

Environment Agency Recovery Works Old River Ancholme and its tributaries

Summer and autumn 2019 rainfall



The adjacent graphic from the Met Office is a reminder of the volume of rainfall summer and autumn 2019 which resulted in considerable flooding.

This drove a £50 million funding package to aid incident recovery in the Lincolnshire and Northants Environment Agency area.

The purpose of this briefing is to provide stakeholders with information to share with their colleagues and electorate on progress of Recovery work within the Ancholme valley. Some

of this project work has been in delivery since before Christmas, other sites commenced more recently.



It is also worth considering rainfall in the area across December 2020 and January 2021 seen on the Met Office graphic on the left.

The majority Environment Agency Lincolnshire and Northamptonshire area received more than 170% of 1981-2010 average precipitation which can have an impact on the delivery speed of Recovery work.

Recovery work sites

There are several recovery sites within the valley connected with the river, with its old course and some of its tributaries.

Works being implemented are associated with toe erosion, overtopping scour, bank seepage and reducing embankment access for burrowing animals, better protecting more than 3100 properties by reducing flood risk. Work is being delivered within Districts of North Lincolnshire Council, West Lindsey District Council and Ancholme IDB.

Old River Ancholme sites 1 and 2

These sites are immediately south of Brigg, Site 1 relates to Island Carr, and Site 2 is just off the Cadney Road. For both sites, recovery work is association with remediation of berm and bank



erosion. On **Site 1** just before the Christmas break, work focussed on the completion of the seepage point area bringing this to the required finished height then moving onto rebuilding the embankment where 1 of 2 tree stumps were previously located.





At the second tree stump site, the hole was filled for the holiday break ensuring no weak point within the embankment.



After Christmas the 2nd stump location was compacted, clay shaped and formed to the original profile as shown in these three pictures left and below. Netting to reduce burrowing was laid and covered with 200mm of topsoil.



By mid-January, works covering the netting continued with top soil and laying of a protective erosion blanket until seeding germinated and protected the earth works from erosive rainfall processes.

Heavy rain at the end of the second

week in January, pre cursor to Storm Christoph, hindered progress as the site access to the trackway became flooded. Circumnavigation of the flooded area was facilitated by installing more trackway allowing the continued import of topsoil by wagon.

Post Storm Christoph at **Site 1**, the field used for access was flooded for 3 days and contractors relayed the trackway to higher ground to regain embankment access.



bio netting and seeding.

At **Site 2**, welfare and plant were established and work started with the installation of chestnut stakes for coir rolls protecting bank toe. Work was halted for the rest of the week as rainfall associated with Storm Christoph raised river levels.



By the end of January, however works at both sites were 60% complete on dressing and forming the embankment tops and sides with topsoil, fixing





At **Site 2** shown below, areas of the river bank repair were completed however top soiling works were held up by heavy showers raising water levels.



Early February weather again impacted work. The photograph below left is of water levels as of 3rd February.



During the three

good days of weather that week, Contractors installed netting, laid top soiling, and undertook seeding work.



Contractors mitigated time lost by cutting bio netting to size and stockpiling top soil adjacent to the embankment.



The poor weather continued to mid-February where a combination of snow and high river levels impeded work progress.



By the end of February at Site 1 as weather conditions improved, the trackway and welfare compound been had removed and the field, entrance fencing and gate had been reinstatement.

Contractors also top soiled and seeded roughly 100 metres of

verge on both sides of Mill Lane, stoned up the site entrance way as a goodwill gesture to the landowner. The site is now cleared.



Hibaldstow Catchwater

Recovery work was to deal with scour, seepage and erosion of the banks.

Before the Christmas break the south side of the highland carrier had been excavated, completed and re-instated back to height for the holiday period.



This allowed for any settlement which appeared over that period to be topped up if required after Christmas.



During the first week of January, netting to discourage burrowing was installed, its surface topped and top soiled ready for seeding.





Toward the middle of January the southern trackway was removed and Contractors prepared to move onto the north site.





On 18th-20th January, Storm Christoph delayed crest works due to excess rainfall and localised flooding. Water levels were too high to excavate into the embankment which could have resulted in flooding of the excavated site.







By the end of January the north side crest had been excavated, clay installation and backfill had been completed.



Weather at the start of February delayed work again due to high water levels



By the end of the month reinstatement of both north and south side bank crests had been reinstated as weather improved. Only top soiling, seeding and protective covering work is required at site to complete the work.



