

# Irrigation System Project 2021/2022

*Improving our Links, Modernising our Club &  
Enhancing our Environmental Footprint.*

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# Existing System Overview

- The existing Irrigation System was installed in 1990 (31 years ago) and is at end-of-life
- It has a poor and out of date sprinkler configuration with inadequate coverage
- Most of the 620 sprinklers are either out of date, not operating efficiently or not operating at all
- PVC Pipe network with glued joints is leaking badly and the network requires continuous repair
- The Control system is unreliable and out-of-date
- The Pumping system is not energy efficient

# Existing System Overview

- There is no ability to measure or monitor water usage thereby negatively impacting our environmental footprint
- Having a poor irrigation system doesn't allow us to maximise the use of our fertilizers, wetting agents and seed application leading to a negative impact on our ecological footprint
- There is inadequate control of how, where and when water is dispensed
- There is no water storage facility with existing system
- System maintenance costs are increasing each year
- The existing Irrigation System is at “End-of-Life”

## Existing System Overview

Chairman's Communication to Members:

“From an operational point of view, working at best efficiency the existing system struggles to irrigate our greens and provides only limited and erratic coverage to fairways, tees and walkways. It can take 15 hours to run a full cycle thereby interfering with late evening / early morning play. Frequently the system can shut out in the middle of the night for no apparent reason leaving the course only partially watered.”

Richie Quirke,  
Chairman,

9<sup>th</sup> January 2020



# Challenges With Our Current System

Failing Pipe Network





# Challenges With Our Current System

Broken System



# Challenges With Our Current System

Sprinklers Not Operating





# Challenges With Our Current System

## Dry spells in Baltray



# Challenges With Our Current System

## Dry spells in Baltray





# Challenges With Our Current System

## Dry spells in Baltray



# New System Overview

- The new system has been designed utilising up-to-date and best practice golf course irrigation technologies
- It will have 1000+ sprinklers to allow for precise control of water usage, when and where it is needed and at dispensing rates that guarantee success
- It is designed with low trajectory and links specific sprinklers to enhance irrigation during windy conditions
- It provides the ability to manage evapotranspiration levels i.e. how much moisture the grass plant loses during dry spells
- The system will limit the damage and ensure speedy recovery from future dry spells, and it will allow us to adapt to ongoing climate challenges



## New System Overview

- The current antiquated PVC pipework will be replaced with welded Polyethylene (PE) piping with life expectancy of 50 years
- A modern pumping system and water transfer equipment will reduce energy costs and improve our carbon footprint
- A new bulk storage water tank will reduce the pressure on our aquifer and well, and it will provide a back-up water supply
- The new system will improve the club's sustainability status due to the measured and fully controllable application of water, thereby enhancing our environmental footprint
- It will be a key factor in the club achieving GEO Certification (Golf Environment Organisation global award)

# New System Overview

- There will be improved operating cost benefits due to more efficient use of energy, fertilizers, seeds and water
- It will maximise the impact of seeding, fertilizing, top dressing and the application of wetting agents, thereby promoting healthy turf and improving our integrated pest management programme
- It will allow the green-keeping team to work more efficiently
- An automated modern system will provide controllable levels of irrigation thereby improving the quality of all our playing surfaces
- An up-to-date and reliable irrigation system is necessary to maintain and improve our course ranking

## New System Overview

Input from our Member, European Tour Winner and Ryder Cup Vice Captain:

“Baltray needs a modern and fully automated irrigation system to replace our current old system which has done its job, but unfortunately, is no longer fit for purpose. It will be to the detriment of our great links not to proceed with this project now and an abdication of our responsibility to those golfers who have gone before us and to the generations of golfers to come.”

