**COX’S WALK FOOTBRIDGE**

**Response to campaigners questions - September 2020**

**General**

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| ***Campaigners Question*** | **Response.** |
| *Do the Council agree that there is a cost effective solution to keeping the trees and repairing the bridge?* | **The Council has throughout the 2 year duration of this project always strived to acheieve a cost effective solution that enabled the trees to be retained whilst ensuring it could maintain it’s statutory duty of maintaining a safe public highway. Various design solutions have been investigated and all required work within the tree root areas.**  **The campaigners draft design proposal will increase the costs significantly over the current council proposal. In addition, the proposal has not addressed the issue that works will be required within the root zone where the screw piles are planned to be placed.**  **The Council can not agree that there is a cost effective solution that will enable the trees to be retained.** |
| *Have Aecom (a multi billion pound design consultant) provided a value engineered solution that keeps the bridge and retains the trees?* | **The solution developed by the Council’s consultant is based on the structural requirements. The trees, due to their proximity to the structure are affecting the implementation. In order to retain the trees, there is no cost effective design solution that can be developed that will not compromise the needs of the structure.** |
| *Are FMConway a suitable contractor to work around the trees? Should you not be engaging a specialist contractor who can deliver the Aecom design or our proposals that keeps the trees? The AECOM arboricultural report concluded ‘Repair to the footbridge is likely achievable however, careful specialist techniques will be required to prevent damage to the two trees.’* | **FM Conway are the council’s contractor for all construction activities in the borough in relation to the public highway. The contractor has recent experience of undertaking bridge works in close proximity to trees. The campaigners own engineer has acknowledged that FMConway are competent in carrying out works close to trees. In addition, the council has it’s own in-house tree specialists that will be working with FMConway on any works associated with the trees.**  **If the works are carried out requiring removal of the trees, specialist techniques would not be required.** |
| *Why are you removing the trees in the first place? Who decided they needed to come out and why can you not work around them? Has the Aecom arboriculturalist visited site and reviewed our arboricultural report? Do they agree with our assessment on where the roots are located, if not why not? The AECOM arboricultural report was supportive of a design like the one we are proposing ‘Piled foundations (e.g. screw piles) are likely to have the least impact on trees and would also protect against any future subsidence or heave.’* | **The close proximity of the tress to the bridge means that there is no cost effective repair solution that will ensure the longevity of the bridge and allow the trees to be retained.**  **This issue has been addressed in the past and it is confirmed that the Aecom consultants have reviewed the campaigners arboricultural report.** |
| ***Executive summary*** *– has a specialist contractor looked at the site and been tasked with coming up with methodology in consultation with an arboriculturalist who can oversee the works?  If not, why not?* | **FM Conway will sub-contract any tree specialist works as necessary to complete the project.** |
| *Has any dessication testing been done on the underlying London Clay to look at the clay heave potential following removal of the trees? If not, why not?* | **The design of the Council’s proposal considered differential movement, that also considered potential ‘clay heave’. The size of the foundations to the reconstructed abutments were increased to accommodate any potential differential settlement.** |
| *Why is there no mention of the CAVAT value of the trees, which is over £240,000 and should be included in any cost calculation, as the Council would expect from any other developer?* | **This is not a development proposal and therefore the CAVAT value is not applicable to the cost considerations. CAVAT value is not a monetary sum that can be realised to offset against the design and construction costs.** |
| *What does it mean by “risks remained to trees during construction.”? A competent contractor under the supervision of the arboriculturalist can mitigate the risks by being there and managing the works. What quantifiable risk are you referring too?* | **The evaluation of the proposal, particularly in the proposal for the proposed seating in the embankment determined that there are risks to the roots of the trees during construction. The position of the screw piles could have serious impacts on the main roots of the mature trees.** |
| *What does it mean by “risks remained to trees during construction.”? A competent contractor under the supervision of the arboriculturalist can mitigate the risks by being there and managing the works. What quantifiable risk are you referring too?* | **The construction methodology to be adopted in construction of the campaigners alternative proposal has not been provided, as the detailed design for has not been undertaken. The proposals, that are at outline stage require a considerable amount of work to give assurance that they are achievable. There are concerns with the proposals for the ‘screw piles’, which do not fit within the profile of the proposed seating, to accommodate the loads of the bridge.**  **There is a risk that screw piling will encounter large diameter tree roots or brick debris in the backfill of the existing abutment.** |
| ***Costs -*** *Due to the lack of engagement with Southwark we were never going to go to the expense of a detailed assured design so what specific methodology do you want us to detail?  Would a specialist contractor used to working around trees not be a more suitable candidate to provide you with a detailed methodology?* | **The methodology to be utilsed in the construction of the proposal, including the necessary temporary support works to the existing beams to be retained in place.**  **The bridge was designed and constructed before the trees were in place. The tree ages have been estimated at 99 years and 141 years, therefore much younger than the structure. Therefore the accomodation for the trees at this stage can only compromise the integrity of the structure.**  **The reinforced concrete based slab was designed to accommodate differential settlement due to shrink/swell of the clay soil, in addition to the moment at the base of the walls due to earth pressure.** |
