Abstract

On 1st January 2014, Irish Water assumed responsibility for managing Ireland's water and wastewater investment and maintenance programmes. On that date, Irish Water also took over the management of the Water Supply Project Eastern and Midlands Region (WSP) from Dublin City Council/Department of Environment, Community and Local Government[1]. The project is currently in the project planning stage.

Management of the planning stage of the project is currently focused on achieving a planning submission to An Bord Pleanála by late 2017 with a view to delivering an additional source of water throughout the Eastern and Midlands Region by 2024/5.

The project is currently in the fourth phase of non-statutory public consultation which commenced with the publication of the Final Options Appraisal Report and this EIS Scoping Report

Feedback from the three previous public consultation stages in conjunction with results from continuing surveys, modelling and investigations, as well as the assessment of the two remaining viable options using the constraints and assessment criteria, has led to the identification of a Preferred Scheme as set out in the Final Options Appraisal Report.

The Preferred Scheme involves the sustainable abstraction of water on the eastern shore of Parteen Basin in Co. Tipperary, with water treatment nearby at Birdhill. Treated water would then be piped to a termination point reservoir at Peamount in South County Dublin. Supplies of treated water would be made available to Midland communities along the route from Parteen Basin to Dublin.

This would provide a reliable and sustainable water supply to present and future domestic, commercial and industrial consumers along the proposed pipeline's 170 km route.

The Final Options Appraisal Report identifies a 200m wide route corridor and an indicative 50m pipeline corridor within which it would be feasible to locate the pipeline in a way which accommodates environmental, technical and geographical constraints.

This Environmental Impact Statement (EIS) Scoping Report sets out the proposed scope of work and methodologies to be applied in the development of the EIS for the Water Supply Project Eastern and Midlands Region and outlines the proposed structure of the EIS document.

The EIS Scoping Report is a key element of the EIA process as a whole and the main objectives of this report are to:

- Provide a description of the proposed project
- Identify likely significant impacts which may arise during the construction and operation of the proposed development;
- Outline proposed assessment methodologies for completing the EIS;
- Outline the likely contents of the EIS; and
- Form a basis of common reference for consultation about the scope and methodology for the EIS.

Scoping ensures that potential environmental impacts are identified at the initial stages of the process while ensuring environmental protection is a key consideration in the development of the project design. Scoping is an ongoing process which does not end following the completion of this consultation period but continues throughout the Environmental Impact Assessment (EIA) process.

[1] Now the Department of Housing, Planning, Community and Local Government

An Environmental Impact Statement (EIS) will be prepared for the Final Scheme for the Water Supply Project which will present the findings of the environmental assessments and will accompany Irish Water's Planning Application to An Bord Pleanála in late 2017. The planning application will be subject to a period of statutory consultation which will provide the public with an opportunity to have their say, following which the Board will determine whether consent should be granted.

In summary, the EIS will comprise of a number of sections including the following:

- A background to the project and the EIA process.
- An appraisal of alternatives that were considered during the design of the proposed development and during the EIA process.
- A description of the proposed development, including information on its background, history and need, design principles, risk analysis, construction methodology and programme.
- The planning context for the proposed development, including national, regional and local policy will be detailed.
- A description of the baseline conditions at the abstraction site, the water treatment facility, the final pipeline route corridor, the break pressure tank location and the termination point reservoir site will be presented for each environmental topic.
- A description of the potential impacts that will occur during the construction and operational phase of the proposed development will be provided for each environmental topic. The likelihood, extent, magnitude, duration and significance of potential impacts will be described.
- Potential for cumulative impacts to arise will be addressed.
- The mitigation measures to be put in place to mitigate the likely significant impacts will be described and the residual impacts that will persist after mitigation has been put in place will be also be detailed. Mitigation measures will be provided in the form of avoidance, reduction or remedy. The level of significance of any residual impacts will be detailed.
- A section detailing the interactions between the various environmental topics will be provided. This will be provided in the overall context, area by area assessment and a matrix summarising the interactions will be provided.
- A non-technical summary will be a condensed into an easily comprehensible version of the EIS document.

The following environmental topics will be addressed within the EIS and have been discussed in further detail within this scoping report:

- Air and Climate;
- Noise and Vibration;
- The Landscape;
- Cultural Heritage;
- Biodiversity;
- Land and Soils;
- Water;
- Traffic and Transport;
- Population and Human Health;
- Agronomy;
- Waste; and
- Material Assets.

The scoping exercise carried out at this stage of the project has highlighted the following points:

- An Environmental Impact Statement (EIS) and Appropriate Assessment will be prepared for the Final Scheme which will accompany Irish Water's Planning Application to An Bord Pleanála in late 2017.
- Consultation with the public, statutory organisations and non-statutory organisations will continue to be undertaken during the Environmental Impact Assessment process. The results of this consultation will be used to inform the EIS and will be incorporated into the project design where practical.
- Scoping will identify potential environmental impacts at the initial stages of the process while ensuring environmental protection is a key consideration in the development of the project design.

- Further assessment of all baseline studies together with consultation with statutory and non-statutory bodies will assist with identification of the main potential impacts for the scheme.

Irish Water are now inviting submissions from the public and interested groups/parties on the issues and methodologies to be considered as part of the EIS. The consultation period will run for a period of 14 weeks from the 8th of November 2016 to the 14th of February 2017 inclusive.

1. Introduction

1.1 Background

On 1st January 2014, Irish Water assumed responsibility for managing Ireland's water and wastewater investment and maintenance programmes. On that date, Irish Water also took over the management of the Water Supply Project Eastern and Midlands Region (WSP) from Dublin City Council/Department of Environment, Community and Local Government[2]. The project is currently in the project planning stage.

Management of the planning stage of the project is currently focused on achieving a planning submission to An Bord Pleanála by late 2017 with a view to delivering an additional source of water throughout the Eastern and Midlands Region by 2024/5.

When responsibility for the project was with Dublin City Council, the project was known as the 'Water Supply Project – Dublin Region' as the principal focus was planning for future water supply needs of the East / Dublin Region up to 2050. However, the transfer of water services functions to Irish Water has opened a unique opportunity to take a strategic view of providing water services at a national level and as a result the project has now been referenced to the (three) regions within which Irish Water operates (see Figure 1-1). Since the bulk of water supplies from the project will be delivered to the East and Midlands, the project is now known as the 'Water Supply Project Eastern and Midlands Region (WSP)'.

