Inaccuracies sent to the Planning Case Officer for the Poynton Pool Spillway Application May 2024

No	Baseline inaccuracies	Stated	Challenges	Where stated by applicant	Evidence to support challenge
1	The volume of water used in the flood study has been overstated	130,000m3	61,500m3	Jacobs' Flood Risk Assessment 2023 states: "Poynton Lake is a large, raised reservoir with a capacity of 130,000m3." Jacobs' Flood Study 2021 Table 2.1 Key parameters for reservoir [page 13/99]	1844 ordnance survey map, and 2023 survey by Ellison measuring depths at 82 GPS located points
2	The main outflow pipe diameter between manhole 1 and manhole 2 has been understated	450mm	600mm	Jacobs' Flood Study 2021 Table 2-2 Detail of pipes controlling capacity of existing spillway [page 15/99] with Jacobs stating: *"Flow capacity of the spillway is governed by the pipes downstream of the weir, with available details on the pipes below. The downstream pipes comprise a high level 600mm diameter pipe across the main crest, a drop manhole and then a low level 450mm pipe under the A523."* Drain Doctor 2019 survey report	FoPP site investigation confirms outflow pipe from spillway to manhole 2 is 600mm. Therefore the capacity is substantially greater than used in the flood study. **450mm dia. is only 56% of a 600mm dia. pipe cross-sectional area**.
3	The direct catchment area has been overstated by at least 96%	1.96 km2	1.00 km2	Jacobs' Flood Study 2021 Section 2.4 [page 17/99]	The official Flood Estimation Handbook (FEH) gives a catchment of around 1.00km2 for Poynton Pool . Jacobs used a larger catchment of 1.96 km2 with no explanation. If the official FEH catchment had been used, then the risk to life would be around half of that stated
4	The indirect catchment area has been overstated	4.00 km2	The 2019 Flood Study used a manually delineated indirect catchment which is much larger than the FEH Web Service Catchment as indicated in the map included in the 2019 Flood Study. Local knowledge indicates the indirect catchment is much smaller than that used in the flood model.	Jacobs' Flood Study 2019, Figure 4-3 [page 20/45]	As per point 3. All overtopping frequencies and flow rates into Poynton Pool are significantly exaggerated as a direct result of the increased catchment. Reversion to the original catchment virtually halves inflows, grossly reduces the frequencies of overtoppings and any associated risks. The applicant has not used the much smaller, LIDAR determined, nationally defined catchment area. In making their own assessment they failed to consult the Coal Board, any local landowners, local historians or even the records and evidence available by flood first responders; Cheshire Fire Brigade. The Jacobs defined catchment area includes old coal mines and presents a scenario where underground flows **away from the Pool** may prove larger than expected.
5	The flood modelling has not been callibrated using historic inflow, outflow and levels data correlated against weather patterns	Jacobs in their 2019 Flood study report say that the dam will overtop ie flood during a 1:50 year event.	FoPP monitoring shows that the reservoir levels barely fluctuate, even after periods of intense, heavy rainfall.	Jacobs' 2019 Flood Study, Executive summary page iii 4th paragraph	CEC in their S19 flood incident on the July 2019 flooding event report note that at the Prestbury rainfall monitoring site just 2 miles away, a 1:150 year event was recorded with 130mm of rainfall. FoPP monitoring of spillway gauge levels compared to rainfall

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6	A detailed topographical survey has not been undertaken to confirm the dam crest height, top water level and accurately identify the freeboard shortfall	Three Conflicting Top Water Levels, (TWL): Poynton Pool Public Register, Issued by Environment Agency (EA), 08/02/24, TWL 90.711m. Updated 26/03/24, TWL 90.63m S10 Report 2016, TWL 90.711m Flood RA, Aug. 2023, TWL 90.63m FRA Model User Report 2023, TWL 90.63m 2019 Flood Study, Table 1.1, TWL 90.55m Six conflicting Crest Levels (CL): Poynton Pool Public Register, Issued by EA 08/02/24, CL 91.311m, Updated 26/03/24, CL 91.3m S10 Report 2016, CL 90.92m Flood RA Aug. 2023, CL 90.89m / 90.86m FRA Model User Report 2023, CL 90.86m Jacobs Cross section 7-7, DR-CI-1008 P2, CL 90.99m	The correct levels need to be identified in order for the existing minimum freeboard to be determined. This will confirm the level the crest needs to be raised to satisfy the minimum freeboard required to comply with the Reservoir Act. It should be noted the levels in the Public Register issued by EA, updated 26/03/24 were updated to suit **the** Planning Application 23/4152M nearly 1 month before the Application was deferred 24/04/24.	The conflicting levels are stated in the relevant documents listed in the 'stated' column on the left	Public register of reservoir data states: - Top of crest - 91.311m - Top water level - 90.711m This gives a freeboard height of 0.60m which is the minimum height according to the Reservoir Act
