Liggard Brook, Lytham

Assessment of Flow and Siltation

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Contents

Introduction /Purpose of report

Liggard Brook in Lytham, is classified as main river. Main rivers are managed by the Environment Agency (EA), due to their potential impact on flood risk. Even so the river is actually owned by riparian owners (those whose land the river runs through). Whist the EA have powers to undertake maintenance work, the powers are permissive. This means they can choose whether or not to get involved. In the authors opinion, permissive powers allow no maintenance (or an absolute minimum) to take place. Any changes in this respect would have to come through parliament.

The brook runs from Fairhaven Golf Course, through the moss area and then runs parallel with Balham Rd into Lytham. It then flows parallel with the railway line, where it enters a tributary of the River Ribble adjacent to Dock Rd. Where it enters the tributary, there are tidal gates that prevent back flow when the tide is in.

The brook is 4.86km long and serves a catchment area of 1659.35 hectares. The river is not in particularly good ecological condition. The Department for Environment, Food and Rural Affairs (DEFRA), classify the brook as Moderate / Bad Ecological Status. See environment.data.gov.uk. In particular, oxygen levels are bad, ammonia levels are poor and chemical

substances fail (due to mercury and its compounds / polybrominated diphenyl ethers (2019 results).

They do highlight the reasons for the poor condition and predominately make reference to “private sewerage treatment” . The author is unsure if this is the United Utilities Combined Sewer Overflow at the tank in Park View playing fields or other unknown private facilities. Further research will establish this in due course.

The purpose of this report is to investigate measures that may improve the ecological status of the brook. The initial focus will be to look at silt levels and flow in the brook. Although recommendations will be made to challenge the EA on the poor ecological status and ask what measures they are taking to make improvements.

Background History

For several years now, local people have questioned why Liggard Brook is in such poor condition. Concerns about siltation, poor flow and sewerage are ongoing. Meetings have taken place with the various stakeholders, including the Environment Agency, United Utilities, Lancashire County Council and Fylde Borough Council. However, the issue is that there has been very little action. It is acknowledged that United Utilities have recently cleaned a short length of the brook. More cleaning work is apparently planned. While this is welcome it will do little to improve the ecological status of the brook.

People who have lived in Lytham for many years refer to a time when the brook flowed and didn't have as much silt. This has been investigated through discussions with several people. Potential reasons for its current state versus this historical state will be given later in this report.

Technical Assessment of silt/flow

This assessment is based on the survey information provided by the EA. See appendix 1.

A healthy river has a gradient that provides a self cleansing velocity. What this means is the flow will move any build ups of silt that can potentially cause blockages. Liggard brook has a very flat gradient and siltation is a problem. It has to be remembered that a flat gradient is not uncommon and it is Liggard Brooks natural state. The EA surveys show deep levels of silt build ups. It also shows some sections that have backfall and these will always be subject to some level of silt. Some sections have deep levels of silt up to 590mm! As can be observed some sections are slow flowing and "stagnant".

Red Stars show approximate locations of backfall. According to EA survey the backfall exists on both the hard and soft river beds. Some backfall occurs before Station Rd Bridge, which may not be natural, but the bridge has existed for many years. A regrading of the brook along Brook Rd and Lorne Street could benefit outgoing flows and remove silt. However this would be dependant upon the controlling level of the river bed under Preston Rd. EA comments on this will be requested.

Factors contributing to Siltation/Low Flow

1). Prior to the 1980,s it is probable that the river had regular maintenance involving the removal of Siltation, vegetation and other debris.

2). In the 1990s, a weir was created allowing flows to spill into Main Dyke, once river levels reached a certain height. Whilst this provides some protection against downstream flooding, it does mean that peak flows are greatly reduced and thus movement of Siltation in the flow reduced.

3). From discussions/research it seems that tidal flows in the past used to flow up and down the brook. This would explain people remembering the brook flowing well (as the tide goes out). This action would also likely reduce Siltation.

Recommendations/Actions.

1). A request has been made to the EA to modify the tidal gates adjacent to Dock Road. The modifications should allow the gates to be locked open, except for high tidal times when flooding could be a risk. Some assessment of the critical level for allowing the gates to operate needs to be done by the EA. It is suggested that this be trialed by the EA over a 6 to 12 month period. This could potentially remove Siltation in the brook. It would also allow the brook to return to a more natural state, and allow eels to once again thrive in the brook. A decision on this trial is awaited from the EA.