The transfer of responsibility for managing the project from Dublin City Council to Irish Water has also resulted in an increased focus on potential 'Benefiting Corridors' which will be created by the water transfer pipelines between potential new water source options and the terminal delivery point. This is because Irish Water has responsibility for ensuring secure, resilient and high quality water supplies in all locations of Ireland and not just in the East of Ireland.

1.2 History to the Project

The need for a new water supply source for the metropolitan area of Dublin and surrounding environs was first identified in the Greater Dublin Water Supply Strategic Study (GDWSSS) of 1996 and endorsed in a review of the GDWSSS in 2000. Figure 1-2 outlines the chronological development of the project from 1996 to the present day.

[2] Now the Department of Housing, Planning, Community and Local Government

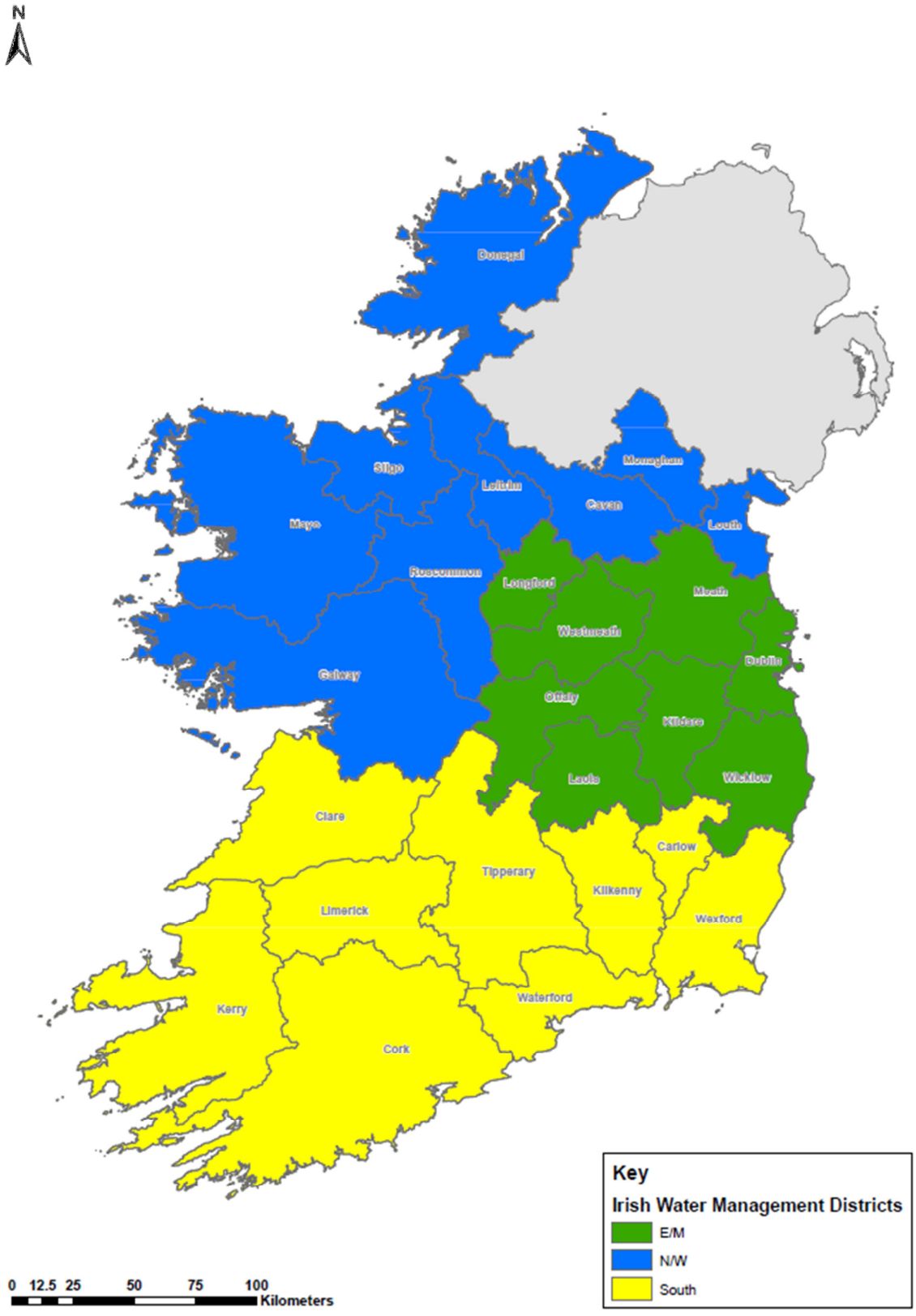

Figure 1-1 Irish Water Regions and Study Area

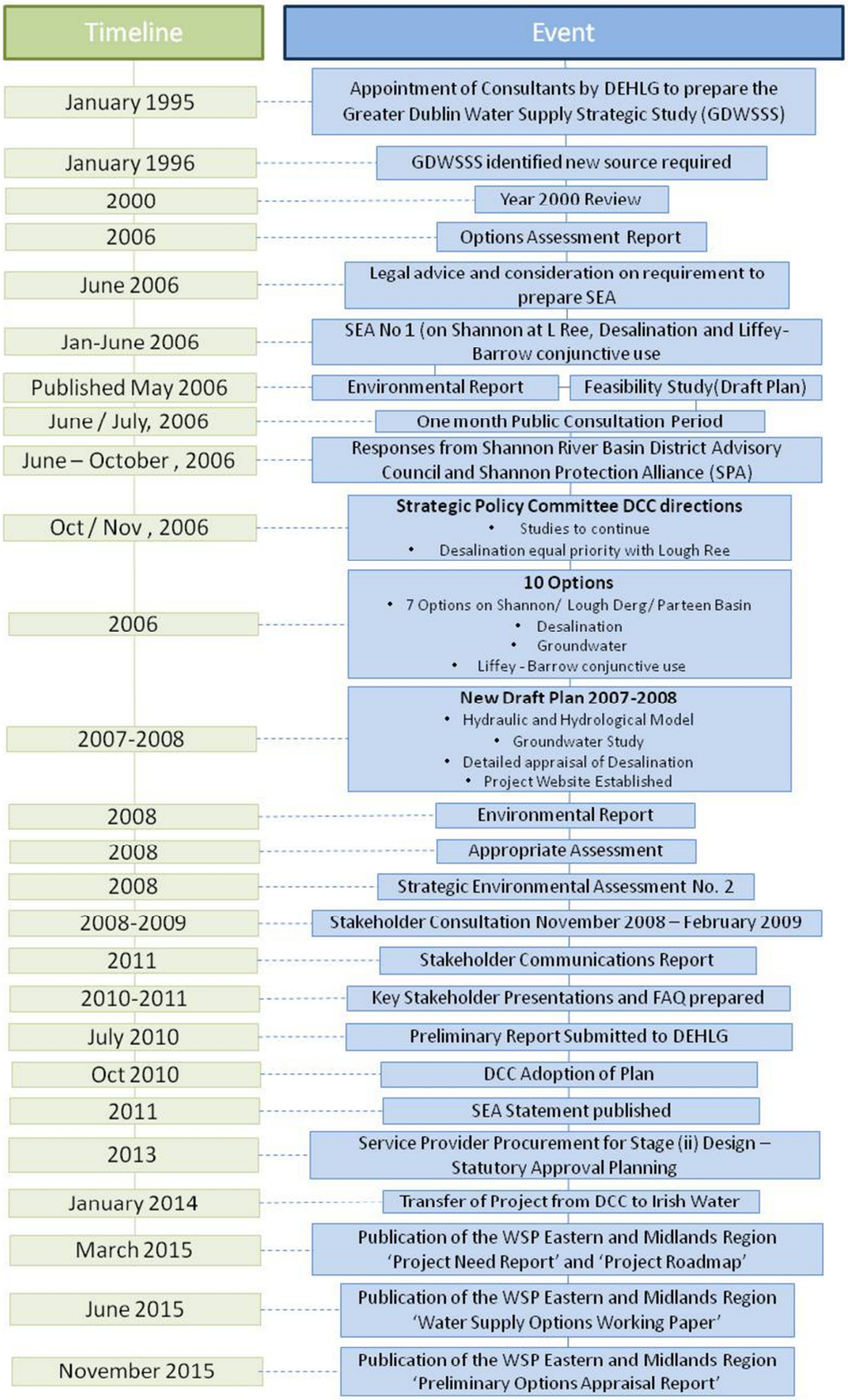

Figure 1-2 Chronological Development of the Project & Historical Datasets/Reporting

On this baseline, Dublin City Council (DCC), and their service providers, undertook two phases of Strategic Environmental Assessment (SEA) during the period 2006-2011. This identified, and considered ten potential new source options to cater for the water supply - demand deficit (see Figure 1-3).

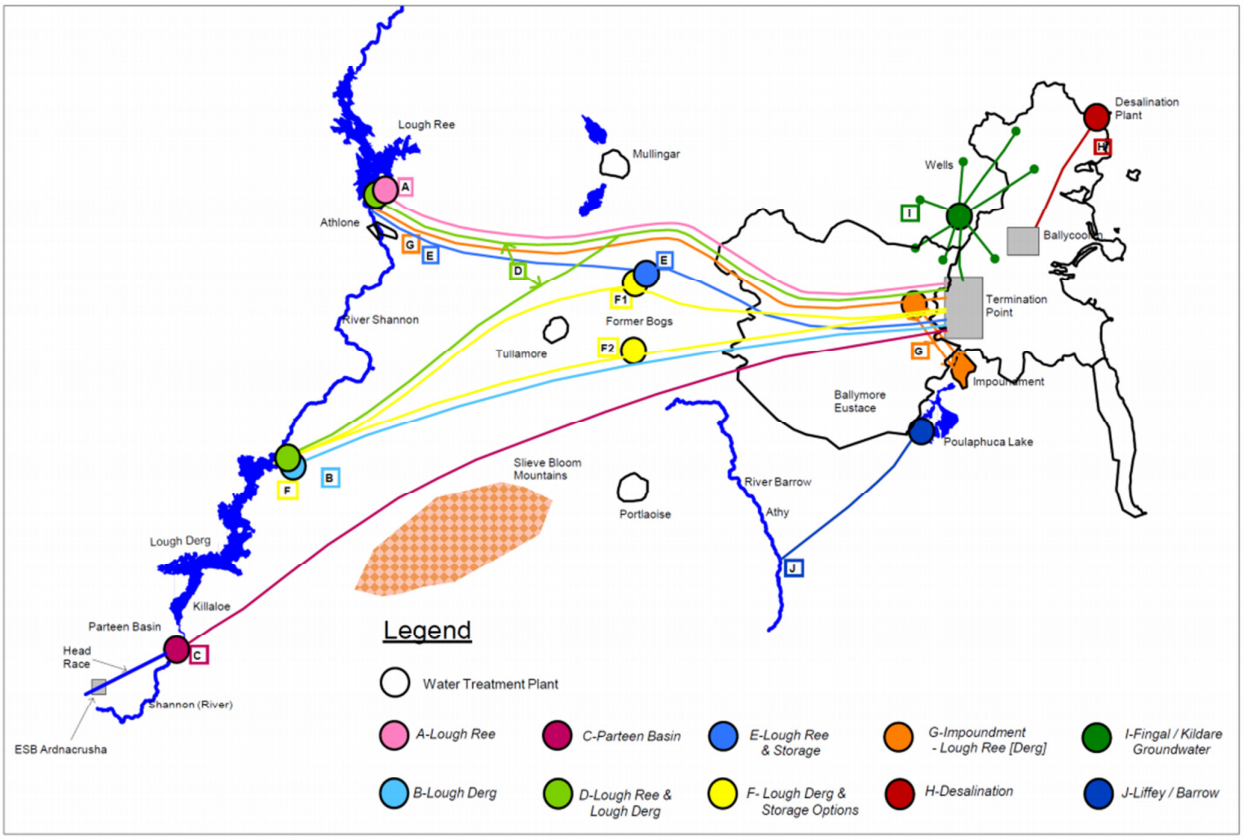

Figure 1-3 Water Supply Options Considered in the SEA

These ten options were appraised under technical, environmental, socio-economic and economic assessment criteria and assessed at a high 'desktop-study' level on data information which was available at that time.

