

The Edinburgh Tram Inquiry
Witness Statement of James Donaldson

Statement taken by Adam Hoy on 22 September 2016.

My full name is James Donaldson. My contact details are known to the Inquiry.

My current occupation is Construction Director of Crummock Scotland Ltd I am responsible for all civil engineering activities carried out by this Company. My employment as Construction Manager with Bilfinger on the Edinburgh Trams Project commenced in July 2008 and ended in April 2014

Statement:

Introduction

1. I have considerable experience on highway works, predominantly heavy civil engineering works. This has included, roads, bridges, highways, tunnelling, rail and tram Projects.. I was employed by Bilfinger in July 2008 as the Construction Manager. The project had been awarded prior to my commencement. I had the title of Construction Manager which meant that I was responsible for all the Bilfinger construction elements including managing all the sub-contractors, interfacing with the client, interfacing with our partner, Siemens, and co-ordinating the whole construction process. I reported directly to Martin Foerder the Project Director for Bilfinger. All matters were discussed at the Project internal meetings at Bilfinger. There were also meetings with our partner, Siemens, and meetings with the client. I was not involved with matters between Bilfinger UK and Bilfinger Germany.
2. Bilfinger scope of works was to complete the civil engineering element of the tram project which included the construction of bridges, retaining walls, earthworks, roadworks, ductwork track formation and finishing workworks.

OHLE foundations and streetlighting. The majority of the works were delivered by Sub Contractors contracted to Bilfinger. Farrans completed all the civils works on section 5C (Edinburgh Park to Gogarburn) and 7A (Gogar to Edinburgh Airport). Grahams completed 2A (Haymarket to Roseburn Junction) and 5A (Roseburn Junction to Balgreen Road). Expanded Ltd were employed to construct the bridgeworks within Sections AB &c. Crummock Lagan and Mackenzie completed the Civils work on the on St section of the Project In some areas works were carried out by Bilfinger directly or by direct engagement of specialist sub contractors eg Bachy who worked for us, in sections 5A and 5B (Balgreen Road to Edinburgh Park). In general we had a good relationship with all of our sub contractors No formal disputes raised by ether Contractor or Sub Contractor, although we had our disagreements they were all resolved to the satisfaction of both parties at our weekly meetings.

Post infrastructure contract close – General

3. I joined the Tram Project in July 2008 and my initial impression was that I should have been there six months earlier because as often happens the construction people can never be in quick enough at a job. All I had to do then was pick Scott McFadzen's and Jim Rice's brains and get up to speed. When I arrived, a lot of the guys that became members of my team were already there. Jim Rice was acting as the Construction Manager. He had been involved with the tender so I was picking his brains for a lot of the time. At the start of every job there are multiple tasks and you have just got to focus. I cannot recall any details in relation to what these briefings entailed.
4. In the first six months of 2008 we established and cleared the site, completed survey establishment and demolition and preparatory work. In 2009 we went in to Princes Street, outside Haymarket and Murrayfield. This is when all the change conflict started coming with people saying don't do this, you can't do that, this is going to dispute. I cannot recall what total infrastructure works, utility diversion works, total design works, or total statutory approvals and consents that took place in 2008, 2009, 2010 and early 2011.

5. The on-street utilities were the main difficulty experienced by BSC in carrying out the infrastructure works. MUDFA were still there and should have been finished before we started. Bilfinger's opinion was that utilities were nothing to do with them; the site had to be clear. In summer/autumn 2008 we went to start work at the bottom of Leith Walk, but MUDFA were still there. As soon as we went in it was clear that MUDFA had not completed. The whole place was still strewn with utilities. We jumped, we moved, we did this, we did that, we moved here and there. We spent £500,000 on 10 metres of kerb because of all the aborted work. TIE said "okay that has not worked, go here". So we went somewhere different and at the end of the day we achieved nothing. I think MUDFA's brief was to move the utilities outside what they called the Dynamic Kinematic Envelope (DKE). The DKE is an imaginary envelope. This is air space that they need to take the tram. I think their brief was to go 1.2 metres outside the DKE and 1.2 metres below. They actually moved it in a lot of cases onto infrastructure works. Although they had moved it out of the DKE they just moved it to another location of conflict so they were going to have to be moved again and that is what happened in a lot of cases. The whole issue with the on-street works was the utilities.

6. In relation to completion of design, there was a design team put in place to oversee and liaise between Parsons Brinckerhoff (PB) and TIE. Simon Nesbitt and Stefan Rotthaus were involved. They were the main two, but they had people working for them, but I cannot remember who. Scottish Water was an issue. Getting their consent for outlets seemed to be a major problem. CEC were also an issue for Picardy Place as they had not accepted the design. The location of overhead line equipment was an issue. The structures that the SDS provider was designing had no design issues, but when designs arrived they were nothing like what BSC had priced, so this automatically resulted in a change mechanism. At my level the difficulties in completing the design were normal construction issues that happened on every project. I did not have any concerns about the SDS Provider. I do not know to what extent the problems with completing the design delayed the infrastructure works. I do not know when the design was finally completed. I do not know when all outstanding approvals and consents were finally obtained. My primary focus

on this project was managing the construction process, other people were employed to manage the design I only wanted a completed design to allow construction works to be carried out efficiently.

