

# Tram Briefing and Project Delivery Group Joint Meeting

## AGENDA

Date: 17 April 2012  
Time: 8.00 am  
Venue: Dunedin Room, City Chambers

---

### Attendees:

Vic Emery (Chair)	The City of Edinburgh Council	<a href="mailto:vic.emery@cityofedinburgh.gov.uk">vic.emery@cityofedinburgh.gov.uk</a>
Lucy Adamson	Transport Scotland	<a href="mailto:Lucy.adamson@transportscotland.gsi.gov.uk">Lucy.adamson@transportscotland.gsi.gov.uk</a>
Dave Anderson	The City of Edinburgh Council	<a href="mailto:Dave.anderson@edinburgh.gov.uk">Dave.anderson@edinburgh.gov.uk</a>
Sue Bruce	The City of Edinburgh Council	<a href="mailto:Sue.bruce@edinburgh.gov.uk">Sue.bruce@edinburgh.gov.uk</a>
Alan Coyle	The City of Edinburgh Council	<a href="mailto:Alan.coyle@edinburghtrams.com">Alan.coyle@edinburghtrams.com</a>
Ian Craig	Lothian Buses	<a href="mailto:lcraig@lothianbuses.com">lcraig@lothianbuses.com</a>
Neil Gibson	Big Partnership	<a href="mailto:Neil.gibson@bigpartnership.co.uk">Neil.gibson@bigpartnership.co.uk</a>
Gavin King	The City of Edinburgh Council	<a href="mailto:Gavin.king@edinburgh.gov.uk">Gavin.king@edinburgh.gov.uk</a>
Alastair Maclean	The City of Edinburgh Council	<a href="mailto:Alastair.maclean@edinburgh.gov.uk">Alastair.maclean@edinburgh.gov.uk</a>
Bob McCafferty	The City of Edinburgh Council	<a href="mailto:Bob.McCafferty@edinburgh.gov.uk">Bob.McCafferty@edinburgh.gov.uk</a>
Ainslie McLaughlin	Transport Scotland	<a href="mailto:ainslie.mclaughlin@transportscotland.gsi.gov.uk">ainslie.mclaughlin@transportscotland.gsi.gov.uk</a>
Kelly Murphy	The City of Edinburgh Council	<a href="mailto:kelly.murphy@edinburgh.gov.uk">kelly.murphy@edinburgh.gov.uk</a>
Scott Noble	Transport Scotland	<a href="mailto:scott.noble@transportscotland.gsi.gov.uk">scott.noble@transportscotland.gsi.gov.uk</a>
Graham Porteous	Transport Scotland	<a href="mailto:Graham.porteous@transportscotland.gsi.gov.uk">Graham.porteous@transportscotland.gsi.gov.uk</a>
Nick Smith	The City of Edinburgh Council	<a href="mailto:Nick.smith@edinburgh.gov.uk">Nick.smith@edinburgh.gov.uk</a>
Colin Smith	The City of Edinburgh Council	<a href="mailto:csmith@hg-group.co.uk">csmith@hg-group.co.uk</a>
Mark Turley	The City of Edinburgh Council	<a href="mailto:Mark.turley@edinburgh.gov.uk">Mark.turley@edinburgh.gov.uk</a>
Julian Weatherley	Turner and Townsend	<a href="mailto:Julian.Weatherley@turntown.co.uk">Julian.Weatherley@turntown.co.uk</a>
Gary Easton	Turner and Townsend	<a href="mailto:Gary.easton@turntown.co.uk">Gary.easton@turntown.co.uk</a>
Rob Leech	Turner and Townsend	<a href="mailto:Rob.Leech@turntown.co.uk">Rob.Leech@turntown.co.uk</a>
Shirley Mushet	Turner and Townsend	<a href="mailto:Shirley.Mushet@turntown.co.uk">Shirley.Mushet@turntown.co.uk</a>
Martyn Ayres	Turner and Townsend	<a href="mailto:Martyn.Ayres@turntown.co.uk">Martyn.Ayres@turntown.co.uk</a>

- 1 Previous Minute – 5 April and 26 April 2012** – submitted for approval as a correct record (circulated)
- 2 Rolling Actions Log** – (to follow)
- 3 Turner and Townsend Report** – Julian Weatherley to speak to this item (circulated)
- 4 Communications** – Kelly Murphy to speak to this item
- 5 AOCB**
- 6 Date of Next Meeting**

**Full Report:** 7 June 2012 at 8am in the Chief Executive's Board Room

**Presentation:** 21 June 2012 at 8am in the Chief Executive's Board Room

# Tram Briefing and Project Delivery Group Joint Meeting

Edinburgh, 5 April 2012

## Attendees:

Vic Emery (Chair)	The City of Edinburgh Council	<a href="mailto:vicemery@cityofedinburgh.gov.uk">vicemery@cityofedinburgh.gov.uk</a>
Sue Bruce	The City of Edinburgh Council	<a href="mailto:sue.bruce@edinburgh.gov.uk">sue.bruce@edinburgh.gov.uk</a>
Alastair Maclean	The City of Edinburgh Council	<a href="mailto:Alastair.maclean@edinburgh.gov.uk">Alastair.maclean@edinburgh.gov.uk</a>
Colin Smith	The City of Edinburgh Council	<a href="mailto:csmith@hg-group.co.uk">csmith@hg-group.co.uk</a>
Dave Anderson	The City of Edinburgh Council	<a href="mailto:Dave.anderson@edinburgh.gov.uk">Dave.anderson@edinburgh.gov.uk</a>
Alan Coyle	The City of Edinburgh Council	<a href="mailto:alan.coyle@edinburgh.gov.uk">alan.coyle@edinburgh.gov.uk</a>
Kelly Murphy	The City of Edinburgh Council	<a href="mailto:kelly.murphy@edinburgh.gov.uk">kelly.murphy@edinburgh.gov.uk</a>
Scott Noble	Transport Scotland	<a href="mailto:scott.noble@transportscotland.gsi.gov.uk">scott.noble@transportscotland.gsi.gov.uk</a>
Lucy Adamson	Transport Scotland	<a href="mailto:lucy.adamson@transportscotland.gsi.gov.uk">lucy.adamson@transportscotland.gsi.gov.uk</a>
Ian Craig	Lothian Buses	<a href="mailto:icraig@lothianbuses.com">icraig@lothianbuses.com</a>
Neil Gibson	Big Partnership	<a href="mailto:Neil.gibson@bigpartnership.com">Neil.gibson@bigpartnership.com</a>
Julian Weatherley	Turner and Townsend	<a href="mailto:Julian.Weatherley@turntown.co.uk">Julian.Weatherley@turntown.co.uk</a>
Gary Easton	Turner and Townsend	<a href="mailto:Gary.easton@turntown.co.uk">Gary.easton@turntown.co.uk</a>
Shirley Mushet	Turner and Townsend	<a href="mailto:Shirley.Mushet@turntown.co.uk">Shirley.Mushet@turntown.co.uk</a>

## ACTION NOTE

	ITEM	ACTION OWNER	DEADLINE
1	<b>INTRODUCTION</b>  Apologies were received from Mark Turley, Bob McCafferty, Ainslie McLaughlin, Graham Porteous, Martyn Ayres and Rob Leech.		
2	<b>PREVIOUS MINUTES AND MATTERS ARISING</b>  <b>Decision</b>  To approve the minute of 1 March 2012 as a correct record.		
3	<b>ROLLING ACTIONS LOG</b>  Refer to PDG Rolling Action List for updated action status.  Julian Weatherley advised that a Turner and Townsend facilitator for the 'Think before you act' event had been identified. A keynote speaker had yet to be identified and guidance was sought whether it should be an external or internal speaker. Colin Smith added that Vic Emery was set to chair the event and following discussion, it was agreed that the event should not include an external speaker. Sue Bruce enquired whether issues, such as the lorry banking into the ScotRail depot and their staff reporting it as a near miss, be covered by the 'Think before you act' event. Julian Weatherly		

ITEM	ACTION OWNER	DEADLINE
confirmed the event could be opened up to all health and safety issues. Colin Smith and Julian Weatherley would meet to discuss the agenda for the event and ensure that the appropriate facilitator and speaker were identified.	<b>CS/JW</b>	
Alan Coyle suggested that the Council financial reports and the Turner and Townsend reports should be considered at separate meetings. This would allow additional time to review each document. It was agreed that a meeting would take place between Colin Smith, Alan Coyle, Ed Foster, Clive Arbuckle and Gavin King to identify an amended reporting schedule.	<b>CS/AC/EF/ CA/GK</b>	
Ian Craig advised that two trams had two controls (horn and brakes) switched round and in setup differently to the other trams. Concern was raised whether the sign off process for the trams was robust enough. Julian Weatherley agreed to investigate the sign off process and ensure that all other configurations were correct. Colin Smith added that this issue would be followed up at control meetings.	<b>JW</b>	
Colin Smith advised that water was permeating through the front door of the Tram Depot. A range of solutions had been discussed but a permanent solution had not yet been identified. Julian Weatherley agreed to investigate this issue.	<b>JW</b>	
Ian Craig enquired whether the tram mock up at the airport could be transferred to the Lothian Buses depot in Seafield. It was agreed that this could be transferred but that tram information/promotional material should replace it at the airport. Kelly Murphy stated that new tram banners had been erected at Haymarket and she would investigate whether similar materials could be utilised at the airport.	<b>IC</b>  <b>KM</b>	

---

#### **4 TURNER AND TOWNSEND REPORT**

Julian Weatherley introduced Turner and Townsend's report for the period 25 February 2012 – 27 March 2012. Julian Weatherley, Gary Easton and Shirley Mushet gave a presentation summarising the main points in the report.

Julian Weatherley advised that 24 health and safety incidents had been reported since the last dashboard, of which, six were classified as serious/significant issues. Two incidents had been reported to the HSE and these related to the cable strike in South St Andrew Street and the gas main strike at the airport.

The 'Think before you act' initiative would aim to rectify the

---

ITEM	ACTION OWNER	DEADLINE
<p>cultural and behavioural deficiencies in regard to health and safety on the Project.</p>		
<p>The resolution of snagging issues at the tram depot was progressing as planned and was 79% complete. The total of NCR's raised was 462 with 77 remaining open.</p>		
<p>The soil issue in Baird Drive was still ongoing, with a decision on the soil classification expected next week. Neil Gibson added that the Daily Record was checking when SEPA would issue their decision on a daily basis. Scott Noble added that Ainslie McLaughlin had spoken to SEPA and they had given him a commitment to provide prior warning of their decision. SEPA, BBS and CEC had agreed to issue their individual statements simultaneously.</p>		
<p>Tram commissioning continued to be completed in line with the commissioning plan. A new chart had been created by Turner and Townsend to show the progress per tram. Vic Emery added that the overall ambition would be to shorten the commissioning period but maintain the controls and focus on safety.</p>		
<p>Ten trams had been delivered to the depot with the eleventh tram due to be delivered on 10 April 2012.</p>		
<p>Julian Weatherley gave an update on the on-street section of the project and advised that the majority of South St Andrew Street had now been handed over to Infraco in line with the programme.</p>		
<p>McNicholas were undertaking large excavations to clear utility conflicts in Haymarket 2-6. This would enable McNicholas to undertake work on the manhole in that area. This would allow a significant amount of the drainage work to be completed for handover to Infraco. Vic Emery stated that this appeared to be a good example of partnership work in action but enquired if a commercial agreement was in place. Julian Weatherley confirmed that an agreement was not yet in place but the principle had been agreed. Using McNicholas would complete the works quicker but the commercial component had to be addressed. Julian Weatherley stated that he would provide a position paper by next week, on the issue, for Colin Smith. Colin Smith added that Turner and Townsend had prepared a paper on the Scottish Water drainage issue and asked BB to respond by next week. The overall aim was that the best placed party should do the drainage work. It was also key that no-one was paid twice for the same piece of work. Vic Emery enquired what the impact on defect liability was if the work</p>	<b>JW</b>	

ITEM	ACTION OWNER	DEADLINE
<p>was done by another party. Julian Weatherley agreed to investigate the impact on defect liability. Sue Bruce re-iterated that it was critical that the completion of the work was kept separate from the contractual discussions.</p>	<b>JW</b>	
<p>Julian Weatherley advised that out off 33 manholes that required solutions only two needed derogations. In response to a question, it was confirmed that even if McNicholas completed the drainage works in Haymarket the solution would be designed by Infraco.</p>		
<p>Julian Weatherley explained that a meeting on York Place had been held last week. A design had been produced that would reduce the road to a single lane but would not impact on the adjacent basements. The traffic modelling had supported this approach and it significantly de-risked the tram project. Vic Emery highlighted that a permanent single lane of traffic in York Place was a significant issue for the City and how it managed traffic; and the decision should not be taken lightly. Alastair Maclean added that it was also important that any traffic management proposals take cognisance of the impact when the tramline was extended to Newhaven. Colin Smith suggested, and it was agreed, to hold a briefing session on the proposed traffic management changes for York Place with Mark Turley, Marshall Poulton and BBS.</p>	<b>CS/ASim</b>	
<p>Works would commence by the end of April to remedy previous Infraco and Mudfa works related to Forth ports and in Lindsay Road. Julian Weatherley confirmed that the NEC C type contract would be used for the procurement of Scottish Water legacy works in Leith.</p>		
<p>Vic Emery enquired how many of the cost engineering initiatives had been secured. Gary Easton explained that £8.62m of the opportunities had been secured with £7.31m still to be realised.</p>		
<p>Julian Weatherley advised that Turner and Townsend were in discussions with McNicholas about securing a reduction in fee to 9.3% if CEC took on the public liability risk. McNicholas' initial reaction was unfavourable but discussions were ongoing. Colin Smith added that McNicholas had previously reduced their fee from the original fee.</p>		
<p>Shirley Mushet gave an update on the off-street section of the Project and advised that the secant piling at the airport which had previously been behind schedule had now been recovered. The traffic management at the airport had now been removed for the Easter holiday period. There had been</p>		

ITEM	ACTION OWNER	DEADLINE
<p>no request from CEC for any acceleration of works and there were no additional costs to the Project. Colin Smith suggested that Farrans may have been endeavouring to improve their relationship with BAA following the cable strikes in the airport's vicinity. A monthly interface meeting had also been established which would involve representatives from BAA, BBS, CEC, Transport Scotland and Turner and Townsend.</p>		
<p>The wording of the SGN/NIL wayleave had been agreed and it was expected that all parties would have signed it by the end of the day. The programme for the SGN works had slipped but 11 hour shifts would be worked 7 days a week to recover the programme and complete work by 18 May 2012.</p>		
<p>There had been a complication with the street lighting at the Gogar Roundabout and it was now forecast that works would be completed by 16 April 2012.</p>		
<p>The subsidence at the railway track at Murrayfield had been resolved and the track was being monitored three times a day.</p>		
<p>The estimate for the Edinburgh Gateway works was scheduled to be provided next week. Scott Noble confirmed that planning for the Gateway was progressing well. There was concern over the programme and cost as this had not been properly defined yet. He suggested that a Gateway workshop of all concerned parties be arranged.</p>	SN	
<p>Julian Weatherley stated that Turner and Townsend's programme challenge document was not well received by BBS. It had identified approximately 30 items which Turner and Townsend believed were still valid initiatives to pursue. However, approximately only seven of the 30 items had been agreed. The wording of the document had been carefully managed to avoid being contentious. Colin Smith added that the work of Paul Robinson (T&amp;T) had been good but BBS had picked up on words such as challenge and amnesty and not reacted well. The minute of the meeting would be issued by the Council and the three main levers of the Project (York Place, testing and commissioning process and the track between the airport and the depot) remained on the agenda to be discussed and explored. The aim was still to bring proposals on the programme to the Joint Project Forum on 25 April 2012.</p>		
<p>Julian Weatherley explained that although there were a number of delays in the Project, all sectional completions</p>		

ITEM	ACTION OWNER	DEADLINE
<p>were on schedule or ahead of programme. Further detail was provided on each potential delay.</p>		
<p>There was a 47 day delay in regard to starting civil works at South St Andrew Street. However, BB had re-sequenced works to recover the delay and it was forecast that works would be completed one day late.</p>		
<p>A delay of 88 days was projected for the completion of the Water of Leith Bridge. The construction methodology chosen could mitigate a portion of that delay. BB had a contractual agreement with Siemens that meant damages would be paid for any delay and this could give them a commercial imperative to complete on schedule. Turner and Townsend were of the view that the delay in these works was due to commercial discussions between BB and their sub-contractors. BB was likely to be of the view that the Council was liable and the delay was attributable to a delay in gaining a third party agreement. Alastair Maclean observed that if BB believed damages were the liability of CEC then they may not have the same commercial imperative. It was agreed that an update should be provided at a future meeting including any potential liability for CEC.</p>	SM	
<p>Vic Emery enquired whether the 140 day delay in the installation of the South Gyle beam, would have an impact on the programme. Shirley Mushet confirmed that it would be monitored but it was not on the critical path.</p>		
<p>Vic Emery enquired whether the 114 day delay to the completion of Eastfield Avenue damaged the project's relationship with the airport. Shirley Mushet explained that BAA was comfortable with the works and the fact that it would not impact on their busy summer period.</p>		
<p>Gary Easton provided details on the financial aspects of the project and advised that the total approved change had reduced from £1.1m to £74,000 due to the realisation of some cost engineering initiatives. The major change was the reduction of £1.1m due to the cancellation of track materials.</p>		
<p>£7.3m had been included in the report for opportunities to secure. The changes to traffic management and cancellation of embargoes had resulted in 22 weeks being banked. However, 16 weeks of this was forecast to be utilised by the clearing of utilities at York Place. Alan Coyle added that the planning discussions regarding York Place aimed to safeguard the 16 weeks and reduce any use of the 22 weeks. Colin Smith explained that by June/July 2012 the risk of utility</p>		

ITEM	ACTION OWNER	DEADLINE
<p>conflicts would be better quantified and would allow a clearer picture of when the project could be completed. Julian Weatherley confirmed that approximately 1000 of the 2800 utility conflicts had been cleared. 700 of these were Scottish Water legacy works, with 600 located in Leith Walk.</p> <p>Colin Smith stated that a further cost engineering exercise would be undertaken in May 2012 although the returns would be diminished.</p> <p>Gary Easton provided details on the contingency and stated that £10.9m remained in the contingency allowance.</p>		
<b>5 FINANCIAL REPORT</b>		
<p>It was noted that the financial report had been considered in the previous meeting and was consistent with the Turner and Townsend figures. Future financial reports would be considered on a different date to the Turner and Townsend report.</p>		
<b>6 COMMUNICATIONS</b>		
<p>Kelly Murphy advised that there had been an article in the Evening News that had published that an Easter egg hunt in the West End had cost £70,000 rather than the actual cost of £700.</p>		
<b>7 AOCB</b>		
<p>Julian Weatherley advised that discussions had taken place with CEC on how best to utilise CEC staff to supplement Turner and Townsend. Colin Smith added that a final figure for the blended team would be reported to next Thursday's tram briefing.</p>	<b>CS</b>	
<b>8 DATE OF NEXT MEETING</b>		
<p>The next meeting with Turner and Townsend was scheduled for 12 April 2012, it was agreed to cancel this meeting and the date of the next meeting would be circulated following the meeting on the new reports schedule.</p>		



# Tram Briefing

Edinburgh, 26 April 2012

## Attendees:

Sue Bruce (Chair)	The City of Edinburgh Council	<a href="mailto:sue.bruce@edinburgh.gov.uk">sue.bruce@edinburgh.gov.uk</a>
Vic Emery	The City of Edinburgh Council	<a href="mailto:vicemery@edinburgh.gov.uk">vicemery</a>
Alastair Maclean	The City of Edinburgh Council	<a href="mailto:Alastair.maclean@edinburgh.gov.uk">Alastair.maclean@edinburgh.gov.uk</a>
Dave Anderson	The City of Edinburgh Council	<a href="mailto:Dave.anderson@edinburgh.co.uk">Dave.anderson@edinburgh.co.uk</a>
Mark Turley	The City of Edinburgh Council	<a href="mailto:Mark.turley@edinburgh.gov.uk">Mark.turley@edinburgh.gov.uk</a>
Bob McCafferty	The City of Edinburgh Council	<a href="mailto:Bob.McCafferty@edinburgh.gov.uk">Bob.McCafferty@edinburgh.gov.uk</a>
Alan Coyle	The City of Edinburgh Council	<a href="mailto:alan.coyle@edinburgh.gov.uk">alan.coyle@edinburgh.gov.uk</a>
Kelly Murphy	The City of Edinburgh Council	<a href="mailto:kelly.murphy@edinburgh.gov.uk">kelly.murphy@edinburgh.gov.uk</a>
Neil Gibson	Big Partnership	<a href="mailto:Neil.gibson@bigpartnership.com">Neil.gibson@bigpartnership.com</a>
Graham Porteous	Transport Scotland	<a href="mailto:Graham.porteous@transportscotland.gsi.gov.uk">Graham.porteous@transportscotland.gsi.gov.uk</a>
Ian Craig	Lothian Buses	<a href="mailto:icraig@lothianbuses.com">icraig@lothianbuses.com</a>
Gary Easton	Turner and Townsend	<a href="mailto:Gary.easton@turntown.co.uk">Gary.easton@turntown.co.uk</a>
Julian Weatherley	Turner and Townsend	<a href="mailto:Julian.Weatherley@turntown.co.uk">Julian.Weatherley@turntown.co.uk</a>
Rob Leech	Turner and Townsend	<a href="mailto:Rob.leech@turntown.co.uk">Rob.leech@turntown.co.uk</a>

## ACTION NOTE

	ITEM	ACTION OWNER	DEADLINE
1	<b>TURNER AND TOWNSEND PRESENTATION</b> <p>Julian Weatherley, Gary Easton and Rob Leech gave a presentation providing an update on the Project.</p> <p>Julian Weatherley provided details of the health and safety issues explaining that there had been 17 (12 by BBS and 5 by McNicholas) incidents reported since 23 March 2012. Four of the incidents had been classified as serious or significant.</p> <p>The Health and Safety Executive (HSE) had commented on the Project's findings into the 11Kv cable strike in St Andrew Square and had agreed that the client's actions responding to the incident were necessary and the HSE would be satisfied if the actions were implemented.</p> <p>Following a health and safety audit it was found that of a total of eight actions, McNicholas had implemented only five of the eight. The three actions not implemented were significant. Following a site inspection and subsequent review, Turner and Townsend could not be satisfied with McNicholas continuing work in areas where work practices were judged of an insufficient standard in regard to health</p>		

**ITEM**

**ACTION  
OWNER**

**DEADLINE**

---

and safety. Thus, work had ceased in some areas but not across the whole site. Turner and Townsend had produced an action plan for McNicholas and had requested to discuss the issue with the Managing Director of McNicholas to examine the issue and reinforce the seriousness and concern.

Vic Emery enquired whether CEC or Turner and Townsend could do anything further to improve the health and safety situation. Julian Weatherley advised that it was important for health and safety responsibility on-site to remain with the contractor. However, it was Turner and Townsend's view that McNicholas did not have adequate levels of supervision onsite. The number of McNicholas staff had increased from 40 to 100 but the number of supervisors had remained at two. Julian Weatherley was in discussions with Alan Coyle and Colin Smith on whether the number of Turner and Townsend staff was sufficient to ensure McNicholas were adequately supervised. Alastair Maclean suggested and it was agreed that the Chief Executive should meet with the Managing Director of McNicholas to stress the seriousness of the situation. Alastair Maclean enquired whether McNicholas works across the full site should be suspended. Julian Weatherley explained that this had been considered but following a comprehensive review this was not thought to be necessary. McNicholas' failings appeared to be a resources issue rather than incompetence.

Colin Smith stated that McNicholas' failings were relatively basic health and safety breaches and enquired whether Turner and Townsend had a 'plan b' if it became necessary to remove McNicholas from undertaking the works. Rob Leech explained that he would investigate possible options but stressed that they were not at the point where that action had to be taken. Bob McCafferty stated that McNicholas had tendered for the legacy works north of York Place and these health and safety concerns should be taken into account when tenders were evaluated. Gary Easton highlighted that the response to the tenders from the industry had been limited.

Sue Bruce stated that it was important that any concerns over the number of alternative providers should not discourage the correct response to health and safety concerns from being undertaken. CEC

---

**ITEM**

**ACTION  
OWNER**

**DEADLINE**

---

would discuss this issue after the meeting and an instruction would be provided to Turner and Townsend in the near future.

Julian Weatherley advised that the 'Think before you Act' workshop had been scheduled to take place on 10 May 2012. An outline agenda had been agreed and a Turner and Townsend facilitator had been identified.

A second incident had taken place that impacted on a Scottish Water asset. This was despite a new process having been agreed. A review of procedures had taken place with actions implemented and the incident would be raised in discussions with McNicholas. Colin Smith stated that it was important that the report on the incident was clear on liability and on who caused the incident. The previously submitted report on the initial incident with Scottish Water should be supplemented with a paper outlining the liability for the incident. Rob Leech confirmed that the report on the second incident would be clear on the culpability and liability but there was a difference of opinion, with Scottish Water, regarding liability on the first incident and he would discuss this with Colin Smith.

There had been 475 NCRs raised to date with 83 remaining open. The current NCR rate was 20 being raised and closed each week. Sue Bruce enquired whether the NCR regarding levels on Princes Street had been resolved. Julian Weatherley explained that they were still awaiting a report from BBS and it had not been logged as an official NCR. Colin Smith suggested and it was agreed that Turner and Townsend should raise the issue as an NCR and discuss further with BBS.

Vic Emery requested an update on recent incidents where the water supply had been cut off affecting businesses such as the Travelodge in Shandwick Place. Rob Leech explained that the standard work practice was to 'squeeze' the network which avoided having to shut the water supply off. Following a number of incidents under *tie*, Scottish Water withdrew the right for a 'squeeze' of the network to be undertaken in relation to tram works. Turner and Townsend though had recently requested that Scottish Water lift this ban and they had agreed. It was hoped that further incidents of the water supply being shut off could be avoided.

---

**ITEM**

**ACTION  
OWNER**

**DEADLINE**

---

Technical Support Service had reviewed and witness tested the first electrical substations.

Julian Weatherley advised that twelve trams had now been delivered to the tram, with eight having undergone dynamic testing on the mini-test track. Vic Emery enquired whether the testing and commissioning of the trams would lag behind the construction of the track. Julian Weatherley confirmed that the track between the airport and the depot could be used to test the tram except for the drivers training on the on-street section. There was an employer's requirement for 12 weeks of trial running but that could be revisited.

Sue Bruce stated that it was important that a consistent public message of summer 2014 was used when communicating when the trams would be open for revenue service.

Ian Craig advised that Lothian Buses were concerned about the progress on ticketing machines and their integration. Discussions had taken place on the issue but further work was required. Colin Smith and Alan Coyle agreed to lead on this issue.

Julian Weatherley advised that the valuation process was been affected by a delay in the provision of documentation by CAF. Sue Bruce added that this issue had been raised at the Joint Project Forum and Richard Garner would follow up on the issue within CAF.

An engineering change workshop had been arranged with ETL and CAF to address issues raised by the incorrect positioning of two pedals in two of the trams. Sue Bruce enquired how CEC could be reassured that the trams had been tested comprehensively before passenger service was commenced. Julian Weatherley agreed to investigate and report back to a future meeting.

Julian Weatherley advised that out of 239 snags at the depot, 205 had been resolved. 19 would be completed by the end of April 2012 with the remaining 16 completed by the end of June 2012. A solution had been agreed for the water ingress through the front door.

---

**ITEM**

**ACTION  
OWNER**

**DEADLINE**

---

Rob Leech gave an update on the on-street section of the project. He stated that there had been a two week delay due to the re-design of drainage but McNicholas had also been instructed to carry out some excavations to formation level and construct some manholes. This would enable Infracore to commence construction as soon as the site was handed over. All drainage re-design work was expected to be completed in the on-street section by 18 May 2012. Co-operation from Scottish Water had been good on the drainage issue and subsequently the relationship had improved. However, the relationship remained fragile and it was necessary to continue to foster a good relationship. Sue Bruce added that it would be an appropriate time for her to have another meeting with the Chief Executive of Scottish Water.

Significant progress had been made in Haymarket (2-5). It was forecast that utility conflicts would be cleared, drainage designed and constructed and the track bed cut by 18 May 2012 compared to the scheduled date of 8 June 2012. Infracore would be in a position to take control of the site earlier.

Rob Leech stated that the detailed design of York Place was progressing well but there was a need for Infracore to take advantage of the early work in York Place. Colin Smith advised that a meeting had been organised with Martin Foerder to discuss improvements that could be made to the Project, including the programme for York Place. An update would be provided to the Tram Briefing meeting on 1 May 2012 on the programme/planning for York Place.

Rob Leech advised that the Forth Ports remedial works had commenced and were due to be completed by the end of June 2012. The tender for the Leith Walk legacy works had been finalised for issue at the end of April 2012. Alan Coyle requested a cost estimate for those works.

Dave Anderson enquired whether work had been undertaken to liaise with Network Rail in regard to the Haymarket Train Station re-development. Gary Easton confirmed that Shirley Mushet had fortnightly meetings with Network Rail and a number of interface issues had been discussed and resolved. There were no major outstanding issues.

**ITEM**

**ACTION  
OWNER**

**DEADLINE**

---

Julian Weatherley gave an update on the off-street section of the Project highlighting the following issues.

- Seven 3 hour closures of Eastfield Avenue had commenced on 20 April 2012. Four had been completed and there had been no complaints from BAA.
- The SGN works had commenced on the land of New Ingilston Limited.
- BBS had reported that the soil reinforcement works at the Gogar landfill was three weeks behind programme but BBS expected this to be recovered. Sue Bruce enquired what the finish would be on the concrete support and Julian Weatherley agreed to investigate.
- Sheet piling had commenced which were enabling works for the ground improvements at Murrayfield. Due to the sheet piling there had been movement in the railway overhead lines of 7mm. Piling was immediately stopped in that area and a survey would be carried out prior to any re-commencement.
- The schedule for the construction of the retaining wall along the Gogar Burn had slipped by three weeks. Turner and Townsend believed it could be recovered.
- The west abutment at Russell Road had been cast.
- BBS had raised issues regarding Network Rail assets encroaching onto the LOD. This would be monitored.
- Siemens had identified a possible solution, whereupon a temporary radio mast would not have to be installed but a permanent one would be put in place. This had still to be confirmed.

Colin Smith and Alan Coyle raised concern over the formulation and presentation of the financial figures. They were currently confusing and estimates were changing significantly on a regular basis. It was suggested that going back to basics when formulating the figures would provide more clarity. To this end a meeting had been arranged to discuss the issue on 9 May 2012.