The top ranked technically viable options (four in total) that emerged from the 2007-2011 SEA were as follows:

i. Option F2 (Abstraction at North East Lough Derg with Raw Water Storage at Garryhinch)
ii. Option B (Abstraction at North East Lough Derg with Direct treated water pipeline to Dublin)
iii. Option C (Abstraction at Parteen Basin with Direct treated water pipeline to Dublin)
iv. Option H (Desalination of Irish Sea Water)

An expressed preference at the time for Option F2 (abstraction from Lough Derg with Raw Water Storage) was communicated through the DCC Draft Plan, with the adopted Plan and associated SEA statement being published in 2010/2011 (see Figure 1-4).

Reflecting data limitations at that time, the preference was noted as provisional and was qualified with the requirement for additional investigative works to be undertaken to validate the engineering design, and assess the environmental impacts.

The transfer of water services functions to Irish Water in January 2014 provided a unique opportunity to take a strategic view of providing water services at a national level. The Water Supply Project, Eastern and Midlands Region, is a key element of Irish Water's overall nationwide remit as it will meet the domestic, commercial and

industrial needs of over 40% of Ireland's population into the medium to long-term future (to 2050). Irish Water identified four key stages of non-statutory public consultation that would be undertaken in the development of a new water supply for the Eastern and Midlands Region prior to making a planning application to An Bord Pleanála in Q3/4 2017.

As part of this process, three phases of non-statutory public consultation have already been undertaken which has allowed relevant feedback to be incorporated into the development and decision making for a new water supply for the Eastern and Midlands Region. A summary of the three previous non-statutory public consultations is outlined below.

- The **Project Need Report & Project Road Map** (March 2015). The Project Need Report examined the capacity of existing sources, and the need for the new source. It included a fundamental review of the demographic, economic and sectoral water consumption drivers in overall water demand, as well as a critical appraisal of the resilience of the existing water supplies serving the region. It emphasised the importance of both aspects in considering the question of 'need' and concluded that the existing supply sources and infrastructure for the region do not have the capacity or resilience to meet future requirements. It projected that population and industrial growth will generate a demand for an additional 330 million litres of water per day by 2050. The present infrastructure is struggling to meet current need as evidenced by a number of significant and costly outages in Dublin over the past 4 years, one of which coincided with the Web Summit in November 2013. While projected requirements already include ambitious leakage control targets and water conservation initiatives, which will provide valuable water savings, these will not provide a long term solution for our water supply requirements. The Project Road Map outlined how a preferred new supply option would be selected and the public consultation milestones involved in that process.
- The **Options Working Paper** (June 2015) presented a review of the ten Water Supply Options evaluated as part of the SEA. The identification of four technically viable options through the SEA was validated as remaining appropriate to be brought forward for further consideration in the planning process (Figure 1-4). The four technically viable options were considered to be of equal footing, with no preference made on the assessments undertaken. It also published, for consultation, the assessment criteria in options appraisal, and the proposed approach to positioning infrastructure to achieve least environmental impact, through the use of constraint mapping.

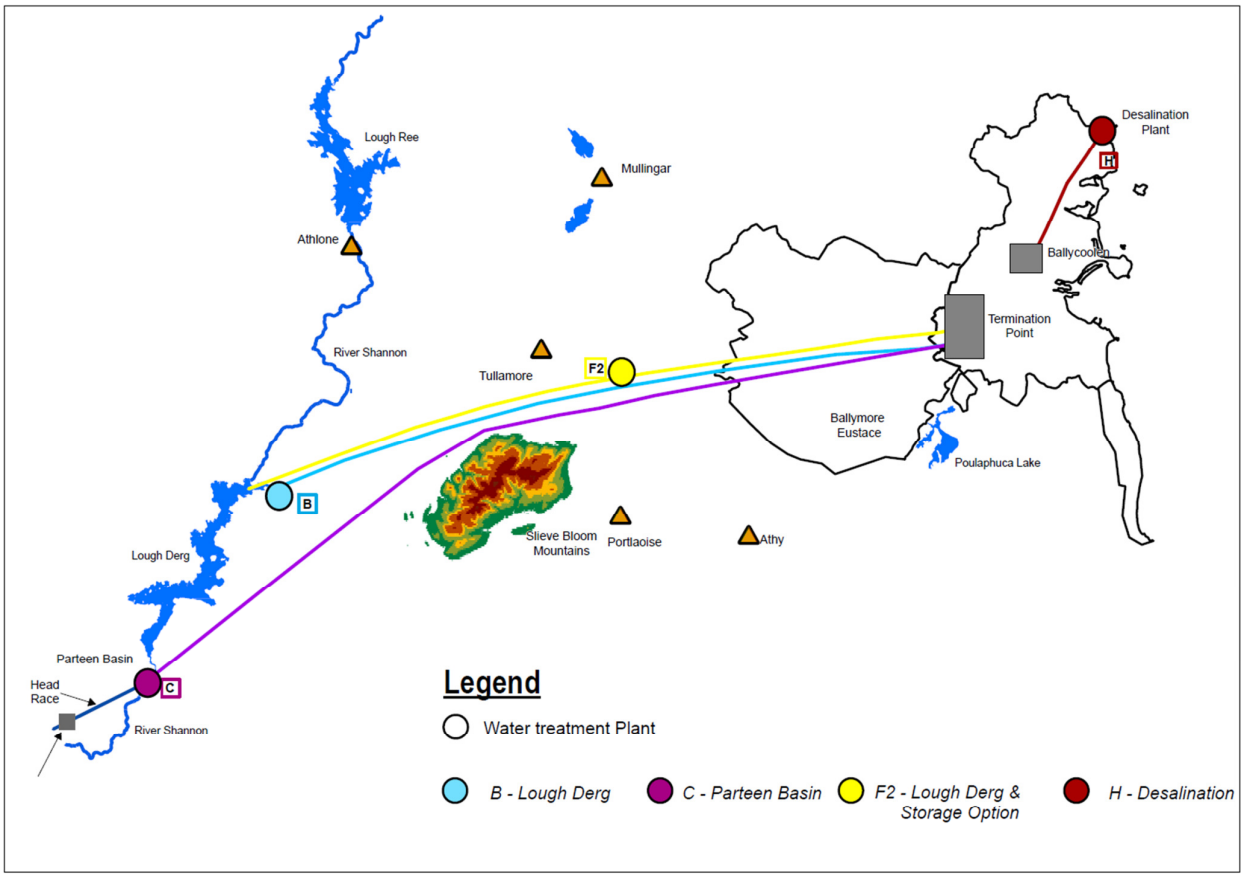

Figure 1-4 The Four Technically Viable Options

- The **Preliminary Options Appraisal Report** (November 2015) set out the detail of the assessment process for the four technically viable options. The report concluded that two of the four options located on the North East of Lough Derg are unsuitable, primarily for environmental reasons. The two which remained viable were desalination (from the Irish Sea) and the abstraction of water from the lower Shannon at Parteen Basin in County Tipperary. Of these two, the report identified abstraction from the River Shannon at Parteen Basin as the "emerging preferred option". The report identified an abstraction point at the Parteen Basin with a 2km preferred pipeline route corridor from the abstraction point to a Termination Point Reservoir in the vicinity of the existing Peamount Reservoir in South County Dublin (Figure 1.5).