7. I am referred to the Construction Programme, Schedule 15 of the Infraco contract (**USB00000079**) which noted that the Infraco Construction Programme dated 29 April 2008 was based on version 26 of the SDS design programme, that SDS had provided an update to the design programme and that it had been agreed that any variation between the SDS Design Delivery Programme and the Infraco Construction Programme would be dealt with as a Notified Departure. I also note that a proposed revised Construction Programme was submitted to TIE on 2 June 2008 but remained without agreement until 17 December 2008 (see letter dated 1 March 2010 from Martin Foerder to TIE, **CEC00578330 para 3**). I also noted that by that time (ie December 2008) the revised Construction Programme (Revision 1) *“was by then sufficiently out of date and disrupted by unavailability of work sections that it was recognised by Infraco and tie that a further revision was necessary”* (per email dated 8 December 2009 from Kevin Russell, **CEC00534982**). Mr Russell's email also notes that Revision 2 was rejected by TIE on 21 August 2009 (**CEC00322637**) and Revision 3 was scheduled to be complete by the end of January 2010.

8. The Construction Programme changed over time. All the utilities and all the changes were presented to TIE every month. Even though it was not approved, we kept on updating and progressing that programme. We had a chief planner, whose name I cannot recall, Jim Cowie and I from the Bilfinger side, and on the Siemens side they had two planners, so there were five people every month that we used to progress and update the programme from a civils point of view to keep everybody abreast of where it was. We would input all the impact of whatever event it was; whether it was utilities, change to our structure, delays in approval. PB and Siemens fed into that programme, and we presented it to TIE on a monthly basis.

9. BSC Period Reports (eg **CEC01103816** at p3) noted that "*In the absence of a formal revision to the Contract programme, works are being planned and managed using the 12 week look-ahead programme*". The 12 week look-ahead programme was meant to be a snapshot of the big programme but in more detail than the master. The 12 week look-ahead broke that down into more detail. It was the detail of how you were going to achieve the Project.

10. I do not know if a final version of the Construction Programme was ever agreed. TIE, Siemens, and Bilfinger went to a Novotel Hotel and sat there for a week, but I cannot recall when this was. This was an attempt for our planners, our construction guys, their planners, their construction guys, BSC, SDS, all sitting in a room to try and thrash out all the differences, but we never did. That was one final attempt to try and get an agreed programme. TIE could not agree the programme because they had not delivered on the MUDFA side. Every month there was a delay due to the changes in the programme, which consequently delayed the whole project.

11. Following contract close in May 2008 a major dispute arose between TIE and BSC in relation to the interpretation and application of the infrastructure contract. This happened before I started work for BSC. I cannot recall when I first became aware of the dispute or who was involved, but when I started working for BSC, Schedule 4 was one of the first documents that I was shown. I have read Schedule 4 hundreds of times and I think it is a pretty good document which outlined Bilfingers qualifications. It is a pretty good document for a contractor with regard to the Contractors obligations. I do not know why TIE signed up to Schedule 4, without adding risk monies into their budget because it gives the contractor opportunity, if things do change, for costs to be recovered. I have had lots of contracts where that is not the case, it is all down to risk management and responsibilities between the parties. What transpired after that in my opinion was that TIE did not put that risk money in a pot somewhere. That is what should have happened as both parties signed it. Schedule 4 balanced the risk. BSC priced the drawings and specifications. At that point in time everybody acknowledged the design was not finished so Schedule 4 covered the gap to complete the design. As the

design was not finished, the price that was offered by Bilfinger was based on an incomplete design therefore there had to be some mechanism of recovery or risk management to deal with any change that came. If it did not change there would not have been a consequence. To novate a design is not normal. It is not a usual process. . I always had the feeling that TIE was wrong in a legal sense. TIE was stuck in a position where they believed 100% that we were incorrect in our position. It was proved that TIE were wrong in adjudications and that took time and money. Steven Bell, TIE, is an intelligent person, one of the smartest guys I have ever met, but how he could believe that TIE were right in their position,.

12. Part of the dispute concerned parties' interpretation of Schedule 4 of the infrastructure contract (**USB00000032**). As soon as I started with BSC, Scott McFadzen and Jim Rice made me aware of Schedule 4. Although I am a construction guy I have to be commercially aware. If the design did not change, we had priced this, but if things did change, and they did, Schedule 4 would kick in. The novation was unusual. It is not unusual to have qualified bids; we did not price to deal with utilities. When BSC got to preferred bidder stage there must have been considerable negotiation even to get the contract signed, but I was not involved. The purpose of various Pricing Assumptions in the Schedule was that BSC's price was based on an incomplete design so the gap had to be covered. The scope growth might have been zero. The design was not finished so you could not tell if it was going to change. It covered that circumstance if the design did change. Schedule 4 might have cost zero at the end of the day. What Pricing Assumption 3.4.1, including the phrase "*normal design development and completion of designs*", meant to me is that that if the design changes it changes. In simple terms if the drawing show different construction details then the design has changed. Schedule 4 defined the "Base Date Design Information" as "*the design information drawings issued to Infracore up to and including 25 November 2007 listed in Appendix H to this Schedule Part 4*". I note that appendix H of Schedule 4, however, did not list any drawings and, instead, simply stated that the BDDI was "*All of the Drawings available to Infracore up to and including 25 November*

2007'. I am not aware why Appendix H of Schedule 4 did not list the drawings comprising the BDDI or whether that caused any problems or not.