Des Smyth

2<sup>nd</sup> June 2021



# Proposed Sprinkler map of the Course



10	GREENS SPRINKLER - RAIN BIRD 750C	10mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
11	GREENS SUPERROUND - RAIN BIRD 750C	12mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
12	APPROACH SPRINKLER - RAIN BIRD 750C	15mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
13	FAIRWAY SPRINKLER - RAIN BIRD 750C	15mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
14	TEE SPRINKLER - RAIN BIRD 750C	15mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
15	TEE SPRINKLER - RAIN BIRD 501B	15mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
16	WALKWAY SPRINKLER - RAIN BIRD 750C	15mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
17	WALKWAY SPRINKLER - RAIN BIRD 501B	15mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
18	BUNKER SPRINKLER - RAIN BIRD 750C	15mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
19	BUNKER SPRINKLER - RAIN BIRD 501B	15mm PIPE WORK & CABLE (PIPE, PH15) - MAIN LINE
20	SPRINKLER TO HAVE REAR 7/8" NOZZLE FITTED	
21	MAIN ISOLATION VALVE ASSEMBLY (NOT SHOWN)	MAIN ISOLATION VALVE ASSEMBLY (NOT SHOWN)
22	FAIRWAY & TEE ISOLATION VALVE ASSEMBLY (NOT SHOWN)	ISOLATION CENTRAL CONTROL LOCATION
23	TEE & WALKWAY SOLENOID VALVE ASSEMBLY (NOT SHOWN)	PROPORTIONATE PUMP LOCATION
24	MAIN LINE ISOLATION VALVE ASSEMBLY	SLUSH PROTECTION LOCATION (NOT SHOWN)
		GRAB VALVE ASSEMBLY (NOT SHOWN)
		TWO-WAY AIR RELEASE VALVE ASSEMBLY (NOT SHOWN)

NOTES		ADDITIONAL NOTE	
No.	By	Date	
1	AM	2019	SPRINKLER PROPOSED AND LOCATION OF ISOLATION VALVE TO BE CONFIRMED BY THE CONTRACTOR. IT IS IMPORTANT TO HAVE THE LOCATION OF THE ISOLATION VALVE CONFIRMED BEFORE THE START OF WORK.
2	AM	2019	LOCATION OF PUMPING, VALVE ASSEMBLY AND AIR RELEASE VALVE TO BE CONFIRMED BY THE CONTRACTOR BEFORE THE START OF WORK.
3	AM	2019	THE LOCATION OF THE ISOLATION VALVE ASSEMBLY SHALL BE AS SHOWN ON THE DRAWING UNLESS OTHERWISE NOTED.
4	AM	2019	THE LOCATION OF THE ISOLATION VALVE ASSEMBLY SHALL BE AS SHOWN ON THE DRAWING UNLESS OTHERWISE NOTED.
5	AM	2019	THE LOCATION OF THE ISOLATION VALVE ASSEMBLY SHALL BE AS SHOWN ON THE DRAWING UNLESS OTHERWISE NOTED.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE LOCATION OF ALL SERVICES PRIOR TO COMMENCEMENT OF WORK.

SETTING OUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY DISCREPANCIES SHALL BE REPORTED AND CLARIFIED AT THE EARLIEST OPPORTUNITY.

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CLIENT: COUNTY LOUTH GOLF CLUB

PROJECT: PROPOSED IRRIGATION SYSTEM

DRAWING TITLE: SPRINKLER & PIPE WORK LAYOUT

DRAWN BY: A. MORTRAM  
 CHECKED: ADM  
 DATE: DECEMBER 2019  
 SCALE: 1:100 @ A3  
 DRAWING NO: 560-02 - ONE SHEET

REV	DETAILS	DR	CH	AP	DATE
1		ADM			2019



# Positive Impact Of A New Irrigation System

## The Benchmark



**A satellite visual comparison of the positive impact produced by the modern Portmarnock Irrigation system on the left versus Baltray on the right**



**Portmarnock – May 2021**



**Baltray – May 2021**



# Tender Process & Project Costs

- Design specifications bill of quantities were issued in 2019
- First price estimate was €1,310,388 excluding VAT for Main Contract
- Further rounds of tendering and strong negotiation with three vendors resulted in the most competitive price of €974,950 for Main Contract received from **Aquaturf Ltd** in April 2021
- The proposed project budget is as follows:

Main Contract	€974,950
Contingency	€100,000
Design & Supervision Fees	€30,000
Geophysical Survey	<u>€20,000</u>
Total net price	€1,124,950
VAT @ 13.5%	<u>€151,868</u>
Total project cost	<b>€1,276,818</b>

## Why Aquaturf Ltd ?

- Aquaturf Ltd has successfully completed similar projects at Portmarnock, Hogs Head, The Island and is currently working at Royal County Down
- The company has worked previously with our expert design team Adrian Mortram & Associates
- They have demonstrated enthusiasm and desire to get our project with very competitive pricing
- Aquaturf Ltd are based in Co. Meath ideal for both project execution and on going after sales support
- They are willing to use and train our own green keeping staff during the system installation
- Aquaturf Ltd will provide warranties of 5 years on their workmanship and 3 years on parts
- Very positive testimonials received from other courses



# Aquaturf Ltd Testimonial

## Royal County Down



TO WHOM IT MAY CONCERN.