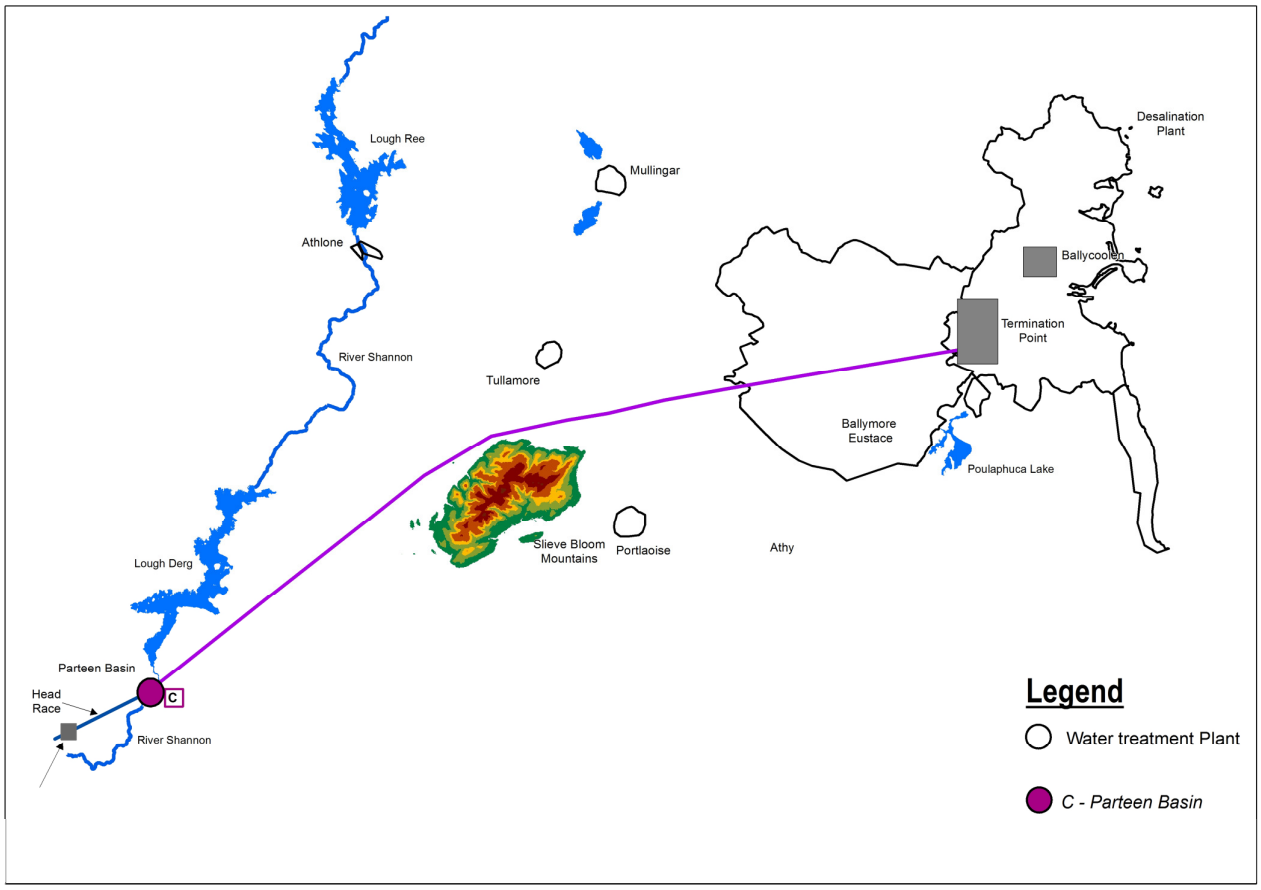

Figure 1-5 The Emerging Preferred Option

1.3 Current Project Status

The project is currently in the fourth phase of non-statutory public consultation which commenced with the publication of the Final Options Appraisal Report (FOAR) and the EIS Scoping Report (this report).

Feedback from all three public consultation stages in conjunction with results from continuing surveys, modelling and investigations, as well as the assessment of the two remaining viable options using the constraints and assessment criteria, has led to the identification of a Preferred Scheme as set out in the Final Options Appraisal Report (FOAR).

The **Final Options Appraisal Report** concluded that the abstraction of water from the Shannon at Parteen Basin (also known locally as the Lower Lake) is the option which best meets the objectives of the Water Services Strategic Plan, offers least environmental impact and provides additional benefits along an extensive benefitting pipeline corridor. Feedback from the POAR consultation phase has been taken into consideration along with and the results of additional constraints mapping and environmental surveys which has identified a preferred 200m wide pipeline corridor and an indicative 50m pipeline corridor, which again is positioned for least impact.

