



**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](mailto:julian.weatherley@turntown.co.uk)  
w: [turnerandtowntsend.com](http://turnerandtowntsend.com)

Edinburgh Tram Project  
Full Progress Report No. 13  
16<sup>th</sup> September to 13<sup>th</sup> October 2012  
**FINAL**

CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT  
October 2012



CONTENTS

1	Executive Summary	3
2	Health, Safety & Environment	6
3	Programme	11
4	Risk	17
5	Commercial	21
6	On Street - Enabling Works & Utility Legacy Works	28
7	On Street - Main Works	30
8	Off Street Works	32
9	Trams	36
10	Assurance	39

Appendix 1 – Dashboards

Appendix 2 – Health, Safety & Environment and Consents Tracker

Appendix 3 – Cost Report

Appendix 4 – Change Log

Appendix 5 – Risk Register

Appendix 6 – On Street Schematic

Appendix 7 – Organisation Chart

Appendix 8 – Route Map

Appendix 9 – Acronyms

Rev	Originator	Approved	Date
0	Shirley-Anne Collin	Julian Weatherley	19 October 2012
1	Shirley-Anne Collin	Julian Weatherley	24 October 2012

© Turner & Townsend. All rights reserved October 12. This document is expressly provided to and solely for the use of City of Edinburgh Council and must not be quoted from, referred to, used by or distributed to any other party without the prior consent of Turner & Townsend 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 16<sup>th</sup> of September to 13<sup>th</sup> October 2012. It incorporates progress reported within Infraco and CAF Progress Reports No. 5-6 to the 15<sup>th</sup> of September 2012 and the 31<sup>st</sup> of October 2012 respectively.

There were fourteen health & safety incidents recorded during the period, none of which have been identified as Serious / Significant.

Infraco have produced a risk assessment in relation to soil removed from Baird Drive. This is currently under review by SEPA.

Five days erosion of the 22 week time bank took place during the period with 10.3 weeks remaining to date. Turner & Townsend currently estimate that a further erosion of up to four weeks will result from the need to keep the bus station operational during the York Place works. Infraco have indicated that they consider this additional erosion will take the total erosion beyond 22 weeks; however, this has yet to be substantiated.

Sectional completion dates (excluding risk and opportunity) for Section B, C and D are unchanged and remain forecast for the 5<sup>th</sup> of March 2013, 3<sup>rd</sup> of February 2014 and the 4<sup>th</sup> of May 2014 respectively. These forecasts exclude any delay relating to the need to keep the York Place bus station open. The critical path remains through Section 5C (Edinburgh Gateway).

Turner & Townsend have issued proposed wording to Infraco identifying exclusions to the definition of Section B. These include the exclusion of fare collection equipment. A response from Infraco is awaited at the time of writing.

Measures to protect tram stops prior to operation have been agreed with CEC and a draft instruction issued to Infraco.

Crummock and McNicholas continue to progress enabling works to programme within York Place. The project remains on target to hand over York Place to Infraco by mid November 2012.

Turner & Townsend are working with CEC to explore ways of capping and reducing the scope of Scottish Water legacy works. The projects relationship with Scottish Water remains challenging.

A workstream continues to drive out efficiencies in relation to the execution of Type2 utilities works.

At CEC's request, the start date for the Leith Walk works is now being targeted for January 2013. This will allow time for the development of a cost effective scope of works and will minimise disruption to residents / retailers on the lead up to Christmas.

With some minor exceptions, Infraco remain in possession of all On Street areas with the exception of York Place. The installation of track slab works is making good progress overall. Some delays have occurred within St Andrew Street however these works are now off the critical path.

Following the de-scoping of Landscaping in Shandwick Place from Infraco, Turner & Townsend are preparing to go to tender for these works.



The majority of snags within Princes street are now closed.

Good progress continues to be made throughout much of the Off Street areas. Track is complete within Section B, OLE erection has commenced and tamping is due to commence on the 22<sup>nd</sup> of October 2012. The installation of tram stops is also nearing completion within Section B.

Following an initial slip against the Edinburgh Gateway programme (reported last period), progress has recovered and the construction of the king pile wall has now commenced.

Progress at the Murrayfield reinforced retaining wall (S21B) has been slow this period impacting on one of the projects main critical float paths. Infraco have increased resources in order to mitigate the impact.

Following the re-ballasting of the shunt line adjacent to the ScotRail depot, preparations are underway for the removal of sheet piles from the railway embankment.

Discussions are ongoing between CEC and the airport in relation to the resolution of issues at Eastfield Avenue Crossing.

Turner & Townsend are preparing to seek an independent design and build solution to the remaining depot snags.

Twenty three trams have now been delivered to the Gogar depot with twenty having completed routine testing and commissioning.

Turner & Townsend have written to CAF requesting their confirmation that they are progressing to the Rev5 programme. This confirmation is outstanding.

CEC have confirmed their intention to progress the procurement of a fare collection system with Parkeon with a view to completion contractual arrangements by the end of October 2012. Turner & Townsend are progressing the resolution of outstanding technical issues over the same period.

Following the Safety Verification Manager's decision to leave CEC at the end of October 2012, T&T are supporting CEC in the consideration of options for a revised assurance strategy for the project. A short to medium solution to this issue is a priority.

Turner & Townsend have met the Independent Certifier to review the template issued to Infraco for the assessment of mark ups where work is part omitted and part added. This follows the publication of the Independent Certifier's Opinion, discussions at the valuation meeting and a response from Infraco which applies -10% to the work deducted and 34.5% to the work added. This results in recovery in excess of the contract provisions and would adversely impact the cost report in excess of £400K if Infraco's interpretation was accepted. Turner & Townsend advised that Infraco's forecast recovery of prelims, overhead & profit provides significant compensation and therefore they are not disadvantaged by Turner & Townsend's interpretation which is based upon application of -10% where the net change is negative and 34.5% where the net change is positive. It was agreed that the Independent Certifier would meet Infraco to understand the basis of their calculation and then a joint meeting would be held to resolve the matter. Risk mitigations and assessment of this issue will be reviewed with CEC at the Risk meeting being held on the 24<sup>th</sup> of October 2012.



**Progress Report No. 13 – 16<sup>th</sup> September to 13<sup>th</sup> October 2012**

**FINAL**

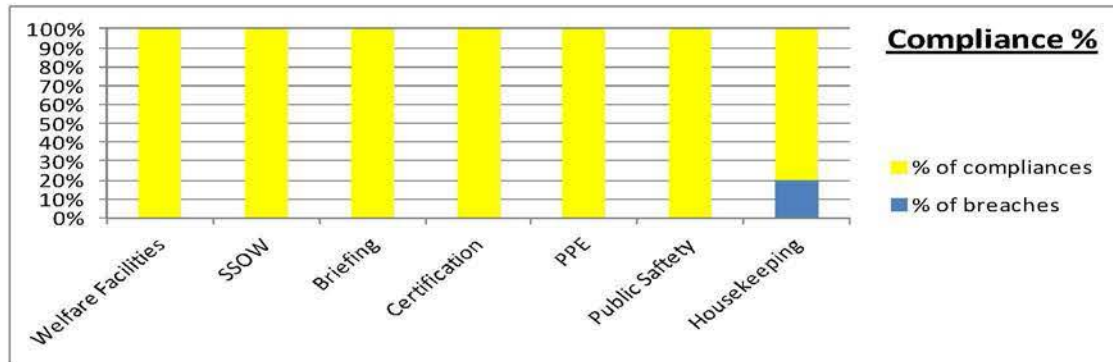
Infraco have submitted an estimate for the Cathedral Lane sub station which was based on a single sub-contract tender. Infraco had stated that an instruction to proceed is required by the 13<sup>th</sup> of October 2012 however Turner & Townsend are reviewing a number of cost queries with Infraco prior to instruction.

**FINAL**

## 2 Health, Safety & Environment

### 2.1 Management of Health & Safety

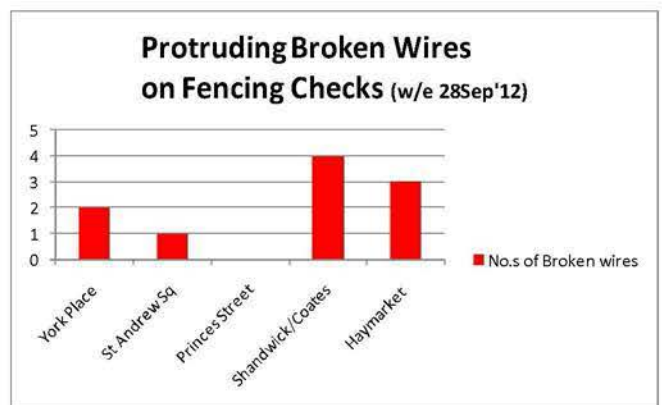
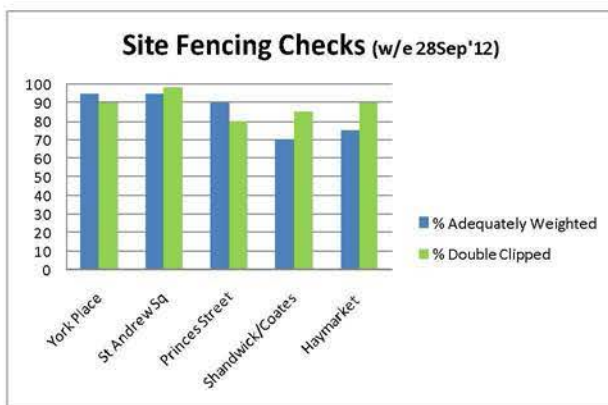
Joint monitoring of the leading indicators has continued to be undertaken between Turner & Townsend and the Principal Contractors. The results are included below, and have shown an improvement in the period.



As a result of the improved health and safety performance, the appointment of the additional health and safety resource has been deferred. The situation will be kept under review dependent upon the health and safety performance.

During the last period Turner & Townsend have been working to implement a number of initiatives regarding health and safety on the project. This monitoring focused on issues that had a significant health and safety impact i.e. fencing within the city centre and movement of vehicles accessing and egressing work sites.

The monitoring of fencing considered its stability; for example the weighting down of the fencing and if the fencing was double clipped, and whether there was any protruding broken wires. The results are included below and identify a high level of compliance, although there was some variation in the results. This information has been shared with Bilfinger Berger – Siemens and will be subject to a further monitoring exercise in the next period.



As of Friday the 5<sup>th</sup> of October all out of hours calls to the 0800 328 3934 Tram Helpline number will be handled by the City of Edinburgh Contact Centre.

The Health and Safety Executive on the 25<sup>th</sup> of September as part of their project to assess the implementation of occupational health on construction projects. Minor issues had been identified regarding manual handling. Murray Provan the Health and safety Executive Inspector for the project had commented that he would be making a formal visit to the project in the near future.

An audit had been carried out for the Considerate Constructors Scheme on the 27<sup>th</sup> of September. The project had received a score of 37/40 which is classified as "an exceptionally good site" in the scoring overview.

Bilfinger Berger – Siemens held their monthly Occupational Health & Safety Meeting on the 4<sup>th</sup> of October which was attended by Turner & Townsend. Agenda items for the meeting focused on occupational health issues and included:

- A short video to highlight issues regarding hearing loss.
- A report regarding the visit by the Health and Safety Executive on the 25<sup>th</sup> of September.
- Workforce Consultation meeting.
- CoCP results – Turner & Townsend gave an update on the results of the COCP inspections for the period.
- A report on the audit carried out for the Considerate Constructors Scheme
- Specific issues covered under any other business:
  - The requirement for external organisations not to reverse onto site without the use of a banksman
  - The requirement for de-nailing timber and use of metatarsal protection in footwear.
  - A review of the requirement under the Health and Safety at Work Act section7 – proceedings against individuals.

## **2.2 Incident Management**

### **2.2.1 Incident Reporting**

During the last period there were fourteen incidents on the Edinburgh Tram Project. There were no incidents that were identified as serious / significant. There were no incidents that related to members of the public. The incidents comprised four incidents involving service damage, two environmental incidents, two road traffic incidents, four minor injuries and two near misses / unsafe condition.

- The four incidents which involved service damage comprised one to a Scottish Water, water main which leaked whilst being tested, one to a buried comms cable, one to a street lighting cable and one to a traffic signalling cable. The contractor has submitted incident reports which have been reviewed and closed out.



One incident regarding Scottish Water assets at the Murrayfield underpass has resulted in an incident investigation being carried out by Bilfinger Berger. A joint meeting between Bilfinger Berger and Turner & Townsend has resulted in the incident report being revised.

- BBS are currently developing an action plan for implementation to be agreed with Scottish Water.

### 2.2.2 Record of Incidents

Incidents reported within this period comprise:

Date	Location	Detail	Contractor	Classification
19/09/2012	Princes Street	Leakage from 6" water main through equipment used for tapping into water main.	McNicholas	Service damage
19/09/2012	Murrayfield Tram Stop	Person fell on uneven ground causing swelling to knee and shin.	Bilfinger Berger	Injury
20/09/2012	Elder Street	Damage to traffic signal cable.	Crummock	Service damage
21/09/2012	Coates Crescent	Noise complaint from resident - generator in site accommodation left running overnight.	McNicholas	Environmental
21/09/2012	Balburnie Place	Person hit finger with hammer whilst driving road pins.	Grahams	Injury
21/09/2012	Edinburgh airport	Exit barrier caught by haulage lorry.	Farrans	Road traffic accident
24/09/2012	Shandwick Place	Person injured hand (broken finger, deep cut to finger) when dropped cabinet and trapped hand between cabinet and lorry.	Lagan Construction	Injury
25/09/2012	Ingliston Park & Ride	Glazing panel at Ingliston tram stop blown out of shelter in high winds	Farrans	Near miss / unsafe condition
26/09/2012	Roseburn Street	Lorry took wrong turning into Murrayfield main gate when delivering material. Slight damage to fence at main entrance caused by lorry turning. Fence being repaired. Contractor will submit F313 when report received.	Grahams	Road traffic accident
26/09/2012	Torphichen Street/West Maitland Street	CEC received a call stating that there was an open trench in the road at Torphichen Street/Place junction.	McNicholas	Near miss / unsafe condition
26/09/2012	Coates Crescent	Damage to street lighting cable outside 5 Coates Crescent.	McNicholas	Service damage
26/09/2012	A8 Edinburgh Gateway	Due to inclement weather, untreated surface water had been building up around and spilling into the Scottish Water discharge point	Expanded	Environmental
27/09/2012	York Place	Cable & Wireless telephone cable damaged outside 24 York Place. There is no confirmation whether cable is live/dead.	Crummock	Service damage
02/10/2012	Haymarket	Injured person stood on nail attached to timber shuttering.	First in Rail	Injury

**FINAL**

### **2.2.3 Incident Progress**

The action plan developed by McNicholas following the investigation into the overturning of the excavator has been implemented. Ongoing monitoring is being undertaken to assess the level of compliance with the requirements of the revised safety management system.

### **2.3 CDM Regulations**

The CDM arrangements for operating section B test track during the testing and commissioning stage have been reviewed.

The McNicholas health and safety resource has been reduced back to the health & safety manager following the resignation of the health & safety inspector. McNicholas have advised that a replacement will be in place by 26<sup>th</sup> of October 2012.

### **2.4 Environmental**

An environmental incident was recorded in Section 6 during the period. This was as the result of a discharge of silty water into a controlled Scottish Water discharge point. Bilfinger Berger - Siemens have compiled a report which is currently being review by Turner & Townsend prior to issue to Scottish Water. The report identifies that the silty water was surface water run-off and a manhole ring to form containment around the discharge point has been installed to prevent uncontrolled discharge into the Scottish Water system.

Photographic survey of chamber found at York Place has been issued to John Lawson City of Edinburgh Council Archaeological Services and GUARD Archaeology. The location of the chamber will not impact on the works.



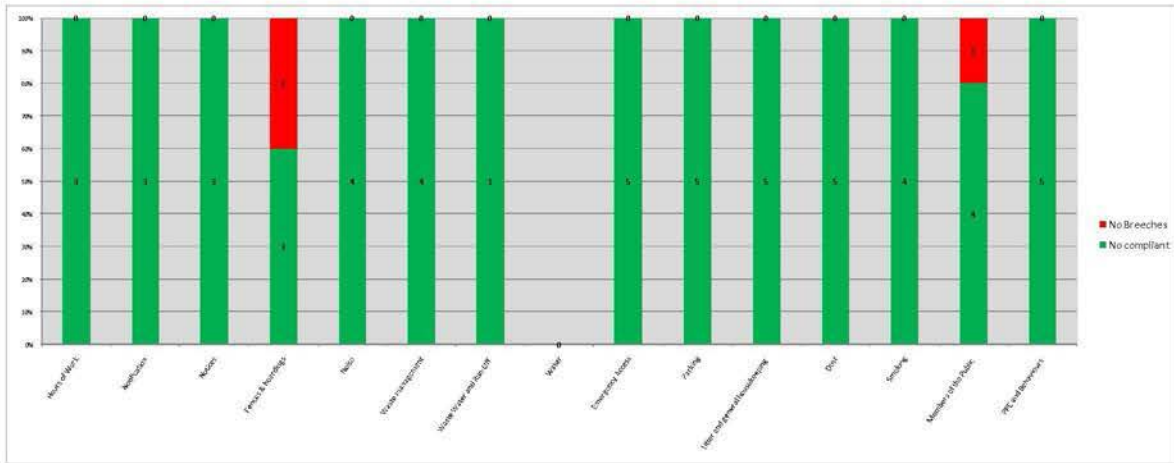
*Chamber at York Place*

An environmental Inspection carried out with Bilfinger Berger-Siemens at Section 7. No major issues were identified, however the issue of waste on site and noticeable oil spills were highlighted.

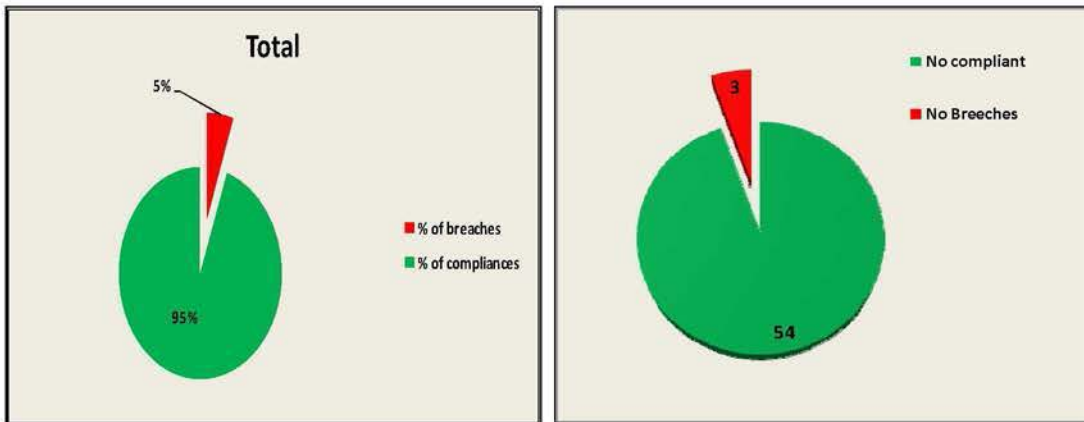
FINAL

## 2.5 CoCP

CoCP compliance was recorded at 95% during the Period. The results of the CoCP monitoring have been passed to The City of Edinburgh Council Communication Team to be uploaded to the project web site. Details of the breaches are included within the Deliver the Tram Safely report included within Appendix 2.



