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5 January 2024

Head of Planning and Housing
Development Management
Cheshire East Council
PO Box 606
Municipal Buildings
Crewe
Cheshire
CW1 9HP

Letter sent via email to: ceplanning@cheshireeast.gov.uk

Dear Sir or Madam

Re: Planning Objection Poynton Spillway Proposal Reference 23/4152M

I am writing on behalf of Friends of Poynton Pool ("FoPP"), an official community group with a formal constitution to record our concerns and lodge our objections to Cheshire East Council's planning application 23/4152M for spillway works at Poynton Pool, and to request that this planning application is deferred.

The local community would like to see their views accounted for in what should be a balanced decision on how to proceed. Safety is of course important, but it is not paramount. On behalf of the community, we would like to work with the Council to find a reasonable and balanced solution which delivers reasonable safety at a reasonable cost. This seems to have been achieved by the Council's Flood Team which appears to have been working collaboratively with the community.

FoPP has undertaken an in-depth review of all documentation; from the initial consultation to this full planning application, and we consider the justification for this proposal contains some fundamental omissions, errors, and inconsistencies which are covered in detail in the attached objection report.

I will be attending the Economy and Growth Committee on 26 January 2024 as the organiser of the petition that was signed by 5,820 Cheshire East residents to highlight our collective concerns regarding this proposal. However, if in the meantime you require more detail, I can be contacted via the above email address.

Yours faithfully

Michael J Ellison
Chairman

Copied to:

Poynton Town Council
David Rutley, MP

FRIENDS OF POYNTON POOL
5 JANUARY 2024
OBJECTIONS TO POYNTON POOL FLOOD MITIGATION PROPOSAL 23/4152M

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1. INTRODUCTION

1.1. Purpose of objection

Friends of Poynton Pool ("FoPP") objects to Cheshire East Council's ("CEC") planning application 23/4152M for works at Poynton Pool and requests that this planning application is deferred for:

a. Proper investigation of the catchment of Poynton Pool, and proper investigation of the structure of the dam embankment as recommended by the applicant's own engineers[1] (Jacobs Spillway Upgrade: Initial Options Report 2021, "**Jacobs 2021**", sect. 2.5), by our engineer Mark Buttle[2] (An Engineers Comments, "**Buttle 2023**", para. 2 and conclusions), and by Professor David Ball[3] (Proportionality and Practicability, "**Ball 2023**" para. 6.4).

b. Rigorous consideration of less damaging interventions that have been proposed by FoPP but initially dismissed by the applicant's engineer without proper consultation, and of other options not yet explored.

c. Further consultation with the local community, who are key stakeholders in the management of Poynton Park, which should be independent of the applicant's engineers.

d. Investigation and consideration of points a – c by an independent arbitrator with no interest invested in the current proposal.

1.2. Content

This report sets out FoPP's observations of, and objections to, this planning application. To assist the Local Planning Authority (LPA) when reviewing this document, Section 3 has been structured to reflect the main headings and order of the applicant's Planning Statement.

Where documents are cited, links are provided in footnotes, and where a document is not included within the planning application or otherwise available online, it is included as an attachment to this report. **Appendix 4** provides a schedule of inconsistencies not included in the main body of the report.

1.3. Context

When considering the planning application and this objection, we would request that the LPA takes into account that the planning application contains statements based on:

1. Definitive facts that cannot be disputed;
2. A series of estimates and assumptions and to quote Professor Ball (Ball 2023) *"likely considerable uncertainty";* and
3. Contradictory, misleading or incorrect information.

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[1] 14. BRJ10627J470DOC-001-02Poyntonspillway Final CRedacted14.11.pdf (poyntontowncouncil.gov.uk)

[2] Poynton-Lake-Spillway-Upgrade-Engineers-Comments-August-2023-issue-CEC.pdf (poyntonpool.org)

[3] Proportionality-and-Practicability.pdf (poyntonpool.org)

Definitive facts include: *"Poynton Pool is a reservoir" and "the spillway capacity does not meet the required safety standard"*, (**Planning Statement**[4], sect. 1.1 para. 1 and para. 2).

An example of a statement based on assumptions and uncertainty is: *"… around 3500 people would be at risk of injury and death in the event of failure of the dam and release of Poynton Pool, and that on average around two people would die."* (Jacobs Summary Initial Options Report, 2023 "**Jacobs Summary Options 2023**"[5] sect. 1.6 para 1.).

An example of a statement that is incorrect is: *"the risk of death/ injury/ damage to those living downstream due to dam failure and release of the reservoir is higher than tolerable and therefore works are required to address this, and hence why this flood resilience improvement scheme has been prepared."* (Jacobs Summary Options 2023, sect. 1.6 para 3).

The FN chart[6] upon which this advice was based (Jacobs 2021, sect. 4.6 fig. 4-3) was identified by FoPP as being in error and this was acknowledged by the applicant's engineer, although this document has not been included in the planning application. A corrected FN chart **which shows the risks are in the tolerable zone** is included in Jacobs own Spillway Upgrade: Initial Options Report September 2023, "**Jacobs 2023**"[7] (sect. 4.6, fig. 4.3).

The proposed changes to Poynton Park will be irreversible so planning approval should not be granted by the LPA if there is any element of doubt regarding the proportionality of the application proposal.

2. SUMMARY

2.1. Summary overview

Cheshire East councillors and officers are the custodians of Poynton Park which was built in the 1700s and subsequently gifted to the residents of Poynton by Lord Vernon. Any decision by CEC that will impact negatively on this community asset and wildlife habitats needs to be taken with the utmost rigour, scrutiny and certainty, taking account of concerns at every stage.

All bodies of water over 25,000m^3 must be inspected at least every 10 years as set out in the Reservoirs Act 1975. Poynton Pool is larger than this. The last 10-year inspection of the pool identified that a flood study and emergency draw down plan was needed.

The subsequent flood study found that the pool does not meet the standard set out in national guidance. Flood modelling identified that in the event of extreme flooding, the capacity of the spillway overflow would not be not large enough and the dam may fail.

CEC has relied solely on Jacobs to conduct these surveys and reports that subsequently recommended Option 3C flood improvement resilience scheme, which forms the basis of this planning application.

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[4] Planning Statement (cheshireeast.gov.uk)

[5] Summary options report (cheshireeast.gov.uk)

[6] A graph of the level of risk which displays the consequence of fatality (N) against likelihood (F) and displays the risk against the thresholds of 'Unacceptable Risk' and 'Broadly Acceptable Risk' with a zone of 'Tolerable Risk (ALARP) in between

[7] Initial Options Report (cheshireeast.gov.uk)

FoPP believes that inaccurate and incomplete baseline data coupled with a light touch due diligence approach has led to poor recommendations being made by Jacobs and subsequently adopted by CEC. The resulting proposed scheme design is disproportionate to any flood risk and will have a significant negative impact on this historic landscape and wildlife habitats

This document provides evidence of where the data is missing, flawed, out of date or has been interpreted incorrectly.

FoPP believes the required rigour, scrutiny and adherence to best practice local council and national governance has not been followed and does not provide enough protection against the wrong commercial and environmental decision being made in respect of the spillway proposal.

This document presents an alternative and collaborative way forward, where the best intentions of CEC can be married to the environmental concerns of the Poynton community, who will be acutely aware of the enormous financial cost in these times of cost of living crisis.

2.2. Key areas of objection

The following points cover our key areas of concern. Full details are included in the body of this report.

2.2.1. A full site survey and ground investigation has not been undertaken

There are no historical records of the construction of the dam and the applicant has failed to investigate the structure of the embankment. There is new evidence that the dam may not be a clay core dam, as assumed by all from the outset. Cores taken by FoPP in December 2023, Ellison 2023[8], show that the dam may be constructed from a slightly clayey sand and gravel over which is sandy loam topsoil, and may be more permeable than previously assumed which may explain why the dam has never overtopped.

FoPP would recommend, as an absolute minimum, the structure of the dam should be established by a full ground investigation. To carry out any work without understanding the structure could result in an increase rather than reduction in risk.

2.2.2. The catchment area of Poynton Pool is not fully understood

Historic flow and levels data has not been used to calibrate the flood modelling, which is a potentially significant design weakness.

FoPP requests that a study of rainfall in the area versus water levels in Poynton Pool, and outflow volume be used to better understand the likelihood of an overflow event. This exercise would validate the actual catchment area flows and levels data to feed into a more credible flood model based on facts and not assumptions.

2.2.3. The risk to life is tolerable but this is not reflected in the planning application

All options put forward by Jacobs were developed when the risk had been incorrectly plotted on an FN chart in the unacceptable zone of risk. Jacobs own risk assessment now identifies that the risk from failure of the dam at Poynton Pool is within tolerable limits which demonstrates that there are no “clear overriding reasons for allowing the development.” Sadly, this is not demonstrated in the reports submitted as part of this planning application.

[8] Letter-to-FoPP-Structure-of-Dam-Embankment-at-Poynton-Pool.pdf (poyntonpool.org)

FoPP requests that the correct 'tolerable' risk categorisation is used as the basis for all decision-making around the Poynton Pool Spillway project and all technical options considered.

2.2.4. Options for spillway work at Poynton Pool are disproportionate to the risk

The initial options design process by Jacobs was completed when reports (wrongly) showed that the level of risk of upper dam failure, with or without additional rain events due to climate change, fell into the 'unacceptable' range. To put it simply, the risk of overtopping could be far less than previously estimated, possibly negating the need to improve the spillway at all. FoPP considers, in light of this, a more measured approach is appropriate.

FoPP requests if work is required then alternative, more environmentally friendly design options are considered in detail by an independent arbitrator. We have included some alternative design options in sect. 3.5 and appendices 1 to 3 of this report.

2.2.5. The scheme costs are significant and likely to increase

The original cost of this scheme when recommended for approval was £540k (Jacobs 2021, para. 5.8). This has since increased to £1.38m.

The collateral effects and unintended consequences of the proposed flood mitigation measures were not considered when developing and appraising options in line with the HM Treasury's Green Book methodology (Ball 2023, sect. 7.2).

Accounting for the c.£3m CAVAT (see section 5.1.3) amenity value of the trees affected by this proposal as a cost of implementing these works would increase the scheme costs to c£4.38m.

Furthermore, The Landscape Management Plan (see section 3.4) is scheduled for 30 years with the contractor only managing the first year including defects/liability. CEC is taking on a 29-year management plan. Has the Council made financial provision for what will be a significant 29-year liability, particularly in light of the considerable uncertainty around the construction of the embankment, which might be compromised by the felling of, and damage to trees (see sect. 2.2.1).

FoPP requests that the CAVAT value of the trees, in line with the Green Book, and future landscape financial liabilities are included in the decision making process.

2.2.6. Inaccurate Environment and Arboricultural Impact Assessments

Sections 7 and 8 of this report demonstrate the significant omissions and inaccuracies in these impact assessment reports.

FoPP recommends new and more rigorous independent impact assessments be completed before any planning application is considered.

2.2.7. The scheme design fails to take account of public opinion

CEC has not complied with the national guidance or its own policy, and to date has not listened to the voice of its constituents in any meaningful way. It is the view of FoPP that consultation should be a two-way process, which has not taken place in the case of the application proposal.

FoPP would ask that the Council guarantees a public, full Council debate regarding the concerns raised in the petition signed by over 5,800 local residents. We believe this should happen before any planning application process.

FoPP members would also welcome the opportunity to work with the Council to find a reasonable and balanced solution for Poynton Pool, to use CEC's strapline *"working for a brighter future together."*

2.3. Summary Conclusion

None of us want to look back on this flood mitigation proposal with regret that we had not spent enough time collecting the right investigations and validating options. History is littered with public outrage in the aftermath of decisions made in haste.

3. REVIEW OF THE PLANNING STATEMENT

3.1. Background

This section summarises FOPP's findings when reviewing the Planning Statement. Further findings on supporting documents in the planning application are included in sections 4 to 9 of this report.

Planning Statement, sect. 1.1, para. 4 states:

> "*The existing trees along the dam embankment also pose dam resilience safety concerns, as tree roots can damage the embankment dam structure retaining the reservoir and increase the likelihood of structural failure of the dam, which therefore increase the risk of flooding downstream due to dam failure*."

However, no evidence is provided to support this statement. There are no historical records of construction, and the applicant failed to carry out a full site investigation identifying the structure of the embankment.

Ground conditions as identified by the investigations of Ellison 2023 indicate that, contrary to the arguments advanced by the applicant's agent, sustaining long-term tree cover may be integral to the stability of the dam. Additionally, there appears to be a fundamental misunderstanding of the nature of tree roots and of their likely distribution in different soil types.

3.2. The Proposed Scheme

The proposed scheme is urban in character and will have a negative visual impact in terms of both the hard engineering works and catastrophic impact on the historical designed landscape.

The levelling of the dam crest and infilling of the low spots to provide the required freeboard could be achieved by gradually adding soil and building up the low spots over an extended period of say 5 to 10 years or less, which would allow trees to acclimatise to the modified levels. The high-tensile cellulose-rich tree roots and herbaceous vegetation that already bind the dam soils would result in ground conditions broadly the same as those that already exist.

With appropriate ground investigation and a robust cost benefit analysis, the required freeboard might be easily achievable at a low cost and without compromising the long-term integrity of the embankment.

The Initial Options Report (Jacobs 2021) advised:

> "*Once the preferred option has been chosen by CEC then the requirements for ground investigation can be carried out, areas that would be considered for ground investigations for the larger option may include the Dam Crest, the A523 and the valley downstream*."

FoPP is of the opinion that, as an absolute minimum, prior to approval of this application, the structure of the dam should be established by ground investigation. To carry out any work without understanding the structure could result in an increase rather than reduction in risk.

Given the finding that the dam is constructed, at least in part, using a sandy, gravelly material with a very minor clay component (Ellison, 2023), the trees may be integral to the structural stability and functioning of the dam, but this will not be known until site investigations have been carried out.

Without investigation, it is impossible to know if the existing embankment will tolerate the proposed work, or that the method of 'Flood Resilience' proposed, is the correct way forward.

For this reason alone, planning permission should not be granted, because requiring ground investigation as a planning condition is likely to result in a planning permission that cannot be implemented.

The Planning Statement, sect. 2.1, para. 2 states:

> "*There are primarily two routes that could be taken to address the insufficient spillway capacity and freeboard. These can be summarised as:*
>
> - *Modify the reservoir to meet full engineering standards - involving either discontinuing the reservoir or increasing the capacity of the overflow and increasing the freeboard; or*
> - *Adopting a risk-based approach, accepting the dam embankment will overtop, but improving its resilience to overflow."*

FoPP accepts the principle of taking a '*risk-based*' approach but considers the proportionality assessment in the ***Initial Options Report*** (Jacobs 2021, appendix C) is erroneous in that it uses a 'gross disproportion factor' of x5 to overvalue the benefit produced by the proposal, while failing to account the non-monetary costs of the works in terms of loss of, and impact upon, trees and woodland and the benefits associated with them.

FoPP disputes the need to either remove or damage any mature trees, let alone all the mature trees on the section of embankment to be upgraded as set out in the various reports submitted with the application, and considers such a loss to be a catastrophic and wholly unacceptable outcome.

It is indisputable that, contrary to the recommendations of BS5837:2012[9] and CEC Policies SE5 and ENV 6, all the mature trees on the section of embankment to be upgraded will be either removed or at risk of serious damage when far less damaging options are available.