13. I note that approximately 738 Infraco Notified TIE Changes (INTCs) were intimated by BSC between contract close in May 2008 and the Mar Hall mediation in March 2011 and that there were also various TIE Change Notices during that period. I was only involved in this from a construction point of view, . Kevin Russell was ultimately the leader of the Change Team. The reason for changes to the contract during this period were that a lot of the structures were nothing like what had been priced and bore no resemblance to what had been priced. These were the main INTCs and TIE Change Notices that caused significant increased cost and/or delay. I do not know approximately how many of the INTCs arose as a result of the Pricing Assumptions in Schedule 4.

14. During the dispute TIE made a number of allegations against BSC. BSC were accused of failing to mobilise timeously, but this was not the case. When I started working for BSC, there were a dozen construction guys ready to start, that was why I was brought in. BSC were also accused of unreasonably refusing to commence works involving a variation until a price had been agreed for the works as varied. In the end we reverted to the contract, but in the early days, we did try to resolve issues informally. At the bottom of Leith Walk, for example, we ended up spending £500,000 on ten metres of kerbs. We finally ended up with a mechanism that delivered the job not too dissimilar from what BSC proposed at the start. We were proactive. Eventually you're grinding against a brick wall and you're thinking "what are we going to do here?" We just had to revert to the contract. I have found throughout my career that it is better if you work together to try and find a solution. We tried to co-operate to get the job to work and frustrations grew on everybody's part. I do not know why TIE was not prepared to do that. BSC were also accused of carrying out very little on-street works under the Infraco contract with very few exceptions (eg Princes Street, in respect of which a supplementary agreement, on a demonstrable cost basis, had been agreed). This was another mechanism whereby we both stepped out of the contract, and did a

sub-contract agreement with TIE to try and avoid a dispute and we went in there on a 'cost plus' basis on Princes Street. For me, that shows our willingness to try and progress the works. They never paid us fully for it. BSC were also accused of stopping all work in a section if not all utility diversion works in that section had been completed and not undertaking works in those parts of the section in which utility diversion works had been completed. Eventually we did take that approach. We tried other mechanisms, but nothing worked. BSC were exposed at that time commercially on the job and this is most likely when the Germans from BB stepped in and said, "What are you doing here, you are exposing nearly £60m. We are all that money down, what are you going to do? You are not complying with the contract guys. Follow the contract". Any company director would have done the same. It was also alleged BSC failed to properly manage and progress the design process after SDS novation (design being incomplete, and necessary approvals and consents being outstanding, during the construction phase). t. But, again, TIE was involved with the outside parties as well, so they were not proactive in my opinion in resolving the outside parties' issues. In my opinion BSC took all reasonable steps to mitigate delay to the Infraco works. It was alleged that BSC intimated an unreasonably high number of INTCs, but define high. I cannot comment on this. It is alleged that BSC delayed in providing estimates for the INTCs. These were not deliberately delayed but were late. We had a big change team and maybe we under-estimated the amount of change. We did fail to get them in in accordance with the contract sometimes. It did not happen in every case. It was also alleged that when estimates were provided, they were lacking in specification and/or failed to demonstrate how Infraco would minimise any increase in costs and ensure that the change would be implemented in the most cost effective manner etc (per clause 80.7 of the Infraco contract, **CEC00036952**). This is a pretty broad statement. I am sure some of them did come back with questions. This is normal design/change development where both parties have to agree the scope of the change. It was not done intentionally, We were not deliberately providing misinformation; we were doing recognised practice at that level. It was also alleged that the amounts in the estimates were often excessive. I do not think there was an intention to inflate estimates. You have referred me to the

Russell Road retaining wall as an example but, in relation to the timescale first of all, the change team cannot necessarily go to the market to get a price for piles. You start with the schedule of rates and work your way down, and if you could not establish a rate you would have to go to the market. There was never an intention to inflate. What is the point; it makes you look stupid apart from anything else. You are doing the best you can in the timeframe available. It was also alleged that the new estimates produced by BSC during settlement discussions in 2010 and 2011 for building a line from the airport to St Andrew Square were excessive. I am referred in that regard to the following examples, eg (i) email dated 1 March 2011 by Brandon Nolan (**BFB00094574**) which sought more detailed information in relation to Siemens' Project Phoenix Proposal (PPP) price, noting that Siemens' PPP price of over £136m was double Siemens' original price of c. £68 for the airport to Haymarket and (ii) a report dated 19 August 2011 by Faithful and Gould (**CEC01727000**) which, in the Executive Summary, stated that current costs for the on-street works for Siemens were "extremely high and not value for money" and that the cost of the other on-street works was "grossly inflated". I do not know anything about Siemens. I cannot comment at all on Siemens. In Phoenix a lot of the risk came back to BSC where schedule 4 was discussed and priced

Events between July and December 2008

15. In an email dated 23 July 2008 (**TIE00422563**) Tom Cotter, TIE, sent me a letter dated 11 July 2008 from Steven Bell to Colin Brady (**TIE00422564**) requesting that BSC "*proceed and make all necessary arrangements to allow earliest construction start*" at a number of locations. TIE was saying we were not ready, or the design was not finished and completely ignoring the fact that they were not ready because they did not have the utilities diverted. A lot of these structures were all subject to change. "*The underpass*", was subject to change; "*Gogar culvert, Balgreen, track, road, drainage works, Murrayfield underpass*" were all changes. "*Murrayfield tram stop retaining wall*" was a change. "*Haymarket to Roseburn, Lindsey Road retaining wall*" Lindsay Road Bridge was a change. "*Macdonald Road*"; that was utilities. Where possible

we would have been out there doing the work. If we did not come across a change problem, we progressed all cases as far as we could. TIE was trying to get us to step outside the contract, which we did, and progressed in goodwill to carry on. There were always problems or something stopping us, whether it was design, physical utilities or even getting access. They hadn't sorted a lot of the access out along the back of Murrayfield. We could not physically go in. I do not know what BSC's response was to that letter.