### % Compliance



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



## 3 Programme

### 3.1 Programme Reporting

Infraco continue to report progress against the Rev5 contract programme. The Master Schedule's sequencing of activities is primarily based upon this contract programme and progress based on the monthly reports provided by Infraco. All information and analysis contained in this section is based upon the Master Schedule, unless otherwise stated. Recent observations of works on sites to date indicate that it is likely the forecasted Section C & D dates in the Master Schedule are being artificially driven by the Gateway. This is due to the Rev5 schedule not being representative of the intended works, by Infraco, at the Gateway. As the project steadily switches from civils to E&M works it is further anticipated that the Rev5's representation of intended progress, of on site and planned future works along other sections, will also diminish Rev5's relevance. Turner & Townsend have held discussions with CEC around the establishment of a client side planner's forum. This forum would be charged with maintaining the Master Schedule with a best estimate of the intended and progressed works in order to forecast realistic project Section Completion dates.

### 3.2 Summary

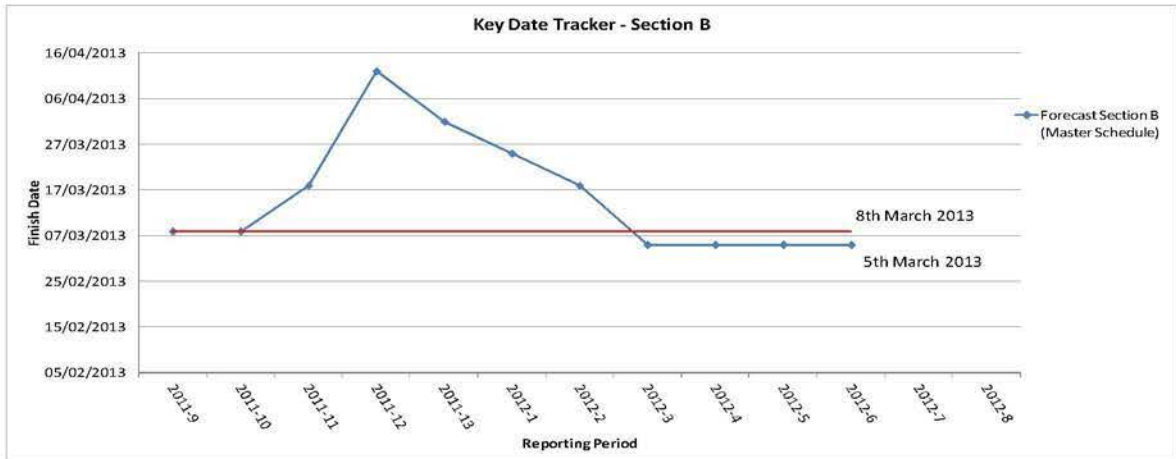
This period, there has been no movement to Section B, C or D completion dates (5<sup>th</sup> of March 2013, 3<sup>rd</sup> of February 2014 and 4<sup>th</sup> of May 2014 respectively). However, there is growing concern in relation to key float paths, where the pervading movement of finish dates has been negative. This trend could result in multiple critical paths arising or a pronounced switch of the critical path to another key float path in the programme. Key paths to note are Murrayfield Stadium to Balgreen Road, which has slipped by 25 working days this period; and Shandwick Place, which slipped by 12 working days this period.

The contract milestones continue to remain earlier than the contractual dates. This is a result of previous Cost Engineering initiatives implemented in early 2012 and the implementation of the York Place Radical Programme. The charts below track the forecast dates (from the Master Schedule) for the Sectional Completion milestones against the contractual dates and their movement throughout the project lifecycle to date.

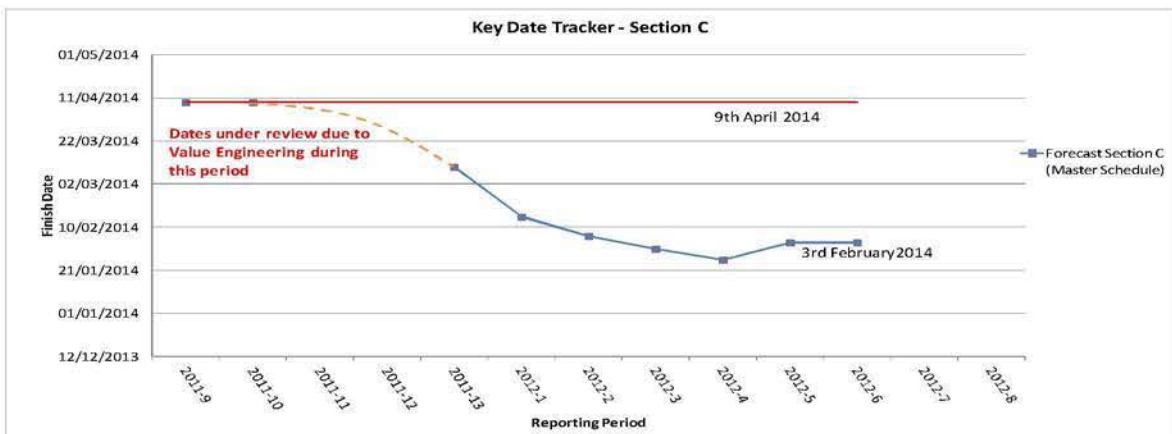
See following page for Graphics:

**FINAL**

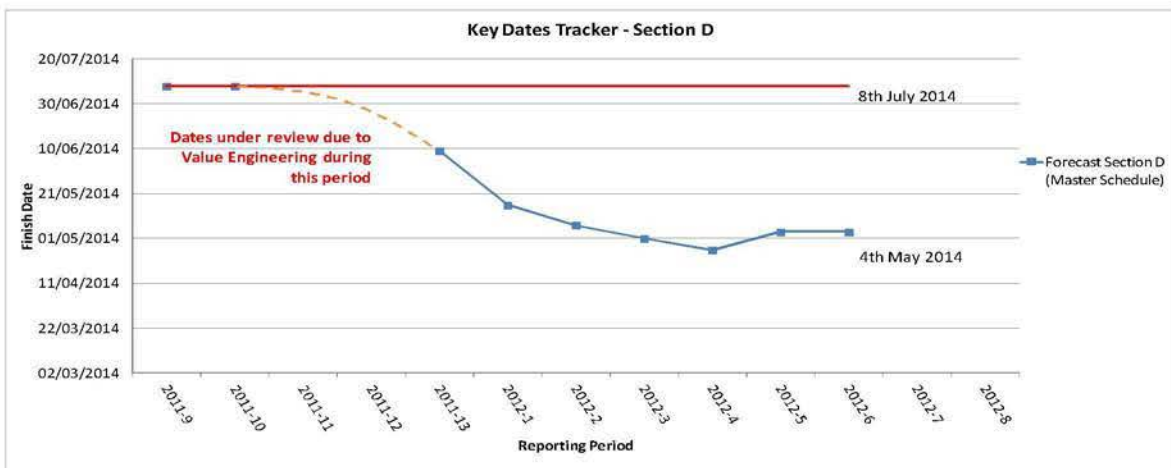
**Section B; Test Track Complete**



**Section C; All Construction Complete (including T1 & T2 testing)**



**Section D; Open for Revenue**





### **3.3 Progress this Period**

There has been some good progress this period along Section 5C Gateway to Edinburgh Park, however progress along most sections, both On and Off-Street, has been less than planned. This has seen a general reduction of float across the key float paths for the project. The consequence of which is an increased volatility to the forecast Section B, C & D dates, as more sections become likely critical drivers.

Murrayfield corridor continues to show turbulence, with several structures' completion dates continuing to change significantly. Murrayfield Retaining Wall (S21D) continues to show poor progress in relation to reinforced earth works; however prime concern still remains with Roseburn Street Viaduct (S21A) and the adjacent Murrayfield Retaining Wall (S21B), which have slipped by 13d and 17d respectively as a result of design and construction resource issues. These remain the drivers for installation of the rails systems along the corridor. Consequently, available float to Section 5A completion has dropped to just over 1month. It is still possible that some of this lost time could be mitigated: once structures' works are progressed out of the ground, and opportunities arise to commence track civils sooner; or in line with the separate sub-contractor working along the corridor, multiple track civils works fronts could be undertaken.

Infraco continues to present conflicting information on progress at the Gateway. This period progress against the Rev5 has shown a further 6d lost in period. This would suggest 23d lost in total over the last two reporting periods. Infraco have raised no issues or concerns, either on site or within the construction section of their monthly progress reports. These observations have been raised at the cross party "Planners' Forum". Turner & Townsend continue to use their own site data and project records to input progress against the Gateway works. It has been assessed, based upon Expanded schedule of works that since last period the attenuation tank works continue to recover time lost previously. This has been achieved during the wall pours of the tank. The King Post embankment works remain on schedule. Therefore, it is Turner & Townsends understanding that there is currently no impact to the subsequent commencement of track laying at the Gateway, as shown in the Master Schedule.

Section B completion continues to be forecast for the 5<sup>th</sup> of March 2013, marginally ahead of the contractual date 8<sup>th</sup> of March 2013. Of note this month has been commencement of the SAT/SITs at all three tram stops (Gogarburn, Ingliston and Airport). However, installation of the tram stop shelters continues to slip. This is due to an ongoing design issue with the fixity of the glass within the tram stop side panels. Depot to Airport tamping works are booked to commence 22<sup>nd</sup> of October 2012 and remain the critical driver for the majority of E&M works and subsequent testing and commissioning of Section B.

St Andrews St/Waverley Junction Plug was opened as scheduled and revised traffic phasing in York Place was achieved. Phase 2 utility works at York Place have also commenced, on time, and are progressing well. At present York Place utility and excavation works are now forecast for completion mid November, 1 month ahead of the date Infraco are currently shown to take over the site (7<sup>th</sup> of January 2013 in Master Schedule). Infraco's confirmation that they intend to commence works in this area once the site becomes available remains outstanding.

Both McNicholas and Infraco works continue at Shandwick Place. As re-sequencing of the phases is steadily implemented, progress remains significantly ahead of the Rev5 programme, in most locations. Interfaces between contractors continue to be coordinated to minimise



**FINAL**

disruptions. The main liaisons this period have been within Phases 1 & 2 where foam concreting has been used during the transition from utility to road civils. Concurrent to this, in Phase 4, Infraco have progressed well with the inbound and outbound RC slab. Despite good cooperation on all sides, Infraco have still shown 12d lost in period.

### **3.4 22 Week "Time Bank"**

This period, the "time bank" has lost a further 5days. Of the 22 week cost engineering programme saving, 11.7 weeks have now been eroded.

Despite 7days benefit from Rev5 de-scoped activities being realised this period, Infraco still reported encountering 12days of delays. It is still anticipated that, in future, opportunities for Infraco to progress without disruption with their remaining works should become more prevalent. This will become clear as the majority of utility conflicts are resolved, leaving Infraco to complete their re-sequenced On Street civils works, taking advantage of the removed embargos and revised traffic management arrangements. There are also further opportunities to offset the time bank draw-down, in both Shandwick Place and York Place, as subsequent works de-scoped from Rev5 are realised.

Turner & Townsend currently estimate that a further erosion of up to four weeks will result from the need to keep the bus station operational during the York Place works. Further erosion is also anticipated within Shandwick Place and Turner & Townsend's forecast of the overall drawdown is circa 16 weeks.

Infraco have indicated that they consider that a total erosion of more than 22 weeks will occur; however, this has yet to be substantiated.

### **3.5 Programme Structure**

#### **3.5.1 Critical Path and Alternate Float Paths (Master Schedule)**

The current forecast completion dates for Section B, C and D are in advance of the contractual dates. At present this shows an overall improvement of more than 2 months to the schedule, excluding allowances for risk. The Critical Path referred to below, relates to the 'Longest Path' through the programme which would adversely affect the currently forecast end date if delayed.

There has been no change, this period, to the Critical Path:

**Off Street:** Section 5C (Edinburgh Gateway) /Tamping and Full Line Track Finishes

There continues to be dubiety over the planned dates for commencing track laying at the Gateway. This is due to conflicting information provided by BBS in their Rev5 schedule and a Gateway Enabling Works letter dated 5<sup>th</sup> July. At present Turner & Townsend's Master Schedule is based on the more conservative outcome as per Rev5.

The alternative Key Float Paths are:

- 1 **On Street:** Section 1D (Shandwick Place) / Section 1D E&M
- 2 **Off Street:** Section 5A (Roseburn Junction to Balgreen Road) / Section 5A E&M

**3 On Street: Section 1C (Waverley Junction) / (York Place utilities / main works)**

Ongoing analysis of the York Place 'Radical Programme'; progress along the Murrayfield Corridor; and differences in planned versus intended sequencing of Shandwick Place Phases means current critical path analysis of the Master Schedule is not providing an optimum representation of the float between each of the paths listed above (see paragraph 3.5.3).

**3.5.2 Off-Street Tamping Requirements**

Within the Off-street sections of track, Infraco intends to confine all tamping between the Depot to Haymarket to one visit, planned later in the project. This has resulted in Off-Street E&M works no longer being on the critical path. Instead Off-street construction completion is now driven by the longer and later series of tamping and full line track finishes, pre-stressing and grinding activities. Through discussions in the 'Planners Forum' Infraco have suggested a further Rev5 deviation to mitigate this critical path change. This would see the full line works starting before the tamping. If this change to the proposed works was adopted now, potential improvement of up to 10days to Section C & D; and approximately up to 1 month improvement to Off-street completion date, could be achieved under the current Master Schedule.

**3.5.3 Programme Value Engineering**

On the 29<sup>th</sup> of August 2012, a series of On Street and Off Street programme opportunities were presented by Turner & Townsend to CEC. Since then, further opportunities to improve the Master Schedule have been identified, against the Rev5. However, no formal engagement with Infraco is currently intended in relation to these savings. Instead, Turner & Townsend will use this information to inform the client side assessment of ongoing and future progress. A separate study was undertaken by CEC to identify opportunities that might shorten the period of shadow running during Testing and Commissioning. Turner & Townsend have not currently seen the output from this study.

**3.5.4 Deferred Fit-Out of Tram Stops**

Integration of Infraco's proposed, deferred fit-out schedule to the Master Schedule continues. Key focus has been in understanding the impact to the existing tram stop activities' logic and enabling activities such as the laying of fibre optics. The remarks below remain the same as previously reported.

The schedule is based upon a sequential strategy in completing tram stops west to east (Depot to York Place) along the route. Infraco's intent appears to be a streamlined series of completion dates based upon the installation of the shelters and completion of the E&M works at each tram stop. However, there remain a number of issues with the proposal.

Due to the length of the deferred fit-out schedule more than half of the stops will still have a significant period of time dormant (i.e. duration between completion of works and the commencement of the Testing and Commissioning Phase). In the case of Bankhead, Saughton and Balgreen tram stops, which were primarily identified as stops most at risk, their completion dates have not been significantly deferred.

Turner & Townsend are exploring with Infraco, the potential for taking positive measures to further protect trams stops against vandalism. These measures may include:

**Progress Report No. 13 – 16<sup>th</sup> September to 13<sup>th</sup> October 2012**

**FINAL**

- Making CCTV operational at the time of installation.
- Deferring the installation of tram stop glazing or protecting glazing.
- Installing exclusion fencing around tram stops.

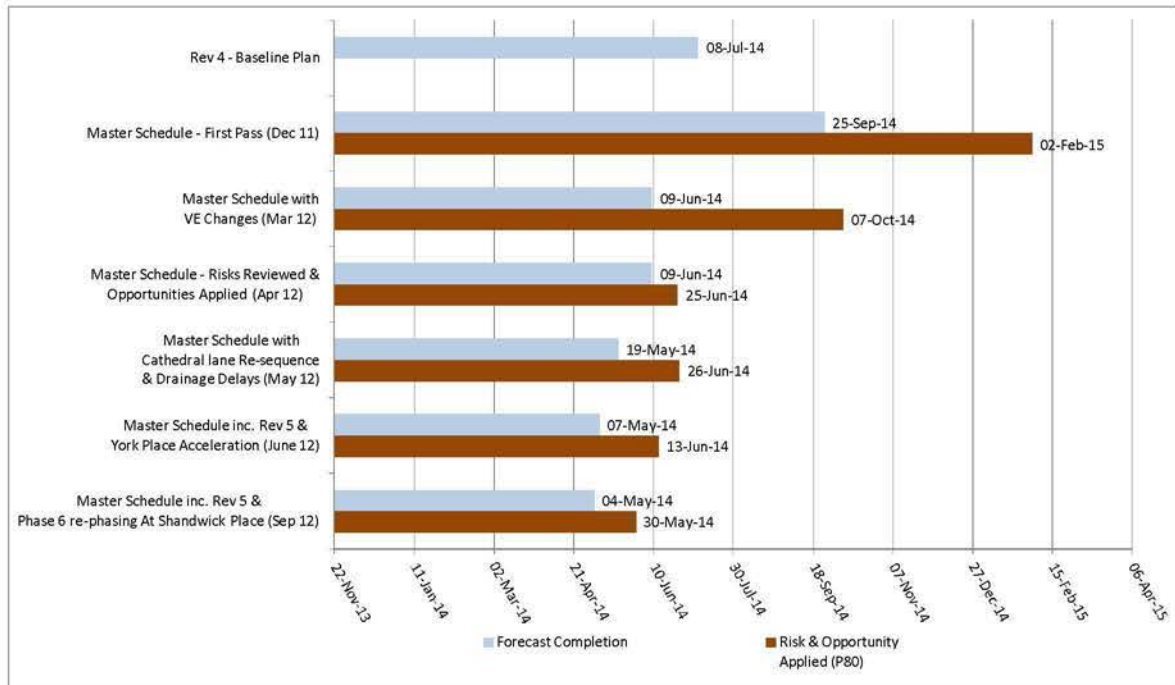


## 4 Risk

### 4.1 QSRA Tracker

The last quarterly QSRA was conducted on 18<sup>th</sup> September 2012. The next QSRA is due when any new significant changes to programme or delivery strategy occurs or in December 2012, whichever comes earlier. The chart below shows the forecast dates (before risks and opportunities are included) and the 'impacted' dates for all QSRA's:

QSRA Trend Analysis



The risk profile is made up of schedule related risks as detailed in the attached risk register. The opportunities Turner & Townsend have assessed in relation to the master schedule and included in the current QSRA are shown below:

