

DARLINGTON PEDESTRIAN HEART

Supplementary Review of
Project Documentation

for

Darlington Borough Council
15th July 2009
Report by EC Harris LLP

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EXECUTIVE SUMMARY

- 1 EC Harris has not been able to confirm whether the Council's requirements were a primary factor in the delay and re-programming of the works which contributed towards the overspend on the Project. There was an overspend on the Project and the main element of that overspend was related to delay and re-programming costs in the order of £1.2M.
- 2 The works were re-programmed before Christmas 2005 but the documentation reviewed does not confirm that this was due to Council requirements for avoidance of undertaking core works during the Christmas 2005 shopping period. The core works appear to have always been planned to avoid Christmas shopping periods and it is likely that more works went on in the Christmas shopping periods in both 2005 and 2006 than was originally envisaged.
- 3 The gas main was at an exceptionally shallow depth of 290mm; it seems that Gillespies assumed that the depth of the main would be 750mm and compliant with current standards. Whilst this latter assumption might have been optimistic, the actual depth of the gas main would have severely limited the options available for accommodation of the gas main into the design without the need for either protection or diversion of the main. The benefit of having taken trial holes would therefore have been to have avoided the delay and disruption costs incurred due to discovery of the gas main during the construction works.
- 4 The works were re-programmed as a result of the gas main severance and both Gillespies and the Council were present at the discussions that took place to determine what action should be taken.
- 5 The decisions taken were taken at a time when there were few options available to either the Council or Gillespies in respect of dealing with the presence of the gas main at the unexpectedly shallow depth. The depth of the main appears to be such that even if the work could have been re-designed to increase cover levels, the main might have required diversion in any event.
- 6 It is not apparent whether the real costs of the re-programming and delays were either known or anticipated to their final extent when the decisions had to be made. It is therefore difficult to form an opinion on whether there was an agreement, even in principle, to meet such substantial costs of delay that were actually incurred.
- 7 It appears from the documentation that primarily, the focus was on maintaining work areas for the Contractor and avoiding delay and disruption by allowing work in areas where work was programmed for later in the contract period. This arrangement should be considered in parallel as to what constraints, if any, were incorporated into the contract to allow management of working areas, sequence and method of working.
- 8 Even using the NEC contract's procedures for advance agreement of quotations for additional works would not have benefited the Council due to the pain/gain share arrangement included in the Contract.

1 INTRODUCTION

1.1 INSTRUCTIONS

- 1.1.1 This Report has been prepared in response to the instructions given by Darlington Borough Council by its letter of 11th June 2009 in respect of its Pedestrian Heart Project, a town centre refurbishment project of the main retail areas of Darlington town centre.
- 1.1.2 This Report is supplementary to EC Harris' Report of 28th September 2007 and follows Darlington Borough Council's further consideration of its legal position through advice from its solicitors, Ward Hadaway LLP.
- 1.1.3 We understand that Ward Hadaway was instructed to discuss the findings of EC Harris' Report with the Project Managers on the Project, Gillespies and Clarus Consulting.
- 1.1.4 The Council's perception at the time of our initial Report was that the severance of the gas main had been a primary cause of the significantly increased construction costs. There were also questions as to whether or not Gillespies had acted reasonably in respect of dealing with the gas main during the site investigation stage and once it had been discovered.
- 1.1.5 EC Harris' original brief was to review the circumstances surrounding the severance of the gas main and the financial implications which arose as a result. We were also asked to consider why the construction phase of the project had escalated in cost from the tender value of £5,369,532 to its anticipated final account of £6,891,069. The September 2007 valuation, which appears to be the latest valuation in the current files, is £6,767,604.57. The estimated outturn of the project, which at the time was forecast to be £7.3 M, is now in the region of £8.1M.
- 1.1.6 In summary terms, it appears that the outcome of the meetings between Ward Hadaway and the Project Managers, particularly the meeting held with Gillespies, was that Gillespies was satisfied that it had acted with reasonable skill and care in its management of the works before and after the gas main had been severed and further, it considered that the cost escalation of the project was due, in part at least, to the changes in requirements of Darlington Borough Council itself.
- 1.1.7 The intention of this supplementary Report is to advise on whether, after further examination of documents provided, whether there is any evidence to support the suggestions that Darlington Borough Council was itself responsible for or contributed to the cost escalation of the Project.
- 1.1.8 We emphasise that this Report has been prepared solely for Darlington Borough Council and it is requested that the Council discusses the matters reviewed in this Report with EC Harris prior to it being disclosed to any other parties.