16. In an email dated 11 August 2008 (**CEC01164801**), Stefan Rotthaus, Engineering Manager, Bilfinger, sent Robert Bell, TIE, a revised flowchart for the road design. In an email dated 20 August 2008 (in the same chain), Mr Bell advised that a number of significant concerns required to be addressed, including that: *"(1) Your flowchart takes no account of achieving technical approval, prior approval or IFC status drawings, nor does it give a programme for achieving this; (2) Please confirm how SDS fit into the process, particularly with respect to PI. Have SDS now agreed with your design proposals. If they do not agree, who will be responsible for the design and PI matters and how will this interface with other parts of SDS design"*. Mr Bell further noted, *"The process you have described takes no account of the agreed process from earlier meetings. Despite repeated requests, we are no nearer to receiving a programme from you. We expect your programme to demonstrate you can commence works on 5th January 2009 as per the contract programme. We are concerned also as to whether BSC have gained SDS support in this matter and how you propose to proceed if you have not"*. I have no views on the concerns raised by Mr Bell and I do not know how these concerns were addressed.

17. In an email dated 26 August 2008 (**TIE00714899**) Peter Widdowson, Traffic Management Officer, Bilfinger, advised Brian McCall of TIE's Technical Support Services Provider (TSS) that BSC had reviewed the traffic management at South Gyle access bridge in light of MUDFA's imminent completion and the late re-design of the structure and that BSC would not be commencing work in that area for circa six weeks. I have no comment to make in relation to my understanding and views of the matters in the email: I

do not know why BSC indicated that they would not be commencing work in that area for six weeks. I do not know if the matters raised in that email were indicative of any wider issues at that time. Peter Widdowson was our traffic management guy. He is the one that set all the traffic management about the project.

18. BSC's Period Report to 8 November 2008 (**CEC01169379**) noted (at p3) that *"Construction works are in progress in sections 1B, 2A, 5A, 5C and 7, but are all impacted by external issues which require resolution through the change process."* - This paragraph is a good summary of the position that BSC were in. *"In Leith Walk, un-diverted utilities in the first work site are severely hampering progress"* - This is in reference to the 10 metres of kerbs that we spent £500,000 on. *"On Edinburgh Park viaduct, significant changes to foundation works are required due to unsuitable ground condition."* – the foundations had to be changed. *"The overall volume of changes, and in some cases requirement for design work to produce change estimates, is overloading available change management resources and introducing severe delay."* We did have a team and they were under pressure to produce change estimates in the timescale required by the contract. The volume was underestimated. It was a huge quantity of work. I have never experienced such a high volume of change in any other contract. *"Disagreement over liability for change, for example between Base Date information and IFC drawings when produced, is exacerbating the delays in agreement of changes."* - This goes back to the principle of Schedule 4.

19. BSC's Period Report to 6 December 2008 (**CEC01121557**) noted (at p3): *"Minimal progress has been made on issue of civil IFC design packages particularly those required for trackwork in sections 1 and 7. Efforts to resolve outstanding issues in technical meetings have not been successful, since the issues are largely commercial"* and *"Limited construction works have been progressed in sections 1B, 2A, 5A, 5B, 5C and 7, but are all impacted by external issues which require resolution through the change process. Discussions are in progress to agree an interim change mechanism to permit works to proceed whilst the full change process is followed. Until this is in*

place, BSC will not progress any further changed works prior to agreement on costs". I also note TIE's response in (CEC00423799) at p13. In relation to "Discussions are in progress" - because this is December 2008 - "to agree an interim change mechanism to permit this", this is BSC still being proactive where we came up with this arrangement to go in to do Princes Street on a cost plus basis. "BSC will not progress any further changed works prior to agreement on costs." – I cannot elaborate any further.

Events in 2009

20. In a letter dated 23 January 2009 (CEC01182823), BSC intimated a Compensation Event to TIE on the basis of the failure of SDS to achieve the release of Issued for Construction Drawings (IFC) by the dates identified in the programme in relation to section 1A, Lindsay Road retaining wall. This was a huge design change. McKean's was our sub-contractor. I thought building that wall was stupid. The wall did not need to be built at that time. There were major utilities that had not been even thought about being moved to allow the Lindsay Road retaining wall to start. TIE then had to get their finger out. Scottish Power and Gas were there, so there was a lot going on. However, we started to construct Lindsay Road and it is there now. Lindsay Road retaining wall is down there as a monument. I was not involved in any way in the compensation event to TIE on the basis of the failure of SDS to achieve the release of issued for construction drawings. I do not know why SDS was unable to achieve the release of these IFC Drawings by the dates identified in the programme. The change mechanism in Schedule 4 was why BSC considered that that gave rise to a compensation event. Although the contract was novated from SDS to BSC, BSC considered it to be a change, therefore, the cost fell back to TIE.