Vic Emery stated that although the delays off-street did not currently affect sectional completion; there was a possibility that they would delay the project if the on-

---

ITEM	ACTION OWNER	DEADLINE
street construction continued to be delivered ahead of programme. Julian Weatherley agreed and added that Turner and Townsend would not be complacent about the off-street delays.		
<b>Decision</b>		
1) That the Chief Executive meets with the Managing Director of McNicholas to discuss health and safety issues.	<b>Sue Bruce/Colin Smith</b>	
2) To investigate alternative options for the work undertaken by McNicholas and the subsequent implications. This was in preparation for a potential scenario where it was necessary to remove McNicholas due to health and safety concerns.	<b>Rob Leech</b>	
3) To note that an instruction from CEC would be provided on the McNicholas health and safety concerns in the near future.	<b>Colin Smith</b>	
4) That Rob Leech would discuss with Colin Smith the liability regarding the first incident to affect a Scottish Water asset.	<b>Rob Leech/Colin Smith</b>	
5) To agree that the report on the second incident affecting a Scottish Water asset should be clear on the culpability and liability for the incident.	<b>Julian Weatherley</b>	
6) To raise the non compliant levels in Princes Street as an official NCR and to chase up BBS on the issue.	<b>Julian Weatherley</b>	
7) That when stating the date for the opening of the tram revenue service - summer 2014 should be used.	<b>All</b>	
8) That Colin Smith and Alan Coyle lead on the introduction and integration of tram ticketing machines	<b>Colin Smith/Alan Coyle</b>	
9) To investigate a process to ensure that the trams had been tested comprehensively before passenger service was commenced	<b>Julian Weatherley</b>	
10) That Colin Smith would provide an update on the planning/programme for York Place to the Tram Briefing meeting on 1 May 2012.	<b>Colin Smith</b>	

ITEM	ACTION OWNER	DEADLINE
11) To note that the Chief Executive would meet with the Chief Executive of Scottish Water.	<b>Sue Bruce/Colin Smith</b>	
12) To provide a cost estimate for the Leith Walk legacy works.	<b>Gary Easton</b>	
13) To investigate the finish of the soil reinforcement at the Gogar landfill.	<b>Julian Weatherley</b>	
14) To note that a meeting had been arranged for 9 May 2012 to define the method and presentation of the cost summary.	<b>Alan Coyle/Colin Smith/Gary Easton</b>	

---

## 2 DATE OF NEXT MEETING

Full Report – 10 May 2012 at 8am in the Chief Executive's Board Room

Presentation – 24 May 2012 at 8am in the City Chambers





Julian Weatherley  
Director

Turner & Townsend Project Management Limited  
Osborne House  
1 Osborne Terrace  
Edinburgh  
EH12 5HG

t: +44 (0)131 [REDACTED]  
e: julian.weatherley@turntown.co.uk  
w: turnerandtowntsend.com

Edinburgh Tram Project  
Full Progress Report No. 7  
24<sup>th</sup> March to 28<sup>th</sup> April 2012  
**FINAL**

CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT

May 12



CONTENTS

1	Executive Summary	3
2	Health, Safety & Environment	5
3	Programme	10
4	Commercial	11
5	On Street - Enabling Works & Utility Legacy Works	25
6	On Street - Main Works	27
7	Off Street Works	30
8	Trams	35
9	Assurance	36

Appendix 1 – Dashboards

Appendix 2 – Health, Safety & Environment and Consents Tracker

Appendix 3 – Cost Report and Contingency Analysis

Appendix 4 – Change Log

Appendix 5 – Risk Register

Appendix 6 – Route Map

Appendix 7 – Acronyms

Rev	Originator	Approved	Date
0	Shirley-Anne Collin	Julian Weatherley	03-05-2012
© Turner & Townsend insert company. All rights reserved May 12. This document is expressly provided to and solely for the use of Client Name and must not be quoted from, referred to, used by or distributed to any other party without the prior consent of Turner & Townsend insert company who accept no liability of whatsoever nature for any use by any other party.			
DOCUMENT5			

## 1 Executive Summary

This report covers progress made during the period from 24<sup>th</sup> March to 28<sup>th</sup> April 2012. It incorporates progress reported within Infraco and CAF Progress Reports No. 4-14 to 31<sup>st</sup> March 2012.

There were 22 incidents recorded during the period. Five incidents were identified as Serious / Significant and 17 reported as either Member of the Public, Service Damage, Minor Injury or Near Miss/ Unsafe Condition. These included two Lower voltage cable strikes, two members of the public falling and one Scottish water compliance issue.

A number of Health & Safety concerns have been identified in relation to the working and management practices of McNicholas. Remedial actions have been identified and are being implemented. A "Think Before You Act" health & safety review is to be held with the project's contractors on 10<sup>th</sup> of May.

Discussions continue between Infraco and SEPA in relation to soil removed from Baird Drive. Further information is to be provided by Infraco to enable conclusion.

Twelve days of the 22 week cost engineering saving have been confirmed as being eroded. Further erosion has occurred during the reporting period but this has yet to be reported by Infraco and therefore has not yet been agreed.

The On Street drainage has now been re-designed to meet Scottish Water's approval requirements. The scope of On Street works undertaken by Infraco and McNicholas has been reviewed as a result, with McNicholas completing drainage works as well as track slab excavation where this results in overall programme improvement.

Significant progress has been made with the detailed planning of the York Place works. Preparation works for Cathedral Lane substation and York Place utilities diversions will commence during the coming period. A CEC instruction on the overall approach to York Place is anticipated.

Good progress is being made in relation to the identification and scoping of Scottish Water legacy works within the On Street Section although a number of items remain for which a solution has yet to be determined. The scope of legacy works is significantly greater than previously envisaged. The tender for the Leith Walk legacy works has been produced and submitted to CEC for comment prior to tender issue. Close out works have now commenced at Tower Place Bridge and Lindsey Road.

Infraco have commenced track slab works within Shandwick Place and St Andrew Street. Princes Street remedial works are progressing ahead of programme and the remaining areas of Princes Street, previously occupied by McNicholas, were handed back to Infraco on the 30<sup>th</sup> of April 2012.

Retaining wall works adjacent to the Gogar Burn at the airport remain marginally behind programme however it is anticipated that this slippage will be recovered.

The works to the Eastfield Avenue Crossing and the A8 Roundabout have been completed during this period. The SGN works to the gas main at New Ingliston remain on programme for completion by the 18<sup>th</sup> of May 2012.

The progressions of works through the Off Street rail corridor have been impacted by localised ground movements during sheet piling operations. This has resulted in the need to re-sequence sheet piling operations and change construction methods in order to allow works to progress.

Twelve trams have now been delivered to the depot with three vested with CEC. Nine trams have been issued with Interim Tram Routine Test Certificates.

Submissions have been made to the Independent Certifier (IC) regarding Infraco's entitlement to a Pricing Assumption Variation (PAV) for the revised drainage design. The IC has advised that in his opinion, a PAV has occurred and this will be confirmed. Meetings have been held with Infraco to confirm the basis of the omission to the contract sum and the additions based upon the drainage works Infraco are to complete. (Note: McNicholas are undertaking some drainage works to expedite the programme). A further meeting will be held when the drainage design is substantially complete to agree measure and financial evaluation. These principles will be agreed and distributed to enable clarity on the approach.

A Quantative Schedule Risk and Cost Risk Analysis review will be held on the 3<sup>rd</sup> of May and a Cost Report Review will be held on the 9<sup>th</sup> of May 2012. The purpose of these meetings is to confirm alignment between the Master Schedule, the cost savings from the 22 week programme saving and reporting of risk, opportunity and contingency.

## **2 Health, Safety & Environment**

During this period, the performance of the On Street Utility contractor, McNicholas has been scrutinised. Comments have now been received from the Health and Safety Executive regarding the investigation into the 11kV incident at South St Andrew Street. The Health and Safety Executive (HSE) have drawn attention to the effectiveness for the current management arrangements and have requested that information is provided to illustrate an improvement in the current policies and procedures. Turner and Townsend are developing a response on behalf of CEC.

This safety initiative will be supported by the 'Think before you Act' session with the project's senior management; this session is now planned for the 10<sup>th</sup> of May 2012. The agenda for the meeting has now been agreed with CEC and invitations issued.

### **2.1 Incident reporting**

During week commencing 23<sup>rd</sup> of April 2012 and following a meeting on site between Turner & Townsend and McNicholas a number of safety issues were identified. These included:

1. Inadequate site supervision and management – Despite the increase in work scope to carry out the drainage and track box works McNicholas had not increased its site resources sufficiently to cope with the additional work.
2. Written task sheets introduced following a strike on an 11kV cable were not being issued in all instances to operatives despite the process being formally rolled out by McNicholas.
3. The construction Health & Safety plan was inadequate and updates previously identified had not been carried out.
4. A lack of control on additional working hours.
5. The inspection of excavations highlighted a number of safety issues and works were suspended pending the outcome of a review and the introduction of additional temporary works. The maintenance of emergency access through sites was also being compromised.

A 12 point plan was immediately put in place by Turner & Townsend and meetings were arranged between CEC, Turner & Townsend and McNicholas at a senior level. Turner & Townsend were also formally requested to review the safety breaches and advise CEC on the most appropriate way forward in relation to tram works and the impending legacy works tender.

During the last period there were 22 incidents on the Edinburgh Tram Project, 5 incidents were identified as Serious / Significant and 17 reported as Member of the Public, Service Damage, Minor Injury, Near Miss/ Unsafe Condition. These included 2 Lower voltage cable strikes, 2 Members of the public falling and 1 Scottish water compliance issue.

Incident Table:

**Incidents reported within this Period:**

Date	Location	Detail	Contractor	Classification
26/03/2012	South St Andrew Street	Damage to live LV cable that was located within a lump of concrete that was removed whilst backfilling excavation. Affected external 3 <sup>rd</sup> Party.	McNicholas	Service damage
30/03/2012	Eastfield Avenue	Damage to a LV cable that supplied power to the gas governor kiosk at Edinburgh Airport.	Farrans	Service damage
27/03/2012	Princes Street / Shandwick Place	Member of Public fell tripped on steel plate on temporary walkway on 19/02/12.	Crummock	Member of the public
18/04/2012	Princes Street	MOP was injured when she slipped on a metal plate forming part of the pedestrian diversion route.	McNicholas	Member of the public
29/03/2012	South St Andrew Street	Breach of DOMS documentation regarding the Go Live Pack for a 90mm main.	McNicholas	Near miss / Unsafe condition
27/03/2012	Princes Street	Damage to a stone coping that covered a buried manhole.	Lagan Construction	Service damage
13/04/2012	West Maitland Street	Damage to a domestic water supply for 3 West Maitland Street	McNicholas	Service damage
17/04/2012	Haymarket Yards	Disconnected BT cable was crushed.	Grahams	Service damage
26/04/2012	Gyle	Damage to street lighting cable.	Coffey	Service damage
25/04/2012	St Andrew Square	Construction of a Scottish Water manhole without ATC process being followed.	McNicholas	Service damage
12/04/2012	Haymarket	During relocation of a bus stop a pole was allowed to fall damaging a Member of the Public's bag.	Class One	Member of the public
21/03/2012	Bankhead Drive	Operative whilst de-nailing wooden travellers slipped and fell forward causing a cut to his nose from a duct box.	Crummock	Minor injury
25/04/2012	Haymarket Yards	Electric shock due to contact with disconnected street lighting cable that was directly beneath paving slab.	Grahams	Minor injury
26/03/2012	Bankhead Drive	Graffiti drawn on the external wall to the substation building.	Siemens	Near miss / Unsafe condition

**Progress Report No. 7 24<sup>th</sup> March – 28<sup>th</sup> April 2012****FINAL**

Date	Location	Detail	Contractor	Classification
30/03/2012	Roseburn Street	Access into manhole for CCTV survey without ATC being in place.	Grahams	Near miss / Unsafe condition
02/04/2012	Balgreen Rd – Carrick Knowe	Theft of a band saw	Land & Building	Near miss / Unsafe condition
16/04/2012	Carrick Knowe	Arson event at Carrick Knowe. Dozer set on fire.	Bilfinger Berger	Near miss / Unsafe condition
20/04/2012	Carrick Knowe	An excavator was broken into and damaged on site.	Crummock	Near miss / Unsafe condition
19/04/2012	Shandwick Place	Generator within site accommodation was left running out of site working hours.	McNicholas	Near miss / Unsafe condition
20/03/2012	ScotRail Depot	A lorry moved across the pedestrian access path directly in front of ScotRail persons. No warning was given and no banksman was visible.	Expanded	Near miss / Unsafe condition
03/04/2012	Waverley Bridge	Temporary traffic lights at Waverley bridge were stuck on red.	Crummock	Near miss / Unsafe condition
06/04/2012	Princes Street	Reported that the service lane on Princes Street was too narrow at the locations where work was being carried out on BT chambers.	Crummock	Near miss / Unsafe condition

Top 5 Significant Incidents

## **2.2 Safety Initiatives**

The agenda for the 'Think before you act' session has been agreed with CEC and initiatives issued to BBS, CAF and McNicholas. This is planned for the 10<sup>th</sup> of May 2012.

The Turner & Townsend Project Delivery Safety Meeting was held on the 25<sup>th</sup> of April, a renewed emphasise was placed on the joint monitoring being undertaken on the project, to strengthen the project's safety culture.

## **2.3 CDM Regulations**

The Safety Team and Construction Design Management Co-ordinator (CDMC) have been working closely with the On Street procurement team to provide Pre construction information for the Leith Utility works tender over the last period.

## **2.4 Environmental**

BBS continue to have discussions with SEPA regarding the classification of soil being excavated on site at Baird Drive. A follow up meeting was held on the 27<sup>th</sup> of April and further chemical analysis of the samples were agreed with SEPA.

A Joint environmental inspection has been carried out with BBS and Turner & Townsend with Coffey on section 5 (Edinburgh Park). Issues regarding waste control and drip trays were raised. A final report is still to be issued by Infraco.

Infraco Environmental Forum was held on the 25<sup>th</sup> of April 2012. Representatives from all of Infraco contractors were present. A review of Non conformances has been raised by Infraco external auditors. This is in relation with to cross contamination of waste, the European waste codes, waste duty of care, diesel leaks and oil storage.

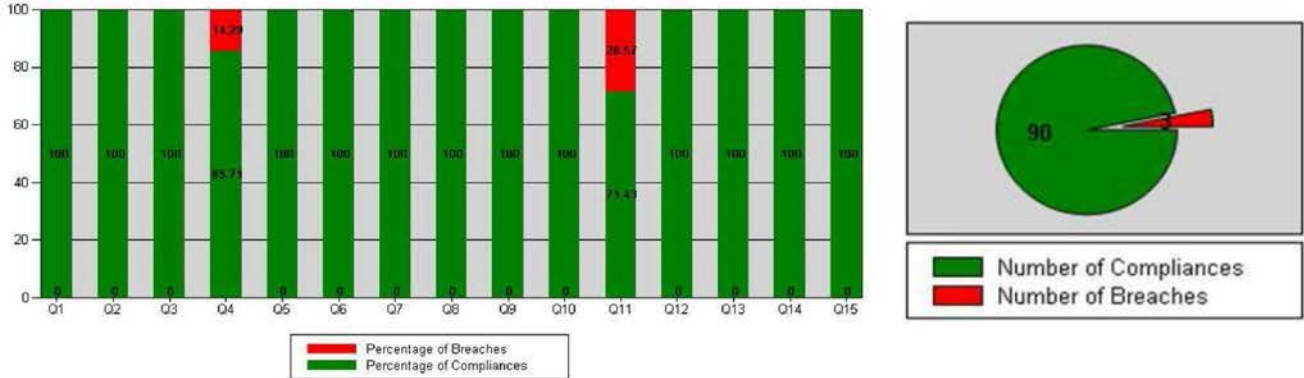
Turner & Townsend have a planned Inspection of the historical monuments being stored by Land Engineering. This is planned for week commencing the 7<sup>th</sup> of May. The monuments being stored are The Hearts Memorial Statue, The Conon Doyle Statue and The Ocean Terminal Monument.



**FINAL**

**CoCP**

CoCP compliance was recorded at 97% during Period 1. The results of the CoCP monitoring have been passed to CEC Communication Team to be uploaded to the project web site. Details of these are contained in Appendix 2.



Q1. Hours of Work	Q9. Emergency Access
Q2. Notification	Q10. Parking
Q3. Notices	<b>Q11. Litter and general housekeeping</b>
<b>Q4. Fencing and Hoarding</b>	Q12. Dust
Q5. Noise	Q13. Smoking
Q6. Waste Management	Q14. Members of the Public
Q7. Waste Water and Run-Off	Q15. PPE and Behaviours
Q8. Water	

### 3 Programme

At the request of CEC, Turner & Townsend's programme challenge has now been stood down. Focus is now being turned to maximising the benefits of potential improvements to the York Place programme. An overall strategy, with programme targets, is awaited from CEC.

Based on Infraco's programme update contained within their period 4-14 progress report, twelve days of the 22 week cost engineering programme saving have been eroded as a result of utilities works and the re-design of the On Street drainage. Further erosion has taken place since the last Infraco report however this has yet to be agreed.

According to the Rev4c programme, the critical path currently runs through Shandwick Place track slab and highway works construction. This assessment ignores the impact of utilities enabling works. Turner & Townsend's Master Schedule, which includes the impact of utilities works, shows the critical path to run through the York Place works.

## 4 Commercial

### 4.1 Cost Summary

Contract/Cost Head	Original Budget	AFC 23 March	AFC 28 April	Movement
Infraco – Off Street	360,060	362,668	362,618	-50
Infraco – On Street	38,817	45,449	43,019	-2,430
Infraco – Maintenance	3,218	3,218	3,218	0
Utilities Diversions (Hay-YP)	1,812	12,834	14,658	1,824
Utilities Legacy (Hay-YP)	0	308	1,254	946
Utilities Legacy (YP-New)	1,100	1,100	2,700	1,600
Balance of Risk Forecast	32,747	10,927	9,037	-1,890
<b>TOTAL</b>	<b>500,154</b>	<b>500,154</b>	<b>500,154</b>	<b>0</b>

- The Infraco forecast is based upon the Rev4C target date of 5<sup>th</sup> February 2014 less 12 days as confirmed in the time bank certificate. It does not allow for further delays beyond this.
- Infraco Off-Street change includes the impact delay in signing contract.
- Infraco On-Street incorporates final contract price and impact of On-Street Works changes (Piling to OLE bases, delays from Utilities and Princes St Dec-11 reinstatement).
- Utilities Diversions - includes resolution of c. 1,500 Nr conflicts, Infraco track box, duct excavation and drainage works transferred from Infraco works.
- Utilities legacy (Haymarket-York Place) – the scope has been developed since mid February 2012 when agreement has been reached with Scottish Water regarding the corrective action that is required. Work is being carried out at the same time as the conflict resolution work where possible. The scope includes 357 Nr SW defects, ranging from correcting valves to separating water mains from gas mains.
- Utilities legacy (York Place-Newhaven) – This work is subject to a separate contract currently being tendered. The scope includes 375 Nr SW defects, ranging from correcting valves to separating water mains from gas mains. The forecast is based on an approximate cost per snag type.

**Progress Report No. 7 24<sup>th</sup> March – 28<sup>th</sup> April 2012**

**FINAL**

The detailed Cost Report is attached at Appendix 3 and a summary of the key movements are provided below.

(Note: all figures £K)

<b>Reporting Date:</b>	<b>23 March 12</b>	<b>28 April 12</b>	<b>Movement</b>
Original Contract Amount	479,660	479,660	0
Add: Approved Changes	72	3,546	3,474
Add: Changes in Progress	9,602	9,462	-140
Add: Anticipated Changes	15,902	13,917	-1,985
Less: Funding contributions	-8,699	-8,716	-17
Less: Opportunities to secure	-7,310	-6,752	558
<b>TOTAL: Forecast cost</b>	<b>489,227</b>	<b>491,117</b>	<b>1,890</b>
Original Budget	467,407	467,407	0
<b>Variance</b>	<b>21,820</b>	<b>23,710</b>	<b>1,890</b>
<b>Original forecast risk allowance</b>	<b>32,747</b>	<b>32,747</b>	<b>0</b>
Less: Variance (from above)	-21,820	-23,710	-1,890
<b>Forecast balance of risk allowance</b>	<b>10,927</b>	<b>9,037</b>	<b>-1,890</b>
Anticipated Final Cost	500,154	500,154	0

**FINAL**

## 4.2 Infraco

### 4.2.1 Approved Changes (Movement in the Period)

The changes approved this period at the CEC/Turner & Townsend weekly change meetings are provided below.

Approved Change	Amount (£K)
Approved to 23 March reporting date	72
UNC 002: Utilities work to June 2012	3,061
tNC 516: Additional Water main requirement at Depot and Mini Test Track	51
tNC 534: SP Insurance Ducts - Install Insurance ducts at various locations	6
tNC 572: Cathedral Lane substation retaining wall design	26
tNC 591: Diversion of Scottish Power Cable at Haymarket Viaduct	22
tNC 613: Temporary Bus Station at St Andrew Square/Waterloo Place - design	50
tNC 615: Haymarket Viaduct - design wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	3
tNC 616: Haymarket Viaduct - construct wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	10
ICCO006: Independent Certifiers Schedule Part 45 Period End Change Order to 3/3/2012 relating to the following PAV's and On Street Works Estimates	245
	£ 3,546

### 4.2.2 Changes in Progress

Changes in Progress include items which cannot be mitigated and the change is agreed in principle. New items included in this section of the cost report during the period are:

- tNC 605: Depot - Sub-Station Switching £80k (note: discussions are ongoing to define requirements and resourcing options for switching power on in advance of the SCADA becoming operational following Section B completion);
- tNC 606: Waverley Bridge to York Place £26K - works delayed and disrupted as a result of works carried out by Third parties (Scottish Water drainage works being undertaken by McNicholas);
- tNC 607: Delete 110v sockets on the On Street Tram Stops £-5k;
- tNC 608: Delete 110v sockets on Off Street Tram Stops £-17k;

- tNC 609: completion of Traffic Management provision in the Forth Ports / Leith Walk area £130k, period September 2011 to June 2012 (previously provision made in the Anticipated Change section);
- tNC 610: Edinburgh Gateway - Siemens Long Lead Items £0k (covered within the Gateway costs);
- tNC 611: Excavation of Track Slab to be carried out by McNicholas £0k (included within Anticipated Change);
- tNC 612: Tram stops branding changes. Requirement for etched glass is not included £0k
- tNC 614: Rothesay Place Traffic Management Amendment £10k

#### 4.2.3 Anticipated Changes

The movements in the period are provided below:

Anticipated Change to 27 February reporting date		£15,902K
<b>Infraco Works</b>		
Pricing Assumptions - 6.4.2.4 Cathedral Lane Substation	Cost adjusted to reflect current assessment of building requirements for the Tram project and Henderson Global requirements.	-350
Piled OLE base in lieu of utility diversion	Costs transferred to Changes in progress section.	-195
H1 delay costs associated with utilities	Programme delays accounted for in the QSRA.  Opportunity for programme savings to be adjusted in accordance with agreed reduction to time bank.	-847
Delayed commencement to St Andrew Square (from 7/2/12)	Programme delays accounted in the QSRA. Opportunity for programme savings to be adjusted in accordance with agreed reduction to time bank.	-636
Roseburn Delta - non DDA footpath	Cost adjusted to reflect current assessment of "like for like" temporary footpath to suit existing levels.	-270
Ongoing traffic management at Lindsay Road	Transferred to Changes in Progress.	-90
Further design changes to OLE resulting from utilities (York Place)	Costs transferred to Changes in progress section.	-150
Sub station switching - Provision of competent resource to carry undertake	Costs transferred to Changes in	-25

**Progress Report No. 7 24<sup>th</sup> March – 28<sup>th</sup> April 2012**

**FINAL**

sub-station switching and equipment monitoring. Allowed for 20 weeks	progress section.	
Additional Siemens supervision as a result of accelerated programme rev 4C	Costs associated with this item incorporated into rev 4c programme shared saving calculation.	-155
Remove excavation of track box from Infraco's contract	Work transferred to McNicholas	-500
Remove ducting in Cathedral Lane from Infraco's contract	Work transferred to McNicholas	-75
<b>Utility Diversions</b>		
Utility works generally	Transfer of utility works to June 2012 to Approved section	-3,061
Adjusted forecast for utility conflict resolution resulting from emerging scope	Amended forecast as a result of emerging design and current conflict numbers	226
Excavation of track box	Work transferred from Infraco contract	500
Cathedral Lane	Installation of ducts transferred from Infraco contract plus further site investigations work improving scope understanding	250
Drainage	Work transferred from Infraco scope. Drainage more extensive than identified in original contract as a result of drainage redesign.	797
SUCs	Amended forecast as a result of emerging design and current conflict numbers	51
Legacy Works - York Place to Airport	Scope definition improved. Original budget replaced by current forecast	1,600
Legacy Works - Leith Walk	Scope definition improved. Original budget replaced by current forecast	946
		£13,917K

#### 4.2.4 Contributions Register

Contributions from 3rd party, stakeholder or other CEC budgets are being developed in order that the amounts can be finalised. The current position is as follows.

Works	£K	Status / Action
Edinburgh Gateway – legacy design and project management	940	TS have been provided with details and agreement of expenditure is agreed each period
New Ingliston – ducts & crossings	540	This element is included in the agreement with NIL for land compensation and construction works. This cost is for construction only, CEC to advise any adjustment to the method of reporting.
Cathedral Lane Sub-station	400	Costs submitted to Henderson Global (HG) amounting to £470K for design and the amended construction scope resulting from HG's requirements. £400K is included in the cost report to provide tolerance should the full amount not be recoverable from RBS.
RBS Tramstop	500	The final design and scope has now been confirmed and the estimate has been submitted by CEC to RBS. The estimate is £618K and £500K is included in the cost report to provide tolerance should the full amount not be recoverable from RBS.
St Andrew Sq Public Realm design	130	Contribution received from separate CEC budget
CEC miscellaneous (George St)	320	Contribution received from separate CEC budget
Haymarket Station redevelopment	35	NR have agreed to undertake removal of staircase and parapet, NR to fund costs of sub-station plinth amendments and re-routing of Scottish Power cable.
Setts in On-Street Works	1,000	Setts areas confirmed, the specification for the "tram" areas to be confirmed (Sika pave or equivalent). Specification and scope confirmed in principle for non-setted areas. Instruction to be issued. Meetings held with Infracore to review adjustments to
Edinburgh Gateway	4,850	A final construction estimate on the agreed scope is currently being prepared by BBS. Costs will be funded by Transport Scotland.
Total	8,715	



#### **4.2.5 Risk and Contingency Analysis**

The Quantative Schedule Risk Analysis (QSRA) has been developed using the Master Schedule, the Risk Register and has been submitted to CEC for comment.

The Quantative Cost Risk Analysis (QCRA) has been developed using the risk register and is being amended to reflect CEC's confirmation to limit works within York Place to single lane on the south side which then avoids the need to amend the kerb line and the requirement to strengthen the basements.

In addition the Anticipated Change section of the Cost Report has been updated to reflect the scope of the changes which are likely to arise and to ensure consistency with the QCRA.

The Utilities Diversion Costs and Scottish Water Legacy Costs have been revised on the basis of the emerging scope of the Scottish Water Legacy Works (Haymarket to York Place), the tender scope for the Scottish Water Legacy Works (York Place to Leith) and the resource plans for the utility diversion works.

These cost report updates enable the QCRA to be concluded and to show the impact of required change and risk. The revised QSRA/QCRA report will be issued week commencing on the 30<sup>th</sup> of April 2012.

#### 4.2.6 Opportunities and Baseline Project Instructions

The cost engineering work stream identified a number of value improvements and benefits to the project. These are summarised in the Baseline Project Instructions Report January 2012. The contract provides for a 50/50 share (client/contractor) for Off - Street value engineering savings and CEC and the Independent Certifier confirmed the basis of the share mechanism with Infraco. A summary of the items within the design and construction project scope are provided below. *Note: all figures are net*

Item	£K	Status
Remove embargoes and revised TM	5,902	Time bank certificate confirms 12 days slippage in 22 week time saving identified in the Rev 4C programme. The Utilities diversion works required in advance of these works will utilise some of this time. Work is ongoing to mitigate this and optimise the Infraco start and finish dates.
Edinburgh Gateway		Instructed, covered in contribution section.
Setts (separate CEC budget)	1,000	Part <i>de-scope and setts funded</i> by separate CEC budget. Initial setts estimate under discussion with BBS and specification solution required for non-setted areas
De-scope public realm at St Andrew Sq	700	Instructed
Contributions 3rd Party Agreements	2,870	Note: this is the amount for some contributions in the Cost Engineering report. This amount is not carried forward, refer Contribution Register 1.2.4
De-scope works at Forth Ports	2,440	Instructed
Omit Airport Tram Kiosk and Canopy	150	Instructed, Tramstop equipment t.b.c.
Temporary tram stop at York Place	150	Designs in progress
Redeployment of Trams	CEC	Included in CEC budget code
Cancel track York Place to Newhaven	1,100	Instructed
Omit Siemens works at Tower Place	100	Instructed
Turner & Townsend / CEC resources		Ongoing
Shared recovery vehicle		Not taken forward
Road re-construction depth	700	Principles instructed, saving subject to site conditions
Design freeze north of York Place	t.b.c	Infraco design costs expended
Reduced requirement for storage		Included in CEC budget code
Lay off TM at Forth Ports/Leith Walk	t.b.c	TM not included in Infraco budget provision
Roseburn Viaduct Cladding	300	Instructed
De-scope crew relief facilities (Haymarket)	70	Instructed
<b>Opportunities secured</b>	<b>8,730</b>	
Opportunities to secure	6,750	

**FINAL**

#### 4.2.7 On Street – Schedule 45 Pricing Assumption Variations and Commercial Issues

Previous Progress Reports, refer Nr 4 27th January 2012 section 4.2.7, have described issues that have arisen regarding interpretation of Infraco's proposal prior to mediation, "the Phoenix Proposal", the Heads of Terms following the mediation and the scope of work deemed to be included in the Settlement Agreement. It has been agreed that each issue will be examined individually to determine what technical solution is in the best interests of the project and then cost liability, contractor or client.

The On-Street Works Estimate (to period end 31 March 2012) and Commercial issues are included below. The 'RAG' status indicates: Green – variation principle and amount agreed; Amber – variation principle agreed and amount to be agreed; Red – variation principle not agreed. Please note that in the case of some On-Street Pricing Assumption Variations the final amount will only be determined when the work in all sections are completed, e.g. changes to OLE foundations resulting from utilities will be completed when the final foundations are completed in York Place.

Turner & Townsend adopts the tie Notice of Change as the referencing system to facilitate change requests and approval from CEC. Schedule 45 On Street Works entitles Infraco automatically to Pricing Assumptions Variations without the need for a tie Notice of Change. Infraco attach a PMC reference to all Pricing Assumption Variations. The Change Register tracks tNC's, PMC's and approved Change Orders which account for the agreed final costs.

PMC	Description	(£K)
	<b>On - Street</b>	
15	Utility conflicts – investigation	20
25, 72 & 87	OLE foundations resulting from discovery of utilities	699
28	Temporary accommodation for utilities contractor	2
29	Road re-construction protocol (opportunity to reduce depth)	0
30	Additional CBR/Plate testing – ground strength	0
32	Utilities affecting site clearance - disconnect power to bus trackers	-15
35,79	Utilities contractor affecting Infraco progress	34
36	BT Fibre Optic affecting progress	85
37	Slit trench to validate utilities	9
38	Move 3 OLE foundations (St Johns Church)	12
40	Scottish Water diversion Princes St	251
43	Christmas embargo – temporary infill Princes St	218
44	BT diversion – Princes St (included PMC 040)	Inc
52	Install Traffic Management early Shandwick and St Andrew sq	163

68	Utilities affecting track drainage	13
69	Geotextile liner to Clifton Terrace void	3
	<b>Total On-Street Works Estimate</b>	<b>1,494</b>
	<b>Off – Street</b>	
t.b.c	Payment for Utility diversions Off Street outwith BBS’s scope	340
61	Temporary footpath and drainage - Roseburn Viaduct	30
t.b.c.	Low voltage supplies to Airport Tramstop cabinet	30
	<b>General</b>	
	Rev3A to Rev 4 programme – evidence of delay costs (BB only, Siemens t.b.c)	600
	<b>TOTAL</b>	<b>2,494</b>

The issues are discussed at the valuation meetings to progress matters.

### 4.3 Utilities

#### 4.3.1 Budget

The approved budget is now £7,773K which covers the following:

- the original budget provision of £2,912K which included £1,812K for utilities diversions Haymarket to York Place and £1,100K for correcting defects in the MUDFA works, York Place to Newhaven;
- drawdown for track form, OLE and drainage conflict resolution in St Andrew Sq and Shandwick Place to the 30<sup>th</sup> of June;
- track box and track duct excavation transferred from Infraco to the utilities diversion contract;
- drainage works transferred from Infraco to the utilities diversion contract;
- £500k for the emerging scope of the correcting defects to Scottish Water assets, Haymarket to York Place resulting from the MUDFA contract. (Note: the scope and estimate is under development and requires validation and agreement with Scottish Water).

