

A605 KINGS DYKE LEVEL CROSSING CLOSURE

To: Economy and Environment Committee

Meeting Date: 15th August 2019

From: Steve Cox, Executive Director, Place & Economy

Electoral division(s): Whittlesey North & Whittlesey South

Forward Plan ref: 2019/009 **Key decision:** Yes

Purpose: To outline the outcome of the stage 1 design contract and to consider the next steps for this project.

Recommendation: The Economy and Environment Committee is recommended to:

- a) Agree that Kier should not be awarded the stage 2 construction contract.
- b) Reaffirm that route 3 remains the preferred route option.
- c) Approve the commencement of a restricted two stage OJEU procurement of a target cost with activity schedule design and build contract in accordance with option (c) in section 2.33.
- d) Agree the assessment of tender returns based on a 60% - 40% price/quality split.
- e) Agree that officers should consider potential sources of further scheme funding should it be needed as the procurement proceeds.
- f) Delegate to the Executive Director in consultation with the Chairman and Vice Chairman of the Committee, the ability to make minor changes to the procurement process and timeline.

<i>Officer contact:</i>		<i>Member contacts:</i>	
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1. BACKGROUND

- 1.1 The A605 between Whittlesey and Peterborough carries over 14,000 vehicles per day and there are some 120 daily train movements across the level crossing that crosses the road. The resulting closure of the King's Dyke level crossing barrier causes significant delay to traffic. Future plans by the rail industry to increase the number of trains along the route will further increase delays.
- 1.2 The situation is exacerbated during the winter months, when local flooding often closes the North Bank, an alternative route between Whittlesey and Peterborough, for long periods of time. Some additional 5,000 vehicles a day displaced by this closure use the level crossing, doubling the average delay per vehicle. The delays have an impact on local businesses and commuters travelling between Whittlesey and Peterborough.
- 1.3 Three new route options were considered and the County Council's Economy and Environment Committee agreed in 2015 to progress the preferred option that was identified through public consultation. This consultation also showed considerable support for the project, with 95% of all respondents supporting closure of the crossing.
- 1.4 Planning permission was subsequently granted for this preferred option in March 2016 and a design contract was awarded to Kier to complete the detailed design following a competitive procurement process in August 2017. This process also allowed for a future construction contract to be awarded to Kier, subject to agreement of pricing and satisfactory performance.
- 1.5 In October 2018 it was reported to this Committee that the Council had been informed by Kier that its estimated initial target construction contract price had increased significantly, following completion of 90% of the detailed design work.
- 1.6 This increase to £15.8 million, equated to a doubling of the original Kier estimate prior to this design work. However, the Council was given assurances that this was a robust price and that appropriate levels of risk allowance had also been incorporated. With a risk allowance for further Council owned risks, land and scheme preparation costs added to the Kier target price, the revised total scheme cost was just under £30 million
- 1.7 The revised benefit cost ratio (BCR) for the scheme, using this new target price, remained very high, indicating that the scheme would deliver excellent value for money, despite the required budget increase.
- 1.8 This Committee subsequently approved the award of the stage 2 construction contract based on this price and to complete the purchase of the required land, subject to approval of the additional funding which was secured, following a bid to the Cambridgeshire and Peterborough Combined Authority in October 2018.