18. BSC's Period Report to 31.1.09 (CEC01103816) noted (at p29) that there were 274 notifications of change which were being processed. It was also noted: *"The complexity, nature and amount of changes have overloaded the change mechanism included in the Infracore contract, because the estimates cannot be submitted within the time frame requested in the contract and also*

due to the fact that the overall impact to the programme from a given change cannot be assessed on an individual basis. It has been agreed that the estimates submitted by BSC will only deal with direct related effects (costs) of a given change and time related effect will be assessed as a separate issue, when dealing with programme issues, in order to have a more realistic approach for assessing the change effects to the overall construction programme” and that “Prioritization of changes has been established in order to focus agreements on major/critical changes”. There is no doubt that our change team were under pressure. It was a huge team working long hours, but they did fail on occasions getting it in on time. My involvement was to focus on the things that we needed to build to mitigate and maintain the programme. One of the major/critical changes was the Murrayfield corridor, which changed in all recognition, even the ground treatment, the piles, and all that series of structures. The Murrayfield corridor retaining walls and structures bore no resemblance to what we looked at. We then got Graham Construction in. How it worked was, they would do a programme and we would do a programme, then we would compare. We had a tender programme which says a bridge is ten weeks, we would get the change drawings while the commercial part was going on, we would be doing a programme and saying “if it was ten weeks there, it is now a 20 week job”. We would fit it into the big picture “we need to start this now to maintain the overall completion, this 10 weeks is now 20 weeks, it has overtaken this other structure so drop that down and focus on this one”. It was a living process of constantly reviewing the programme and what we were trying to build.

19. In an email dated 30 January 2009 by Douglas Ross, BB Quality Manager (**BFB00057385**) attached a document “Draft Audit Report – ‘Construction Activities’ – 29/01/2009” (**BFB00057386**). I do not know what the purpose of that document was. I do not know what construction activities were being undertaken at that time. The issue raised at page one of the draft report in relation to the need to ensure that only the latest revisions of applicable drawings and SDS Specifications were available at the point of use and were being used by the teams is a basic requirement of construction. You have got to be working to the current drawing. However you also need to be aware of

the previous one to know what the difference is. You cannot lose track of the previous drawing but you have got to, obviously, build to the latest drawing. I do not know why the problem had arisen and if it was resolved. When we got going in this period, I stepped away from the design, and I got into what I consider to be the construction design issues, which are more normal. The SDS provider was not any worse or any better than any other designer in my opinion.

20. In an email chain commencing on 30 January 2009, Robert Bell, TIE (**CEC01183683**) raised concerns in relation to Value Engineering design for Roseburn Viaduct, works at Murrayfield Stadium and the provision of design programme information. There was a value engineering number that was anticipated to be realised with that structure which did not happen. The Roseburn Viaduct design value engineering could not be realised as the structure was not acceptable by the Scottish Rugby Union. This was a specific tender issue which had been identified back at tender stage which is in Schedule 4 and not indicative of wider problems with the tram project.

21. A dispute arose in relation to the Princes Street works due to commence in February 2009. In an email dated 13 February 2009, Robert Bell, TIE (**CEC00941513**) noted that with a week to go there were a number of items that were outstanding from BSC. A response the same day (in the same chain) from Colin Brady, BSC, stated "*With one week to go we do not have an instruction to carry out the works*". Parties commenced the formal Dispute Resolution Procedure. The dispute was eventually resolved by parties entering into the Princes Street Agreement (**CEC00302099**). We were still negotiating a deal for Princes Street out of contract. We could have just reverted to contract again and said, "You sort it TIE, once you have got the change agreed we will come back in 2010". BSC were trying to find a resolution to get things moving. We were being proactive. BSC were ready and in position to start works in February 2009, if only TIE had made a suitable instruction. Mackenzie and Crummock were our sub-contractors for the labour on this job and they were ready to go. In my opinion we should not have started Princes Street. Princes Street was driven by summer and winter

embargos, the festival in the summer and Christmas in the winter. There were two periods in the year when you could get into Princes Street. If we had delayed it another year, it would not have made any difference to the overall job. A better deal could maybe have been made later. TIE were pushing it though, "Get in there. Get it done. You are delaying the job". It would not have made any difference to wait until the utilities were clear. It was not the most cost effective way of doing the job. CEC could have had a more economical solution if TIE had waited. I did not play any part in the dispute resolution and do not know how it was ultimately resolved. BSC agreed to carry out works on Princes Street on a demonstrable cost basis which was a departure from the Infraco contract. In my opinion, this was a 'good will' gesture, a mechanism to go forward.

22. BSC's Period Report to 28 March 2009 (**CEC01002684**) noted (at p3) that *"Virtually all construction works are impacted by external issues which require resolution through the change process of the contract"*. I agree with this summary report. The construction work going on at this time is outlined at page 14 of the document.

23. An email dated 30 April 2009 from Tony Glazebrook, TIE, (**TIE00037854**) noted the essential requirement that the Design Assurance Requirement Packages conveyed the answers to the points in Section 2.8.2 of the Design Management Plan (which was Part C of Schedule 14 to the Infraco contract) but that *"SDS has failed to do this so far in any DAS offering, whether informal or formal. Their offerings usually come with the implication 'the answers are all in there, go and find them'. This has not proved to be the case"*. TIE was not co-operative in fulfilling their role in mediating, to facilitate the outside parties. So it wasn't just SDS. I have no views on the performance of the SDS provider around that time. I do not know what steps were taken by BSC to resolve the problem.