#### 4.3.2 Contract

The contractor has offered a 2% saving from the 11.48% management fee on the basis that as the contract is NEC Option E, cost reimbursable, the costs are audited and concluded on a quarterly basis. A condition of this proposal is that the client takes the risk of the £10K excess should any claims arise from Public Liability Claims. A final proposal is being concluded for approval with CEC.

In addition savings of 5% to 10% in labour, plant and material costs have been secured for the cost reimbursable elements.

#### **4.3.3 Approved Changes**

It has been agreed that owing to scope refinement and development that budget commitments will be made on a quarterly basis through approval of change requests for the defined scope of work on a quarterly basis. The following change requests have been approved:

- UCO Nr 1 dated period 1<sup>st</sup> January to 31<sup>st</sup> March 2012
- UCO Nr 2 dated period 1<sup>st</sup> April to 30<sup>th</sup> June 2012

In addition the following change requests have been approved in principle by CEC:

- Drainage works to expedite programme and minimise impact to Infracore;
- Track box excavation;
- Track duct excavation;
- Cathedral Lane track power duct excavation;

Change request papers have been compiled and CEC's sign off will be requested in accordance with the change process.

#### **4.3.4 Changes in Progress**

The contract form is NEC Option E – Cost Reimbursable. The contract is being administered by an NEC change management system which tracks orders/changes for specific items of work. This enables control over commitments and managing expenditure.

#### 4.3.5 Anticipated Change

The cost estimate was originally developed on the basis of a cost per conflict type. Given a greater understanding of the nature of the diversions required a programme with resources to suit the scope and programme sequence. This resource plan has been used to form the basis of the estimate. This estimate is under continual review, comparing actual progress against planned and actual resources against planned. The sequence of work is as follows.

Priority	Original strategy	Revised strategy
Priority 1: works in advance of Infraco	Overhead Line Bases Road Level Conflicts Tram Ducting Chambers Tram Ducting Track Construction	Overhead Line Bases Road Level Conflicts Tram Ducting Chambers Tram Ducting Track Construction Drainage – some new manholes and removal of some utilities Drainage gully's Track box excavation Tram duct excavation Duct excavation Cathedral Lane Some kerb realignment
Priority 2: works in parallel with Infraco through call off or isolated work areas	Traffic Signal Pole Street Lighting Column Road Sign Base Kerb Re-alignment Drainage Drainage Gully	Traffic Signal Pole Street Lighting Column Road Sign Base Remaining kerb re-alignment

The key issues being addressed in the estimate include:

- There is a high degree of variability in work scope for each conflict, for example: removal of foam concrete, steelwork within the road construction, abortive excavations owing to utilities not in the locations shown on the drawings.
- The unit cost per conflict included in the original cost estimate may not account for inefficiencies resulting in the accelerated programmes for Shandwick and St Andrew Sq.
- Scottish Water has submitted a proposal for management and supervision costs for On-Street, Off-Street and Legacy Works for the project until 2014. These costs are being challenged; however they are in excess of the forecast allowance. It is unlikely that these costs will be agreed in advance of the historical issues associated with betterment and cost share. These potential additional costs have not crystallised and are not included in the cost report and will be reviewed at a meeting with CEC to be held on the 9<sup>th</sup> of May 2012. Following this review, additional costs will either be included in the Anticipated Change section of the Cost Report or provision made in the QCRA.

**FINAL**

**4.3.6 Legacy “snags” / defect correction Scottish Water assets Haymarket to York Place**

The scope of work is being developed through evaluation of the “snagging” lists and engagement with Scottish Water.

The current estimated cost is £1,254K however the scope and costs are being developed to determine the most cost effective solution.

**4.3.7 Legacy “snags” / defect correction Scottish Water assets York Place to Newhaven**

These works are subject to separate procurement and programme arrangements. Similarly the scope of work is being developed through evaluation of the “snagging” lists and engagement with Scottish Water.

The current estimated cost is £2,700K however the scope and costs are being developed to determine the most cost effective solution.

**4.3.8 Utilities Off – Street**

To date a total of £340K has been invoiced by Utility Companies for diversions and supervision on the Off Street section. These works were not excluded from Infraco’s Off Street Contract Price and discussions are ongoing regarding the correct allocation of these costs.

At this stage these costs have not been included in the Anticipated Change Section of the Cost Report.

**4.3.9 Legacy works constructed under MUDFA**

Following the handover of the tie cost forecasts for utilities works and the respective utility company costs (supervision costs and cost contribution for cost share, betterment, etc), a commercial position paper was submitted to Scottish Water.

Scottish Water has now submitted revised costs for supervision costs and calculations in relation to cost share. These costs are being reviewed and a meeting is proposed for the 9<sup>th</sup> of May 2012 to review findings with CEC.

Further discussions or meetings have also been held with Scottish Power, the telecoms companies and also Scottish Gas Networks to progress resolution of cost share and betterment.

**4.4 Tram Vehicles**

The budget for Tram Vehicles is £62.4M which is lower than the contract sum at £63.6m.

There are no changes to the forecast during the period.

**FINAL**

**4.5 Payments and Cash flow**

A summary of the certified amounts are provided below.

	<b>Certified £M</b>	<b>Planned £M</b>	<b>Comment</b>
Infraco	£277.4	£278.2	Planned – based upon Rev 3A programme
Utilities	£4.6	£4.5	McNicholas only plus SUC costs
Trams	£56.8	£56.1	Payments in accordance with milestone schedule.



## **5 On Street - Enabling Works & Utility Legacy Works**

### **5.1 General**

It was reported previously that as a consequence of manhole connections being rejected by Scottish Water the tram drainage system has been redesigned to accommodate the requirements of Scottish Water. The redesign has progressed well and in order to facilitate Infraco, a decision was taken during the period to de-scope elements of the drainage works from Infraco and to instruct McNicholas to carry out the work to reduce the impact of delay on the overall programme. The primary reason for this relates to the fact that McNicholas are required to clear additional conflicts arising as a consequence of the drainage redesign, once the drain runs are cleared and proved it is appropriate that McNicholas lay the pipes and construct chambers whilst they have possession of the site.

In reaching a decision to instruct McNicholas to carry out the drainage works a decision was also taken to instruct McNicholas excavate the "track box" to provide Infraco with the opportunity to commence track slab works as early as possible once sites are handed back. This has proved successful.

The commercial impacts of the approach to drainage and track box have been discussed with Infraco and it has been agreed in principle how these matters will be dealt with. A meeting was held with Infraco on the 25<sup>th</sup> of April and it has been agreed that going forward this will be held weekly to ensure all matters are captured and dealt with in a timely manner.

There have continued to be instances during the reporting period where Turner & Townsend has had to take remote areas of sites to deal with residual utilities issues that were either not completed prior to handover or which were discovered after the sites were handed back to Infraco. These instances have, however, reduced.

### **5.2 York Place Planning**

Detailed planning of works in York Place commenced in the period and a number of opportunities have been identified. These include carrying out some works ahead of the October date for closing York Place including Scottish Water manholes, ducting to the Cathedral Lane sub-station and demolition of the Cathedral Lane sub-station. Some of these works are dependent upon traffic constraints at Princes Street and the Mound being lifted although the team is seeking to maximise any opportunities and is exploring ways of carrying out works with some traffic constraints still in place. Planning of relocation of the bus depot has commenced and Infraco has been instructed to carry out a design relocating the depot to St Andrew Square. In parallel, CEC are progressing discussions with Infraco to identify potential Infraco programme opportunities. CEC are seeking internal notification prior to advising Turner & Townsend. Following advice Turner & Townsend will update the overall Project Master Schedule.

### **5.3 Legacy Works**

There remain some key water issues that have the potential to cause significant difficulty for the project. These include apparatus falling within the tram Dynamic Kinematic Envelope and the tram DKE+2m that cannot be diverted and apparatus without the necessary separation distance from other utilities as a consequence of congested areas. Good progress is being made with Scottish Water on how to best deal with these issues although, as reported last month, this has been delayed somewhat as resources have been re-directed in the short term to deal with the drainage re-design.

Regarding the legacy works north of York Place the Invitation to Tender was issued on 30 April in line with the agreed programme. The tender is progressing on the basis of an amended Option C under the NEC form of contract. This has been agreed with CEC. The target date for commencement of the works is early July with completion in October, tenderers will be asked to bid on this basis.

Work has commenced at Tower Place Bridge and Lindsay Road with McNicholas retained to complete the reinforced concrete works at Tower Place Bridge. The remainder of the works will be carried out by CECs term contractor Tarmac and are expected to be completed by the end of June.

### **5.4 McNicholas Safety**

During week commencing the 23<sup>rd</sup> of April 2012 and following a meeting on site between Turner & Townsend and McNicholas a number of safety issues were identified and these are discussed in more detail in Section 2 of the report. These safety issues had an impact on the drainage works programme although these delays were minor delaying the works by no more than a week in Haymarket and less in other areas.

### **5.5 Look Ahead**

Focus will be on completing the drainage works and handing back all sites to Infraco. Planning at York Place needs to conclude with some works commencing at Cathedral Lane. Turner & Townsend will also continue to react to utility discoveries by Infraco and will work with Infraco in planning any "type 2" conflict works not diverted prior to sites being handed back, these include conflicts in footpaths under sign and signal bases that are best dealt with as Infraco carries out its works.

## **6 On Street - Main Works**

### **6.1 Progress in Period.**

OLE piling works have been completed and Infraco has commenced track slab construction in areas not affected by the drainage redesign.

Works have been stalled in Haymarket 1 due to the re-design and construction of the tram drainage. Works in Princes Street continue to progress well and it is likely all civil engineering works will be completed early ahead of the Rev 4 programme July completion date. The Electrical & Mechanical Works, including the overhead wires, are then due to commence in early November 2012. St Andrew Street north to Waverley junction was handed back to Infraco at the end of April and sites at Haymarket 2-5 and Shandwick Place are currently due to be handed back to Infraco in mid May.

Third party approvals and consents for the Princes Street OLE re-design and York Place single lane running were progressed during the period and permissions were granted by CEC. The decision in relation to York Place is important and allows the project to finalise detailed planning through the area. . The pre-planning consultation period was launched by CEC during the period in relation to Dublin Street Steps, this is due to conclude on the 10<sup>th</sup> of May 2012 which will allow the formal planning application to be made. The current target date for the planning committee is the 20<sup>th</sup> of June 2102.

### **6.2 Key Issues**

#### **6.2.1 Scottish Water Manhole Connections**

Good progress has been made during the period in redesigning the tram drainage and resolving the manhole connection issues with Scottish Water. The flow modelling work which posed a risk to early resolution was agreed in good time and a significant amount of the drainage is not only redesigned but has been installed, tested and handed back to Infraco. (See above 6.1).

In parallel with the re-design and drainage works Turner & Townsend prepared a briefing note setting out the history of the manhole connections issue; and a commentary on the possible apportionment of responsibility. The matter was referred to the Independent Certifier during the period and a decision is expected imminently. The overall impact is currently being quantified and will be reported in the next full period report.

### **6.3 Look Ahead**

#### **6.3.1 Haymarket 1**

It is anticipated the Haymarket 1 area will be handed back to Infraco on the 18<sup>th</sup> of May 2012. The drainage has delayed works in this area but it is not anticipated that the overall sectional completion of these works will be delayed.

**FINAL**

### 6.3.2 Haymarket 2-5

Turner & Townsend took possession of this site on the 28<sup>th</sup> of March 2012. It had been agreed with Infraco that the utility conflict works through the area would take in the region of 10 weeks. Despite increasing the scope of works to include the drainage works and track box excavation the site is due to be handed back early in mid May ahead of programme.



- Haymarket

### 6.3.3 Shandwick Place

It is anticipated that Shandwick Place will be handed back to Infraco on the 14<sup>th</sup> of May 2012. The drainage has delayed works in this area but it is not anticipated that the overall completion of these works will be delayed.



- Shandwick Place

### 6.3.4 Princes Street

Track remedial works by Infraco will continue in Princes Street.



- Princes Street

### **6.3.5 St Andrew Square including Waverley Junction**

In order to complete drainage works in the area Turner & Townsend took back a large proportion of the site through St Andrew Street. This was handed back to Infraco on the 30<sup>th</sup> of April 2012 with some areas handed back earlier to allow Infraco works on the outbound track slab to commence. As reported previously this area is on the tram project critical path and the closure of York Place is dependent on St Andrew Street and the east end of Princes Street being completed. Early indications suggest that the delays through this area as a consequence of drainage can be mitigated to a large extent although Infraco is reporting a two week delay to completion and anticipates commencing in York Place at the beginning of November. Turner & Townsend will be working with Infraco and CEC over the coming weeks to explore ways of improving on this date.



- St Andrew Square

### **6.3.6 York Place**

Planning is well underway and the target is to commence some ducting work at Cathedral Lane in May.

## **7 Off Street Works**

### **7.1 Progress in Period**

#### **7.1.1 Airport**

The retaining wall construction has commenced along the Gogar Burn following the line of the secant wall. The secant piling has been affected by operative absence however the parallel working of these two activities should minimise any further delay to the programme.

Eastfield Avenue crossing works have been completed, the airport have highlighted that issues may exist with the gradients between the two tram lines. The works on site shall be checked against the design tabled and agreed to the Airport the design process shall ensure that the road conforms to the relevant design standards for a 30mph road. A stage 3 road safety audit shall also be conducted when the junction construction is finished in its entirety; this is programmed for the last quarter in 2012.

Daily coordination and weekly meetings are being held with the airport in line with the agreed protocol. The weekly meetings are recorded by the use of an Issues Log.

The remaining scope following deletion of the kiosk and canopy has been defined by CEC. Marked up drawings and an instruction shall be submitted to Infraco to allow the continuation of these works.

#### **7.1.2 Edinburgh Gateway**

Infraco have produced a draft design for the slope option; this consists of a gabion basket solution in place of the permanent retaining structure that had been proposed. This solution negates the need for temporary works in relation to the 33kV electrical cable. A programme for the works is due from Infraco on the 8<sup>th</sup> of May 2012.

CEC are responsible for achieving the approvals related to the design and this has been discussed with CEC and Turner & Townsend. Any changes to planning shall be addressed through a letter advising the planning department of the temporary situation. CEC have an action to speak to the Building department to discuss any affect that leaving the project in a temporary state would have on the building warrant.

Infraco have agreed that they shall submit the design for CEC technical approval. The Scottish Water temporary build-over agreement is being progressed by CEC however this needs to be enabled by the agreement from Transport Scotland to Scottish Water via Network Rail to a permanent diversion being undertaken. A meeting was held with Scottish Power and Turner & Townsend as the works are adjacent to their 33kV cable and they have agreed that no formal approval is required however the project should keep them informed of the design.

A meeting shall be arranged with the Network Rail project team to define scope. A further meeting shall then be required to define the boundary of their site and the timeline by which Network Rail and Scottish Water can access the area.

CEC have requested that equipment and materials are procured to allow the completion of the Gateway stop to tie in with the other stops on the route. Turner & Townsend have produced a list of materials to assist CEC and Transport Scotland to decide the items that are to be purchased in advance.

A letter has been received from Infracore stating that due to the delay to Edinburgh Gateway a temporary radio mast would be required for Section B completion. Through discussions with Siemens the aerial that currently exists within the depot could be used by increasing the wattage to it. Siemens require to undertake tests to this aerial to ensure that this would provide the necessary coverage. Siemens stated that these tests could be undertaken prior to the need for instruction for the temporary mast.

### **7.1.3 Scottish Gas Network Diversion**

The works to divert the gas pipeline at Ingliston are progressing well, with the specialist subcontractor due to arrive on the 5<sup>th</sup> of May 2012 to tie the diversion into the live pipeline. Works are being undertaken to meet the original completion date of the 18<sup>th</sup> of May 2012.

### **7.1.4 Other items of progress:**

- Scottish Power completed the High Voltage connection to the Ingliston Park and Ride substation.
- Ingliston substation fit out completed.
- Soil reinforcement is being installed at the Gogar Landfill; progress is slower than anticipated however; growing familiarity with the method of work should see an increase in the rate of work.



- Soil Reinforcement – Gogar Landfill Site

- The A8 was reopened to two lanes of traffic in both directions on the 25<sup>th</sup> of April 2012 following the successful excavation and formation of the underpass.
- Progression of the Gyle Broadway crossing.
- Overhead Line Mast foundations have commenced along Edinburgh Park Corridor.
- Baird Drive soil reinforced wall continuing.

**FINAL**



- Baird Drive – reinforced earth embankment



- West Abutment S504

- Interface issues between the sewer and piling location at Carricknowe has been agreed with Scottish Water and the sewer diversion now underway. This allows track laying to progress.
- Crew Relief wall construction and Scottish Power cable diversion costs are now agreed with Network Rail, these works have been instructed to Infracore for construction shall be undertaken by Infracore.
- Russell Road earth retaining structures are being installed around the junction at the Roseburn Corridor.
- The laying of track from Haymarket Yards to Balbirnie continues.

## **7.2 Key Issues**

### **7.2.1 Railway Corridor**

Sheet piling works commenced along the Murrayfield corridor adjacent to Network Rail infrastructure. This is to enable access for the ground improvement methodology. As the sheet piling operations have advanced, movement of a Network Rail overhead line mast (shunt line and Fife lines) were recorded by the monitoring team. Works ceased adjacent to the area where movement has occurred while an alternative methodology for the area was established. An alternative system of work utilising a hydraulic ram which pushes the piles into the ground has been proposed and accepted by Network Rail. This reduces the amount of vibration induced into the embankment. Works may re-commence following the completion of a survey of the overhead line height and stagger by Infracore.



**FINAL**

Movement has also occurred within the ScotRail depot adjacent to the construction of wall structure 4 (W4). ScotRail has reported signs of movement between concrete slabs within the depot on the crest of where sheet piling and soil nailing operations are taking place. Further monitoring was installed in the area and further movement was recorded. Operations were stopped and the methodology reviewed and similarly to the Murrayfield works a hydraulic ram method proposed.

Both sites shall be carefully monitored during the start of the alternative methods of work.

The ScotRail interface remains an area of sensitivity with construction works taking place on all sides of their Depot. The recent movements that have occurred within the depot have caused ScotRail concern. Turner & Townsend have daily communications with the ScotRail staff to ensure they are aware of the measures put in place to mitigate against any further movement.

### **7.2.2 Edinburgh Gateway**

A boundary and timeline needs to be established with Infracore to allow access for the purposes of the permanent sewer diversion. Scottish Water may use the non instruction of the permanent diversion as a reason not to issue a temporary build over for the tram alignment.

### **7.3 Look Ahead**

- Secant and retaining wall construction continuing along the Gogar Burn
- Completion of the SGN/NIL diversion
- Continuation of Gogar Landfill earthwork reinforcement
- Continuation of Gyle Broadway crossing and Edinburgh Park Corridor
- Bankhead Drive earthworks and drainage continuing
- Water of Leith centre pier construction continuing with west abutment excavation
- Ground Improvements being undertaken on Murrayfield Corridor S21B and S21C
- Track continuing to be laid at Balbirnie and Carrick Knowe



- Carrick Knowe to Balgreen Bridge

**FINAL**



- Murrayfield Tram Stop Light weight Aggregate Fill

- Continuation of construction for the Roseburn Structures and Murrayfield Tram Stop
- Continuation of the Russell Road Retaining wall (W4)
- Equipment to Haymarket substation being installed early May
- Continuation of the cladding works on Haymarket Viaduct

## 8 Trams

### 8.1 Progress in Period

Twelve trams have now been delivered, with three having been vested with CEC. Nine trams have been issued with Interim Tram Routine Test Certificates, having successfully completed the required level of testing on the Mini Test Track.

### 8.2 Key Issues

The process for the valuation of Milestone Payment requirements has been agreed with CAF; however there are still some difficulties with the collection of evidence to support this valuation. Evidence requirements will now be agreed monthly in advance, such that no further misunderstanding of requirements occurs.

Two technical concerns were identified during the period;

- The incorrect placement of pedals in the cabs of all trams.
- The detachment of a roof panel on tram 252.

Action has been taken to address the immediate risks, with both issues currently being investigated further by CAF.

An initial proposal to modify the Tram Wash Plant to allow all areas of tram to be washed has been accepted by all stakeholders and is due to be closed in May.

### 8.3 Look Ahead

#### Tram Delivery, Test & Commissioning:

A workshop has been arranged with all parties; Lothian Bus, CAF and Turner & Townsend to develop an Engineering Change Control process. This is to allow technical issues identified during the initial operation of trams to be recorded and managed to completion.

There is one tram due to be delivered to Gogar Depot in the next period (tram 257 – due the 4<sup>th</sup> of May 2012), with three trams scheduled to complete Routine Testing on the Mini Test Track.



## 9 Assurance

### 9.1 Progress in Period

Further discussions have been held with BBS to develop the System Testing & Commissioning for section B Completion. A draft Testing and Commissioning Plan is due to be issued by Infracore during week commencing 30<sup>th</sup> of April 2012.

Good progress has been made with the Employer's Requirements Management Process. A number of workshops have now taken place. Verification and Validation method has now been agreed for 83% of the requirements.

The technical support services contractor has been on site to inspect the installation of the first electrical substations. The electrical functionality exceeded the employer requirements; however some workmanship issues were raised to Infracore for rectification.

During this period Technical support services (TSS) have completed their review on the Section A submission. Two key concerns were noted; the level of detail provided within each document and the section A documents containing system wide information. These comments have now been submitted to BBS for response.

The Overhead Line Equipment building fixings have now been agreed with the property owners the Princes Street areas, this is currently the last area requiring such approval.

### 9.2 Consents

The Overhead Line Equipment building fixings have now been agreed with the building owners; however formal fixing contracts are now being signed for the last 3 properties.

Planning approval was granted on the 18<sup>th</sup> of April 2012 for the York Place Tram Stop.

Table below is a summary of the current outstanding consents required for the project.

Combined Consents required				
	Total Required	Total On Hold	Total Outstanding	Total Closed
Third party	18	4	12	2
Technical Informatives	6	1	1	4
Planning Consents	38	15	13	10
Other Approvals	12	0	10	2
Legal Agreements	15	0	10	5

#### Key Consents due in the next period, with full list in the appendix.

1. Network Rail Asset Protection Agreement.
2. Earthing and Bonding technical informative.
3. Planning consent for Hearts memorial Relocation.
4. Road safety audit approval for Section 1C.

### 9.3 Quality

Infraco have undertaken further survey works on the levels for the rail road interface on Princes Street. They have indicated that there are some sections that are out of tolerance which may require an NCR to be raised.

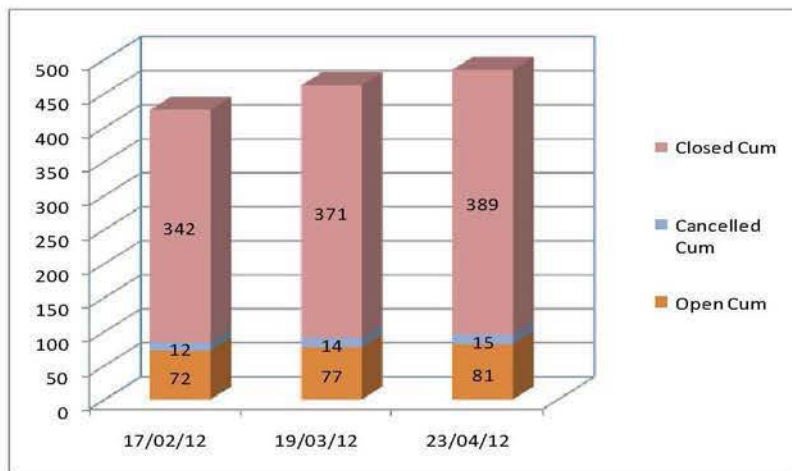
BBS have undertaken a survey of the rails and concrete works in Princes Street to quantify the workmanship issues; the report is now overdue and is anticipated for week commencing 30/04/12.

There are 36 Depot snagging items still to be resolved. 12 of which are to be monitored until the end of June 2012. The remaining items are being resolved on a weekly basis.

The total No of NCRs raised to date is 485.

23 NCR's were raised during the period and 18 NCR's were closed out during the period.

13 no open NCR's are greater than 6 months old. Details may be found within Section 6 of Deliver a Safe Tram (See Appendix 2).

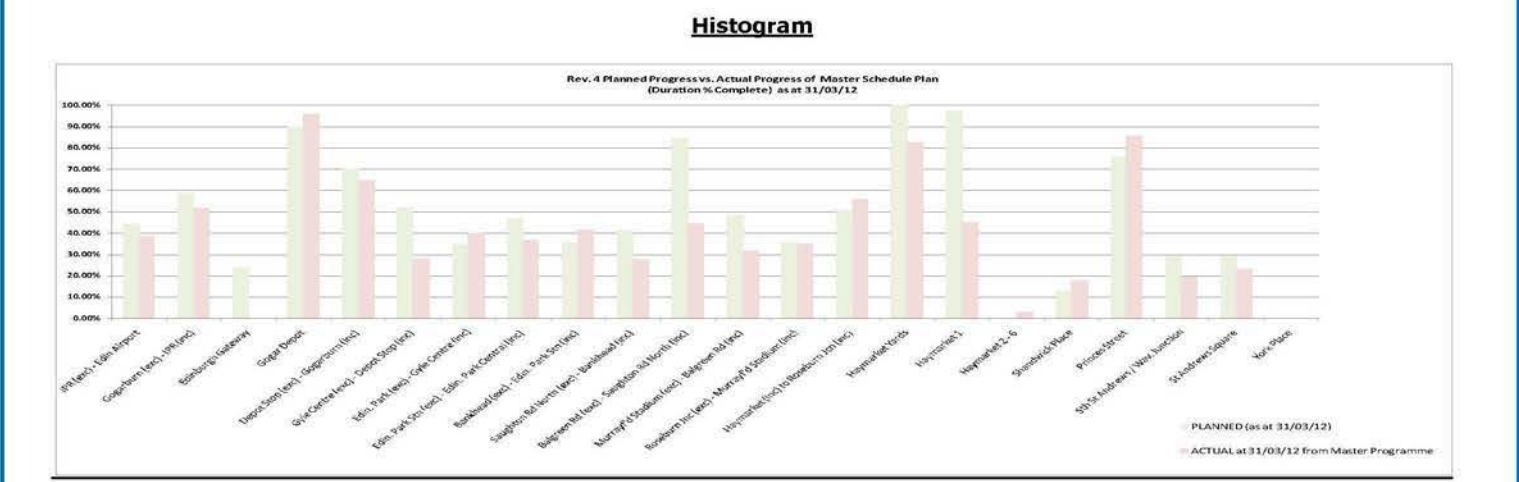
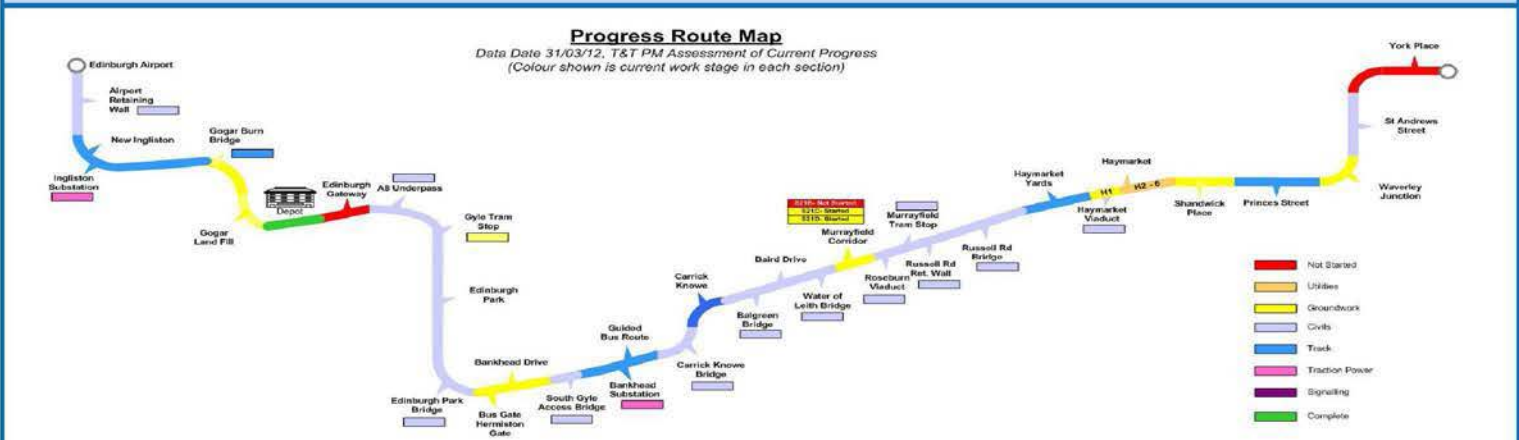


## Appendix 1 – Dashboards

Produced by	Julian Weatherley & Shirley-Anne Collin	SECTION	SUMMARY DASHBOARD REPORT CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		Employer	City of Edinburgh Council Waverley Court, Edinburgh, EH8 8BG	
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park		Address		
Status	FINAL	Issue Date	09-05-2012	REPORTING PERIOD	24 <sup>th</sup> March to 28 <sup>th</sup> April 2012	Project:	Edinburgh Tram Network

- Executive Summary:**
- There were 22 Incidents recorded during the period. Five of which were identified as Serious / Significant.
  - Remedial actions have been identified and are being implemented following concerns raised in relation to McNicholas' health & safety practices. A "Think Before You Act" health & safety review is to be held with the project's contractors on 10th of May.
  - Discussions continue between Infracore and SEPA in relation to soil removed from Baird Drive.
  - Twelve days of the 22 week cost engineering saving have been confirmed as being eroded. Further erosion if forecast for the coming period.
  - The On Street drainage has now been re-designed to meet Scottish Water's approval requirements and McNicholas have been instructed to construct drainage and formation works instead of Infracore in order to optimise the overall project programme.
  - Significant progress has been made with the detailed planning of the York Place works. Enabling works to Cathedral Lane substation and York Place utilities diversions will commence during the coming period.
  - Good progress is being made in relation to the identification and scoping of Scottish Water legacy works although the scope of works is significantly greater than previously envisaged. The tender for the Leith Walk legacy works has been produced and submitted to CEC for comment prior to tender issue. Close out works have now commenced at Tower Place Bridge and Lindsey Road.
  - Infracore have commenced track slab works within Shandwick Place and St Andrew Street. Princes Street remedial works are progressing ahead of programme.
  - Retaining wall works adjacent to the Gogar Burn at the airport remain marginally behind programme.
  - The works to the Eastfield Avenue Crossing and the A8 Roundabout have been completed during this period. The SGN works to the gas main at New Ingleston remain on programme for completion by the 18th of May 2012.
  - The progression of works through the Off Street rail corridor have been impacted by localised ground movements during sheet piling operations.
  - Twelve trams have now been delivered to the depot.
  - Submissions have been made to the Independent Certifier (IC) regarding Infracore's entitlement to a Pricing Assumption Variation (PAV) for the revised drainage design. The IC has advised that in his opinion, a PAV has occurred.
  - A Quantitative Schedule Risk and Cost Risk Analysis review will be held on the 3rd of May and a Cost Report Review will be held on the 9th of May 2012. The purpose of these meetings is to confirm alignment between the Master Schedule, the cost savings from the 22 week programme saving and reporting of risk, opportunity and contingency.

