



March Farmers Pumping Station

Client: RSPB

Location: Whittlesey, Cambridgeshire

Situation

March Farmers is a 300-hectare holding within the Whittlesey Washes Flood Storage Reservoir, acquired by the RSPB in 2008 and converted from intensive arable land to floodplain grazing marsh. The wider Nene Washes reserve carries Ramsar, Special Area of Conservation, Special Protection Area, and SSSI designations. Its drainage channels support populations of spined loach — one of the primary qualifying species for the SAC designation — as well as eels in the tidal River Nene.

Water level management on the site is precise and time-critical. Following winter flooding, the site drains by gravity to approximately 1.0m AOD before a pump is required to draw levels down to 0.5m AOD — the specific depth that creates viable nesting conditions for black-tailed godwits ahead of the breeding season. The pump runs almost continuously, unattended, between March and May, shifting approximately one million cubic metres over the pumping period. The existing inlet headwall was a corroding sheet-piled structure, and the infrastructure was no longer fit for purpose.

The Project

ACE delivered the full MEICA package under a single contract — one scope, one point of accountability for the station's performance.

At the heart of the new station is a Pentair submersible fish-friendly pump, rated at 1,440 m³/h at 4.7 metres head, on a variable speed drive.

The pump is top-hung from the precast headwall with a submersible motor design that allows continued operation when the site floods, and is certified to NEN 8775 for fish and eel passage. On a site whose SAC designation rests partly on the spined loach populations in its drainage channels, compliance was not discretionary.

ACE supplied a bespoke precast concrete pump sump designed and manufactured by JKH Ltd of Suffolk, under an exclusive partnership. The sump arrived as a finished engineered product and was craned into position in a single lift onto a prepared sub-base within a sheet pile cofferdam — no on-site formwork, no in-situ rebar, no curing time. On saturated fenland peat with restricted plant access, that eliminated the programme risk that in-situ construction would have introduced. JKH manufactures using ECO 1 concrete, reducing cement content by 46% and CO₂e by 12% without performance compromise.



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Summary

The RSPB operates this station without any dedicated in-house engineering resource. ACE's integrated approach; headwall, pump, controls, and valve specified and commissioned as a system by a single team - means the operator has one point of contact and one set of documentation covering the whole installation.

The pump control panel sits in a bespoke steel kiosk, mounted on a fabricated support frame elevated to approximately 4.2m AOD — above the potential maximum flood level on a site that has, in recent years, flooded to 2m AOD and can fill rapidly via a 200-metre spillway when river levels exceed that threshold. The kiosk must function in an environment that is intermittently submerged, with no one watching it, for a month at a time.

The control logic runs a variable speed drive, with ultrasonic level monitoring controlling pump speed across the summer and winter operating ranges. A telemetry unit transmits alarms to mobile phones and email. The person responsible for this pump may be many miles away when it needs attention. The telemetry system is not an optional extra. It is the reason the pump can operate the way it needs to.

1,440 m³/h

Pump rated capacity at 4.7m head

1,000,000 m³

Volume shifted over the pumping season

4.2m AOD

Control kiosk elevation above flood level

NEN 8775

Fish and eel passage certification



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