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Dunore Point Energy Storage

First 4.1 MW Energy Storage Facility for NI

£6.9m
/ Project value

February 2023
/ The project commenced

April 2024
/ The project was completed

The project located adjacent to Dunore Point Water Treatment Works (WTW) comprises the design, construction, commissioning, and testing of a new 4.1 MW 5.6 MWh energy storage facility within NI Water owned land. The Dunore Point energy storage facility will store electricity from the existing NI Water Dunore Point Solar Farm constructed by GRAHAM in 2018.

The brief

Construction commenced in February 2023, to deliver NI Water's goals of reducing its carbon footprint after becoming one of the first public sector organisations to install a battery energy storage system.

"We are delighted to have delivered this project for our long-standing client NI Water, supporting their sustainable goals of becoming more energy efficient through innovative energy projects."

PJ McCaffery
Contracts Director

"We aim to deliver a lasting impact on all our projects, by transforming and improving the built environment for the communities we serve. This project is a fantastic example of innovation and our expertise in the water sector, and we look forward to continuing our relationship with NI Water on future projects".

PJ McCaffery
Contracts Director

The challenges

The initial challenge with this project was to provide a solution for the new access road to the proposed energy storage site through an area that had numerous buried services that were critical to the operation of the existing WTW, with the existing Dunore CCTV security system modified and relocated to accommodate the new access road alignment. The agreement of the signals list and software development for the 33KV transmission network grid connection of the energy storage site was a first for NI Electricity Network and stakeholders.

The solution

Site investigations and service locations were carried out during the ECI stage and early construction stage of the project. Working in collaboration with civil designer Dorans and in consultation with ARUP and NI Water, it was agreed the most suitable solution for the access road and security fence alignment was through the existing water treatment works. To minimise risks, a fence foundation was developed which avoided the requirement for additional depth excavation by casting a suitable beam for the security fence and post to be secured, meeting NI Water's security requirements. The traditional site drainage which would generally include gully pots and connecting drainage pipework was also avoided in this area. The concrete road included the design and installation of a surface drainage system which again avoided the need for further excavation. Working with our supply chain Scott's Electrical & Fluence and client ARUP and NIW, together with their key stakeholders NI Electricity Network and Grid Beyond a signals list was agreed and software developed in order to ensure the 4.1MW Energy Storage System could be tested and commissioning ahead of the Testing Deadline and Market Entry dates.

Outputs & Benefits

- **Reduce Energy Cost for NIW:** Allow NIW to use and store the energy generated by the 24,000 solar panels on adjacent lands at Dunore.
- **Use of NIWs:** Own Lands NIW was able to construct the access road and energy storage site all within their own lands.
- **Planting of 3,500 trees/shrubs:** We planted trees along the access road and around the footprint of the site to help return the area to its original natural habitat.
- **Award-Winning:** Project put forward for the GO Awards for Social Values.

For more information on how we're delivering lasting impact:

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