The Initial Options Report (Jacobs 2021, Executive Summary, para. 6) states:

> "*However, FRS4 recommends that where an existing dam does not meet current standards, then the Owner and Panel Engineer may choose to adopt a risk-based approach to assess the extent of upgrading to ensure this is proportionate. This report has considered the options in Table E.1 to increase resilience to overflow. This analysis shows that that currently regulating the crest, so any overflow is spread out uniformly is worthwhile (Option 3C Upper), whilst the other options are marginally proportionate*."

[9] BS5837:2012. A Guide for trees in relation to design, demolition and construction – Recommendations

The Initial Options Report (Jacobs 2021, sect. 6.7, bullet 3) goes on to describe Option 3C Upper:

> "*3C upper – Increase resilience to extreme floods by regularise dam embankment crest to spread out overflow over longer length; locally raise crest to reduce risk of breach opposite vulnerable houses; no change in risk of flooding A523. Significant uncertainty in optimising works on the crest – see table 5.5. preferred design should be developed in discussion with the panel engineer and CEC Rangers.*"

At this time, option 3C **did not include**:

- Re- profiling the water's edge (upstream slope) and damaging trees in the process;
- Straightening and resurfacing the footpath to a uniform 2-metre width and damaging trees in the process;
- Creating a 2-metre wide grass strip and damaging trees in the process; and
- Felling trees to create two 40-metre wide clearings to be grassed without trees.

Alternative solutions are proposed in the Summary Initial Options Report (Jacobs 2023) albeit at higher financial costs, and further options are provided for review and discussion here. Some of these have been proposed previously by FoPP, but, contrary to the suggestion that there has been appropriate public consultation, were dismissed as unworkable within less than 24 hours without any discussion.

3.3. Ecology

This section specifically relates to the Planning statement. Further feedback is included in section 7.5 which is our response to the Environmental Assessment Report.

Planning Statement, sect. 4.2.1, para. 1. states:

> "*The proposed scheme would result in the permanent loss of 31 trees within the Poynton Park Site of Biological Importance (SBI) boundary, to allow for the creation of two 40m spillways, earthworks and footpath improvements, this will result in a comparatively small permanent loss of trees within the SBI. The function of the woodland will be maintained as will the canopy away from the spillways. Thinning of the trees forms part of the management of a woodland and provides the remaining trees more room for growth*."

Contrary to this statement, which is extremely misleading, all trees recorded individually in the Jacobs tree survey and being within the work area, have been identified in the Jacobs RAG assessment as either *"To be lost"* or *"Compromised and likely lost."* Additionally, the Jacobs Tree Survey has omitted several large trees that will fall into the latter category, and many smaller trees that fall within the scope of BS5837 will be removed from groups G11 and G12, reducing the density of the woodland leading to a permanent loss and no replacement planting.

There is a significant failure in the logic behind the management of vegetation in this application; on one hand by creating clearings equivalent to 17% of the length of the works, and the application stating that no trees will be planted on the embankment, yet on the other hand saying "*this will result in a comparatively small permanent loss of trees within the SBI*." This level of gross inaccuracy should be unacceptable to the LPA.

The applicant should review the submitted information and decide which of these statements applies to the application proposal. Both cannot possibly apply and to say otherwise is misleading.

Planning Statement, sect. 4.2.1, para. 4 states:

> "*The compensation is considered sufficient to conclude that there will be no significant residual effect on the SBI once the compensatory planting has matured*."

This is an inaccurate statement. The compensatory planting is in Woodford without any public access and the SBI is at Poynton Park.

3.4. Landscape

Planning Statement, Section 4.2.2, para. 1. States:

> *"…by year 15 the canopy would have sufficiently closed that there would be a barely perceptible change on the LCA (Landscape Character Area). Overall, during the construction phase and during operation there would be a negligible effect on landscape character."*

By Jacobs' own measure, this is clearly untrue. 36% of the 86 mature trees recorded in the Jacobs tree survey will be removed and Jacobs acknowledges that the remaining mature trees recorded by them within the work area will be "*Compromised and likely lost*."

Furthermore, there are additional mature trees that have not been recorded by Jacobs, which will also be lost or "*Compromised and likely lost*." **The 6 individual trees shown as being retained on the Jacobs plans are located outside the work area**. This is contrary to CEC policy SE 5.

The Landscape Management Plan[10] makes no reference to the maintenance or management of trees. The only references to woodland relate to the "*two permanently open areas of woodland*" that are to be managed free of trees.

The contractor will only manage the first year of a 30-year management plan including any defects or liabilities. A project like this, especially with the unknown characteristics of the existing embankment, can take many years to reveal issues.

If planning permission is granted, it should be conditional upon a legal agreement to provide for the long-term management of the trees.

To allocate £1.38 million to this project and have no provision for management of the trees that are to be damaged by the engineering works is unacceptable in terms of current best practice and presents CEC ratepayers with a potentially costly legacy of managing trees that will be irreversibly damaged by the application proposal. If planning permission is granted, it should be conditional upon a legal agreement to provide for the long-term management of the trees.

4. FLOOD RISK

4.1. The Requirement

To give context to this planning objection it is our understanding that under Section 10 of the ***Reservoirs Act 1975***, there is a requirement for 10-yearly inspections of Poynton Pool by a qualified Engineer. The last such inspection was carried out in August 2016 when the following actions were recommended:

[10] 08520567.pdf (cheshireeast.gov.uk)

- *An Emergency Drawdown Plan shall be prepared for the reservoir…*
- *A Flood Study Assessment shall be prepared for the reservoir…*

Commissioned by CEC, professional services company Jacobs produced a Flood Study Report in November 2019[11], and an Emergency Drawdown Plan in December 2019 (Jacobs 2019).

On completion of these documents, a Jacobs 'All Reservoirs Panel Engineer' (ARPE) produced a Section 10 Certificate[12] certifying that these works had been carried into effect.

The ARPE made recommendations to CEC as undertaker where it was stated:

"*The flood study has concluded that the spillway capacity does not meet the standards set out in the ICE Guide to Floods and Reservoir Safety…*" and recommendations were made to:

a) *Complete a feasibility study of options to increase the spillway capacity, within 18 months, and complete the works within four years of the date of this certificate…*

b) *Regularly (at least annually) review the emergency drawdown plan… to ensure that it provides an effective plan for lowering the reservoir in an emergency."*

The ARPE also made the following recommendations to the Supervising Engineer:

a) *If the works to upgrade the spillway are not completed within the time shown above, then use Section 12 (3) of the Act to recommend a S10 Inspection.*

b) *At least once a year check the drawdown plan remains available and up to date.*

It is our understanding that as the work has not been completed in the time specified, a further S10 inspection is now required.

4.2. Jacobs Spillway Upgrade: Initial Options Report 2021

Jacobs produced a Spillway Upgrade: Initial Options Report in June 2021, (Jacobs 2021) which presented what is referred to as an As Low As Reasonably Practicable ("ALARP") assessment.

The Jacobs 2021 Report (para 4.6) states:

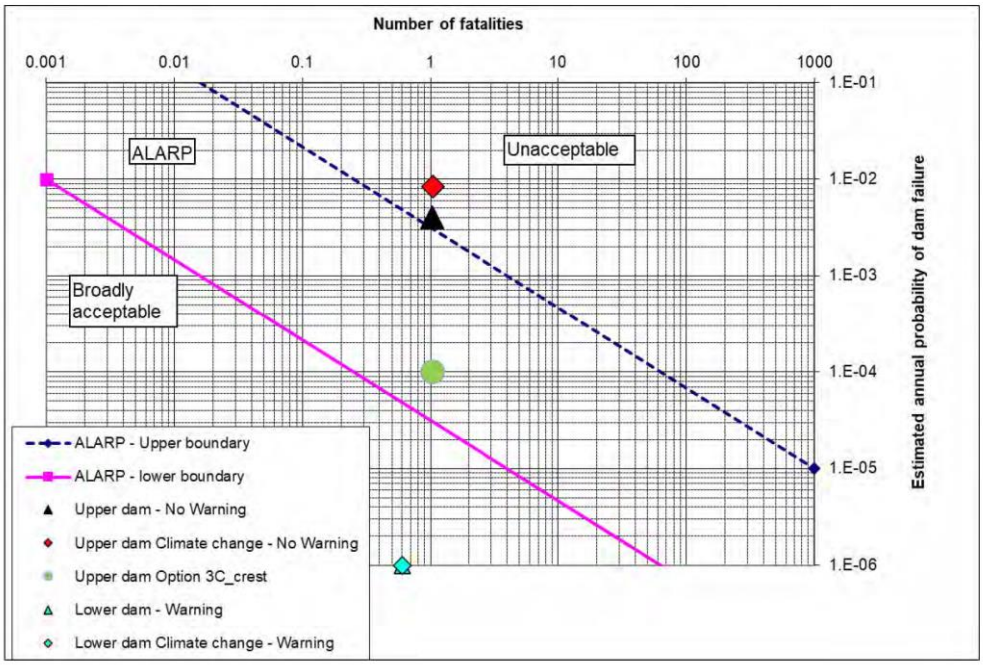
> *"The estimated LLOL and index probabilities of dam failure were plotted on an FN chart, see Figure 3.2. This indicates that the current risk for the upper dam lies within the* ***unacceptable zone****.* (Note: quoted figure reference incorrect in Jacobs' report, the FN diagram was actually fig. 4-3. See **figure 1** overleaf).
>
> *Thus some works are necessary. Option 3C upper would reduce risk into the ALARP zone; which is the range where individuals and society are willing to live with the risks so as to secure certain benefits, provided that they are confident that they are being properly managed, and that they are being kept under review and reduced still further if and as practicable. Within this zone, HSE guidance is to implement mitigation options where the reduction in risk is proportionate to the costs."*

[11] 16. PoyntonFloodStudyD02Redacted.pdf (poyntontowncouncil.gov.uk)

[12] 03. PoyntonFinal10 CertificateissueCRedacted.pdf (poyntontowncouncil.gov.uk)

Figure 1: Original FN chart (extract Jacobs 2021)

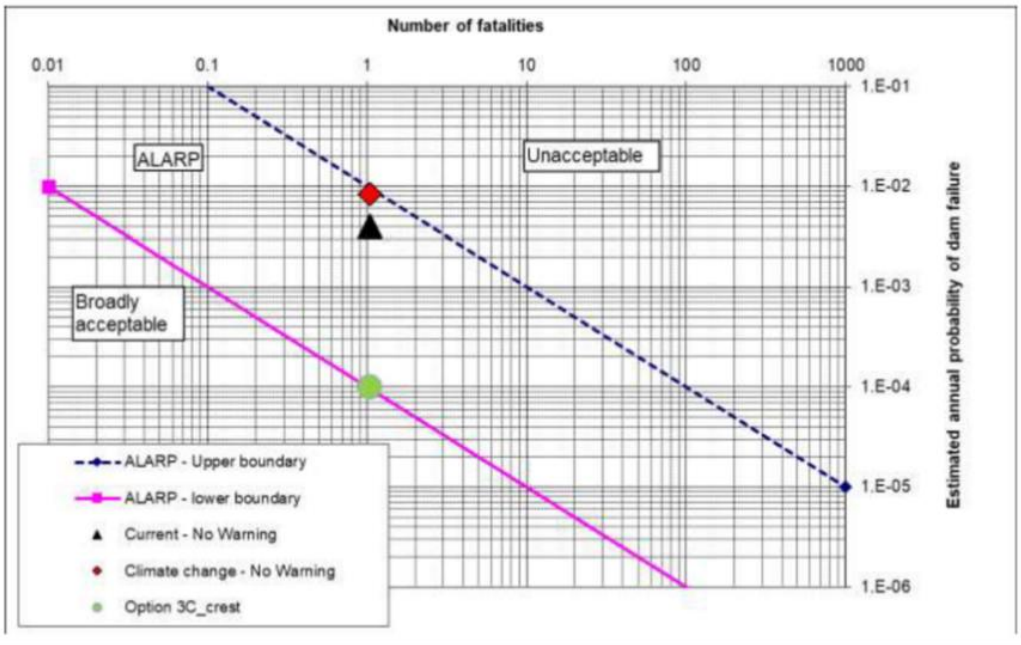
Figure 4-3 FN Chart plot of societal risk



This statement was found by FoPP to be seriously in error and that **by Jacobs own measure, the risks were already in the 'ALARP' zone**. FoPP technical experts identified that the risk had been mis-plotted and raised this issue at a meeting with the Council and Jacobs Senior All Reservoirs Panel Engineer in July 2023. By producing a substantially revised *Initial Options Report* (Jacobs 2023) with a new FN diagram, the applicant's agent has hidden this and other significant errors from the scrutiny of the LPA.

Figure 2: Revised FN chart (extract Jacobs 2023)

Figure 4-3 FN Frequency-Consequence Chart plot of societal risk



With reference to the feasibility of increasing spillway capacity, the Executive Summary of the 2021 Initial Options Report advised:

> *"and if the works are proportionate then they should be designed and built by 5th December 2023. If these dates are not met, then a Reservoirs Act Section 10 inspection should be called early by the Supervising Engineer." and "**If the client wishes to adopt a risk-based approach, then the ARPE overseeing this report considers that the minimum that would be acceptable is Option 3C Upper**."*

In the Initial Options Report (Jacobs 2021, Table E.1) Option 3C Upper is described thus:

> ***"Regularise dam embankment crest to spread out overflow over longer length, local raise crest [redaction] to reduce risk of breach [redaction]."***

The application proposal goes far beyond the minimum considered acceptable by the ARPE overseeing the report.

FoPP contends that **the current proposal is not proportionate** to the projected reduction in risk given the risk is already in the ALARP zone, and the ALARP assessment itself has overvalued the benefits of implementing the work by a factor of 5. Further, the loss of trees and impact on the community asset has not been accounted for as a cost of implementing the works. **The works are in fact grossly disproportionate.**

All options put forward by Jacobs were developed when the risk had been incorrectly plotted on an FN chart in the unacceptable zone of risk. However, as demonstrated here, Jacobs own risk assessment has identified that the risk from failure of the dam at Poynton Pool is within tolerable limits. This demonstrates that in the context of CEC policy SE 5, there are no "*clear overriding reasons for allowing the development*."

The minutes of the meeting at Macclesfield Town Hall, as per the Statement of Community Involvement (appendix H, question 18), acknowledge this error and state:

> *"An updated edition of the options report will be published for planning application to address these discrepancies."*

Jacobs Summary Options 2023 which is the main justification for this planning application does not include an updated FN chart, neither is there any reference to the risk being tolerable and that it lies within the ALARP zone.

Moreover, the Summary Options Report (Jacobs Summary Options 2023, sect 1.4, para. 2) states: "*The low spots where overflow would concentrate mean the risk of loss of life and property damage to those living downstream is unacceptably high*." In addition, the Statement of Community Involvement[13] (page 45) also includes the incorrect FN chart. This is grossly misleading.

The Council's failure to include a revised FN chart with consistent narrative in the planning application options report, as agreed and documented at the meeting in July 2023, means anyone reading the planning application would assume, wrongly, that the flood risk is unacceptable.

FoPP would also like to highlight that the FN chart now excludes the risks for 'lower dam – with warning' and 'lower dam with climate change – with warning' both of which fall within the acceptable zone, although no explanation is given as to why.

[13] Statement of Community Involvement (cheshireeast.gov.uk)

4.3. Risk Management Principles

The terms ALARP and 'Reasonably Practicable' originate from UK health and safety law and have been adopted by the Environment Agency in their guide to flood risk management (EA 2013). The legislation requires risk to be lowered 'So Far As Is Reasonably Practicable' ("SFAIRP"). This is interpreted as a requirement that in the 'tolerable range' of risk, i.e. Poynton Pool, the risk is managed to be ALARP.