7	There are no historical records of the construction of the dam. The applicant has not undertaken a full ground investigation to determine the structure and composition of the dam	Unknown, assumed marl	The level or presence of the clay core is unknown. This should be established along with other geotechnical properties of the embankment. This should be determined prior to designing a solution. This investigation can be carried out without cutting down or damaging trees.	Jacobs technical memorandum to FoPP dated 7 February 2024, section 1. *"Ground investigation was considered prior to planning but would have required removal of trees to allow a drilling rig to access borehole position on the crest. In addition, the last Section 10 report (under the Reservoirs Act 1975) did not require a ground investigation of the dam, or its foundation. Ground investigation was therefore not considered necessary at concept/ planning design stage."* Jacobs Flood Study 2019 Executive Summary page iii states *"the level of the clay core is unknown. It is recommended that this should be established along with other geotechnical properties of the embankment, in order to quantify the risk of seepage through the dam."*	FoPP investigations identified that whilst there is a clay element on the eastern edge the dam, indicating a clay-lined lake rather than a clay-core dam, the embankment is constructed, at least in part, using highly permeable sand and gravel. This was confirmed by a series of 1cm dia. cores taken from locations across the embankment, and an augur sample taken from the embankment opposite 52-84 London Road North, which was originally constructed as part of the same water-impounding structure as the pool's western embankment. A small, tracked, low-ground-pressure drilling rig could carry out the necessary bore hole excavations without removing trees, and bore holes could probably be done using a hand auger without any machinery.
8	The trees on the embankment pose a risk to the reservoir safety and structure	*"The existing trees along the embankment also pose a risk to the reservoir safety for a number of reasons including the risk of tree roots damaging the dam structure, and tree shading the grass which reduces the erosion protection. Consequently, Cheshire East Council is obliged to implement necessary improvements against extreme flooding and implement these by the end of 2023 to avoid enforcement action by the Environment Agency."*	There is no evidence to support this claim. Many small privately owned reservoirs in the UK have trees growing on the embankments. FoPP contest that to maintain the structural integrity of the dam, it is essential to maintain continuity of tree cover, replacing trees that naturally decline and die, or are removed. Tree roots contain high-tensile cellulose that binds soil particles and increases shear strength, and reduces erodability of soil. The proposed removal of trees will reduce shear strength of soil in the embankment and make it more susceptible to erosion. Removal, decline and death of trees directly affected by the proposal will, over a prolonged period, result in the decay of roots and substantially reduce the mass of the embankment relative to its volume. This will result in settlement of the earth in the embankment. This reduction in the mass of the embankment will have significant consequenses for its stability and any new structures it supports.	Flood Risk Assessment, Page 11, Section 2.6 Reservoirs Act 1975	**Given that root biomass scales isometrically with stem (stem and branch) biomass and below ground biomass is approximately equivalent to 1/3 of above ground biomass (Niklas and Enquist, 2002) root biomass is undoubtedly a substantial component of the embankment. Roots will decay when trees are felled, topped or otherwise damaged.**

Inaccuracies sent to the Planning Case Officer for the Poynton Pool Spillway Application May 2024

No	Baseline inaccuracies	Stated	Challenges	Where stated by applicant	Evidence to support challenge
9	The decision to proceed with Option 3C was made when the risk of upper dam failure was incorrectly stated as falling into the "unacceptable" zone of risk	Jacobs technical memorandum to FoPP dated 7 February 2024, section 3: *"It is acknowledged that Figure 4.3 of the Initial Options Report, which is mentioned in the submitted Summary Options Report and published on the Scheme website, had incorrect position of boundaries of the ALARP zone, but the current risk was correct and remains unchanged."*	Jacobs acknowledged in their 7 February 2024 technical memorandum that the position of the ALARP (As Low As Reasonably Practicable) upper and lower boundaries on the chart were **incorrect** in their 2021 Options Report. The statement: "the current risk was correct and remains unchanged" is incorrect as rectifying where the boundaries are positioned on the chart shows that the the risk falls into the ALARP zone as evidenced by the 2023 Option Report. The correct ALARP assessment which shows the risk is tolerable has not been included as part of the planning application.	Jacobs technical memorandum to FoPP dated 7 February 2024, section 3 Jacobs 2021 Spillway Upgrade: Initial Options Report Figure 4-3 [page 39/99] states: *" 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. HSE guidance is similar if the current risk was in the 'Broadly acceptable' zone."*	Jacobs' September 2023 Spillway Upgrade: Initial Options Report Figure 4-3 [page 39/75] includes a corrected version of the ALARP assessment showing the risk sits in the ALARP zone. **Whilst on a log/log scale graph, the change is visually minor, in reality it is substantial.** The suggestion "that the current risk moved from just into the unacceptable zone into the top of the ALARP" is untrue and an attempt to minimise the perceived impact of the error that led to the risk being described as 'HIGH', when it was actually in the Tolerable (ALARP) zone of risk in the document that informed the Council's decision to proceed with the application proposal (Option 3C). Professor David Ball's report for Poynton Town Council 2023, Section 4.4