- CEC Actions / Decisions**
- Wayleave Haymarket** – Progress the wayleave with Scottish Power and Network Rail.
  - Haymarket**. Progress temporary build-over at Haymarket.
  - Bus Tracker**. Decision to be made on whether Bus Tracker equipment is to be fitted to trams.
  - York Place** – Confirmation of approach to programme at York Place.
  - Dublin Street Steps** – Support in obtaining permissions at Dublin Street Steps.
  - Advance Purchase of Equipment** – Definition from Transport Scotland on equipment to be advanced purchased for Edinburgh Gateway and subsequent approval from CEC.
  - Asset Protection Agreement** – Close out of Asset Protection Agreement.



Produced by	Julian Weatherley & Shirley-Anne Collin	SECTION	SUMMARY DASHBOARD REPORT CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT			Employer	City of Edinburgh Council Waverley Court, Edinburgh, EH8 8BG
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park			Address	
Status	FINAL	Issue Date	09-05-2012	REPORTING PERIOD	24 <sup>th</sup> March to 28 <sup>th</sup> April 2012	Project:	Edinburgh Tram Network

KEY MILESTONES

Section	Description	Rev 4 Schedule Date	A	B	B - A = C	Completed	Crit. Path	Comments
			Forecast/ Actual Date	Var. (d's)				
<b>Section Completions</b>								
ALL	Section A; Depot complete	16-Dec-11	16-Dec-11	0	✓	Y		
ALL	Section B; Test Track complete	08-Mar-13	20-Mar-13	12		Y		Due to current delays in Off-Street construction, measures are being put in place by Infraco to recover delays.
ALL	Section C; All construction complete	09-Apr-14	10-Mar-14	-30		Y		
ALL	Section D; open for revenue	08-Jul-14	09-Jun-14	-29		Y		
<b>On Street</b>								
<b>Haymarket</b>								
On-Street	Haymarket 1 – Utility moves in advance of Infraco Works Complete	28-Oct-11	16-Dec-11	49	✓	N		Access to site was granted to Infraco on 18-Nov-11, with only minor utilities works remaining. Full hand back was 16 Dec 11
On-Street	Haymarket 1 Complete	04-Apr-12	14-Aug-12	132		N		Further delay to H1 due to Scottish Water manhole and drainage connection issues. N.B. Delay to H1 completion does not affect overall project completion date.
On-Street	Haymarket Phase 2 Utilities Work Complete	N/A	08-Jun-12	N/A		N		All Haymarket Utilities works to be carried out in advance of construction works.
<b>Shandwick Place</b>								
On-Street	Start Shandwick Place Traffic Management	07-Mar-12	14-Jan-12	-53	✓	N		Complete
On-Street	Start Shandwick Place Utilities Moves	N/A	03-Jan-12	N/A	✓	N		Complete
On-Street	Shandwick Place Utility Moves Complete	N/A	15-Feb-12	N/A	✓	N		Complete
<b>St Andrews Square &amp; St Andrews St North</b>								
On-Street	St Andrews Sq Traffic Management	14-Feb-12	07-Jan-12	-38	✓	N		Complete
On-Street	Start St Andrews Square Utility Moves	N/A	09-Jan-12	N/A	✓	N		Complete
On-Street	St Andrews Square Utilities Work Complete	N/A	14-Feb-12	N/A	✓	N		Complete
On-Street	St Andrews Square Civils Complete	15-Oct-12	10-Oct-12	-5		N		
<b>South St Andrews St / Waverley Junction</b>								
On-Street	Start Utilities Works South St Andrew St / Waverley St Junction	N/A	09-Jan-12	N/A	✓	Y		Complete
On-Street	Utilities Works South St Andrew St / Waverley St Junction Complete	N/A	26-Mar-12	N/A	✓	Y		Complete
On-Street	Start Civil Work South St Andrews/Waverley Junction St.	08-Feb-12	26-Mar-12	47	✓	Y		Complete
On-Street	South St Andrews/Waverley Junction St. Civils Complete	15-Oct-12	16-Oct-12	1		Y		On-Street works have been re-sequenced in line with Cost Engineering initiatives
<b>York Place</b>								
On-Street	Start York Place Utility Moves	N/A	29-Oct-12	N/A		Y		On-Street works have been re-sequenced in line with Cost Engineering initiatives. Traffic light at SAS/Waverley are required to be commissioned before starting this phase.
<b>Princes Street</b>								
On-Street	Princes St Highway Re-instatement and non-M&E works Complete	05-Jul-12	06-Jun-12	-29		N		Discussions ongoing with BBS indicate that works in PST area may be completed ahead of Rev 4 date.
<b>Off Street</b>								
Off-Street	Murrayfield ground improvements Complete	25-Mar-12	13-Jun-12	80		N		Sheet Piling Commenced 16th April Problems with Sheet Piling causing movement to NR OHLE mast. Full impact still to be determined.
Off-Street	Haymarket Yards Complete	27-Feb-12	12-Jun-12	106		N		Delay accom'd within float, no effect on forecast completion of AIR-HAY route
Off-Street	South Gyle Beam Installation Complete	11-Jul-12	28-Nov-12	140		N		Ground Improvement Works being finalised by SDS
Off-Street	Water of Leith Bridge Complete	31-Aug-12	21-Nov-12	82		Y		Delay due to reverting back to original construction methodology in lieu of design for ground improvements. However, ongoing review of construction programme, in conjunction with BBS, may result in improvement to current forecast.
Off-Street	W4, 19-29; Russell Rd. Retain Complete	29-Oct-12	04-Dec-12	36		N		Sheet Piling Commenced however Problems with Sheet Piling causing movement to Scotrail Structures. Full impact still to be determined.
Off-Street	S21A Roseburn St. Complete	19-Sep-12	12-Oct-12	23		N		Delay accom'd within float, no effect on forecast completion of AIR-HAY route
Off-Street	S22A Balgreen Road Bridge Complete	18-Sep-12	08-Jan-13	112		N		Delay accom'd within float, no effect on forecast completion of AIR-HAY route
<b>Depot &amp; Test facilities</b>								
Depot & Test Facilities	Mini Test Track available	02-Dec-11	12-Dec-11	10	✓	N		Complete
Depot & Test Facilities	Soil nails, test, @ Gogar Landfill Complete	16-Jan-12	08-Feb-12	23	✓	N		Complete
Depot & Test Facilities	Reinf'd Earth Embank't Gogar Landfill Complete	16-Mar-12	25-May-12	70		N		Delay is presently accom'd within float. So far, no effect on forecast AIR-Depot test track availability. However, further slippage noted and being monitored.
Depot & Test Facilities	Eastfield Avenue Complete	21-Feb-12	22-May-12	91		N		Delay accom'd within float, no effect on forecast AIR-Depot test track available Road returned to Airport by end of April.
Depot & Test Facilities	Ingliston Gas Mains Diversion Construction Complete	N/A	18-May-12	N/A		N		Delayed Start due to wayleave agreement. SGN to submit programme with aspirations to recover to original programme.
Depot & Test Facilities	A8 Underpass Completion & Traffic Back	13-Jun-12	25-Apr-12	-49	✓	N		Anticipated completion was 31-Mar-12, however delay in confirmation of street lighting location with knock on effect to the completion of concrete pouring and footpath works. Still ahead of Rev 4 completion date
Depot & Test Facilities	Gogar Burn Tram Stop Complete	17-Oct-12	14-Sep-12	-33		N		Ahead of Schedule
Depot & Test Facilities	IPR-GBN Interim Test Track available		18-Sep-12	N/A		N		The interim test track, IPR-GBN, is a proposed milestone
Depot & Test Facilities	AIR-Depot Test Track available	07-Dec-12	20-Dec-12	13		Y		Delay due to late start of the retaining wall at the Airport, Infraco feel this is recoverable.



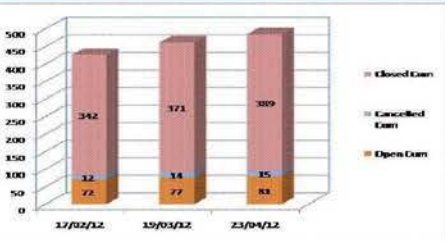
Produced by	Martyn Ayres & Shirley Collin	SECTION	HS&E, QUALITY, ASSURANCE CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park		Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue Date	09-05-2012	REPORTING PERIOD	24 <sup>th</sup> March to 28 <sup>th</sup> April 2012	Project:
						Edinburgh Tram Network

**PROGRESS**

**SUMMARY**

- Health and Safety** - The team have remained focused on the incidents that have occurred and McNicholas continue to develop their site management team, their Managing Director have given assurances that he will oversee the ongoing improvements on site.
- The 'Think before you Act' meeting has been arranged for the 10<sup>th</sup> of May 2012.
- Environmental**- Continuing discussions are ongoing with Scottish Environmental Protection Agency regarding the classification of material from Baird Drive.
- Assurance** - Technical Support Services have been on site to inspect the electrical substation, good progress reported.
- The verification of the Employers requirements is progressing well, with regular workshops being attended by all parties.

**QUALITY**



Total No of NCRs raised is 485.

23 NCRs were raised during the period and 18 NCRs were closed out during the period. 13 no open NCRs are greater than 6 months old.

BBS have undertaken a survey of the rails and concrete works in Princes Street to quantify the workmanship issues, the report is now overdue and is anticipated for week commencing 30/04/12.

**ENVIRONMENT**

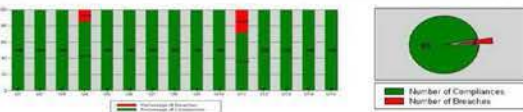
**Environmental**

- BBS continue to have discussions with SEPA regarding the classification of soil being excavated. On site meeting to be held on the 27<sup>th</sup> of April 2012 BBS continue to have discussions with SEPA regarding the classification of soil being excavated on site at Baird Drive. There is a follow up meeting planned for the 27<sup>th</sup> of April to close out SEPA's concerns.
- A Joint environmental inspection carried out with BBS and Turner & Townsend with Coffey's on section 5. Issues regarding waste control and drip trays were raised, final report still to be issued.
- BBS Environmental Forum held on the 25<sup>th</sup> of April 2012. Representative from all of BBS's contractors were present. Review of Non Conformances raised by BBS's external auditors, relating to cross contamination of waste, European waste codes, waste duty of care, diesel leaks and oil storage.
- Inspection of monuments currently held in storage by Land Engineering will be arranged for week commencing 7<sup>th</sup> of May 2012.

**CoCP & Key**

- CoCP compliance for period 1 was recorded at 97%.
- 3 issues required action. These comprised:
  - Site fencing to be moved.
  - Poor housekeeping / site tidiness.

Q1: Hours of Work	Q9: Emergency Access
Q2: Notification	Q10: Parking
Q3: Notices	Q11: Litter and general housekeeping
Q4: Fencing and Hoarding	Q12: Dust
Q5: Noise	Q13: Smoking
Q6: Waste Management	Q14: Members of the Public
Q7: Waste Water and Run-Off	Q15: PPE and Behaviours
Q8: Water	

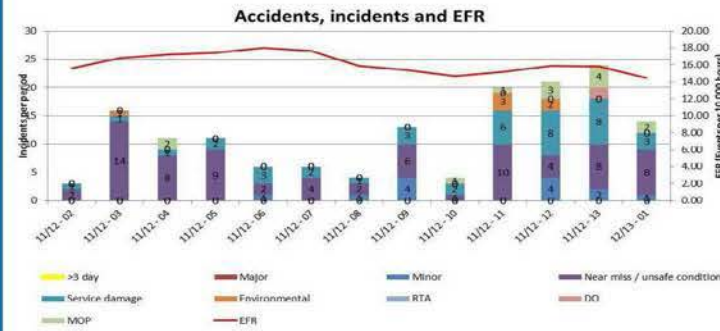


**HEALTH & SAFETY**

- There were 22 incidents reported during the period since the last dashboard. 5 were classified as serious / significant incidents. A summary is provided below; full details can be obtained on page 6 of the Progress Report.
- The five serious / significant incidents relate to two falls by a member of the public and two lower voltage cable strikes. The other incident involved a procedural Scottish Water.
- Turner & Townsend continue to work with McNicholas to close out the actions related to the 11kV cable strike in South St Andrews Street. Once the improved processes and procedures have been implemented this information will be sent to the Health and Safety Executive (HSE) in response to the comments received on the incident investigation.
- The 'Think before you act' safety focus session has now been agreed for the 10<sup>th</sup> of May, formal invitations are now to be sent.
- The rolling 14 Period AFR remains at 0.00, better than the benchmark KPI of 0.23 for the project.

Classification	Number of incidents	Major incidents	Serious / significant incidents	Other incidents	RIDDOR Reportable incidents
Member of public	3	0	2	1	0
Service damage	7	0	2	5	0
Environmental	0	0	0	0	0
Major	0	0	0	0	0
Injury > 3day	0	0	0	0	0
Injury < 3 day	2	0	0	2	0
Dangerous occurrence	0	0	0	0	0
Road traffic accident	0	0	0	0	0
Near miss / unsafe condition	10	0	1	9	0
TOTAL	23	0	5	17	0

**TREND**

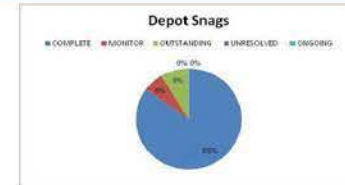


**PROJECT INITIATIVES**

**Deliver the Tram Safely**

- The Turner & Townsend Project Delivery Safety Meeting was held on the 25<sup>th</sup> of April, a renewed emphasis was placed on the joint monitoring being undertaken on the project, to strengthen the project safety culture.
- Investigation has now commenced into initiatives to support the local community information has been passed to CEC communication team for discussions with the contractors, they have agreed to sponsor a local school.

**DEPOT SNAGS**



Key snags to be closed are;

- Castell key sockets modification, BBS to complete remedial work by the 11<sup>th</sup> of May.
- Water ingress to the wheel lathe due to be closed by the 18<sup>th</sup> of May.
- Sealing of Depot shed door, Tie Notice of Change to be drafted and issued by the 18<sup>th</sup> of May.
- Work shop tool air supply piping, Tie Notice of Change to be drafted and issued by the 18<sup>th</sup> of May.
- Depot pit drainage resolution, proposal to be agreed with CAF and Lothian Buses by the 25<sup>th</sup> of May.

**CONSENTS**

**Combined Consents required**

	Total Required	Total On Hold	Total Outstanding	Total Closed
Third party	18	4	12	2
Technical Informatives	6	1	1	4
Planning Consents	38	15	13	10
Other Approvals	12	0	10	2
Legal Agreements	15	0	10	5

Key Consents due in the next period, with full list in the appendix.

- Network Rail Asset Protection Agreement
- Earthing and Bonding technical informative
- Planning consent for Heats memorial Relocation
- Road safety audit approval for Section 1C.

**SOFT ANALYSIS**

**SUCCESSES**

- Targeted inspection of excavations completed.
- All stakeholders are cooperating well at the depot.
- New assurance system implemented for Tram delivery
- 'Think before you act' session

**OPPORTUNITIES**

- Increased monitoring of onsite activities. Project Management resources are will become part of integral assurance process.
- Safety seminars to be arranged for project manager.
- Review of supervisor competencies
- Lack of availability of GIS information from Scottish Water.
- Introduction of additional staff and working patterns

**FAILURES**

- No Safety Tours were carried out within the Period.

**THREATS**

- Statutory bodies co-operation.
- Late issue of documentation by BBS.
- Potential gaps between contracted maintenance responsibilities
- Visibility of BBS design and assurance documentation.
- Concerns have been raised that site safety is potentially being compromised by inadequate resources to meet Programme.
- Continuing issues with regard to service strikes and compliance with statutory utility body procedures.

Produced by	Willie Delaney & Martyn Ayres	SECTION	TRAMS <b>CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT</b>			Employer	City of Edinburgh Council Waverley Court, Edinburgh, EH8 8BG
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park			Address	
Status	<b>FINAL</b>	Issue Date	09-05-2012	REPORTING PERIOD	24 <sup>th</sup> March to 28 <sup>th</sup> April 2012	Project:	Edinburgh Tram Network

**PROGRESS IN PERIOD**

**PROGRESS IN PERIOD**

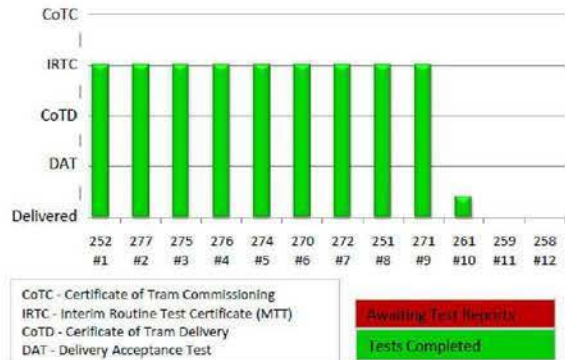
- Tram Inspector now fulfilling all requirements and attending 100% of Routine Testing at Gogar Depot
- Tram commissioning continues to be completed in line with the commissioning plan:
  - Twelve trams now delivered to Gogar Depot.
    - 9 have completed Interim Routine Testing.
    - 3 to be coupled and tested.
    - Next tram (#257) due delivery on 4<sup>th</sup> May 2012.
- Tram Test and Commissioning workshop held to discuss commissioning procedure.
  - All parties now agreed on test and commissioning requirements.
  - Turner & Townsend procedure issued as a formal document.
  - Procedure now being followed for all tram testing.
- Two additional trams vested with CEC
  - Total of three trams now vested (#252, #276 and #277)
- Information on CAF requirements for Systems Integration Testing provided to BBS – awaiting issue of BBS Systems Integration Plan.

**LOOK AHEAD**

The following items will be progressing during the coming period:

- Workshop arranged (1<sup>st</sup> May 2012) with all stakeholders to develop an Engineering Change Control procedure for Trams – may also be used for changes to Gogar Depot.
- Tram Commissioning Plan;
  - Thirteenth tram (#257) due to be delivered on 4<sup>th</sup> May 2012.
  - Routine Testing scheduled to be completed on three trams in next period.

**Tram Commissioning Progress**



**PHOTOGRAPHS**



Tram arrival at Gogar Depot



Tram Cab



Tram fleet at Gogar Depot

**KEY ISSUES**

**KEY ISSUES**

- Lothian Buses have yet to take full operational responsibility for the Depot. Negotiations are on going with CEC.
- Process required to manage the identification, investigation and rectification of issues raised during tram operation – workshop arranged with all relevant stakeholders (LB, CAF, Turner & Townsend).
- Process for the collection of verification evidence for Milestone Payments has been agreed, but collection of evidence to validate Milestone Payment still difficult – evidence requirements to be agreed monthly in advance, as part of the valuation process.
- Two major technical issues were identified during the period; the incorrect placement of pedals in the cabs of all trams and the detachment of a roof panel on tram 252 - action has been taken to address the immediate risks, with both issues currently being investigated further by CAF.

**OPERATIONAL ISSUES**

- Ticket Vending Machines (TVM's) – Lothian Buses are currently reviewing the contract to complete the procurement. This report is due on the 4<sup>th</sup> of May 2012.

**CEC ACTIONS / DECISIONS**

- Decision to be made on whether Bus Tracker equipment is to be fitted to trams.

**SOFT ANALYSIS**

**SUCCESSES**

- Role of Tram Inspector (Mott MacDonald) now clear. Tram Inspector now attending all Tram commissioning at Gogar Depot
- Tram commissioning now progressing smoothly in accordance with new procedures
- BBS now clear on Tram System Integration requirements for Section B

**OPPORTUNITIES**

- Start system testing and commissioning on completion of Off Street Section (Airport to Shandwick Place crossover) leading to earlier commencement of Revenue Service date (early partial service on Off Street Section and early service on full route)

**FAILURES**

None identified

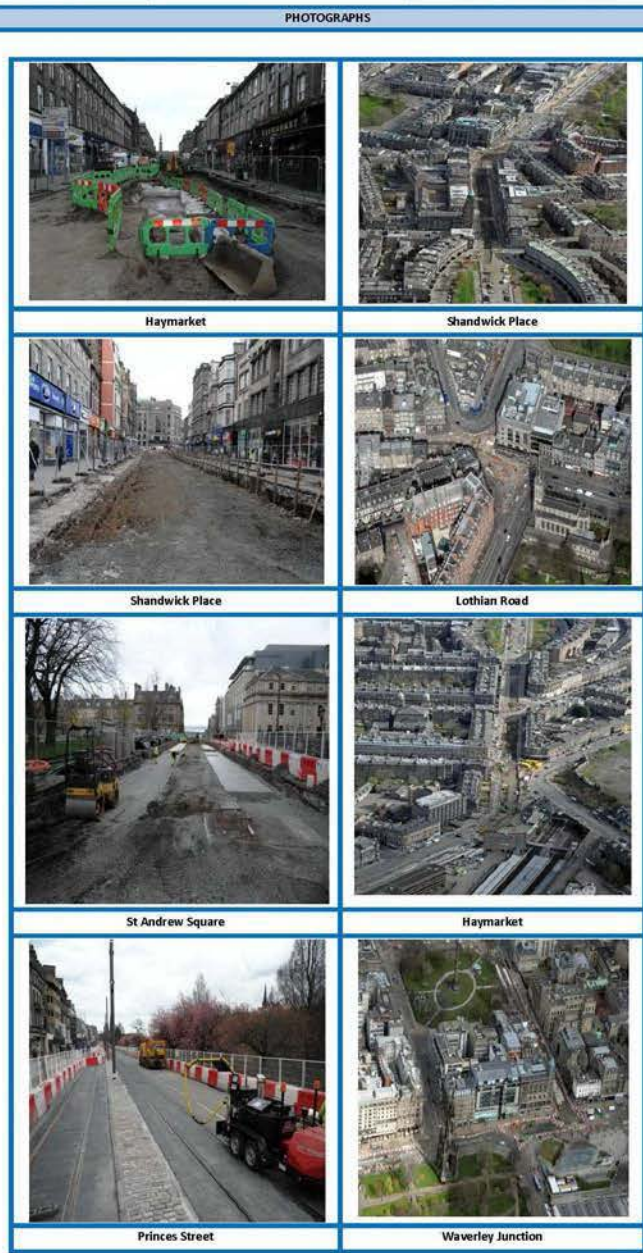
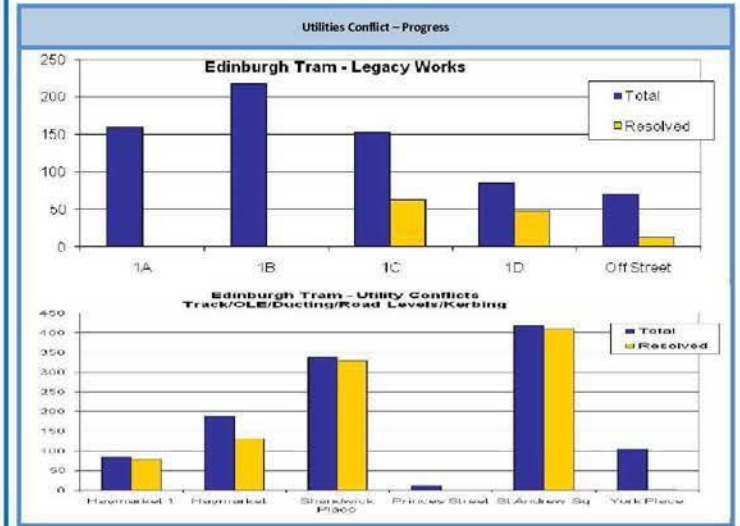
**THREATS**

- Relationship between BBS (primarily Siemens) and CAF needs to be strengthened, to avoid any affect on integration and coordination of testing.
- Need to convert plan to handover responsibility of depot operations from ETL to Lothian Buses
- Valuation process must be managed to ensure evidence is obtained and invoices processed in line with contract requirements

Produced by	Rob Leech & Shirley Collin	SECTION	ON STREET DASHBOARD REPORT CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT	Employer	City of Edinburgh Council	
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park	Address	Waverley Court, Edinburgh, EH8 8BG	
Status	FINAL	Issue Date	09-05-2012	REPORTING PERIOD	24 <sup>th</sup> March to 28 <sup>th</sup> April 2012	
					Project:	Edinburgh Tram Network

PERIOD
<b>PROGRESS</b>
<ol style="list-style-type: none"> <li>Majority of OLE piling works have been completed and Infraco has commenced track slab construction in areas not affected by the drainage redesign.</li> <li>St Andrew Street to Waverley junction has been handed back to Infraco allowing main works to resume and works in Princes Street are due to be completed early ahead of July.</li> <li>Drainage redesign has progressed well and decision was taken to de-scope elements of the drainage works from Infraco to reduce the impact of delay on the overall programme. Track box construction has also been de-scoped in some areas to benefit programme.</li> <li>The commercial impacts of the approach to drainage and track box have been discussed with Infraco and it has been agreed in principle how these matters will be dealt with.</li> <li>Detailed planning of works in York Place has commenced and a number of opportunities have been identified. These include carrying out some works ahead of the October date for closing York Place.</li> <li>The Invitation to Tender for Leith walk legacy works was issued on 30 April on the basis of an amended NEC Option C form of contract.</li> <li>Third party approvals and consents for the Princes Street OLE re-design and York Place single lane running were progressed during the period and permissions were granted by CEC.</li> <li>Work has commenced at Tower Place Bridge and Lindsay Road with works expected to be completed by the end of June.</li> </ol>

LOOK AHEAD
The following items will be progressing during the coming period:
<ol style="list-style-type: none"> <li>Focus will be on completing the drainage works and handing back all sites to Infraco by mid May.</li> <li>Planning at York Place needs to conclude with some works commencing at Cathedral Lane.</li> <li>Turner &amp; Townsend will continue to react to utility discoveries by Infraco and will work with Infraco in planning any "type 2" conflict works not diverted prior to sites being handed back.</li> <li>Work will continue on dealing with legacy works, including issues of the tender for the legacy works north of York Place.</li> <li>Planning approval for Dublin Street Steps will continue to be monitored.</li> <li>Support will be provided to CEC in delivering the Forth Ports remedial works.</li> <li>Close out of commercial issues arising as a consequence of the drainage and track box re-scoping.</li> </ol>



KEY ISSUES
<ol style="list-style-type: none"> <li>McNicholas Safety issues.</li> <li>Infraco drainage connections and finalisation of outstanding commercial/programme issues.</li> <li>Scottish Water relationship generally.</li> <li>Legacy works within tram worksites – Possible delays, categorisation being finalised.</li> <li>Legacy works at North of York Place.</li> </ol>

CEC ACTIONS / DECISIONS
<ol style="list-style-type: none"> <li>Support in obtaining permissions at Dublin Street Steps.</li> <li>Confirmation of approach to programme at York Place.</li> </ol>

SOFT ANALYSIS	
<b>SUCCESSSES</b> <ol style="list-style-type: none"> <li>Working relationships with BBS remains good, particularly on site</li> <li>Speedy reaction to drainage issues</li> </ol>	<b>OPPORTUNITIES</b> <ol style="list-style-type: none"> <li>Optimize revised traffic phasing</li> <li>Close out works at Forth Ports &amp; Lindsay Road</li> <li>Look to accelerate some enabling works in York Place ahead of the October traffic management</li> </ol>
<b>FAILURES</b> <ol style="list-style-type: none"> <li>Carriageway vertical alignment in south St Andrew St</li> <li>SDS OLE design</li> <li>MUDFA design, as built, contract administration &amp; supervision</li> </ol>	<b>THREATS</b> <ol style="list-style-type: none"> <li>McNicholas safety issues</li> <li>Infraco drainage connections although this threat is reducing significantly</li> <li>Legacy works at Leith Walk</li> <li>Legacy works within tram worksites</li> <li>Scottish Water relationship</li> <li>Unknown utilities</li> <li>Approval of Dublin Street Steps</li> <li>Infraco delay to Rev 4 due to utilities</li> <li>Infraco non-conformance in Princes Street</li> </ol>

Produced by	Shirley Mushet & Shirley Collin	SECTION	OFF STREET DASHBOARD REPORT <b>CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT</b>		Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park		Address	Waverley Court, Edinburgh, EH8 8BG
Status	<b>FINAL</b>	Issue Date	09-05-2012	REPORTING PERIOD	24 <sup>th</sup> March to 28 <sup>th</sup> April 2012	Project:
						Edinburgh Tram Network

<b>PROGRESS IN PERIOD</b>	<b>PHOTOS</b>	
---------------------------	---------------	--

**PROGRESS IN PERIOD**

1. Retaining and secant wall construction continued at the Airport.
2. Eastfield Avenue crossing completed.
3. Daily and weekly coordination meetings with the airport continuing.
4. Scottish Gas Networks diversion at Ingliston progressing well.
5. Scottish Power completed the High Voltage diversion to the Ingliston Park and Ride substation.
6. Soil reinforcement of the Gogar landfill continuing.
7. Draft design produced for Edinburgh Gateway.
8. A8 reopened to two lanes of traffic in both directions.
9. Progression of the Gyle Broadway crossing.
10. OHLE mast foundations commenced along Edinburgh Park Corridor.
11. Edinburgh Park station construction continuing.
12. Baird Drive soil reinforced wall continuing.
13. Roseburn Street structures progressing well.
14. W3 wall soil nails complete and bored piling commenced.
15. Interface issue between sewer and piling location at Carricknowe agreed with Scottish Water with the sewer diversion underway.

**LOOK AHEAD**

- The following items will be progressing during the coming period:
1. Secant and retaining wall construction continuing along the Gogar Burn.
  2. Completion of the SGN/NIL diversion.
  3. Continuation of Gogar Landfill earthwork reinforcement.
  4. Continuation of Gyle Broadway crossing and Edinburgh Park Corridor.
  5. Bankhead Drive earthworks and drainage continuing.
  6. Water of Leith centre pier construction continuing with west abutment excavation.
  7. Ground Improvements being undertaken on Murrayfield Corridor S21B and S21C.
  8. Continuation of construction for the Roseburn Structures and Murrayfield Tram Stop.
  9. Installation of bridge beams across Roseburn Street.
  10. Continuation of the Russell Road Retaining walls (W3 and W4).
  11. Equipment to Haymarket substation being installed mid May.
  12. Continuation of the cladding works on Haymarket Viaduct.



**Eastfield Avenue Crossing**



**Edinburgh Park Stop**



**W3 Piling Operations**



**Balgreen Abutment**

**KEY ISSUES**

1. Movement due to piling works at the ScotRail depot and on Network Rail's track assets.
2. Airport have raised concern over the gradients between the two trams lines and that this may affect the operation of their road.
3. Edinburgh Gateway late design change by SDS; king post wall now being progressed.

**CEC ACTIONS / DECISIONS**

1. Close out the temporary buildover at Haymarket.
2. Close out of the wayleave with Scottish Power and Network Rail.
3. Definition from Transport Scotland on equipment to be advanced purchased for Edinburgh Gateway and subsequent approval from CEC.
4. Close out of Asset Protection Agreement.