Commissioned by Poynton Town Council to review the Jacobs reports in terms of risk and decision making, Professor David Ball, advisor on risk analysis and risk decision making to all levels of government and all government departments, states in his report (Ball 2023, p. 11, 7.1); "*Any suggestion that the debate over Poynton Pool is simply 'a matter of one's preference for saving either lives or trees' is inaccurate. The situation is more appropriately described as one of uncertain benefits of flood control measures versus certain losses to an established environment.*"

Professor Ball has subsequently provided further clarification to FoPP on the risk analysis undertaken by Jacobs for inclusion in this objection.

> "*If the individual risk to people living downstream is as low as the engineering calculations imply (i.e., 1/250 x 1/3,500 or approaching 1 in a million per year risk of drowning from dam failure) then the proposed control measures, which are costly and will have a massive environmental impact, can only be described as disproportionate.*
>
> *Rarely is it sensible to implement safety controls which have significant cost implications and/or cause substantial collateral damage if the baseline individual risk is as low as or approaching 1 in a million.*
>
> *In comparison with the risks to life which we face every day (1% risk of dying per year averaged over your lifetime) the individual risk posed by the dam is trivial.*
>
> *The uncertainty of the engineering estimates has not been disclosed and the decision process over the proportionality of the various engineering 'solutions' is effectively driven by an algorithm which in my opinion is suspect. In such situations, of substantial uncertainty about risks versus public concern about certain damage to heritage and the environment, an algorithmic decision process is inappropriate*."

FoPP, Mark Buttle and Professor David Ball have demonstrated that, by Jacobs own measure, the risk lies in the 'Tolerable Region' of risk (Ball 2023), which resulted in the error being corrected, but not before it was communicated to the duty holder (CEC), resulting in a commitment to the application proposal. **For the applicant's agent to use the term *'unacceptably high'* in the planning application is inappropriate and grossly misleading**.

Despite the risk at Poynton Pool being re-categorised as tolerable, there has been no meaningful discussion with the community of alternatives to the application proposal, that would be more proportionate to the redefined risk. The approach that has been taken by CEC is contrary to the guidance set out in National Planning Policy Framework (NPPF)[14], para. 132.

[14] National Planning Policy Framework (publishing.service.gov.uk)

4.4. HM Treasury's 'The Green Book'

A key source of advice for UK public policy decision makers is HM Treasury's 'The Green Book'. Its purpose is to act as a best practice guide with the aim of bringing consistency to decision making across government and the wider public sector, including decisions about risk and safety.

The approach set out in The Green Book requires an assessment of the costs, benefits and risks of alternative ways of meeting objectives. It is concerned with the welfare and wellbeing of the population and not just economic market efficiency. They may apply to the natural environment which includes consideration of landscape, tranquillity, inland water bodies, wildlife and biodiversity and opportunities for recreation in urban areas and the associated physical health benefits.

The Jacobs approach takes no account of collateral effects and unintended consequences of the proposed flood mitigation measures when developing and appraising options, which is inconsistent with The Green Book methodology.

Professor Ball (Ball 2023 sect. 2.6, para. 1) states:

> *"while it might be argued that the Jacobs work follows established practice in flood risk management, the practice is not consistent with that in The Green Book, nor with modern understanding of how risks to the public should be managed."*

4.5. Flood Modelling

The Spillway Upgrade: Initial Options Report June 2021 Jacobs included two flood screening estimates, the Environment Agency 2016 Report and Jacobs' *Rapid Dambreak* 2019 which uses their own sophisticated software "*Floodmodeller Pro.*"

There are differences in the modelling because:

a) Jacobs' modelling used a far more appropriate 1 in a thousand year rainfall event (T1000);

b) The Environment Agency screening fails to allow for the physical reduction of flood surge's, heights and their longer durations downstream.

Figure 3 is an extract from Jacobs Initial Options Report 2021 (section 4.5, table 4-4) which also included a full detailed analysis of the flood modelling in appendix E.

Figure 3: Screening estimate of risk to life (extract from Jacobs 2021)

Table 4-4 Screening estimate of risk to life (wet day)

Source	Scenario	[redacted]	Time averaged population at risk	Likely loss of life		Source comment
				No warning	with warning	
Flood maps on internet (2009 spec)	River flooding					Table 4.1
Environment Agency 2016 dambreak	Dry day		184	0.12		
	Wet day		2246	1.97		
	Incremental wet day		1306	1.04		
Jacobs rapid dambreak (Note 2)	**Incremental damage in wet day failure (T1000 flooding downstream) (see Note 4)**					
B1	Breach down to A road	[redacted]	75	0.13	0.09	
B2	Breach from A road to lowest downstream ground level		207	0.54	0.31	As above but add [redacted]

The Jacobs modelling reduced the incremental damage consequences of a dam breach to a much lower level than the Environment Agency and indicated the '*likely loss of life*' as 0.67 lives at risk (upper and lower dam failure) with 282 properties affected compared with the Environment Agency figure of 1 to 2 lives lost and 2,246 properties affected.

Without justification, all references to the Jacobs modelling have been removed from the 2023 Options Report and planning application (Jacobs 2024, sect. 4.5, table 4.4) see **Figure 4**.

The exclusion of the more sophisticated Jacobs' modelling, which gives a lower risk to life and property affected, is highly questionable.

Figure 4: Screening estimate of risk to life (extract from Jacobs 2023)

Table 4.4 Screening estimate of risk to life (wet day)

Source	Scenario	Number of houses at risk (Note 1)	Maximum/ Time averaged population at risk	Likely loss of life		Property damage £M	Source comment
				No warning	with warning		
Environment Agency 2016 dambreak	Dry day		274/ 184	0.12		6	
	Wet day		3538/ 2246	1.97		79	
	Incremental wet day		2031/ 1306	1.04		45	

Whereas by contrast, Jacobs' own risk estimates indicate a likely loss of 0.67 lives, a potential cost of £1.5m and a conclusion that this risk is **acceptable because they estimated it has a less than a 1 in a million chance of occurring.**

Furthermore, neither the Environment Agency nor Jacobs used the official ***Flood Estimation Handbook*** (FEH) catchment of around 1 km^2 for Poynton Pool with no explanation given, both used a larger catchment of around 2 $km^{2.}$ If the official FEH catchment had been used, then the risk to life would be around half of those stated in **Figure 3**.

Professor Ball states in his report (Ball 2023, para. 5.6):

> *"It is notable that the Jacobs report contains no analysis of uncertainty. This is a serious deficiency given that there is likely considerable uncertainty around, e.g., the 1/250 base case risk estimate and the projected number of lives lost, both of which estimates will be reliant upon many assumptions."*

This is evidenced by the Jacobs summary options report which categorically states:

> *"the Reservoir safety regulator estimates that if the dam failed and released in a flood then two people would be killed and the cost of property damaged and destroyed would be £79million."*

There is no reference to the uncertainty of this estimate or that **other models had produced significantly lower projections for number of lives lost than that presented with the planning application. This is clearly misleading to the readers of the documents.**

4.6. Flood Risk Assessment Catchment

Historic flow and levels data has not been used to calibrate the Jacobs model, which is a potentially significant design weakness.

The geology of the direct catchment area has not been fully investigated. The Jacobs defined catchment area includes old coal mines and presents a scenario where underground flows may prove larger than expected. Residents also challenge the geographic boundaries assumed to contain the direct catchment area.

Since Poynton Pool embankment was constructed in the mid-1700s numerous properties have been built and extended around the Northern, Eastern and Southern peripheral of the pool, some of the larger properties have in fact been demolished and multiple houses built on the plots.

FOPP has spoken to local farmers, who have clarified where each individual field drains. This information will clearly reshape the Jacobs direct catchment area for Poynton Pool. An adjusted understanding of the direct catchment size must affect estimated flood flows and therefore a recalibration of the Jacobs model is required to correct this significant oversight.

It is imperative to make the catchment area calculation as accurate as feasibly possible. Unless a full up to date survey is carried out, it is not possible to quantify the amount of water that flows into the pool.

4.7. Benchmarking

The Summary Options Report Section 1.3 river and flood flows cites three examples of extreme flooding in the UK and goes on to say: *"The fact that such a flood has not yet occurred at the reservoir does not mean that it won't happen this year."* **These three examples bear no similarities whatsoever to Poynton Pool other than they involve water. Their inclusion in the report is very misleading.**

Boscastle, Cornwall 2004

> *"2004 flood in Boscastle, when 185mm of rain fell (with 89mm in 60 minutes), led to 2m rise in flood levels in one hour. A hundred homes were destroyed and 75 cars washed into the sea."*

Firstly, this was not a reservoir. An inquiry[15] found there was a river flash flood coinciding with a high tide, the geography of the land combined with trees being cut down by landowners to make the land more manageable meant that the storm water runoff overwhelmed the river which in turn caused torrents to head down stream.

Toddbrook Reservoir, Whaley Bridge 2019

> *"When a modest flood washed away the spillway and 1500 people were evacuated from downstream of the reservoir."*

Toddbrook has a 24m high dam, surface area of 36 acres and a catchment of 4,200 acres (17 km^2). An inquiry found that an auxiliary concrete spillway/overflow failed during storms. The water found its way under the concrete spillway, undermining and creating pressures that caused the concrete slabs of the spillway to collapse.

The enquiry highlighted one of the reasons for failure was poor design exacerbated by intermittent maintenance. The average 1.2 metres depth of water at Poynton Pool cannot produce pressures of this magnitude.

[15] MAJOR FLOODING AT BOSCASTLE (publishing.service.gov.uk)

Wet Sleddale, Cumbria, Shap 2020

> *"Storm Ciara in Cumbria, when 184mm recorded over 48hours at Wet Sleddale Reservoir, Cumbria."*

Wet Sleddale has a 21m high embankment, surface area of 76 acres and a catchment of 12.14km^2. Storm Ciara and Storm Dennis hit the area within a few days of each other, the spillway performed as designed but it can only be assumed the flow from the spillway overwhelmed the river below.

4.8. Flood Risk

There are no known or documented incidents of Poynton Pool overtopping or breaching its dam since it was built in the mid-1700s, even during the significant flood events of 2016 and 2019.

This is substantiated by the Flood Risk Assessment (FRA) 2023[16] (sect. 3.1 para. 1) which states:

> *"The site of the proposed works is not within a significant 'Flood Risk Area' as defined by the Environment Agency (EA)."*

The FRA (sect. 3.1, para. 2) confirms the site at Poynton Park and Pool falls within Flood Zone 1 *"Low probability of flooding"* as defined by the EA's Flood Map for Planning. This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1 % AEP).

Furthermore FRA sect. 3.1, para. 3 also states:

> *"the EA (2023b) recorded flood outlines data shows no recorded incidents within the site of proposed works."*

In addition, neither the Flood Warning Area or the Flood Alert Area in Poynton cover the site of the proposed works at the Pool, *"likely because there is no Main River at this location."*

The Hydraulic Modelling undertaken as part of the FRA *(sect, 4.4, para. 2)* advises that increasing the crest level will also increase the water level within the reservoir by 0.18m during a flood event which means *"there may be a higher residual risk in the event of failure due to the increased capacity of the reservoir."*

The FRA (sect. 4.4, para. 1) also highlights that the works are being carried out in close proximity to the culverted outlet pipe which discharges the reservoir and states:

> *"The impact of damage to this culvert during construction could reduce the ability of the reservoir to discharge through the outlet pipe and therefore the risk of the reservoir overtopping its embankments would increase."*

FRA sect. 4.3.2, para. 2 states:

> "*The residual risk from a breach failure of the reservoir is significantly reduced by the proposed works*."

[16] 08520571.pdf (cheshireeast.gov.uk)

Since the engineers have not investigated the structure of the earth embankment, the flood risk assessment carried out by Jacobs has not accounted for the impact of tree removal on the sandy gravelly soils identified by Ellison (2023).

FRA sect. 4.3.2, para. 2 also states:

> "*In addition, the flood risk assessment shows that the annual chance of water spilling onto London Road North will reduce from 1 in 25 chance per year to around 1 in 200 chance per year, due to the additional flood storage provided by raising the minimum crest level*."

This suggests an increase from twice a month to 1 every 1.8 days. It should read 1 in 25yrs to around 1 in 200yrs. **This statement is erroneous, the term 'per' does not apply.**

FRA sect. 4.3.3, para. 2 states:

> "*It should be noted that the proposed works will not totally prevent the reservoir from overflowing and it is accepted that overflowing will continue to occur*."

This statement is untrue. There is no evidence, documented or otherwise, that the Pool has ever overflowed in its 250+ year history.

FRA sect. 4.3.3, para. 2 also states:

> "*However the frequency, volume and method of overflowing will pose less of a risk to the embankment, thereby reducing the risk of dam failure*."

As FoPP has previously stated, this cannot be determined without investigation of the structure of the earth embankment and considering the effects of tree removal and anticipated tree decline (Jacobs RAG Assessment) on the structural properties of the soils.

5. THE PROPOSED FLOOD RESILIENCE IMPROVEMENT SCHEME

5.1. The Proposed Scheme

5.1.1. Section 10 Inspection Report 2016

The 2016 S10 Inspection Report (Mott Macdonald 2016[17]) relied on previous reports for the stated area, volume, and depth of the lake. At sect. 9.1, the report states:

> *"From previous reports it is stated that the surface area of the lake at Top Water Level (TWL) of 90.711m AOD covers some 6.8ha (68,000m^2). At this level it is also stated that the volume of water retained above natural ground level is 130,000m^3. In other words, it is a large area of relatively shallow water with an average depth of around 2m."*

This statement is in error and it appears to have been relied upon by Jacobs in the preparation of their reports. Rather than investigate the depth of the lake, Jacobs has chosen to rely on hearsay without any measurement data to substantiate the figures.

Ellison (Pool Depths 2023[18]) measured and plotted water depth at 82 points across the length and breadth of the lake and estimates that the average depth is likely to be around 1.2 metres with a maximum of 2.1 metre found at only one point.

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[17] 02. PoyntonFinalSection10ReportAugust2016RevARedacted.pdf (poyntontowncouncil.gov.uk)

[18] Poynton-Pool-Depths.pdf (poyntonpool.org)

On this basis, Ellison estimated the volume of the lake to be in the region of 80,000m^3, identifying a substantial error in the volume used in the Jacobs' calculations.

5.1.2. The Statutory Requirement

The applicant's Planning Statement sect. 3.2, para. 4 states:

> *"Overall, due to the legislative requirements and the established flood risk in the area, CEC has a mandatory duty to take action and implement a flood resilience scheme. The resulting scheme has been carefully considered through an extensive optioneering process and further detail of this process is provided in the Summary Options Report (Ref: BRJ10627-JAC-XX-XX-RP-C-0001)."*

This is grossly misleading, as with many of the statements made in this application and the supporting documents. It is our understanding that the statutory requirement is to carry out the 10-yearly Section 10 inspection and to implement the recommendations that were set out in Mott Macdonald's 2016 S.10 inspection report. This has been done; a flood study has been produced and a drawdown plan has been produced, and both have been signed off by Jacobs' ARPE.

5.1.3. The Application Proposal Option 3C

Jacobs discussed taking a risk-based approach (Jacobs 2021, Executive Summary, paras. 7 to 8) and contrary to NPPF (para. 132), CEC proceeded with this approach without appropriate consultation with the local community, who are key stakeholders in this matter.

The option that has been selected for implementation goes far beyond what was originally proposed as Option 3C (Jacobs 2021, Table E.1) *"Regularise dam embankment crest to spread out overflow over longer length, local raise crest [redaction] to reduce risk of breach [redaction]"* which was considered acceptable by the ARPE.