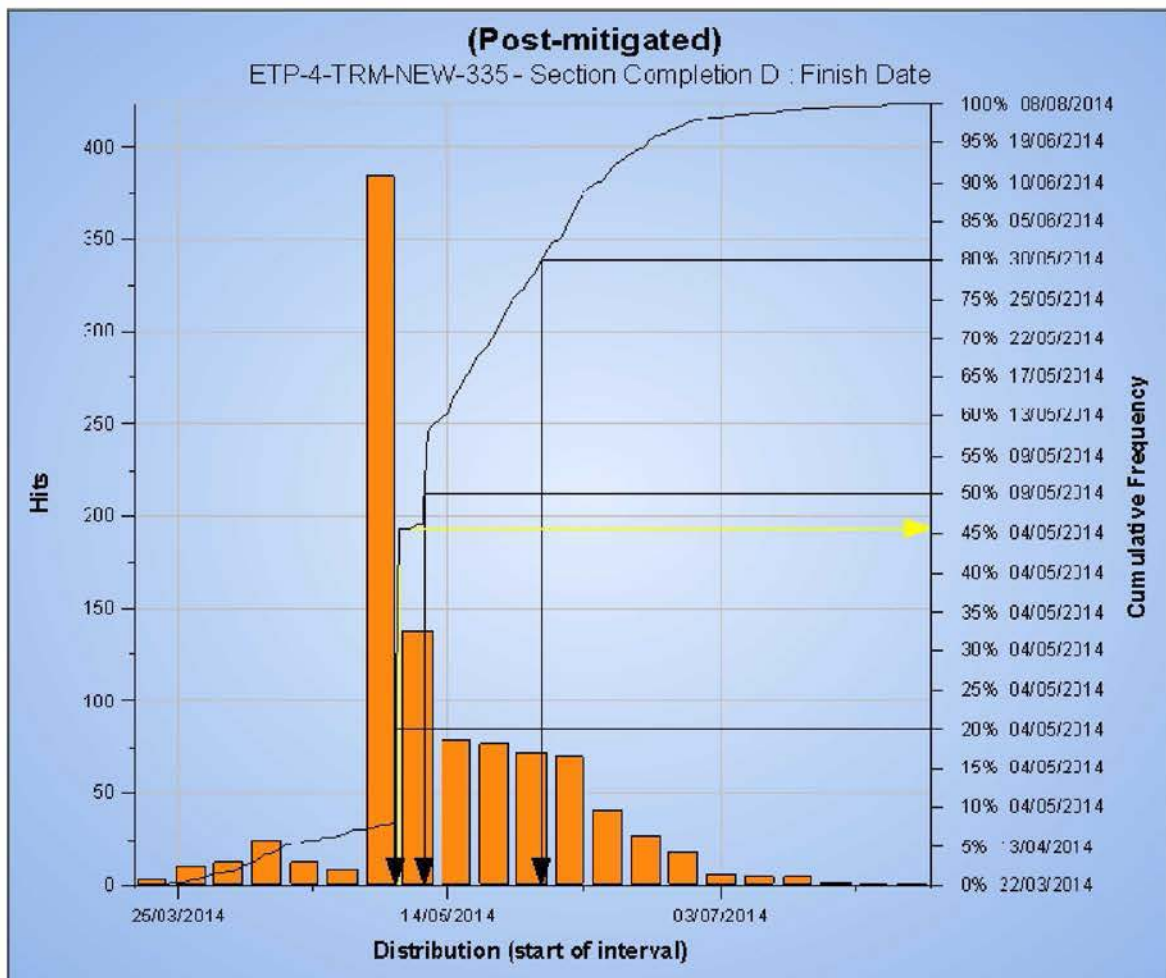
- 1 Value Engineering opportunities identified at Shandwick place. This has been added as a re-phasing of phase 6 works to follow phase 2 and assumed to be possible.
- 2 Value Engineering opportunities identified at Murryfield to Balgreen corridor.
- 3 Value Engineering opportunities identified at Gateway.
- 4 Opportunity to reduce full line testing as a result of a reduced trial running period.
- 5 Opportunity to off-set time bank draw down as subsequent works de-scoped from Rev5 are realised.

FINAL

4.1.1 Risk Likelihood (P80)

The latest QSRA was carried out on the most up to date master schedule as at the 18<sup>th</sup> September 2012. This was analysed with the current risk and opportunity profile to calculate the milestone dates as shown below. The analysis predicts a P80 project completion date of the 30<sup>th</sup> May 2014 against the current risk and opportunity profile and a 46% probability that the master schedule completion date of the 4<sup>th</sup> May 2014 will be achieved as shown in the distribution graph below.

P80 represents an 80% likelihood of completing the milestone on that date, it is usual practice to utilise the P80 date as a standard on a project of this size, nature and public profile.



**4.1.2 QSRA Iterations**

These iterations of the Quantitative Schedule Risk Analysis have been carried out since September 2011, details and progress made are summarised below:

QSRA Iteration	What is Included (Description)
Master Schedule – First Pass	High Level schedule produced for QSRA analysis. Including utilities diversions.
Master Schedule with VE Changes	Post VE exercise Revised On-Street phasing Removal of summer embargoes More mature Risk Register
Master Schedule – Risks Reviewed & Opportunities Applied	Updated programme Detailed Risk review Identification of opportunities and application to the QSRA
Master Schedule with Cathedral Lane Re-Sequence	Further updated programme Early start of Cathedral Lane Sub-Station works Impacted Scottish Water risks Risk Review
Master Schedule – including Rev5 and York Place 'Radical Programme' changes	Further updated programme Rev 5 changes to Off-Street section Early start of utility diversion works at York Place Risk Review
Master Schedule as at September 2012 including phase 6 re-phasing	As above plus progress to date and the re-phasing of section 6 to follow phase2 instead of 5. This is assumed to be achievable.



#### 4.2 Project Risk update

Each period the risk register is reviewed and risks are assessed on an ongoing basis, with a general trend of reduction of risks as the team continues to mitigate against the potential impact.

At the last 4 weekly risk review the following risks were positively reduced or closed out.

Risk	Mitigations/ Reasons
Suspension of works by NR	Works have progressed and now over main shunt line problems reducing the probability of this risk occurring
Additional traffic management and enabling works are required to meet Stakeholder constraints (Gyle Broadway, Ed Park, Lochside, York Place etc)	Traffic management and road closures working well, with works now 3/4 of way through Gyle Broadway therefore probability has been reduced
Delay to completion of project due to Network Rail cancellation of Possessions or BB/S overrun or inefficient use of possessions	Probability reduced as very few possessions left and the work required to complete in these remaining work is less onerous than previous

In addition the following new risks were also identified within the latest period

New Risk	Cause
OLE cannot be attached to the buildings if BFA are not signed in time	2 No. Building Fixing Agreements (BFA) have not been signed to date
Impact on Tram commissioning due to missing tram radio coverage	OFCOM provided frequencies that interfere with National Air Traffic Control (NATS). OFCOM has to provide suitable frequencies for Gogar Radio that don't interfere with NATS

**FINAL**

## 5 Commercial

### 5.1 Commercial Summary

#### 5.1.1 Cost summary

	£M	Comment
Contract Sum	479.66	
<b>Committed Costs</b>		
approved change	14.66	Includes programme impact rev 3A to rev 4, £1.4M included for Sep-11
changes in progress	4.97	£3.1M included for Rev 3A to Rev 4. Made up of £0.6M Siemens costs in 2011 and 2.5m costs at end of programme.
anticipated changes	7.56	Changes required to complete, subject to approval
contributions	-7.64	Third party contributions received and anticipated
<b>Total Committed</b>	<b>499.21</b>	<b>Budget £500.15M</b>
<b>Risk</b>		
risk estimate	4.00	QCRA: c. £4.4M (next T&T / CEC review 23 <sup>rd</sup> or 24 <sup>th</sup> October 2012)
<b>Risk adjusted forecast</b>	<b>503.21</b>	<b>Budget £500.15M</b>
<b>Opportunities</b>		
utilities diversions	t.b.c	Programme/productivity improvements under review
rev 3A to rev4	0.00	BBS position: prelims aligned with contract completion and BBS will confirm costs are incurred
rev 4C time bank	0.00	
early programme completion	0.00	Dec 13 / Jan 14 completion: BB prelims £7.8M and Siemens £3.7M = £11.5M, however no mechanism to realise saving agreed with Infracore
<b>Total Opportunities</b>	<b>0.00</b>	
<b>Total Forecast</b>	<b>503.21</b>	<b>Budget £500.15M</b>
<b>Excluded risks</b>		
Opportunities, rev 3A to Rev4	0.00	BBS obliged to confirm costs incurred, not obliged to demonstrate actual costs. BBS have declared their position and non-payment is unlikely. If progress is maintained then there may be an opportunity to save some costs at the end of the project, say 5 weeks from 31 <sup>st</sup> May 14 (QSRA forecast): therefore the cost range is -(£0.5M) to -(£3.10M), however this includes Siemens £0.6M costs Sep-11 which they can prove some/all resources were present.
rev 4C (refer T&T advice note)	6.45	CEC decision to authorise. Contract certification to be confirmed, ex contract payment or IC determination
disruption	Excl	Ex contract disruption claims for On-Street Sub-Contractors and CAF programme changes have been excluded as we believe there is no clear basis for entitlement
<b>Total</b>	<b>6.45</b>	
<b>Forecast + Exclusions</b>	<b>509.66</b>	
	506.55	Adjustment if costs associated with the Rev 3A and Rev 4 programme changes are not paid. This is unlikely given BBS position, BBS can work to the Rev 4 date. An example is Section 7A/5C where the sub-contractor is completing later than the Rev 3A date (equates to circa £158K of costs). Turner & Townsend have advised that evidence of costs are confirmed to mitigate impact.

**FINAL**

### 5.1.2 Movement from previous period

The overall forecast has **increased** by £149k in the period. The principal movements are identified below.

The Infraco contract forecast has **increased** by £417k from the previous forecast. Significant changes include:

- Additional Traffic Management and Logistics resulting from revised method of working has **added** £31k to the forecast
- Additional work associated with opening the "plug" at Princes Street has **added** £87k to the forecast
- The forecast for Cathedral Lane substation has **increased** by £169k as a result of receipt of tender information from BBS. It should be noted that we have not included the full value of the received price at present as we plan on discussing a further round of tendering and / or negotiation combined with a VE exercise.
- The forecast for additional CCTV at Murrayfield tramstop has **increased** by £70k.
- The requirement for construction works resulting from LOD clashes has **increased** the forecast by £100k. This has been added following the decision of the Independent Certifier.
- The allowance for contaminated material in Shandwick Place has been **reduced** by £75k

The forecast for utilities has **reduced** by £268k owing to refinement of programme and resourcing.

The allowance for remedial work in Leith Walk is £900k. This is as instructed by CEC and it is understood that work up to this value only will be delivered.

The risk allowance remains at £4,000k and a review of mitigations and impacts is scheduled for the 23<sup>rd</sup> or the 24<sup>th</sup> of October 2012.

### 5.1.3 Commercial issues

#### Rev 3A to Rev 4

A detailed description of the background to the cost impacts of the Rev3A to Rev 4 programme change was included in Progress Report 12. CEC have requested that Turner & Townsend adopt the Independent Certifier's determination for the Bilfinger Berger application at £1,397k in the Turner & Townsend valuation. As yet Siemens have not applied for costs incurred during September 2012. These are estimated at £600k. The entitlement of £2,500k for sub-contract and BBS section prelims at the end of the programme subject to confirmation of costs incurred. Agreement on the evidence that needs to be provided has not been resolved yet and in the case of the sub-contractor for Section 7/5C they are currently working beyond the Rev3A date. This amounts to £158k for sub-contractor and BBS prelims. It is expected that BBS will apply for these costs and we are compiling records of work completed and level of management team on site. At this stage we anticipate that either BBS will work to the Rev 4 dates or there will



**FINAL**

continue to be a difference in opinion regarding entitlement to prelims to the Rev 4 dates. Given these factors we believe that the full £3.1M will not be secured.

#### **Rev 4C 22 week saving**

CEC have confirmed in their e-mail to Turner & Townsend, 3<sup>rd</sup> of October 2012, that they have come to an arrangement with Infracore. We have not seen this agreement at the time of writing this report.

#### **Prelims / Overhead Mark ups on scope deductions**

A difference of opinion has arisen in the case where the work is changed and the original specification is part omitted and a new specification has been added. BBS have submitted a proposal which results in a higher overhead and prelims recovery than the contract provides for. Turner & Townsend interpretation of the Independent Certifier's Opinion is that Infracore should receive 34.5% on net additions to the contract and 10% where on net deductions. There would be an adverse impact in excess of c. £300k to £400k if Infracore's interpretation was accepted (Note this amount excludes all changes such as Cathedral Lane sub-station and York Place Terminal Point). A meeting has been held with CEC, 8<sup>th</sup> of October 2012, to explain the basis of Turner & Townsend's interpretation of the Independent Certifier's Opinion and BBS's interpretation. Turner & Townsend have also advised that a forecast of prelims due to BBS for variations is c. £3,700k and a forecast of deductions is £238k. Turner & Townsend do not believe that Infracore are disadvantaged by Turner & Townsend's interpretation. The Independent Certifier has agreed to meet with Infracore to explore their understanding of the calculation template and the wider impact of variation additions and forecast deductions.

#### **Claims**

Comments have been made at site level regarding the prospect of claims being submitted for out of sequence working and disruption on the St Andrew Sq and Haymarket/Shandwick Place sections. There would not appear to be a contractual or financial entitlement, given that prelims are being reimbursed on time expended, the contractor is being reimbursed direct costs for standing time/variations through the On-Street Works Estimate and that CEC have come to an arrangement with Infracore for the re-scheduling of the programme for Rev4C. Turner & Townsend advise that this position is maintained. It should also be noted that the risk estimate does not provide for payment for these types of claims. The methodology for assessing the impact of contract claims will be discussed at the joint T&T/CEC risk meeting on 24<sup>th</sup> October 2012.

#### **Off Street Utilities**

Infracore have stated that their contract price does not contain any risk allowance for Off-Street Utilities. Turner & Townsend have advised that there is a lack of visibility regarding risk pricing by Infracore and therefore a negotiated settlement could be sought.

**FINAL**

## 5.2 Committed Costs

### 5.2.1 Approved Change

Approved change is items that have been instructed to Infraco and a commitment value agreed. The total value of approved change to date is £14,659k. This is a decrease from the previous period of £457k.

#### Infraco

The total value of approved changes in the Infraco contract is £4,289k. This is a decrease of £457k from the previous period. Significant changes are as follows:

Description	Change Amount (£k)	
Rev 3a to 4 programme**	-603k	*
SDS to provide the services of Matt Fell until August 2012	19	*
Twin Crossing at Lochside Avenue	11	*
Drainage As Built Drawings - Princes Street	-10	*
Independent Certifiers Schedule Part 45 Period End Change Order to 18/8/2012	130	

\* Increases from previously approved value

\*\* Adjusted to the certified total. Remainder is included in change in progress.

The approved change amount for all other sections of the cost report remains as per last period.

### 5.2.2 Changes in Progress

Changes in progress are known changes that have not yet been incorporated into the contract sum, either because we are awaiting a price from Infraco or the value has not yet been agreed. The total value of change in progress is £4,966k an increase of £853k from last period.

#### Infraco

Change in progress associated with the Infraco contract is £4,931k. This is an increase of £853k from last period. Significant changes include:

- tNC 539: Rev 3a to Rev 4 programme. This section now includes all non certified amounts.
- tNC 641: Cathedral Lane substation; based on tender returns, the forecast for this item has increased by £169k. The full impact of the tender received by BBS has not been incorporated into this report as we believe there are opportunities to reduce the total amount from further negotiation with the subcontractor and / or retendering the work. This will be presented to BBS during the week commencing on the 15<sup>th</sup> of October 2012.
- The impact of various on street work estimate items have increased the forecast by £70k.



Refer to the cost report for a complete list of change in progress.

### **5.2.3 Anticipated Change**

Anticipated change are variations to the contract that are known about but no change has been raised at this time, either because the scope has not yet properly been defined or the change has not taken place yet. Anticipated change during the period has decreased by £248k

#### **Infraco**

Anticipated change has increased by £20k. This includes an additional change of £100k to allow for works associated with conflicts to the Limits of Deviation at the Network Rail boundary (refer to IV opinion).

#### **Utility Works – York Place to Haymarket**

Over the course of the last 2 to 3 periods, the scope of the McNicholas contract has been evolving and now incorporates a significant element of the permanent works including excavation of areas where utilities are a major issue and installation of ducting and bases associated with traffic signs and street lighting. In the last period's report we included the full value of the reforecast of this work. This period, following further challenges to the productivities included in the estimate, we have reduced the overall forecast by £268k. The productivities that this forecast is based on will be monitored over the coming periods in order to capture any variances in outputs or scope.

It should be noted, that due to the nature of this contract, this forecast continues to carry a significant element of risk.

### **5.2.4 Contributions**

The forecast amount of contributions has remained unchanged from the previous period.

## **5.3 Risk and Contingency**

### **Quantified Cost Risk Analysis (QCRA)**

The current QCRA of circa £4.4M is to be adjusted based upon some items being excluded from the project e.g. repairs to footways. Turner & Townsend have allowed for a risk estimate of £4M within their current cost report and this will be reviewed at a joint T&T / CEC risk review on 24<sup>th</sup> of October 2012..

A risk review is scheduled for 23<sup>rd</sup> or 24<sup>th</sup> of October 2012 with CEC.

### **5.4 Opportunities**

The total value of opportunities in the current forecast is £13,017k. Most of these opportunities are secured. However, there remains a risk to certain items included within this total, identified below:

- Item 02 - Setts: This opportunity is for a non tram budget in CEC to contribute towards the cost of setts in St Andrew Square. We are still in negotiation with Bilfinger Berger over the rate for the revised specification of setts which may affect the total value for this item



although it is assumed that any additional / reduced cost will be part of the contribution and therefore have no overall effect on the tram forecast

- Item 14 – Road Reconstruction depth: This opportunity was to reduce the depth of road reconstruction to generate a target saving of £700k. From analysis of the marked up drawings and site inspections there are very few areas of roadway that can be preserved. The reason for this is the impact of the utilities diversions at junctions and also the need to bench in road construction infill between the depth of the track slab at 300mm steps. It is anticipated that savings will be realised by retaining pavements. It should be noted that there is a cost risk that the full saving will not be achieved. Also many paving slabs in the pavement are cracked and that there will be pressure to repair areas. CEC have advised that the project should not fund pavement repairs.

There are limited further opportunities to de-scope elements of the work. However there are opportunities to refine the final scope of work and refine estimates. One of the issues on certainty of estimates has been Infraco's insistence that out-turn estimates do not need to be provided for On Street Works. This issue has been identified previously and was included in the CEC Lawyer's review of our contract queries.

Examples include:

- Revised design for the retaining wall for the Cathedral Lane Sub-Station;
- Out-turn costs for the York Place Terminal Point
- Out-turn costs for the floating track slab

Other discrete items which could be omitted include the removal of the CEC site accommodation and reduction in the service charge, omission of the breakdown vehicle from say January 2013. These items are unlikely to realise significant amounts.

### **Programme Opportunities**

Progress report Nr 12 provided details on relationship between the Rev 3A Rev 4 cost movements (also refer above) and prelims costs associated with the difference between an estimated completion date (based upon relaxation of resource constraints and extrapolation of current progress) with the Rev 4 completion date.

Infraco's position is that they are entitled to contract prelims, plus the £4.5M to Rev3A to Rev 4 movement. Subject to performance and actual completion in advance of Rev 4 dates there may be an opportunity to save part of the £2.5M for the programme movement at the end of the project. This is also depending upon Infraco not adopting an adversarial position.