24. In a letter dated 30 April 2009 (**CEC00322635**), Steven Bell sent BSC revision 8 of the MUDFA Programme. In a letter dated 8 July 2009 (**CEC00322640**), Martin Foerder advised Mr Bell that that constituted a Notified Departure

because the access dates were at variance with Schedule 4 Pricing Assumptions 3.4.24 (diversion of utilities to be completed) and 3.4.32 (the programming assumptions set out in Schedule 15 of the Infraco contract to remain true). There was further correspondence and a meeting between the parties on 3 September 2009 at which TIE explained that it agreed that a Notified Departure had occurred but did not believe that the Estimate submitted by BSC on 6 August 2009 (**CEC00322634**) contained proposals to demonstrate that the Notified Departure would be implemented in the most cost effective manner. TIE's opinion was that the details were not sufficient and that was their opinion. My role was to provide my construction input to the contract team, so I was not involved. However, I believe that this is an acknowledgement from TIE that they were at least a year late in getting MUDFA delivered.

25. In an email dated 15 May 2009 (**BFB00058190**) David Bill of Mackenzie Construction Ltd advised me of "*the growing anxiety amongst the Mackenzie Site Management team regarding the quality, timing and presentation of the design information to allow us to proceed in line with the Programme*". Mr Bill further noted that "*the common theme is no IFC drawings available*" and that "*Apart from anything else it is very obvious that the Construction and the Design are not at the same stage at the moment and rectifying should be given priority if this trend is to be contained*". This email is outlining problems due to construction design issues. These issues were obviously resolved before Princes Street opened, but I cannot recall the details. They were day-to-day issues for me. The overall performance of the SDS provider was not any better or any worse than other providers I have worked with in the past.
26. In an email dated 26 May 2009 (**CEC00948648**) Duncan Fraser, CEC, sent a draft briefing paper (**CEC00948650**) to TIE relating to the track depth at Princes Street. In this paper Duncan Fraser is questioning SDS design as a CEC representative. In relation to pavement details and construction details, the pavement was designed on 0.610 meter, assuming a California Bearing Ratio (CBR) of three. If you get less than three, you need to go deeper, that is where the 1.29 meter comes in. The pavement is the carriageway that the

trams run on, not a footpath. There were trials done and we brought in SDS independently. We drilled it all out and got ground condition results. From that, SDS had come up with a design that complies with DMRB (Design Manual for Roads and Bridges). We ended up with Appendix 7/1, which is a specification that told us what to do if you find good ground or bad ground. If you find that the ground is at a certain stiffness you can stay there, if it is not you have to go deeper. I do not know when it was agreed or resolved.

27. On 3 June 2009 parties entered into a Minute of Variation ("MoV2") of the Infraco contract (**BFB00053622**). This is after we started in March. They say March, but I would say February. We had already started in good faith. We entered into a Minute of Variation to progress the works. In the end Princes Street got built, so it was a success.
28. I am advised that an informal mediation between TIE and BSC took place between 29 June 2009 and 3 July 2009. I was not involved in that at all. I was not even aware that it had happened.
29. In an internal email dated 9 December 2009 (**CEC00328711**) Baltazar Ochoa, Change Manager, BB, circulated a draft Memorandum of Understanding between BB and Parsons Brinckerhoff (**CEC00328712**). I was not aware of this memorandum.

Events in 2010

30. In a letter dated 26 February 2010 (**CEC00368373**), Richard Jeffrey, TIE, rejected BSC's offer for a Supplemental Agreement covering the remainder of the On Street Works. Mr Jeffrey's letter included the following assertions:
"6. ... The recent audit carried out by tie shows that Infraco has failed to appoint key-subcontractors for any Civil Engineering Works required by Clause 28 of the Infraco Contract.
7. ... the SDS provider should have completed the design in January 2009, tie are not satisfied that Infraco have complied with their obligations under the Infraco Contract in managing the SDS Provider.

8. CEC assert that Infraco has been responsible for delays in obtaining approvals". I have not seen this letter before, but in my opinion Richard Jeffery is trying to reinforce TIE's opinion on where they stand contractually.

31. In a letter dated 2 April 2010 Steven Bell sent Martin Foerder a Design Audit dated January/February 2010 (CEC00197190). I note that the Executive Summary of that document stated that the following themes gave the audit team cause for concern, namely: Little evidence that Infraco have properly managed the design process in a timely manner; lack of evidence that Infraco have paid serious attention to best value design solutions; the final outputs of design have produced solutions that appear to be in excess of the needs of the client; no acceptance of liability for pre-novation issues; lack of engagement with the audit process. Unless you are a designer, you cannot question a design. You can have opinions and say "I think that is over the top". You can have open discussions but, at the end of the day, a designer has the codes and he has got to come up with the best design within the codes. Steven Bell is not qualified to question it, he is not a designer. We are not designers. That is why we engaged a designer. That is what you pay them for. We are a builder.
32. In letter dated 4 June 2010 (CEC00298078) Anthony Rush, TIE, wrote to Nick Flew, Managing Director, PB (Europe), advising that the design was still incomplete, including the on-street track. In a letter dated 5 August 2010 (CEC00337893) DLA wrote to PB expressing concern "*over the programme and cost implications of the unusually high volume of design changes or alleged design changes that are still appearing and causing claims related to design development*". The letter from Anthony Rush looks like TIE trying to back-up the position that we were incompetent and they were the good guys. I have never heard of Anthony Rush, but he is somebody that is ill-informed in my opinion. The letter from DLA Piper to PB I can understand. I can see why they would write that letter because, in my opinion, they are trying to say at the point of novation PB had not done what they should have done at that point in time. I know there are lots of defences, for example, the Murrayfield corridor, why that changed so much, was TIE could not get access for PB to

do the site investigation to conclude the design. In that corridor we had 'simple footings' because that is all they could put on the drawings. PB could not conclude the design because TIE had not facilitated the access. This is pre-Bilfinger. PB were doing two jobs at that time, they were designing the utilities for MUDFA and, in parallel, designing the tram, which, in theory, is a good idea.

