

Provided by the Middle Level Commissioners		Item No:	7
Meeting:	UPWELL IDB (Hereafter referred to as the Board)	Subject:	CONSULTING ENGINEERS REPORT: CHIEF ENGINEER'S SUMMARY & CAPITAL PROGRAMME
Date:	Wednesday 10 th June 2026	Officer Responsible:	Nicola Oldfield

RECOMMENDATIONS

The Board is asked to:

- A. The Board consider the recommendations for the development of an investment plan for asset refurbishment/replacement and grant funding and to confirm acceptance of recommendations to the Consulting Engineer.
- B. The Board to approve upto £35k for the refurbishment of pump 2 including motor.

1. Enforcement & Compliance Overview

Our Enforcement and Compliance Officers Dave Coles and Tony Payne joined us on the 23 June 2025 as a job share. They are currently investigating cases across 22 boards plus Middle Level Commissioners.

We have a total of 102 investigations of which 47 are currently active including:

- 29 surface water or surface water and foul discharges,
- 12 byelaw cases.

The Officers will also be taking over some aspects of Navigation Enforcement.

Since joining they have successfully recovered £445,000 of outstanding discharge contributions across IDBs and the MLC.

2. Summary of Key Planning Issues

We will, when possible, seek the Board's input, rather than wait for Board meetings. This will be done via correspondence with the Chair, Vice Chair, District Officer and any appropriate sub-committees.

3. Technical Services Overview

The team was joined by Project Manager, Ellie Edwards at the end of April. She will be assisting the Engineer in planning and delivering capital projects, significantly increasing our capacity to deliver the developing works programme.

4. New FCERM grant funding guidance

The Government published new FCERM funding guidance on 3 March 2026.

To be eligible for funding a project must deliver strategic objectives and government policy. Governments' objectives most relevant to IDBs include:

- value for money (Net Present Value)
- reducing flood risk
- focusing on deprived areas
- prioritising projects with contributions from others (this would include funding provide by IDBs themselves)
- a percentage investment in Natural Flood Management (NFM) across the programme

Project types that are eligible for grant funding include:

- refurbishing or replacing existing assets
- building new assets
- NFM projects
- Sustainable Urban Drainage Systems (SuDS)

Asset Refurbishment Projects

Asset refurbishment is a significant renewal to one or more components in an existing asset that is not covered by routine maintenance.

It includes work to mitigate for the loss of asset performance. This covers issues that asset maintenance cannot manage and that would be significant and permanent if not fixed.

It does not include asset replacement projects where an existing asset at the end of its life is replaced with another like for like asset which sustains the standard of service.

Under the new FCERM funding policy existing FCERM assets are eligible for 100% of funding for refurbishment.

New or Improved Asset Projects

Projects that are not refurbishment are eligible for 100% for the first £3 million, and 90% for costs above £3 million.

These include:

- projects replacing existing assets with a like for like replacement
- projects building new or improved assets
- projects with combined asset interventions

Projects cannot be artificially split into smaller components to fall below the £3 million fully funded threshold.

Applying for funding

It should be noted that there will be more projects that are eligible for investment than funding available. Projects will need to be prioritised to meet government targets and achieve best value for money.

Therefore, it is recommended that should the Board wish to apply for FCERM grant funding, they consider part-funding projects. This is similar to the funding rules that were in place prior to 2011 when IDBs only received 45% of project costs.

Should the Board wish to submit a new project to be considered for funding, the first step is to collate relevant cost and benefit data to submit to the Environment Agency from 1 July 2026. This requires

collating costs and benefits and other relevant data required by the EA to determine a project's eligibility and prioritise the programme. The Consulting Engineer can provide resources to do this and this will be recharged to the Board.

If a project already appears on the FCERM investment programme with an allocation for future years, an application for grant funding approval/business case will need to be submitted. The Consulting Engineer can provide resources to do this.