**SOFT ANALYSIS**

<p><b>SUCCESSSES</b></p> <ol style="list-style-type: none"> <li>1. Signed SGN/NIL wayleave.</li> <li>2. Working with SGN to produce a programme to maintain the completion date for the diversion.</li> <li>3. A8 reopened to two lanes of traffic in both directions.</li> <li>4. Maintaining a good relationship with ScotRail despite damage to their assets.</li> <li>5. There is a good working relationship with Network Rail.</li> <li>6. Off Street BBS and T&amp;T relationship positive.</li> <li>7. Timely installation of HV meters into substations shall save on capacity charge.</li> </ol>	<p><b>OPPORTUNITIES</b></p> <ol style="list-style-type: none"> <li>1. Early diversion of the Edinburgh Gateway sewer.</li> <li>2. OHL masts purchased for the on street section, investigation into whether these can be utilised off street.</li> <li>3. Purchase of the temporary mast maybe negated by using the current aerial within the depot.</li> </ol>
<p><b>FAILURES</b></p> <ol style="list-style-type: none"> <li>1. Continued utility strikes.</li> </ol>	<p><b>THREATS</b></p> <ol style="list-style-type: none"> <li>1. Movement of Network Rail and ScotRail assets may lead to programme and cost implications.</li> <li>2. Eastfield Avenue gradients may be raised as an issue by the airport.</li> </ol>

<b>Produced by</b>	Shirley Collin, Mike Mackenzie & Peter Smith	<b>Function</b>	<b>COMMERCIAL</b> <b>CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT</b>		<b>Employer</b>	City of Edinburgh Council	
<b>Approved by</b>	Gary Easton	<b>Issued By:</b>	Turner & Townsend Project Management Limited 9 Lochside Avenue. Edinburgh Park		<b>Address</b>	Waverley Court, Edinburgh, EH8 8BG	
<b>Status</b>	<b>FINAL</b>	<b>Issue date</b>	09-05-2012	<b>Reporting Period</b>	24 Mar to 28 Apr 2012	<b>Project</b>	Edinburgh Tram Network

SUMMARY				VALUE ENGINEERING		CHANGE			
<b>Reporting Date:</b>	<b>23-Mar-12</b>	<b>28-Apr-12</b>	<b>Movement</b>	<b>Cost Engineering Instructions</b>	<b>£K</b>	<b>BBS On-Street Works Estimate (Period end 31 March) and Commercial Issues</b>			
Original Contract Amount	479,660	479,660	0	Remove embargoes and revised TM	5,892	<b>On - Street</b>	<b>£K</b>		
Add: Approved Changes	72	3,546	-1,032	Setts (separate CEC budget)	1,000	15	Utility conflicts - investigation	20	
Add: Changes in Progress	9,602	9,462	6,009	De-scope public realm at St Andrew Sq	700	25, 72 & 87	OLE foundations resulting from discovery of utilities	699	
Add: Anticipated Changes	15,902	13,917	675	Contributions 3rd Party Agreements	2,870	28	Temporary accommodation for utilities contractor	2	
Less: Funding contributions	-8,699	-8,716	-4,931	De-scope works at Forth Ports	2,440	29	Road re-construction protocol (opportunity to reduce depth)	0	
Less: Opportunities to secure	-7,310	-6,752	0	Omit Airport Tram Kiosk and Canopy	150	30	Additional CBR/Plate testing - ground strength	0	
<b>TOTAL: Forecast cost</b>	<b>489,227</b>	<b>491,117</b>	<b>721</b>	Temporary tram stop at York Place	158	32	Utilities affecting site clearance - disconnect power to bus trackers	-15	
Original Budget	467,407	467,407	0	Redeployment of Trams	CEC	35,79	Utilities contractor affecting Infraco progress	34	
<b>Variance</b>	<b>21,820</b>	<b>23,710</b>	<b>721</b>	Cancel track York Place to Newhaven	1,100	36	BT Fibre Optic affecting progress	85	
<b>Original forecast risk allowance</b>	<b>32,747</b>	<b>32,747</b>	<b>0</b>	Omit Siemens works at Tower Place	100	37	Slit trench to validate utilities	9	
Less: Variance (from above)	-21,820	-23,710	-1,890	Road re-construction depth	700	38	Move 3 OLE foundations (St Johns Church)	12	
<b>Forecast balance of risk allowance</b>	<b>10,927</b>	<b>9,037</b>	<b>-1,890</b>	Design freeze north of York Place	t.b.c	40	Scottish Water diversion Princes St	251	
				Reduced requirement for storage	CEC	43	Christmas embargo - temporary infill Princes St	218	
				Lay off TM at Forth Ports/Leith Walk	t.b.c	44	BT diversion - Princes St (included PMC 040)	Inc	
				Roseburn Viaduct Cladding	300	52	Install Traffic Management early Shandwick and St Andrew sq	163	
				De-scope crew relief facilities	70	68	Utilities affecting track drainage	13	
				Opportunities secured	8,730	69	Geotextile liner to Clifton Terrace void	3	
				<b>Opportunities to secure</b>	<b>6,750</b>		<b>Total On-Street Works Estimate</b>	<b>1,494</b>	
							<b>Off - Street</b>		
							t.b.c	Payment for Utility diversions Off Street outwith BBS's scope	340
							61	Temporary footpath and drainage - Roseburn Viaduct	30
							t.b.c.	Low voltage supplies to Airport Tramstop cabinet	30
								<b>General</b>	
								Rev3A to Rev 4 programme - evidence of delay costs (BB only, Siemens t.b.c)	800
								<b>TOTAL</b>	<b>2,494</b>

1. Embargoes and TM - subject to actual time saving vs 22 weeks, current position 22.1 weeks however programme requirement for utilities diversions in York Place under review.
2. York Place Tramstop - design principles established, cost check in progress
3. Road reconstruction depth - McNicholas undertaking track box and tram ducting excavation. Residual saving from not reconstructing existing road way being established.

**RISK - Significant Movement in Period (Mar/Apr 12):**

Risk ID	Risk Description	Old Level	Movement	New Level	Comments
R034	Delayed NR approvals as applicable	RED	Time Impact reduction	RED	Time impact mitigated down so reduction from 4 to 3. NR co-operating within specified time frames and Relationship improved in recent weeks
ED074	Design approvals milestones are not met in line with rev4 programme and construction is delayed as a consequence	RED	↓	AMBER	Reduced as project de-scopes
ED112	Discovery of old Tram tracks and equipment	RED	↓	AMBER	Time and cost impacts not as high as initially assessed
ED084	Late 3rd party claims for utility/property damages from works	RED	↓	AMBER	Reducing as works progress (Not a top Red risk)
R032	Utilities encountered during BBS Construction Works	AMBER	Merged	CLOSED	Merged with ED072
ED063	Scotrail stop works at depot	AMBER	Probability Increased	AMBER	Probability raised to 3 as Scotrail have again voiced concerns over working practices around the depot.
R066	Approval/consent for remaining wayleaves associated with Scottish Power works	AMBER	Probability Increased	AMBER	Probability raised to 3 due to SP wayleave issue at Haymarket
R021	Industrial Action	GREEN	↑	AMBER	Fuel Strikes forecast, potential to cause disruption. Probability Increased
R041	Approval of plans for Edinburgh Gateway.	RED	Potential	RED	Once full approval received this risk will dramatically decrease and possibly close. Potential opportunity to save time on current plan.
ED115 (New)	Risk that the scope and extent of the Leith walk utility works will increase	NEW	NEW	RED	

1. Drainage - Infraco consider that Scottish Water have changed the approvals process and papers have been submitted to the Independent Certifier for determination.
2. Utility diversions Off - Street: Infraco consider SGN diversion is out of scope and a compromise is required since additional costs have also been incurred for other diversions.
3. LV supplies to Tramstop Cabinets - Infraco considers that as these were excluded from the price submitted at mediation, however it is not a Settlement Agreement exclusion.
4. Rev3A to Rev 4 programme delay 2nd September to 3rd of October - further evidence required to demonstrate cost incurred, Infraco consider that Independent Certifiers opinion authorises costs submitted in full i.e. £4.5M

## Appendix 2 – Health, Safety & Environment

### **Deliver the Tram Safely / Deliver a safe Tram**

### 1.0 Executive Summary

- Independent Competent Person (ICP) – 1 open Advice of Non Compliance (ANC), RFO 021 closed during period; RFI 022 raised during the period.
- A number of Requirements Management workshops have now taken place – Verification and Validation method now agreed for 83% of the requirements.
- Record of Review for the Section A handover documentation to be issued to BBS 27/4/12
- **Signalling & Traffic** - Reversing Strategy – the design has now been considered by all parties. Report to be updated and presented to the ICP at the next ICP liaison meeting on the 9<sup>th</sup> May 2012
- **OLE Building Fixings** - All locations have now been agreed and consultations have taken place with the property owners, Now agreed.
- **NCR's** - 23 NCRs were raised during the period and 18 NCRs were closed out during the period.

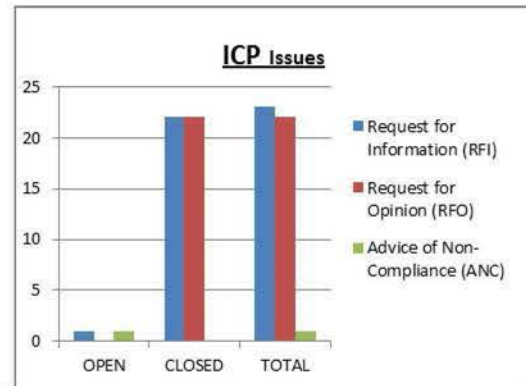
### 2.0 Safety Verification Scheme (SVS)

#### System Assurance

- SVS Audit (Maintenance SMS) was carried out at the depot 19<sup>th</sup> April 2012. Evidence is currently being reviewed and a report will be issued during the next period.
- Evidence File - Currently no information is being uploaded to the evidence file as the section 6 information has not been transferred over to the new SharePoint site.
- A Record of Review of the Section A handover documents will be sent to BBS 27/4/2012.
- A number of requirements management workshops have now taken place with good progress being made towards agreeing the Verification and Validation method for each requirement. Process is now 85% complete
- Next SVS Audit TSA 12/002 Scheduled for 30<sup>th</sup> May 2012 – Section 5 Electrocution Sub Station Earthing and Bonding failure Jenners.

#### ICP Issues

- PSCC meeting held 11<sup>th</sup> April 2012, next PSCC meeting to be held 6<sup>th</sup> June 2012
- Next ICP Liaison meeting to be held 9<sup>th</sup> May 2012 – 3 topics Reversing Strategy; Change Management and Requirements Management
- RFO 021 was closed during the period
- A new RFI; RFI 022 was raised during the period regarding measurements of the OLE poles potentially infringing the DKE.



### 3.0 BBS Design Construction and T&C Assurance

#### Electromagnetic Compatibility (EMC)

- No EMC issues to report this period

#### Trackform

- A survey has been undertaken of the rail and concrete levels along Princes Street to quantify the differences in levels across the trackform. A report is due to be issued week commencing the 30<sup>th</sup> of April.

#### OLE Building Fixings

- Locations of additional building fixings at Princess Street now agreed. Consultations have taken place with property owners; Agreements now in place.

#### Signalling and Traffic signals

- Reversing Strategy – the design has now been considered by all parties. Report to be updated and presented to the ICP at the next ICP liaison meeting on the 9<sup>th</sup> May 2012
- Meetings held to agree preferred option for communication connections between UTC, Junctions and the control Room with fail over. Integrated solution discussed which will look at the most cost effective data provision for CCTV and Emergency fall back provision at Annandale Street as well. Meeting has been held with BT, CEC and BBS to agree connections, formal proposal now expected from BBS.

#### SCADA and Comms

- No issues to report this period.



## Project Report – Period 1

### 4.0 Operator/Maintainer Safety Management System (inc. T&C)

- Depot and mini-test track operations continue. 12 vehicles have now been delivered and are undergoing static and dynamic testing.
- Edinburgh Trams and CAF have introduced a forum to track and close out vehicle design, construction, ergonomic and driver familiarisation issues which are emerging during this testing.
- A protocol for visitors to the depot has been introduced, which has taken into account the comments of other project partners.
- Current procedures for depot work safety assessments, access and isolation permits and movement control are under review to ensure the safety and security risks continue to be robustly controlled, but with the minimum amount of bureaucracy and inconvenience.
- An operations, recruitment and training plan for test track operations to the airport has been produced. This also details the infrastructure, systems and vehicle functionality required for safe and efficient test operations and identifies key tasks, including safety verification, advice of energisation and liaison with key stakeholders and regulators.
- Familiarisation visits for the emergency services continue, as do schools liaison and road safety partnership visits.
- A successful visit from HMRI and the ICP took place on the 22<sup>nd</sup> March.
- A Safety Management Group has been set up involving the maintenance and operations teams from Edinburgh Trams, Siemens, CAF and Bilfinger Berger.
- The Quality Management System, Maintenance Management System and Testing and Commissioning Plan have been reviewed and updated to reflect the transfer of responsibility for operations from Edinburgh Trams Ltd. to Edinburgh Trams as part of Lothian Buses. Other key documents, such as those covering Work on or Near the Tramway and System Assurance, are under review to ensure they reflect the requirements of the emerging organisation.

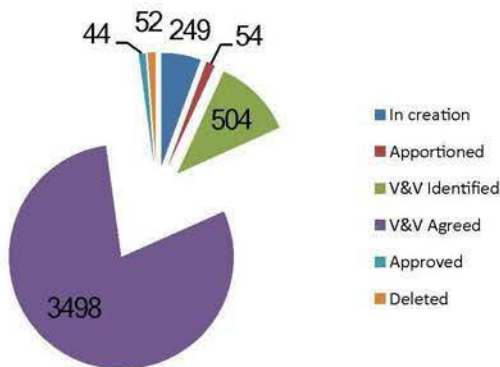
### 5.0 Metrics

- No progress to report during period

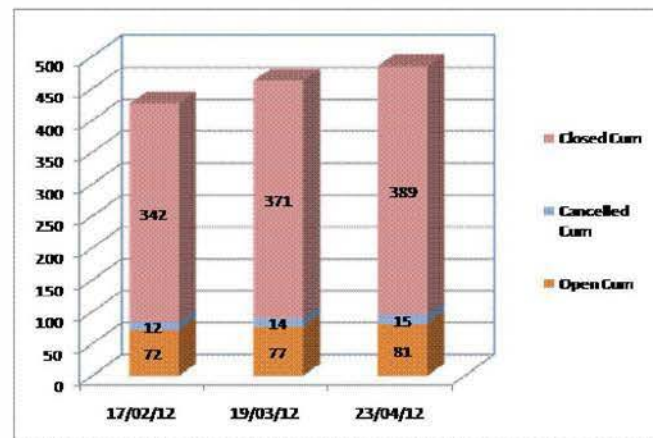
### 6.0 NCR's

- Total No of NCRs raised is 485.
- 23 NCRs were raised during the period and 18 NCRs were closed out during the period.
- 13 no open NCRs are greater than 6 months old.

### Requirements Management Progress



### Non Conformance Reports (NCR)



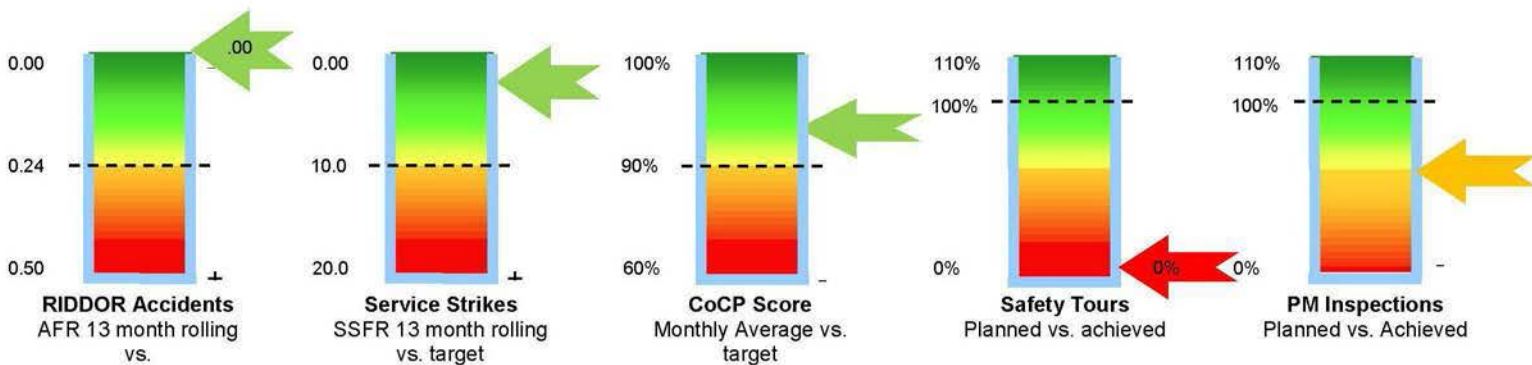
### 7.0 Deliver a Safe Tram – Required Action

- Record of review on section A handover to be issued to BBS 27/4/2012
- Metrics inspections QM73 and QM 78 to be progressed to closure.
- Next ICP liaison meeting to be held 9<sup>th</sup> May 2012, 3 subjects – reversing strategy; change management and requirements management.

## Project Report – Period 1

### HS&E ACCIDENTS and INCIDENTS SUMMARY

Total	Total Hours	>3 day	Major	Injury	NM/Unsafe Condition	Service Damage	ENV	RTA	MOP	AFR	SFR
Period	128,148	0	0	1	8	3	0	0	2	0.00	2.34
13 period rolling	1,054,193	0	0	13	78	41	6	0	13	0.00	3.89
<b>INFRACO</b>											
Period	87,680	0	0	1	4	2	0	0	1	0.00	2.28
13 period rolling	799,989	0	0	13	53	23	6	0	10	0.00	2.88
<b>OTHER TRAM</b>											
Period	27,344	0	0	0	4	1	0	0	1	0.00	3.66
13 period rolling	102,080	0	0	0	24	18	0	0	3	0.00	17.63



### EXECUTIVE SUMMARY

- There were 2 serious / significant incidents involving member of public incidents since the issue of the last DtTS Report . Both involved a persons tripping or slipping at temporary walkways around construction sites.
- There were 3 other serious / significant incidents. 2 involved LV service strikes and 1 involved a breach of DOMS documentation procedures on Scottish Water works.
- There were 17 other incidents ( 1 member of public incident, 7 service damages, 2 minor injuries, 10 near miss/unsafe conditions) See Appendix A for details.
- The rolling 13 Period AFR remains at 0.00, better than the benchmark KPI of 0.23 for the project.
- CoCP compliance was recorded at 93% during Period 1
- 57% of planned PM joint inspections have been carried out during Period 1.
- 0% of planned safety tours were carried out during Period 1.

## Project Report – Period 1

### HS&E INSPECTIONS SUMMARY (a summary of significant inspection findings can be found in appendix B)

Project Running Totals	HS&E Tours (Directors)	HS&E PM Inspection
Number planned	1	7
Number achieved	0	4

### HSQ&E KEY ACHIEVEMENTS

- The rolling 13 Period AFR remains at 0.00, better than the benchmark KPI of 0.23 for the project.

### Key Issues – Points to Note

- The 'Think before you act' session has been agreed with CEC and planned for 10<sup>th</sup> May 2012. It is anticipated that all the senior managers from the Edinburgh tram project will participate in this initiative.
- The Turner & Townsend Project Delivery Safety Meeting was held on the 25<sup>th</sup> April, a renewed emphasis was placed on the joint monitoring being undertaken on the project, to strengthen the project safety culture.

### ENVIRONMENTAL SUMMARY

*List any significant environmental events, initiatives, breaches etc*

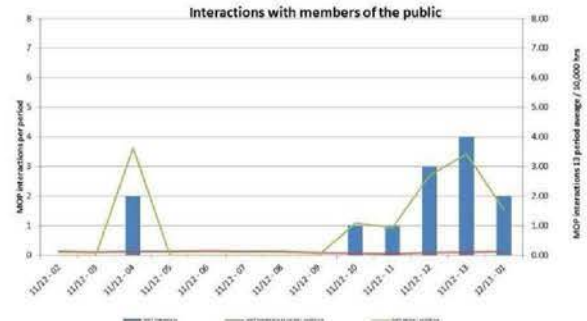
- BBS currently having on-going discussions with SEPA re soil movements. Meeting was held on 27<sup>th</sup> April 2012, it was agreed at this meeting that further testing was required.
- Joint environmental inspection carried out with BBS and Turner & Townsend at the Coffey site section 5. Issues regarding waste and drip trays raised, report to be issued.
- BBS Environmental Forum held on 25th April 2012. Representative from all of BBS's contractors present. Review of Non Conformances raised by BBS's external auditors, relating to cross contamination of waste, European waste codes, waste duty of care, diesel leaks and oil storage.
- Inspection of monuments currently held in storage by Land Engineering to be inspected by Turner & Townsend and CEC week commencing 7<sup>th</sup> May 2012.

## Project Report – Period 1

### MEMBER OF PUBLIC INTERACTION SUMMARY

List any significant interactions with members of the public, including RTA's, alleged incidents

There were two reported Member of Public incidents during Period 1. One involved a woman slipping on a metal plate forming part of the pedestrian diversion route around the McNicholas site at Princes Street. There is an insurance claim associated with this alleged occurrence. The other incident involved damage to a woman's bag when a pole was allowed to fall during relocation of a bus stop at Haymarket by Class One. This incident also involves an insurance claim.

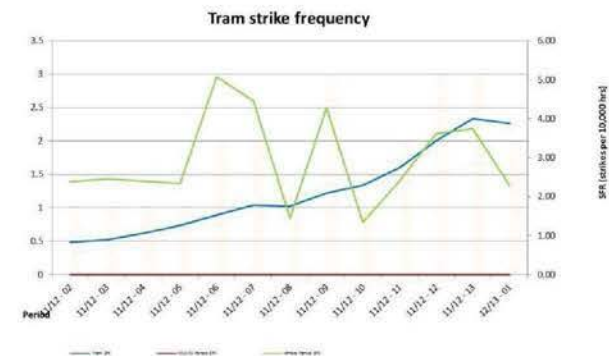
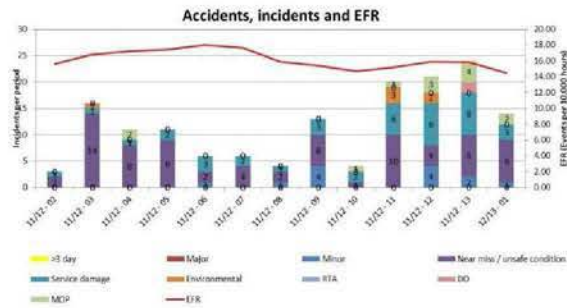


### CDM Compliance

List any significant quality events, initiatives, breaches etc

- The Turner and Townsend safety team have been working closely with the On street procurement team to provide Pre construction information for the Leith Utility works tender over the last period.

### GRAPHS



## Project Report – Period 1

### APPENDIX A

There were 26 incidents in total since the issue of the last DtTS report. Of these 5 were classified as serious / significant and details are provided below:-

#### Significant Incidents

AIIR Ref:	1640	Contractor:	McNicholas		
Location:	South St Andrew Street				
Project:	Utility works	Date & Time:	26/03/12 15:15		
Sub Contractor:		Contractor Reference:			
Project Manager:	Stephen Lewcock	Is the accident / incident Serious / Significant or Major?	Yes	No	
			X		
Description:	Damage to live LV cable that was located within an unused Virgin Media cable duct.				
Action taken by Contractor:	Scottish Power called to site. Power restored at 19:30.				
Action taken by Project Team (if required):	Formal review of investigation findings and recommendations to prevent recurrence.				

AIIR Ref:	1643	Contractor:	Crummock		
Location:	Princes Street / Shandwick Place				
Project:	Infracore	Date & Time:	19/02/12 19:06		
Sub Contractor:		Contractor Reference:	CEC Claim, A-9458CCL		
Project Manager:	Stephen Lewcock	Is the accident / incident Serious / Significant or Major?	Yes	No	
				X	
Description:	Member of Public fell tripped on steel plate on temporary walkway.				
Action taken by Contractor:	Repairs made to footpath surface.				
Action taken by Project Team (if required):	Formal review of investigation findings and recommendations to prevent recurrence.				

## Project Report – Period 1

AIIR Ref:	1644	Contractor:	Farrans		
Location:	Eastfield Avenue				
Project:	Infraco	Date & Time:	30/03/12 08:00		
Sub Contractor:		Contractor Reference:			
Project Manager:	Cath Leech	Is the accident / incident Serious / Significant or Major?	Yes X	No	
Description:	Damage to a LV cable that supplied power to the gas governor at Edinburgh Airport.				
Action taken by Contractor:	BAA and Scottish Power notified.				
Action taken by Project Team (if required):	Meetings held with BAA, Bilfinger Berger & Turner & Townsend. Formal review of investigation findings and recommendations to prevent recurrence.				

AIIR Ref:	1645	Contractor:	McNicholas		
Location:	South St Andrew Street				
Project:	Utility works	Date & Time:	29/03/12		
Sub Contractor:		Contractor Reference:			
Project Manager:	Andy Scott	Is the accident / incident Serious / Significant or Major?	Yes X	No	
Description:	Breach of DOMS documentation regarding the Go Live Pack for a 90mm main.				
Action taken by Contractor:	Meeting to be held on 02/04/12 AM to review issues and identify what went wrong with the testing / sampling procedures.				
Action taken by Project Team (if required):	Formal review of investigation findings and recommendations to prevent recurrence.				



## Project Report – Period 1

AIIR Ref:	1654	Contractor:	McNicholas	
Location:	Princes Street			
Project:	Utility Works	Date & Time:	06/04/12 11:25	
Sub Contractor:		Contractor Reference:		
Project Manager:	Stephen Lewcock	Is the accident / incident Serious / Significant or Major?	Yes	No X
Description:	MOP was injured when she slipped on a metal plate forming part of the pedestrian diversion route.			
Action taken by Contractor:	Investigation of pedestrian route – not able to locate metal plate, only covers to chambers.			
Action taken by Project Team (if required):	Formal review of investigation findings and recommendations to prevent recurrence.			

## Project Report – Period 1

### APPENDIX A (Continued)

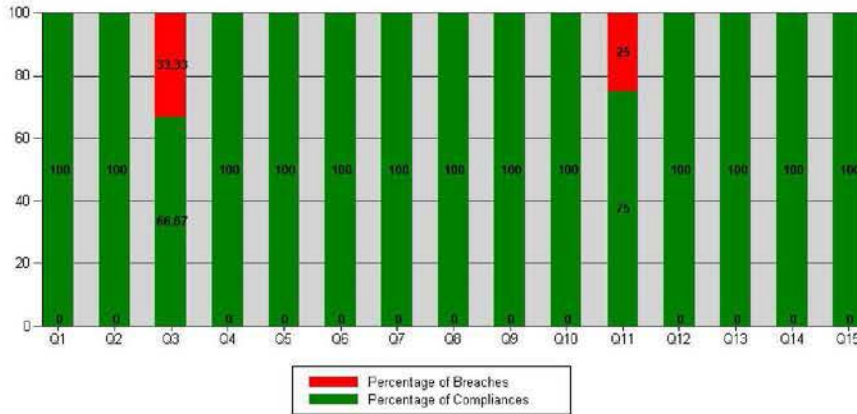
#### Other Incidents since last DtTS report

Date	Location	Detail	Contractor	Classification
27/03/2012	Princes Street	Damage to a stone coping that covered a buried manhole.	Lagan Construction	Service damage
13/04/2012	West Maitland Street	Damage to a domestic water supply for 3 West Maitland Street	McNicholas	Service damage
17/04/2012	Haymarket Yards	Disconnected BT cable was crushed.	Grahams	Service damage
26/04/2012	Gyle	Damage to street lighting cable.	Coffey	Service damage
25/04/2012	St Andrew Square	Construction of a Scottish Water manhole without ATC process being followed.	McNicholas	Service damage
12/04/2012	Haymarket	During relocation of a bus stop a pole was allowed to fall damaging a MoP's bag.	BBS / Class One	Member of the public
21/03/2012	Bankhead Drive	Operative whilst denailing wooden travellers slipped and fell forward causing a cut to his nose from a duct box.	Crummock	Minor injury
25/04/2012	Haymarket Yards	Electric shock due to contact with disconnected street lighting cable that was directly beneath paving slab.	Grahams	Minor injury
26/03/2012	Bankhead Drive	Graffiti drawn on the external wall to the substation building.	Siemens	Near miss / Unsafe condition
30/03/2012	Roseburn Street	Access into manhole for CCTV survey without ATC being in place.	Grahams	Near miss / Unsafe condition
02/04/2012	Balgreen Rd - Carrick Knowe	Theft of a band saw	Land & Building	Near miss / Unsafe condition
16/04/2012	Carrick Knowe	Arson event at Carrick Knowe. Dozer set on fire.	Bilfinger Berger	Near miss / Unsafe condition
20/04/2012	Carrick Knowe	An excavator was broken into and damaged on site.	Crummock	Near miss / Unsafe condition
19/04/2012	Shandwick Place	Generator within site accommodation was left running out of site working hours.	McNicholas	Near miss / Unsafe condition
20/03/2012	ScotRail Depot	A lorry moved across the pedestrian access path directly in front of ScotRail persons. No warning was given and no banksman was visible.	Expanded	Near miss / Unsafe condition
03/04/2012	Waveley Bridge	Temporary traffic lights at Waverley bridge were stuck on red.	Crummock	Near miss / Unsafe condition
06/04/2012	Princes Street	Reported that the service lane on Princes Street was too narrow at the locations where work was being carried out on BT chambers.	Crummock	Near miss / Unsafe condition

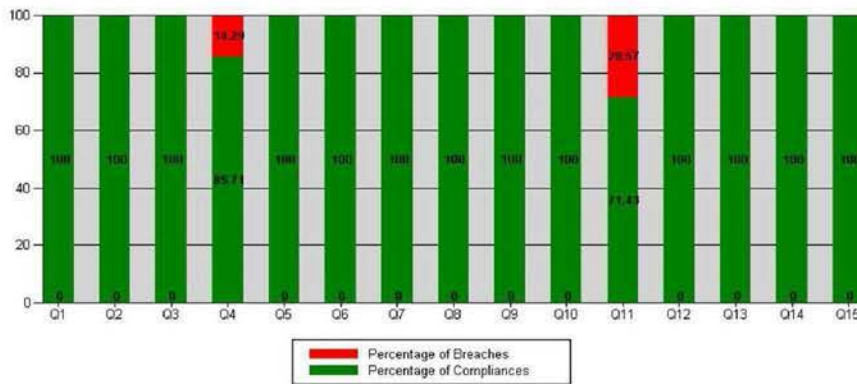
## Project Report – Period 1

### APPENDIX B – COCP INSPECTIONS

#### Period 13 (previous period)



#### Period 1



Q3. Notices
Q4. Fencing and Hoarding
Q5. Noise
Q6. Waste Management
Q7. Waste Water and Run-Off
Q8. Water
Q9. Emergency Access
Q10. Parking
Q11. Litter and general housekeeping
Q12. Dust
Q13. Smoking
Q14. Members of the Public
Q15. PPE and Behaviours

## Project Report – Period 1

### Summary of issues and action taken

No	Date of Inspection	Location	Contractor	Question Number	Issue detail	Action taken or required to be taken by contractor	Date to rectify or rectified
1	13/04/12	Murray field	BBS/ Grahams	11	Fuel depot yard required to be cleaned.	Yard cleaned by roadsweeper on day of inspection.	Closed 13/04/12
2	19/04/12	Airport	BBS/ Expanded	4	Hoarding repair required.	Hoarding re-erected by Expanded	Closed 19/04/12
3	20/04/12	Russell Road	BBS/ Grahams	11	Pavement area required to be cleaned after fencing move.	Pavement swept by Grahams on day of inspection.	Closed 20/04/12



## Appendix 3 – Cost Report and Contingency Analysis

**Section 1 - Project Summary**

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals		
	A	B	C = A+B	D	E	F = D+E	G	H	I	J	K = F+G+H+I+J	L	M = K - L	N = M - C	O = M / C - 1	P	Q	
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Mitigated	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	COWD to Date	Outstanding Amount	
<b>Edinburgh Tram Programme</b>	500,154	0	500,154	479,660	3,546	483,206	9,462	13,917	-6,752	9,037	508,870	-8,716	500,154	0	0%	338,581	144,625	
1 Infraco - Off Street	360,060	-2,525	357,535	362,501	-2,525	359,976	9,795	30	0	0	369,801	-7,183	362,618	5,083	1%	268,234	91,742	
2 Infraco - On Street	38,817	1,205	40,022	47,384	1,205	48,589	-333	3,048	-6,752	0	44,552	-1,533	43,019	2,997	7%	8,482	40,107	
3 Infraco - Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0%	662	2,556	
4.1 Utilities (Post Mediation)	1,812	5,461	7,273	1,812	5,461	7,273	0	7,385	0	0	14,658		14,658	7,385	102%	4,628	2,645	
4.2 Legacy Utilities (Revised Tram Route)	0	500	500	0	500	500	0	754	0	0	1,254		1,254	754	151%	404	96	
4.3 Legacy Utilities (Leith Walk)	1,100	-1,100	0	1,100	-1,100	0	0	2,700	0	0	2,700		2,700	2,700		0	0	
5 Tram vehicles	62,400	5	62,405	63,645	5	63,650	0		0	0	63,650		63,650	1,245	2%	56,171	7,479	
6 Project Management (refer to CEC Report)		0	0			0					0		0	0				
7 Preparing for Operations (refer to CEC Report)		0	0			0					0		0	0				
8 Specified Risk Allowance	32,747	-3,546	29,201	0	0	0	0			9,037	9,037		9,037	-20,164	-69%	0	0	

**Comments:**  
Report excludes Enabling work packages reported under T19 and utilities reported under T18  
Contributions include amounts relevant to reported budgets only. Any further contributions are reported by CEC.