All of the aforementioned reports are available for download at http://www.watersupplyproject.ie/publications/

1.4 Description of the Project (Preferred Scheme)

The Preferred Scheme (see Figure 1-6) will comprise the following main elements:

- A Raw Water Abstraction Intake structure within Parteen Basin;
- A Raw Water Pumping Station of area circa 2 hectares at the abstraction site;
- A twin Raw Water Rising Main of diameter 1.5m from the abstraction site to a water treatment plant;
- A Water Treatment Plant facility of area circa 15 hectares (likely to be within 5km of the abstraction site) capable of treating 330,000m^3 per day, with supply of approximately 72,000m^3 per day to communities in the Midlands Region;
- Approximately 170km of treated water supply pipeline comprising mains of diameter in the order of 1.7m to 2.0m diameter;
- A 50m wide construction corridor along the pipeline route from abstraction point (Parteen Basin, Co. Tipperary) to a termination point reservoir (Peamount, South County Dublin);
- A Break Pressure Tank[3] of area circa 1.5 hectares at a suitable location near the Tipperary/Offaly border;
- Potential micro-tunnelling (trenchless excavation technique) under rivers including but not limited to Nenagh, Brosna, Silver, Tullamore, Figile and Liffey Rivers;
- Potential micro-tunnelling under motorways, national primary roads, canals and railways and areas of high elevation, if required;
- Isolating valve chambers for the operation and maintenance of the treated water supply pipeline. These will be required at intervals throughout the length of the pipeline. Where possible, the isolating chambers will be sited in close proximity to existing thoroughfares for ease of access;
- Air valve and washout chambers for operation and maintenance of the treated water pipeline: these will be required at frequent intervals at high points, changes of gradient and low points throughout the length of the pipeline;
- Access roads will be required from public roads to the proposed locations of the Raw Water Abstraction facility, and Raw Water Pumping Station site, the Water Treatment Plant, the Break Pressure Tank site and to the proposed Termination Point Reservoir in the vicinity existing of Peamount Reservoir;
- Temporary works to facilitate construction of the permanent works including storage yards at strategic locations along the route of the pipeline, and strengthening works to existing roadways at key access points for haulage routes for movement of plant and materials;
- Accommodation works throughout the works area; and
- Termination Point Reservoir of volume 150ML on site area circa 8 hectares (at Peamount Reservoir and environs).

[3] A covered structure to manage water pressures in the pipe; at the transition pumped and gravitational flows.

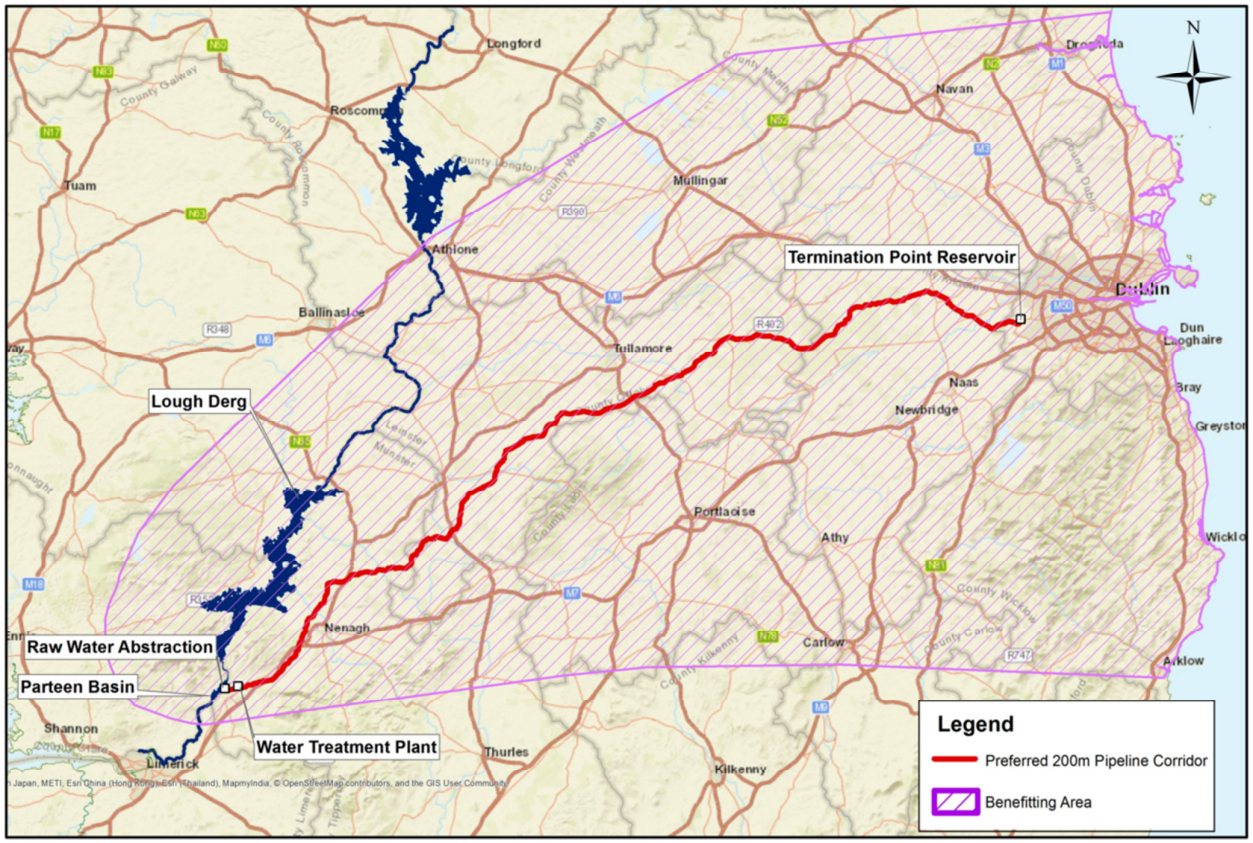

Figure 1-6 Overview of the Preferred Scheme

Land will be returned to the landowners along the route of the pipeline except for those sites which will have to be acquired to construct the Raw Water Abstraction facility, Raw Water Pumping Station, Water Treatment Plant, Break Pressure Tank and the Termination Point Reservoir in the vicinity existing of Peamount Reservoir. A permanent easement of approximately 20m will be retained around the pipeline post construction.

The project involves abstraction of 330 MLD (3.8m^3/s) from the flow currently directed to Ardnacrusha, as a daily average requirement at 2050, from the lower Shannon at Parteen Basin, with transfer of a treated water supply from the Shannon to communities in the Midlands and Eastern areas.

1.4.1 Infrastructure Siting

To define the location of the proposed infrastructure sites and pipeline route associated with the proposed development, a constraints mapping exercise was undertaken in parallel with the staged options assessment processes mentioned in Section 1.2 above (see Figure 1-7).