Timescales

The Consulting Engineer currently has limited resources to develop and deliver projects, although recruitment is currently in progress to address this. The likely timescales for project delivery are:

- submit for funding consideration July 2026 onwards
- prepare and submit applications for subsequent funding approval onwards
- delivery 2027/28 onwards

5. Capital Programme

A total of £80k FCRM grant in aid (£50k +£30k contingency which can be released if applied for and accepted) has been secured for pumping station improvements to be delivered in-year. This will fund new control panels for Nordelph and Cock Fen pumping stations.

GiA for an asset refurbishment scheme will be applied for works to the structures at Flint House Road, Horsehead Drove and Duck Puddle Drove. The business case will be produced and submitted this year, as the new funding rules and templates are clarified by the Environment Agency, with works planned for the following financial year.

As further details regarding refurbishment projects are confirmed by the Environment Agency, we will review the project scope for works currently identified on the GiA programme for £660k in both 2028/29 and 2029/30 (£1,320k total) but not yet applied for or approved.

The Board's current Capital Programme is shown as Appendix 1. Estimated pumping station replacement costs are included. Further investment will be needed in the interim and will be developed further in line with the Key Health Indicators. It is recommended that the Board considers the development of an investment plan for asset refurbishment/replacement. This will be used to better inform GiA funding needs.

The Board is asked to consider the development of a capital investment plan for asset refurbishment/replacement and instruct the Consulting Engineer accordingly.

Author Name: Nicola Oldfield

Role: Chief Engineer

Appendix 1: Capital Improvement Programme

Appendix 2: Applications since last report

Appendix 3: M&E Report

Appendix 1

Upwell Internal Drainage Board		PREVIOUS YEARS	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	FUTURE YEARS	ALL YEARS
Capital Improvement Programme (2026/2027)		Pre Yr 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Post Year 10	Total Expenditure
Bedlam Bridge p/s	Pumping station replacement	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0	5000.0
	Pumping station pumping and control equipment replacement	4.4	0.0	0.0	0.0	35.0	0.0	0.0	90.0	0.0	0.0	0.0	0.0	129.4
	Pumping station automatic weedscreen cleaning equipment	0.0	0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
	Pumping station Control building refurbishment/replacement	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumping station compound/surrounds improvements	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cock Fen p/s	Pumping station replacement	0	0	0.0	0.0	0.0	0.0	0.0	0.0	10,000.0	0.0	0.0	0.0	10000.0
	Pumping station pumping and control equipment replacement	59.1	8.3	0.0	0.0	40*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.4
	Pumping station automatic weedscreen cleaning equipment	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumping station Control building refurbishment/replacement	0.0	0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0
	Pumping station compound/surrounds improvements	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Norderlph p/s	Pumping station replacement	0	0	0.0	0.0	0.0	0.0	5,000.0	0.0	0.0	0.0	0.0	0.0	5000.0
	Pumping station pumping and control equipment replacement	4.4	0.0	0.0	15.0	40*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4
	Pumping station automatic weedscreen cleaning equipment	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumping station Control building refurbishment/replacement	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumping station compound/surrounds improvements	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Padgetts p/s	Pumping station replacement	0	0	0.0	0.0	0.0	0.0	0.0	2,000.0	0.0	0.0	0.0	300.0	2300.0
	Pumping station pumping and control equipment replacement	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4
	Pumping station automatic weedscreen cleaning equipment	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
	Pumping station Control building refurbishment/replacement	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumping station compound/surrounds improvements	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upwell fen p/s	Pumping station replacement	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0	5000.0
	Pumping station pumping and control equipment replacement	4.4	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	29.4
	Pumping station automatic weedscreen cleaning equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumping station Control building refurbishment/replacement	0.0	0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
	Pumping station compound/surrounds improvements	0	0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	15.0
Plant	Ford Ranger - MK15 YAY	13.5	0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.5
	New Holland Tractor AE67 BXX (March '18 - £75,000)	0.0	0	51.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	101.0
	Shelbourne Reynolds Flail mower (Sept '16 - £26,000)	0.0	0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	46.0
Drainage Channels	Piling works - (Old Croft River)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Asset refurbishments	0.2	0.0	8.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	308.2
		90.4	8.3	100	346	35	10	5,015	2,115	10,000	0	20	10,350	28,090

Appendix 2

There have been 4 planning applications responded to since the last meeting.