10	People affected by dam failure has been overstated	3500 people	75 to 282 people All reference to Jacob's own modelling, which identified a significantly lower risk, is not referred to in the planning application	Planning Case Officer's report to Strategic Planning Board (SPB): *"The Environment Agency reservoir flood mapping carried out in 2019 shows that the consequence of failure of Poynton Reservoir in a flood is likely to lead to flooding affecting around 3500 people, is likely to lead to loss of around two lives, and cause £79M of property damage."*	Jacobs' Rapid Dambreak Flood Study 2021 Table 4.4 [page 38/99]
11	Likely loss of life due to dam failure has been overstated	2 lives	0.09 to 0.67 lives All reference to Jacob's own modelling, which identified a significantly lower risk, is not referred to in the planning application	Planning Case Officer's report to Strategic Planning Board (SPB): *"The Environment Agency reservoir flood mapping carried out in 2019 shows that the consequence of failure of Poynton Reservoir in a flood is likely to lead to flooding affecting around 3500 people, is likely to lead to loss of around two lives, and cause £79M of property damage."*	Jacobs' Rapid Dambreak Flood Study 2021 Table 4.4 [page 38/99] Professor David Ball's report for Poynton Town Council 2023, Section 4.5
12	Damage to property has been overstated	£79m	£1.4m All reference to Jacob's own modelling, which identified a significantly lower risk, is not referred to in the planning application	Planning Case Officer's report to Strategic Planning Board (SPB): *"The Environment Agency reservoir flood mapping carried out in 2019 shows that the consequence of failure of Poynton Reservoir in a flood is likely to lead to flooding affecting around 3500 people, is likely to lead to loss of around two lives, and cause £79M of property damage."*	Jacobs' Rapid Dambreak Flood Study 2021 Appendix E [page 80/99]
13	The need for the proposal does not outweigh the identified harm and volume and strength of local opposition	Planning Case Officer's report to SPB	The risk is tolerable therefore there is no justification to proceed with Option 3C which contravenes 22 of Cheshire East Council's own policies as follows: CELPS - SE3, SE4, SE5, SE6, SE7, SE13 SADPD - ENV1, ENV2, ENV3, ENV5, ENV6, REC1, HER1, HER7 PNP - EGB2 , EGB3, EGB7, EGB8, EGB9, EGB15, EGB20, EGB21	Planning Case Officer's report to Strategic Planning Board (SPB) states: *"the identified harm is considered to be outweighed by the need for the proposal and the lack of any viable alternatives in this case. Accordingly, the application is recommended for approval."*	Not withstanding the risk is overstated, it is within the ALARP (tolerable) region of risk and therefore needs to be considered on the balance of cost and benefit taking account of the CAVAT value of the trees and the benefits not being overstated by applying a gross disproportion factor of 5. Professor David Ball's report for Poynton Town Council 2023, Section 7
14	The stated 'lack of viable alternatives in this case' as justification to proceed with this planning application is inaccurate	Planning Case Officer's report to SPB	There are more environmentally friendly, viable alternatives that would be acceptable to the local population The options put forward by members of the public and FoPP have not been fully and independently evaluated taking account of the errors in the flood study Option 3C was put forward by Jacobs and agreed by Cheshire East Council when the risk was incorrectly stated to have an unacceptable level of risk.	Planning Case Officer's report to Strategic Planning Board (SPB) states: *"the identified harm is considered to be outweighed by the need for the proposal and the lack of any viable alternatives in this case. Accordingly, the application is recommended for approval."*	The following are environmentally friendly, cost effective options for Poynton Pool: Option A: raise the crest using earth Option B: raise the crest using screw piles and plastic stop logs as demonstrated to be an effective solution at Tredegar House Dam project in Newport Option C: use existing culvert with overspill Option D: new culvert

No	Baseline inaccuracies	Stated	Challenges	Where stated by applicant	Evidence to support challenge
15	The project cost of Option 3C included in the planning application is understated	£540k	£1.4m+	Summary options report: Table 2-5 Summary of Initial Options Assessment [19/32] *"It should be noted the cost estimates were developed to support the option evaluation and are likely to have increased since the report was issued in 2021.* ***In addition, they did not allow for the increase in freeboard needed to meet the full engineering standard in FRS4." [Page 18/32]***	CEC FOI request 23942757 - Summary of funds spend and future costs on the Poynton Spillway Project show scheme costs of £1,403,630. Jacobs technical memorandum dated 7 February 2024:
16	The scheme cost fails to take account of the Capital Asset Value for Amenity Trees (CAVAT) despite the risk being restated as tolerable	£0	£3 to £5m	Jacobs' technical memoranum dated 7 February 2024: *"during the pre-planning application meeting and subsequent response the requirement to have a CAVAT assessment was not referenced."*	Professor David Ball's report for Poynton Town Council 2023, Conclusion Section 7. CEC's Tree Officer's consultation response states: "It is recommended that a CAVAT assessment or other cost equivalent replacement calculation be submitted in support of this application in order to ascribe a value to the trees lost."