### **5.5 Exclusions**

The following items are excluded from the Cost Report

- Payment of Infraco's share of the saving resulting from Rev 4c Cost Engineering initiative amounting to £6.45M (this is shown in the excluded risks section of the summary table)

- Additional costs associated with Infraco’s interpretation of the application of mark-ups on On Street Change.
- Shandwick Place Tree Pits and Trees (it is understood that CEC would fund this from a separate budget)
- Repairs to pavements and footways
- Further design changes beyond those included in the cost report (note: production of as built drawings from the MUDFA contract and collation of as built information from current utilities diversions is a significant exercise. Also design costs are beyond the norm since SDS Management Fee at 25.65% and Infraco mark up at 34.9% is applied. We suggest a review of this is undertaken with CEC and alternative solutions are evaluated).
- Claims for disruption from the sub-contractors on the On-Street section as entitlement exists for PAVs.
- Leith Walk Utilities Diversion – CEC has confirmed that the budget for defined scope should be £0.9M (based upon the tender and a general contingency allowance). The intention is to value engineer out the undefined scope e.g. gas water pipe separation and to restrict the work done. Should, for technical reasons this approach not be feasible then additional funding would be required.
- All Utility Companies and Network Rail management resource has been included to September 2013. Section completion dates and resources needed to review as-built information is under review.

**5.6 Payments and Cashflow**

A summary of the certified amounts are provided below.

	<b>Certified £K</b>	<b>Planned £K</b>	<b>Comment</b>
Infraco	333,412	329,030	Planned – based upon Rev 3A programme
Utilities	12,015	10,727	McNicholas plus SUC costs
Trams	60,826	60,826	Payments generally in accordance with milestone schedule. Incomplete milestones are not included in certified amounts.



## 6 On Street - Enabling Works & Utility Legacy Works

### 6.1 General

Enabling and utility legacy works have progressed well during the period and works are being completed to meet dates agreed with Infraco. Similarly "Type 2" utility conflicts (those outside the DKE+2m, including road sign bases, traffic signal bases and associated ducting) are progressing well and work is being coordinated with Infraco to avoid/minimise disruption to the main works.

### 6.2 York Place



*York Place / Elder Street*



*Drainage York Place*

McNicholas and Crummock continue to work well together within York Place and both parties are working well with Infraco in relation to the York Place interfaces with the main contract.

The York Place enabling works are progressing well and are on programme to be completed by mid November. As reported previously this is an ambitious programme but if achieved will provide a clear site for Infraco to move into before the Christmas shutdown.

Infraco was instructed previously to review the impacts of the change to traffic management and report back on the likely impacts on programme. Its response remains outstanding despite the instruction being issued in September 2012.

### 6.3 Legacy Works

There remain some key water issues that have the potential to cause significant difficulty for the project. It was previously reported that agreement on some of these issues will only be reached when the wider commercial discussions with Scottish Water have concluded. It was also reported that behaviours within Scottish Water had changed and it was becoming increasingly difficult to reach agreement on a range of issues.

In response to this and in discussion with CEC and Turner & Townsend continues to explore ways of capping and indeed reducing the scope of works being carried out on Scottish Water assets. CEC is also making good progress in agreeing high level terms on a range of issues and this in turn is beginning to tackle some of the wider behavioural, commercial and land related issues. An update will be provided at the next tram briefing meeting.



Regarding the legacy works in Leith Walk and Constitution Street Turner & Townsend and CEC have embarked on a value engineering initiative with a view to delivering the legacy works within a revised budget of £900k. Scottish Water is participating in the initiative but it is yet to be seen if the scope can be agreed. CEC has made it clear that the scope needs to be fixed before any works commence and Scottish Water has been made aware of this. As a consequence of this initiative and given concerns raised by local businesses about works interrupting the Christmas shopping period Turner & Townsend has been asked to delay the commencement of any works until January 2013 at the earliest.

#### **6.4 Look Ahead**

The York Place enabling works will continue and Turner & Townsend will remain ready to react to utility discoveries by Infracore. Work will also continue with CEC is seeking to limit the scope of Scottish Water legacy works. Type 2 works will also be ongoing in the period.

## 7 On Street - Main Works

### 7.1 Progress in Period

All On Street areas from Haymarket to Lothian Road and from Princes Street to North St Andrew Street remain in the possession of Infraco with some minor exceptions agreed where residual works and/or Type 2 conflict works are being carried out by McNicholas. Infraco has continued with track slab construction in all areas and is making good progress with carriageway reconstruction between Haymarket and Lothian Road. Track laying continues to progress well.

Construction of the Cathedral Lane substation is due to start shortly but this is likely to be delayed due to a redesign of a retaining wall at the perimeter of the site. Turner & Townsend is working with Infraco to mitigate any delays and to ensure any delays to construction do not impact on the overall programme.

The completion date for St Andrew Street is still likely to be the end of 2012 although there have been some challenges in recent weeks in relation to Scottish Water assets and carriageway reconstruction. Two weekend closures of the RBS access have been negotiated and this means track can be laid through this area. This ensures continuity in the programme and will assist in seeking to meet the end of 2012 deadline. It should be noted however that the critical path on the On Street section no longer runs through St Andrew Square and should the works continue on into early 2013 this will not have an impact on the overall delivery date.



*St Andrews Street*



*Shandwick Place*

As re-sequencing of the phases is steadily implemented in Shandwick Place, progress remains significantly ahead of the Rev5 programme, in most locations. Interfaces between contractors continue to be coordinated to minimise disruptions. In Shandwick Place north the carriageway has been reinstated up to base course level and the final wearing course is due to be completed later in the month. Thereafter Infraco will use the finished section as an emergency running lane while constructing the outbound line.

Between the Crescents Infraco is constructing trackslab and laying rails. In the same geographic location the tender documents for the re-building of the Shandwick Place walls together with the excavation of tree pits, the planting of new trees through the area and the construction of a footpath in the gardens, are being finalised. It is anticipated tenders will be sought in the coming weeks although the works are not critical.

**FINAL**

Princes Street snagging continued in the period and the majority of snags are now closed. Regarding future maintenance a meeting has been held with CEC to discuss the ongoing maintenance requirements for Princes Street and to discuss the interim operating protocols. An update will be provided at the next tram briefing meeting.



*Princes Street*



*Princes Street/ St Andrews Square*

Following planning approval for the Dublin Street Steps the issue that remains outstanding is reaching agreement with the building owner on the east corner of the street. Progress has been made in this regard and CEC is currently finalising the legal agreement.



## 8 Off Street Works

### 8.1 Progress in Period

The first two sections (8.1.1 and 8.1.2) detail progress and issues at Edinburgh Gateway and Murrayfield. These two areas are the critical paths for the Off Street section and potentially for the entire job.

#### 8.1.1 Edinburgh Gateway

The attenuation tank walls and column formation commenced this period. The initial slip in programme reported last period has been recovered during this period and works are now progressing well. The King Post Wall piling has commenced. Infracore is required to remain 10 metres away from the Scottish Water sewer at the Edinburgh Gateway site until technical queries and Access Transfer Certificates (ATC) are approved and obtained from Scottish Water. The technical queries have been approved and we are now awaiting the ATC. There are no problems foreseen in receiving this and it is not currently affecting construction.



*Attenuation Tank*

A particular concern is the increasingly onerous requirements of Scottish Water. Access Transfer Certificates (ATC) had been requested for works that would not normally require ATC applications. Pre-piling close circuit television surveys have been requested to be submitted prior to the sign off of the piling technical query, something that has not been requested for Off Street piling before. These requirements could possibly cause delay and Infracore could potentially claim that Scottish Water is acting unreasonably. We have requested Scottish Water clarify their position, following discussions between Scottish Water and Turner & Townsend with regards to the use of their procedures.

Two letters have been received from Scottish Water in relation to the Edinburgh Gateway works that also cause concern;

- One letter stated that piling work had commenced without their knowledge, however piling had not started on site at the point of both writing and receiving this letter. Turner & Townsend have provided Scottish Water with a programme detailing the works two weeks prior to the letter being written.
- The second letter suggested that legislative regulations were not being met with regards to control of contractors. We do not believe there are any legislation's being breached.
- Scottish Water have also stated that there had been an earlier discharge incident at the Edinburgh Gateway site, however this incident was found by Scottish Water's Trade Effluent Advisor to be unfounded.
- The number of letters received from Scottish Water has significantly increased in recent weeks adding to the resource demand of the project delivery team. Turner & Townsend are

**FINAL**

seeking to address the majority of Scottish water's concerns through weekly interface meetings rather than through formal correspondence.

### 8.1.2 Murrayfield

Progress of the retaining structures S21A and B at Murrayfield have been particularly slow. Strip foundations have been completed between Roseburn Street and the Murrayfield Underpass (S21C). The retaining wall (S21B) has progressed however should be showing a greater rate of development. To address this issue Infracore have introduced more resources to meet the programme dates.



*S21A Murrayfield*

The Network Rail/ScotRail shuntline has been reballasted successfully with both Network Rail and ScotRail happy with the finished product. Discussions have been held regarding the removal of sheet piles along the interface and a Works Package Plan has been approved for their removal in the coming period.

The sewer which was damaged during the ground improvement works at Murrayfield has been re-laid and has passed an air test with Scottish Water in attendance.

### 8.1.3 Section B Progress

All track has been installed from the Airport to the Depot in time for the tamper arriving on the 22<sup>nd</sup> of October 2012. The Airport, Ingliston Park and Ride and Gogarburn platforms and canopy have been installed.



*Gogarburn Tramstop*

Low voltage, signals and telecommunication cables have been installed at Ingliston Park and Ride to Gogarburn; Technical cabinets have been installed at IPR, Gogarburn, Edinburgh Park Central, Edinburgh Park Station, Bankhead, Saughton and Haymarket. Ingliston Park and Ride substation is currently being prepared for the High Voltage connection.



**FINAL**

**8.1.4 Other Items of progress in this period;**

- Access Road at Ingliston Park and Ride complete
- Remedial works on Gogar Farm Road are continuing
- Radio frequency tests from the depot aerial have proven successful, tests shall be ongoing in the coming period however the initial indications look positive
- Top soiling continuing for the grass track through Edinburgh Park
- South Gyle Bridge, Balgreen and Water of Leith bridge formwork removed
- Bankhead bottom ballast installed



*Bankhead Ballast*



*Water of Leith Bridge Deck*

- Balgreen Tram Stop civil works commenced;
- Baird Drive embankment construction continued and duct work installation commenced;
- Reinforced concrete works to Carrick Knowe Bridge plinths complete;
- Carrick Knowe outbound sleepers installed and rails in place;
- Precast track slab units continuing to be install at Roseburn;
- W3 and W4 construction continuing and
- Haymarket Yards track slab construction.



## **8.2 Key Issues**

The following issues are currently affecting the off street section;

- As described in the progress section above Scottish Water are placing increasing demands on the project.
- Bankhead overhead mast works are progressing at risk due to a Scottish Water buildover agreement not being in place.
- Eastfield Avenue road alignment issue still requires resolution with the airport. Confirmation of a scope is awaited from CEC.
- ScotRail depot; potential issues with gates on the main access into the depot. The designer has been asked for his residual risk register for this work and the operator will subsequently be requested to assess this junction.

## **8.3 Look Ahead**

The following works will be progressed during the coming period;

- Engage a design and build contractor to remediate the problems of water ingress at the depot;
- Overhead line works continuing on Section 7, Tamper to arrive on Section 7 on the 22<sup>nd</sup> October;
- Edinburgh Gateway attenuation tank roof construction and king post wall piling continuing;
- Snagging on the civil items within Section 7 continuing;
- Edinburgh Park bridge plinths being formed;
- Bankhead OHLE foundations continuing to be formed;
- Track installation at ScotRail depot continuing;
- Tensar wall construction at S21B Murrayfield continuing;
- Removal of sheet piling adjacent to the Network Rail shuntline; and
- W3 and W4 wall construction continuing.

**FINAL**

## 9 Trams

### 9.1 Trams Progress in Period

The delivery and testing of trams has now recommenced following the holiday period, with 23 trams having been delivered to Gogar Depot and 20 having completed routine testing on the Mini Test Track (MTT).

There will be an additional 2 trams delivered by the end of October, with the final two scheduled to be delivered by the 2<sup>nd</sup> of December 2012, significantly ahead of the original programmed completion date. CAF are currently scheduled to complete MTT testing by the 29<sup>th</sup> of January 2013.



*Tram Depot*

The structure of the Section B Test & Commissioning meeting is being further developed, to ensure that the commissioning, integration and acceptance processes and requirements for Section B are understood by all stakeholders. Turner & Townsend have proposed fortnightly planning meetings interspersed with fortnightly handover meetings, to enable the requirements and risks for Section B Completion to be identified and managed. These meetings are scheduled to start on the 10<sup>th</sup> of October 2012.

Turner & Townsend have asked that all stakeholders monitor the dates of key activities within the programme, in order to identify potential risks to their operation. Any activities identified as having the potential to delay Section B Completion will be identified and discussed during the fortnightly programme meeting.

### 9.2 Fare Collection System

Following a change in the original Preferred Bidder's position, whereby Almex required the inclusion of undefined additional costs and the alteration of the scope of delivery for the Edinburgh Trams Fare Collection system, CEC opened initial discussions with Parkeon, the second placed bidder, to determine whether they would be interested in re-entering the procurement process.

On confirmation of their interest, Parkeon were provided with a pricing schedule template and asked to submit an update to their Final Invitation to Tender (ITT) documentation, to include specification and cost for the updated technical baseline detailed in the specification. On receipt of this submission, Turner & Townsend completed an initial 'like for like' comparison of the latest submissions from both Almex and Parkeon, based on this updated technical baseline.

Having reviewed the evaluation criteria set for the original Final ITT submissions against the latest submissions from both suppliers, Turner & Townsend have suggested to CEC that Parkeon are now in a better position to complete the delivery of the Integrated Fare Collection system for Edinburgh Trams. This suggestion was presented in a paper delivered to CEC on 3<sup>rd</sup> of October 2012, with a recommendation that CEC begin initial technical and commercial discussions with Parkeon immediately.



Turner & Townsend have committed to completing a full review of the original Final ITT Evaluation Report, to determine how the evaluation scoring would change based on the latest submissions from both suppliers. This will be completed before contractual discussions are finalised.

Turner & Townsend have provided BBS with informal information on the installation procedures, including foundation and wiring requirements, for the Parkeon Tramstop equipment. Information will be updated and formalised when the Preferred Bidder has been confirmed.

### **9.3 Key Issues**

As stated previously, the material change to the Almex's position has delayed the provision of the Fare Collection system. A decision must be made by CEC on the Preferred Bidder status immediately, to avoid any subsequent delay to the procurement process and to ensure the system is ready and operational by the commencement of passenger service.

Further, the delayed provision of technical information is affecting the completion of tramstop design and equipment installation. Turner & Townsend will issue a change notice to BBS when Preferred Bidder status has been determined and installation requirements confirmed.

Further information on the interface between the Fare Collection equipment and the Operator's infrastructure management system (RailCom) can only be provided when the scope and functionality of the system is defined and agreed.

The structure of the Section B Test & Commissioning meeting is being further developed, to enable all requirements of, and risks to, the programme can be identified and managed. Turner & Townsend have proposed that weekly meetings be held to discuss testing and acceptance issues alternately.

Turner & Townsend have requested an update to the reliability analysis (FMEA) documentation already provided by CAF, following the implementation of a modification on the PISPASPA / CCTV system. This is necessary to ensure that the modification will have no effect on tram reliability in passenger service.

Turner & Townsend are chasing an investigation report from Edinburgh Trams, into an incident where a tram being shunted in the depot did not stop on request. CAF have implemented immediate actions to restrict the use of the shunting vehicle to ensure the incident is not repeated.

Turner & Townsend have written to CAF confirming the project's requirement for progression against the Rev 5 programme. Confirmation from CAF in this regard is awaited at the time of writing.



#### **9.4 Look Ahead**

The following items will be progressed during the coming period(s):

- 1 Test and Commissioning (end October 2012):
  - A total of 25 trams will have been delivered to Gogar Depot
  - A total of 23 will have completed Routine Testing on the MT
  - Final tram scheduled for delivery on 2<sup>nd</sup> of December 2012
  - Interim Routine Testing scheduled to be completed on all trams by 29<sup>th</sup> of January 2013.
- 2 System Acceptance and Integration – Turner & Townsend shall participate in weekly meetings with all stakeholders to discuss the technical, contractual and scheduling requirements to enable Section B Completion.
- 3 Fare Collection - Following confirmation of the Preferred Bidder from CEC, Turner & Townsend will:
  - Confirm the scope of equipment and functionality of the system with CEC and LB;
  - Arrange initial discussions with the Preferred Bidder and LB to develop technical specifications
  - Provide information to BBS to allow completion of tramstop design
  - Manage actions required to allow the sign off of the Fare Collection contract
  - Develop a schedule for the delivery, installation and test of Fare Collection equipment.

An Engineering Change Control process is to be issued, following final discussion with stakeholders (Turner & Townsend, CAF and ET)

## 10 Assurance

### 10.1 Resources

Following the Safety Verification Manager's decision to leave CEC at the end of October 2012, Turner & Townsend are supporting CEC in the development of options for a revised Assurance strategy for the project going forward. A solution will need to be found for the execution of safety verification responsibilities in the short to medium term or until such time as a new assurance regime is in place. This need is particularly acute at the present time and during the lead up to Section B completion. Turner & Townsend have identified suitable resources who could fulfill this role if CEC desired.

### 10.2 Independent Competent Person

Advice of Possible Non Compliance (ANC) 002 - Confirmation of 'Duty Holder' ability to deliver Safety Verification remains open currently remains open pending resolution of Audit TSA/12/03 – Section 1C Slips, Trips, Falls (2 wheel vehicles); the Independent Competent Person has now completed his initial review of evidence provided. He has identified a number of areas that still remain open; this information has been requested from Bilfinger Berger Siemens.

### 10.3 Requirements Management

Employers Requirements needing the granting of concessions are being progressed. A total of 48 concessions have been requested, 9 of which are agreed to date. Bilfinger Berger Siemens has issued an extract from the DOORs database detailing evidence provided for Section A handover. This evidence is currently being reviewed by Technical Support Services. This review will result in the closure of the Employers Requirements associated solely with section A.

### 10.4 Evidence File

The new IT team (Armor) has advised that the transfer of the Project Evidence File is not in their scope. They are establishing a communication with the software supplier but await an instruction by the City of Edinburgh Council to undertake the migration.

### 10.5 Quality

An audit of Bilfinger Berger has been undertaken regarding appointment of subcontractors and review of subcontractor quality plans. The audit is still to be completed as some of the information required was unavailable at the time of audit.

The monitoring of the NCRs raised on the project continues to be reviewed. Details of the NCRs are included below:

- The number of NCRs raised to date is 666. 38 NCRs were raised during the period and 12 NCRs were closed out during the period.
- 33 open NCRs are greater than 6 months old. Further details may be found within Section 6 of Deliver a Safe Tram Report (See Appendix 2).