There has been no planning, Byelaw Consent (to undertake works in and around watercourses) or Byelaw Consent (to discharge to a watercourse) applications processed since the last meeting.

There have been no infiltration device applications acknowledged since the last meeting.

Provided by the Middle Level Commissioners		Item No:	7
Meeting:	UPWELL IDB	Subject:	CONSULTING ENGINEERS REPORT: MECHANICAL & ELECTRICAL
Date:	Wednesday 10 th June 2026	Officer Responsible:	Dave Bantoft

1. M&E key messages and advice

Other than the matters described below or previously reported, only routine maintenance has been carried out since the last meeting and the pumping plant at each of the stations is mechanically and electrically in a satisfactory condition. The stations, pumps and control panels are at an age where reliability is a concern and a plan should be put in place to overhaul or replace items as necessary to ensure ongoing reliability.

The Board is strongly advised to consider the development of an investment plan for asset refurbishment/replacement. The Board is asked to instruct the Consulting Engineer accordingly.

1.1 M&E Equipment Key Health Indicators

Over the past 2 years we have been compiling and verifying Pumping Station Key Date to allow easier identification of equipment age and the need for refurbishment to assist in developing an investment plan for asset refurbishment or replacement. To ensure reliability, resilience and longevity of the pumping equipment it needs to be refurbished or replaced at suitable intervals. We have experienced examples lately of pumps being left too long and failing, or when they are removed for overhaul the condition is very poor and the pump overall lifetime has been reduced significantly, which is not cost-effective use of the asset. The same is true for control panels, component failures often damage other components incurring costly repairs and machine downtime. Overall, it is more cost effective to run well maintained equipment.

The pictures below are of pump bolts that have been in situ for 20 years (not an Upwell IDB site) and have corroded to the point of failure as shown by the gap between the flanges. Although now rebuilt with stainless steel bolts they were not in the past. The pump tubes are also heavily corroded which reduces pump life considerably. Ideally pumps should be refurbished every 10 years because by the time they reach 15 to 20 years it is likely the corrosion will heavily impact their overall residual life.



Key Health Indicators

Station	Built	Pump	Pump Overhaul	Motor O/H	Controls
Bedlam Bridge	1948	1980(1) 2006 (2)	2015(1) 2006(2)	2015 (1) 2006 (2)	2006
Cock Fen	1975	1975	2013(1) 2012 (2)	2010 (1) 2010 (2)	1975
Nordelph	1932/1970	1970	2011	2011	1970/1991
Padgetts Corner	1980	2012	2012	2012	2015
Upwell Fen	1967	1976	2011	2011	2018

	Weedscreen			
Station	Bars	WSC	WSC O/H	Controls
Bedlam Bridge	1980	2006	2006	2006
Cock Fen	2018	2018	2018	2018
Nordelph	1991 / 2020	N/A	N/A	N/A
Padgetts Corner	1980	N/A	N/A	N/A
Upwell Fen	2018	2018	2018	2018

The Key Health Indicators table above shows the critical area for concern and improvement is the pumps. The pumps range from 14 to 56 years old with last refurbishments ranging from 11 to 20 years ago. The Board is advised to develop and start a pump refurbishment/replacement plan for the pumps that are overdue refurbishment. Having a plan in place and underway helps to secure further grant funding when it comes available, such as the recent IDB Recovery Fund.

Submersible pumps are often not cost effective to repair and lead time on new pumps can be up to a year. Standard pumps are normally cost effective to repair and lead times can be as short as 4 weeks or can be over a year if impellers are damaged and have to be reverse engineered. Costs can be in the range £30k to £100k depending on pump condition.

1.2 Padgetts Corner

The last routine inspection at Padgetts Pump Station took place 14th January 2026 and no remarks or recommendations were made at that time. The level controller has been replaced with a modern Pulsar unit and the ultrasonic head raised further above normal water levels to prevent the head “blinding” in times of high rainfall events which caused intermittent running of pump.