2). The EA to make visible the sources of pollution to the brook as outlined in the DEFRA report referred to above. A written request will be sent to them for this information.

3). The EA to provide their impact assessment of the weir to Main Dyke on Siltation and the risk of downstream flooding. A written request will be sent to them for this information.

4) Request EA comments on the possibility of regrading the brook along Brook Rd and Lorne Street and what the possible best bed level would be under Preston Rd.

5) Await cleaning of brook/de-vegetation by United Utilities at Park View Car Park Bridge in Autumn. Review upon completion.

6). Lytham Town Council to consider lobbying parliament via the local MP to change Land Drainage Powers from permissive to legal requirements on the EA and Lancashire County Council.

7). Review outcomes and challenge further as appropriate. It has to be stressed that the EA are supposedly the Guardians of our rivers and as such should ensure are waterways remain ecologically healthy.

UPDATE. SEE APPENDIX 3 FOR REPLY FROM ENVIRONMENT AGENCY AND APPENDIX 4 FOR FURTHER REPY TO THEM

Conclusions/Final comments

Liggard Brook has a naturally flat gradient and has lower flow than prior to the Wier being installed in the 1990,s. Some regrading of the brook at its lower end may be possible and will be investigated.

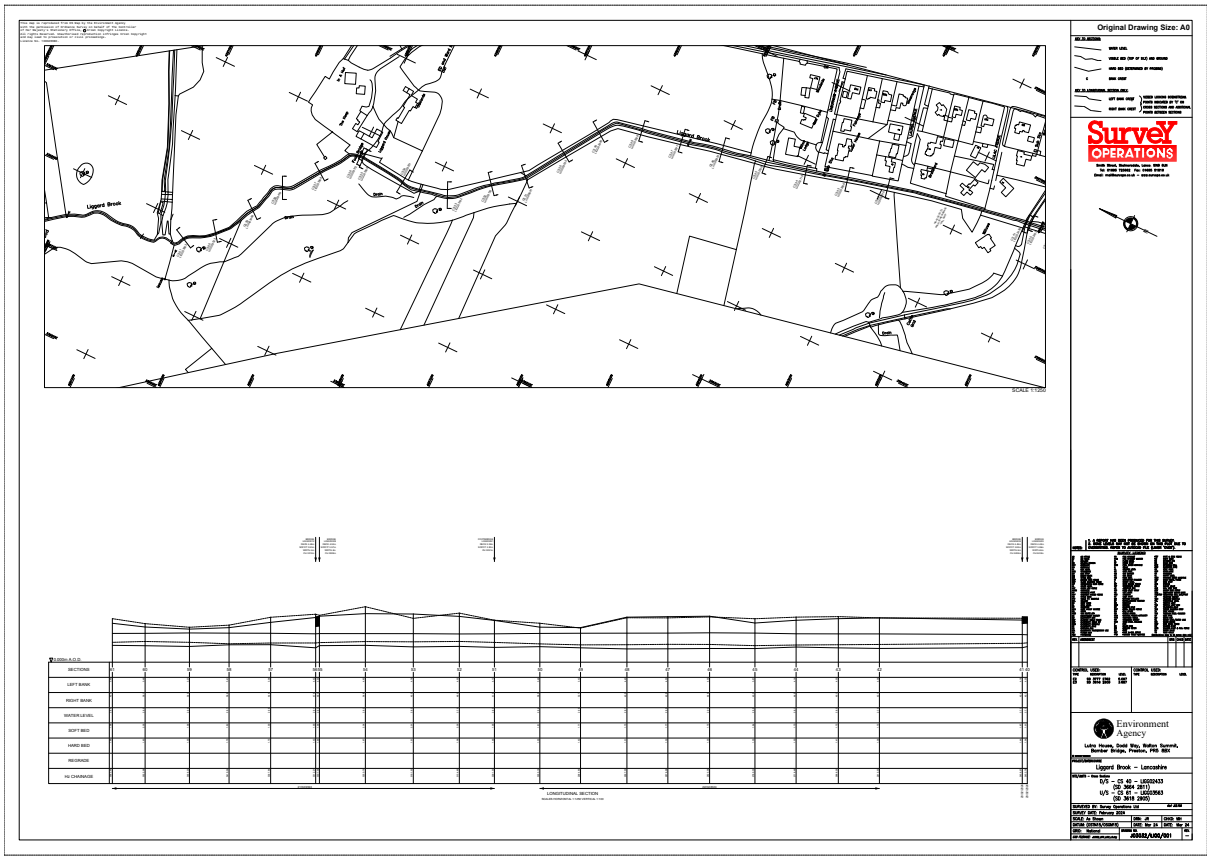
A formal request has been made to the EA to allow some tidal flows to go in and out of the brook. This could remove Siltation and improve flow rates over time.