In addition to the original Option 3C, the application proposal now includes:

- the clearance of all trees from 2 x 40-metre long sections of the embankment, to be maintained as grass sward;
- construction of a realigned 2-metre wide path, including removal of tree roots;
- a minimum 2:1 regraded slope between the path and the lake; and
- provision of a 2-metre wide grass verge to have all tree roots removed and be maintained free of trees.

When this revised Option 3C, at a cost of £540k, went to public engagement in 2022 the main and most common public concern was related to tree removal. The number of trees to be removed has been reduced on the premise that the proposal now has a lesser impact on trees. However, we demonstrate here at section 7, this is incorrect and because the proposal remains the same, the impact remains the same as stated in Jacob 2021 Initial Options Report, which itself was an underestimate.

The loss of trees in this planning proposal remains substantial, with more than 75 mature, healthy recorded trees either removed or compromised, likely lost (see this report section 6.3.1), and further unrecorded trees similarly affected.

Although the corrected Jacobs 2023, Figure 4-3 identifies the risk from dam failure as being in the ALARP Zone, the Summary Options Report 2023 (sect. 1.4, para. 2) states:

> *"The low spots where overflow would concentrate mean the risk of loss of life and property damage to those living downstream is unacceptably high."*

This is highly misrepresentative of the risk.

Whilst the flood risk is now 'tolerable' by Jacobs own measure, the overall scheme budget has increased to £1.38million before accounting for the Capital Asset Value for Amenity Trees (CAVAT) valuation of more than £3million (see section 5.3 overleaf.)

The financial cost of the proposed works and the negative impact on the local environment is disproportionate to the projected risk of dam failure at Poynton Pool and is unacceptable to the community. The applicant's agent has advanced an approach to mitigating an ALREADY TOLERABLE RISK and is wrongly advising that that its implementation is mandatory.

5.1.4. Negative consequences of the proposal

Investigation to determine the actual structure of the dam.

The roots of the trees over the years will have become an integral part of the embankment structure, as well as knitting together they may help control and maintain the ground water within the embankment.

Changes in soil hydrology resulting from tree removal and ground disturbance are likely to have significant adverse impacts on retained trees, with soil water potentially increasing to produce anaerobic conditions in soils that currently sustain tree roots.

The removal of trees and the decline and death of trees damaged by the proposal will potentially weaken the existing embankment. The reduction of trees will potentially increase the water content within the embankment, this could cause additional stress on the stone retaining wall.

5.2. FoPP Alternative Design Options

The alternative design option preferred by FoPP to address the freeboard shortfall is to gradually build up the low spots by adding soils of a similar nature to those that currently make up the embankment and allowing tree roots and other vegetation to bind the added soil. This approach would achieve the required freeboard without severe impact on trees and would not require any tree removals.

If an engineering option is required, we request that the alternative less invasive options set out in **Appendices 1 to 3** be considered in detail by an independent arbitrator. Of these, Options 1a and 2a achieve the same outcome as the original Jacobs Option 3 (Jacobs 2021) but without the loss of, or severe impacts on, mature trees.

These options have been developed by recently retired Civil and Structural Designer John Borthwick, who has long experience with reservoir and flood alleviation design, in cooperation with arboriculturist Mike Ellison. The alternative options are:

1. Option 1a: screw piles with stoplogs and clay bunds to both sides.
2. Option 2a: screw piles with stoplogs and sandy clay loam to both sides.
3. Option 3a: sheet pile wall at roadside with sandy clay loam backfill.

The proposals have been reviewed by Water Engineer Mark Buttle CEng MCIWEM who advised as follows:

> *"FoPP Options 1a and 2a are very similar in concept to the Jacobs' proposal Option 3C and could be viewed as a more tree-friendly variant as screw piles could be located sensitively in between trees with minimal root damage.*

In theory, both Options 1a and 2a would work. After all, they would only need to stand up to flooding, holding back water, once every 50 years or less. Even then, water held back would be at very low pressure, with minimal risk of water going underneath due to that low pressure but also because any flood would be expected to recede within a matter of hours.

The clay bund may be unnecessary, especially for a dam that is not necessarily itself a clay-core dam. Adequate seeding of the downstream edge still seems appropriate."

FoPP Option 3a seems like a robust solution, affecting less trees than Jacobs' proposed Option 3C, although there may be still some trees near the roadside that would be damaged during the construction itself. There would be no visual impact on the wooded area of the dam if construction is roadside only.

This would be a larger construction than Options 1a and 2a and more expensive. The length of the Sheet Piling, if constructed at the roadside, would be longer than the lengths of the artificial crests created in Options 1a and 2a as the crest created at the roadside would need to extend in both directions."

5.3. Temporary Works Compound and Associated Activities

The Planning Statement, sect. 2.2.4. states:

"The proposed works compound will utilise the Poynton Park car park off Anglesey Drive, where the full extent of the hardstanding area will be utilised. Welfare facilities would comprise an office cabin, a toilet/welfare cabin with a generator and store, skips and bins, a laydown area and parking for 4-5 cars; and

All deliveries to the compound would be from London Road North, which would not require any changes to the existing entrance to the car park."

The site edged red on the submitted Site Location Plan[19] includes the entire car park, but the drawing submitted with the AIA and Arboricultural Method Statement does not. The east side of the car park and the car park access have been excluded from the submitted Tree Removal and Protection Plan, the RAG Assessment plan, and the Tree Constraints Plan.

Possibly as a result of this omission, trees in the woodland recorded as the BS5837 'Category A' G2 in the Cheshire Woodlands Limited tree survey[20] (Ellison 2023) have not been recorded in the Jacobs Tree Survey or AIA and are not afforded any protection on the Tree Removal and Protection Plan or Arboricultural Method Statement submitted with the application. **Without adequate protection during the development and in the context of CEC policy SE 5, these neighbouring trees should be assumed lost to the application proposal.**

5.4. Failure to address the amenity value of the trees

An independent Capital Asset Value for Amenity Trees (CAVAT) valuation commissioned by Poynton Town Council (PTC) estimated the value of the trees that will be affected is more than £3million (Morris 2023[21]). The CAVAT method is described in CEC policies ENV6 and ***Site Allocations and Development Policies Document***, 4.39 (adopted December 2022) as "*an appropriate cost equivalent replacement calculation.*"

[19] P02 (cheshireeast.gov.uk)
[20] Report-on-the-survey-of-the-trees-4.1.23.pdf (poyntonpool.org)
[21] Poynton tree valuation report - for web.pdf (poyntontowncouncil.gov.uk)

The Jacobs' options appraisals (Jacobs 2021 and Jacobs 2023) do not take account of the amenity value of the trees that will be lost and adversely affected by the spillway proposal. This is inconsistent with The Green Book methodology.

A robust cost benefit analysis of this project would place this £3 million value on the cost side of the equation, bringing the cost of the project up to £4.38 million even before a realistic assessment of the impact on the wildlife corridor and other ecological impacts.

Professor Ball also states in his report to PTC (Ball 2023):

> "*The Jacobs methodology notes but takes no account of environmental losses in its calculations. A compensatory decision process, which takes on board the wider impacts (positive and negative) of a scheme, would include such costs.* ***Were the £3M added to the costs of 3C upper the Option would shift from proportionate to entirely disproportionate, and alternatives which are less destructive of the environment might appear more plausible***."

5.5. Design safety concerns

5.5.1. Stability of the embankment

The Jacobs risk assessment (Jacobs 2021) is evidently a preliminary risk assessment based on a broad assumption the embankment "is largely clayey" and includes no data to inform an assessment of the erodibility of the dam (sect. 3.3, table 3-2).

Perhaps there is a presumption that there is a clay-core to the dam but based on the findings of Ellison (2023) this assumption could well be wrong. The binding effect of tree roots on the sand and gravel in the embankment might be key to soil stability of the dam.

The initial Options Report Jacobs 2021, (sect. 2.5, para. 3) states:

> *"Once a preferred option has been chosen by CEC then the requirements for ground investigation can be carried out…"*

No evidence of this investigation has been presented and the proposal does not state the assumptions upon which the calculated erodibility of the dam is based.

As previously stated, **due the unknown structure of the embankment, the implications of removing and damaging trees as identified in the Jacobs Arboricultural Impact Assessment[22] (Jacobs 2023) are unknown and should be thoroughly investigated before any tree removals or construction operations take place**.

Robinson et. al. advise[23] "*The overall form or architecture of root systems is as varied as is that of shoot systems. There are extensively branched systems and unbranched ones; deeply penetrating and shallow ones; wide spreading systems and narrow ones. Several authors have attempted to provide classifications of this variety, but none of those attempts have been successful, at least not to the extent that they have been adopted widely*."

[22] (Click to enter Document Title) (cheshireeast.gov.uk)

[23] Robinson, D. et. al. (2003). Ecological Studies 168 – Root Ecology: Constraints on the Form and Function of Root Systems. Springer Verlag, Berlin. P. 11. 32

Given the open, permeable nature of the soils identified by Ellison (2023), it is likely that roots of all tree species of all ages on the dam embankment are diffuse throughout the sand and gravel substrate, with a concentration of fine roots in the organic 'A horizon' (topsoil). In these soils, it is likely roots are highly branched, providing a binding of soils. Long roots of a diameter greater than 10-20mm are not likely to be abundant if present at all.

Kozlowski[24] reproduces a useful illustration (**figure 5 overleaf**) of the depth and spread of root systems and how, far from having a typical form, root systems are highly variable in their depth and spread. The vascular function of roots in locating and transporting water and mineral elements determines the initial position of the root, following which structural adaptation will occur where there are mechanical loads. Given the tree species and geological conditions of the site, it is highly likely that the trees have varying root architecture similar to examples b, d or e in **Figure 5**, which are forms found growing in permeable ground.

Figure 5: Depth and spread of root systems (extract from Kozlowski 1971)

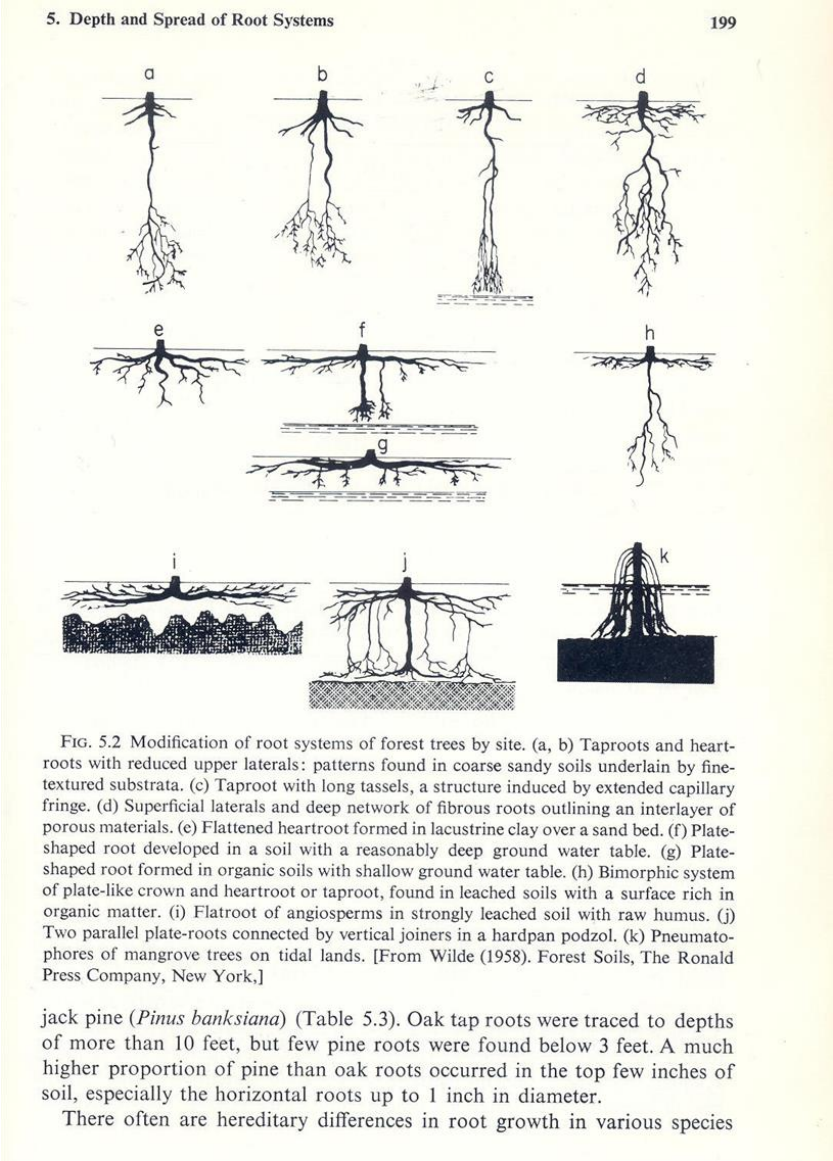

FIG. 5.2 Modification of root systems of forest trees by site. (a, b) Taproots and heart-roots with reduced upper laterals: patterns found in coarse sandy soils underlain by fine-textured substrata. (c) Taproot with long tassels, a structure induced by extended capillary fringe. (d) Superficial laterals and deep network of fibrous roots outlining an interlayer of porous materials. (e) Flattened heartroot formed in lacustrine clay over a sand bed. (f) Plate-shaped root developed in a soil with a reasonably deep ground water table. (g) Plate-shaped root formed in organic soils with shallow ground water table. (h) Bimorphic system of plate-like crown and heartroot or taproot, found in leached soils with a surface rich in organic matter. (i) Flatroot of angiosperms in strongly leached soil with raw humus. (j) Two parallel plate-roots connected by vertical joiners in a hardpan podzol. (k) Pneumatophores of mangrove trees on tidal lands. [From Wilde (1958). Forest Soils, The Ronald Press Company, New York,]

jack pine (*Pinus banksiana*) (Table 5.3). Oak tap roots were traced to depths of more than 10 feet, but few pine roots were found below 3 feet. A much higher proportion of pine than oak roots occurred in the top few inches of soil, especially the horizontal roots up to 1 inch in diameter.

There often are hereditary differences in root growth in various species

[24] Kozlowski, T. (1971). Growth and Development of Trees – Volume II, Cambial Growth, Root Growth and Reproductive Growth. Academic Press, New York. P. 199.

Felling numerous trees and damaging many more will result in root systems, that over the years have become an integral part of the embankment, decomposing with a resultant impact on the 'soil bulk density' of the embankment, affecting its structural properties and loadbearing capacity.

5.5.2. Public safety

The revised Option 3C proposal will involve creating two 40-metre-wide clearings, where there are no trees or shrubs, and a sloped embankment designed to allow a constant flow of water from the Pool into the adjacent B5092 should the Pool breach the dam. The trees and shrubs currently act as a natural barrier, substantially restricting pedestrians and pets to the footpath and containing them within the Park boundary. No replacement boundary treatment is proposed.

Their removal will mean that a child or pet could easily run down the embankment and straight into the flow of traffic. The B5092 London Road North has four lanes of high-volume traffic and a 40mph speed limit. If someone is hit by a car at 40mph they are 90% likely to be killed[25].

FoPP requests that in the interest of public safety and conservation of the heritage asset, the planning application be deferred to enable more rigorous investigation of the embankment and a more informed outcome.

6. CONSULTATION AND ENGAGEMENT

6.1. Public Engagement

A petition, organised by FoPP and signed by 5,820 Cheshire East residents over a period of eight weeks, was formally submitted to CEC on Wednesday, 4 October 2023. Most signatures (c.5,000) were from Poynton adult residents. This equates to about 45% of the voting population in Poynton and illustrates the failure of CEC to engage and develop a plan of action that is acceptable to the community.