2. MAIN ISSUES

Delayed outcome to the detailed design phase

- 2.1 The design contract for stage 1 was awarded to Kier on 30th October 2017, with Skanska appointed under the Highway Services Contract, to undertake the contract project management. The contract was to complete a full detailed design and propose a target price for construction that incorporated all design risk.
- 2.2 At the time of committee in October 2018, a significant number of changes in the design had become necessary as the detailed design progressed and more information was gathered. These changes principally related to increased ground improvement requirements and additional stabilisation work at the disused clay extraction pit (Star Pit), identified from further investigation. More earth moving, structural requirements at the railway bridge to comply with Network Rail requirements and accommodation works required by land owners were also needed as a result of land negotiation.
- 2.3 Since then it has become apparent that the design was not 90% complete when the revised target price was given and indeed, the detailed design has only very recently been completed, a significant delay over the agreed programme with Kier.
- 2.4 The Council has continued to press for an outcome to the stage 1 design contract throughout this period of delay. In recent months Kier had indicated informally that a further increase in its target construction price quotation was likely, as the continuing design has been emerging and Kier had further dialogue with its supply chain.
- 2.5 A formal submission was finally received on 17th July 2019, with a target price of £26.2m, a further £10 million higher than the previous target price quotation in October 2018 and an associated two year construction programme, completing January 2022, assuming a January 2020 start date.
- 2.6 Kier's reasoning behind this increase falls across a number of areas. These primarily include further increases in earthworks and preliminaries, as the programme is now longer, increases due to missing dates for disruptive rail possessions and assessment of risk associated with the Star Pit. Whilst these are the headline increases, a general minor increase across most items is also evident.
- 2.7 External cost consultants have reviewed the latest price submission and have considered it high compared to similar projects. Evaluation was made by comparing the price per metre of a road constructed on an embankment. The report concludes by stating "in our opinion a competitive market may offer a better value solution".
- 2.8 The considerable performance issues the council has experienced with Kier, from delays to the completion of the stage 1 design contract and budget management capabilities, are also of significant concern.
- 2.9 Awarding the stage 2 construction contract to Kier is therefore not recommended, particularly based on the lack of an acceptable level of assurance that the submitted price represents good value for money. Instead, retendering on the open market is proposed.

- 2.10 Whilst there are no guarantees that a more competitive price would result from retendering the scheme to the open market, it is regarded as the only way to truly demonstrate value for money and accountability to the public purse, and is therefore highly recommended.

Review of route options

- 2.11 The scope of work required to construct this scheme has increased considerably since the completion of the detailed design and its associated estimated cost, and it is therefore an opportune time to review the original route selection.
- 2.12 Figure 1 below shows the three route options that were considered previously and subject to public consultation in 2014. This consultation showed 95% support for the scheme overall, with 58% supporting Route 3, which subsequently became the preferred route. Routes 1 and 2 gained 17% and 23% support respectively.
- 2.13 Table 1 provides a summary review of these route options.