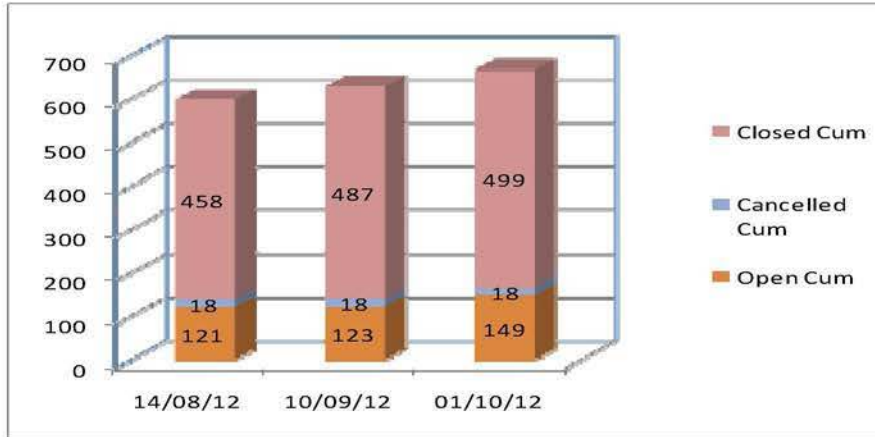
The three categories that continue to generate the greatest number of open NCRs are design and engineering, poor supervision and poor workmanship – these categories comprise all the

**Progress Report No. 13 – 16<sup>th</sup> September to 13<sup>th</sup> October 2012**

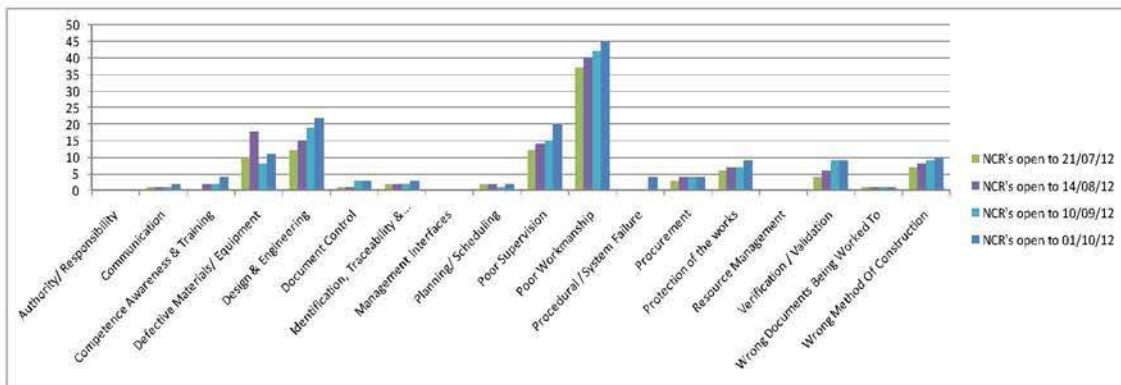
**FINAL**

NCRs raised in the period. There was an increase in the number NCRs raised against poor supervision. None of the NCRs raised in the period have been closed out. Turner & Townsend are reviewing the NCR log to identify common details and trends.

**Summary of non conformances**



**Classification of open non conformances**

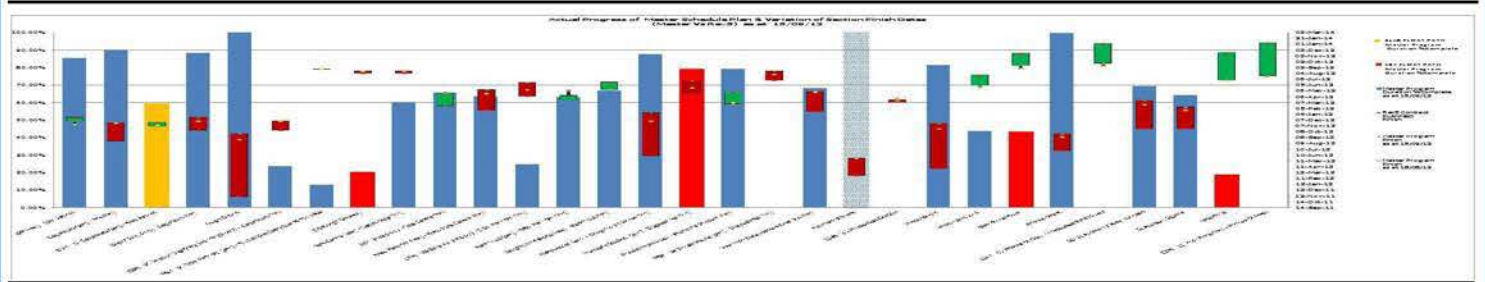
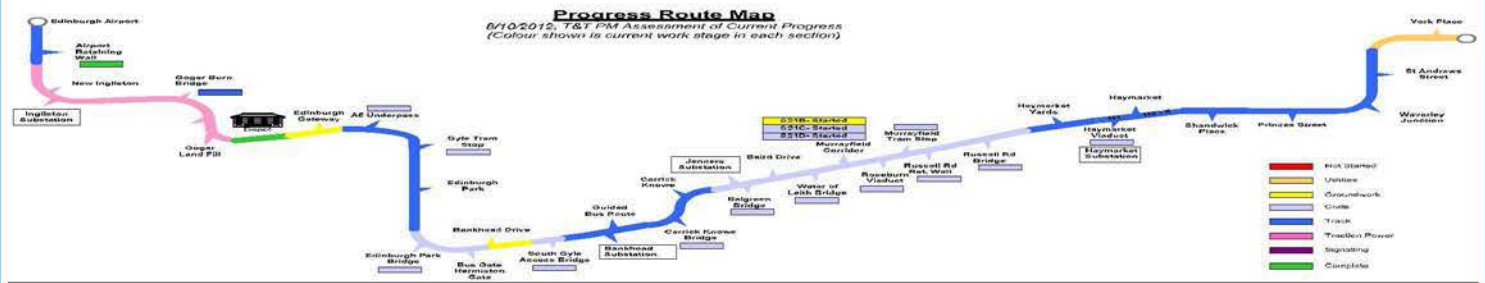




## Appendix 1 – Dashboard

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	24th October 2012	REPORTING PERIOD	16 <sup>th</sup> September to 13 <sup>th</sup> October 2012	Project:	Edinburgh Tram Network

Executive Summary	CEC Actions / Decisions
<ol style="list-style-type: none"> <li>There were fourteen health &amp; safety incidents recorded during the period, none of which have been identified as Serious / Significant.</li> <li>Infraco have produced a risk assessment in relation to soil removed from Baird Drive. This is currently under review by SEPA.</li> <li>Five days erosion of the 22 week time bank took place during the period with 10.3 weeks remaining to date.</li> <li>Sectional completion dates (excluding risk and opportunity) for Section B, C and D are unchanged and remain forecast for the 5th of March 2013, 3rd of February 2014 and the 4th of May 2014 respectively. The critical path remains through Section 5C (Edinburgh Gateway).</li> <li>Turner &amp; Townsend have issued proposed wording to Infraco identifying exclusions to the definition of Section B. These include the exclusion of fare collection equipment. A response from Infraco is awaited at the time of writing.</li> <li>Measures to protect tram stops prior to operation have been agreed with CEC and a draft instruction issued to Infraco.</li> <li>Crummock and McNicholas continue to progress enabling works to programme within York Place. The project remains on target to hand over York Place to Infraco by mid November 2012.</li> <li>Turner &amp; Townsend are working with CEC to explore ways of capping and reducing the scope of Scottish Water legacy works. The projects relationship with Scottish Water remains challenging.</li> <li>A workstream continues to drive out efficiencies in relation to the execution of Type2 utilities works.</li> <li>At CEC's request, the start date for the Leith Walk works is now being targeted for January 2013.</li> <li>With some minor exceptions, Infraco remain in possession of all On Street areas with the exception of York Place. The installation of track slab works is making good progress overall.</li> <li>Following the de-scoping of Landscaping in Shandwick Place from Infraco, Turner &amp; Townsend are preparing to go to tender for these works.</li> <li>The majority of snags within Princes Street are now closed.</li> <li>Good progress continues to be made throughout much of the Off Street areas. Track is complete within Section B, OLE erection has commenced and tamping is due to commence on 22 October 2012. The installation of tram stops is also nearing completion within Section B.</li> <li>Following an initial slip against the Edinburgh Gateway programme (reported last period), progress has recovered and the construction of the king pile wall has now commenced.</li> <li>Progress at the Murrayfield reinforced retaining wall (S21B) has been slow this period impacting on one of the projects main critical float paths. Infraco have increased resources in order to mitigate the impact.</li> <li>Following the re-balloasting of the shunt line adjacent to the ScotRail depot, preparations are underway for the removal of sheet piles from the railway embankment.</li> <li>Discussions are ongoing between CEC and the airport in relation to the resolution of issues at Eastfield Avenue Crossing.</li> <li>Turner &amp; Townsend are preparing to seek an independent design and build solution to the remaining depot snags.</li> <li>Twenty three trams have now been delivered to the Gogar depot with twenty having completed routine testing and commissioning.</li> <li>Turner &amp; Townsend have written to CAF requesting their confirmation that they are progressing to the Rev5 programme. This confirmation is outstanding.</li> <li>CEC have confirmed their intention to progress the procurement of a fare collection system with Parkeon with a view to completion contractual arrangements by the end of October 2012.</li> <li>Discussions continue between Infraco, Turner &amp; Townsend and the Independent Certifier in relation to the assessment of mark ups for works where a change in scope has occurred. It should be noted that the cost report and the risk estimate does not make provision for payment of ex contract claims.</li> <li>Infraco have submitted an estimate for the Cathedral Lane sub station which was based on a single sub-contract tender. We have pointed that this does not represent normal practice and we have concerns regarding value for money. Infraco have stated that an instruction to proceed is required by the 13<sup>th</sup> October 2012; however there is sufficient lead in as the retaining wall will not be complete by mid January 2013. We intend to advise CEC that Infraco could hold the existing tender and alternative tenders could be obtained without affecting programme. Agreement will be required from Infraco to this approach.</li> <li>Following the Safety Verification Manager's decision to leave CEC at the end of October 2012, T&amp;T are supporting CEC in the development of a revised assurance strategy for the project.</li> </ol>	<ol style="list-style-type: none"> <li><b>Scottish Water</b> - Bulldozer agreements require to be progressed.</li> <li><b>Network Rail</b> - Bridge agreements require to be progressed.</li> <li><b>Network Rail - Verity House</b> - Commercial position to be decided and agreed with Network Rail.</li> <li><b>Haymarket Wayleave</b> - Close out of the wayleave with Scottish Power and Network Rail at Haymarket.</li> <li><b>Fare Collection System</b> - Appointment of Fare Collection system provider to be completed.</li> <li><b>Sub Contractor Direct Agreement</b> - Acceptance of the wording of Sub-Contractor Direct Agreements between CAF and its suppliers, as submitted by CAF in accordance with the Tram Supply Agreement.</li> <li><b>Dublin Street Steps</b> - Legal Agreement with landowners to be closed out</li> <li><b>OLE Building Fixings</b> - Legal Agreement with landowners to be closed out</li> <li><b>Evidence File</b> - The transfer the files from the old Sharepoint to the new system has yet to be completed.</li> <li><b>Project Assurance</b> - Confirmation of short term and long term assurance strategy / resource provisions following Colin Kerr's departure from CEC at the end of October 2012</li> </ol>



**PROGRESS**





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	24th October 2012	REPORTING PERIOD	16 <sup>th</sup> September to 13 <sup>th</sup> October 2012	Project:	Edinburgh Tram Network

KEY MILESTONES							
Section	Description	Rev 5 Schedule Date	Forecast/Actual Date	Var. (d's)	Complete	Crit. Path	Comments
<b>Section Completions</b>							
ALL	Section B; Test Track complete	08-Mar-13	05-Mar-13	3		Y	Critical Path now originates from 7A Tamping, which is planned to commence 22/10/12.
ALL	Section C; All construction complete	09-Apr-14	03-Feb-14	65		Y	No mvmt to Section C date, CP runs through Gateway and tamping requirements (ie increased scope and reduced visits)
ALL	Section D; open for revenue	08-Jul-14	04-May-14	65		Y	No mvmt to Section D date, CP runs through Gateway and tamping requirements (ie increased scope and reduced visits)
<b>On Street</b>							
<b>Haymarket</b>							
On-Street	Civil Works complete (H1 to H3B)	17-May-13	26-Mar-13	52		N	Utilities Contractor completion of T2 Conflicts throughout this area are affecting access and progress of main works, however continued cooperation and coordination between Main contractor and Utilities Contractor to mitigate delays.
On-Street	All Remaining Works Complete (H4 to H6)	25-Jul-13	04-Jun-13	51		N	
<b>Shandwick Place</b>							
On-Street	Civil Works Complete Plamerston Place to Crescents (SP2 & SP6)	18-Oct-13	15-Aug-13	64		Y	Change in Specification of the Foam concrete resulted in delay in commencement of the Carriageway reconstruction activities in the SP2 area.
On-Street	Civil Works Complete Crescents including Atholl West Tie-in (SP4 & SP5)	05-Jun-13	13-May-13	23		Y	Knock on delay in line with the specification change results in delay in the period.
On-Street	Civil Works Complete Crescents to Lothian Road (SP1 & SP3)	25-Mar-13	26-Mar-13	-1		Y	Carriageway Reconstruction in SP1 delayed by spec change of Foam Concrete by CEC. Time savings still achievable through realisation of ongoing TM phasing.
On-Street	All Remaining Works in Shandwick Place Complete (SP1 to SP7)	04-Dec-13	18-Sep-13	77		Y	Further time saving may be realised in the Shandwick Place area due to mitigation actions taken by Main Contractor and parallel working arrangements with utilities contractor. Full effects yet to be assessed and agreed.
<b>Princes Street</b>							
On-Street	Princes St Tram Stop Complete	04-Oct-12	05-Feb-13	-124		N	
On-Street	Commence M&E Works	07-Oct-13	02-Sep-13	35		N	
On-Street	All Remaining Works complete	22-Nov-13	19-Sep-13	64		N	
<b>South St Andrews St / Waverley Junction</b>							
On-Street	Remaining Civil Works Complete	03-Oct-12	26-Feb-13	-146		N	Effort concentrated on works at 'Plug' resulting in delay in other areas. Additionally, limited access to area due to continued Utility Diversions require Main Contractor to facilitate revised working sequence to mitigate delays encountered in this area. Area is closely monitored to ensure access for all parties due to congestion.
On-Street	All Remaining Works Complete	25-Oct-12	19-Mar-13	-145		N	
<b>St Andrews Square &amp; St Andrews St North</b>							
On-Street	Civil Works Complete	15-Oct-12	24-Jan-13	-101		N	Congested area due to continued Utility Diversion. Main Contractor has facilitated revised working sequence to mitigate delays encountered in this area. Area is closely monitored to ensure access for all parties.
On-Street	All Remaining Works Complete	26-Oct-12	12-Feb-13	-109		N	
<b>York Place</b>							
On-Street	Complete Enabling Works	N/A	16-Nov-12	N/A		N	
On-Street	Commence Main Works	22-Nov-12	07-Jan-13	-46		N	Further time saving may be realised in the York Place due to advance utility and excavation works Revised Traffic Management Arrangements will also affect the original works sequence, full effects yet to be assessed and agreed.
On-Street	Civils Works Complete	29-Oct-13	10-May-13	172		N	
On-Street	All Remaining works Complete	18-Nov-13	02-Jul-13	139		N	
On-Street	York Place Tram Shelter installed	08-Mar-13	21-Mar-13	-13		N	Dates not yet adjusted to follow proposed BBS fitout solution to TCN 651 & 656 (02Sep13)
<b>Off Street</b>							
Off-Street	W4, 19-29; Russell Rd. Retain Complete	29-Oct-12	13-Dec-12	-45		N	Progressing with all units 19-29
Off-Street	S21A Roseburn St. (501-505 Viaduct) ready for Track Civils	27-Sep-12	28-Nov-12	-62		N	13d lost: Foundations very late to finish, however Reinforced Earth and Blockwork shown good progress and has offset some of the time lost
Off-Street	S21B Murrayfield Retaining Wall ready for Track Civils	11-Oct-12	04-Dec-12	-54		N	Only 3d progress with Reinforced Earth Wall (17d lost) S21B now driving Track Civils along Murrayfield Corridor
Off-Street	Water of Leith Bridge Complete	31-Aug-12	05-Nov-12	-66		N	Progressing with Steelwork and Deck
Off-Street	S22A Balgreen Road Bridge Complete	18-Sep-12	18-Oct-12	-30		N	Steady progress of Deck Work has seen further improvement to completion date
Off-Street	Track civils - (Formation and Ballast) between MUS and BAL Complete	06-Feb-13	01-Apr-13	-54		N	The alternate critical float path for Off-Street with 28d float. S21B is again driving this phase of works
Off-Street	5B Track Ready for Tamping	31-Oct-12	20-Feb-13	-112		N	Ballasted Rail Systems along 5B seen 7d improvement
Off-Street	Tamping Ballast Section 5B Complete	21-Nov-12	23-Apr-13	-153		N	Long lead requirement of ordering 5B Tamper is driving earliest date for this works. BBS indicate intent is to let this slip till date 5A Tamper is due
Off-Street	5A Track Ready for Tamping	25-Mar-13	03-Jun-13	-70		N	25d slip is as a result of poor progress at S21B and Resource Levelling
Off-Street	5C Track Ready for Tamping	19-Jun-13	27-Jun-13	-8		Y	New scope requirement identified at the Gateway not shown in Rev5 nor in the accepted Expanded schedule
Off-Street	Tamping Ballast Section 5A (&5C) Complete	16-Apr-13	18-Jul-13	-93		Y	This works will now cover Tamping along 5A and 5C
Off-Street	Full Line Pre-Stressing and Grinding	16-Sep-13	25-Oct-13	-39		Y	Emphasis on final stage works has changed from E&M (OHLE) to final rail systems works for full length of route
Off-Street	5A Testing & Commissioning (5C-2A T&C)	23-Sep-13	24-Sep-13	-1		N	Removed from Crit Path. Emphasis on final stage works has changed from E&M (OHLE) to rail finishes for full length of route
Off-Street	Balgreen Tram Shelter Installed	07-Aug-12	14-Jan-13	-100		N	Not adjusted to follow proposed BBS fitout solution to TCN 651 & 656 (29Apr13)
Off-Street	Saughton Tram Shelter installed	13-Dec-11	28-Sep-12	-290		N	Not adjusted to follow proposed BBS fitout solution to TCN 651 & 657 (09Apr13)
Off-Street	Bankhead Tram Shelter installed	19-Mar-13	08-Feb-13	39		N	Not adjusted to follow proposed BBS fitout solution to TCN 651 & 658 (19Mar13)
Off-Street	S26 South Gyle Beam Inst'n Complete	05-Nov-12	17-Aug-12	80	✓	N	Complete
Off-Street	Gyle Tram Shelter installed	21-Jan-13	05-Nov-12	77		N	Not adjusted to proposed BBS fitout solution to TCN 651 & 658 (18Jan13); NOTE: in Rev5 Fibre Optic for CCTV not due till 27Jun
Off-Street	Gateway King Post Retaining Structure complete	03-Oct-12	13-Nov-12	-41		N	Counter to TT's and BBS construction reports, Rev5 continues to show slippage to CP. TT using this activity to show this
Off-Street	Gateway Post Eathworks Drainage Complete	14-Nov-12	22-Nov-12	-8		Y	Works under Expanded schedule are progressing well. TT using this activity to show this
Off-Street	Gateway Track laying underway	22-Feb-13	04-Mar-13	-10		Y	Due to revised logic of works along the Murrayfield corridor this section has now become the Off-street critical path
<b>Depot &amp; Test facilities</b>							
Depot & Test Facilities	Gogar Burn Tram Stop Complete	17-Oct-12	20-Dec-12	-64		N	Delivery and Installation of tramstop delayed
Depot & Test Facilities	AIR Tram Stop Complete	21-Dec-12	03-Dec-12	18		N	Delivery and installation of cubicle delayed along with installation of LV power
Depot & Test Facilities	7A&5C-02 Track Ready for Tamping	27-Sep-12	03-Oct-12	-6		N	Tamping date, set by BBS, is delaying completion of their own final Track Ballast works
Depot & Test Facilities	Tamping Ballast Section 7A Complete	26-Oct-12	26-Oct-12	0		Y	Remains key Date driving Section B completion
Depot & Test Facilities	Overhead Catenary Systems 7A Complete (pre SP2.0 testing)	26-Nov-12	05-Nov-12	21		Y	OHLE works now underway, completion however is driven by Tamping 7A
Depot & Test Facilities	Rail Systems 7A Complete	17-Sep-12	09-Nov-12	-53		N	No change
<b>Tram Test &amp; Commission</b>							
Section B	OCS Energised (IP1.0)	06-Dec-12	29-Nov-12	7		Y	Now driven by Tamping 7A, OHLE and revised logic from commissioning plan
Section B	AIR-Depot Test Track available (post IRL0)	14-Dec-12	07-Dec-12	7		Y	Now driven by Tamping 7A, OHLE and revised logic from commissioning plan
Section B	Tram Bourne Dynamic Tests Complete	04-Feb-13	04-Feb-13	0		Y	Now driven by Tamping 7A, OHLE and revised logic from commissioning plan
Section B	All Secn B SAT/SITs complete. Ready to commence Test1	08-Feb-13	06-Feb-13	2		Y	Now driven by Tamping 7A, OHLE and revised logic from commissioning plan



