

**Construction, Maintenance and Environment Work Programme
Progress Update**

Report by Head of Construction, Maintenance and Environment

Summary: This report sets out the progress made in the delivery of the 2015/16 Construction, Maintenance and Environment Section work programme.

1 Construction Programme Update 2015/16

- 1.1 The progress of the Construction and Maintenance work programme is described in this report. As previously reported verbally to members, a further detailed breakdown shows that up to the end of October, 32,915m³ of sediment has been removed from the Rivers and Broads, and the details of quantities and costs achieved so far are set out in Appendix 1. This represents 66% of the programmed target of at least 50,000m³.
- 1.2 The main focus for some of the Construction Team and the Fitting Team has been mobilising plant and equipment up to Hickling prior to starting the priority dredging. Two complete sets of link flote (9 in each set) have needed escorting from various locations up to Potter Heigham where they are broken down into individual components and pushed through the small bridge hole, to be re-assembled the other side. One set will contain the concrete pump, needed to push the dredge sediment into the far reaches of the Duck island lagoon and the other set will allow the Doosan Long Reach Excavator to sit and dredge at the top end of the Broad. Other key equipment needed for this project is the moon-pool to reduce the amount of fluidised sediment in and around the dredge site and the long lengths of silt curtain encasing the lagoon to reduce over spill and fluidised sediment affecting the main water body.
- 1.3 At the time of this report, water temperature, one of the key elements imposed by Natural England as Pymnesium mitigation, is still well over the 8 degrees limit set, with current readings still just above 10 degrees. In the planning for this dredging we built in a contingency window as the long range forecasts predicted that ambient air temperatures could remain mild, we predict that to achieve the dredging volume planned we will require a ten week dredging programme in what was a 16 week window of opportunity. We are hopeful that in the week commencing 23 November water temperatures will have fallen sufficiently to allow us to start work, which allows us to complete before 29 February 2016. (Note: Work started at the end of the week beginning 23 November as predicted.)
- 1.4 The second dredging crew has also relocated from the Lower Yare at Seven Mile House, to the middle Bure at Acle. As you travel over Acle Bridge

(heading towards Billockby) you can see the dredging site, utilising Grab 10, on the right and the disposal area, in the setback channel next to the Bridge, on the left. This area will take approximately ten weeks to complete and we predict approx. 4,500m³ of sediment to be removed

- 1.6 The JCB160 Fen Excavator has de-mobilised from the RSBP Reserve at Sutton Fen, where it was carrying out contract work to maintain water control dykes and relocated to Whitlingham. Here it will be carrying out contract work for Anglian Water on areas of marsh that they maintain for habitat. The JCB work at Whitlingham follows closely behind vegetation management work carried out under contract by our Softrak Mk II Fen Harvester. This machine has also now moved locations to Suffolk Wildlife Trust land at Carlton Marshes Nature Reserve.

2 Maintenance Programme Update 2015/16

- 2.1 At this time of year the Maintenance Teams are fully engaged in carrying out conservation tasks, reactive navigational tasks and routine maintenance, below is a selection of works:
- 2.2 Reactive works to repair damaged safety chain at Rockland has been completed, with replacement chain and cleats. Damage to the timber quay heading at Hoveton Viaduct mooring is ongoing with 50m of rotten and split timber being replaced. Snapped and missing mooring posts at Horning Marshes mooring have been replaced and Geldeston moorings required topping up of the aggregate surface to remove depressions and level the uneven surface.
- 2.3 Electric Charging points, damaged when a vessel disembarked without disconnecting, have been replaced at Rockland and Bramerton mooring. The pillars are designed to 'trip' when this type of incident occurs so although the pillar and mooring looked unsightly after the damage, the area was safe.
- 2.4 Conservation works have been taking place at How Hill, the nature trail has been cut as the mild autumn meant grass continued to grow and whilst the mowers were on site fen management of compartments on Hall Fen were also conducted, this is part of the management agreement for this site.
- 2.5 The Sensory Garden at How Hill has now been completed, with the benches and sculpture added to the raised planters. The gardens design had to be tweaked with willow panel fences to surround the garden after attention from the local rabbit and deer population. This project was funded by income received from the Airwick promotion and continues the tradition of having a botanical garden within the grounds of Toad Hole Cottage at How Hill.

3 Environment Team Programme Update 2015/16

- 3.1 Environment Officers have been taking water samples at various fen sites as part of the ongoing monitoring needed to ensure that the Fen Harvester (Softrak MK II) is not damaging sensitive fen land site. Water samples are taken around the area where arisings are deposited to test if any leachate is impacting upon the fen.
- 3.2 Following on from the data collection gathered on the annual water plant survey, Environment Officers have been busy plotting this information onto our Geographical Information System (GIS). This data is especially important this year as the survey data from Hickling is helping to shape ideas and locations where dredged sediment can be re-used in a beneficial way, without damaging re-emerging Chara and Holly-leafed Naiad beds.
- 3.3 The Design Teams bank stabilisation project on the River Bure at Anchor Street has been completed. This project used Nico-Span as a retaining structure with sediment dredged from the channel to infill the void behind. The 108m³ of sediment will be allowed to partially dry before being planted with reed, sedge and other indigenous river bank species to create a natural looking edge. Monitoring will continue to assess the stability of the fabric and sediment and this will help us develop the technique in other areas where bank erosion can be restored.
- 3.4 A fish habitat survey is being conducted, using methodology developed and agreed by Natural England (NE), to ascertain the key areas used by spawning fish at Hickling Broad. This work will be needed as we enter into the detailed planning stages of which areas to progress for edge protection, or island creation. The methodology developed and agreed by NE was used in its assessments for Hoveton Great Broad and NE will be a Statutory Consultee for any planning permission at Hickling so keeping to a recognised methodology is important.