The petition formally requested that CEC reviews the Poynton Reservoir Flood Study (2019) and if works should be carried out to the dam at Poynton Pool:

1. the most environmentally friendly identified solutions are employed, with the objective of causing minimal disruption to the landscape, the ecology and the public enjoyment of the park;
2. any cost/benefit analysis of the project includes both a Capital Asset Value for Amenity Trees (CAVAT) to account for the loss of amenity, and the DEFRA biodiversity offsetting metric to calculate a biodiversity net gain resulting from the project; and
3. any subsequent mitigation planting is within the town boundaries.

The FoPP Chairman was advised by email on 9 November 2023 that this petition would be going before the Economy and Growth Committee in January and the email stated: *"It is important to acknowledge that the matter will shortly be the subject of a planning application."*

[25] Kill speed (safespeed.org.uk)

The committee date is Friday, 26 January 2024 and this planning application is due at the Strategic Planning Board meeting the following Wednesday.

The Local Democracy, Economic Development and Construction Act 2009[26] provides statutory guidance for local authorities when complying with their petition scheme. Chapter 2 states: *"Local people will know that if they can get the number of signatures specified in their council's petitions scheme, they will be guaranteed a public, full council debate on their concerns."*

The Council has not complied with this guidance or their own policy and to date has clearly not listened to the voice of its constituents. It is the view of FoPP that consultation should be a two-way process, which has not taken place in the case of the application proposal. The community has been told, but not listened to.

FoPP also sent a letter to all 82 Cheshire East Councillors in October 2023, setting out concerns regarding this proposal. Only three Councillors responded.

6.2. Cheshire East Council Response to the Engagement Feedback

The Planning Statement (section 3.2.1, para. 4) identifies the main public concern from CEC's public engagement in 2022 was related to tree removal. It confirms the consultation identified 44 trees would be removed, of which 2 were high quality (category A), and a further 37 trees were identified as "at risk of removal."

The Planning Statement '3.2.2. In Response to Engagement Feedback' (para. 2) refers to a detailed review of the trees to provide opportunities for their retention and states: *"The number of trees requiring removal has subsequently reduced to 31. 49 further trees would require remedial works, including the 2 high quality (category A) trees."*

The scope of the flood mitigation scheme has not changed since the alleged consultation and the impact on the trees referred to in the planning statement is clearly incorrect and mis-stated in the planning application. Our assessment of the application has clearly identified, as set out throughout this report, the impact on trees and woodland is actually worse than initially suggested by the applicant.

FoPP has attended the following meetings:

1. 6 June 2023. Economy and Growth Committee.
2. 19 July 2023. A full Council meeting.
3. 26 July 2023. A consultation meeting with CEC, Jacobs and Poynton Town Council (PTC).
4. 26 September. A meeting with CEC, Jacobs, PTC, the Environment Agency and Professor David Ball.

Meeting 1: there were three attendees at meeting 1, FoPP presented an outline of the screw pile and boundary wall structure options which had been emailed to CEC the previous day. It was advised at this meeting that the proposals were not acceptable to the engineers.

Meeting 2: Three or four members spoke for a few minutes and a councillor read out what appeared to be a preprepared statement dismissing our concerns.

Meeting 3: Minutes of this meeting were published by CEC (and included in the Statement of Community Involvement). The minutes were disputed by FoPP.

[26] Petitions statutory Guidance (moderngov.co.uk)

Meeting 4: Meeting arranged at very short notice. FoPP had to send a tree specialist representative. Discussion focussed primarily on risk.

In conclusion, there was no meaningful discussion at any of these meetings.

7. ENVIRONMENTAL CONSIDERATIONS

7.1. Considerations for an Environmental Assessment

At section 1.3.1 of the Environment Assessment (EA)[27] the size of the area impacted is stated as 0.76ha. This was queried at the time of the consultation and whilst, as a result of our objections it was increased, it remains inaccurate. As an example, it does not include the tree cover on the edge of the pool which is clearly detailed as impacted on the mapping provided within the AIA Report. Therefore, it is a point of dispute that the scheme does not fall into the Environmental Impact Assessment criteria for schedule 2 based on the size of development.

At section 1.3.5, justifications for not requiring an Environmental Impact Assessment include:

> *"Potential for significant adverse impact from the proposed Scheme on the environment is low both during construction and operation."*

The applicants own Arboricultural Impact Assessment (AIA)[28] identifies that all the mature trees within the work area will be either removed or 'Compromised and likely lost'. By this measure alone, it is not reasonable to say this.

> *"With appropriate mitigation and design controls, the characteristics of the potential construction impacts of the development would not give rise to any serious hazards or negative effects on people or the local natural environment (namely to landscape and ecology, where localised tree planting and offsite woodland habitat creation will be included."*

This statement is misleading in the extreme. Refer bullet 1 above.

> *"Pedestrians will have a better constructed footpath surface to Poynton-with Worth FP89, following the completion of the Scheme."*

The proposed footpath and verge, and the two 40-metre clearings are urban in their design and would be detrimental to the historical designed landscape. For most users of the Park, the footpath requires nothing more than routine maintenance. There is also an asphalt pavement adjacent to the B5092 which runs parallel to this footpath.

7.2. Description of the Development

The EA Section 2.1 states the design was informed by engagement with the public, at the time of the consultation CEC was made aware of many thousands of additional wildlife records. These have not been included within the EA Report and it is deficient in relying on a desktop search over 18 months old. The LRC states searches are only valid for 12 months and a new search should be conducted after this time period has elapsed.

Section 2.1 also states:

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[27] EA: (Click to enter Document Title) (cheshireeast.gov.uk)

[28] AIA: (Click to enter Document Title) (cheshireeast.gov.uk)

"The option that provided the most robust consideration of technical and environmental issues, was the improvements to the current embankment (regularisation of the embankment create), which forms the proposed development."

It does not provide the most robust consideration of the environmental issues, there are other options that are much less environmentally damaging that have been discounted without clear reasoning. The current engineering solution has not been modified since the initial proposal prior to the public consultation. All that has been proposed is a well-publicised reduction in the number of trees to be removed to 31 which when reviewing the mapping in the AIA report is proven to be false in that over 40 trees are still marked for removal, many trees are not mapped and additional trees will fall into terminal decline.

Section 2.3 details that the Poynton car park off Anglesey Drive will be used as a compound and that branches may need to be removed. The area of woodland directly adjacent to the car park on the eastern side is classified as a Section 41 habitat of principal importance. In removing the zones of impact from this EA report there is no assessment of how this will impact the trees both from the removal of branches and their root structures underneath the car park surface.

Section 2.3 makes no reference to loss of hedgerows, even though there are mature hedge rows to be removed if this proposal is approved.

The woodland directly to the south of the proposed works is also classified as a Section 41 habitat of principal importance. During the consultation it was stated if there are surplus materials the surfaced pathway may be extended further. There is no mention of this potential habitat modification within the EA detailing what impacts there may be on tree removal, branch removal for machinery access or the impact on root systems from ground disturbance and heavy machinery. Path construction within section 2.3 is stated as removal of soil 0.2m deep and compaction with a vibrating roller.

7.3. Assumed Construction Activities – Main Construction Works

EA, section 2.3, Bullet 2. Tree stems and logs to "*remain on site in large lengths*". How will these large lengths be lifted into position? Will these large lengths not impede the flow of the water? Will the proposed embankment finishes cope with the load from the large lengths?

Bullet 3. The tree protection fencing specified will not protect the adjacent trees from severe damage to their roots and alone is inadequate protection for the retained tree as set out in BS5837, 4.6 "*Root protection areas"*, 6.2 "*Barriers and ground protection"*, or 7.2 "*Avoiding physical damage to the roots during demolition or construction."*

7.4. Environmental Scoping

Section 3.2 of the EA Report states:

"All trees with potential bat roosts in June 2022 were down-graded after climbs were carried out in August 2022. Recommendation. No further surveys prior to construction in Autumn 2023 as survey data from August 2022 will still be valid. 12 months without a survey."

Bat roosts are transitory in nature and the presented results reflect conditions specific at the time of the survey.

Section 3.3 of the EA Report states:

> *"Once constructed, there will be no effect on noise sensitive receptors. It may be perceived that the trees are providing some noise attenuation from London Road North as the trees screen a clear view of the road. There are studies that indicate that dense woodland and tree planting that is over 10 m wide, comprising coniferous species with foliage all year around, can provide some reduction of road noise."*

This is not based on fact in that the woodland belt is over 10m wide and that its key amenity use is in the 8 months during which the leaves are on the trees. With more than half (40 plus) trees being crown lifted to 5m and the removal of many evergreen trees (such as holly and yew) and other understory removal, a study is required to assess the true value of the trees as a screen for noise.

Section 3.5 is purely subjective and does not take into account the impact on degradation of wild spaces for users of the park to enjoy as an amenity. There is already a well maintained pavement along the road for the length of the development, creating a surfaced path within the woodland creates no extra benefit.

The amenity impact on public health is not accounted for from impacts such as increased noise from the road, significant damage to the landscape, reduction in wildlife for birdwatchers etc. No studies have been undertaken to quantify any of these impacts and feedback for these issues raised at the time of the consultation have been ignored. The engineering solution has not been changed and as evidenced in the AIA Report far more that 31 documented trees will be lost as well as countless undocumented trees.

7.5. Ecology

Section 5.1.1 states the zone of influence for field surveys is 50m, the three bat surveys were conducted by the boathouse on the opposite bank of the pool, this is a distance of greater than 50m. Surveys for these legally protected species should have been conducted within the affected woodland area.

Section 5.2.1 (d) states:

> *"The proposed Scheme falls within the catchment for the Cheshire Region Local Biodiversity Action Plan (hereafter 'Cheshire LBAP'). The Cheshire LBAP contains 29 habitats and 77 species for ecological features considered to be of local nature conservation concern (Cheshire Wildlife Trust, 2023). None of those habitats or species that are the subject of a local action plan are present within the proposed Scheme boundary."*

The desk study from May 2022 is no longer valid, if updated it would clearly indicate a number of LBAP species are present within the proposed scheme boundary including a number of bird species and Ringlet butterfly (*Aphantopus hyperantus*).

7.5.1. Methodology

Section 5.3.2 Desk Study is no longer valid as it dates from May 2022 and should have been fully updated. Records obtained from the Local Records Centre (LRC) are only valid for 12 months. They were over 18 months old at the time of submission of the planning application and should be refreshed with clear mitigation. CEC was made aware of the additional wildlife recording information at the time of the consultation and EIA screening over 7 months prior to the preparation of the current EA report dated May 2023.

The Poynton Pool Protected Species Records[29] detail nearly 70 species with protections under the following designations:

- NERC – Section 41 Species of Principal Importance, Natural Environment and Rural Communities, (NERC) Act 2006
- LBAP – Local (Cheshire) Biodiversity Action Plan
- WCA – Wildlife and Countryside Act 1981
- Redlist – IUCN listed species within the UK that are of conservation concern
- EPS – European Protected Species

The figures detailing the zones of influence in the Preliminary Ecological Appraisal (October 2022) have been removed from the EA (May 2023). These contain relevant information to be able to clearly see the Bat Surveys undertaken at Poynton Lake Boathouse are outside of the 50m boundary rendering them invalid. They also clearly show how further consideration should be given to the woodland detailed as section 41 habitat of principle importance directly borders the area of works both to the north and south.

Section 5.3.11 states:

> *"The proposed Scheme is designed to retain as many mature trees as practicable to allow construction."*

The AIA is inconsistent in its detail of which trees are to be removed and it does not detail all mature trees onsite. It is therefore not currently possible to ascertain how many mature trees will either be retained or removed and currently renders this statement invalid.

Section 5.3.10 The Mitigation Hierarchy has not been considered fully in that there are other options available that would change the nature of the planned works allowing avoidance of the majority of the key impacts. Alternative solutions would be proportionate the risk that has been clearly identified by FOPP as being disproportionately applied in the current solution.

7.5.2. Baseline Description and Evaluation

It is stated in section 5.4.1 that the proposed Scheme will not impact the banks of Poynton Pool or the marginal vegetation. The image in Section 2.2 clearly shows the design adjoining the bank, and the AIA Report clearly shows many trees on the bank edge that are marked for removal or are impacted. The marginal vegetation is of high importance to species such as amphibians and invertebrates which are an important part of the SBI ("Site of Biological Importance").

Initial plans of the scheme at the time of the consultation appeared to show impact on the northern reedbed area. This area is of importance as a habitat throughout the year to protected species such as Reed bunting (*Emberiza schoeniclus*) and Kingfisher (*Alcedo atthis*). This area of reedbed is clearly within the 50m zone of influence and reference to it and its protection is notably absent from the EA Report.

Section 5.4.4 (a) Badger - has scoped out this species from consideration within the EA Report, due to the fact the LRC search found records within the 1km zone of influence. As this report is based on a desktop study from greater than 12 months ago, there is a requirement for reappraisal of the status of this legally protected species onsite.

[29] Poynton-Pool-Protected-Wildlife-2024_01-04.pdf (poyntonpool.org)

Section 5.4.4 (b) Bats - has concluded there is an absence of roosting bats onsite based on insufficient evidence. The bat surveys were completed on the opposite side of the pool to the area of works and outside of the 50m zone of influence. Further studies are required within the woodland area where there are suitable flight lines along the footpath and the edge of the pool. This would also assist in understanding emergence from within the woodland area to correctly identify roost sites.

There is no practical reason as to why the bat surveys were not completed within the 50m zone of influence. In addition, the survey for bat roosts has not clearly identified all veteran trees within the 0.5km belt of woodland that have bat roost potential. Bat roosts are transitory and vary throughout the season.

For an area locally important for bats comprising of many species and a large population, it is inconceivable this woodland is not used by these legally protected species. The bat survey used in the Bat Survey Report conducted in May 2022 was over 18 months old at the time of submission of the planning application and two full summer seasons have since passed.

The bat report also states it was generated for construction starting in Autumn 2023 as the survey data from 2022 would have still been valid. Construction has now been delayed significantly beyond this date and therefore further and more complete studies are required.

Section 5.4.4 (d) Birds - utilises a desktop study search of the LRC dated May 2022. Like the bat survey being that it is well over 12 months old, it is no longer valid (as stated by the LRC). At the time of the consultation and the EIA screening (planning reference 22/4001S), CEC was made aware of a significant number of additional records of birds to be found within the zones of influence. The updated EA report is significantly deficient in not having included an updated LRC search. On this basis, at the very least the application should be delayed until the EA report has been correctly updated to take into account the impact on the significantly greater number of protected species than is currently acknowledged.

Section 5.4.4 (d) Birds states:

> *"Schedule 1 species, such as redwing and fieldfare, may be present outside of the proposed Scheme boundary within Poynton Park where they will forage for berries, worms and insects. The habitats present within the proposed Scheme boundary are unlikely to support regular visits by any significant numbers of wintering bird species. Consequently, wintering birds are considered to be of Less than Local Importance."*

This statement is not based on fact and further study onsite would show that a significant proportion of the berries produced in the park are within the impacted area. These support very frequent visits throughout the winter months especially by Redwing (*Turdus iliacus*), a species listed under Schedule 1 of the WCA 1981. This site cannot be considered of less than local importance for wintering birds.

In Section 5.4.4 (f) Other Amphibians an updated LRC search will have returned records for both common frog (*Rana temporaria*) and common toad (*Bufo bufo*). They are not difficult species to find onsite. It is also not clear how the 'disturbed nature of the woodland' would impact populations of these species. As stated, the woodland offers good habitat for these species and it would be severely compromised via the significant tree removal and conversion into pathway and grassland.