**PROGRESS**

**SUMMARY**

During the last period Turner & Townsend have been working to implement a number of initiatives regarding health and safety on the project. These have comprised:

- There is current improvement in Health & Safety performance on the project this has been deferred at this time
- Undertaking targeted monitoring. With a continued emphasis on fencing of worksites and reversing vehicles.
- As of Friday the 5<sup>th</sup> of October all out of hours calls to the 0800 328 3934 Tram Helpline will be handled by the City of Edinburgh Contact Centre. CEC Contact Centre Staff have been briefed on how to respond to these calls. CEC will continue to monitor the calls received and, as agreed, forward on any which fall within the responsibility of the contractor. All calls received within office hours are already being received by the above number. This move only affects the out of hours provision, such that all calls will now be handled by the City Edinburgh Council

**CoCP**

**CoCP & Key**

1. CoCP compliance for Period 7 was recorded at 95%
2. 3 issues required action. These comprised:

- Fencing & Hoarding (2)
- Member Of the Public (1)

**Total**

5%  
95%  
% of breaches

**CDM Requisitions**

The CDM arrangements for operating section B test track during the testing and commissioning stage have been reviewed.

Following the resignation of the H&S Inspector (McNicholas), all H&S duties will be carried out by the H&S Manager.

**Initiatives**

Initiatives this period have focused on fencing and vehicle movements around work sites. Results of the monitoring is provided below.

**Site Fencing Checks** (w/e 28 Sep '12)

**Protruding Broken Wires on Fencing Checks** (w/e 28 Sep '12)

**Use of signaller during vehicle reversing ops** (w/e 28 Sep '12)

**HEALTH & SAFETY**

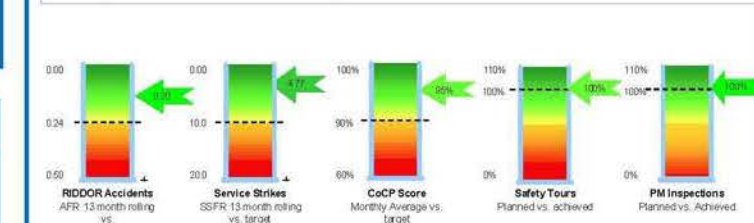
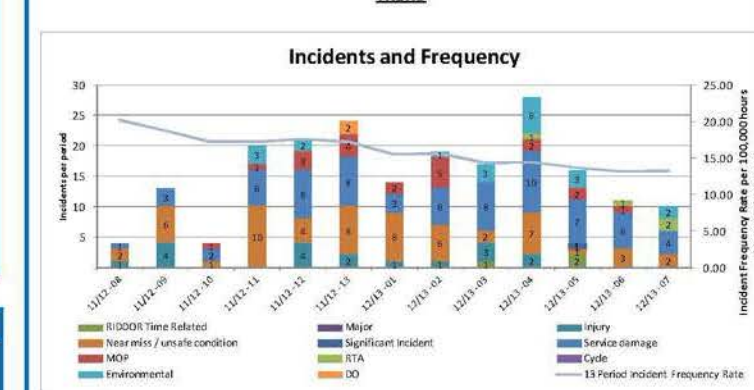
**Incidents**

There were 14 incidents reported during the period since the last dashboard. A summary is provided below.

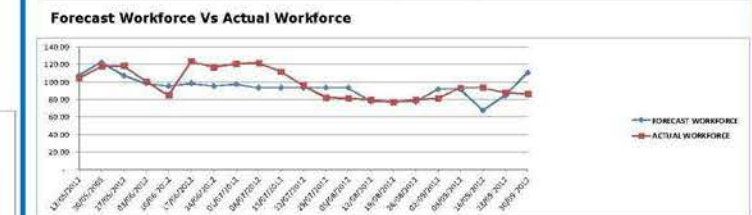
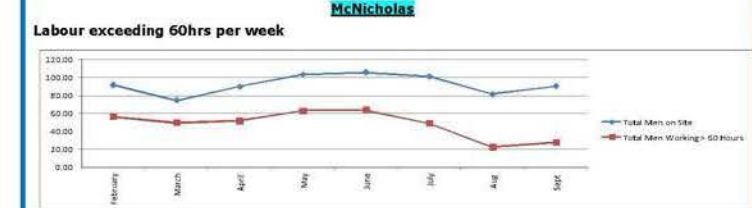
The rolling 13 Period AFR is 0.20

Classification	Number	Major	Serious / significant	Minor	RIDDOR Reportable
Member of public					
Service damage	4			4	
Environmental	2			2	
<b>Major</b>					
Injury > 7day					
Injury < 7 day	4			4	
Dangerous occurrence					
Road traffic accident	2			2	
Near miss / unsafe condition	2			2	
Significant Incident					
<b>TOTAL</b>	<b>14</b>			<b>14</b>	

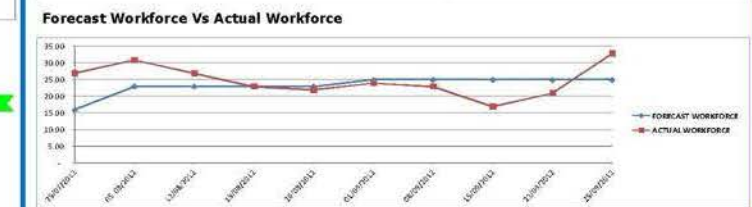
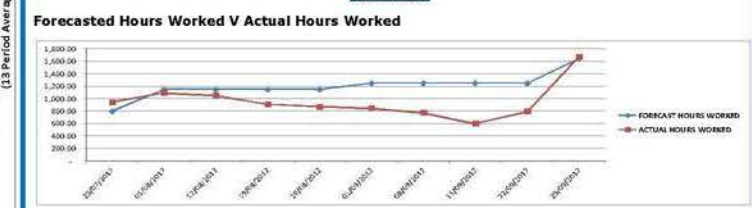
**TREND**



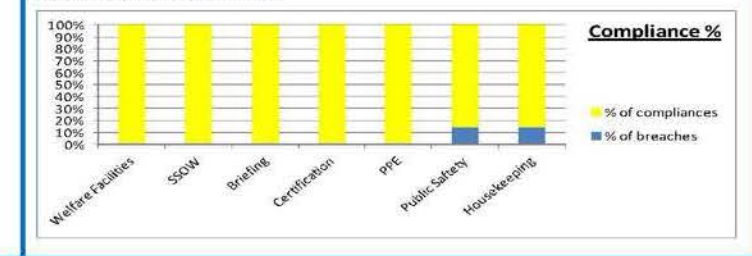
**McNicholas**



**Crummick**



**Monitoring of Leading Indicators**



Produced by	Martyn Ayres & Shirley Collin	SECTION	ENVIRONMENTAL, 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	<b>FINAL</b>	Issue Date	24 <sup>th</sup> October 2012	REPORTING PERIOD	16 <sup>th</sup> September to 13 <sup>th</sup> October 2012	Project:
						Edinburgh Tram Network

**PROGRESS**

**SUMMARY**

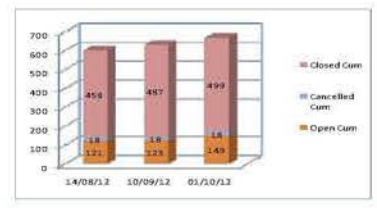
- Independent Competent Person – Advice of Possible Non Compliance (ANC) 002 - Confirmation of 'Duty Holder' ability to deliver Safety Verification remains open, BBS have now provided additional information for review.
- Requirements Management – Requirements requiring concessions are being progressed. Total of 44 concessions, 9 of which are agreed. A full submission of requirements close out documentation has now been received for section A. Evidence File – IT are still unable to fully transfer the files and metadata. New IT provided to complete the transfer if it is not completed by 14th September.
- Safety Verification Scheme Audits – Safety Verification audit TSA/12/01 – Maintenance of Depot Workshop Equipment and track, report to be updated and reissued. TSA/12/03 – Section 1C Slips, Trips, Falls (2 Wheel Vehicles) completed check sheet received from Bilfinger Berger Siemens. The assurance team are collating evidence for issue to Technical Support Services.
- Design – 2 building fixing approvals remain outstanding. All owners requested further information. A formal agreement has now been sent to each owner. A further building fixing has been identified. The action remains with CEC to gain approval.
- Total No of NCRs raised is 666. 38 NCRs were raised during the period and 12 NCRs were closed out during the period.

**QUALITY**

**NCRs by Period**

Total number of Non Conformance Reports raised - 666

- Total number of Non Conformance Reports raised in period 7 - 38
- Total number of Non Conformance Reports closed in period 7 - 12
- Number of Non Conformance Reports greater than 6 months old - 33



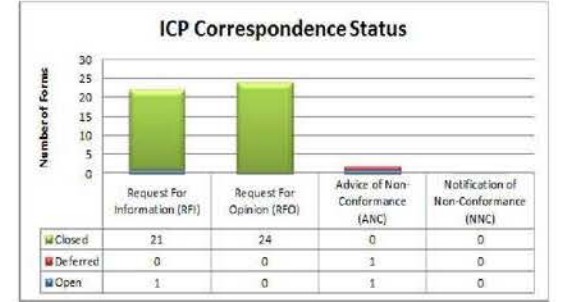
**ENVIRONMENT**

**Environmental**

- An environmental incident was recorded in Section 6 during the period. This was as the result of a discharge of silty water into a controlled Scottish Water discharge point. BBS have compiled a report which is currently being review by T&T prior to issue to Scottish Water.
- Photographic survey of chamber found at York Place issued to John Lawson CEC Archaeological Services and GUARD Archaeology.
- Environmental Inspection carried out with BBS at Section 7. No major issues were identified, however the issue of waste on site and noticeable oil spills were highlighted. BBS have issued a report to their site team.

**INDEPENDENT CERTIFIED PERSON**

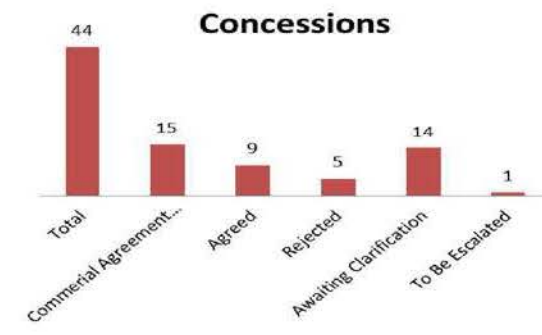
- Advice of Possible Non Compliance (ANC) 002 – Due to cancellation of Safety Verification (SV) audits SVS Audit TSA/12/03, BBS have provided a response to the checklist. These documents are current being identified to enable the review to take place.
- The introduction of a new traffic island in South St Andrew street has been agreed in principle with the ICP.



**REQUIREMENT MANAGEMENT**

**Progress**

- Verification and Validation Agreed Status 100% complete.
- Requirements requiring concession being progressed.
- 44 concessions have been identified with 9 having been agreed.
- Following the completion of BBS's review of requirement management workshops additional concessions may be identified.
- 5 concession have been deemed to not require a concession and have therefore been rejected.



**Assurance Graph**

- The following graph is based on figures from the draft Safety Assurance programme which is being developed in line with the main contract dates. The safety assurance programme will be utilised to update the graph.
- BBS have been notified of outstanding Assurance Planning documents.
- The Section A completion assurance record of review responses have now been reviewed and comments have been submitted back to BBS. As all data for Section A now received, this will be analysed during the coming period (8).



**CONSENTS**

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

Combined Consents required	Total			
	Required	On Hold	Outstanding	Closed
Third party	19	4	12	3
Technical Informatives	6	1	3	2
Planning Consents	38	15	4	19
Other Approvals	13	0	3	10
Legal Agreements	15	0	10	5

- Network Rail Asset Protection Agreement – now signed by CEC
- Earthing and Bonding technical Informative – delayed due to late submission from BBS
- Two Technical Informatives are planned to be closed by the next end of next period.

**SOFT ANALYSIS**

<p><b>SUCCESSSES</b></p> <ol style="list-style-type: none"> <li>All stakeholders are working well together at the depot.</li> <li>Establish a detailed testing and commission workshop.</li> </ol>	<p><b>OPPORTUNITIES</b></p> <ol style="list-style-type: none"> <li>Increased monitoring of onsite activities. Project Management resources will become part of integral On Street assurance process.</li> <li>Safety seminars to be arranged for project managers.</li> <li>Review of supervisor competencies</li> </ol>
--	--

<p><b>FAILURES</b></p> <ol style="list-style-type: none"> <li>None.</li> </ol>	<p><b>THREATS</b></p> <ol style="list-style-type: none"> <li>Statuary bodies co-operation.</li> <li>Late issue of documentation by BBS.</li> <li>Potential gaps between contracted maintenance responsibilities</li> <li>Visibility of BBS design and assurance documentation.</li> </ol>
--	---



Produced by	Willie Delaney & Shirley Anne Collin	SECTION	TRAMS 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	<b>FINAL</b>	Issue Date	24 <sup>th</sup> October 2012	REPORTING PERIOD	16 <sup>th</sup> September to 13 <sup>th</sup> October 2012	Project:
						Edinburgh Tram Network

PROGRESS IN PERIOD	PHOTOGRAPHS / KPIS	KEY ISSUES
--------------------	--------------------	------------

### PROGRESS IN PERIOD

- Test and Commissioning** – Testing on the Mini Test Track (MTT) continues to progress well ahead of schedule:
  - Twenty three trams have now been delivered to Gogar Depot
  - Twenty one have completed Interim Routine Testing on the MTT

There are two additional trams scheduled for delivery in October, with three trams undergoing testing on the MTT. The final tram is currently scheduled for delivery on 2<sup>nd</sup> of December 2012.
- System Acceptance and Integration** – Further discussions are ongoing with BBS to determine the best way to manage the commissioning, integration and acceptance processes for Section B. Turner & Townsend have proposed fortnightly planning meetings interspersed with fortnightly handover meetings, to ensure that all requirements and risks for Section B Completion are managed effectively. These meetings are scheduled to start on the 10<sup>th</sup> of October 2012.
- Fare Collection** – Following a change in Almx's original bid position, whereby Almx required the inclusion of undefined additional costs and the alteration of the scope of delivery, CEC started discussions with Parkeon, who confirmed that they would be interested in submitting an updated bid.
 

Turner & Townsend completed an initial 'like for like' comparison of the latest submissions from both Almx and Parkeon, based on a known and specified technical baseline. Having reviewed the evaluation criteria set for the original Final ITT submissions against the latest submissions from both suppliers, Turner & Townsend have suggested to CEC that Parkeon are now in a better position to complete the delivery of the Integrated Fare Collection system for Edinburgh Trams. This suggestion was presented in a paper delivered to CEC on the 3<sup>rd</sup> of October 2012, with a recommendation that CEC begin initial technical and commercial discussions with Parkeon immediately.

Turner & Townsend have committed to completing a full review of the original Final ITT Evaluation Report, to determine how the evaluation scoring would change based on the latest submissions from both suppliers. This will be completed before contractual discussions are finalised.

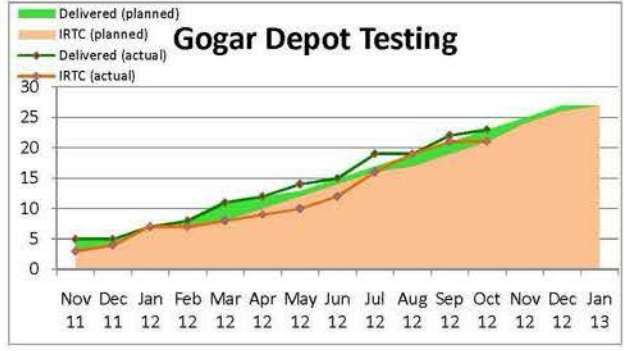
Turner & Townsend have provided BBS with informal information on the installation procedures, including foundation and wiring requirements, for the Parkeon Tramstop equipment. This will be formalised when the Preferred Bidder has been confirmed.
- Sub-Contractor Direct Agreements** – CAF have submitted a number of agreements with their suppliers, as required by the Tram Supply Agreement, however some of the wording has deviated from that in the relevant Contract Schedule. These amendments may need to be reviewed by CEC, to ensure such amendments are acceptable.

### LOOK AHEAD

- The following items will be progressed during the coming period(s):
- Test and Commissioning (end October 2012):**
    - A total of 25 trams will have been delivered to Gogar Depot
    - A total of 23 will have completed Routine Testing on the MTT
    - Final tram scheduled for delivery on 2<sup>nd</sup> December 2012
    - Interim Routine Testing scheduled to be completed on all trams by 29<sup>th</sup> January 2013.
  - System Acceptance and Integration** – Turner & Townsend shall participate in weekly meetings with all stakeholders to discuss the technical, contractual and scheduling requirements to enable Section B Completion.
    - Fare Collection – Following confirmation of the Preferred Bidder from CEC, Turner & Townsend will:
      - Confirm the scope of equipment and functionality of the system with CEC and LB;
      - Arrange initial discussions with the Preferred Bidder and LB to develop technical specifications;
      - Provide information to BBS to allow completion of tramstop design;
      - Manage actions required to allow the sign off of the Fare Collection contract; and
      - Develop a schedule for the delivery, installation and test of Fare Collection equipment.
    - Engineering Change Control process to be issued, following final discussion with stakeholders (Turner & Townsend, CAF and ET)



Trams at Gogar Depot



Trams scheduled for delivery	Date
Tram 24 (#256)	16/10/2012
Tram 25 (#255)	29/10/2012
Tram 26 (#269)	TBC
Tram 27 (#266)	02/12/2012

### Tram Commissioning Progress



### KEY ISSUES

- A material change to the Preferred Bidder's position has delayed the provision of the Fare Collection system.** A decision must be made by CEC on the Preferred Bidder status immediately, to avoid any subsequent delay to the system being ready and operational by the commencement of passenger service.
 