1.2 THE PARTIES

- 1.2.1 The parties involved in the Pedestrian Heart Project (the "Project" are repeated from our first Report below:
- 1.2.2 Employer: Development and Environment, Darlington Borough Council, Town Hall, Darlington DL1 5QT (hereinafter referred to as "the Council").
- 1.2.3 Landscape Architect, Lead Consultant, Urban Designer, ECC Project Manager, ECC Supervisor and Principal Designer: Gillespies, Minton Chambers, 12 Heatons Court, Leeds LS1 4LJ (hereinafter referred to as "Gillespies").
- 1.2.4 Contractor: Birse Civils Limited, 3 Grimston Grange, Sherburn Road, Tadcaster, North Yorkshire, LS24 9BX (hereinafter referred to as "Birse" or the "Contractor")
- 1.2.5 Structural and Drainage Engineer: Faber Maunsell, Royal House, 28 Sovereign Street, Leeds LS1 4BJ (acting as a sub-consultant to Gillespies)
- 1.2.6 Quantity Surveyor: Kinsler & Partners LLP, 214 Marton Road, Middlesbrough, TS4 2ET (acting as a sub-consultant to Gillespies)
- 1.2.7 Planning Supervisor: White Young Green, Progress House, Fudan Way, Teesdale, Stockton-on-Tees TS17 6EN.
- 1.2.8 Replacement ECC Project Manager: Damian Jowett of Clarus Consulting, Sunlight House, PO Box 85, Quay Street, Manchester, M60 3JA.

1.3 SUMMARY BACKGROUND

- 1.3.1 The Project is a town centre refurbishment project for the main retail area of Darlington town centre, to be carried out in three phases; Phase 1 was for works to the adjacent ring road to improve access into the town centre; Phases 2 and 3 were for the main town centre areas and are the subject of this Report.
- 1.3.2 Work on the Project commenced in November 2003 by Gillespies as the lead consultant. Originally, the commencement of construction for Phase 2 was to be August 2004 (Appendix 1). This was subsequently delayed but it was still expected to commence construction of Phase 2 by May 2005. In fact, commencement of construction was delayed further to September 2005, with an Early Contractor Involvement (ECI) period between July 2005 and September 2005. The Early Contractor Involvement commenced in July 2005, we believe, once Birse's tender for the works was accepted.
- 1.3.3 The works were due to be completed under Birse's tender planned programme PO1 in October 2006. The Contract Completion Date was 16th March 2007. Birse therefore planned to complete the 80 weeks' programme in 61 weeks. In fact, the Contractor was subsequently awarded delays of 42.6 weeks to the project, 17.8 weeks of the awards was for the delay caused by Birse encountering a 12" gas main on 31st January 2006, shortly after its commencement of the construction of the core areas.
- 1.3.4 Our initial Report concentrated on the severance of the gas main and cost escalation and delays caused to the Project; this Report is a review of a wider range of documents in order to determine, if possible, whether there were instances in which the Council either contributed to the delays or cost increases incurred during the construction of the Project

1.4 DOCUMENTS CONSIDERED

- 1.4.1 The information that was made available for this Report has been identified in Appendix 2.

2 GENERAL

- 2.1 The account that Ward Hadaway has been given, principally by Gillespies, suggests that the actual incident of the mechanical digger severing the gas main was of lesser importance and of limited financial significance than is perceived. We understand that Gillespies suggest that costs subsequently incurred and attributed to that general cost heading were incurred for different reasons and are indirectly related to the incident. It is suggested by Gillespies that there is in fact a parallel set of facts which are the dominant cause of the cost overrun on the Scheme.
- 2.2 As the Council is primarily concerned with the actions taken by its officers and Gillespies, the designers of the Project, around the time Birse severed the gas main, to establish the events around this time, we have limited our investigations to a relatively short period between the start of construction in September 2005 and shortly after the gas main was severed at the end of January 2006.
- 2.3 This period was considered to be sufficient to deal with the suggestions by Gillespies that much of the re-programming of the works was related to the Council's requirements to avoid undertaking core area works during the 2005 Christmas shopping period rather than due to the requirement to divert the gas main.
- 2.4 Core works commenced at the start of January 2006 and shortly afterwards, on 31st January 2006, the gas main was severed at Prospect Place. If Gillespies suggestions are correct, in whole or in part, it should be evident by examination of the programme changes before and after the gas main damage, whether re-programming of the works took place.
- 2.5 Any re-programming of the works prior to 31st January 2006 must have been for reasons unconnected with the gas main damage, since until the damage occurred, it cannot have been responsible for any alteration to the works. The perception that after the gas main had been severed, the Contractor redeployed his workforce to peripheral or other areas as a result of being unable to continue with the core works should also be apparent from the subsequent programmes and possibly other records. An event that would either cause 17.8 weeks' delay or require a re-design of the works would be one that required detailed consideration before the final decision was made.
- 2.6 Whether the Council or Gillespies had any material part in any re-programming, is a different matter to be determined.
- 2.7 As September 2005 represents the commencement of construction, during which it is usual to follow formal recording of progress and other construction management matters, it also represents the time when regular formal recording of events and progress becomes available. There appears to be less information available in respect of formal records and agreements made before this time. Within the information provided, there does not appear to be regular recorded meetings between Gillespies, its consultants and the Council which would perhaps demonstrate a chain of events that culminated in the final strategy and sequencing for undertaking the construction work.
- 2.8 This is not to say that such records do not exist, despite the extensive information provided by the Council, it may be that the information is available but in a less formal recording system (such as email rather than meeting notes) and therefore more difficult to extract in a review of this nature.