The presence of fish is no reason to discount there being healthy populations of amphibians and the presence of Terrapins is only temporary (in that they are unable to reproduce in UK conditions), it would not be an insurmountable issue to remove the small population of approximately 12 individuals. On the lack of evidence presented within the EA Report there is no basis to classify this site as 'less than local' importance for these species.

7.5.3. Impact Assessment

Section 5.5.1 Impact Assessment (ii) Loss of Trees within the SBI Woodland contains a number of statements regarding the loss of trees that do not match statements given within the AIA report. The AIA plans that are referenced clearly indicate over 40 trees are to be removed and not 31. In addition, there are a significant number of additional trees (all greater than 750mm stem diameter, plus some large trees showing veteran characteristics) within the spillways and kerb/path area that will be lost.

It is factually incorrect to state *"a small number of mature trees...will require limited pruning."* Over 40 trees (nearly 50% listed in the AIA report) require crown lifting to 5m as well as others listed for crown height reduction. It is unlikely all trees will survive this work, especially when considering the root damage that will be sustained when digging out and compacting the path and kerb.

It is also factually incorrect the canopy will recover within the woodland when significantly more than 31 trees will be removed and, as also stated in the AIA report, a number will go into terminal decline in the coming years. Much of the ground level scrub will be lost and no new trees will be allowed to establish to replace the significant loss of mature and veteran trees.

Section 5.1.1 (b) bats (i) loss of bat roosts, as already stated in the Bat Survey Report, a new study is required prior to deduction of the impact. The initial study did not highlight all potential trees that may be used as bat roosts. In addition, the activity surveys were not conducted within the area of works. There is currently insufficient evidence to conclude there is a "Likely significant effect at the less than local level".

Section 5.1.1 (b) bats (ii) Loss/Disturbance of Bat Foraging and Commuting Habitat, again the statement of the loss of 31 trees is incorrect and surveys actually within the 50m zone of influence need to be undertaken before a statement of impact can be reached. It is currently unclear how "*No Significant Effect*" has been determined where the evidence to support it is so deficient.

Section 5.6 Mitigation/Compensation Measures - 5.6.1 Poynton Park Lake SBI refers to the Biodiversity Net Gain (BNG). This report is significantly flawed by understating the impact on the woodland and overstating the value of habitat creation. Key issues are:

- Understatement of the area of woodland removed at 0.1782ha, the area to be removed is at least 50% greater. It does not include the woodland canopy loss away from the spillways including the bank edge groups; trees not mapped in the AIA report and trees removed along the 4m wide path/grass strip as well as the fact that many more than 31 trees will be removed with the works and further loss due to terminal decline over time
- Overstatement of the area of neutral grassland to be created onsite, areas will be overshadowed by existing trees
- Overstatement of the value of grassland creation, the report clearly states the soil type is incorrect and the area will be overshadowed by the remaining trees. The species mix is inconsistent with neutral grassland, no comparable habitat matching this soil type can be found nearby and the seed to be used is not sourced locally. There is no evidence to suggest the result will not be more akin to modified grassland which is of significantly lower value than neutral grassland

7.5.4. Bat Survey

Appendix D – Bat Roost Potential Survey Report

The bat roost potential survey report is flawed in that is does not include all trees that could be used as bat roosts. FoPP's visit to the impacted area identified there are many more than 16 trees (with 3 graded as high) that exhibit bat roosting potential out of over 200 trees onsite. The AIA report does not map more than half the trees with stems over 750mm diameter. Some of these show characteristics that could be potentially used by bats and they have not been surveyed.

Section 2.4 states:

> *"Bat roosts are transitory in nature and the presented results reflect conditions specific at the time of survey. The trees surveyed may not currently support a bat roost, but they may be used by roosting bats in the future, as many have features with potential for use as seasonal roosts."*
>
> *"The findings of this report represent the professional opinion of qualified ecologists and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document."*

Further surveys of all potential bat roost trees throughout a whole flight season are needed to ensure any roosts are found. This should be supplemented with flight surveys undertaken within the woodland to help identify any emergence sites. As noted earlier, the flight surveys were completed away from the woodland outside of the 50m zone of influence. No effort has been made to quantify the population size to give context to the importance within the local population.

There is no clear legal denial of the existence of bats onsite and, as would be expected for such a large number of trees in a locally important site (and as stated within the report), they have potential for use as seasonal roosts.

The Bat Conservation Trust website[30] states:

> *"The overarching aim of ecological survey and assessment work used to 'inform planning proposals is to minimize impacts, and to maximize benefits for biodiversity, as a result of the development'. The "mitigation hierarchy" is the accepted approach to enabling this to happen. Avoidance of any impacts should be the first consideration, the next step is then mitigation of any impacts that cannot be avoided, and lastly compensation should be used to off-set unavoidable remaining impacts."*

As highlighted by FOPP, there are alternative options that suitably address the (currently overstated) risk that do not require the removal of trees as detailed in this planning proposal. This would be an enabler to allow avoidance of any impact meaning that no mitigation would be required.

The planting of trees off site at Walnut Tree Farm cannot be counted as mitigation for the bat population at Poynton Pool and erecting a number of bat boxes is not sufficient mitigation onsite for the loss of veteran trees currently proposed.

The report also does not detail post-development population monitoring. There is no evidence that species make-up with population estimates has been generated to enable this.

[30] https://www.bats.org.uk/our-work/buildings-planning-and-development/avoidance-mitigation-compensation)

The conclusion of the report states:

> *"No further surveys are recommended for the proposed Scheme prior to commencement of construction in Autumn 2023 as survey data from 2022 will still be valid. However, if the start of construction is delayed then an Ecologist should be consulted further."*

Woodland changes over time and the use of it by bats is also likely to have changed. Therefore, being over 18 months old this report is no longer valid and a new and more rigorous survey should be completed.

7.6. Landscape

The Cheshire East Local Plan Strategy contains Policy SE 4: The Landscape and the SADPD contains Policy ENV 3.

Poynton Pool is within site LCT11 (Higher Wooded Farmland) of the Cheshire East Landscape Character Assessment. This is a material consideration for planning decisions where the ecological quality of this important site should be protected and conserved.

Development that is likely to have an adverse effect on the special qualities of LCT11 as described in the Cheshire East Local Landscape Designation Review (2018) should be avoided.

The effect of the proposed works on the landscape has been serious understated via factually incorrect statements in relation to this material consideration within planning decisions. The following are quotes from the EA Report from section 6.4 onwards:

> *"slightly altering the relatively enclosed character of this part of the park"*
>
> *"change by virtue of very localised and small alterations to the woodland, a recognisable landscape feature"*
>
> *"By year 15, although the permanently cleared areas would remain, the canopy would have partially closed and there would be a barely perceptible change on the LCA"*
>
> *"As no tree planting can occur on the upgraded spillways or earthworks for engineering reasons, the on-site impact is irreversible. However, the majority of trees will be retained within the broadleaved woodland, thereby maintaining the woodland habitat present within the SBI."*

The Arboriculture Impact Assessment document clearly states only 6 trees out of over 100 will remain without any impact, and that many of the remaining trees will enter into terminal decline due to the damage they sustain. **To claim the canopy will have partially closed and there would be a barely perceptible change is incorrect.**

From analysis of the AIA report, it is clear the impact has been understated in that there are at least another 100 trees that can be found onsite that are not detailed within this document. Many of these are within the 4-metre wide pathway/grass strip and the two 40 metre spillways that are to be cleared. Their removal will have a significant impact on the landscape character.

Stating the majority of trees will remain, again understates the impact on the landscape. Of those actually listed in the tree survey, more than a third will be removed and all except six of the remainder will be pruned, impacted and/or enter onto terminal decline. The AIA report also does not list all trees existing onsite. The impact on these is unknown. There are also trees marked for retention in Appendix A – tree schedule that are clearly marked for removal in the mapping in Appendix D.

Therefore, the ability to create a clear assessment on the impact on the landscape with the current information available is not possible. Based on this, the application should be rejected on the basis that not enough information is available to make a clear assessment.

Utilisation of words and phrases such as "*slightly altering*" and "*very localised*" are not true, especially based on the outsized importance of the park for its amenity value. On an average day, visitors are in the hundreds. No studies have been undertaken to assess the volume of users.

The landscape/visual level of effect criteria state for "*negligible effect*" the visual impact should be "*no perceptible deterioration or improvement in the existing view.*" This grading regarding the landscape Character Assessment is clearly incorrect. The report should be rewritten to indicate this and to give further impetus in consideration of alternative options that do not have such a significant negative impact on the landscape. The alternative options are viable and have been discounted incorrectly based on the current risk that FOPP has shown to be overstated.

The grading of "*slight adverse effect/negligible effect*" has also not taken into account the impact on landscape amenity for the tens of thousands of users who visits the park and pool area annually. The impact of additional road noise within the park has been understated and ignored; the most intensive amenity use is in the eight months for which leaves are on the trees.

7.6.1. Biodiversity Net Gain Report

Local Plan Policy SE 3(5) requires all developments to aim to positively contribute to the conservation of biodiversity and ENV2 requires developments to achieve a Biodiversity Net Gain.

A number of flaws have been identified within the *Biodiversity Net Gain Report* (Appendix B) as follows:

The stated woodland loss is detailed as 0.1782ha, this is significantly lower than the full area of woodland at 0.712ha. Over a third of the trees listed within the AIA report are listed for removal with all except 6 impacted, many of these are not within the spillway areas. There are also over 100 more trees that can be found onsite that are not listed within the AIA report. A far greater area of woodland will be removed over and above the two 40m spillways.

The woodland onsite has been undervalued as '*moderate*' within the AIA report. It contains far more trees with veteran characteristics than has been acknowledged and it forms a connecting corridor between two areas of woodland that are Section 41 habitats of principal importance. This woodland exhibits the same characteristics and make up of this adjoining woodland.

The stated creation of an area of 0.1782ha of "Grassland – Other Neutral Grassland" is overstated. It will be partially shaded by remaining trees.

The neutral grassland habitat creation is not feasible. It is stated within the Biodiversity Net Gain report:

> *"The soils will be fertile due to the removal of trees and the ground will not be prepared to be more appropriate due to risk of works damaging roots of trees. The species mix has been carefully considered and will comprise a tussocky grassland mix with a mix of wildflowers that will likely succeed in fertile soils (this is essential for achieving moderate condition)."*

It is known that fertile soils reduce the species mix and are not consistent with the characteristics of neutral grassland. Trees will remain onsite continuing to enhance soil fertility. There is no habitat matching this in the locality for both soil type and species mix. There is no specification requesting the seeds to be used are from local provenance. There is no ground preparation planned for the soil.

It is therefore more likely in the long term the created habitat will be Grassland – Modified Grassland' which is of much less value. It is not feasible that the target condition would be created within 5 years because the soil type and situation are incorrect and will remain so.

Based on these key points the Biodiversity Net Gain report has overstated the habitat creation and understated the impact on the existing habitats and would therefore not create the currently stated gain of 9.36%. In reality, it is likely to return a percentage loss.

It would be expected, at the very least, that determination of this planning application is delayed until a more accurate picture of the BNG has been generated.

7.6.2. Visual Effects Schedule

All the viewpoint locations will result in a "*Slight Adverse"* level of effect. "*Slight Adverse*" is defined as:

- *"Landscape - The project would not fit the character (including quality and value), of the landscape; be at a variance with characteristic features and elements – detract from sense of place".*
- *Visual - The project would cause limited deterioration to view from a receptor of medium sensitivity, or, cause greater deterioration to a view from a receptor of low sensitivity."*

Contrary to the findings in Appendix F of the Environmental Assessment Report (Jacobs 2023 [5]), the impact of the application proposal on the historical designed landscape is catastrophic.

Views into the park from the west will be impacted by the total clearance of trees from approximately 17% of the length of the linear belt of woodland and the mature trees to the remainder will be either removed or "*Compromised and likely lost*". The removal of many additional trees is likely to occur over a period of 5-10 years as trees are identified as damaged, declining and unstable.

The tree-lined approach to Poynton from the north will be severely fractured and severely degraded by the direct loss of trees and the indirect loss of trees resulting from damage during the construction works. This will have a direct impact on the desirability of Poynton for both existing and prospective residents, and businesses and their customers.

The permanent loss of trees from the two 40-metre wide clearings, compounded by the loss of, or damage to, the remaining mature trees will open up westerly views from within the Park to the extent that traffic on London Road North and the mid-20th century dwellings to the east will be clearly visible all year round. The visual enclose of the park will be lost, with long views to the west opened up. The peace and tranquillity of the highly valued recreational space will also be lost. The Planning Statement makes it clear that there is no intention on behalf of the applicant to manage for the benefit of trees going forward.

FoPP does not have the resources to critique this appraisal in detail, but it can be said that the appraisal appears to be based on the assumption that those trees not being felled will be retained as a component of the landscape.

On the basis of our professional assessment of the impacts on trees and woodland and the explicit impacts recorded in the Jacobs AIA, **in the context of CEC policy SE 5, there is a presumption that these trees will be lost.**

7.6.3. Mitigation

The planting at Walnut Tree Farm has no legal protection and being outside of the borough, CEC has no control over future development via inclusion in local plans. To illustrate, even within Cheshire East, woodland planted by school children in 2013 at Henbury has already been removed and housing built.

An BNG calculation using realistic tree loss figures, accurate calculation of area and correct classification of the resultant grassland would show the BNG gain to be significantly lower than the current stated 9.36% and potentially a percentage loss.

8. TREES AND WOODLAND

8.1. The Jacobs Tree Survey and Arboricultural Impact Assessment

In the context of a BS5837 assessment (BS5837 2012, Table 1) the Jacobs AIA undervalues the trees, identifying only two as category A. A report commissioned by PTC from Cheshire Woodlands Limited[31] "Cheshire Woodlands Jan 2023" identified 34 category A trees.

The Jacobs Summary Options report states "*removing 31 trees to enable construction of the work*" but the actual number to be removed as per their own tree report is 40 trees. In addition, 35 individual trees are identified in their report as "*Compromised and likely lost"*. The report also fails to state that 10 groups of large waterside trees will also be "*compromised – likely lost."*

Trees identified for retention in the Jacobs *Arboricultural Impact Assessment and Arboricultural Method Statement* Ref BRJ10627-JAC-XX-XX-RP-EN-0009 cannot be protected in accordance with BS5837. The threat to the continued health and life expectancy of trees and woodland (including veteran trees), that provide a significant contribution to the amenity, biodiversity, landscape character or historic character of the surrounding area, is contrary to CEC Policies SE 5 *Trees, Hedgerows and Woodland*, and ENV 6 *Trees, hedgerows and woodland implementation* and the exception to policies cannot apply because there are suitable alternatives that can be implemented with little impact on trees.

Policy SE 5 clearly sets out the justification and key evidence for its implementation and given the LPA's familiarity with these, it is not considered necessary to list them here.

The AIA (Jacobs 2023 [4] 3.1, para. 2) states:

> *"T6 and T47 will have an intrusion into the RPA, to facilitate the construction of the path and crest. If the remaining RPA is protected and work in the RPAs is carried out sensitively, the trees should only suffer minor root damage and therefore can be retained with a long useful life expectancy."*

There is a clear contradiction between this statement and the classification of these trees in the RAG Assessment as RED (require removal).

[31] Report-on-the-survey-of-the-trees-4.1.23.pdf (poyntonpool.org)

When viewed on the Tree Removal and Protection Plan, there is excavation to a minimum depth of 250mm right up to the base of the tree stems on the east side for installation of a 250mm deep layer of clay topped with 100mm of topsoil. It is clear that these trees cannot be retained and protected in accordance with the recommendations of BS5837.