I EAMONN CRAWFORD LINKS MANAGER AT THE ROYAL COUNTY DOWN GOLF CLUB HAVE KNOWN STEPHEN DALY FOR QUITE A FEW YEARS NOW AND I HAVE FOUND AQUATURF TO BE VERY GOOD. THEY HAVE INSTALLED IRRIGATION AT THE ROYAL COUNTY DOWN AND THE WORK HAS BEEN TO THE HIGHEST STANDARD. THEY ARE A COMPANY THAT WE HAVE FOUND THAT WILL NOT LET YOU DOWN AND ALWAYS WILLING TO HELP OUT WHEN EVER A PROBLEM MIGHT OCCUR. THERE BACK UP IS 1<sup>ST</sup> CLASS. I WILL CONTINUE TO USE THEM NOW AND IN THE FUTURE.

REGARDS,  
EAMONN CRAWFORD,  
LINKS MANAGER,  
00447841102097

ROYAL COUNTY DOWN GOLF CLUB.  
36 Golf Links Road,  
Newcastle,  
BT33 0AN.

# Aquaturf Ltd Testimonial

# Portmarnock Golf Club

Main Line : 353 1 8462968  
Main Fax : 353 1 8462601  
Bar/Restaurant : 353 1 8464948  
Caddy Master : 353 1 8462979  
Pro Shop : 353 1 8462634  
[www.portmarnockgolfclub.ie](http://www.portmarnockgolfclub.ie)



**PORTMARNOCK  
GOLF CLUB**

Golf Links Road  
Portmarnock  
Co. Dublin

31-May-20

To whom it may concern

Aquaturf Solutions Ltd, have completed the installation of a new irrigation system for our 27 holes, practice areas, entrance areas and turf nurseries at Portmarnock Golf Club during the winter/spring months of 2015-2016.

The installation consisted of the following,

- New Grundfos pumping station.
- Toro Lynx control system.
- Control cable ploughed in next to existing pipe throughout the golf links.
- New sections of mainline piping in specific areas of the golf links.
- New lateral piping and valves for all tees, walkways, fairways, approaches, greens, and surrounds.
- New Toro Infinity and T5 sprinklers for all areas of the links.
- Provided all relevant documents required for H&S and weekly and monthly program of works.
- Full system check before hand over.

All works were carried out to the highest of standard with the project completed on time and budget. During the works programme, Aquaturf solutions management and crews worked closely with myself and my greenkeeping team to ensure that works could progress without any interruption to the usual winter uses and operations of the links.

Post installation, we have fully realised the benefits our irrigation system and the ongoing support which we receive from Aquaturf.

Based on my experiences at Portmarnock Golf Club, I would have no hesitation in offering my endorsement of Aquaturf Solutions for any irrigation related projects which you intend to partake at your club.

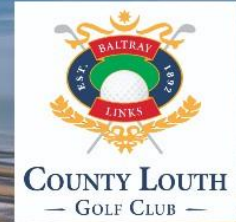
For any further details about the above feel free to get in contact.

Gary Johnstone  
Links Manager  
Portmarnock GC  
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Email: [gary@portmarnockgolfclub.ie](mailto:gary@portmarnockgolfclub.ie)

## Proposal and Recommendation

- Request approval to begin Irrigation Project 2021/2022 this year for budgeted price of €1,276,818. There is currently significant upward movement in material and labour costs. The anticipated price increase next year could be as high as 20% (€250,000)
- Start the detailed programme of works from September 2021 to conclude March 2022 – 7 months duration (limiting the impact to member playing time to the winter season)
- It is proposed to fund the project from a combination of ring fenced funds and bank borrowings.
- ❖ Note: There is a copy of this document and a comprehensive project Q&A on the Club's Website in the Members section under Irrigation Project





Thank you!

*"The truth is: the natural world is changing. And we are totally dependent on that world. It provides our food, water and air. It is the most precious thing we have and we need to defend it."*  
*Richard Attenborough*