Kettleby Beck

Recovery work on Kettleby Beck, just south of Brigg is associated with overtopping and seepage. The week before Christmas, works focused on completing the fourth of five 50m sections of the additional 250m embankment rebuild. Topsoil was stripped off and benches were excavated into the embankment. This was rebuilt using imported cohesive fill and, when at the required height, was shaped and trimmed through to the level and top soiled.



Work recommenced in the New Year with a topsoil strip of sections 2 and 3 of the 250m section of additional embankment raising works. Whilst a precautionary ecological check of the area was



being undertaken, works moved to excavation of an additional seepage point at the start of the embankment works. With the formation and benching completed, geogrid was placed every 300mm with layers of imported cohesive material which was compacted filling the area to its original profile.

Mid-January saw the seepage point section of works completed enabling Contractors to progress sections 2 and 3, following the ecological survey. The farm access track required urgent reinstatement, a temporary protection bund was placed around the sections permitting 900m of track refurbishment to be delivered allowing embankment works to continue.



By the third week of January, the scrape off and installation of crushed concrete to repair the access track had been completed and compacted material with geotextile placed on the worst sections.



A gang started operations on the north side of the embankment shown in the picture on the left.



This included a topsoil strip of the 12m section to be rebuilt. However, following heavy rain and resulting high water levels, the excavation work ceased.

Most of the first week of February was spent completing the 900m of track leading to the start of the existing trackway, which concluded with full installation and plant prepping the area of the



remaining sections of embankment in readiness for the excavation work.

North embankment work was delayed due to the heavy rainfall. The beck water levels rose significantly preventing installation of the cohesive fill and several days were lost with poor weather.

By mid-February, it was heavy snow and high water levels which slowed progress however by the end of the second week, water levels had dropped sufficiently for a section of the embankment to be excavated with benches reach for the placement of cohesive fill with clay.

By the end of February the final section of the embankment had been excavated and

imported cohesive fill placed. This was compacted in layers, cut, shaped and trimmed to profile and top soiled to the new crest height. This completed the embankment works on Kettleby Beck, and the site is ready for the removal of the trackway.



Caistor Canal, South Kelsey

Work at Caistor Canal commenced earlier in the month when Contractors moved from Kettleby Beck because of adverse ground conditions. Work was started on moving welfare to site and establishing the compound trackway. The access road behind farm buildings was levelled, scrub removed to facilitate a ditch crossing ready for the temporary bridge and road across the field to be laid.



Favourable weather conditions in the last week or February permitted removal of the fallen tree which was cut and removed from site. A 15 ton excavator had the reach to repair both bank sides with compacted clay and top soil. Seeding remains to be done following

which a protective blanket will be used until the grass has grown through.



River Ancholme toe erosion works

Strimming of the sites commenced in the New Year. This work is associated with bank erosion opposite the Ancholme IDB pump stations at Worlaby Carr and Broughton.



By mid-January strimming was completed and debris cleared. Preparation for coir roll installation works was being delivered in tandem with work at Hibaldstow. Trackway installation was required to gain access with plant and materials.

Storm Christoph (18-20 Jan) impacted works, Contractors were unable to safely access the site with high river levels.

It remained the same story at the end of the month and the beginning of February when rain again raised river levels.

Weather improvements by the end of February however meant Contractors were able to complete works at site.



River Ancholme at Snitterby Carr



Recovery work at this site is associated with toe erosion and bank slippage across a 40m length of embankment. By January this site had been



set up including HERAS fencing, welfare and compound

installation for the Contractors. The first job was strimming the site and removing brash from around the coir area. However as at 14th January, river levels had increased significantly preventing any excavation works. Contractors managed to work through at this site until Storm Christoph raised river levels overnight by 1m.

Strimming was however completed and a significant volume of dead material and brash removed permitting access.



working after the previous night's heavy rain.

Work in the last week of January progressed well; willow trees landside of the river were removed and chipped allowing access to bank base. All required materials were on site including 80t of compacted clay to provide a working platform from which to place the stakes, brushwood faggots and coir rolls. Unfortunately by mid-day at the end of the week, the river was too high for





Water levels were too high and no safe work could be undertaken; fields to the west of the properties were flooded. By Tuesday of the second week, although water had receded to some extent, it remained too high for work as run-off from surrounding fields continued to

drain into the river.

Covid-19

Throughout this pandemic we undertake the repair of our assets where it remains safe to do

so. We support our teams through providing guidance on safe systems of working based on the latest advice from Public Health England and support our contractors with clear guidance, undertake assurance checks and provide on-site public signage.

Further information

Please contact the Environment Agency's Recovery Team on recovery.lincsandnorthants@environmentagency.gov.uk for further information on the programme or a specific project.