| *Aesthetics: Please explain your comment “deleterious”. Our proposal is neither causing harm or damage and I would suggest that taking the trees out is the only aspect of this project likely to cause harm. Please explain the risk assessment carried out and the risk of heave by changing the equilibrium of the slope by removing the trees. Removing the trees has the potential for destabilising the bank, how does your scheme deal with this?* | **The proposal provides a radical change to the aspect and configuration of the historical bridge, which has a heritage value. The ‘deleterious’ description covers the significant change to the look of the historical structure.**  **The potential for ‘heave’ and bank destabilisation has already been covered above.** |
| *Construction of the West Abutment “….debris to remain from the original construction…These could all impact the practicality of the screw pile…..” Yes but the point is you don’t know and by engaging with a specialist subcontractor and working with the arboriculturalist you can be prepared for what you find on site. We are happy to project manage the works for Southwark and engage a contractor who can plan to mitigate this.* | **The proposed use of screw piles has been reviewed.**  **The dimensions of the existing foundation at the west abutment, which would remain in place even though the above-ground structure was removed, are not known with certainty. The implementation of the screw piles would be compromised by the existing foundation.**  **There is limited headroom to install the screw piles** |
| *Detailed Engineering Design Comments Explain “difficult to construct” ? This is not difficult to construct for a specialist sub-contractor appropriately supervised. We can explain to you how works can be carried out in a safe and efficient manner.* | **An example is the the proposed connection between the pilecap and the steel frame is hidden in non-structural concrete thus creating an uninspectable structurally critical detail. This is not acceptable and should be reconsidered.** |
| *Conclusion How can you have cost certainty of our alternative proposal if you have not carried out a special investigation report? You look to have priced risk into it because of the need for more detail and we can work with you to mitigate the risk and achieve cost certainty.* | **The present contractor, with a great deal of experience in the construction of bridges in woodland in the borough, was requested to price the proposal in terms of delivery of the proposal.** |
| *Please explain “ a risk remains that there will be damage to the roots”? This is explained in our arboriculturalist report. Of course there will always be a risk and removing the trees introduces an inherent risk to the slope stability which you clearly have not quantified?* | **The proposed use of ‘screw piles’ has been reviewed comprehensively.**  **The dimensions of the existing foundation at the west abutment, which would remain in place even though the above-ground structure was removed, are not known with certainty. The implementation of the screw piles would be compromised by the existing foundation.**  **There is limited headroom to install the screw piles** |
| *Have any engineering checks been done to justify the assertion that screw piles would not be feasible to install inboard of the abutment wing walls and their likely stepped out foundations, for example a piled raft bankseat in a double cantilever arrangement with piles set inboard of the abutment wing walls to facilitate construction? If not, why not?* | **It is assumed that this alternative suggestion of the double cantilever was not considered in the proposal by the campaigners as it was less practical than the proposal submitted.**  **There would be significant design costs associated with any further development of design proposals and would obviously mean that there would be at least a further 12 months delay for any works to the bridge.** |
| *Please explain “ …the alternative design are unsatisfactory..” why? We have not set out to do Aecoms job for them and this is an outline design which we can develop if you are interested.* | **This is the outcome of the review of the proposal and the actual concerns with the outline design of the campaigners proposed solution. All issues have been addressed in the previous questions.** |
| *Your recommendations are not based on fact and are misleading. If you would actually talk to us about your reasons for removing the trees with evidence then we could help you come up with an agreeable solution. The principle should be to keep the trees and repair the bridge.* | **All the alternative submitted proposals have been comprehensively reviewed.** |
| *Introduction 1.1 Para 3 – 14 of the promised 15 replacement oaks were planted in Spring 2019. At least two have already died and not been replaced. What is the comparable value of the trees planted and over what time period do they replace the value of the 2 mature oak trees?* | **Any of the replacement trees that have died will be replaced at no cost to the council.**  **It is accepted that the comparable value of the replacement trees (and any further mitigation planting carried out as part of any future bridge works) will take some considerable time to achieve a comparable value of the existing oak trees.** |
| *Para 3 - Have any engineering checks been carried out to look at the relative stiffness of the timber truss and a 305x137 UC steel beam? If not, how can CA justify their assertion that the timber trusses on either side of the bridge do not participate in the global action of the bridge considering they have a higher stiffness and are connected directly via M20 bolts with no allowance for movement and considering the specific current state of disrepair of the bridge and the frequency that the timber framing has had to be replaced in the last 25 years (bolts yielded and extensive rot of timber at the bolted connections indicating overstressed connections).* | **The loading system of the bridge of the bridge does not rely on any stiffness from the timber truss.**  **The existing trusses do not participate in the global action of the bridge, resisting only loads from the parapet, self-weight and wind. However, the trusses exist to replicate the appearance of the earlier king-post truss bridge.**  **The reinforcement design for the deck does not consider the requirements of UK NA to BS EN 1993-2/5.3.4 101(P) which requires the use of higher ductility class B500B or B500C reinforcement in bridges. Furthermore, the B196 mesh specified in the west side span does not conform with the requirements of MCHW 1712 (4).** |