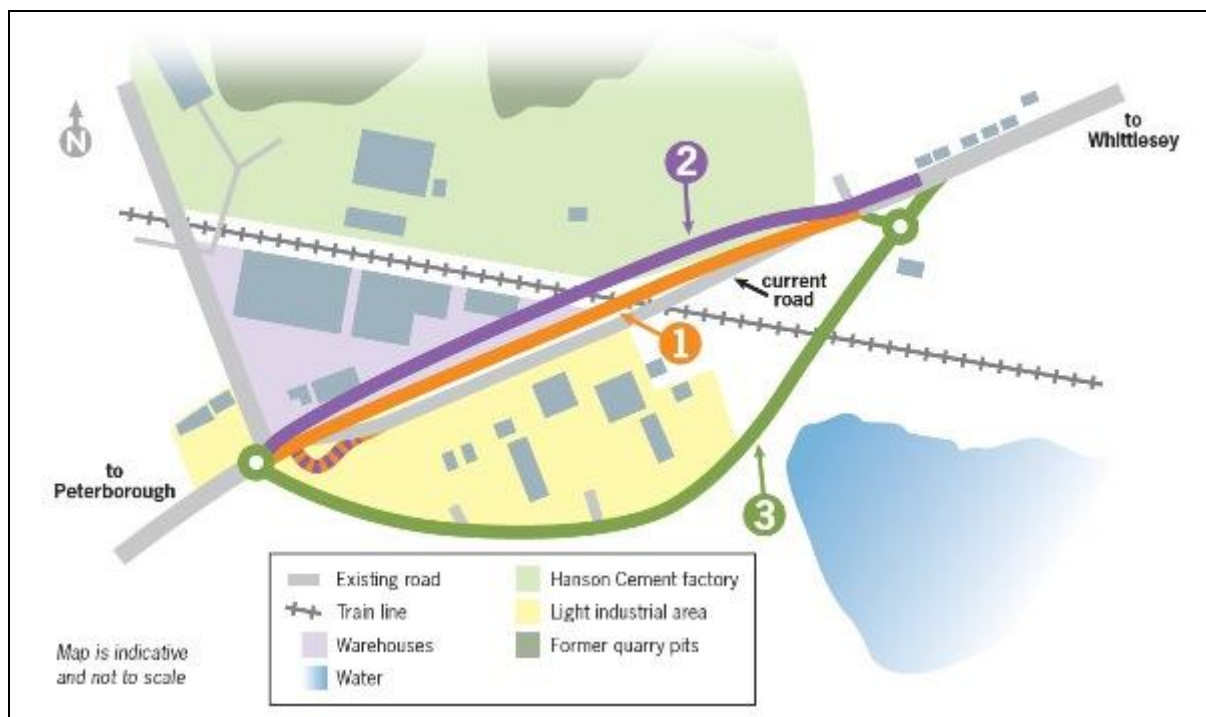


Figure 1 – Kings Dyke Level Crossing Closure Route Options

Table 1 – Comparison of Route Options

	Route 1 <i>Partly online</i>	Route 2 <i>northern alignment</i>	Route 3 <i>southern alignment</i> <i>(preferred route)</i>
Alignment	Shortest route – partly online with existing A605.	Route further north through chilled storage business	Route to the south away from property but close proximity to star pit.
Planning Application required	Yes	Yes	No - already granted, pre- commencement conditions discharged and planning permission triggered
Design Complete	No	No	Yes
Land Purchased	No – negotiation required. Compulsory Purchase Order (CPO) may no longer be available.	No – negotiation required. CPO may no longer be available.	Yes – all land owned by Cambridgeshire County Council (CCC).
Disruption during construction	Significant traffic management	Significant traffic management	Minimal traffic management
Key risks/issues	Mechanical signal box requires relocation – opposed by Network Rail – time consuming and very costly	Chilled storage business would no longer be able to operate – business objects to this route option and would require relocation	Construction in close proximity of the star pit, but this has been incorporated into latest design
Design risk	Significant number of unknowns and therefore risk due to lack of design development	Significant number of unknowns and therefore risk due to lack of design development	Very few unknowns, significant survey and investigative work and design complete with design risk owned by the contractor including star pit.
Key benefits	More direct shorter route	Shorter route along existing corridor	Roundabouts unlock economic development and improve access to side roads at roundabouts. Likely reduction in existing traffic speeds and reduction in road safety risk. Minimal traffic management required during construction.
Estimated Earliest Completion Date	2026	2026	2022
Cost Certainty	Low – significant risk due to unknowns and no developed design	Low – significant risk due to unknowns and no developed design	Medium/High – price received design complete - few unknowns

- 2.14 Table 1 shows that Route 3 can be delivered around four years earlier than the other two options. This is principally because it benefits from a planning permission, land to deliver it has been purchased and the design is complete, whereas all of these elements would need to be secured for the other two options. There are also significant risks associated with Route 1 and Route 2, particularly around the need to negotiate with local businesses and relocate the railway signal box. Experience shows that these sort of negotiations take a considerable amount of time and can be very expensive. Ultimately, there is also a risk that jobs in existing businesses will be lost and with routes 1 and 2, there is less ability to open up land for new job creating development.
- 2.15 In summary therefore, retendering for delivery of the scheme on Route 3 is recommended, as this will be the quickest and lowest risk option to address the severe problems that occur regularly at the level crossing.
- 2.16 A local information event with the local community is being held on Monday 12th August, between 3pm and 8pm, to confirm whether the local view also remains that route 3 is the preferred option. The outcome of this will be reported verbally to committee

Procurement options

- 2.17 The detailed design for Route 3 has now been completed by Kier and their designers Ramboll and the design is owned by the Council. It is therefore recommended that a re-procurement exercise commences on the basis of that design.
- 2.18 The scheme was originally procured through the Eastern Highways Alliance framework of which the Council is a member. Given what we now know about the scheme following the stage 1 design, in order to achieve the best possible outcome from the additional time and investment in a procurement process, it is recommended that the opportunity be offered widely through a tender to the open market, thereby giving all contractors the ability to express interest.
- 2.19 The tender will therefore be required to follow the Official Journal of the European Union (OJEU) process. This can be a single stage 'open' tender or a two stage 'restricted' tender process. The restricted process is the most attractive to contractors and is recommended in this instance. It incorporates an initial selection process mainly based on quality, to shortlist a minimum of five contractors to receive the main invitation to tender. This reduces the number of main tender returns to those of the highest quality and focusses competition between these contractors. Many contractors have a policy of not responding to opportunities unless this process is followed, as the case for investing time and costs is far less attractive if the potential number of returns is unlimited. This creates too much competition and the chances of success are much less.
- 2.20 This issue is particularly important for this procurement, as the contractor will be required to complete a significant amount of work reviewing the existing design and proposing potential savings with its consultant during the tender period. This will be at the contractors cost and therefore at risk.