4 Fitters

- 4.1 The Fitter Team has been heavily involved with the plant and equipment needed to dredge Hickling. The Screener, needed to filter out debris before it enters the concrete pump, has needed modifying to allow it fit with the feed hopper. The power pack to operate the spud legs on the dredging rig has needed rigging with hydraulic hoses and a special housing fabricated to protect the generator from potential theft and vandalism. As well as the equipment modifications, the link flotes have needed safety railings fabricated and erecting, a pulley system fabricated for the spud legs and the welfare units added to the flotes and gas certificated.
- 4.2 The wherry Iona has been lifted from the water and shot blasted back to steel ready for painting. When built the paint finish was not to the required standard, but due to operational demands and delays from the vessel's builder in agreeing a solution, it was not corrected. Using money retained from the original contract, it was decided to repaint Iona in-house and she has

been repainted to the correct specification and is back in the water at Hickling ready to transport sediment to Duck Island deposition site. .

- 4.3 With the onset of winter the in-house Fitting Team starts the Motor Launch refit programme and as a savings measure the team will refit four launches at the Griffin Lane Dockyard and four go out to external contractors. The Motor Launch schedule is as follows:

In-House Fitters	Cox's Boatyard
Motor Launch Ant – Nov 2015	Motor Launch Chet – Nov 2015
Motor launch Waveney – Dec 2015	Motor Launch Wensum – Dec 2015
Patrol Boat Spirit of Breydon – Jan 2016	Motor Launch Charles Collier – Jan 16
Motor Launch Martin Broom – Feb 2016	Motor launch Yare – Feb 2016

Background papers: Nil

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Broads Plan Objectives: NA1.1

Appendices: APPENDIX 1 – Dredging Programme 2015/16

Dredging Progress 2015/16 (April 2015 to end October 2015)

APPENDIX 1

Project Title	Project Element	Active BA dredging weeks Completed (to end Oct/Planned)	Volume Removed m ³		Annual project cost	Actual project cost ¹ (Apr-Oct)
			Planned	Actual	Planned	Actual
River Ant	Irstead to Barton Broad	3/4	1,500	1,030	£24,340	£18,520
<i>Completed mid May 2015</i>						
River Chet	Pye's Mill to Loddon Basin	7/4	1,000	2,900	£10,810	£18,650
<i>Completed mid May 2015. Additional volume near Loddon Basin removed</i>						
Upper Bure	Coltishall Lock	5/8	2,000	900	£29,570	£25,520
<i>Total sediment removed 1,600 m³ over 2014/15 and 2015/16 years. Sediment spread for agricultural benefit in Oct 2015</i>						
Upton Dyke	Restoration work on setback filled in 2014/15	NA	NA	NA	£7,000	£560
<i>Completed at end of May 2015 using staff rather than contractors.</i>						
Mid Bure	Thurne Mouth to Horning Hall	19/12	8,000	12,500	£80,070	£104,630
<i>Filling setback areas upstream of Ant Mouth. Autumn phase completed. Returning after Hickling dredging complete.</i>						
Mid Bure	Thurne bank rond restoration	NA	NA	NA	£10,550	£7,280
<i>Re-profiling rond upstream of Thurne White Mill completed September 2015 with BA plant</i>						
Oulton Broad	Oulton Broad	12/14	10,000	10,170	£73,090	£69,080
<i>Completed 24 August 2015.</i>						
Mid Bure	Acle to Stokesby	0/10	7,000	0	£56,150	£6,640
<i>Use of setbacks near Acle Bridge agreed. Works to start mid November 2015.</i>						
Upper Yare	Whitlingham bends	0/8	4,500	0	£53,500	£2,620
<i>Deferred to summer 2016 following progression of dredging at Hickling. Mid Bure dredging also extended in 2015.</i>						
Lower Yare	Seven Mile House to Berney Arms	8/10	5,000	5,230	£50,330	£30,410
<i>Project extended by four weeks. New end date of mid November.</i>						

Upper Bure	Belaugh to Coltishall	Contractors	1,500	185	£28,000	£19,740
<i>Only one bank stabilisation site of the original three could be carried out in 2015/16. Anchor Street site completed Oct 2015.</i>						
Hickling Broad	Navigation channel in NW corner and approaches to Catfield Dyke	0/10	3,500	0	£90,000	£7,300
Natural England assent gained, earliest start date 2 nd November, subject to environmental conditions						
TOTAL		54/80	50,000	32,915	£513,410	£310,950

1 –project costs includes staff time for all elements (pre-works ecological mitigation, site set-up, active dredging & site restoration); BA plant; & budgetary expenditure (equipment hire, , survey costs, contractor costs, mitigation works, materials & consumables etc); within the reporting period.