8.2. A review of the Jacobs AIA by Cheshire Woodlands Limited

A December 2023 review of the Jacobs Tree Survey and Arboricultural Impact Assessment has been undertaken by Cheshire Woodlands Limited[32] on behalf of Poynton Town Council. The report concludes:

- *"There is significant uncertainty around the accuracy and reliability of Root Protection Areas (RPA) data in the tree survey*
- *Identification and assessment of the majority of the principal trees as individuals rather than as a group or woodland is not in accordance with BS5837:2012*
- *The tree quality assessment appears to have consistently undervalued many of the trees*
- *Several significant (large) trees within the survey area have not been identified and assessed*
- *The indicative RPAs (BS5837) do not reflect a soundly based arboricultural assessment of likely root distribution*
- *There are trees with veteran characteristics within the survey area, which require more detailed evaluation*
- *In the tree survey, all of the principal trees within the work area are either identified for removal or listed as 'impacted'. In the RAG, all of the principal trees within the work area are either identified for removal or listed as 'compromised and likely lost'*
- *There is insufficient information to inform reasoned judgments on removal, retention or management of the 'impacted' trees, which can only be made on the basis of modified rather than indicative RPAs*
- *In the absence of detailed assessments of the construction impacts on the 'impacted' trees, their continued health and life expectancy can only be classed as 'under threat from development' for the purposes of Local Plan policy SE5*
- *The combined impacts of the proposed tree removals and the threat to the continued health and life expectancy of the 'impacted' trees on the amenity of the site and the surrounding area cannot be justified in the context of Local Plan policy SE5*
- *There is contradictory advice around the removal, retention and management of the A category trees T6 and T47*
- *Mitigation that ignores the 'impacted' trees is not in accordance with Local Plan policy SE5."*

[32] ARBORICULTURAL-OBJECTION-IN-RESPECT-OF-PLANNING-APPLICATION-AT-POYNTON-POOL-RESERVOIR.pdf (poyntonpool.org)

8.3. Impacts on an area of woodland not surveyed or considered in the Jacobs AIA

As set out at 4.2 of this objection report, the site edged red on the tree plans does not cover the full extent of the car park. The car park access is shown as outside the application site as is the eastern third of the car park. The Category A woodland G2 of the Cheshire Woodlands Limited tree survey has not been surveyed by Jacobs Tree Survey or AIA and is not afforded any protection during the development.

8.4. Impacts of construction operations on the health and stability of trees

The Town and Country Planning Act 1990, S 197 states:

> "*It shall be the duty of the local planning authority*
>
> *(a) to ensure, whenever it is appropriate, that in granting planning permission for any development adequate provision is made, by the imposition of conditions, for the preservation or planting of trees; and*
>
> *(b) to make such orders under section 198 as appear to the authority to be necessary in connection with the grant of such permission, whether for giving effect to such conditions or otherwise*."

The application proposal and submitted AIA and Arboricultural Method Statement do not make adequate provision for the protection of the neighbouring Category A woodland to the east of the Anglesey Drive car park.

The application proposal infers that those trees not specified for removal in the submitted documents, can be retained. Assessed against the criteria set out in BS537:2012, the majority cannot, and assessed against CEC policy SE 5, there is a presumption that they are lost to the application proposal.

The Jacobs AIA Jacobs 2023, sect. 4.7 states:

> *"Generally, the levels within the RPA or protected area should not be changed. Tree roots are considered to be, in the main, within the top 600 mm of the soil. Obviously, any excavation into this will remove part of the root system and potentially affect the vigour or stability of the tree. Conversely, any additional material built up above ground level will compact the soil beneath it, potentially compacting all the air pores in the 600 mm depth of soil that most roots are in, effectively suffocating the roots and thus affecting the vigour or stability of the tree."*

The application proposal gives no consideration to this advice.

The Jacobs drawing *Typical embankment crest cross section & footway tie in details* (Jacobs 2023 [16]):

- Identifies regrading of the ground between the east side of the proposed footpath with a 1:2 slope from the waterline.
- Beneath the proposed path and verge - Vegetation clearance (including stump grinding and removal of all roots greater than 50mm dia. 5m min from top of bank (what is meant by "top of bank" is not clear.
- Beneath the proposed footpath and verge – Clear roots and organic matter.
- Tie into existing ground – excavation for the tie in, but a note saying "roots untouched".

There are significant contradictions in the notes on this drawing and these have significant implications for retained trees. It will not be possible to retain the waterside trees in groups G1 – G10 of the Jacobs Tree Survey with the proposed level of excavation and regrading.

8.5. Impacts of pruning operations on the health and stability of trees

The submitted AIA identifies pruning to crown lift many trees to a height clearance of 5 metres, but the lowest branch heights of the trees were not recorded in the Jacobs tree survey, which is a recommendation of BS5837 (BS5837, 4.4.2.5). The impact of these works on the Park's western boundary enclosure will, combined with the removal of smaller trees (many of which are evergreens), have a severe and damaging impact on the amenity of the Park.

The proposed 4-metre crown reductions of the mature beech trees T6 and T47 of the Jacobs tree survey, in addition to the proposed construction impacts, will almost certainly lead to the rapid terminal decline of the trees and is irresponsible and highly deceptive.

More generally, the '*Crowning*', '*Pollarding*' and '*Facilitation Pruning*' up to 5m in height above the embankment is not in accordance with current good practice as set out in British Standard BS3998:2010 *Tree Work – Recommendations*. In addition to the extensive damage to roots, both intentional and incidental, the proposed pruning and lopping will compromise the health of the retained trees to the extent that most of the mature trees are likely to decline and either die or need to be removed for safety reasons. As stated in the Jacobs AIA, (ref) these trees are "*Compromised – likely lost."*

The Planning Statement states, "*There will be incidental damage during construction"*, but does not define this term. What is referred to as incidental is intentional because the applicant is knowingly causing damage to the affected trees, which cannot be protected in accordance with BS5837 and CECl Policy SE 5 Trees, Hedgerows and Woodland.

9. PLANNING POLICY ASSESSMENT

9.1. National Planning Policy

National Planning Policy Framework (NPPF), at paragraph 132 states:

> *"Design quality should be considered throughout the evolution and assessment of individual proposals. Early discussion between applicants, the local planning authority and local community about the design and style of emerging schemes is important for clarifying expectations and reconciling local and commercial interests. Applicants should work closely with those affected by their proposals to evolve designs that take account of the views of the community. Applications that can demonstrate early, proactive and effective engagement with the community should be looked on more favourably than those that cannot."*

The design of the application proposal was presented to the community in a public meeting at Poynton Civic Hall in October 2022 but had been included in the Jacobs Spillway Upgrade Initial options report BRJ10627 -J470-DOC-001 I 02, issued on 11 June 2021 without any public consultation, let alone working "*closely with those affected by their proposals to evolve designs that take account of the views of the community*." In this regard, the application is not in line with NPPF and for this reason alone should be viewed unfavourably by the LPA.

9.2. Local Plan Policy

The Cheshire East Local Plan (CELP) specifically identifies Poynton Pool as a Site of Biological Importance/Local Wildlife Site. This is supported by the following paragraphs:

Paragraph 2.23 states: "*Key nature conservation sites are shown in Figure 2.7 below."*

Paragraph 2.24 states: *"The most prominent environmental designations in Cheshire East are: … 416 Sites of Biological Importance/Local Wildlife Sites."*

Figure 2.7 of the CELP includes a map which clearly shows Poynton Pool and nearby woodland in the Park as a Site of Biological Importance/Local Wildlife Site.

The Cheshire East Local Plan categorically confirms that Poynton Pool and nearby woodland is a *"key nature conservation site"* with a *"prominent environmental designation"* as a Site of Biological Importance/Local Wildlife Site.

The description of Poynton Pool in the Cheshire East Local Plan proves that it is "a Site of Biological Importance and confirms that the site has an *"environmental designation"* and is a *"key nature conservation site."*

Policy SE3 of the Cheshire East Local Plan covers Biodiversity and Geodiversity stating:

> *"Development proposals which are likely to have a significant adverse impact on a site with one or more of the following local or regional designations, habitats or species will not be permitted except where the reasons for or benefits of the proposed development outweigh the impact of the development: … ii. Sites of Biological Importance (SBI) or Local Wildlife Sites."*

The proposals to both remove significant number of mature trees and other vegetation, and damage the remaining mature trees at the proposed work area to the extent they are "*compromised and likely lost*" (RAG Assessment) will undoubtedly impact negatively on the environment and local wildlife including bats.

Relevant policies in the CELP are:

- MP1 (Presumption in Favour of Sustainable Development)
- SD1 (Sustainable development)
- SD2 (Sustainable development)
- SE1 (Design)
- SE2 (Efficient Use of Land)
- SE3 (Biodiversity)
- SE4 (the landscape)
- SE5 (Trees, hedges and woodlands)

Removal of the trees along a 480m stretch of Poynton Pool, adjacent to London Road North, will increase traffic noise, environmental disturbance and pollution. This will have a significant negative affect on the residents of nearby homes. Relevant Policies in the CELP are:

- SD1 (Sustainable development)
- SD2 (Sustainable development in Cheshire East)
- SE1 (Design)
- SE5 (Trees, hedges and woodlands)
- SE12 (Pollution and land containment)

CEC Policy SE 5 Trees, Hedgerows and Woodland states: *"Development proposals which will result in the loss of, or threat to, the continued health and life expectancy of trees, hedgerows or woodlands (including veteran trees or ancient semi-natural woodland), that provide a significant contribution to the amenity, biodiversity, landscape character or historic character of the surrounding area, will not normally be permitted, except where there are clear overriding reasons for allowing the development and there are no suitable alternatives."*

9.3. Site Allocations Development Plan Document (SADPD)

The SAPD confirms that Poynton Pool and Park are part of the Core area of the ecological network in Cheshire East as shown in Figure 4.1.

Furthermore para 4.5 states: *"The ecological network will assist in the provision of nature conservation and ecosystem services that are essential for sustainable development, including water management, carbon capture and access to nature with associated recreational and health benefits".*

Para 4.6 of the SADPD states: *"Core areas contain concentrations of habitats that are rare or important because of the wildlife they support and areas of irreplaceable natural habitat such as ancient woodland, glacial meres and peatlands, which are impossible to re-create. They include protected wildlife sites … local wildlife sites (LWS) and UK priority habitats. Buffer zones are incorporated into the core areas and protect the individual sites and habitats from external adverse impacts such as pollution and disturbance."*

Relevant policies in the SADPD include:

- GEN1 (Design Principles)
- ENV1 (Ecological Network)
- ENV2 (Ecological Implementation)
- ENV3 (Landscape Character)
- ENV5 (Landscaping)
- ENV6 (Trees, Hedgerows and Woodlands)
- REC1 (Open Space Protection)

CEC has definitively identified Poynton Pool and Park in their SADPD as a core area of the ecological network. The proposed works at Poynton Pool will inflict significant damage to the environment and should therefore be rejected.

9.4. Poynton Neighbourhood plan

The proposed works to remove over a hectare of trees and shrubland at Poynton Pool is contrary to the following policies in the Poynton Neighbourhood Plan:

- EGB2 (Open Spaces)
- EGB3 (Natural and Historic Environment)
- EGB7 (Landscape Enhancement)
- EGB8 (Protection of Rural Landscape Features)
- EGB9 (Nature Conservation)

The Pool and Park is a local community asset used for recreation and leisure and makes a positive contribution to the physical and mental wellbeing of residents and visitors. Relevant policies are:

- EGB4 (Access to the countryside)
- EGB5 (Improving access to the countryside)
- EGB3
- TAC1 (Walking and Cycling)
- HEWL1 (Encouraging a Healthy Lifestyle)

- HEWL2 (Getting About within Poynton)
- HEWL3 (Access to Green Spaces)

EG54 Sect 5.3.4 states:

> *"The natural and historic environment within Poynton shall be protected from inappropriate development. The rural setting shall be preserved and enhanced. The sites of Poynton Pool and Park are natural assets which shall be permanently protected from any development."*

Surely minimal disruption would be the favourable solution?

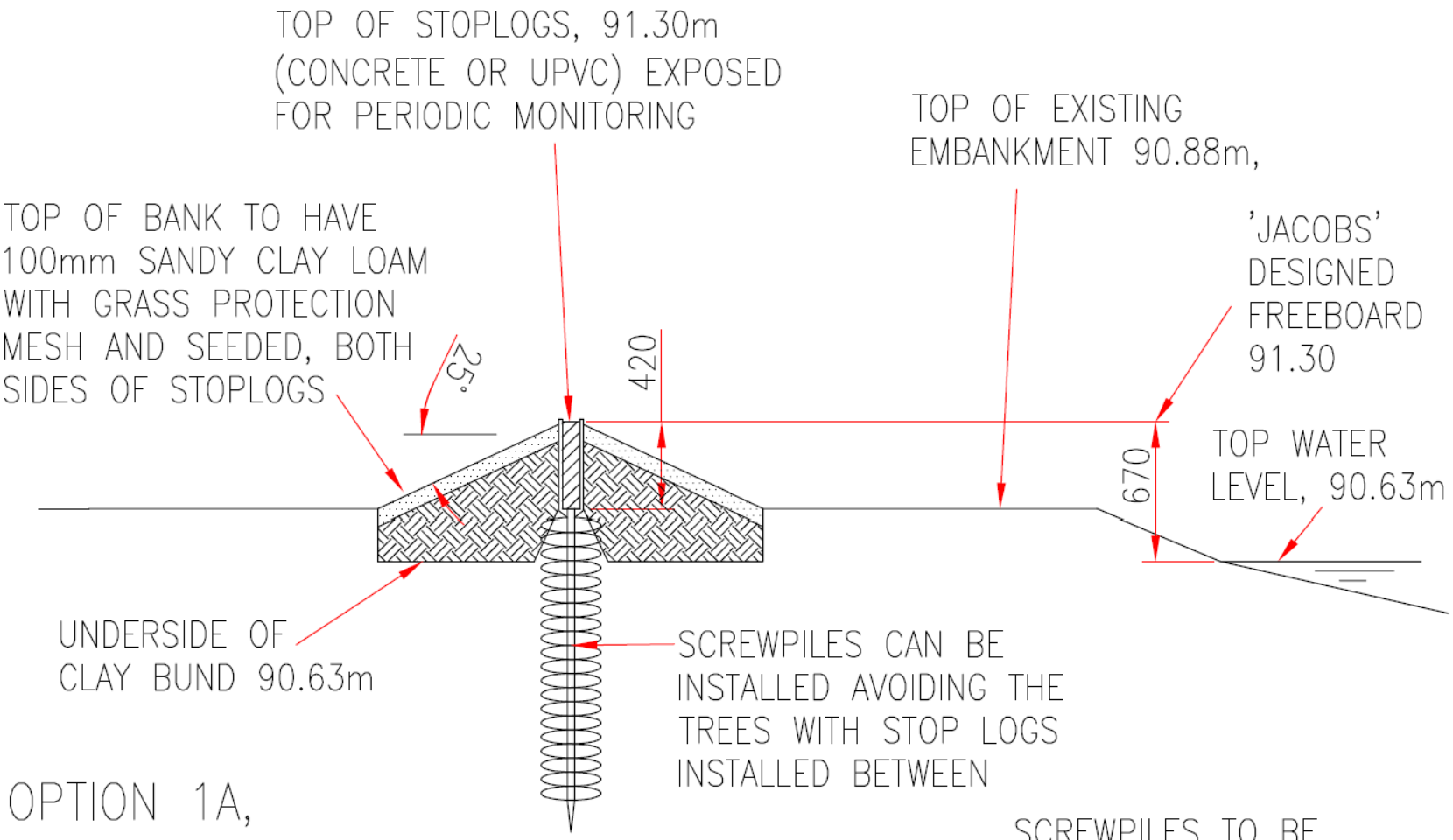
10. CONCLUSION

The applicant suggests they have taken a "*pragmatic risk-based approach*" rather than "*full engineering based approach*", suggesting that the latter would involve loss of most if not all the trees on the embankment and that the Option 3C proposal is preferable to such a loss. However, the question should be asked 'Have all engineering solution's been investigated?'