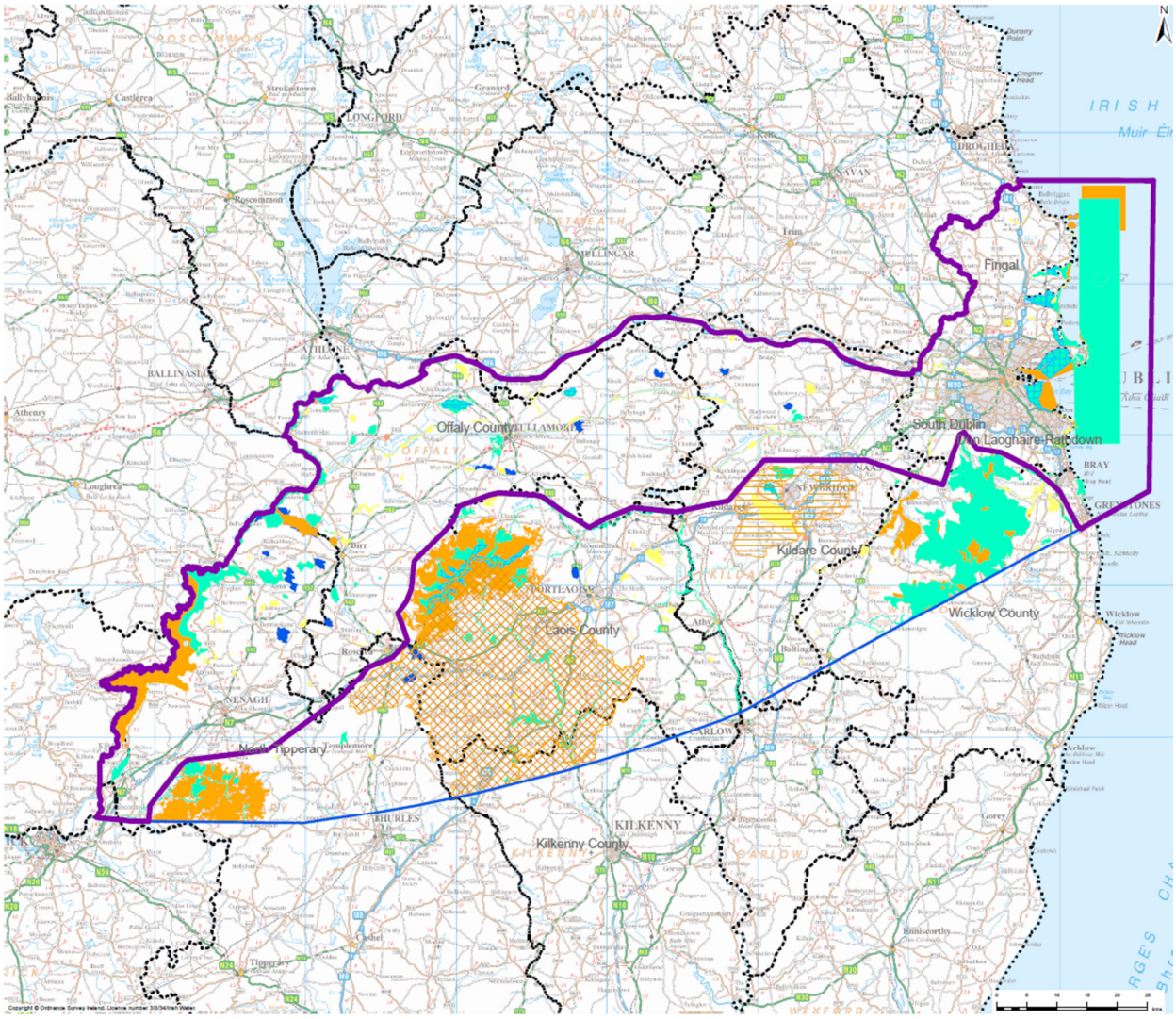

Figure 1-7 Options Working Paper – Refined Study Area following Initial Constraint Mapping

The Preliminary Options Appraisal Report refined this area, through more detailed and comprehensive constraint mapping, into a number of potential 2km corridors for the 'Emerging Preferred Option', from the abstraction site at the Parteen Basin to the Termination Point Reservoir in the vicinity of Peamount Reservoir. A least constrained 2km corridor was then identified and consultation feedback sought (Figure 1-8).

Following the completion of further environmental and technical assessments, a preferred 200m corridor (See Figure 1-9) and an indicative 50m pipeline corridor have been identified within the Final Options Appraisal Report (FOAR). It should be noted that additional environmental and technical assessments and further public consultation will be required prior to the finalisation of the scheme.

Drawings 2.1 – Drawing 2.90 in Appendix B illustrate the preferred 200m and indicative 50m pipeline corridors, including the abstraction, water treatment, break pressure tank and termination point reservoir sites.