- 2.21 The contract itself is proposed to be based on the 4th edition of the New Engineering Contract (NEC), which is a series of contracts designed to manage a project, particularly a civil engineering project from start to finish. They are the most frequently used form of contract for UK highway infrastructure schemes and therefore a good level of experience exists within the industry.
- 2.22 NEC contracts are seen as collaborative partnering contracts that aim to prevent an adversarial approach with resulting disputes and are endorsed by both government and industry bodies. They have a strong track-record for helping to deliver large-scale projects successfully. NEC contracts have been used for many high profile infrastructure schemes, such as Crossrail, London 2012 Olympic and Paralympic games and Heathrow's Terminals 2 & 5C.
- 2.23 The Option C – Target Price with Activity Schedule option of the Engineering Construction Contract suite is recommended. This is on the basis that it provides an equal balance of risk ownership between the council and the contractor to collaboratively and openly manage and achieve the 'target cost' supported by 'open book' accounting. Gain and pain share percentages are then used to incentivise both the setting of the target and management of the costs throughout construction.
- 2.24 In re-procuring this scheme utilising the design produced by Kier, there are then three key options for consideration:
- (a) **Construction only contract** – The tender target price would purely cover construction cost and the contractor's risks associated with that activity only. All future required design changes become the responsibility of the council to manage and fund throughout construction. A separate consultancy services contract would then also be required for the council to procure engineering design advice throughout construction, at additional cost.
 - (b) **Design and Build contract (nominated consultant)** – Kier's current designer (Ramboll) would be nominated as the sub-contracted designer for each bidding contractor to engage with. The contractor's target price would then incorporate all design risk and future changes during construction, with all design responsibilities owned by the contractor.
 - (c) **Design and Build contract** – the contractor's target price would incorporate all design risk and future changes during construction, with all design responsibilities owned by the contractor as (b) above. However, the contractor would be free to engage with any consultant, although the scheme design now owned by the Council would be made available to contractors as they see fit.
- 2.25 Option (a) is not recommended, given the risks the council would be required to take ownership of and the lack of cost certainty this would generate. For example, any necessary changes to the scheme when the contractor is on site would need to be resolved with the Council's design consultant independently to the contractor. The contractor would then be instructed to carry out this revised work at additional cost to the council, as well as recovering any cost and programme impact against its original scope of work.

- 2.26 The contractor is better placed to manage this risk with its own design consultant, to minimise the potential impact, both from a cost and programme perspective. The risk of design changes during construction is extremely high and will be assessed by each contractor when submitting their tender prices and an allowance made in the target price, but this provides far greater cost certainty to the council.
- 2.27 This option would also prevent any opportunities for the current design to be reviewed to determine whether any small investments in amendments would generate any significant overall savings to the construction cost.
- 2.28 Options (b) and (c) both transfer design responsibility and therefore risk to the contractor. The tenderers would be requested to price the current design, but also separately submit any proposed changes to that design that generate overall savings to the council. These changes would be required to remain within the framework of the current planning permission and not lead to the need for material amendments to this permission.
- 2.29 The difference between the two options is whether Kier's designer Ramboll is nominated as the consultant with which all tenderers must sub-contract with and agree terms, or contractors remain free to sub-contract with a consultant of their choice.
- 2.30 The advantage of nominating Ramboll is the transfer of knowledge and experience of the project over the past 18 months, which would reduce the design verification time that a new consultant would require. This work would however take place during the tender period, so would not be funded by the council.
- 2.31 Contractors will need to be content with entering into partnership and contract with Ramboll. Many contractors have close working relationships with specific consultants and may not see this opportunity commercially attractive, given the perceived risk this may generate. This may therefore impact on the number of tenders received by the council.
- 2.32 Restricting the use of Ramboll also limits the potential opportunities to review the current design and encourage a fresh innovative review of options to make minor amendments to the design to potentially generate significant cost savings.
- 2.33 Option (c) is therefore the recommended option, which allows tenderers the opportunity to determine whether to use Ramboll or their own consultant, to generate their most competitive tender and ultimately be awarded the work.
- 2.34 The tender returns are proposed to be assessed based on a 60% price, 40% quality split. This is on the basis that a two stage restricted process provides an initial quality assessment stage to shortlist five contractors that score highest. As a considerable amount of work has also already been completed and the design and specification has significant detail, the requirement to further assess quality in the main invitation to tender has less scope and is therefore less critical. Achieving value for money is therefore the priority and this price-quality split will encourage competitive pricing and encourage potential savings to be explored by tenderers.