2.9 Nevertheless, a large amount of information has been reviewed but this has been targeted towards documents that might elicit the information needed in an organised format.

3 RE-PROGRAMMING THE WORKS PRIOR TO THE GAS MAIN INCIDENT

3.1 EARLY RE-PROGRAMMING

- 3.1.1 We understand that Gillespies view is that prior to the gas main incident, the contract works were re-programmed so that core works were not undertaken during the 2005 Christmas shopping period and that this was the dominant cause for re-programming the works rather than the gas main incident in January 2006.
- 3.1.2 As discussed at 2.5 above, it must be possible to ascertain by review of the programme revisions, whether there was significant re-programming of the works both before and after the gas main incident. Other records should indicate the reasons for any re-programming of the works.
- 3.1.3 The Council's Cabinet Reports of 21st September 2004, 18th January 2005 and 15th March 2005 all indicate an outline programme for the Project.
- 3.1.4 At 21st September 2004 (Appendix 1) it was planned that the Phase 2 main construction works would commence in April 2005, break for Christmas in November 2005, re-commence in February 2006 and complete by October 2006.
- 3.1.5 In January 2005, the Cabinet Report indicates a delay of commencement of Phase 2 to May 2005, a break for Christmas at November 2005, re-commencement in January 2006 and completion by October 2006.(Appendix 3)
- 3.1.6 By March 2005, the Project was delayed further; commencement having been delayed to September 2005 after an Early Contractor Involvement period and other requirements concerning conservation and listed building consents. The Christmas break was delayed to December 2005, with re-commencement in January 2006, a further Christmas break in December 2006 and completion by March 2007. The Birse contract included these commencement and completion dates. We have not reviewed the contract in detail to determine whether constraints were placed on working periods to accommodate the Christmas break periods.
- 3.1.7 In our investigations for our earlier Report, we determined that the start of construction had been delayed but were unable to identify the specific reasons for this. It is still unclear whether the delay to commencement was the responsibility of either Gillespies, as lead consultant and/or the Council.
- 3.1.8 In a scheme of this nature, there are inevitably many organisations, departments and funders to consider along with budgetary constraints, design issues and organisational issues including the management of traffic flows, statutory orders, retailers and businesses, all of which can delay a scheme both before the design can be finalised and after contract award on site.
- 3.1.9 We have not been asked to consider this early period of the Project in detail and therefore only make the comment that there were earlier delays to the overall Project programme, which could have had an effect on the ultimate programming of the

works and work sequencing. This is particularly so where the works were to be carried out with a break for the Christmas shopping period.