**Risk:**  
The specified risk allowance is adjusted to match the forecast with the budget. This will be updated once a full QSRA and QCRA is completed

**Actions**  
QCRA and QSRA required to inform the amended risk allowance





**Infracost Report Section 1 - Commercial Summary**

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals	
	A	B	C = A + B	D	E	F = D + E	G	H	I	J	K = F + G + H + I + J	L	M = K - L	N = M - C	O = M / C - 1	P	Q
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Provision	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	COWD to Date	Outstanding Amount
Infracost Contract	402,095	-1,320	400,775	413,103	-1,320	411,783	9,462	3,078	-6,752	0	417,571	-8,716	408,855	8,080	4.19%	277,378	134,405
Off Street	360,060	-2,525	357,535	362,501	-2,525	359,976	9,795	30	0	0	369,801	-7,183	362,618	5,083	3.43%	268,234	91,742
00 Preliminaries and Other Items	150,408	317	150,725	150,409	317	150,726	4,541	0			155,267	0	155,267	4,542	3.01%	108,467	42,259
01 Newhaven Road to Haymarket	85,368	-2,579	82,789	87,738	-2,579	85,159	355	0			85,514	-318	85,196	2,407	3.29%	86,517	-1,358
02 Haymarket Corridor	8,692	-8	8,684	8,692	-8	8,684	0	0			8,684	-13	8,671	-13	0.00%	5,662	3,022
05 Roseburn Junction to Gogar	80,035	-153	79,882	80,105	-153	79,952	4,789	30			84,771	-5,812	78,959	-923	6.12%	39,277	40,675
06 Depot	19,979	190	20,169	19,979	190	20,169	80	0			20,249	0	20,249	80	0.40%	18,543	1,626
07 Gogar to Edinburgh Airport	15,578	-292	15,286	15,578	-292	15,286	30	0			15,316	-1,040	14,276	-1,010	0.20%	9,768	5,518
On Street	38,817	1,205	40,022	47,384	1,205	48,589	-333	3,048	-6,752	0	44,552	-1,533	43,019	2,997	11.32%	8,482	40,107
00 Preliminaries and Other Items	21,837	87	21,924	21,837	87	21,924	42	0			21,966	0	21,966	42	0.19%	5,163	16,761
01 Newhaven Road to Haymarket	16,980	1,118	18,098	25,547	1,118	26,665	-375	3,048	-6,752		22,586	-1,533	21,053	2,955	24.80%	3,319	23,346
Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0.00%	662	2,556
00 Maintenance & Mobilisation	2,205	0	2,205	2,205	0	2,205	0	0			2,205	0	2,205	0	0.00%	662	1,543
00 Spare Parts	1,013	0	1,013	1,013	0	1,013	0	0			1,013	0	1,013	0	0.00%	0	1,013

**Comments:**

Summary sheet values in £k. All other sheet values in £.  
 Opportunities include for time saving based on current QSRA.  
 Excludes £3.2m phase 1b payment (refer to budget T19.C)

**Risk**

Refer to Risk register for risks identified against infraco programme  
 All risk is held at programme level. This section of the cost report makes no allowance for risk.  
 Refer to the outputs of the QCRA/QSRA for further information on risk.

**Actions**

## Infracost Report Section 2A - Approved Change - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
501	Hawthornevale Cycle Link - Change the design to widen the footway alongside the south side of Lindsay Road	20,021	20,021	0		01	01
502	Amend the design of Ocean Drive to reinstate the footpath to the north of Ocean Drive	10,231	10,231	0		01	01
503	OLE temporary portals at depot access bridge to allow finalisation without Edinburgh Gateway	67,646	67,646	0	Edinburgh Gateway funding	05	01
504	Review of the banned right turn into Blenheim Place as part of the design for Section 1C2 roads	46,247	46,247	0		01	01
505	York Place Terminal Point - Production of a feasibility report, initial feasibility design for option ii), run time modelling etc.	228,653	228,653	0		01	01
506	Design for providing a new cycleway from the Mound to Princes Street	9,437	9,437	0		01	01
506.1	Design for providing a new cycleway from the Mound to Princes Street	1,669	1,669	0		01	01
507	Provide a clarification report and completion of the St. Andrew's Square Public Realm design	133,075	133,075	0	Included within contributions	01	01
508	Obtain EAL approval for the highways design drawings at Eastfield Avenue tram crossing	10,025	10,025	0		07	01
509	Design of Cathedral Lane Substation	233,596	233,596	0		01	01
511	Storm Water Connection from Gogar Lodge to the landowners new septic tank	5,750	5,750	0		05	08
512	Re-design of Ocean Terminal Bypass Road	53,685	53,685	0		01	01
513	Revised design to minimise utility diversions / conflicts - used for slit trenching and trial holes	156,870	156,870	0		01	08
514	Utility Mapping	92,756	92,756	0	Time chargeable costs. L&M Surveys and Class One. Complete	01	08
516	Additional Water main requirement at Depot and Mini Test Track	51,282	51,282	0		06	08
517	Additional BT Ducts at Depot and Mini Test Track	2,996	2,996	0		06	08
520	Valve chamber access and alteration works to 800mm water main at the Depot	105,326	105,326	0		06	08
526	Airport to Gyle - Tram Delivery Temporary Works	6,878	6,878	0		07	08
529	Design Gogar Castle Access Road tram crossing and approaches	31,308	31,308	0		05	08
530	Amend the design of the Depot Road turning head as per RDC191. Option 2	30,458	30,458	0		06	08

## Infracost Report Section 2A - Approved Change - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
531	Edinburgh Gateway - Advance Temporary Works design	9,349	9,349	0		05	08
534	SP Insurance Ducts - Install Insurance ducts at various locations	5,637	5,637	0	Liability for change still to be agreed	07	08
536	System Wide - Tramstop Cabinets - reduction in 10 years maintenance liability	0	0	0	No saving to contract	01	08
538	Depot - Tramwash Continuous Mode - Requirement for additional hand lances washers	0	0	0	Change rejected - included within contract	06	08
540	Section 7 - Plot 304 - Omit Landscaping works	-201,120	-201,120	0		07	08
544	Extension to Edinburgh Park Office to accommodate CEC / Transport Scotland	159,900	159,900	0		00	08
550	Shandwick Place OLE & Landscape Design Revision	0	0	0	Costs included in other tNCs for design work	01	08
553	SDS to provide the services of Matt Fell until end March 2012	69,131	69,131	0		00	01
558	Site Wide - Provision of a CAD Technician	1,693	1,693	0		01	08
559	Detailed Design of York Place	56,438	56,438	0	tnc issued - awaiting BBS estimate	01	08
561	Omit all works at the Forth Ports area	-2,443,000	-2,443,000	0	Work deleted from scope.	01	08
562	On Street Generally - OLE Design Changes for On Street Section (PMC 045) - SIEMENS DESIGN WORKS	20,000	20,000	0	All design costs to be grouped under tnc 562 (BBS PMC 045)	01	08
563	On Street - Amend pile caps from square / rectangular to circular	5,000	5,000	0	All design costs to be grouped under tnc 562 (BBS PMC 045)	01	08
564	On Street Generally - Worksite Modelling - TNC & TCO (531) WITHDRAWN 12.1.12	10,000	10,000	0		01	08
565	Advanced design works for Edinburgh Gateway Minimum Option	2,650	2,650	0		05	08
565.1	Advanced design works for Edinburgh Gateway Minimum Option	3,350	3,350	0		05	08
566	On Street Generally - Ducting Design Changes Due to Utilities Conflicts	10,000	10,000	0		00	08
567	On Street Generally - Drainage Design Changes Due to Utilities Conflicts	10,000	10,000	0		00	08
568	On Street Generally - Trackform Design Changes Due to Utilities Conflicts	10,000	10,000	0		00	08

## Infracost Report Section 2A - Approved Change - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
569	Additional Running Costs associated with the extension to the Edinburgh Park offices	79,200	79,200	0		00	08
572	Cathedral Lane Substation - Retaining Wall Design	31,013	5,000	26,013	Value based on submitted estimate from BBS	01	08
574	Haymarket Station - Delete viaduct cladding	-10,000	-10,000	0		02	08
576	Depot - Reinstatement to 250mm Water main Remedial Works	36,788	36,788	0		07	04
577	Haymarket Viaduct - Deletion of Sub Station Retaining Wall and Plinth	1,580	1,580	0		02	08
578	SI Provisional Sum Allowance	-57,984	-57,984	0		01	08
580	Cancellation of trackwork materials York Place to Newhaven	-1,100,000	-1,100,000	0	Change resulting from value engineering exercise	01	08
581	Omit Siemens work to Tower Place and Victoria Dock bridges	-100,000	-100,000	0	Change resulting from value engineering exercise	01	08
582	Delete proposed cladding installation costs on Roseburn Viaduct Structures	-308,004	-308,004	0	Change resulting from value engineering exercise	05	08
585	Descoping of Service Vehicle	-21,565	-21,565	0		00	08
589	Descoping airport tramstop kiosk and canopy	-150,000	-150,000	0		07	08
591	Diversion of Scottish Power Cable at Haymarket Viaduct	21,789	50,000	-28,211	NR contribution	05	08
597	Section 1D - Omit disconnection of Bus Tracker	-14,928	-14,928	0		01	08
602	Omit purchase of poles for PIDs North of York Place	-23,740	-23,740	0		01	08
613	Temporary Bus Station at St Andrew Square/Waterloo Place - design	50,000	0	50,000		01	08
615	Haymarket Viaduct - design wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	3,000	0	3,000		05	08
616	Haymarket Viaduct - construct wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	10,000	0	10,000		05	08
617	Tram stops branding changes. Requirement for etched glass to be confirmed	0	0	0	Value TBC	05	08
<b>Total</b>		<b>-2,525,913</b>	<b>-2,586,715</b>	<b>60,802</b>			



## Infraco Cost Report Section 3A - Change in Progress - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
524	Airport to Gyle - NIL Design Finalisation (also includes Construction)	30,000	30,000	0		07	01
525	Airport to Gyle - Site Access for Remedial Works	0	0	0	all costs associated with this change allocated to TNC 576	07	08
527	Ingliston - Reimbursement of Costs paid directly to SGN for the diversion of approximately 120m of 10" steel IP gas main to accommodate the new Edinburgh Tram at Ingliston	0	0	0	Saving from Infraco, not included during the period as cost not shown in utility budget	07	04
539	System Wide - Delay in signing - impact on commencement and completion	4,541,161	4,541,161	0	Meeting scheduled to review cost incurred at delay commencement	00	02
541	Princes Street - City Chamber - Annandale Street Communication Links. Usage of CEC available BT-Lines to avoid provision of direct FO link from Princes Street to City Chambers	50,000	50,000	0	Allowance for ducting	01	08
555	Haymarket - OLE 196B design revision to avoid main sewer	10,000	10,000	0		01	08
556	Track Work Materials York Place to Newhaven - Price Fixing for Rheda City C and D	0	0	0	Included in VE register	01	12
557	Haymarket 1 - OLE Base Relocations (Design mods)	100,000	55,000	45,000	All design costs to be grouped under tnc 562 (BBS PMC 045)	01	08
571	Hope Street Junction Design	5,000	5,000	0		01	08
573	Roseburn Delta - Non DDA Compliant Footpath	0	0	0	TNC covers design only. Costs associated with this change included in the anticipated change section	05	08
575	Haymarket Station - Take Down Viaduct Staircase and Parapet. TNC now withdrawn - Network Rail carrying out work	0	121,315	-121,315	Verbal update - NR have indicated that they will remove the staircase and parapet in Haymarket contract. Current cost report allowance offset by contribution (cost neutral).	02	08
586	St Andrew Square - tie in detail	30,000	30,000	0	Change resulting from value engineering exercise	01	08
587	Revise design for amendments to setts areas and specification	30,000	30,000	0	Subject to separate CEC budget?	01	08
592	Haymarket Yards - Realign kerbs at Car Park Entrance	0	0	0	Currently on hold pending A. Sim review.	05	08
593	Secondary Phase 1a - Cessation of Design Work North of York Place	0	0	0	Saving opportunity being investigated in relation to future ownership of design etc prior to finalising value.	01	08
594	Edinburgh Gateway slope option. Awaiting construction estimate	4,850,000	4,850,000	0		05	08
595	Haymarket Viaduct - Deletion of fitting out of Crew Relief Facility	-70,000	0	-70,000	Assume credit from NR (yet to be established)	05	08
599	Floating track slab	0	0	0	Refer to anticipated change for costs	01	08

## Infraco Cost Report Section 3A - Change in Progress - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
601	Clarification on length of shelter to RBS tram stop (8m)	25,000	25,000	0	Liability for change still to be clarified - basis of contract price unclear	05	08
603	Bus Tracker Interface Specification	0	0	0		01	08
605	Depot - Sub-Station Switching	80,000	0	80,000	Includes allowance up to Section B completion date (8/3/13)	06	08
608	Delete 110v sockets on Off Street Tram Stops	-16,500	0	-16,500	Assume £1.5k per tram stop. Awaiting estimate	05	08
609	Traffic Management provision in section 1A	130,000	0	130,000		01	08
610	Edinburgh Gateway - Siemens Long Lead Items	0	0	0	Cost covered within the Edinburgh Gateway costs.	05	08
Total		9,794,661	9,747,476	47,185			

## Infracost Report Section 3B - Change in Progress - Schedule 45

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
513.1	Revised design to minimise utility diversions / conflicts - used for slit trenching and trial holes	0	17,210	17,210	17,210	0		01	08
521	Haymarket - Temporary Accommodation	0	1,543	1,543	1,543	0		01	08
522	Haymarket 1 - Road Reconstruction	0	0	0	0	0	Included in VE register	01	08
523	Haymarket 1 - Additional CBR / Plate Testing	0	0	0	0	0	Included within on street priority works (contract milestones)	01	08
528	Haymarket 1 - Slit trench excavation to validate utilities	0	6,565	6,565	6,565	0	Included within on street priority works (contract milestones)	01	08
532	Princes Street - Temporary traffic management design - WITHDRAWN	0	0	0	0	0	Further information required	01	10
533	Princes Street - 500mm Water Main Diversion	0	0	0	0	0	Costs contained within 535	01	08
535	Princes Street - 500mm Water Main Diversion - rev 3 dwg	0	252,986	252,986	252,986	0		01	08
537	Haymarket 1 - Additional visit of Tar planer to facilitate slewing of BT ducts - WITHDRAWN	0	0	0	0	0	Withdrawn	01	08
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	3,482	280,169	283,651	297,934	-14,283	Only covers section H1. H2 to YP included in item 7 of Anticipated Change.	01	08
545	Site Wide - Power to bus trackers affecting the ability to remove site clearance items	20,000	0	20,000	20,000	0	McNicholas to remove. Contra charge BBS; allowance included for BBS attendance	00	08
546	Site Wide - Increased number of drainage boxes including installation	21,482	0	21,482	21,482	0		00	08
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	307	3,481	3,787	3,348	439		00	08
548	Haymarket H1 - BT Fibre Optic Service requires diverting	0	83,053	83,053	83,053	0		00	08
549	Princes Street - Amend the design of the St. Johns Church OLE bases	0	12,284	12,284	12,284	0	Opportunity to deduct original scope to be pursued once acceptance of revised pole locations is achieved.	01	08
551	Princes Street - 2011 Christmas Embargo - Temporary Surfacing of Track Infills	0	203,511	203,511	203,511	0		01	08
552	Princes Street - BT diversion @ junction of Princes Street and South St. David Street	0	0	0	0	0	Costs included within TNC 535	01	08
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	92,000	127,758	219,758	209,267	10,491	Refer to Revised issue of TNC	01	10
560	St. Andrew Square - Omit £0.7m of repairs to road surface finishing	-700,000	0	-700,000	-700,000	0		01	08



## Infracost Report Section 3B - Change in Progress - Schedule 45

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
570	Omit the Removal of Trees in Shandwick Place	-9,066	0	-9,066	-9,066	0		01	08
579	Removal of embargo and revised traffic management	0	0	0	0	0	Change resulting from value engineering exercise	01	07
583	Ordering setts for on street works	0	0	0	0	0	Assume any cost is funded by CEC	01	08
584	Road Reconstruction specification	0	0	0	0	0	Change resulting from value engineering exercise	01	08
588	Stafford St Return of Parking Spaces	0	0	0	0	0		01	08
590	New cycleway from The Mound into Princes Street	20,000	0	20,000	70,000	-50,000		01	08
596	Section 1D - Utilities clashing with manhole 1D/NO4/03	0	12,626	12,626	20,000	-7,374		01	08
598	Section 1D - Incorporate geotextile liner into Clifton Terrace void in accordance with requirements from Archaeologist	1,740	1,760	3,500	3,500	0		01	08
600	Shandwick place - OLE bases affecting utilities (Piling)	182,197	136,899	319,096	135,155	183,941		01	08
604	St Andrew Sq - OLE bases affecting utilities (Piling)	8,665	58,202	66,867	59,275	7,593		01	08
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	20,124	6,148	26,272	0	26,272		01	08
607	Delete 110v sockets on On Street Tram Stops	-4,500	0	-4,500	0	-4,500	Assume £1.5k per tram stop. Awaiting estimate	01	08
611	Excavation of Track Slab to be carried out by McNicholas	0	0	0	0	0	Refer to Anticipated change section for costs	01	08
612	Tram stops branding changes. Requirement for etched glass to be confirmed (cost excluded)	0	0	0	0	0	Value TBC	00	08
614	Rothsay Place Traffic Management Amendment	10,000	0	10,000	0	10,000		01	08
Total		-333,570	1,204,195	870,625	708,046	162,579			

**Infraco Cost Report Section 4 - Anticipated Change**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
1	Pricing Assumptions - 6.4.2.1 Floating Track Slab	980,000	980,000	0	Verbal advice from Siemens and Bilfinger Berger of cost of providing floating slab at all locations identified. Potential opportunity to reduce if marginal locations are omitted. Subject to final report from BBS.	01	08
2	Pricing Assumptions - 6.4.2.3 York Place Terminal Point	944,000	944,000	0	Excludes design costs (in change section of report) and sheet piling work to strengthen basement (included in risk allowance).	01	08
3	Pricing Assumptions - 6.4.2.4 Cathedral Lane Substation	250,000	600,000	-350,000	This allowance is for the extra over cost included in the contract for construction of the new tram substation only. There is no allowance for any works in constructing Henderson Global's substation. Design work is included in TNC 509	01	08
4	Pricing Assumptions - 6.4.2.6 Dublin Street	50,000	50,000	0	Excludes piling if required.	01	08
6	Track Lowering - bridging trackform over utilities in St Andrew Square	500,000	500,000	0		01	08
7	Piled OLE base in lieu of utility diversion	165,000	360,000	-195,000	Total of 49 piles. Awaiting on street estimates from BBS to confirm value. Original estimate value £750k. Reduced for piles completed and included within the On Street change in progress section.	01	08
10	Settlement Agreement exclusions not included elsewhere	404,378	404,378	0	Refer to Schedule E, items 7,8,10,11,12,14. 6 removed - now included in change in progress	01	08
12	H1 delay costs associated with utilities	0	847,000	-847,000	Wider working areas and rev 4c programme shows completion in advance of rev 4 contract dates	01	02
13	Delayed commencement to St Andrew Square (from 7/2/12)	0	636,000	-636,000	Wider working areas and rev 4c programme shows completion in advance of rev 4 contract dates	01	02
14	Roseburn Delta - non DDA footpath	30,000	300,000	-270,000	No design required. Temporary footpath alignment to be agreed on site. Potential modifications to surface water drainage resulting from revised earthworks and Scottish Water approvals.	05	08

**Infraco Cost Report Section 4 - Anticipated Change**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
15	MUDFA Reinstatement - Hope Street / Lothian Road	30,000	30,000	0	CEC may undertake this work	01	08
16	Ongoing traffic management at Lindsay Road	0	90,000	-90,000	Additional TM cost in excess of contract agreement - 6 months allowed at £15k per month. Now contained within tNC 609.	01	08
20	Further design changes to OLE resulting from utilities (York Place)	50,000	200,000	-150,000	Initial value of £200k drawn down into tNCs	01	08
21	Sub station switching - Provision of competent resource to carry undertake sub-station switching and equipment monitoring. Allowed for 20 weeks	0	25,000	-25,000	Costs associated with this work are now conytained within tNC 605	06	08
22	Additional Siemens supervision as a result of accelerated programme rev 4C	0	155,277	-155,277	Incorporated into rev 4c programme shared saving calculation.	01	08
23	Drainage redesign and amendments to numbers / depths of manholes, carrier drains / drainage connections.	250,000	250,000	0	Design £50k; deeper manholes / drainage £50k; BBS standing time / disruption £150k. Note McNicholas undertaking part of this work, therefore reallocation to utilities estimate is required. New drainage design reduces number of connections and drainage tracks, therefore full impact of omits and additions to be determined following conclusion of design.	01	08
24	Remove drainage from Infraco scope			0	Extent of add and omit to be agreed. Currently included in item 23	01	08
25	Remove excavation of trackbox from Infraco's contract	-500,000		-500,000	Value to be determined by detailed site measure and application of Schedule 45 rates. Quantification to be agreed with BBS.	01	08
26	Remove ducting in Cathedral Lane from Infraco's contract	-75,000		-75,000		01	08
<b>Total</b>		<b>3,078,378</b>	<b>6,371,655</b>	<b>-3,293,277</b>			

**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-01 - Rev 0 - 27/04/2012

Page 12 of 17

**Infraco Cost Report Section 5 - Opportunities**

Ref No	Description	Approved Changes	Changes in Progress	Anticipated Changes	Contributions	Secured	To be secured	Total Opportunity	Value per CS report Jan 2012	Notes
01	Remove embargoes and revised TM	0	0		0	0	-5,902,091	-5,902,091	-6,460,000	Subject to completion of sections in advance of contract dates (22 week time saving assumed in the Rev 4C programme). Current master programme indicates 4 week saving as a result of York Place utilities.
02	Edinburgh Gateway	0	0		-4,850,000	-4,850,000	0	-4,850,000	0	Awaiting instruction from Transport Scotland
03	Setts (separate CEC budget)	0	0		-1,000,000	-1,000,000	0	-1,000,000	-1,000,000	Funded by separate CEC budget (added to contributions register)
04	De-scope public realm at St Andrew Sq	0	-700,000		0	-700,000	0	-700,000	-700,000	Instructed
05	Contributions 3rd Party Agreements	0	0		-2,866,077	-2,866,077	0	-2,866,077	-2,500,000	Refer to contributions register
06	De-scope works at Forth Ports	-2,443,000	0		0	-2,443,000	0	-2,443,000	-2,450,000	Instructed
07	Omit Airport Tram Kiosk and Canopy	-150,000	0		0	-150,000	0	-150,000	-150,000	Approved, replacement materials t.b.c
08	Temporary tram stop at York Place	0	0		0	0	-150,000	-150,000	-150,000	Design optimisation
09	Redeployment of Trams	0	0		0	0	0	0	-5,000,000	Included in CEC budget code
10	Cancel track York Place to Newhaven	-1,100,000	0		0	-1,100,000	0	-1,100,000	-1,100,000	Instructed
11	Omit Siemens works at Tower Place	-100,000	0		0	-100,000	0	-100,000	-100,000	Instructed
12	Turner & Townsend / CEC resources	0	0		0	0	0	0	0	Ongoing
13	Shared recovery vehicle	0	0		0	0	0	0	0	Not taken forward
14	Road re-construction depth	0	0		0	0	-700,000	-700,000	-700,000	Principles instructed, saving subject to site conditions
15	Design freeze north of York Place	0	0		0	0	0	0	-250,000	Infraco design costs expended
16	Reduced requirement for storage	0	0		0	0	0	0	-1,000,000	Included in CEC budget code
17	Lay off TM at Forth Ports/Leith Walk	0	0		0	0	0	0	-180,000	TM not included in Infraco budget provision
18	Roseburn Viaduct Cladding	-308,004	0		0	-308,004	0	-308,004	-300,000	Instructed

**Edinburgh Trams**  
**City of Edinburgh Council**



Reporting Period: 12-01 - Rev 0 - 27/04/2012

Page 13 of 17

**Infracost Report Section 5 - Opportunities**

Ref No	Description	Approved Changes	Changes in Progress	Anticipated Changes	Contributions	Secured	To be secured	Total Opportunity	Value per CS report Jan 2012	Notes
19	Delete Crew Relief Facility	0	-70,000		0	-70,000		-70,000		Instructed
Total		-4,101,004	-770,000	0	-8,716,077	-13,587,081	-6,752,091	-20,339,172	-22,040,000	

## Infracost Cost Report Section 6 - Credits &amp; Contributions

Ref No	Description	Included in Contract Sum	Approved Changes	Changes in Progress	Anticipated Changes	Total Forecast	Previous Period	Change from Previous	Contribution Received	Notes	Section Code	Change Code
01	Edinburgh Gateway Feasibility	860,000	82,995	0		940,000	940,000	0	528,000	£1.2m in total. Remainder of the costs included in CEC sections of the project budget.	05	08
02	New Ingliston Future Proof measures	540,000	0	0		540,000	540,000	0		This contribution will be offset by a land cost reported within the relevant section of the CEC cost report	07	08
03	Henderson Global - Cathedral Lane substation	166,404	233,596	0		400,000	246,549	153,451		Full extent of agreement with Henderson Global to be established. Allowance assumes all design costs and proportion of construction costs associated with future substation will be borne by Henderson Global. Cost of £470k has been submitted to Henderson Global	01	08
04	RBS Tramstop	500,000	0	0		500,000	500,000	0		Allowance included subject to final agreement with RBS	07	08
05	St Andrew Square Public Realm design		133,075	0		133,075	133,075	0	133,000	As per agreed change value. Assumed to be recovered from separate budget	01	08
06	Forth Ports		0	0		0	0	0		Forth Ports work removed from scope - no further contribution from Forth Ports assumed	01	08
07	CEC Miscellaneous. Mainly George Street CEC costs (£298k)	318,213	0	0		318,213	318,213	0	318,213	CEC finance have confirmed that a credit has been received in the amount shown. The extent of the workscope associated with this credit is not clear.	01	08
08	Network Rail - Haymarket station refurbishment	0	13,000	0		13,000	121,315	-108,315		Majority of this work now being carried out by Network Rail. Remaining allowance for wall to crew relief facilities	02	08
09	Contribution from CEC for public realm work (granite setts) at St Andrews Square	1,000,000	0	0		1,000,000	1,000,000	0		No change in scope allowed for - setts funded by CEC	01	08
10	Network Rail - Scottish Power Cable diversion - Haymarket Station (TNC 591)		21,789	0		21,789	50,000	-28,211			05	08
11	Edinburgh Gateway Construction		0	4,850,000		4,850,000	4,850,000	0			05	08
Total		3,384,617	484,455	4,850,000	0	8,716,077	8,699,152	16,925	979,213			

**Edinburgh Trams**  
**City of Edinburgh Council**



Reporting Period: 12-01 - Rev 0 - 27/04/2012

Page 15 of 17

**Infraco Cost Report Section 7 - Change Summary**

Change Code	Description	Approved Change	Change in Progress	Anticipated Change	Contributions	Total
01	Scope Change	-1,653,380	4,939,000	-515,000		2,770,620
02	PAVs (Utilities, etc)	321,661	-229,070	3,593,378		3,685,969
03	Miscellaneous Client Risk Items	10,000	210,000	0		220,000
04	Time Delay	0	4,541,161	0		4,541,161
05	Project Contributions	0	0	0	-8,716,077	-8,716,077
<b>Total</b>		<b>-1,321,719</b>	<b>9,461,091</b>	<b>3,078,378</b>	<b>-8,716,077</b>	<b>2,501,673</b>

**Notes:**

Some CE's have costs which relate to more than one change code. In such instances they have been allocated to the predominant reason.

**Edinburgh Trams**  
**City of Edinburgh Council**



Reporting Period: 12-01 - Rev 0 - 27/04/2012

Page 16 of 17

**Infraco Cost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
516	Additional Water main requirement at Depot and Mini Test Track	51,282		-51,282	0	0
534	SP Insurance Ducts - Install Insurance ducts at various locations	5,637		-5,637	0	0
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	0		0	-14,283	-14,283
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	0		0	439	439
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	0		0	10,491	10,491
557	Haymarket 1 - OLE Base Relocations (Design mods)	0		45,000	0	45,000
572	Cathedral Lane Substation - Retaining Wall Design	26,013		0	0	26,013
575	Haymarket Station - Take Down Viaduct Staircase and Parapet. TNC now withdrawn - Network Rail carrying out work	0		-121,315	0	-121,315
590	New cycleway from The Mound into Princes Street	0		0	-50,000	-50,000
591	Diversion of Scottish Power Cable at Haymarket Viaduct	21,789		-50,000	0	-28,211
595	Haymarket Viaduct - Deletion of fitting out of Crew Relief Facility	0		-70,000	0	-70,000
596	Section 1D - Utilities clashing with manhole 1D/NO4/03	0		0	-7,374	-7,374
600	Shandwick place - OLE bases affecting utilities (Piling)	0		0	183,941	183,941
604	St Andrew Sq - OLE bases affecting utilities (Piling)	0		0	7,593	7,593
605	Depot - Sub-Station Switching	0		80,000	0	80,000

Printed: 29/04/2012

**CEC01890163\_0096**



**Edinburgh Trams**  
**City of Edinburgh Council**



Reporting Period: 12-01 - Rev 0 - 27/04/2012

Page 17 of 17

**Infraco Cost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	0		0	26,272	26,272
607	Delete 110v sockets on On Street Tram Stops	0		0	-4,500	-4,500
608	Delete 110v sockets on Off Street Tram Stops	0		-16,500	0	-16,500
609	Traffic Management provision in section 1A	0		130,000	0	130,000
613	Temporary Bus Station at St Andrew Square/Waterloo Place - design	50,000		0	0	50,000
614	Rothesay Place Traffic Management Amendment	0		0	10,000	10,000
615	Haymarket Viaduct - design wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	3,000		0	0	3,000
616	Haymarket Viaduct - construct wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	10,000		0	0	10,000
<b>Total</b>		<b>167,720</b>	<b>0</b>	<b>-59,733</b>	<b>162,579</b>	<b>270,566</b>
<b>Anticipated Change</b>				<b>-295,000</b>	<b>-2,998,277</b>	<b>-3,293,277</b>
<b>Opportunities</b>					<b>557,909</b>	<b>557,909</b>
<b>Movement</b>		<b>167,720</b>	<b>0</b>	<b>-354,733</b>	<b>-2,277,789</b>	<b>-2,464,802</b>



## Utilities Cost Report: Section 1 - Utilities Summary

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals	
	A	B	C = A + B	D	E	F = D + E	G	H	I	J	K = F + G + H + I + J	L	M = K - L	N = M - C	O = M / C - 1	P	Q
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Provision	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	Cost of Work Done	Outstanding Amount
Post Settlement Utilities	2,912	4,861	7,773	2,912	4,861	7,773	0	10,839	0	0	18,612	0	18,612	10,839	139.4%	5,032	2,741
McNicholas	1,812	4,763	6,575	1,812	4,763	6,575	0	5,747	0	0	12,322	0	12,322	5,747	87.4%	4,147	2,428
01 Conflicts	1,812	2,547	4,359	1,812	2,547	4,359		2,822			7,181		7,181	2,822	64.7%	3,020	1,339
01A Drainage		444	444		444	444		353			797		797	353	79.5%	14	430
02 Legacy Works		500	500		500	500		754			1,254		1,254	754	150.8%	404	96
03 Standby Team		0	0		0	0		0			0		0	0		0	0
04 Management Team		549	549		549	549		898			1,447		1,447	898	163.6%	356	193
05 Design Team		692	692		692	692		872			1,564		1,564	872	126.0%	334	358
06 Accomodation		31	31		31	31		48			79		79	48	154.8%	19	12
Statutory Utility Companies	0	1,198	1,198	0	1,198	1,198	0	2,392	0	0	3,590	0	3,590	2,392	199.7%	885	313
01 Scottish Power		126	126		126	126		273			399		399	273	216.7%	73	53
02 Scottish Gas Networks		55	55		55	55		189			244		244	189	343.6%	20	35
03 Scottish Water		505	505		505	505		1,011			1,516		1,516	1,011	200.2%	440	65
04 Virgin Media		104	104		104	104		208			312		312	208	200.0%	80	24
05 Verizon		20	20		20	20		0			20		20	0	0.0%	0	20
06 Cable & Wireless		49	49		49	49		143			192		192	143	291.8%	30	19
07 Fibrenet		250	250		250	250		-56			194		194	-56	-22.4%	194	56
08 BT		89	89		89	89		604			693		693	604	678.7%	45	44
09 Siemens		0	0		0	0		20			20		20	20		3	-3
00 Legacy Works	1,100	-1,100	0	1,100	-1,100	0		2,700			2,700		2,700	2,700		0	0

## Comments:

All values are in £k.  
 Conflict resolution forecast to complete based resourced schedule.  
 Legacy works forecast based on current budget. Work is ongoing to establish the full scope.