Forward programme

- 2.35 If a restricted OJEU process is followed as recommended, then the following timeline would apply;

August 2019	Committee approval to progress with restricted OJEU process
September 2019	Advertise opportunity through OJEU notice
December 2020	Construction commences
Late 2022	Construction complete

- 2.36 It should be noted that there are risks that could potentially impact on this timeline as follows:

- The actual programme for mobilising and starting construction will be subject to the programmes that are received through the competitive tender process.
- It is possible there may be issues with the current design that need rectifying which will take time. The risk of this is thought to be low, given the design has been checked and signed off by the Skanska as the Technical Approval Authority (TAA).
- Agreement of Network Rail possessions. These need to be coordinated with the revised construction programme.
- Significant adverse weather and/or unforeseen ground conditions.
- Delay in completing Ecology surveys preventing construction starting in that area due to survey windows being missed.

Finance & funding

- 2.37 The current approved scheme budget totals £29.98 million, made up of £5.6 million from the County Council and £24.4 million from the Cambridgeshire and Peterborough Combined Authority.

2.38 A breakdown of the total spend to date is shown in table 2.

Table 2 - Total expenditure to date

Description	Spend to date	Further details
Stage 1 contract detailed design costs	£1.4m	Detailed design costs. Plus vegetation clearance (carried out before bird nesting season) and ecological works (Greater Crested Newt monitoring, trapping etc; Badger monitoring and sett removal).
Land and all legal fees	£4.1m	Land acquisition fees and all associated legal fees. Side Roads Order fees.
Statutory undertaker costs	£900k	75% of all utility diversions quotations have to be paid in advance. However, CCC will only be charged for completed work and currently only the 33KV and 11KV UKPN cables have been diverted and so the final cost here may be lower.
Network Rail	£60k	Costs from Network Rail Asset Protection and Optimisation team, associated with legal and technical approvals to work in proximity of the railway.
Management & Supervision fees	£1.5m	CCC staff costs, Skanska and WYG consultant costs to date
Asbestos removal	£60k	Removal of asbestos from site. This work is ongoing.
TOTAL	£8.02m	

2.39 The estimated cost of completing the procurement process to retender the scheme is around £200k and this will be added to the total scheme cost. This incorporates management, legal, procurement and consultant costs over the 12 month period.

2.40 The latest price submission from Kier indicates that it is highly likely that the outcome of the competitive tender process will lead to the need for additional funding to make delivery affordable.

2.41 Officers will therefore pursue funding opportunities in parallel with this procurement activity. The outcome of the tender process, proposed award and approval of any additional funding required will be presented to E&E Committee in summer 2020.

3. ALIGNMENT WITH CORPORATE PRIORITIES

3.1 A good quality of life for everyone

There are no significant implications for this priority.

3.2 Thriving places for people to live

The following bullet points set out details of implications identified by officers:

- By eliminating the delays at the level crossing will help to promote growth in the local area. It will help to promote jobs, business and housing.
- Both roundabouts on location 3 have been sized to allow the 4th arm to be constructed with will open up development to the south.

3.3 The best start for Cambridgeshire's children

There are no significant implications for this priority.