3.2 BIRSE CONTRACT RE-PROGRAMMING UP TO JANUARY 2006

- 3.2.1 Birse programmed its work by the issue of twelve programmes, PO1 to PO12, issued at various times throughout the works. Whilst this is not strictly in accordance with the Contract requirements (which usually require updates at a minimum of monthly intervals), there is, nevertheless, a sequence of submitted programmes throughout the works.
- 3.2.2 To make the assessments of delays in our first Report, we reviewed a number of programmes throughout the Contract period between programme revisions. The first two programmes, PO1 and PO2 were not available and so the first programme considered was PO3, which is dated December 2005.
- 3.2.3 As we stated in our first Report, ideally, the original contract programme would demonstrate the original assumptions and activity interdependencies and periodic updates of the contract programme that show actual work completed for each progress period, together with supporting contemporary data such as minutes of meetings, correspondence and drawing issue schedules. It was our opinion that the programme updates lacked information that would allow a factual assessment of the effects of each compensation event on the programme and therefore we were unable to comment on the reasonableness of each effect against the known circumstances at that time.
- 3.2.4 A more complete review of the various programme revisions is included in EC Harris' first Report. This Report only considers any documents we have reviewed relating to the programme revisions up to PO5, which is the programme revision which incorporated the changes due to the gas main.
- 3.2.5 Programme PO1 was submitted with Birse's tender in July 2005 and we believe that this was then incorporated into the contract as its first Accepted Programme. Under the NEC contract, the programme is a contractual document, which is updated regularly and used to determine time implications of changes to the works.
- 3.2.6 The entitlement to a change to the Completion Date under the NEC contract is determined by reference to the critical path on the latest Accepted Programme. The shorter the accepted critical path, the more likely it will be affected by changes to the works. Therefore, the submission and acceptance by the Project Manager of a shortened programme at an early stage in the contract can later more easily result in an extension to the shorter critical path and the entitlement to increased costs, whether or not the Contractor had priced his tender on the shorter programme period.
- 3.2.7 Programme P03 (20th December 2005) is the first available detailed programme revision. It is apparent that programme PO3 demonstrated delays to the project and the programme title indicates that there was some element of mitigation in the programme. An outline PO2 is also available and this also indicates core works commencing after Christmas in January 2006.
- 3.2.8 The Contract was due to commence on site on 5th September 2005 and to commence with a 13-days enabling period prior to site possession on 22nd September 2005. Planned Completion was 30th October 2006 and the Contract Completion Date was

16th March 2007. This reduction of the Contractor's planned contract period would have been significant in its entitlement to a change to the Completion Date if there were delays for which either the Employer or Contractor were culpable.

- 3.2.9 It appears that works on the water feature, Northgate, Blackwellgate and Houndsgate were all re-programmed from the 2005 pre-Christmas period to commencement in 2006. It was concluded in our earlier Report that at the time of issue of P03, the Contractor had probably decided to significantly amend the planned sequence of working. It was not clear why Birse had made this decision and we have still not seen any documentation that supports a view that the Council or Gillespies were instrumental in instructing the Contractor to make these changes.
- 3.2.10 In our first Report, we could not establish the influence of the ECI period on the Contract commencement date or the reason why any delay could be awarded under the Contract for any difference in an ECI duration. It now appears to be related to how the ECI period was integrated into the Contract and how the outcomes from the ECI period were then incorporated into the contract itself. Whilst we have not considered this closely, although meeting records near to the start of the main construction works (September to November 2005) seem to suggest that there was some redesign as a result of buildability considerations which then had a delaying effect on the contract due to construction details not being available when required.
- 3.2.11 We still recommend that if the Council considered that it would be appropriate to investigate delay awards further, the ECI period including its terms, scope, intentions and the contractual arrangements for it should be investigated and we consider that there may still be merit in doing so.
- 3.2.12 We have been unable to find any documentation that suggests that there was a specific express instruction from the Council to commence works in September 2005; however, by this time, the project was already substantially delayed from the original intentions and it could well be that as the Project was already late, it was considered that construction should commence prior to Christmas 2005, as had been previously planned, in order to demonstrate progress with the Project.
- 3.2.13 In the meeting minutes of 3rd August 2005, (Appendix 4) Birse set out before commencement on site, that due to the project working over the winter period, weather could cause delays to the Project. Birse also attributed delays to the programme to late ordering of surfacing materials and re-programming works between Northgate and Blackwellgate; the Project Manager noted that costs of this delay should be offset by a late start and site set-up.
- 3.2.14 Birse also raised a problem with works being carried out one week before Christmas 2006. It was agreed at this time that each programme revision would show both culpability of Birse and the Employer. It was not apparent in our review of the programmes that any effects on the programme due to Birse's culpability were included.
- 3.2.15 The meeting minutes of the meeting held on 30th August 2005 (Appendix 5) indicate that by this time, statutory authority diversions were programmed for before Christmas 2005 and the Council was still awaiting quotations for the works to be undertaken by United Utilities and Northumbrian Water. The gas diversion works later delayed the programme.