## Risk

Refer to Risk register for risks identified against McNicholas programme  
 All risk is held at programme level. This section of the cost report makes no allowance for risk.  
 Refer to the outputs of the QCRA/QSRA for further information on

## Actions

Full forecast of legacy scope of works to be carried out once scope is properly defined.







## Appendix 4 – Change Log

TNC No.	PMC No.	ICO No.	Location	Description	Reason For Change	On Street / Off Street	Clause 89 / Schedule 45 / Instruction	T&T Change Owner	Change Category DC/LC/CH/SR	Budget Cost for Risk and Potential Changes	Date TNC Issued	Letter Ref	Date Estimate Due	Date Estimate Received	Estimate Change Value (0=sign)	Estimate Change Value (Construction)	Time implications	Date Issued to CEC	Approved BY CEC/T&T	Date Approved or Rejected	Agreed Cost for Approved Contract Changes	Date ICO Issued	Comments		
501	001	501	Hawthornvale Cycle Link	Change the design to widen the footway alongside the path, side of Lindsay Road	Historic Post Mediation Change	On Street	Clause 80	AS/GMO	C/R	N/A	21/06/2011	INF CORR 7707	N/A	05/04/2011	£20,020.51	£0.00		15/1/2011	CEC	20/1/2011	£20,020.51	24/1/2011	Previously PWTNC-001		
502	002	508	Ocean Drive Footway	Amend the design of Ocean Drive to restate the footpath to the north of Ocean Drive	Historic Post Mediation Change	On Street	Clause 80	AS/GMO	C/R		31/06/2011	INF CORR 7706	N/A	15/06/2011	£10,230.82	£0.00		N/A	T&T	26/1/2011	£10,230.82	26/1/2011	Previously PWTNC-002		
503	003	515	Depot Access Bridge	Amend the design of the OLE at the Depot Access Bridge to enable construction of the Depot	Historic Post Mediation Change	Off Street	Clause 80	AS/GMO	C/R		21/06/2011	INF CORR 7705	N/A	04/06/2011	£69,223.43	£0.00		24/1/2011	CEC	30/1/2011	£67,446.03	30/1/2011	Previously PWTNC-003		
504	004	506	Blenheim Place	Review of the banned right turn into Blenheim Place as part of the design for Section 1C3 roads	Historic Post Mediation Change	On Street	Clause 80	AS/GMO	C/R		21/06/2011	INF CORR 7708	N/A	05/08/2011	£46,247.09	£0.00		15/1/2011	CEC	20/1/2011	£46,247.09	24/1/2011	Previously PWTNC-004		
505	005	513	York Place Terminal Point	Production of a feasibility report, initial feasibility design for option A, run time modelling etc	Historic Post Mediation Change	On Street	Clause 80	AS/GMO	C/R		18/07/2011	INF CORR 7817	15/08/2011	19/10/2011	£28,652.80	£0.00		24/1/2011	CEC	24/1/2011	£28,652.80	25/1/2011	Previously PWTNC-005		
506	006	503	The Mound	Design for providing a new cycleway from the Mound to Princes Street	Historic Post Mediation Change	On Street	Clause 80	AS/GMO	C/R		21/06/2011	INF CORR 7709	N/A	05/08/2011	£9,436.93	£0.00		15/1/2011	CEC	20/1/2011	£9,436.93	24/1/2011	Previously PWTNC-006		
506.1	006	503.1	The Mound	Design for providing a new cycleway from the Mound to Princes Street	Historic Post Mediation Change	On Street	Clause 80	LAW	C/R		21/06/2011	INF CORR 7709	N/A	23/01/2012	£1,668.71	£0.00		30/01/2012	CEC	03/02/2012	£1,668.71	30/01/2012	Additional to ICO 503		
507	007	504	St Andrew Square	Provide a finalisation report and completion of the St Andrew Square Public Realm design	Historic Post Mediation Change	On Street	Clause 80	AS/GMO	C/R		21/06/2011	INF CORR 7790	N/A	23/08/2011	£139,075.48	£0.00		13/1/2011	CEC	20/1/2011	£139,075.48	24/1/2011	Previously PWTNC-007-ICO 504 Rev A issued 15/12/11		
507.1	007	507	St Andrew Square	Design completion information to reflect input from informal consultation with CEC	Design for future use by CEC	On Street	Clause 80	RL	C/R		23/01/2012	INF CORR 8219	26/04/2012				04/04/2012	CEC	04/04/2012			NOTE RETURN DATE OF ESTIMATE OF 26TH APRIL			
508	013	507	Earthfield Avenue	Obtain EAL approval for the Highways design drawings at Earfield Avenue tram crossing	Historic Post Mediation Change	Off Street	Clause 80	AS/GMO	D/C		11/07/2011	INF CORR 7804	04/08/2011	05/08/2011	£10,025.09	£0.00		15/1/2011	CEC	20/1/2011	£10,025.09	24/1/2011	Previously PWTNC-008		
509	009	519	Cathedral Lane Substation	Design of Cathedral Lane Substation	Historic Post Mediation Change	On Street	Clause 80	AS/GMO	D/C		12/07/2011	INF CORR 7793	02/08/2011	09/11/2011	£273,595.67	£0.00		13/1/2011	CEC	15/1/2011	£273,595.67	15/1/2011	Previously PWTNC-009 - instructed to proceed in TNC letter but awaiting CEC approval to issue ICO		
510	011	507	Murrayfield	Murrayfield Accommodation Works	Change Withdrawn																				
511	010	511	Edgar Lane	Storm Water Connection from Doger Lodge to the landowner's new sports field	Historic Post Mediation Change	Off Street	Clause 80	AS/GMO	C/R		13/07/2011	INF CORR 7815	N/A	14/11/2011	£5,890.28			N/A	T&T	21/1/2011	£5,700.46	21/1/2011	Previously PWTNC-011		
512	012	505	Ocean Terminal	Re-design of Ocean Terminal Bypass Road	Historic Post Mediation Change	On Street	Clause 80	AS/GMO	D/C		13/07/2011	INF CORR 7814	N/A	29/08/2011	£39,485.15	£0.00		15/1/2011	CEC	20/1/2011	£39,485.15	24/1/2011	Previously PWTNC-012 - ICO 505 Rev Issued 24/02/12, signed TCO returned by BBS 9/03/12		
513	015	526	Various	Revised design to minimise utility diversions / conflicts - used for slit trenching and trial holes	Historic Post Mediation Change	On Street	Clause 80	RL	D/C	£400,000.00	20/07/2011 07/09/2011 08/05/2011 (A&B) 09/05/2011 (C&D)	INF CORR 7818 INF CORR 7895 (A&B) INF CORR 7895 (C&D)	Various	09/11/11	£40,547.07			15/1/2011	CEC	21/1/2011	£156,870.49	04/01/2012	Previously PWTNC-015 - Estimate reviewed and issued back to BBS with comments, signed TCO returned by BBS 9/03/12		
513.1	015	526	Various	Revised design to minimise utility diversions / conflicts - used for slit trenching and trial holes	Historic Post Mediation Change	On Street	Schedule 45	RL	D/C		06/09/2011 (B)	OSW 004 OSW 005	Various	N/A	N/A			15/1/2011	CEC	20/02/2012		N/A	Is there now a PRU being actioned under Schedule Part 45 ICO526A issued 20/02/12 for design works		
514	016	524	Various	UTILITY Mapping	Historic Post Mediation Change	On Street		AS/GMO			23/07/2011	INF CORR 7825	17/08/2011	16/12/2011	£92,756.87			27/02/2012	CEC	27/02/2012	£92,756.87	29/02/2012	AS/REED		
515	014	507	Edinburgh Gateway	Additional Watermain requirement at Depot and Mini Test Track	Historic Post Mediation Change	Off Street	Clause 80	AS/GMO			02/08/2011	INF CORR 7828	03/11/2011		Costs included in TNC-531								N/A	HOW SUPERSEDED BY TNC 531	
516	017	545	Depot & Mini Test Track	Additional Watermain requirement at Depot and Mini Test Track	Historic Post Mediation Change	Off Street	Clause 80	AS/GMO			08/09/2011	INF CORR 7893	03/12/2011	13/12/2011	£0.00	£51,381.72	N/A	16/04/2012	CEC	24/04/2012	£51,381.72		TNC VALUE AGREED, TCO RASSED & APPROVED CEC		
517	018	539	Depot & Mini Test Track	Additional BT Ducts at Depot and Mini Test Track	Historic Post Mediation Change	Off Street	Clause 80	AS/GMO			08/09/2011	INF CORR 7894	09/12/2011	13/12/2011	£0.00	£3,208.66			T&T		£2,995.59	16/01/2012	Previously PWTNC-016 - instructed to proceed in TNC letter		
518			The Mound	Design & installation of a new cycleway through the Mound / Hanover Street Junction - SEE TNC 506 (WITHDRAWN)		On Street					09/09/2011												Previously PWTNC-018 - Withdrawn (Duplicates 506)		
519			York Place	Design of a temporary tram stop in work Place (WITHDRAWN)		On Street					03/09/2011												Previously PWTNC-019 - Withdrawn (Duplicates 505)		
520	009	553	Depot	Valve chamber access and alteration works to 800mm water main at the Depot	Historic Post Mediation Change	Off Street	Clause 80	AS/GMO			18/05/2011	INF CORR 7729	13/06/2011	24/10/2011	£105,786.20			16/02/2012	CEC	20/02/2012	£105,786.20	28/02/2012	Previously TNC-137 - Estimate reviewed and issued back to BBS with comments, signed TCO returned by BBS 9/03/12		
523	028		Haymarket	Temporary Accommodation	To provide accommodation for Molecholas	On Street	Schedule 45	RL		£2,876.75	07/10/2011	INF CORR 7926	01/11/2011	14/11/2011	N/A	£4,917.00				T&T	07/10/2011	N/A			
522	029	N/A	Haymarket 1	Road Reconstruction		On Street	Schedule 45	KM/RL		£518,611.57	07/10/2011	INF CORR 7927	02/11/2011					07/01/2011	CEC	07/01/2011	N/A	N/A		BL/W - BE ISSUE AS REVA ONCE ON STREET TNC 504 FOR ALL ON STREET RASSED	
523	030		Haymarket 1	Additional CDR / Plate Testing		On Street	Schedule 45	SL		£10,000.00	07/10/2011	INF CORR 7928	02/11/2011		Costs included in site investigation									N/A	NOTE - SDS PLANNED SUBMISSION DATE 29.1.12 SUPERSEDED BY 523.1
524	013		Airport to Gyle	NEL Design Finalisation (also includes Construction)		Off Street	Clause 80	AS/GMO		£30,000.00	30/09/2011	INF CORR 7905	20/01/2012											NOTE - SDS PLANNED SUBMISSION DATE 29.1.12 SUPERSEDED BY 523.1	
525	026		Airport to Gyle	Site Access for Remedial Works		Off Street	Clause 80	AS/GMO		£50,000.00	30/09/2011	INF CORR 7906	26/01/2012	N/A	N/A									SEE TNC 526 FOR UPDATE	
525.1	026		Airport to Gyle	Site Access for Remedial Works		Off Street	Clause 80	AS/GMO		£50,000.00	22/11/2011	INF CORR 7978	23/01/2012												
526	027	518	Airport to Gyle Ingleton	Tram Delivery Temporary Works Reimbursement of Costs paid directly to SON for the diversion of approximately 120m of 30" steel IP gas main to accommodate the new Edinburgh Tram at Ingleton		Off Street	Clause 80	AS/GMO	C/R		07/10/2011	INF CORR 7918	09/11/2011	14/11/2011	Nil	£6,940.24			T&T	06/12/2011	£6,970.44	12/12/2011		GE - AGREE COSTS WITH BBS, ISSUE TNC/ICO	
528	027	501	Haymarket 1	Slit trench excavation to validate utilities		On Street	Schedule 45	SL	L/C	£1,345.00	18/10/2011	INF CORR 7923	11/11/2011			£10,000.00			T&T	15/10/2011		19/10/2011			
529	022	524.1	Section 5C - Dogger Castle Access Road	Design Dogger Castle Access Road from crossing and approaches		Off Street	Clause 80	AS/GMO	C/R		26/10/2011	INF CORR 7944	21/11/2011	15/1/2012	£39,403.86	£22,728.57		15/1/2012	CEC	16/1/2012	£31,308.00	17/01/2012	Previously issued at TNC 129		
530	023	525	Section 6 - Depot Access Road	Amend the design of the Depot Road turning head as per RDC191 Option 2		Off Street	Clause 80	AS/GMO	C/R		27/10/2011	INF CORR 7945	22/11/2011	18/10/2011	£30,458.40	Nil		N/A	T&T		£30,458.40	15/12/2011	Previously issued as TNC 130		
531	014	512	Edinburgh Gateway	Advance Temporary Works design	Early Implementation of the temporary works will enable the RTW works to commence as soon as the	Off Street	Clause 80	AS/GMO	D/C		28/10/2011	INF CORR 7951	09/12/2011	07/12/2011	Nil	£790,185.14			T	21/12/2011	£9,349.00	21/12/2011	Works requested and cost approved by Transport Scotland		
532			Princes Street	Temporary traffic management design - WITHDRAWN		On Street																	Withdrawn		
533	040		Princes Street	500mm Water Main Diversion	To divert the water main from an OLE base	On Street	N/A	MO/RL	L/C		31/10/2011	INF CORR 7952	28/10/2011		£40,844.00			29/10/2011	CEC	31/10/2011	N/A	N/A	Approval AC/TH e-mail - Superseded by TNC 535		
534	041	556	SP Insurance Ducts	Install minor steel ducts at locations and in formations and sizes as specified		On Street	Clause 80	AS/GMO		£10,895.00	31/10/2011	INF CORR 7953	28/10/2011											N/A	NOTE - FURTHER CLARIFICATION REQUIRED
535	040		Princes Street	500mm Water Main Diversion - rev 3 dwg	See TNC 533	On Street	Schedule 45	MO/RL	S/R		07/11/2011	INF CORR 7962	29/11/2011					09/11/2011	T&T					Replace TNC 533	
536	043	517	System Wide	Transpot Cabinets - reduction in 10 years maintenance liability	To meet cooling/heating reqts, cabinets to be IP 55, in lieu of IP45	Off Street	Clause 80	LM		£6,091.42	09/11/2011	INF CORR 7959	05/12/2011					06/11/2011	T&T	07/12/2011	£0.00	06/12/2011			
537			Haymarket 1	Additional visit of Tar planer to facilitate slewing of BT ducts - WITHDRAWN		On Street																		Withdrawn	
538	048	520	Depot	Tramwash Continuous Mode - Requirement for additional hand lance washers	The tram wash continuous mode may leave a small residual area to be cleaned	Off Street	Clause 80	GMG	C/R	£0.00									T&T	15/12/2011	£0.00	13/12/2011	Previously issued as TNC 118 and TNC 119A. Cost neutral as any savings / costs are included in the Settlement Agreement		
538.1	048	520.1	Depot	Tramwash Continuous Mode - Requirement for additional hand lance washers	The tram wash continuous mode may leave a small residual area to be cleaned	Off Street	Clause 80	GMG	C/R	£0.00										T&T	12/01/2012	£0.00	12/01/2012	Previously issued as TNC 118 and TNC 119A. Cost neutral as any savings / costs are included in the Settlement Agreement	
539	020	529	System Wide	Duty in signing - impact on commencement and completion		Off Street	Clause 80	GE			31/12/2011	INF CORR 8051	N/A	28/10/2011	£4,759,000.00			28/10/2011	CS	31/12/2011		31/12/2011	Cost still to be determined by Colin Smith		
540	042	509	Section 7 - Plot 304	On Site Landscaping works	Change in Requirements for landscape works	Off Street	Clause 80	AS/GMS	C/R	£182,953.44	14/11/2011	INF CORR 7972	08/12/2011	15/12/2011	£0.00	£199,407.70			02/02/2012	CEC	09/02/2012	£201,119.63	14/11/2012	ICO issued under Clause 80.15 and updated with ICO509A	
541	021		Princes Street	City Chamber - Annandale Street Communication Links. Usage of CEC available BT Lines to avoid provision of direct FO link from Princes Street to City Chambers		On Street	Clause 80	RL	C/R		12/01/2012	INF CORR 8059	04/02/2012											N/A	Confirmation received from CEC that changes to the Employers Requirements are acceptable - BY - BE - WSIT, AGREE & RASSED TCO
542	024		Old Port Road	Design of new Cycle Path - WITHDRAWN		On Street	Clause 80	MO		£18,000.00															



TNC No.	PMC No.	ICO No.	Location	Description	Reason For Change	On Street / Off Street	Clause 88 / Schedule 45	T&T Change Owner	Change Category DC/UC/CR/SB	Budget Cost for Risk and Potential Changes	Date TNC Issued	Letter Ref	Date Estimate Due	Date Estimate Received	Estimate Change Value (Design)	Estimate Change Value (Construction)	Time Implications	Date Issued to CEC	Approved BY CEC/T&T	Date Approved or Rejected	Agreed Cost for Approved Contract Changes	Date ICO Issued	Comments									
545	045	510/521.2	Princes Street	Amend the design of the St. John's Church OLE bases	To avoid conflict with services	On Street	Clause 88	SL	U/C	£5,000.00	21/11/2011	INF CORR 7960	15/12/2011					N/A	T&T	21/11/2011	21/11/2011	COSTS NOW COLLATED AGAINST TCO 521.8										
550	045	514/521.2	Shandwick Place	Shandwick OLE & Landscape Design Revision	A number of utility conflicts that can be addressed by affixing a piled solution	On Street	Clause 88	SL	U/C	£10,000.00	19/11/2011	INF CORR 8025	19/12/2011					N/A	T&T	20/11/2011	20/11/2011	COSTS NOW COLLATED AGAINST TCO 521.8										
551	043	N/A	Princes Street	2011 Christmas Embargo - Temporary Surfacing of Track Infill	To allow Princes Street to be opened to pedestrians	On Street	N/A	FM	PAV	£300,000.00	N/A	N/A	N/A										Pricing Assumption Variation									
552	044	N/A	Princes Street	BT diversion @ junction of Princes Street and South St. David Street		On Street	N/A	KM	PAV	£40,000.00													Pricing Assumption Variation									
553	040	514	Site Wide	SOS to provide the services of Matt Hill until end March 2012	To assist in the utilities design	On Street	Clause 88	SL	U/C	£75,000.00	19/11/2011	INF CORR 7969	26/12/2011		£49,130.45			07/02/2012	CEC	09/02/2012	£49,130.45	30/11/2011										
554	052	N/A	St Andrew Square & Shandwick Place	Traffic Management Requirements	To facilitate early access	On Street	Schedule 45	RL	D/C	N/A	12/12/2011	INF CORR 7994	N/A	N/A					CEC	08/12/2011	N/A	N/A										
554.1	052	N/A	St Andrew Square & Shandwick Place	Traffic Management Requirements	To facilitate early access	On Street	Schedule 45	RL	D/C	£100,000.00	12/09/2011	INF CORR 8066	N/A	N/A					CEC	08/12/2011	N/A	N/A		The Working Amended								
555	045	523	Haymarket	OLE 1164 design revision to avoid main sewer	To avoid conflict with sewer	On Street	N/A	SL	U/C	£19,120.00	19/12/2011	INF CORR 8017	N/A											Pricing Assumption Variation								
556			York Place to Newhaven	Track Work Materials York Place to Newhaven - Price Fixing for Rheda City C and D	There is currently no budget allowance to fund this	On Street	Clause 88	C/R															Confirmation of instruction given by Colin Smith and issued by letter to B&S									
557	045	521	Haymarket 1	OLE Base Relocations	Utility Clashes	On Street	Clause 88	KM	U/C	£20,000.00	13/12/2011	INF CORR 8016	04/01/2012	N/A	SEE 521.2	N/A				T&T	13/12/2011	13/12/2011	ICO 521.2 issued with value £ TBA									
557.1	045	521.1	Haymarket 1	OLE Base Relocations (Revised TCO to increase N/E Value)	Utility Clashes	On Street	Clause 88	RL	U/C	£20,000.00	13/12/2011	INF CORR 8016	06/01/2012	N/A	SEE 521.2	N/A					27/02/2012	27/02/2012	SEE 521.2	ICO 521.2 Rev A issued to increase. Not To Exceed £48k, issued & approved CEC 27/2/12, returned signed by B&S 9/03/12								
557.2	045	521.2	Haymarket 1	OLE Base Relocations (Revised TCO to increase N/E Value, and collate other TNC's to Cross Match with PMC 45)	Utility Clashes	On Street	Clause 88	RL	U/C	£40,000.00	N/A - TCO	N/A	N/A	N/A	TBA	N/A					04/04/2012	04/04/2012	TBA	ICO 521.2 REV B ISSUED TO INCREASE. NOT TO EXCEED TO £600K, AGREE FINAL COST, TNC'S 49, 59, 56, 562 AND 563 AGAINST TCO 521.2, TO CROSS MATCH WITH B&S PMC 45								
558	051	522	Site Wide	Provision of a CAD Technician	To progress VE proposal in relation to pavement reconstruction	On Street	Clause 88	RL	U/C	£2,000.00	13/12/2011	INF CORR 8015	06/01/2012							T&T	13/12/2011	13/12/2011	13/12/2011	ICO issued under Clause 80.15 and updated with TCO521A issued 2nd Feb 2012								
558.1	051	522.1	Site Wide	Provision of a CAD Technician	To progress VE proposals in relation to pavement reconstruction	On Street	Clause 88	RL	U/C	£2,000.00	13/12/2011	INF CORR 8015	06/01/2012	29/01/2012	£1,639.00						T&T	13/12/2011	£1,639.00	13/12/2011								
559	053	545	York Place	Detailed Design of York Place Terminal	Terminal point excluded from the Settlement Agreement	On Street	Clause 88	RL	C/R		15/12/2011	INF CORR 8093	18/01/2012		£36,430.11							02/02/2012	05/02/2012	£36,430.11	04/02/2012	ICO ISSUED 3.2.12 AS N/EXCEED £ 50,430.11						
560	000	N/A	St Andrew Square	Omit £0.7m of repairs to road surface finishing	Value engineering initiative	On Street	Schedule 45	RL	C/R	£700,000.00	13/02/2011	INF CORR 8197	N/A - Schedule 45	N/A	N/A	£700,000.00	TBA				09/02/2012	10/02/2012	N/A	COIT WILL COME THROUGH SCHEDULE 45 PERIOD END 30/03/12								
560.1	000	N/A	St Andrew Square	Omit £8.7m of repairs to road surface finishing (Revision for Street and Traffic Lighting)	Value engineering initiative	On Street	Schedule 45	RL	C/R	£8,480,500	10/03/2011	INF CORR 8221	N/A - Schedule 45	N/A	N/A	£8,480,500	TBA				04/04/2012	04/04/2012	N/A	SEE ABOVE								
561	053	518	Forth Ports Area	Omit all works at the Forth Ports Area	Works not required as part of this agreement	On Street	Clause 88	OE	C/R	£2,443,000.00	21/12/2011	INF CORR 8050	18/01/2012							N/A	N/A	N/A	£1,443,000.00	21/12/2011	Instructed by Colin Smith							
562	045	530/521.2	On Street - Generally	OLE Design Changes for On Street Section (PMC 45) - SEMENS DESIGN WORKS	To accommodate relocations of OLE bases due to the position of existing services	On Street	Clause 88	OE	D/C	£29,000.00	05/01/2012	INF CORR 8052	11/01/2012								20/12/2011	22/12/2011	£29,000.00	09/01/2012								
563	045	534/521.2	On Street - Generally	Circular Pipe Caps	It reduces the size of the pipe cap and by default the local impact upon utilities, however it makes for	On Street	Clause 88	SL	D/C	£5,000.00	11/12/2011	INF CORR 8044	14/01/2012												COSTS NOW COLLATED AGAINST TCO 521.8							
564	053	N/A	On Street - Generally	Worksite Modelling - TNC & TCO 531.1 WITHDRAWN 12.1.12	Requested by Andy Conway of CEC	On Street	N/A	RL	C/R	£10,000.00	21/12/2011	INF CORR 8045	14/01/2012												Pricing Assumption Variation							
565	054	533	Edinburgh Gateway	Advanced design works for Edinburgh Gateway Minimum Option	Works requested by Transport Scotland to assess and protect the current programme assumptions for both the Edinburgh Tram project and Edinburgh Gateway proposals	Off Street	Clause 88	AS	C/R	£3,450.00	11/12/2011	INF CORR 8048	16/01/2012												Works requested and cost approved by Transport Scotland							
565.1	054	533.1	Edinburgh Gateway	Advanced design works for Edinburgh Gateway Minimum Option	Extension of above to cover additional design work	Off Street	Clause 88	AS	C/R	£3,350.00															Rev A issued 12/01/12 increasing value from £2,650 to £5,000							
565.2	054	533.2	Edinburgh Gateway	Advanced design works for Edinburgh Gateway Minimum Option	Rewording of TCO 533A to align with agreed scope - no additional value	Off Street	Clause 88	AS	C/R	n/a															Rev B issued amending the requirement							
566	046	535	On Street - Generally	Drainage Design Changes Due to Utilities Conflicts	To prevent delay by providing a solution for potential utilities conflicts in advance	On Street	Clause 88	RL	D/C	£10,000.00	12/01/2011	INF CORR 8062	N/A	N/A	N/A	N/A	N/A				T&T	11/01/2012	£10,000.00	11/01/2012								
567	050	536	On Street - Generally	Drainage Design Changes Due to Utilities Conflicts	To prevent delay by providing a solution for potential utilities conflicts in advance	On Street	Clause 88	RL	D/C	£10,000.00	12/01/2011	INF CORR 8061	N/A	N/A	N/A	N/A	N/A				T&T	11/01/2012	£10,000.00	11/01/2012								
567.1	050	536.1	On Street - Generally	Drainage Design Changes Due to Utilities Conflicts	To prevent delay by providing a solution for potential utilities conflicts in advance	On Street	Clause 88	RL	D/C	£40,000.00															TCO RAISED TO INCREASE NOT TO EXCEED VALUE TO £ 50,000.00 - ON HOLD							
568	047	537	On Street - Generally	Design changes due to Transform conflicts	To prevent delay by providing a solution for potential utilities conflicts in advance	On Street	Clause 88	RL	D/C	£10,000.00	12/01/2011	INF CORR 8063	N/A	N/A	N/A	N/A	N/A					T&T	11/01/2012	£10,000.00	11/01/2012							
568.1	047	537.1	On Street - Generally	Design changes due to Transform conflicts	To prevent delay by providing a solution for potential utilities conflicts in advance	On Street	Clause 88	RL	D/C	£20,000.00															TCO RAISED TO INCREASE NOT TO EXCEED VALUE TO £ 30,000.00							
569	057	518	Edinburgh Park	Additional Running costs associated with the extension to the Edinburgh Park offices	To provide services for the office extension instructed under TNC 544 and TCO 512	Off Street	Clause 88	CS	C/R	£79,200.00	11/01/2011	INF CORR 8064	N/A	N/A	N/A	N/A									Approved by Colin Smith							
570	050	N/A	Shandwick Place	Omit the Removal of Trees in Shandwick Place	It is considered more expedient for the contractor that is currently working in the area carrying out similar works to undertake the works currently contracted to B&S also	On Street	Schedule 45	RL	D/C	£5,100.20	12/01/2011	INF CORR 8065													IN - H MUNRO BOUND WITH GETTING AGREEMENT FOR OWE							
571	064		Hope Street	Hope Street Junction Design	Legacy works following MGD/A	On Street	Clause 88	RL	C/R	£5,000.00	19/01/2012	INF CORR 8089	13/02/2012												AMENDED TNC BEING PREPARED							
572	062	540	Cathedral Lane Substation	Retaining Wall Design	Site investigation shows an unenforced retaining wall adjacent to the sub-station site	On Street	Clause 88	RL	C/R	£5,000.00	18/01/2012	INF CORR 8086	13/02/2012													19/01/2012						
573	061		Roburum	Non ODA Compliant Footpath (ROBURUM DELTA)	CEC requirement to explore alternative solutions	Off Street	Clause 88	SM	C/R		19/01/2012	INF CORR 8090	14/02/2012																			
573.1	061		Roburum	Non ODA Compliant Footpath (ROBURUM DELTA)	Proposed Solution	Off Street	Clause 88	SM	C/R		19/01/2012	INF CORR 8090	14/02/2012														BEYOND TNC NOW ISSUED					
574	063	542	Haymarket Station	Defence Viaduct Slabbing	To interface with the Network Rail works	Off Street	Clause 88	SM	D/C	£10,000.00	19/01/2012	INF CORR 8091	14/02/2012													ESTIMATE RETURNED FROM B&S 22ND MARCH 2012, SB INVESTIGATE, AGREE & RAISE TCO						
575	060	N/A	Haymarket Station	Take Down Haymarket Station Viaduct Staircase and Parapet. TNC NOW WITHDRAWN, NETWORK RAIL CARRIAGES OUT WORKS	To interface with the Network Rail works at Haymarket Station	Off Street	Clause 88	SM	C/R	N/A	19/01/2012	INF CORR 8092	14/02/2012	09/03/2012	N/A	£121,314.91	N/A					19/01/2012	N/A	N/A	N/A	TNC NOW WITHDRAWN NETWORK RAIL WILL UNDERTAKE WORKS						
576	026	543	Airport to Gyle	Remediation to 250mm Watermain Remedial Works	To remediate the finished works following remedial works undertaken by Clancy Dowle	Off Street	Clause 88	SM	D/C	£60,000.00	14/01/2012	INF CORR 8105	17/02/2012	22/02/2012	N/A	£55,238.44	N/A					16/01/2012, 16/04/12 (TCO)	27/01/2012	£36,797.81		TCO NOW RAISED FOR AGREED VALUE & APPROVED CEC						
577	065	544	Haymarket Viaduct	Deflection of Sub Station Retaining Wall and Plinth	To interface with the Network Rail works at Haymarket Station	Off Street	Clause 88	SM	D/C	£10,000.00	26/01/2012	INF CORR 8099	21/02/2012	06/03/2012		£1,580.31										ESTIMATE REC'D FROM B&S 6TH MARCH 2012, SB TO GET AGREEMENT & RAISE TCO (FINISHED SET TNC 525)						
578	064	546	Site Wide	5% Provisional Sum Allowance	To remove unapproved provisional sums from the contract value	On Street	Clause 88	NM	D/C	£57,984.00																26/01/2012	CEC	09/02/2012	£57,984.00	02/02/2012		
579			On Street - Generally	Removal of embargo and revised traffic management		On Street	Clause 88	SM	C/R																			LETTER ISSUED				
580	074	547	On Street - Generally	Cancellation of trackwork material York Place to Newhaven	Value engineering initiative	On Street	Clause 88	SM	C/R	£1,100,000.00																		CEC	£1,100,000.00	09/02/2012		
581	075	548	Section 1A	Omit Street works to Tower Place and Midway Dock bridges	Value engineering initiative	On Street	Clause 88	SM	C/R	£100,000.00	09/02/2012	INF CORR 8191	06/03/2012															CEC	£100,000.00	09/02/2012		
582	081	549	Section 5A	Delisted proposed slabbing to Roburum Viaduct Structures	Value engineering initiative	Off Street	Clause 88	SM	C/R	£308,000.00	09/02/2012	INF CORR 8132	06/03/2012																CEC	£308,000.00	09/02/2012	
583	077	N/A	On Street - Generally	Ordering sets for on street works	Value engineering initiative	On Street	Schedule 45	RL	C/R		09/02/2012	INF CORR 8128																	CEC	£100,000.00	09/02/2012	
583.1	077	N/A	On Street - Generally	Ordering sets for on street works	Value engineering initiative	On Street	Schedule 45	RL	C/R		13/01/2012	INF CORR 8188																		CEC	£100,000.00	12/03/2012
584	080	N/A	On Street - Generally	Road Reconstruction specification	Value engineering initiative	On Street	Schedule 45	RL	C/R		15/01/2012	INF CORR 8191																		CEC	£100,000.00	13/03/2012
584.1	080	N/A	On Street - Generally	Road Reconstruction specification (revision following consultation process with CEC and B&S)	Value engineering initiative	On Street	Schedule 45	RL	C/R	</																						