It is also clear that the brook is polluted and in poor environmental condition. It is unclear if this is due to United Utilities combined sewer overflow, or other private assets. Both sewerage and harmful chemicals are present. Clarity on where these pollutants are entering the river is essential.

The Environment Agency need to be held to account as the supposed protectors of our rivers. If it is the United Utility combined sewer overflow causing the water quality problems, then the EA are compromised, as they have provided legal permits allowing the discharges.

As a minimum (and a first step) if flows can be improved any pollutants will better flow away to the sea, and then diluted.

Appendix 1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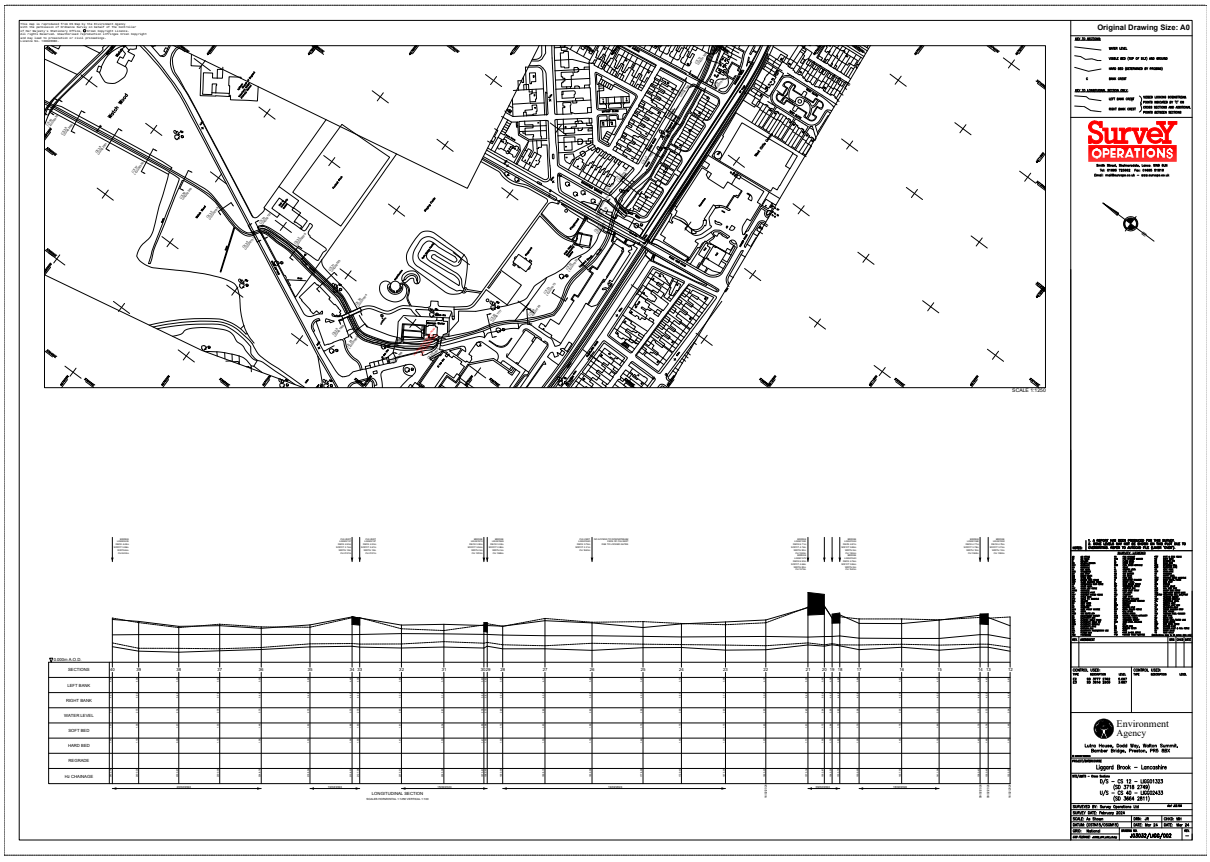
Environment Agency
Liggard Brook – Lancashire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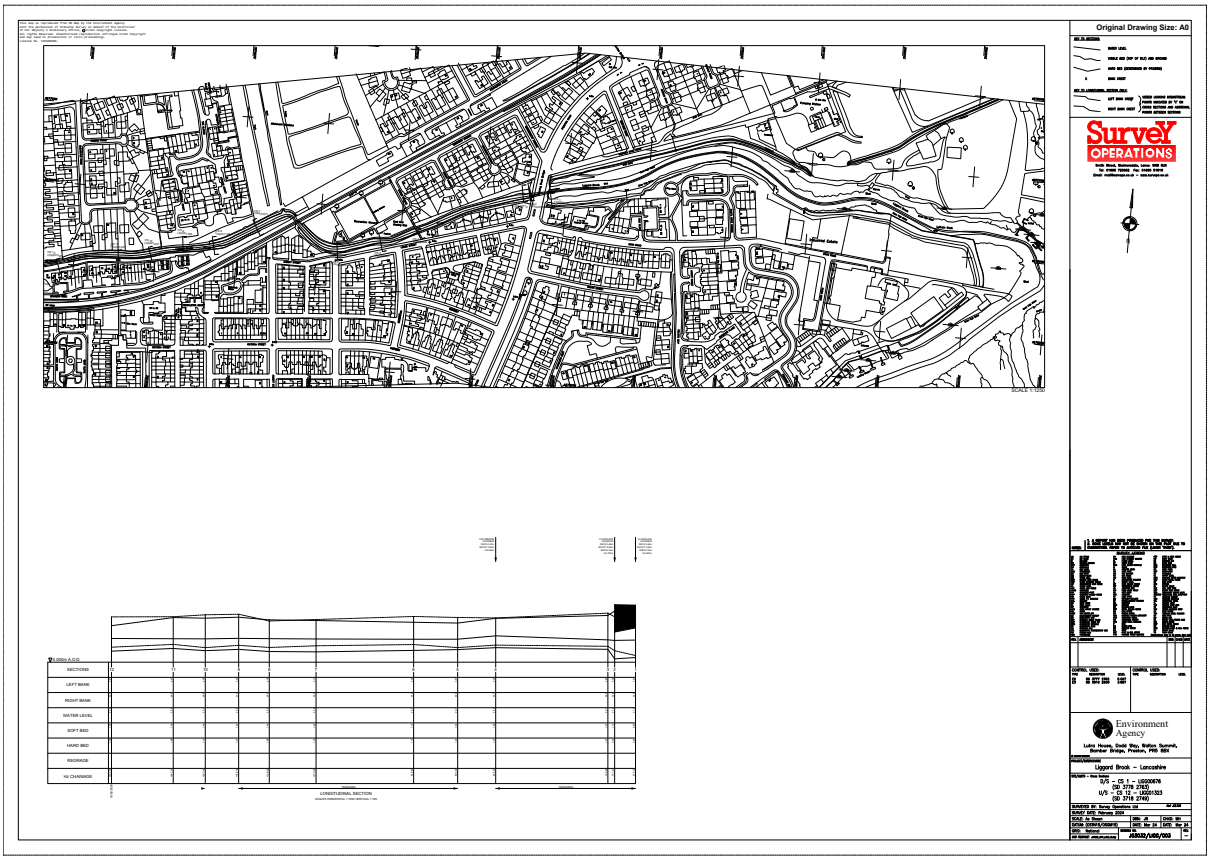
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Survey OPERATIONS
Environment Agency
Liggard Brook – Lancashire
SECTIONS
LEFT BANK
RIGHT BANK
WATER LEVEL
SOFT BED
HARD BED
REGRADE
NO CHANGE
LONGITUDINAL SECTION

Appendix 2

Typical tidal gates when Open.