- 3.2.16 The full construction drawings had not been issued at this time and these were required by Birse prior to materials ordering. There were also other design issues to be closed out for imminent construction work and already an effect on the programme was anticipated. At this time, Birse also confirmed that its weekly costs would be £10-15k for each week of delay, regardless of whether work was taking place.
- 3.2.17 The meeting minutes of 13th September 2005 (Appendix 6) include discussions as to optimisation of working areas for both Birse and the town centre users generally.
- 3.2.18 Meeting notes of 4th November 2005 (Appendix 7) indicate consideration of PO3 and that there could be a 12 weeks' delay to lighting column procurement, resulting in an overall delay of 6 weeks to the programme.
- 3.2.19 Two weeks later, on 18th November 2005, mitigation on PO3 was discussed (Appendix 8), primarily concerning re-deployment of resources to Crown Street, East Street and Priestgate where work was not dependent upon lighting columns. There were also design related delays, which at the time were estimated to be in the worst case, 11 weeks' overrun, amounting to £220k.
- 3.2.20 At the time, the Project team was also considering cost saving measures; quotations were requested from Birse into the cost implications of undertaking these cost saving measures, for example, the introduction of additional resources. These meeting minutes include discussion of cost saving measures (see Schedule in Appendix 9) and the suggestion by the Project Manager that further savings should be considered by the Council.
- 3.2.21 The meeting minutes of 24th November 2005 (Appendix 10) indicate that the Council was requesting design changes, although the changes were not specifically set out in the minutes.
- 3.2.22 Key issues affecting the programme described in the meeting minutes of 17th January 2006 include service diversions and some late issue of design information. (Appendix 11).
- 3.2.23 It is apparent from the Action Registers, which have been combined in Appendix 12, that several action items, including service diversions were open for several months before being closed out. Several of these items caused delay to the project and re-programming was required in mitigation.
- 3.2.23 Generally, the succession of meeting minutes between the start of construction and January 2006 indicates that there was some re-programming of the works and this was due to procurement issues, availability of work areas being limited due to late service diversions and awaiting design details. The Council was responsible for the service diversions but without any detailed interrogation of the sequence of events that end with the orders being placed, the responsibility for the re-programming cannot be established. For example, the Council alone might have been responsible for the late orders to statutory authorities but alternatively, it may have been reliant upon design information or other information from its designer or the Contractor before the orders could be placed.
- 3.2.24 Whilst it is apparent that re-programming did take place prior to Christmas 2005, no clear responsibility can be established. Further, it seems that the Council was present at all the project management meetings, so therefore was aware of the events taking

place. However, this is not to say that the Council was necessarily aware of cost implications arising from those events as the main objective of discussions appears to have been to keep the project progressing on site.

3.3 RE-PROGRAMME SUMMARY UP TO JANUARY 2006

- 3.3.1 The principal change to the intended sequence of work was as a result of the gas main diversion, this resulting in 17.8 weeks delay to the planned completion date and £524,377.43 additional cost. The effect of the gas main diversion was also to significantly amend the planned sequence of work, diverting resources as it did from the core of the scheme to peripheral areas. However, those areas against which Birse diverted its labour were always incorporated into its programme of work, the revised programme of work being a mitigation strategy in the face of an emergent problem.
- 3.3.2 It is not clear whether the programmes were accepted without challenge for any of the programme submissions. The delays are extensive and caused over £1.2M of costs escalation to the Project. The Project Manager is able to reject a programme submission for four specified reasons under the Contract. We have seen no evidence which confirms that any programmes were rejected or subject to detailed scrutiny but this might be because they were developed in conjunction with the Project Manager; alternatively
- 3.3.3 There are intermittent references to the programme being optimistic in the documentation and since Birse planned completion in only 75% of the contract period, it is likely that its programme was optimistic. The presentation and acceptance of an optimistic programme is commercially advantageous to a Contractor and it is therefore important that revised programmes are scrutinised carefully under NEC contracts.
- 3.3.4 Whilst the shortened programme would have been an attractive proposition because it showed completion of the works prior to the 2006 Christmas shopping period, it nevertheless took 19 weeks or nearly 25% of the contract period from the planned construction period. Shortened programmes are inevitably harder to meet and accommodate less flexibility for both Contractor and Employer. A project such as a town centre refurbishment will always be affected by the very many external disruptive influences in such a location.
- 3.3.5 We have not been able to find any documentation that supports the suggestion that the Council allegedly instructed that the works should commence in October 2005 against the advice of Birse and the consultant team and nor have we found any documents that indicate that the Council instructed a re-sequencing of works so as to delay core works until after Christmas because of their potential impact upon Christmas trading, but that they nonetheless required a start to peripheral works. The documentation rather suggests that it was always planned that works would be avoided in the pre-Christmas shopping periods.
- 3.3.6 It is clear, however, that by the issue of PO3, to which Gillespies attribute £230k of the £1.2M delay costs, there had been delay and re-programming of the works. It has not been possible to establish that this was the result of the Council's instructions. It is apparent from the meeting minutes of the town centre retailers and businesses (Appendix 13) that local traders were unhappy that works had proceeded during the Christmas 2005 shopping period and then were followed by a three weeks' shut down period.