Further, the delayed provision of technical information is affecting the completion of tramstop design and equipment installation. Turner & Townsend will issue a change notice to BBS when Preferred Bidder status has been determined and installation requirements confirmed.

Further information on the interface between the Fare Collection equipment and the Operator's infrastructure management system (RailCom) can only be provided when the scope and functionality of the system is defined and agreed.
- The structure of the Section B Test & Commissioning meeting is being further developed,** to ensure that all issues and risks to the programme can be identified and managed.
 

Turner & Townsend have proposed that weekly meetings be held to discuss testing and acceptance issues alternately.

### CEC ACTIONS / DECISIONS

- The Preferred Bidder for the Fare Collection system must be determined, the system equipment and functionality requirements confirmed and all stakeholders informed
- Acceptance of the wording of Sub-Contractor Direct Agreements between CAF and its suppliers, as submitted by CAF in accordance with the Tram Supply Agreement.

### SOFT ANALYSIS

SUCCESSSES	OPPORTUNITIES
<ol style="list-style-type: none"> <li>Tram delivery and testing continues ahead of schedule. CAF intend to complete delivery ahead of the scheduled December date.</li> <li>Turner &amp; Townsend have now taken a more active role in the procurement of Fare Collection equipment.</li> </ol>	<ol style="list-style-type: none"> <li>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)</li> <li>Further review of BBS Section B completion programme may allow trams to be commissioned ahead of current schedule</li> <li>Increase in tram delivery rate could allow all trams to be delivered well ahead of schedule</li> </ol>
<b>FAILURES</b> None identified	<b>THREATS</b> <ol style="list-style-type: none"> <li>Lack of information on TVM procurement is delaying the completion of tramstop design and equipment installation</li> <li>FRACAS / Engineering Change procedures required to manage technical issues raised.</li> </ol>



Produced by	Rob Leech & Shirley-Anne 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	24-10-2012	REPORTING PERIOD	16 <sup>th</sup> September to 13 <sup>th</sup> October 2012	Project:	Edinburgh Tram Network

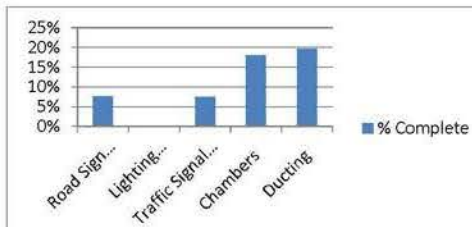
**PERIOD**  
**PROGRESS**

- All available sites are in the possession of Infraco for installation of trackwork
- Infraco progressing well with trackslab, track installation, and carriageway reconstruction in all areas from Haymarket to St Andrew Square
- York Place enabling works on target for completion by mid November
- Type 2 utility conflicts progressing well and metrics being finalised to monitor works on a weekly basis – Approx 15% complete
- Progress being made with Scottish Water in agreeing high level terms on a range of issues – Relationship remains challenging
- Leith Walk deferred until January 2013 at the earliest based on agreeing scope of work with Scottish Water within agreed budget parameters
- Cathedral Lane sub-station – Redesign of retaining wall
- Number of challenges in St Andrew Street but critical path not at risk
- Princes Street snags – Majority now closed
- Tender documents for works at the crescents being finalised
- Dublin Street Steps – Owner Consent

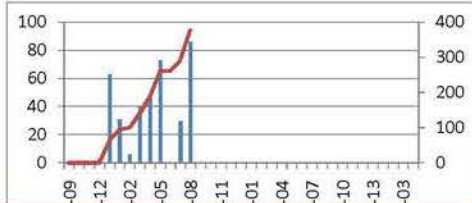
**LOOK AHEAD**

- Track slab, track laying and carriageway reconstruction will continue in St Andrew Square and from Lothian Road to Haymarket.
- Continue with Type 2 conflicts.
- Turner & Townsend will continue to react to utility discoveries by Infraco.
- Scope finalisation with SW for legacy works north of York Place to continue.
- Continue to work with Infraco to recover time lost due to utility conflicts – replenish the time bank.
- Complete enabling works in York Place and handover to Infraco

**Legacy – Progress**



**TYPE 2 WORKS % COMPLETE**  
Overall – 15%



**SW LEGACY WORKS**  
Total On Street – 466  
Comp. On Street – 302  
On St. % Comp – 65%  
Total Leith - 378  
Comp. Leith – 0  
Leith % Comp – 0%

**PHOTOGRAPHS**



Princes Street / St Andrews St



St Andrews Street



Shandwick Place



Princes Street



Princes Street



Princes Street / St Andrew Square

**KEY ISSUES**

- Scottish Water relationship generally
- Type 2 conflicts and SW Legacy issues – Possible delays.
- Legacy works North of York Place.
- Cathedral Lane retaining wall re-design – Potential delays
- Time Bank Recovery.

**CEC ACTIONS / DECISIONS**

- Scottish Water overarching terms
- Dublin Street Steps – Legal Agreement with landowner
- OLE Building Fixings – Legal Agreement with landowners

**SOFT ANALYSIS**

**SUCCESSSES**

- Working relationships with BBS remains good, particularly on site
- Speedy reaction to conflict issues

**OPPORTUNITIES**

- Optimize revised traffic phasing and work with Infraco to replenish time bank
- Return buses to Shandwick Place before 31<sup>st</sup> March 2013
- Clear York place before end 2012 to allow Infraco trackslab works to commence – target now 16 November 2012.

**FAILURES**

- Carriageway vertical alignment in south St Andrew St
- SDS OLE design
- MUDFA design, as built, contract administration & supervision

**THREATS**

- Type 2 Conflicts
- Legacy works at Leith Walk
- Legacy works within tram worksites
- Scottish Water relationship and derogations required to specification along route.
- Unknown utilities
- Infraco delay to Rev 5 due to utilities



Produced by	Shirley Mushet & Shirley-Anne Collin	SECTION	
Approved by	Julian Weatherley	Issue By:	
Status	FINAL	Issue Date	

24<sup>th</sup> October 2012

REPORTING PERIOD

16<sup>th</sup> September to 13<sup>th</sup> October 2012

**PROGRESS IN PERIOD**

**PHOTOS**

**PROGRESS IN PERIOD**

- All track has been installed from the airport to the Depot;
- Platforms and Canopy installed at the airport, IPR and Gogarburn;
- IPR to Gogarburn low voltage, signals and telecoms cables installed;
- Technical cabinets installed at; IPR, Gogarburn, Edinburgh Park Central, Edinburgh Park Station, Bankhead, Saughton and Haymarket.
- Access Road at IPR complete;
- IPR substation being prepared for HV connection;
- Edinburgh Gateway attenuation tank wall and column formation commenced;
- Edinburgh Gateway King Post Wall piling commenced;
- Topsoiling continuing for the grass track through Edinburgh Park;
- Bankhead duct, track and OHLE mast excavation continuing;
- South Gyle Bridge, Balgreen and Water of Leith bridge formwork removed;
- Baird Drive embankment construction continued and duct work installation commenced;
- Balgreen Tram Stop civil works commenced;
- Reinforced concrete works to Carrick Knowe bridge plinths complete;
- Carrick Knowe outbound sleepers installed and rails in place;
- Murrayfield sewer reinstalled and past the air test;
- Wall construction at S21B commenced;
- Completion of the ScotRail shuntline reballasting;
- Precast track slab units continuing to be install at Roseburn;
- W3 and W4 construction continuing and
- Haymarket Yards track slab construction.

**S505 Earth Retaining Wall, Murrayfield**



**W3 Retaining Wall, Russell Road**



**Roseburn Delta Plinths**



**KEY ISSUES**

- Eastfield Avenue issues still require resolution with the airport.
- Slow progress on the retaining wall S21B; this is one of the potential critical paths for the entire job. BBS shall be putting additional resources on this particular section.
- ScotRail depot; potential issues with access gates to the main access, BBS requested to review risks.

**CEC ACTIONS / DECISIONS**

- Close out of the wayleave with Scottish Power and Network Rail at Haymarket.
- Scottish Water buildover agreements require to be progressed.
- Verity House commercial position to be decided and agreed with Network Rail.
- Network Rail Bridge agreements require to be progressed.

**SOFT ANALYSIS**

**SUCCESSSES**

- ScotRail shuntline ballasting works complete with ScotRail and Network Rail happy with the final product.
- Work around ScotRail depot entrance progressing well.

**OPPORTUNITIES**

- Have the remaining WPP and Design Forms submitted to Network Rail by the end of October.

**FAILURES**

- Murrayfield progress on S21B.
- Infraco not undertaking the remedial works in relation to depot water ingress.

**THREATS**

- Scottish Water becoming more onerous with regards to timescales for approvals and requirements related to approvals. This is a particular threat to the two Off Street critical paths at Murrayfield and Edinburgh Gateway.
- Edinburgh Gateway/Murrayfield potentially on the critical path for the project.

**LOOK AHEAD**

The following items will be progressing during the coming period:

- Overhead line works continuing on Section 7;
- Tamper to arrive on Section 7 on the 22<sup>nd</sup> of October;
- Commence procurement of a design and build contractor to remediate the problems of water ingress at the depot;
- Edinburgh Gateway attenuation tank roof construction and king post wall piling continuing;
- Snagging on the civil items within Section 7 to continuing;
- Edinburgh Park bridge plinths being formed;
- Bankhead OHLE foundations continuing;
- Track installation at ScotRail depot continuing;
- Tensar wall construction at S21B Murrayfield continuing; and
- W3 and W4 wall construction continuing.



<b>Produced by</b>	Shirley Collin, Mike Mackenzie & Craig Forson	<b>Function</b>	<b>COMMERCIAL</b> CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		<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>	24 <sup>th</sup> October 2012	<b>Reporting Period</b>	16 Sept to 13 Oct 2012	<b>Project</b>	Edinburgh Tram Network

SUMMARY				VALUE ENGINEERING			CHANGE																																																																																																																																																										
<table border="1"> <tr> <td>Contract Sum</td> <td>Approved Change</td> <td>Revised Contract Sum</td> <td></td> </tr> <tr> <td>Totals</td> <td><b>479,660</b></td> <td><b>14,659</b></td> <td><b>494,319</b></td> </tr> <tr> <td>Change in Progress</td> <td></td> <td></td> <td>4,966</td> </tr> <tr> <td>Anticipated Change</td> <td></td> <td></td> <td>7,560</td> </tr> <tr> <td>Contributions</td> <td></td> <td></td> <td>-7,640</td> </tr> <tr> <td>Forecast Change / Contributions</td> <td></td> <td></td> <td><b>4,886</b></td> </tr> <tr> <td>Forecast Total</td> <td></td> <td></td> <td><b>499,205</b></td> </tr> <tr> <td>Risks (refer risk section below)</td> <td></td> <td></td> <td>4,000</td> </tr> <tr> <td>Opportunities (refer opportunities section below)</td> <td></td> <td></td> <td>4,000</td> </tr> <tr> <td>Risks &amp; Opportunities</td> <td></td> <td></td> <td><b>4,000</b></td> </tr> <tr> <td>Revised Forecast</td> <td></td> <td></td> <td><b>503,205</b></td> </tr> <tr> <td>Excluded Risks</td> <td></td> <td></td> <td>6,450</td> </tr> <tr> <td>Forecast &amp; Excluded Risks</td> <td></td> <td></td> <td><b>509,655</b></td> </tr> <tr> <td>Forecast incl potential saving -rev3 to rev 4a</td> <td></td> <td></td> <td><b>506,555</b></td> </tr> <tr> <td>Budget</td> <td></td> <td></td> <td><b>500,154</b></td> </tr> </table>				Contract Sum	Approved Change	Revised Contract Sum		Totals	<b>479,660</b>	<b>14,659</b>	<b>494,319</b>	Change in Progress			4,966	Anticipated Change			7,560	Contributions			-7,640	Forecast Change / Contributions			<b>4,886</b>	Forecast Total			<b>499,205</b>	Risks (refer risk section below)			4,000	Opportunities (refer opportunities section below)			4,000	Risks & Opportunities			<b>4,000</b>	Revised Forecast			<b>503,205</b>	Excluded Risks			6,450	Forecast & Excluded Risks			<b>509,655</b>	Forecast incl potential saving -rev3 to rev 4a			<b>506,555</b>	Budget			<b>500,154</b>	<table border="1"> <thead> <tr> <th>Item</th> <th>£K</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>Remove embargoes and revised TM</td> <td>8,460</td> <td>22 week saving reduced to 16.6 at period end 28/4/12</td> </tr> <tr> <td>Setts (separate CEC budget)</td> <td>980</td> <td>£88k CEC contribution (SAS) and £95K for revised specification.</td> </tr> <tr> <td>De-scope public realm at St Andrew Sq</td> <td>700</td> <td>Instructed, monitored through changes in progress</td> </tr> <tr> <td>Contributions 3rd Party Agreements</td> <td>2,996</td> <td>Miscellaneous 3<sup>rd</sup> party contributions</td> </tr> <tr> <td>De-scope works at Forth Ports</td> <td>2,443</td> <td>Instructed, approved change</td> </tr> <tr> <td>Omit Airport Tram Kiosk and Canopy</td> <td>150</td> <td>Instructed, monitored through changes in progress</td> </tr> <tr> <td>Temporary tram stop at York Place</td> <td>150</td> <td>Instructed, monitored through changes in progress</td> </tr> <tr> <td>Redeployment of Trams</td> <td>0</td> <td>Included in CEC budget code</td> </tr> <tr> <td>Cancel track York Place to Newhaven</td> <td>1,100</td> <td>Instructed, approved change</td> </tr> <tr> <td>Omit Siemens works at Tower Place</td> <td>100</td> <td>Instructed, approved change</td> </tr> <tr> <td>Road re-construction depth</td> <td>700</td> <td>Instructed, monitored through changes in progress</td> </tr> <tr> <td>Design freeze north of York Place</td> <td>0</td> <td>No saving obtained</td> </tr> <tr> <td>Lay off TM at Forth Ports/Leith Walk</td> <td>0</td> <td>Works now complete – all TM costs finalises</td> </tr> <tr> <td>Roseburn Viaduct Cladding</td> <td>308</td> <td>Instructed, monitored through changes in progress</td> </tr> <tr> <td>De-scope crew relief facilities (Haymarket)</td> <td>74</td> <td>Instructed, monitored through changes in progress</td> </tr> <tr> <td><b>Opportunities secured</b></td> <td><b>8,850</b></td> <td></td> </tr> <tr> <td><b>Opportunities to secure</b></td> <td><b>850</b></td> <td></td> </tr> </tbody> </table>	Item	£K	Comment	Remove embargoes and revised TM	8,460	22 week saving reduced to 16.6 at period end 28/4/12	Setts (separate CEC budget)	980	£88k CEC contribution (SAS) and £95K for revised specification.	De-scope public realm at St Andrew Sq	700	Instructed, monitored through changes in progress	Contributions 3rd Party Agreements	2,996	Miscellaneous 3 <sup>rd</sup> party contributions	De-scope works at Forth Ports	2,443	Instructed, approved change	Omit Airport Tram Kiosk and Canopy	150	Instructed, monitored through changes in progress	Temporary tram stop at York Place	150	Instructed, monitored through changes in progress	Redeployment of Trams	0	Included in CEC budget code	Cancel track York Place to Newhaven	1,100	Instructed, approved change	Omit Siemens works at Tower Place	100	Instructed, approved change	Road re-construction depth	700	Instructed, monitored through changes in progress	Design freeze north of York Place	0	No saving obtained	Lay off TM at Forth Ports/Leith Walk	0	Works now complete – all TM costs finalises	Roseburn Viaduct Cladding	308	Instructed, monitored through changes in progress	De-scope crew relief facilities (Haymarket)	74	Instructed, monitored through changes in progress	<b>Opportunities secured</b>	<b>8,850</b>		<b>Opportunities to secure</b>	<b>850</b>		<p><b>On Street Works Estimate</b></p> <table border="1"> <thead> <tr> <th>Description</th> <th>ICC Certificates to Date (£k)</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>Disruption and other costs associated with utilities</td> <td>893</td> <td>Ongoing monitoring of costs and mitigation of risks</td> </tr> <tr> <td>Temporary accommodation for utilities contractor</td> <td>2</td> <td>Complete</td> </tr> <tr> <td>Road re-construction protocol (opportunity to reduce depth)</td> <td>0</td> <td>Opportunities to be valued once scope established</td> </tr> <tr> <td>Scottish Water diversion Princes St</td> <td>253</td> <td>Complete</td> </tr> <tr> <td>Christmas embargo – temporary infill Princes St</td> <td>204</td> <td>Complete</td> </tr> <tr> <td>Traffic Management costs for amended programme constraints</td> <td>362</td> <td>Ongoing review and mitigation of costs being carried out</td> </tr> <tr> <td>Revised drainage design</td> <td>131</td> <td>Ongoing agreement on value of amended scope</td> </tr> <tr> <td>Geotextile liner to Clifton Terrace void</td> <td>2</td> <td>Complete</td> </tr> <tr> <td>Princes Street additional works</td> <td>262</td> <td>Agreement of final total costs currently being undertaken</td> </tr> <tr> <td>Schedule E Exclusion</td> <td>26</td> <td>Ongoing –refer to Schedule E of contract for full list</td> </tr> <tr> <td>Setts Changes</td> <td>28</td> <td>Ongoing assessment through contract</td> </tr> <tr> <td>Contaminated Materials</td> <td>62</td> <td>Ongoing</td> </tr> <tr> <td><b>Total ICC Value to date</b></td> <td><b>£2,225k</b></td> <td></td> </tr> </tbody> </table>	Description	ICC Certificates to Date (£k)	Action	Disruption and other costs associated with utilities	893	Ongoing monitoring of costs and mitigation of risks	Temporary accommodation for utilities contractor	2	Complete	Road re-construction protocol (opportunity to reduce depth)	0	Opportunities to be valued once scope established	Scottish Water diversion Princes St	253	Complete	Christmas embargo – temporary infill Princes St	204	Complete	Traffic Management costs for amended programme constraints	362	Ongoing review and mitigation of costs being carried out	Revised drainage design	131	Ongoing agreement on value of amended scope	Geotextile liner to Clifton Terrace void	2	Complete	Princes Street additional works	262	Agreement of final total costs currently being undertaken	Schedule E Exclusion	26	Ongoing –refer to Schedule E of contract for full list	Setts Changes	28	Ongoing assessment through contract	Contaminated Materials	62	Ongoing	<b>Total ICC Value to date</b>	<b>£2,225k</b>	
Contract Sum	Approved Change	Revised Contract Sum																																																																																																																																																															
Totals	<b>479,660</b>	<b>14,659</b>	<b>494,319</b>																																																																																																																																																														
Change in Progress			4,966																																																																																																																																																														
Anticipated Change			7,560																																																																																																																																																														
Contributions			-7,640																																																																																																																																																														
Forecast Change / Contributions			<b>4,886</b>																																																																																																																																																														
Forecast Total			<b>499,205</b>																																																																																																																																																														
Risks (refer risk section below)			4,000																																																																																																																																																														
Opportunities (refer opportunities section below)			4,000																																																																																																																																																														
Risks & Opportunities			<b>4,000</b>																																																																																																																																																														
Revised Forecast			<b>503,205</b>																																																																																																																																																														
Excluded Risks			6,450																																																																																																																																																														
Forecast & Excluded Risks			<b>509,655</b>																																																																																																																																																														
Forecast incl potential saving -rev3 to rev 4a			<b>506,555</b>																																																																																																																																																														
Budget			<b>500,154</b>																																																																																																																																																														
Item	£K	Comment																																																																																																																																																															
Remove embargoes and revised TM	8,460	22 week saving reduced to 16.6 at period end 28/4/12																																																																																																																																																															
Setts (separate CEC budget)	980	£88k CEC contribution (SAS) and £95K for revised specification.																																																																																																																																																															
De-scope public realm at St Andrew Sq	700	Instructed, monitored through changes in progress																																																																																																																																																															
Contributions 3rd Party Agreements	2,996	Miscellaneous 3 <sup>rd</sup> party contributions																																																																																																																																																															
De-scope works at Forth Ports	2,443	Instructed, approved change																																																																																																																																																															
Omit Airport Tram Kiosk and Canopy	150	Instructed, monitored through changes in progress																																																																																																																																																															
Temporary tram stop at York Place	150	Instructed, monitored through changes in progress																																																																																																																																																															
Redeployment of Trams	0	Included in CEC budget code																																																																																																																																																															
Cancel track York Place to Newhaven	1,100	Instructed, approved change																																																																																																																																																															
Omit Siemens works at Tower Place	100	Instructed, approved change																																																																																																																																																															
Road re-construction depth	700	Instructed, monitored through changes in progress																																																																																																																																																															
Design freeze north of York Place	0	No saving obtained																																																																																																																																																															
Lay off TM at Forth Ports/Leith Walk	0	Works now complete – all TM costs finalises																																																																																																																																																															
Roseburn Viaduct Cladding	308	Instructed, monitored through changes in progress																																																																																																																																																															
De-scope crew relief facilities (Haymarket)	74	Instructed, monitored through changes in progress																																																																																																																																																															
<b>Opportunities secured</b>	<b>8,850</b>																																																																																																																																																																
<b>Opportunities to secure</b>	<b>850</b>																																																																																																																																																																
Description	ICC Certificates to Date (£k)	Action																																																																																																																																																															
Disruption and other costs associated with utilities	893	Ongoing monitoring of costs and mitigation of risks																																																																																																																																																															
Temporary accommodation for utilities contractor	2	Complete																																																																																																																																																															
Road re-construction protocol (opportunity to reduce depth)	0	Opportunities to be valued once scope established																																																																																																																																																															
Scottish Water diversion Princes St	253	Complete																																																																																																																																																															
Christmas embargo – temporary infill Princes St	204	Complete																																																																																																																																																															
Traffic Management costs for amended programme constraints	362	Ongoing review and mitigation of costs being carried out																																																																																																																																																															
Revised drainage design	131	Ongoing agreement on value of amended scope																																																																																																																																																															
Geotextile liner to Clifton Terrace void	2	Complete																																																																																																																																																															
Princes Street additional works	262	Agreement of final total costs currently being undertaken																																																																																																																																																															
Schedule E Exclusion	26	Ongoing –refer to Schedule E of contract for full list																																																																																																																																																															
Setts Changes	28	Ongoing assessment through contract																																																																																																																																																															
Contaminated Materials	62	Ongoing																																																																																																																																																															
<b>Total ICC Value to date</b>	<b>£2,225k</b>																																																																																																																																																																
<p>1. Embargoes and TM – total value initially based on 22 week saving. This is no longer recognised as an opportunity by the project team.</p> <p>2. York Place Tramstop – amended design complete; agreement on revised price to be established between BBS and Turner &amp; Townsend.</p> <p>3. Road reconstruction depth – Opportunity to reduce road reconstruction depth being identified on site.</p>																																																																																																																																																																	