Liggard Brook Tidal Gates - Closed when tide is in

Appendix 3

EA RESPONSE

Good afternoon, Paul

We have received the following response from the local asset performance team to your query:

Whilst we have frequent meetings with our partners to discuss issues and collaborate on solutions, we have several activities being delivered in the Lytham area. Our contractors are delivering work on behalf of United Utilities to remove some of the reed beds along the channel in Queen Elizabeth Park, this in turn should improve conveyance and help prevent silt deposition. In addition to this we will be completing maintenance to remove in-channel vegetation in the park to further encourage flow. We have also been working in collaboration with Fylde Council and the Ribble River's Trust to deliver a feasibility study, where opportunities to enhance the ecological status of Liggard Brook were identified. The project encompasses ways to address the Reasons for Not Achieving Good (RNAG) ecological status, focusing on physical modification and point source pollution, such as sewage discharge affecting phosphate, dissolved oxygen, and invertebrates.

Our tidal doors work based on being open in low tide and when the high tide comes in this pushes these doors shut. Having these doors locked open would invite an additional risk of flooding in various situations such as storms,

blockages and intense rainfall. Our Operatives that would be needed to open and close the doors also cover all our assets for the rest of Central Lancashire, unfortunately this would cause pressure on our resource and in an Incident we would prioritise high risk flood catchments. This could mean that resource may not be able to be deployed to the tidal doors when necessary.

Kind Regards

Shauny Lambert
Job Title: Customer Service Adviser
Environment Agency: Contact Centre Services - Part of Strategy, Transformation & Assurance (STA)
Phone: 03708 506506
Working hours: Monday – Friday 08.00 – 16.00

Appendix4

RESPONSE TO EA. 19 Aug 2025

Thank you for your reply.

I welcome the future cleaning works, but don't believe this will solve the ecological issues with liggard brook. The brook needs a healthy flow of water and looking at the levels of the river bed that you have provided, a heathy flow is unlikely. I acknowledge this is the natural state of the brook and healthy gravity flows are unlikely. That is why I suggested allowing tidal flows run in and out during the lower tides.

I don't believe locking the gates open during low to medium tides would be a flood risk or use much in the way of resources. The locking open periods would be completely predictable based on tide tables information. Can you not at least consider a trial period of 6 to 12 months so that we can at least determine the success or not. This would also allow you to determine the impact on your resources.

As you probably realise I am not acting alone here, and I am reporting back to local people and groups, who are tired of a lack of action over many years.

Can I please formally request the following information

1) The government website shows a report from DEFRA classifys the brook as moderate/poor ecological status. The report makes reference to "private sewerage treatment" . I'm not clear if this is from one location or several. Could you please confirm the locations and detail in this respect.

2) The above DEFRA report also shows the brook is polluted with chemicals (mercury and polybrominated diphenyl ethers) . Can you confirm the source of this pollution.

3) With regard to 1 and 2 above is the United Utility combined sewer overflow contributing to the pollution?

4) With regard to 1 and 2 above what is the Environment Agency doing to stop the pollution entering the brook ?

5) From the levels and long sections you have provided, the downstream end of the brook (adjacent to Brook Rd and Lorne Street) has deep Siltation and backfall. One of the controlling factors is at the culvert under Preston Rd. Is there any way the levels at this point could be reduced ? Your long sections show if levels could be reduced, a more healthy flow could be achieved from brook road to the outfall, potentially removing the build up of Siltation. Could I have your comments on this and if possible could you consider making the necessary improvements.

If you could provide me with the information requested above, I can then report back to other concerned residents/ groups. I hope you appreciate that we only wish to see our local brook ecological sound and sustaining the natural wildlife that should be thriving. Liggard Brook is clearly polluted and we believe the Environment Agency should be doing all it can to stop the pollution. I believe if flows could be improved, the current pollutants would not be held in the brook and would flow out to sea where it would be far more diluted. This is why I am currently focused on improved flow. Secondly, we are not happy with pollutants and

chemicals entering the brook. We need to know what the Environment Agencies plan is to stop this.

If I can finally emphasis that I am disappointed that you are not prepared to trial allowing tidal flows to enter the brook in a controlled manner. This seems to be the easiest way to quickly improve the ecological status of the brook. We had hoped that the Environment Agency, as guardians of the environment, would at least trial this. Can I ask that you reconsider this.

Regards Paul