4 GAS MAIN DIVERSION

4.1 DEPTH OF THE GAS MAIN

- 4.1.1 We understand that it has been established and agreed that Gillespies were responsible for ascertaining all services information required for the Project. Gillespies would co-ordinate this information into its design.
- 4.1.2 We understand that Gillespies are satisfied that its actions were undertaken with reasonable skill and care, both in respect of using the statutory services information provided by the Aedas survey company, employed by them to undertake a survey of the statutory services in the construction area in their design and also during construction in respect of the issues relating to trial holes in the vicinity of the gas main.
- 4.1.3 It is clear from the Transco services document (Appendix 14) that the 12" cast iron gas main was indicated on the services plan provided by Transco. It is not possible to immediately determine whether its location on the plan was accurate. It is not clear whether the Transco records were provided to Gillespies at design stage or whether Gillespies relied upon services drawings produced by Aedas, which was supposed to show the underground services.
- 4.1.4 Birse produced a diagram on 7th February 2006 (Appendix 15) which indicates that the gas main was 290mm from surfacing level, within a concrete slab. It is reasonable to assume that this main was actually at a shallower depth than expected but perhaps less reasonable to have expected it to be fully compliant with current depth requirements due to it being a cast iron main and therefore installed a long time ago.
- 4.1.5 Gillespies indicates in its Project Review notes of 10th July 2008, that the level change at Prospect Place was a reduction in level of 122mm. It appears that because the surface level change was minimal, then the gas main would retain sufficient cover once the works were complete and it was therefore not necessary to determine the exact location or depth of the main. It also appears that Gillespies assumed that the main would be at least a depth of 750mm because this is the current minimum depth standard.
- 4.1.6 Gillespies assumption as to the depth of the main was not supported by the services surveys carried out as no depths were indicated on these plans. This is because pressure mains have fewer, if any, surface indicators of either location or depth. The gas main, being cast iron, had not been recently laid, so its depth would not necessarily be at minimum cover. However, it is likely that there would be differing opinions on whether the assumption Gillespies made was reasonable or not.
- 4.1.7 In terms of the need to know depths of services for design purposes, the change in surface level is not the determining factor in whether the gas main would have been affected by the works; the determining factor is the depth of new construction. We do not have the sectional details of the proposed paving construction but it is still possible that even at minimum cover depths, the new work might have been of sufficient depth to have required consideration of the gas main in the design.
- 4.1.8 At 3.3.2 in our first Report, we commented that if surface levels were decreased, there could be an immediate possibility of reducing cover to services, which may have to be discussed with the relevant statutory authority. In our Report we thought

that the construction depth could have been up to 700mm, so the main could have been affected even if were at the current minimum depth. In fact, at 290mm depth, the depth of the gas main was such that in any event, some work would have had to have been carried out either to protect or re-position the main.

- 4.1.9 In terms of whether the diversion of the main actually incurred additional cost to the Project or incurred costs that would always have been part of the Project, the alternatives were both considered by Gillespies and the Council when the gas main was severed. Those alternatives were to either divert the gas main and re-position it, as actually happened or to alter the design to accommodate the gas main by increasing surface levels along its length so that either sufficient cover was provided to it or some other design solution developed.
- 4.1.10 The difficulty is that the decision to proceed with either alternative had to be made at a time when whichever alternative was chosen, there was an additional effect on the construction work, which did increase the costs over and above that which would have been incurred had the presence of the gas main at that particular depth had been known at design stage. Both options would have incurred additional cost. It cannot be assumed that a re-design would have not required the diversion.
- 4.1.11 It is recorded in the meeting minutes of 14th February 2006 that the option for re-design was put to the Council and the Council decided to proceed with the diversion of the gas main rather than to re-design the works. However, whilst re-design might have been an option, we have not seen any information that dealt with the relative costs of the potential delays that might be caused by each option. The delay costs rather than the direct costs were likely to have been the most significant component of the costs.
- 4.1.12 Re-designing the works would also have caused some delay to the construction programme and it is by no means clear from the documents reviewed that there could have been a re-design that did not require works to the gas main. Often, a statutory authority will require current standards to be applied and new protection works installed, irrespective of whether the existing apparatus does not comply with the standard i.e. there is often a requirement for enhancement of protection to existing assets that are deficient if it is necessary to disturb the adjacent ground.
- 4.1.13 It is also difficult to immediately appreciate if any re-design could have incorporated the gas main at a depth of 290mm without re-positioning the main or raising the surface levels by a significant amount.