| *2.3 Abutment Design Screw piles damage to the tree roots is covered in the arboriculturalist report, have you read the report?*  *•“it is likely that the pile positions indicated would not allow installation of the screw piles….” You cannot confirm this until you have consulted with a specialist contractor but the advice we have had is that it is possible or we wouldn’t have proposed it.* | **There is a risk that screw piling will encounter large diameter tree roots or brick debris in the backfill of the existing abutment that will cause the screw piling to refuse.**  **The dimensions of the existing foundation at the west abutment, which would remain in place even though the above-ground structure was removed, are not known with certainty. Given that the concrete footing extends 400mm beyond the outer face of the wall, and that the wall is stepped inwards on the inside face, it is likely that the pile positions indicated would not allow installation of the vertical screw piles allowing for the width of the helices of the screw piles.** |
| *2.5 Superstructure Para 6 - Is any photographic evidence available that proves CA's assertion that the thickness of the concrete slabs on the bridge are 200mm thick? If not, why not? Photos attached to show the true thickness.*  *• Final Para. – We do not agree with your statement. Why do CA think a crane would be required to install 5.3m long beams that weigh 250kg? Has the concept of using a scaffold at either side of the bridge with a frame gantry installed across the bridge been investigated? Temporary works could be provided to deliver the beam and we can work with you to confirm the methodology.* | **See earlier surveys and inspection reports.**  **The statement confirms that the methodology to implement the proposal has yet to be developed. The delivery of materials to the site would require them to be craned in.** |
| *• 2.6 Cost Estimate What are the details of this cost estimate for the Council’s preferred scheme? We have provided a detailed Elemental Cost Plan, but have only been given ballpark figures for the Council’s design. These have been variouosly stated as £216k, £232k and £280k in different documents.*  *• How much contingency has been included in this estimate?*  *CA state that the costs prepared by them for our team’s scheme are broadly comparable with Stockdale’s. They are not. Only the minor elements such as concrete work and finishes are comparable. In all other areas they are high/very high in comparison.*  *CA state that design fees should be added. That may be true but their own figures do not include design fees and the comment implies that this is a point of difference.* | **The costs for the Council’s proposed construction has been revised in line with the current contract rates at £232k. There is no design cost as the detailed design has already been completed.**  **The proposal submitted requires design resources to develop the design, therefore the fees for the development will need to be added to the construction estimate.**  **There are provisions for access at £30k** |
| ***Appendix B: Revised Cost Estimate for the Alternative Design*** |  |
| *• CA have included £38k for scaffolding. We recently received prices for a large 4 storey building scaffolding just off London Bridge. The cost was £25k. I struggle to see why a low level scaffold to this bridge would cost £38k. The difference is £24k.*  *• CA has allowed £30k to dismantle the trusses etc. At their own day rates this is 1000 hours, say 800 hours once skips and equipment are taken into account. 100 days work seems far too high. The difference is £21k.*  *• For the screw pile costs we used a written quote for a very similar system from another project. The CA figures seem far too high – the system is very simple, the equipment hand-held. I think their estimate is not well-informed and is far too high and I am confident that our figures are much closer to the actual cost. The difference is £21k*  *• CA has allowed a lump sum, without breakdown, of £68k for the steelwork. I have measured and described every piece of steel. There are 3 tonnes of steel. There are certainly numerous complexities to this steelwork which is why our figure equates to £8k per tonne (which is very expensive per tonne) but I think their estimate, especially without any justification is very high and unrealistic. The difference is £44k.*  *• CA make no specific allowance for preliminaries. Perhaps they are built into their other rates?*  *• We allowed £12k for restricted access costs ie 6 weeks for an operative and dumper attending on the deliveries. I doubt this is the final solution but, along with 15% preliminaries and 20% contingency it still seems a reasonable allowance. CA has applied 20% to all costs for restricted access. As noted above, was this applied when costing their own options? At £58k this equates to nearly 2000 hours, or say 1000 hours for an operative and small machine. I do think some premiums will apply to costs across the board due to the location, which is why I have kept my own rates quite generous. None of the CA rates appear tight, even before the 20% mark-up. This seems like an arbitrary and unreasonably high figure. Also the scale of works in both cases is similar so adding 20% would be inappropriate. Adding the same lump sum should be considered. The difference is £46k.*  *• CA has allowed £13k for some kind of temporary works system, plus 32m3 of excavation and concreting in connection with that system. I am not aware than our team’s scheme requires that level of temporary works. The cost is £19k*  *• CA has allowed a total of 264m3 of excavation in connection with the abutment work. This is excessive by a factor of about 10. It appears to be an error. It adds £15k.* | **The provision for scaffolding in dense woodland cannot be compared with the provision of scaffolding for a building on network with easy access.**  **The provision for screw piles has not been verified. There is no information on the design of the screw piles, therefore the screw piles are a risk.**  **The issues with the design and suitability of the proposed screw piles requires verification of the suitability and therefore risk of the proposal has increased.**  **The comments on the costs, are related to a proposal that requires a considerable amount of design costs to provide a viable solution. The costs will therefore be much higher for both the design and the contractor. The costs on a viable solution will be relevant, as yet that has not been reached.** |