIA Screening Report and the other supporting documentation, it is the opinion of the Planning Department that a full EIA is not required for the proposed development at this stage.

The Planning Department has no objection with the proposal proceeding to a formal Part 8 process.'

Conclusion

The necessity of constructing a new flood alleviation wall is demonstrated by this report. After an options investigation, a preferred design has been identified. AA, EIA and AHIA have shown that the proposed wall is an appropriate development. Dublin City Council technical departments and the planning department have no objection with the planning application.

We ask the council to support the Part 8 planning application for the construction of a flood alleviation wall to the RDS wall at Anglesea Road, Dublin 4.