17	The scheme cost fails to take account of the Landscape Management Plan	£0	CEC will be liable for all landscape management costs after the end of year 1. The landscape management plan makes no provision for the ongoing management of trees afffected by the proposal	Landscape management plan. Peter Skates' response to questions raised at Economy and Growth committee on 26 January: 2024: *"A Management Plan for Poynton Pool has indeed been prepared as part of the scheme. It is recognised that there will be future costs required to undertake this management on a yearly basis and that the Council needs to provide funds for this."*	Peter Skates' response to questions raised at Economy and Growth committee on 26 January 2024: *"A Management Plan for Poynton Pool has indeed been prepared as part of the scheme. It is recognised that there will be future costs required to undertake this management on a yearly basis and that the Council needs to provide funds for this."*
18	Number of trees to be cut down and severely impacted by the scheme understated	31	80+	Planning statement: *"The number of trees requiring removal has subsequently* ***reduced to 31****."*	Planning case officer report to SPB states: "It has been confirmed that 78 trees and two 40m sections of Hawthorn Hedgerow will be removed as a result of the proposed development. 49 trees and 10 groups are also identified to be impacted by the proposals, largely by crown lifting over working areas or by RPA encroachment. The CEC Tree Officer's consultation response states: "Trees are missing from the submitted reports and must be included and assessed as part of a revised AIA." (Arboricultural Impact Assessment)
19	Environmental Impact Statement not carried out	Area of impact initially stated as 0.19ha, later updated to 0.71ha following objections during screening	Area of impact taking into account car park and tree canopy cover/roots greater than 1.00ha	Planning application 22/4001S, notice of decision states: "Site is less than 1ha. Stated to be 0.19ha in supporting document. Submitted location plan shows area to be greater than 0.19ha but less than 0.7ha."	Area of impact is approximately 1.48ha as evidenced from Google Earth when measured correctly The site is also included within the Landscape Character Plan
20	Drawing inconsistences AIA page 35	AIA, 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. This is conflicting information.	AIA, page 35, Drg. No. DR-EN-009, P01	As stated in the columns to the left
21	Drawing inconsistences AIA page 36	AIA, 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.	AIA, page 36, Drg. No. DR-EN-010, P02	As stated in the columns to the left
22	EAR (Environmental Assessment Report) version P02 excludes the zone of influence (ZoI) within the desk study	When the desk study was updated the area used was reduced to the site boundary with the 50m ZoI no longer included.	Reducing the search area within the local records database has missed important records of impacted wildlife species with legal protections that require mitigation	Inconsistency can be found when comparing the EAR version P02 from 13/02/24 with the EAR that was submitted with the application in November 2023	The EAR was updated in response to the consultation where it was noted a large amount of information was now available within the Local Records Database that is applicable to the desk study, no reason has been given in version P02 as to why the area included within the desk study has been reduced. The ZoI is the area over which ecological features may be subject to likely significant effects as a result of the proposed Scheme and associated activities (CIEEM, 2018).

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23	Jacobs Technical Memorandum 07/02/2024 erroneously claims Poynton Pool is not included within the local landscape designation	According to the technical memorandum the current LCA (Landscape Character Assessment) document from May 2018 does not include Poynton Pool under what is refered to as the 'new Cheshire East Local Plan', this memorandum was produced in response to FOPPs objection following FOPP review of the submitted documentation in November 2023	This is factually incorrect and is a material consideration within planning decisions and therefore should be taken into account within the submitted documentation. Poynton Pool is clearly mapped within LCT11 Higher Wooded Farmland The current proposal will have a devastating and permanent impact on the landscape within LCA11a	Jacobs Technical Memorandum 07/02/2024 referring to the current valid LCA, May 2018 which supports the current local plan	Poynton Pool is cleary mapped within LCT11 under LCA11a and is even referred to by name: 'Adlington Character Area including Poynton Lake, Whitley Green Butley Town' The planning case officer report clearly states 80+ trees and 80m of hedgerow will be removed, this is a large increase on already significant removal of 31 trees and parts of multiple tree groups within section 6 of the EAR. This volume of tree removal will have a permanent and not temporary impact on the landscape, to state the canopy will close within 15 years is simply untrue based on this level of tree removal.