4.2 RE-PROGRAMMING AS A RESULT OF THE GAS MAIN DIVERSION

- 4.2.1 At the time of our first Report, there was a perception that the Contractor altered his working sequence once the gas main diversion was required to transfer his labour to other peripheral areas of the Project.
- 4.2.2 The movement of the labour force to other areas was said to have prevented the Council from managing the Project budget by precluding the Council from the opportunity to delete peripheral areas from the Project if it was anticipated that there would be an overspend on the available budget.
- 4.2.3 In practice, it would probably be quite difficult to secure the information to make such a decision in sufficient time on a project unless there was appropriate phasing

and/or constraints included within the Contract to prevent the Contractor from working in whichever areas he chose at times most suitable for his method of working. Where there are no particular specified constraints as to working sequence, a Contractor may decide his optimum sequence of working; to change this is to vary the works, which in the NEC contract gives rise to a compensation event.

- 4.2.4 The gas main was damaged on 31st January 2006, in the following weeks, a number of meetings took place and agreements were made as to how to deal with the problem.
- 4.2.5 The site meeting held on 31st January 2006 (Appendix 16) gives some indication of the progress of the works at the time the gas main was severed. At the time Birse were being delayed and unable to work in areas due to delayed gas main diversions (these diversions being other than the diversion that is the subject of this investigation). Birse indicated that to work around the unavailable areas was inefficient but agreed to start in an area away from the gas main diversion works.
- 4.2.6 In the same meeting, Gillespies asked if the side roads could be completed by transferring labour from the core areas if available work in the core areas should slow down.
- 4.2.7 The project meeting held on 14th February 2006 (Appendix 17) indicates that the Council had decided to divert the gas main rather than opting for a re-design. The Council had instructed Birse to take trial holes at various locations, which instruction would be confirmed by Gillespies Project Manager. Quotations for the works were requested.
- 4.2.8 At the same meeting, the Project Manager requested that Birse consider re-programming the works to move work to Northgate and Tubwell Row and confirmed that other smaller roads, (Crown Street, Houndgate etc) should be packaged into separate pieces of work that could be "dropped onto as and when necessary".
- 4.2.9 A meeting the following day on 15th February 2006 (Appendix 18) indicates that the Council confirmed that the preferred option was to divert the gas main so that when the gas main was replaced it did not affect the scheme. It was noted by Birse that until the gas main issue was resolved, then no further forecasting could be carried out.
- 4.2.10 A record from 20th February 2006 indicates that re-programming of the works was discussed with Birse, with both the Council and Gillespies in attendance, the meeting note (Appendix 19) at item 2 indicates that Birse was asked if it could work on Northgate and Tubwell Row whilst the gas main works were undertaken in the core area.
- 4.2.11 A meeting was also held on 20th February 2006 (Appendix 20) between the Council, Gillespies, Birse, Balfour Beatty and United Utilities. United Utilities were responsible for the gas main and Balfour Beatty, their installation contractor. The meeting notes indicate discussions as to how the works would be carried out, with the anticipation that Birse should excavate the trenches in advance of gas main installation by Balfour Beatty.
- 4.2.12 The project meeting held on 28th February 2006 (Appendix 21) indicates that the Quantity Surveyor, Kinsler, thought that the price quoted by Birse for the additional

- works was expensive and it was agreed that there would be separate negotiations on the costs.
- 4.2.13 It was also confirmed by the Council that Birse was to carry out the excavation works as Balfour Beatty were not able to do that work until the summer. It was then agreed that a signed instruction would be given by the Project Manager prior to the work starting.
- 4.2.14 There were then discussions on the re-programming of the works, with various options presented by Birse, with varying levels of overall delay to the works. These discussions included resourcing levels and whether core works could be carried out within the Christmas shopping period of November and December 2006.
- 4.2.15 It is recorded that Birse was asked for a quotation for the prolongation due to the gas main and that Gillespies requested that the Council consider this carefully regarding the additional expense when applying for further funding.
- 4.2.16 Plans produced by Birse on 8th and 14th March 2006 (Appendix 22) indicate that at 8th March 2006, the Contractor's work was being carried out in very limited areas and most areas were on hold either awaiting design information or the Council's action on procurement of bus shelters.
- 4.2.17 A week later, on 14th March 2006, it appears that Birse was able to work on more areas provided it was given the instruction to do so. This plan indicates that Birse was instructed to work on various areas and in some of those areas, the work would be disrupted due to bus shelters or other items not being available for installation.
- 4.2.18 In summary, it is clear that the work was re-programmed as a result of the gas main diversion. However, the position at the time of the gas main diversion being identified was that works were already being re-programmed to mitigate delays due to other delayed service diversion works.
- 4.2.19 It is also apparent that throughout the discussions regarding re-programming the works, both Gillespies and the Council were involved.
- 4.2.20 What is not clear, however, is that the cost implications of any of the re-programming works was considered in detail, the meeting minutes tend to be concerned with progressing the works and mitigating overall delays to the works. These delays and unavailability of areas for working appear to be related to delays to earlier service diversions by statutory authorities, design and procurement issues.
- 4.2.21 We believe that under the Contract, the Council retained the responsibility for the service diversions required for the Project (and certainly, the parties have acted as if they were) and as such, delays caused by the statutory authorities would inevitably result in additional expenditure on the Birse contract.