TNC No.	PMC No.	ICO No.	Location	Description	Reason For Change	On Street / Off Street	Clause 89 / Schedule 45 / Instruction	T&T Change Owner	Change Category DC/UC/CR/SR	Budget Cost for Risk and Potential Changes	Date TNC Issued	Letter Ref	Date Estimate Due	Date Estimate Received	Estimate Change Value (Design)	Estimate Change Value (Construction)	Time Implications	Date Issued to CEC	Approved BY CEC/AF	Date Approved or Rejected	Agreed Cost for Approved Contract Change	Date ICO Issued	Comments
553	84	558	Secondary Phase 1a	Cessation of Design Work North of York Place	Design Cessation	On Street	Clause 89	RL	DC		01/03/2012	INF CORR 8173	17/03/2012									01/03/2012	RE - FURTHER CLARIFICATION ON SCOPE REQUIRED, BBS RETURN SIGNED TNC 16TH MARCH 2012
554		559	Edinburgh Gateway	Edinburgh Gateway slope option - DE 90th	Design Development	Off Street	Clause 89	SM	DC		13/03/2012	INF CORR 8189	06/04/2012					05/03/2012	CEC	05/03/2012		13/03/2012	TCO RETURNED FROM BBS 26.3.12, ESTIMATE DUE FOR RETURN 6.4.12
5341			Edinburgh Gateway	Edinburgh Gateway slope option (revision to Add for complete Design for Future Project) - DE 90th	Design Development	Off Street	Clause 89	SM	DC		30/03/2012	INF CORR 8222	SEE LETTER					04/04/2012	CEC	04/04/2012			TNC ISSUED
555			Haymarket Viaduct	Deletion of Crew Relief Facility	Design Development	Off Street	Clause 89	SM	DC									24/04/2012	CEC	24/04/2012			TNC RASD & APPROVED BY CEC, PROGRESS TO ISSUE, GET AGREEMENT & RAISE TCO
556	68	N/A	Section 1D	Utilities clashing with manholes 10/N24/03	Utilities conflict	On Street		RL	PAV														TNC to track PAV
557	N/A		Section 1D	Omit disconnection of Bus Tracker	Works carried out by M&Chicks	On Street	Schedule 45	RL			15/03/2012	INF CORR 8193	N/A Schedule 45					19/03/2012	CEC	19/03/2012			
558	63	N/A	Section 1D	Clifton Terrace Void	Introduction of Geotextile Liner	On Street		RL	PAV									24/04/2012	CEC				TNC to track PAV
559	TBC		On Street - Generally	Floating Track Slab - CONSTRUCTION	Design Development	On Street	Schedule 45	RL															TNC DRAFTED & SUBMITTED TO CEC, APPROVED BY CEC. BUT ON HOLD FOR FINAL CEC/T&T CHECKS
600	72	N/A	Section 1D	Utilities affecting the construction of OHLE foundations (PILUNG 04/20/2012)	Utilities conflict	On Street		RL	PAV				N/A Schedule 45										RAV - PILING NOW SPLIT REF/2
601	89	569	Section 5C - Gogar Train Stop	Change of Length of Shelter	RBS Requirement	Off Street	Clause 89	SM			15/03/2012	INF CORR 8199	10.4.12					19/03/2012	CEC	19/03/2012		15/03/2012	SIGNED TCO RETURNED FROM BBS 26.3.12
602	90	542	North York Place	Omit PID Poles for Tramstops North of York Place	Track no longer goes beyond York Place	Off Street	Clause 89	RL	DC	-23,740.00	20/03/2012	INF CORR 8194	N/A	N/A	N/A			04/04/2012	CEC	04/04/2012	-23,740.00	23/03/2012	ORIGINALLY RAISED AS CLAUSE 45, CHANGED TO CLAUSE 89, AGREED AND TCO ISSUED.
603				Bus Tracker Interface Specification																			AWAITING DECISION ON OPTIONS FROM LOTHIAN BUSES
604	87	N/A	York Place - Waverley Bridge	Utilities affecting the construction of OHLE foundations (PILUNG )	Utilities conflict	On Street	Schedule 45	RL	PAV				N/A Schedule 45										NOTE - THIRD AND FINAL PART OF PILING FOR OTHER AREAS SEE TNC 600, AND 543.
605	86	561	Depot	Sub-Station switching ( £ 1.6k TO 15TH APRIL 2012 , WILL GO BEYOND )	Full Operation Control Not Yet in Place	Off Street	Clause 89	SM	UC	TBA	05/04/2012	INF CORR 8236	N/A	N/A	N/A	£16,200.00		04/04/2012	CEC	04/04/2012	£16,200.00	05/04/2012	NOTE - MAKE SURE COST REPORT COVERS FOR PERIOD BEYOND 15TH APRIL.
606	75	N/A	York Place - Waverley Bridge	Works Delayed and disrupted as result as result of works carried out by third parties	Utilities conflict	On Street	Schedule 45	RL	PAV														INCLUDED PERIOD END 54 ESTIMATE
607		N/A	On Street - Generally	Delete 110v sockets on Tram Stops	Sockets No Longer Required	On Street	Schedule 45	RL	C/R		02/04/2012	INF CORR 8223	N/A Schedule 45					04/04/2012	CEC	04/04/2012			N/A
608			Off Street - Generally	Delete 110v sockets on Tram Stops	Sockets No Longer Required	Off Street	Clause 89	RL	C/R		02/04/2012	INF CORR 8224							04/04/2012	CEC	04/04/2012		
609	91		Off Street - Section 1A	Traffic Management For Section 1A	Confirmation of Requirements and update	Off Street	Clause 89	RL	C/R	£110,000.00	05/04/2012	INF CORR 8238	02/05/2012			N/A		04/04/2012	CEC	04/04/2012			
610		564	Edinburgh Gateway	Siemens Long Lead items	Order For OLE Poles and Turnout	Off Street	Clause 89	SM	DC									10/04/2012	CEC	10/04/2012			APPROVED BY CEC, BUT ON HOLD PENDING OUT COME OF SERIALS ON STREET POLE RE-USE
611			On Street - Generally	Excavation for Track Slab now by Utilities Contractor	Address Utilities clashes as they occur, and avoid disruption to refcon work	On Street	Schedule 45	RL	UC														TNC Drafted, and under review within T&T.
612			On Street - Generally	Tram Stops, Branding Changes - ON STREET	Accommodate branding changes being finalised by Operator	On Street	Schedule 45	RL	C/R									24/04/2012	CEC	24/04/2012			TNC RASD & APPROVED BY CEC, TO BE ISSUED
613			On Street - S40/Waterloo Place	Temporary Bus Station at St Andrew Square/Waterloo Place - DE 90th	Required for the York Place phase of TM when full closure adopted October 2012.	Off Street	Clause 89	RL	C/R									24/04/2012	CEC	24/04/2012			TNC RASD & APPROVED BY CEC, TO BE ISSUED
614			On Street - Rothesay Place	Rothesay Place Traffic Management Amendment	Safety issues at Palmerston Place end of Rothesay Place following implementation of traffic switch	On Street	Schedule 45	RL	C/R									24/04/2012	CEC	24/04/2012			TNC RASD & APPROVED BY CEC, TO BE ISSUED
615			Off Street - Section 2A	Design wall for blocking off, of the wall under the Haymarket viaduct as a result of the crew relief facility being omitted	Request by NW to block off void	Off Street	Clause 89	SM	DC									24/04/2012	CEC	24/04/2012			TNC RASD & APPROVED BY CEC, TO BE ISSUED
616			Off Street - Section 2A	Construct wall for blocking off, of the wall under the Haymarket viaduct as a result of the crew relief facility being omitted	Request by NW to block off void	Off Street	Clause 89	SM	DC									24/04/2012	CEC	24/04/2012			TNC RASD & APPROVED BY CEC, TO BE ISSUED
617			Off Street - Generally	Tram Stops, Branding Changes - OFF STREET	Accommodate branding changes being finalised by Operator	Off Street	Clause 89	SM	C/R									24/04/2012	CEC	24/04/2012			TNC RASD & APPROVED BY CEC, TO BE ISSUED

Change Category  
DC - Design Change  
UC - Unforeseen Circumstances  
CR - Client Request  
SR - Statutory Requirement  
PAV - Pricing Assumption Variation

## Appendix 5 – Risk Register

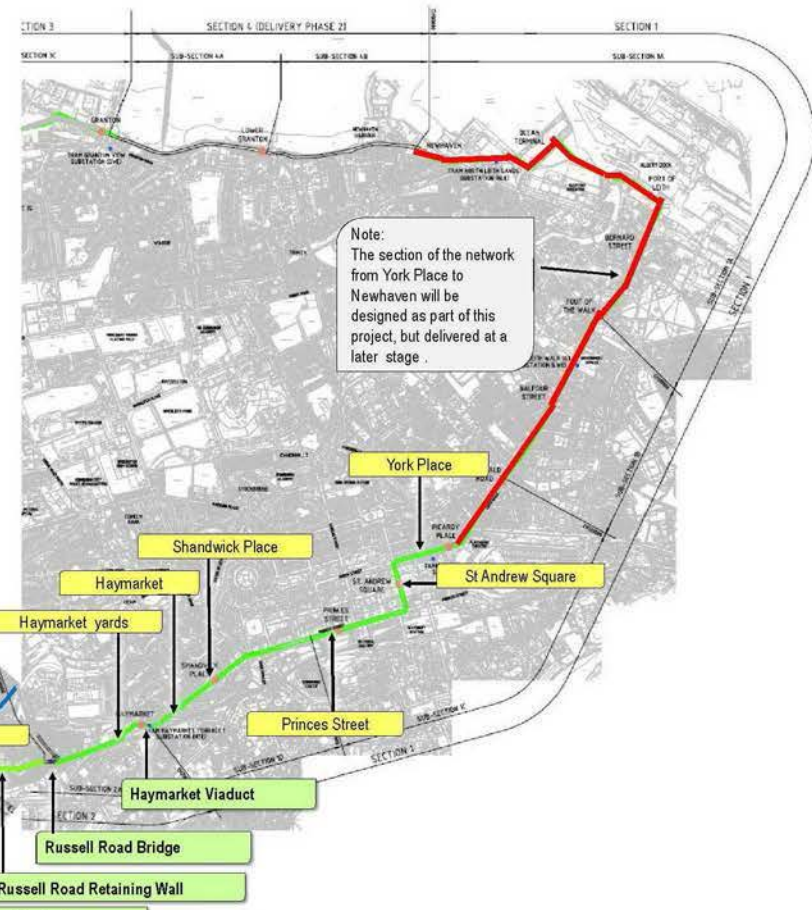
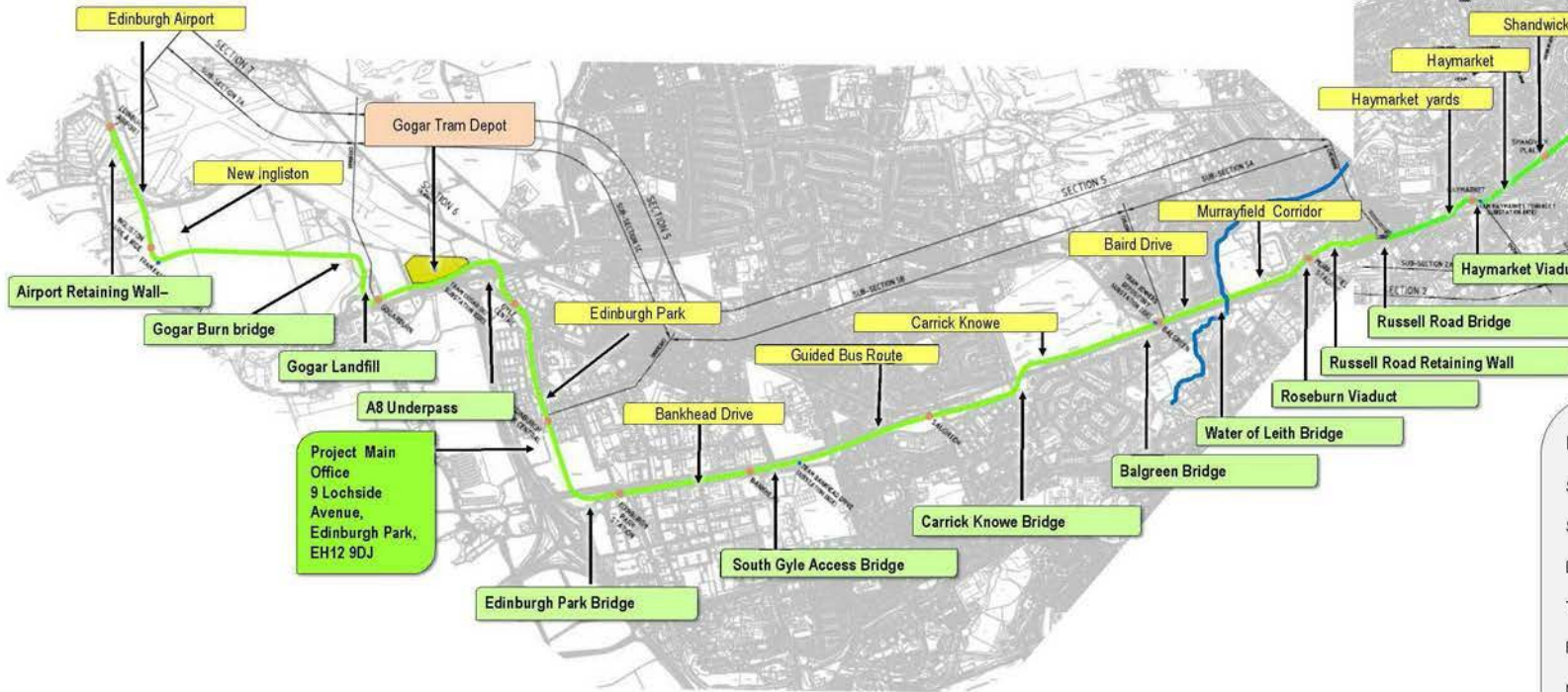
18 / Risk		18 / Risk		RISK ANALYSIS - High Impact										RISK ANALYSIS - Medium Impact											
ID	Description	Owner	Responsible	Start	End	Priority	Impact	Control	Residual	Residual	Residual	Residual	Residual	Residual	Residual	Residual	Residual	Residual	Residual	Residual	Residual	Residual	Residual	Residual	
ED019	Poor management of Scottish Water by TfL and poor record keeping during the M25 works	Task that the project relationship with Scottish Water deteriorating and access to advice and resolution of any key issues becoming challenged	SW team involved to work closely with the project to solve problems, together advice to control programme as a time for there is critical in maintaining M25 diversion, track on impact on infra works with additional second delay to project cost	T&T	Rob Looch	Active	Defunct on - On Street	5	3	3	2	3	5	25	High	Working on issues with SW	Defunct on - On Street	5	3	3	2	3	5	25	High
ED015 (NEW)	Utility works	Risk that the scope and extent of the work utility works will increase	additional costs and time	DEC	Rob Looch	New	Non Defunct on - On Street	5	3	1	1	4	25	High	Design works ongoing. Design definition processing and control for as appropriate	Design works ongoing. Design definition processing and control for as appropriate	4	3	1	1	1	4	16	High	
ED001	Use of the local area communications strategy and changing M25 requirements will reduce time to communicate	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	O&C	Rob McCallum	Active	On	4	3	3	6	3	38	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	3	3	3	3	3	6	3	38	High
ED034	Lack of early application/advance notice with TfL	Delayed TfL approvals as applicable	Delayed start of works. Delays to start of work	BBS	Shirley Murray	Active	Defunct on - On Street	2	4	3	2	2	1	1	High	(1) Comply with TfL requirements to obtain TfL approval and comply with TfL requirements. (2) Obtain TfL approval for TfL requirements. (3) Obtain TfL approval for TfL requirements. (4) Obtain TfL approval for TfL requirements.	(1) Comply with TfL requirements to obtain TfL approval and comply with TfL requirements. (2) Obtain TfL approval for TfL requirements. (3) Obtain TfL approval for TfL requirements. (4) Obtain TfL approval for TfL requirements.	4	3	2	2	3	12	High	
ED028	Height restriction for BBS system and its structure, to be less than 1,200 mm and to be consisting of a lattice or other approved structure	Height restriction for BBS system (less than 1,200 mm) - on street	Violation of TfL requirements with system height restriction	BBS/CRD	John Woolf	Active	Defunct on - On Street	3	3	3	3	3	9	High	(1) Comply with TfL requirements to obtain TfL approval and comply with TfL requirements. (2) Obtain TfL approval for TfL requirements. (3) Obtain TfL approval for TfL requirements. (4) Obtain TfL approval for TfL requirements.	(1) Comply with TfL requirements to obtain TfL approval and comply with TfL requirements. (2) Obtain TfL approval for TfL requirements. (3) Obtain TfL approval for TfL requirements. (4) Obtain TfL approval for TfL requirements.	4	3	3	3	3	12	High		
ED018	Use of the local area communications strategy and changing M25 requirements will reduce time to communicate	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	O&C	John Woolf	Active	Non Defunct on - On Street	3	3	1	6	6	38	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	3	3	1	1	4	12	High		
ED007	Use of the local area communications strategy and changing M25 requirements will reduce time to communicate	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	O&C	Stephan Lovock	Active	Defunct on - On Street	5	5	3	2	3	25	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	3	4	3	3	3	12	High		
ED016 (NEW)	Infrastructure M&S Governance by Microchips	M&S brochures, incidents and stoppage	Works, incidents and stoppage	DEC	John Woolf	NEW	Defunct on - On Street	5	4	4	1	5	25	High	Microchips related risk	Microchips related risk	3	3	4	1	4	12	High		
ED068	Scottish Water are not permitting infra to be south of the line to be working SW installation as per IPC drainage design. SW are now treating as a normal road for infra. SW are now treating as a normal road for infra. SW are now treating as a normal road for infra.	Infra cannot be south of the line to be working SW installation as per IPC drainage design. SW are now treating as a normal road for infra. SW are now treating as a normal road for infra. SW are now treating as a normal road for infra.	Infra cannot be south of the line to be working SW installation as per IPC drainage design. SW are now treating as a normal road for infra. SW are now treating as a normal road for infra. SW are now treating as a normal road for infra.	BBS/CRD	Andy Scott	Active	Defunct on - On Street	4	4	4	0	0	3	16	High	(1) Postpone drainage to infra work with SW and design. (2) Postpone drainage to infra work with SW and design. (3) Postpone drainage to infra work with SW and design.	(1) Postpone drainage to infra work with SW and design. (2) Postpone drainage to infra work with SW and design. (3) Postpone drainage to infra work with SW and design.	1	2	4	6	6	12	High	
ED072	Use of the local area communications strategy and changing M25 requirements will reduce time to communicate	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	DEC	Stephan Lovock	Active	Defunct on - On Street	5	4	4	2	3	4	26	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	2	3	3	18	High	
ED084	Construction works	Additional costs	Additional costs	DEC	Gary Eason	Active	Non Defunct on - On Street	5	5	1	1	1	15	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	3	3	1	1	1	2	6	High	
ED076	Delayed provision of permission from Utility Companies	Delay to achieving utility consent & its permission requirements for work	Delay to construction works and Programme	DEC	Stephan Lovock	Active	Defunct on - On Street	4	4	4	4	4	16	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	1	3	3	3	3	9	High		
ED085	Use of the local area communications strategy and changing M25 requirements will reduce time to communicate	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	DEC	Shirley Murray	Active	Defunct on - On Street	2	4	4	2	2	8	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	3	3	3	2	2	9	High		
ED074	Lack of communication installation on site	Installation of communication equipment	Installation of communication equipment	BBS	Martin Ayres	Active	Non Defunct on - On Street	3	3	3	2	2	9	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	1	3	3	2	2	9	High		
ED066	Risk of safety in operation for workers by affected works	Approval consent for remaining workers associated with Scottish Power works	Delay to SW works and increased costs. Delay to BBS Programme	BBS/CRD	John Woolf	Active	Defunct on - On Street	2	2	3	3	3	6	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	3	3	3	3	3	9	High		
ED012	Use of the local area communications strategy and changing M25 requirements will reduce time to communicate	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	DEC	Rob Looch	Active	Defunct on - On Street	5	4	3	3	3	26	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	4	2	3	3	3	2	8	High	
ED003	Removal of CAF from TfL authority for part of the integration agreement. Infra do not face on integration agreement	Removal of CAF from TfL authority for part of the integration agreement. Infra do not face on integration agreement	Removal of CAF from TfL authority for part of the integration agreement. Infra do not face on integration agreement	DEC	Martin Ayres	Active	Defunct on - On Street	4	4	4	1	1	20	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	1	3	3	3	3	4	8	High	
ED046	Failure to locate apparatus prior to excavation. Failure to locate apparatus prior to excavation. Failure to locate apparatus prior to excavation.	Damage to Utility Apparatus (by Microchips)	Safety hazard to workers or a fire risk (gas release)	T&T	Rob Looch	Active	Defunct on - On Street	2	2	2	2	2	6	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	1	3	3	3	3	4	8	High	
ED010	Use of the local area communications strategy and changing M25 requirements will reduce time to communicate	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	O&C	John Woolf	Active	On	3	3	3	3	3	38	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	3	3	3	3	3	4	8	High	
ED009	Poor safety monitoring or records also incorrect	Four fatalities or more deaths occur during or after infra maintenance period	Additional costs & delays	DEC	Martin Ayres	Active	Defunct on - On Street	3	4	4	2	3	12	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	2	3	4	8	High		
ED080	Unauthorised work by TfL during excavation/works	Unauthorised work by TfL during excavation/works	Unauthorised work by TfL during excavation/works	DEC	Rob Looch	Active	Defunct on - On Street	3	3	5	3	3	15	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	4	2	8	High			
ED085	Unauthorised work by TfL during excavation/works	Unauthorised work by TfL during excavation/works	Unauthorised work by TfL during excavation/works	DEC	Shirley Murray	Active	Defunct on - On Street	3	3	4	0	0	12	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	4	0	0	8	High		
ED067	Contract expressed by TfL that works not carried out in accordance with PCL TfL requirements	Approval of works by TfL	Delay to construction works and Programme	BBS	Shirley Murray	Active	Defunct on - On Street	2	4	4	4	4	8	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	4	4	4	8	High		
ED004	Working plans and issues	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	T&T	John Woolf	Active	Non Defunct on - On Street	4	3	3	6	3	26	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	3	3	3	4	8	High	
ED070	Utility issues	Public safety called into construction	Public safety called into construction	O&C	Rob McCallum	Active	On	1	3	4	4	4	16	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	3	3	3	4	8	High	
ED045	Failure to take information from Operator CAP/BBS to create communication, testing and acceptance	Delay to interface between system sites	Delay to project programme delay	ALL	John Woolf	Active	Defunct on - On Street	4	3	3	1	1	12	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	1	3	3	3	3	4	8	High	
ED074	Use of the local area communications strategy and changing M25 requirements will reduce time to communicate	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	O&C	Rob McCallum	Active	On	3	2	2	2	2	11	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	2	2	2	4	8	High	
ED065	Use of the local area communications strategy and changing M25 requirements will reduce time to communicate	How the local area communications strategy and other related services may be affected or reduced	loss of connectivity, loss of mobile and other services (local and national)	O&C	Rob McCallum	Active	On	2	2	1	2	2	11	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	1	1	1	4	8	High	
ED087	Unauthorised work by TfL during excavation/works	Unauthorised work by TfL during excavation/works	Unauthorised work by TfL during excavation/works	O&C	Rob McCallum	Active	On	3	1	4	4	4	11	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	3	3	3	4	8	High	
ED070	Unauthorised work by TfL during excavation/works	Unauthorised work by TfL during excavation/works	Unauthorised work by TfL during excavation/works	O&C	Rob McCallum	Active	On	4	1	1	1	1	28	High	Finalise mobile and other communications information to the works, local and mobile	Finalise mobile and other communications information to the works, local and mobile	2	3	1	1	1	4	8	High	





## Appendix 6 – Route Map

# Edinburgh Tram Network – Route Map & Key Locations



**Key**

- Structures on Network
- Sections of Network
- Design Only Element
- Tram Depot
- Route to be completed
- Note.

Drawn by: Martyn Ayres  
Date: 10/11/11  
Revision: 0



## Appendix 7 – Acronyms

## ACRONYMS

ACCB	Accommodation and Boundary Works
AiP	Approval in Principle
ANC	Advice of Non Compliance
APPP	Prior Approvals – Detail Design
APPR	Approvals
APPT	Technical Approvals – Detail Design
ARCH	Architecture
AUXI	Auxilliary Power
BAA	British Airports Authority
BBS	Bilfinger Berger Siemens
BLDS	Buildings
BRDG	Bridges
BSC	Bilfinger Berger / Siemens / CAF - previous consortium
CAF	Tram Provider - (Construcciones y Auxiliar de Ferrocarriles)
CAR	Corrective Action Request
CAR	Water Environment (Controlled Activities) Regulations 2011
CDM	Construction (Design and Management) Regulations 2007
CEC	City of Edinburgh Council
CECS	CEC Services
CFS	Case for Safety
CHAR	Charette Changes
COCP	Code of Construction Practice
COMM	Commissioning
CVI	Confirmation of Verbal Instruction
DAS	Design Assurance Statement
DASB	Design – As Built
DaST	Deliver a Safe Tram
DDAP	Detailed Design Assurance Plan
DEMO	Demolition
DEPO	Depot
DKE	Dynamic Kinetic Envelope
DoC	Declaration of Conformity
DRAN	Drainage
DtTS	Deliver the Tram Safely
E&M	Electrical & Mechanical
EAL	Edinburgh Airport Limited
EART	Earthworks / Embankments
ELEC	Electricity
EMC	Electromagnetic Compatability
ENVI	Environmental
ER's	Employers Requirements
ESM	Engineering Safety Management
FAT	Factory Acceptance Test
FATs	Factory Acceptance Tests
GASS	Gas
GEOT	Geotechnical
HAZID	Hazard Identification Study
HAZOP	Hazard and Operability Study
HIGH	Highways
HIRA	Hazard Identification and Risk Assessment
HMRI	Railway Inspectorate
HS	Historic Scotland
HSE	Health and Safety Executive
HV	High Voltage
ICCO	Independent Certifiers Change Order
ICP	Independent Competent Person

IDC	Inter Disciplinary Check
IDR	Inter Disciplinary Review
Infraco	Infrastructure contract
ISA	Independent Safety Assessor
ISRP	Infrastructure Safety Review Panel
ITP	Inspection and Test Plan
JNCS	Junctions
KPI	Key Performance Indicator
LAND	Landscaping
LIGH	Lighting
LOLER	Lifting Operations and Lifting Equipment Regulations 1998
MANA	Management
MECH	Mechanical
MILE	Milestones
MISC	Miscellaneous
MODL	Modelling
MUDFA	Multi-Utility Diversions Framework Agreement
MUDFA	Multi Utility Diversions Framework Agreement
MULT	Multi-Discipline
NCR	Non Conformance Report
NR	Network Rail
NWR	Network Rail
O&M	Operation and Maintenance
OCC	Operational Control Centre
OCIP	Owner Controlled Insurance Policy
OCL	Overhead Catenary Line
OLE	Overhead Line Equipment
ORA	Operational Risk Assessment
ORR	Office of Rail Regulation
ORS	Operational Radio System
OTHW	Other Works
PHA	Preliminary Hazard Analysis
PLAT	Platforms
PM	Planned Maintenance
POWR	Power (Traction)
PSCC	Project Safety Certification Committee
QCRA	Quantified Cost Risk Analysis
QRA	Quantified Risk Analysis
QSRA -	Quantative Schedule Risk Analysis
RAIB	Rail Accident Investigation Branch
RAM	Reliability Availability Maintainability
REL	Railway Electrification
RFI	Request for Information
RFO	Request for Opinion
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurences Regulations 1995
ROGS	The Railway and other Guided Transport System (Safety) Regulations 2006
RSA	Road Safety Audit
RSAR	Road Safety Audit Report
S&T	Signalling and Telecoms
SAC	Safety Application Condition
SAT	System Acceptance Test
SATs	Site Acceptance tests
SCADA	Supervisory Control and Data Acquisition
SDS	System Design Services
SEPA	Scottish Environmental Protection Agency
SEWR	Sewerage
SFAIRP	So Far As Is Reasonably Practicable
SGN	Scotland Gas Networks
SI	Site Instruction
SIGN	Signalling
SIT	System Integration Test
SMS	Safety Management System
SNH	Scottish Natural Heritage
SP	Scottish Power
STAK	Stakeholder
STRL	Street Lighting
STRU	Structures / Retaining Structures
SUBM	Submissions
SUBS	Sub-Stations
SURV	Surveys

SW	Scottish Water
TPS	Traction Power Supply
T&T	Turner & Townsend
TCO	Tie Change Order
TM	Traffic Management
TNC	Tie Notice of Change
TS	Transport Scotland
TSS	Technical Support Services
UCO	Utilities Change Order
UNC	Utilities Notice of Change