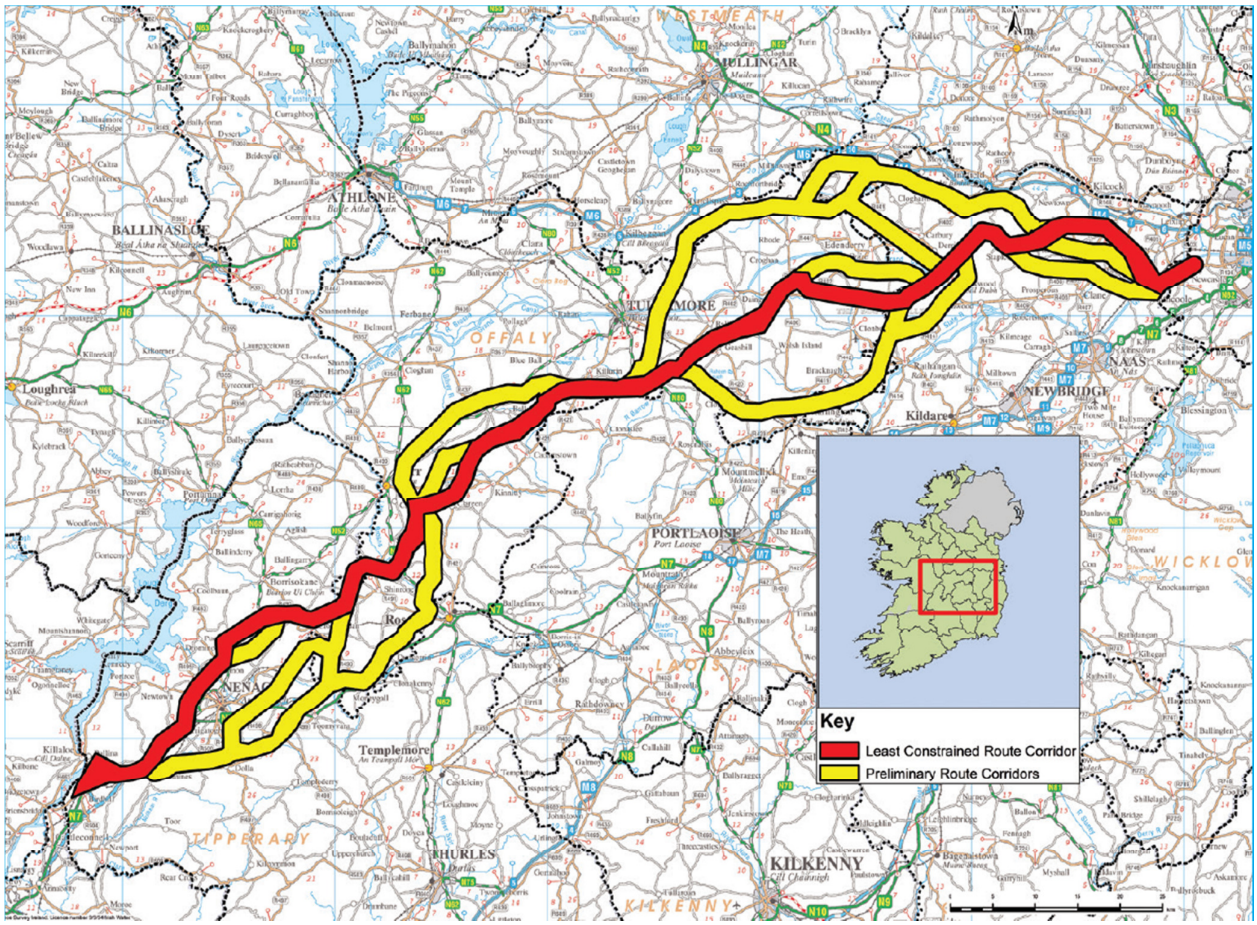

Figure 1-8 Preliminary Corridors and Least Constrained Corridor (in 'red')

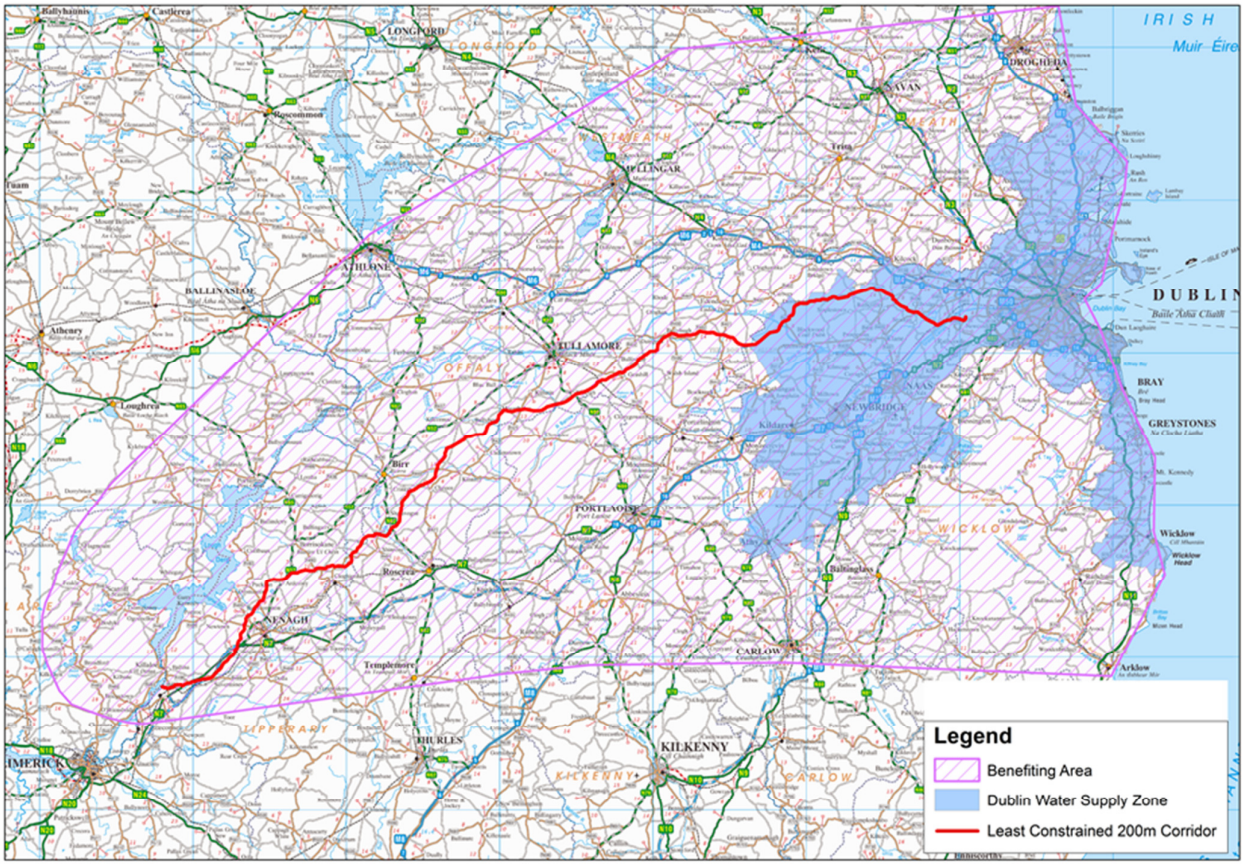

Figure 1-9 Preferred 200m corridor (in 'red')

1.4.2 Proposed Abstraction Regime at the Parteen Basin

It is anticipated that the proposed abstraction regime at the Parteen Basin, downstream of Lough Derg, would be covered by an agreement with ESB (Electricity Supply Board), whereby the ESB would curtail the volume used in power generation, measure for measure with water abstracted for water supply, such that the abstraction can be managed within the existing normal operating band on Lough Derg and Parteen Basin, and with consequently no impact on the normal operating water level range. The statutory minimum flow to the River Shannon downstream of Parteen Weir, of 10 cubic metres per second, would also remain unchanged.

Aerial View of Parteen Basin & Weir