5 COST ESCALATION OF THE PROJECT

- 5.1 In order to establish whether the lead consultant was responsible for any delays and/or additional costs to the Project it would be necessary for the Council to establish whether there was any reasons that could be attributed to either the Council or other third parties whose performance could have adversely affected the ability of the Project Manager to maintain costs at the budgeted level.
- 5.2 It is clear that budgetary constraints were considered during the early months of the project. This is demonstrated within the various meeting minutes included in the Appendices, which in addition to referring to delay and re-programming matters, often refer to the cost implications of those matters.
- 5.3 It is clear from the Action Risk Logs (Appendix 12) and the Meeting Minutes that the design was incomplete when construction commenced on site. It is also clear that there were other items, such as bus shelters and service diversions that have either affected the opportunity for mitigation of additional costs or caused delay to the works and which were the responsibility of the Council. However, whilst such items might have been the ultimate responsibility of the Council, it is also likely that the Council was dependent upon preceding works being undertaken by others, which may have included Gillespies or third parties. For example, orders might have been delayed by a lack of information from designers or statutory authorities needed to make those orders.
- 5.4 The scope of this Report has not included a detailed review of such matters and from the information provided, there does not appear to be sufficient information in a format that could be readily investigated which would show the necessary sequencing of discussions and events.
- 5.5 It appears that the introduction of the Early Contractor Involvement (ECI) period may have caused increased costs and delay, despite its intention to ease design and construction issues. In theory, this should be a pro-active process, which would enable the Council to take the benefit of the Contractor's expertise prior to commencement of the main construction works. However, meeting minutes early in the contract could imply that the integration of buildability issues delayed the issue of construction information to the Contractor. Since the contract was already let, the Contractor was bound to construct to the existing details, irrespective of whether his efficiency could be improved by changes to the design. Further investigation would be needed to form a firm opinion on whether the ECI period had been advantageous to the Project.
- 5.6 Cost savings measures were implemented and it is notable that there was an increase in the Council's internal costs, for which savings were introduced. It does seem from the Cost Savings Schedule (Appendix 22), that the Council was consulted on the available cost saving measures and whether these should be incorporated into the Contract.
- 5.7 The Risk and Opportunities Schedules (Appendix 23) demonstrates that over a period of three weeks between October and November 2005, the anticipated risks to the project have increased from £262,500 to £598,000; the potential opportunities rising from £188,000 to £370,000. Of the opportunities for savings of £188,000, the sum of £164,000 had already been taken by reducing the stone depth. The increased risk was predominantly due to increased DBC internal costs of £230,000 and the risk of design

changes increased by £94,000. The risks associated with service diversions and uncharted services were considered to be relatively low but in fact, represented a very significant risk to the Project.

- 5.8 It is abundantly clear, however, that the main reason for cost escalation was delay and re-programming of the works, amounting to £1.2M of additional costs. The development of those costs has not been scrutinised to any great extent by EC Harris but we have noted that Birse seems to have claimed for its full resources on site for delay periods. For example, when 6-day working was to be incorporated into the Contract; Birse quoted for this increase on the basis that its entire costs were recoverable, without any guarantee of reducing the programme. Appendix 24 shows that the quotation was for all costs incurred during weekend working rather than extra-over costs. It is not clear whether those particular increases were ever accepted or whether lower costs were agreed.
- 5.9 There is likely to be limited opportunity to recover monies certified to Birse by the Project Manager, if it could ever be determined that the costs of delay and re-programming the works were excessive as it is unlikely that as-built progress records are available that demonstrate either efficient or inefficient employment of labour resources on the site.