33. I note that by letter dated 29 July 2010 (**TIE00885457**) Martin Foerder sent BSC's "Project Carlisle 1" proposal (**CEC00183919**) to TIE. Under the proposal BSC offered to complete the line from the airport to the east end of Princes Street for a Guaranteed Maximum Price of £433,290,156 and 5,829,805 euros (less the amounts previously paid), subject to a shortened list of Pricing Assumptions. BSC's proposal was rejected by TIE by letter dated 24 August 2010 (**CEC00221164**), in which TIE responded with a counter-proposal of a construction works price (to BSC) for a line from the Airport to Waverley Bridge of £216,492,216, £45,893,997 to CAF, the amount to SDS to be determined and a sum of just under £4,922,418 in respect of Infraco maintenance mobilisation, tram maintenance mobilisation and Infraco spare parts. My only involvement with this was from a construction point of view which led into the price, but I was not involved directly.
34. I also note that by letter dated 11 September 2010 (**TIE00667410**), BSC submitted its "Project Carlisle 2" proposal to TIE, in which BSC offered to complete the line from the airport to Haymarket for a Guaranteed Maximum Price of £405,531,217 plus 5,829,805 euros, subject to the previously suggested shortened list of Pricing Assumptions. In a letter dated 24 September 2010 (**CEC00129943**), TIE rejected BSC's proposal. Mr Foerder responded by letter dated 1 October 2010 (**CEC00086171**). Again, my only involvement was from a construction point of view, which led into the price, but I was not involved directly. The proposal itself, however, was a good solution for the project.
35. An email dated 10 September 2010 by Alastair Scott, Section Manager, BB (**BFB00056980**) noted "*late and poor information from SDS*" and that "*In*

summary there is some small scope to improve ... however from our viewpoint we need BAM to improve and SDS to stop issuing new drawings which are both unpredictable". The overall performance of the SDS provider was not any better or any worse than other providers I have worked with in the past. You had so called experts from TIE who came from a railway environment and that is the first problem on the job. These guys were railway guys. They thought they were coming to build a railway and they were not coming to build a railway. A tram is different from a railway. They were not designers, but they had opinions on what track form should be. BAM were a sub-contractor of Seimens. Their job was to lead the interface, we did the civils. BAM came along and laid the track and we finished it.

36. Between 9 August and 12 October 2010 TIE served a number of Remediable Termination Notices (RTNs) and Underperformance Warning Notices (UWNs) on BSC. In response, BSC denied that the RTNs constituted valid notices and, in some cases, produced Rectification Plans. This was TIE lining us up to kick us off the job. In a construction sense I had my input into any rectification plans. If TIE triggered a RTN or UWN, BSC had to respond with a Rectification Plan. Unfortunately that is where the contract deteriorated and BSC had to react. The noose was getting tighter round TIE's neck and they were trying to come up with any way to engineer themselves that they were right and BSC were wrong.

37. In a letter dated 17 September 2010 (**CEC00044544**) BSC set out their position in relation to the dispute concerning defective works at Princes Street. I admit that we did have to go back to Princes Street and redo the works there. Defective is the wrong word though. Siemens were a designer as well as PB on this job and Siemens were the designer for the rail element. PB changed the design. We went back in the following year and redid it. Princes Street is special because of the number of buses that are on it. It was designed for 76 MSA (Million Standard Axels). So the number of wheels that will run over it in its lifetime is 76 million. That is not what causes the damage. On Princes Street you have got a breaking load. You might have 80 people on a bus and that bus has a breaking load. The MSA standard axels v...

breaking load on Princes Street was possibly missed or under-estimated. Somebody counted on one day 120 buses in an hour going along Princes Street. We held our hands up and we never asked for any money for it, the consortium did that out of their own pocket and went back into Princes Street the second time and changed it to a concrete shoulder.

38. In a letter dated 29 September 2010 (**TIE00409574**) Martin Foerder advised TIE that BSC were no longer prepared to carry out "goodwill" works (ie works which were the subject of 94 outstanding INTCs listed with the letter, in respect of which no TIE Change Order or an agreed estimate existed, and which BSC considered that they were not required to carry out under the contract). I cannot recall what works and in which sections had been carried out by BSC between May 2008 and September 2010 on a "goodwill" basis. This information can be found in progress reports. The reason why BSC decided to stop carrying out "goodwill" works is that BSC were exposed to a big loss. They had spent a lot of money and had not recovered any. Bilfinger are a big company, but if you get to the stage that you are £60m out of pocket, shareholders are starting to say "what is happening there". The consequence of this decision is that we had to pay off a lot of staff. Thirty to forty people lost their job in one day. That was only Bilfinger staff. I'm sure there would have been more from a contractor perspective.