4. SIGNIFICANT IMPLICATIONS

4.1 Resource Implications

The following bullet points set out details of significant implications identified by officers:

- Following the outcome of the procurement process, the Business Case will need to be reviewed.
- It is possible once a competitive procurement exercise is carried out that additional funding will be required. The project will go back to committee before the construction contract is awarded, at which point it will be known what the construction estimated costs will be, based on the preferred bidder's tender price.
- The Benefit to Cost Ratio stands at 8.37 based on the budget of £29.98m. The business case will be revised to include the preferred bidder's target cost and will inform the future decision to proceed to construction and award a construction contract.
- A Target Cost Contract is proposed, therefore actual costs will be paid, but subject to a pain/gain mechanism. The Target Price will be varied to reflect any increase or decrease in the scope of the work required. In construction projects where unpredictable issues may arise, costs will almost certainly vary from the agreed Target Cost. At the end of the contract, any variance between the final target price and actual cost is apportioned between the contractor and the employer, allowing the contractor to share any savings made or to contribute towards overspend. This mechanism incentivises all parties to work collaboratively to deliver the project as economically as possible as underspends (gain) or overspends (pain) are shared in an agreed proportion.
- The contract is being managed and supervised in accordance with contractual (New Engineering Contract) requirements. All claimed costs and adjustments to the target price will be assessed by the NEC Project Manager with the project team, including specialist cost consultants, in negotiation with the contractor to ensure that they are justified and evidenced and provide value for money. This ensures that all work undertaken is necessary and is delivered in the most economical way.

4.2 Procurement/Contractual/Council Contract Procedure Rules Implications

The following bullet points set out details of significant implications identified by officers:

- It is proposed to carry out a restricted OJEU process which will be in accordance with contract procedure rules.

4.3 Statutory, Legal and Risk Implications

The following bullet points set out details of significant implications identified by officers:

- The key risks are detailed in the scheme risk register a version of which will be included within the tender documents. These will be monitored throughout the project and mitigation actions will be agreed with relevant parties to reduce risk where possible.
- Identified key risks include coordinating work with Network Rail and statutory undertakers, dealing with unforeseen poor ground conditions, presence of contaminated material, construction in Star Pit
- Additionally, there is a risk with Network Rail possessions not being available when required. It will be the responsibility of the successful contractor to organise and book the required possessions to suit its programme.
- Health and Safety on the scheme will be managed in accordance with all relevant legislation, including the Construction Design and Management Regulations 2015 and all other relevant legislation.
- There could be legal challenges from the landowners adjacent to the land already owned due to the agreement requiring CCC to carry out some work. Most notably, the land to the west which has the equestrian centre on it, the council is required to construct a 4th arm from the western roundabout to enable access to this land to which we have severed by purchasing the land for the scheme.

4.4 Equality and Diversity Implications

There are no significant implications within this category

4.5 Engagement and Communications Implications

The following bullet points set out details of significant implications identified by officers:

- A public engagement event will be held on the 12th August 2019 to reaffirm the view of the local community on the preferred route alignment. Feedback will be given verbally at the committee meeting.
- Public consultation has been a key factor in the identifying a recommendation for a preferred option.
- Further public consultation and community engagement has previously been undertaken in advance of and as part of the planning process.

4.6 Localism and Local Member Involvement

The following bullet points set out details of significant implications identified by officers:

- Local County and District members are engaged in the project as members of the Project Board.

4.7 Public Health Implications

There are no significant implications within this category.

Implications	Officer Clearance
Have the resource implications been cleared by Finance?	Yes Name of Financial Officer: Sarah Heywood
Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the LGSS Head of Procurement?	Yes Name of Officer: Jon Collyns
Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law?	Yes Name of Legal Officer: Nicola Molloy
Have the equality and diversity implications been cleared by your Service Contact?	Yes Name of Officer: Elsa Evans
Have any engagement and communication implications been cleared by Communications?	Yes Name of Officer: Sarah Silk
Have any localism and Local Member involvement issues been cleared by your Service Contact?	Yes Name of Officer: Andrew Preston
Have any Public Health implications been cleared by Public Health	Yes Name of Officer: Tess Campbell

Source Documents	Location
Kings Dyke Consultation – Communications Report Kings Dyke E&E Committee Report October 2018 Kings Dyke Major Scheme Business Case	All held electronically