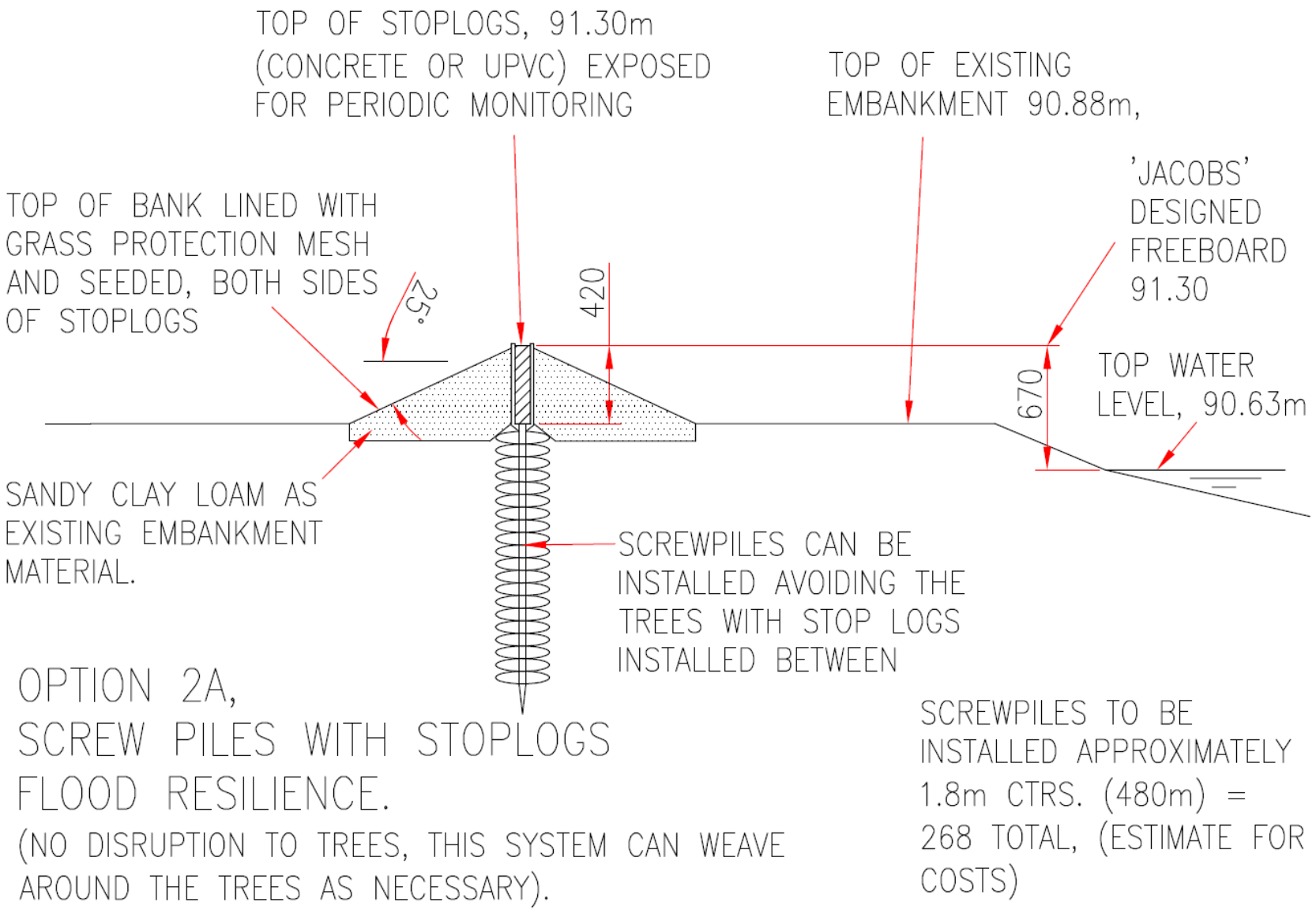
From an engineering perspective and without appropriate consideration of the local context of historical setting, public amenity, wildlife and other environmental considerations, the application proposal might, on the face of it, appear to be an appropriate response to the distorted risk that has been presented by the applicant's agent. However, when additional, local considerations are accounted for, the cost of the work is demonstrated to be grossly disproportionate and contrary to several CEC policies and is not in line with central government guidance.

Applying the same standards and policies to this application as the LPA applies to other applications, **there is no reasonable alternative to either refusing consent, or deferring the application for further consideration as set out at 1.1 above**.

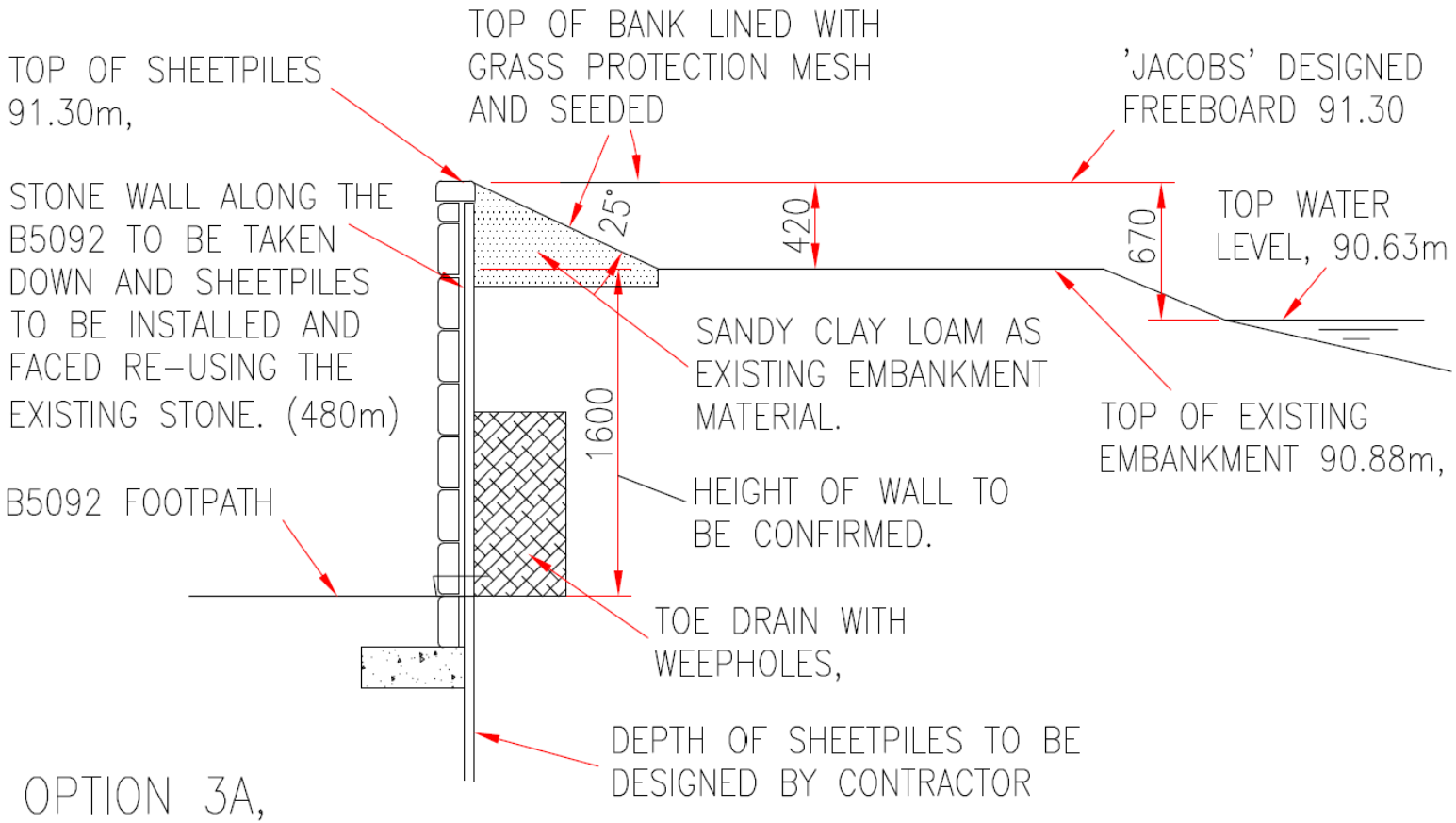
Appendix 1: Option 1A Screw piles with stoplogs and clay bunds to both sides



Appendix 2: Option 2A Screw piles with sandy clay loam to both sides



Appendix 3: Option 3A Sheet pile wall at roadside with sandy clay loam backfill



Appendix 4: Schedule of Planning Application 23/4152M inconsistencies

Ref	Planning Document
	Arboricultural Impact Assessment
1	Page 35, Drg. No. DR-EN-009, P01. The 40m Clear zone is indicated further North than Page 53, Drg. No. DR-EN-004, P02.
2	Page 36, Drg. No. DR-EN-010, P02. The 40m Clear zone is indicated further South than Page 54, Drg. No. DR-EN-005, P02. This is conflicting information.
	Flood Risk Assessment
3	Potentially there will still be an uncontrolled release of water after the works have been completed.
4	Page 19, Fig. 3.2 indicates local flooding comes from the water courses around Poynton Pool, in the past the pool has not given any causes for concern.
	Planning Statement
5	Page 9, 2.2.2, states, Increase the embankment to 90.3m – a maximum increase of 0.3m. – The existing crest is 90.86m (low), (90.88m (high). This would be an increase of between 0.44m and 0.42m. (This agrees with the model), but potentially it's an additional 50% of imported material. Has this been included in the £1.38million? Has CEC asked this question?
6	Page 10, suggest the 2.0m clay/ grass will create a buffer for tree roots disturbing the new PC concrete kerb, (the proposed 90.3m crest), is this a fact? What about the trees that are pool side, what's creating a buffer deterring their roots from disturbing the new kerb?
7	Page 10, 2.2.3 Footpath diversion intends to use the footpath along the road whilst the pool footpath is closed during the work. Isn't this misleading? Surely this won't be feasible due to the tree felling and embankment work to be carried out. Some of the work may require a partial road closure.
8	Page 17, 4.2.1. **Ecology**, paragraph 2, "Poynton Park' is a 'Protected Habitat of Principal Importance." Isn't the embankment classified as being 'Poynton Park'?
9	Page 19, 4.2.2. **Landscape**, - 2 No. 40m Clear zones in 800m of woodland, (10%), Isn't this misleading? The length of woodland affected is 480m this equates to approximately 16.5%
	Statement of Community Involvement
10	Pages 21, Reservoir Act, **Panel Engineers Statement**, Page 22, 'Deficiency is the capacity of the spillway'. Current Safety Standards to meet '0.6m freeboard', the Model asks for '0.67m' freeboard? Has an option to update the spillway / outfall been investigated? *"Removal of the trees improves the integrity of an earth structure." The* prevention of tree growth on an earth structure is favourable from the outset. Has anyone actually removed trees, (possibly 100+ years old) en masse, from an approximately 250+ year old earth embankment without causing damage to the structure? There

Ref	Planning Document
	will be visible disruption to the existing crest that will be covered up by a cosmetic makeover to raise the embankment. It will be difficult to assess if any disruption to the substructure has occurred during the project without a 'Subsoil sound wave survey', or monitoring the embankment at regular periods including the possible introduction of piezometers. The alternative is – years may tell, people will discuss, but who ultimately pays for the cost of repairs ….assuming it can be repaired.
11	Page 30, **Guidance to Panel Engineers**, (Page 31,) "*Decaying roots cause seepage paths and internal erosion".* Removing the trees will result in decaying roots unless the roots are removed as well. Removing the roots will inflict deeper intrusive damage to the embankment.
12	Page 36, Where are the 3,500 people at risk currently living?
13	Page 37, **Official Sensitive**, Top water level (TWL) 90.71m. This is 80mm higher than the 'Planning Statement', 'Flood Risk Assessment' and 'Flood Risk Assessment Model', TWL 90.63m., Is 'TWL 90.71m' the 'Flood Rise in Design Flood' level?
14	Page 43, If the overflow was updated with a wave wall located on the upstream edge of the embankment, at 91.3m, resulting in no requirement for any work downstream of the wave wall. There would be no requirement to raise the embankment.
15	Page 53, **'Key Principal'**, Adding a 'crest marker' (kerb), significantly increased the resilience to floods and reduces the impact on the trees. The objective 'Flood Resilience' may be necessary, but the end result is the same, potential release of a large volume of flood water.
16	Page 62, 'Question 31, Response', the Engineer has experienced water accessing tree roots. Has the Engineer never experienced seepage/erosion caused by water accessing and tracking along redundant roots?
17	Page 81, 'Question 12, Response', Type Will the work to be carried out remove all the reasons why trees should be allowed to remain on a 250+ year old embankment?
18	Page 87, 'Question 17', Some of the tree work is to allow access for machinery.
19	Page 105, Cross Section shows Top Water Level 90.50m, the majority of documents say 90.63m. (11/6/21) Which is correct?
	Longitudinal Sections
	Flood Risk Assessment relates to the existing crest level being 90.89m. (low) other documents state 90.86(low) and 90.88m (high). The Cross Sections indicate; • Section 2-2, +91.07m. (180mm above Flood Risk Assessment using 90.86m) • Section 3-3, +91.11m. (220mm above Flood Risk Assessment using 90.86m) • Section 4-4, +91.03m. (140mm above Flood Risk Assessment using 90.86m) • Section 5-5, +91.08m. (190mm above Flood Risk Assessment using 90.86m)

Ref	Planning Document
	• Section 6-6, +91.06m. (170mm above Flood Risk Assessment using 90.86m) • Section 7-7, +90.99m. (100mm above Flood Risk Assessment using 90.86m) • Section 8-8, +91.02m. (130mm above Flood Risk Assessment using 90.86m) • Section 9-9, +91.22m. (330mm above Flood Risk Assessment using 90.86m) • Section 10-10, +91.18m. (290mm above Flood Risk Assessment using 90.86m) • Section 11-11, +91.20m. (310mm above Flood Risk Assessment using 90.86m) Why does the 'Flood Risk Assessment' use a lower crest level' 90.89m? The 'Flood Risk Assessment Model User Report' uses 90.86m (low). Why not use the lowest level on the Cross Sections 90.99m? Using the lowest existing crest level on the Cross Sections, 90.99m would reduce the free board required and in theory the estimated costs. This may well make other options more favourable.
	General Arrangement Key Plan
20	**Drg. No. DR-CI-1002, Rev P02**, The 40m clearance areas match those on Drg. No. DR-EN-009, Rev. P01 and Drg. No. DR-EN-010, P02, though this doesn't remove the anomalies on Drg. No. DR-EN-004, P02 and Drg. No. DR-EN-005, P02.
	Environmental assessment Report
21	Page 11, Main Construction Works, Tree stems and logs to remain 'on site' in large lengths. How will these large lengths be lifted into position? Will these large lengths not impede the flow of the flood? Will the proposed embankment finishes cope with the load from the large lengths?