Events in 2011

39. On 24 February 2011 BSC provided its "Project Phoenix Proposal" (**BFB00053258**) to complete the line from the airport to Haymarket for a total price of £449,166,366, subject to a shortened list of Pricing Assumptions. I did not have any direct involvement in the "Project Phoenix Proposal". I do believe that it was a solution to the problem though.
40. Mediation talks took place at Mar Hall between 8 and 12 March 2011. I note that TIE prepared a mediation statement (**BFB00053300**) as did BSC (**CEC01927734**). Richard Walker delivered an opening statement on behalf of BSC (**TIE00670846**). A statement "ETN Mediation – Without Prejudice – Mar

Hall Agreed Key Points of Principle” was signed by the parties on 10 March 2011 (the principles of which were then incorporated into a Heads of Terms document, **(CEC02084685)**). I had no direct involvement with Mar Hall. I was there in a construction capacity to offer advice on construction impacts to the programme. I cannot recall any specific discussions within that week. After Mar Hall we agreed to start work again on a “goodwill” basis. We ended up with a solution that could work and it galls me at times as we proposed something very similar at a lower level, nearly three years before.

41. In Richard Walker’s opening statement at the Mar Hall mediation **(TIE00670846)** he noted (at para 7.1) the following characteristics of a successful project namely: a defined and agreed scope; a defined and agreed design; clear terms and conditions; clearly identified price; and effective delivery. I never needed to look at the contract after Mar Hall. We just went out and built it. That is the sign of a good contract. Once the characteristics Mr Walker suggested were fully implemented in the new agreement, it was a success. I agree with the characteristics of a successful project listed by Mr Walker. The only other characteristic I would add to that list is collaboration. Confrontation does not work. It used to work maybe 30 years ago but that does not work now. We are builders, we want to build things, we want to make money, but we do want to build things. I stopped talking about the trams in public, as it had such bad press. It was not good for anybody associated with it, that is not what we want.
42. Parties entered into a Minute of Variation dated 20 May and 10 June 2011 **(BFB00096810)** (Minute of Variation 4), which varied the Infracore contract to allow certain priority works to take place. The purpose of this agreement was to get things going to deliver the job. These priority works took place as planned. Difficulties were then dealt with day-to-day. There was no longer the need to write letters or discuss contract positions. If we hit a water main or came across a gas pipe, it was gone the next day. We had regular meetings with positive outcomes because we worked together to solve the problems.

43. A Second Memorandum of Understanding was entered into on 2 September 2011 (**TIE00899947**) (by which parties agreed to extend the timescale for entering into a settlement agreement until 14 September 2011). A full and final Settlement Agreement was entered into on 15 September 2011 (**BFB00005464**). I was never involved in this Settlement Agreement. The issue had to be resolved though as Bilfinger was exposed to a lot of loss of money. If a deal was done, then BSC and CEC must have been in agreement.

Completion of the Works

44. I note that following the Mar Hall mediation and the Settlement Agreement, works progressed to complete a tram line from the airport to York Place, which opened for revenue service on 31 May 2014. The total capital cost had increased to approximately £776m (for a shorter line). I cannot recall the main works, and in which sections, were carried out in 2011, 2012, 2013 and 2014. I cannot recall what percentage of the total Infracore works had been completed by the end of each of 2011, 2012 and 2013. I cannot recall what percentage of the total utility diversion works had been completed by the end of each of 2011, 2012 and 2013. I cannot recall what percentage of the total design had been completed (ie to the stage of Issued For Construction (IFC) drawings) by the end of each of 2011, 2012 and 2013. I cannot recall what percentage of the necessary statutory approvals and consents had been obtained by the end of each of 2011, 2012 and 2013. There are reports in relation to all these, which I have no reference to.
45. The main difficulties that arose after Mar Hall were the utility works. These were resolved on a day-to-day basis by sitting down with all concerned. The difference between pre-Mar Hall and post Mar Hall, I can only describe as 'night and day'. Everything worked after Mar Hall.
46. Following the Mar Hall mediation there were approximately 352 INTCs. It has been suggested that, on the face of it, that seems a relatively large number of changes given that, by that stage, the design and utility diversion works ought,

presumably, to have been largely completed and given that a shorter section of line was to be built. These INTCs were just normal process and I believe that the number was normal.

Project Management and Governance etc

47. In relation to the project management and governance of the tram project. My personal opinion is that TIE were to blame. TIE knew the design was not finished. They mismanaged MUDFA and forced a contract signing prior to the election because they knew it was going to get abandoned. They did not put any money in the risk pot for Schedule 4. Personally I would also look at CEC who engaged TIE. I have no doubt that TIE had some intelligent people, but they were in the wrong place, they did not know what civil engineering or the Tram Project was about. DLA Piper, who advised TIE on the contract, must be held accountable in my opinion. I did not have any concerns about any of the the main contactors.

Final Comments

48. I am asked how my experience of the Edinburgh Trams Project compare with other projects I have worked on, both previously and subsequently. I have been at adjudication or mediation twice in 30 years and I do not know how many times we got that far in the Tram Project. Some of the things that happened on the Tram Project I hope will never happen again. It would make a great book, if it was not so series . A lot of money was wasted, poured down the drains by Tie. I have never experienced anything like it.

I confirm that the facts to which I attest in this witness statement, consisting of this and the preceding [insert number] pages are within my direct knowledge and are true. Where they are based on information provided to me by others, I confirm that they are true to the best of my knowledge, information and belief.

Witness signature.....



Date of signing.....

/ BTU FEB 2017