1.3 Upwell Fen

The electricity meter has failed at Upwell Fen which is causing issues with billing, in a similar way to historical issues at Nordelph. We will attempt to get the relevant parties onsite this summer to plan the best way to rectify the issue for the long term. Ultimately the station will need to go to CT metering which would be difficult due to the size of the station building and the way the control panel is laid out.

The last routine inspection at Upwell Fen took place 14th January 2026 and the following recommendations / remarks were made:

1. Leak around thrust block now requires remedial work. Continuously leaking and crack opened up since last inspection – coupling now corroded.

2. Pump bolts need replacing for corrosion, contact D Bantoft to action.
3. Telemetry level reading is incorrect.
4. Weedscreen cleaner drum is heavily corroded. This should be removed and recoated before it becomes irreparable.
5. Felt needs rework on roof

Weed Screen Cleaner inspected. Grab not closing, increased time from 8-10 seconds.

1.4 **Cock Fen**

The diesel engine control panel replacement works are being finalised and the GiA submission is in the final stages of approval.

The last routine inspection at Cock Fen took place 14th January 2026 and the following recommendations / remarks were made:

1. Alternator on engine 2 is not charging.
2. Rev counter faulty on Pump 2.
3. WSC hrs: 3989
4. WSC Drums Corroded & need Recoating
5. Exhaust on Pump 1 Rusting Away – district officer has this in hand.

1.5 **Nordelph**

The control panel replacement works are being finalised and the GiA submission is in the final stages of approval. The control panel has been designed so that space is made available in the station for future CT metering upgrade.

The electricity meter issue is still ongoing.

The last routine inspection at Nordelph Pump Station took place 14th January 2026 and the following recommendations / remarks were made:

1. Siphon Breaker valve in good order, (flap door missing)
2. Level probe bracket needs replacing, severely corroded.
3. Soft start is obsolete and unsupported, consider installing a complete replacement electrical panel. Quotes are being obtained for control panel replacement.
4. Electricity meter faulty.
5. Motor Bearings Noisy – Monitor for Deterioration

1.6 **Bedlam Bridge**

The last routine inspection at Bedlam Bridge took place 13th January 2026 and the following recommendations / remarks were made:

1. Pump 2 Insulation Resistance very low.

The low resistance needs to be investigated further to determine if it is cable or motor related, if it is the motor an overhaul is likely to cost c£3k.

Pump 2 is now 20 years old and due for inspection and refurbishment, initial planning and quotes for the works have been started in conjunction with the Chairman.

Please approve upto £35k for the refurbishment of pump 2 including motor.

2. Pumping summary

The main pumping report will be provided by the District Officer.

3. Inspections, maintenance and minor works

- 3.1 HSB Engineering annual inspections for insurance were carried out during September 2025.
- 3.2 The mandatory site Electrical Installation Condition Reports (due every 5 years) are in date.

	EICR	
Station	EICR Date	EICR Due
Bedlam Bridge	21-Jul-2022	21-Jul-2027
Cock Fen	21-Jul-2022	21-Jul-2027
Nordelph	20-Jul-2022	20-Jul-2027
Nordelph Bungalow	18-Aug-2022	18-Aug-2027
Padgetts Corner	21-Jul-2022	21-Jul-2027
Upwell Fen	20-Jul-2022	20-Jul-2027

4. Water level Management

The pumping stations have summer and winter pump level references based on historic values which serve as very good reference points. I would actively encourage pump attendants to vary these to suit their current catchment conditions. For example, running pump start and stop levels at intermediate settings above the base winter settings during times of high Soil Moisture Deficit and then reducing towards winter level setpoints as the SMD reduces or if there is heavy rainfall forecast. This needs to be balanced with ensuring the pump has a good operating range so it is never short cycling (hunting). This can also be used to ensure maximum benefit of the lower night electricity rate.

Ultimately this takes more operator time but will produce more efficient running and reduce costs. We can advise on this if needed and show some good and bad examples to help with setting and monitoring your pumps.

Author Name: Dave Bantoft
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