RISK - Significant Movement in Period (Aug/Sep 12):					
Risk ID	Risk Description	Old Level	Movement	New Level	Comments
R067	Suspension of works by NR	RED	↓	AMBER	Probability reduced as now over main shunt line problems and relationship with NR been positive so far.
ED018	Risk that contract is moved to cost reimbursable	AMBER	↓	GREEN	Probability reduced as it is now believed that it is mutually beneficial for both parties to avoid going into this position.
R052	Delay to completion of project due to Network Rail cancellation of Possessions or BB/S overrun or inefficient use of possessions	AMBER	↓	GREEN	Probability reduced as very few possessions left and the work required to complete in these remaining work is less onerous than previous works.
R070	OLE cannot be attached to the buildings if BFA are not signed in time	AMBER	NEW	AMBER	2 No. Building Fixing Agreements (BFA) have not been signed to date therefore if not signed OLE supports cannot be attached to the buildings in question
R071	Impact on Tram commissioning due to missing tram radio coverage	AMBER	NEW	AMBER	OFCOM provided frequencies that interfere with National Air Traffic Control (NATS). OFCOM has to provide suitable frequencies for Gogar Radio that don't interfere with NATS
Additional Comments:					
Risks reviewed, actions updated and added and amendments to probabilities and impacts made. Above are the significant changes in the period.					

**Commercial Issue**

Issue	Status	Action
Mark-ups on omissions and negative changes. BBS are proposing a reduced mark-up on such items from what is stated in the contract	RED	Turner & Townsend require instruction from the independent certifier on the mark-ups to be applied to omissions and negative changes as the BBS proposal is a departure from the contract.
Off Street Utilities; BBS claim certain utilities (principally SGN diversion in NIL land) are excluded from their price.	RED	Turner & Townsend require instruction from the independent certifier as acceptance would be a departure from the settlement agreement
Rev 3a to 4 Prolongation costs; BBS have not justified the costs incurred to T&T's satisfaction	RED	BBS have refusing to provide any further information to demonstrate incurred costs. IC to provide further guidance on resolution
Rev 4 to Rev4c Cost Engineering; BBS have argued that amount which had previously been considered a saving opportunity is actually a cost.	RED	Turner & Townsend have provided recommendation of action to CEC. CEC now finalising their position.
Claims for disruption; BBS have stated that there is a cost for disruption in section 1C	RED	Schedule part 45 makes no provision for claims for delay and disruption beyond what is included in the period end estimate (i.e. any claim should form part of period end estimate)



## Appendix 2 – Health, Safety Environment and Consents Tracker

### 1.0 Executive Summary

#### Executive Summary

- **Independent Competent Person** – Advice of Possible Non Compliance (ANC) 002 - Confirmation of ‘Duty Holder’ ability to deliver Safety Verification remains open, Currently remains open pending resolution of TSA/12/03 – Section 1C Slips, Trips, Falls (2 wheel vehicles); the ICP has now completed his initial review of evidence and requested further information.
- **Requirements Management** –Requirements requiring concessions are being progressed. Total of 61 concessions, 9 of which are agreed. BBS have issued an extract from the DOORs database detailing evidence to be provided for Section A handover. Evidence to be review by TSS.
- **Evidence File** – The new IT team have stated that the transfer of the Project Evidence File is not in their scope of supply. They are establishing a communication with the software supplier but will not act until instructed to do so.
- **Safety Verification Scheme Audits** –Safety Verification audit TSA/12/01 – Maintenance of Depot Workshop Equipment and track, report to be updated and reissued. TSA/12/03 – Section 1C Slips, Trips, Falls (2 Wheel Vehicles) completed checksheet received from BBS. Evidence has been reviewed by TSS, response to be collated and sent to TSS.
- **Design** – 2 building fixing approvals remain outstanding. All owners requested further information. A formal agreement has now been sent to each owner. This action remains outstanding. A further building fixing has been identified at Harvey Nichols.
- **Tram** - 23 trams have now been delivered to the depot and are undergoing static and dynamic testing.

#### Non Conformance Reports

- Total No of NCRs raised is 666.
- 38 NCRs were raised during the period and 12 NCRs were closed out during the period. 33 no open NCRs are greater than 6 months old.

### 2.0 Safety Verification Scheme (SVS)

- Evidence File – Currently no information can be uploaded to the evidence file as the site has not been transferred over to the new SharePoint.This is now on hold as the new IT team have advised it is out with their scope of supply.
- Safety Verification Audit (SV) Audit TSA/12/03 – Section 1C - Slips, Trips, Falls (2 Wheel Vehicles); John Dolan has reviewed and provided a response to the evidence detailed by BBS. This will be reviewed and a response collated prior to the end of period 7.
- SVS Audit TSA/12/01 – Depot workshop equipment and Track – Report has been reviewed and updated and will be issued during week ending 5<sup>th</sup> October 2012.
- Safety Verification Report T&T-SVS-REP-12-012 for the test witnessing at Ingliston Park & Ride traction substation was sent to BBS with observations for action.

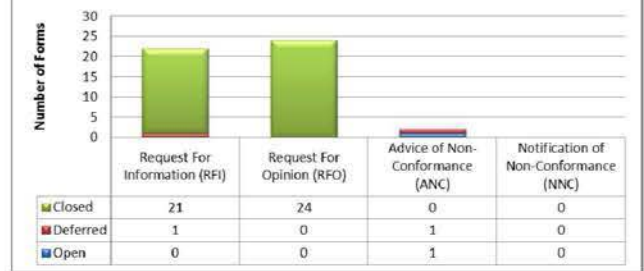
### 3.0 Independent Competent Person

#### ICP Issues

- Project Safety Certification Committee (PSCC) meeting took place 26<sup>th</sup> September 2012.
- Advice of Possible Non Compliance(ANC) 002 – Due to cancellation of Safety Verification (SV) audits SVS Audit TSA/12/03 and Infraco to support the current format – a way forward has been agreed with regard to SV audits, as detailed opposite. The ANC currently remains open.
- Request For Opinion (RFO) number 24 relating to Magnetic Impact of Vanadium Alloy Steel Rail was closed by the ICP this period

ICP Correspondence	Open	Deferred	Closed	Total
Request For Information	1	0	21	22
Request For Opinion	0	0	24	24
Advice of Non-Conformance	1	1	0	2
Notification of Non-Conformance	0	0	0	0

ICP Correspondence Status



### 4.0 BBS Design Construction and Testing & Commissioning Assurance

#### Design

##### Electromagnetic Compatibility (EMC)

- BBS Correspondence (Ref. ETN(BBS)CEC\$TEE&ABC#054959) System Integration Test (SIT) Procedure - Overall Magnetic and Radiated Emissions (IO 1.0) was submitted for information during the period 2. The document has been reviewed and comments have been passed to BBS correspondence reference INF CORR 8492 sent 6<sup>th</sup> August 2012. Awaiting response from BBS.
- BBS stated that results for Rail Conductance for Princes St do not meet the contract criteria of being 5 times better than standard. BBS will produce a rationale in support of a concession to this requirement. A follow up meeting is to be held week commencing 22<sup>nd</sup> October 2012. It is expected that the results for Princes Street will not reach the contract levels and so BBS are likely to seek a concession. It is not expected that the measured values will pose a significant risk for accelerated corrosion to buried metallic infrastructure, however the independent stray current expert will have to accept BBS argument.
- BBS Correspondence ETN(BBS)CEC&TEE&ABC#060100 SIT Procedure - Immunisation Measurements (10 2.0) was submitted for review. The document has been reviewed internally and also by Network Rail (NWR). Comments have been returned under letter INF CORR 8636.

##### Trackform

- Rheda City Track Typical Sections were submitted during the period. These have been reviewed by Technical Support Services (TSS) and concerns have been raised in relation to the ability to maintain the tracks in the future. Following the site meeting on the 25<sup>th</sup> September an number of minor observations have been raised with Siemens relating to uneven ware, however no significant issues were identified.

##### Building Fixings

- 2 building fixing approvals remain outstanding. All owners requested further information. A formal agreement has now been sent to each. Currently awaiting approval / return. This action remains outstanding. An additional building fixing was identified during period 6, this will follow the standard approval route.

#### Testing & Commissioning

- Depot and mini-test track operations continue. 23 trams have now been delivered and are undergoing static and dynamic testing.



## Project Report – Period 7

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

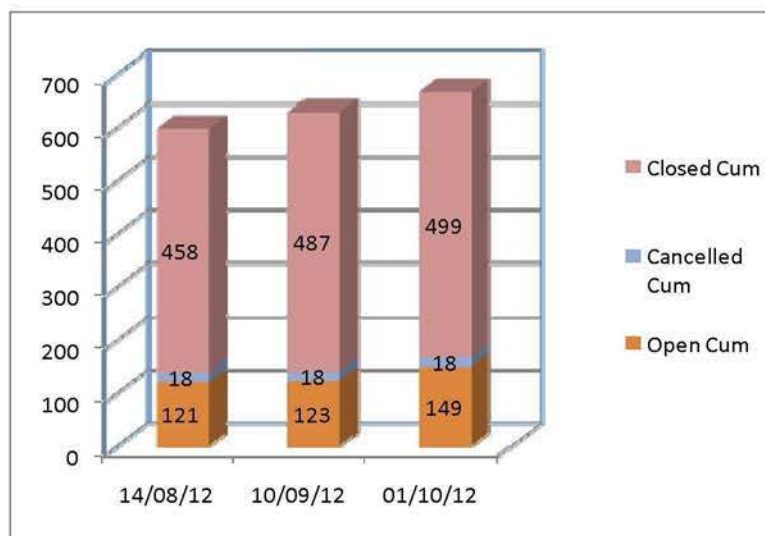
- “Depot and mini-test track operations continue. 23 trams have been delivered, with the remaining 5 to be delivered during the Autumn, and are undergoing static and dynamic testing.
- The recommendations of the peer review by Lloyd’s Register Rail of the operating and maintenance organisation have been reviewed and progressed by the management team.
- Three additional controllers and eight drivers have been recruited to facilitate Section B test track activities from early December. Training and competence assessment is ongoing to competence standards based on task analyses and industry standards.
- Supplier training in control systems, (SCADA, TPDS, IVU, CCTV), has been scheduled for October: this has been cancelled at late notice by Siemens with no alternative dates offered. This will affect the energisation and test dates.
- Operational procedures for airport test track operations have been drafted and discussed with Bilfinger Berger Siemens, CAF and other project partners.
- ISO BS EN 9001 certification was awarded in August. The stage two certification audit for ISO BS EN14001 took place as scheduled in September with the assessor recommending certification. The stage 2 BS 18001 is scheduled for December”

### Metrics

- Currently progressing with QM 73 Section 6 Electrocutation; and QM 78 Section 6 Depot Machinery however these metrics inspections cannot be closed until all relevant Verification and Validation evidence is reviewed and accepted / approved. This process is progressing as part of the requirements management review with close out of the depot evidence not expected to be complete until December 2012. BBS have updated the requirements management spreadsheet with references to all relevant evidence for the closure of Section A requirements. This is currently being reviewed in conjunction with Turner & Townsend.

### 6.0 NCR’s

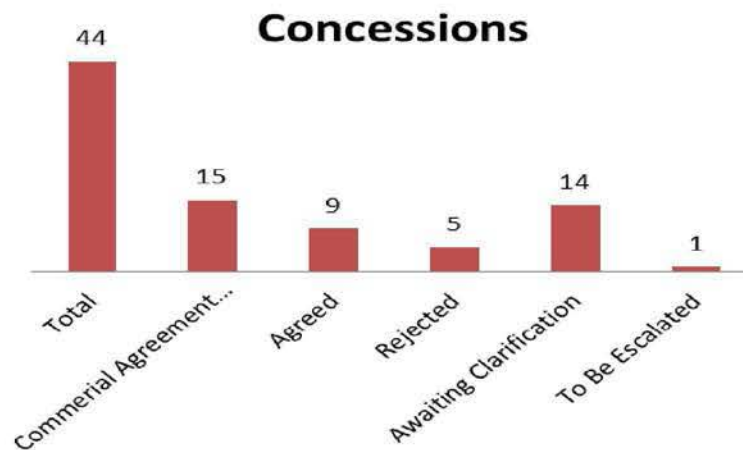
- Total number of Non Conformance Reports raised - 666
- Total number of Non Conformance Reports raised in period 6 - 38
- Total number of Non Conformance Reports closed in period – 12
- Number of Non Conformance Reports greater than 6 months old –33.



### 7.0 Requirements Management

#### Progress

- Verification and Validation Agreed Status 100% complete.
- Requirements requiring concession being progressed.
- 61 concessions have been identified with 9 having been agreed.
- Following the completion of BBS's review of requirements pursuant to the requirements management workshops there may be a requirement for additional concessions.
- 5 concessions have been deemed to not require a concession and have therefore been closed.
- BBS have issued an export of the DOORS system detailing the evidence being provided to close out the requirements for Section A Handover, this information will be passed to Technical Support services for review prior to formal close out of requirement.



### 8.0 Deliver a Safe Tram – Required Actions

- Evidence File to be moved to new SharePoint system as a matter of urgency.
- TSA/12/03 – response to evidence to be sent to BBS.
- Commercial review of outstanding issued concessions to be finalised



## Project Report – Period 7

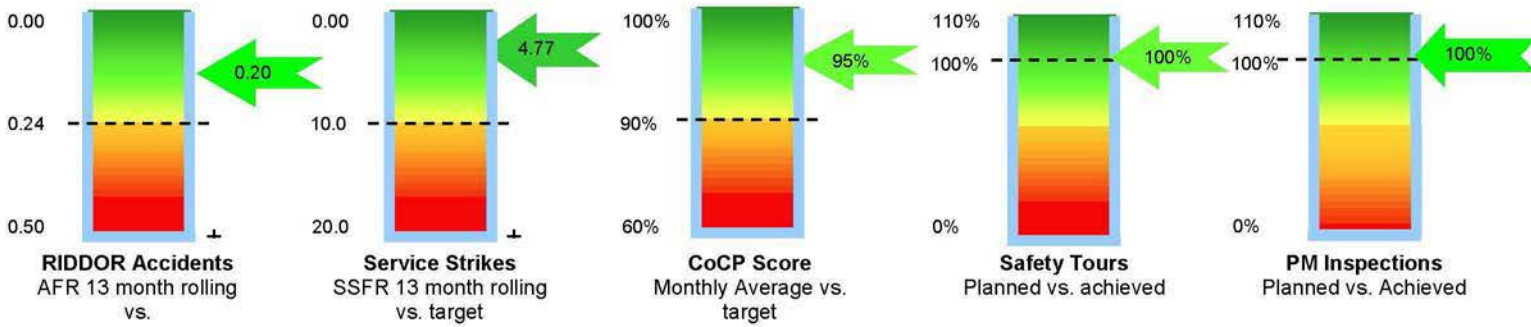
Project	12/13 - 07	Period	Hours	Time Related RIDDOR	Major RIDDOR	Other injuries	Near miss / unsafe condition	Service damage	Significant Incident	Environmental	RTA	MOP	AFR	SFR	EFR
		Period	68,639	0	0	0	2	4	0	2	2	0	0.00	5.83	2.91
YTD	914,321	3	0	7	29	44	1	15	4	12	0.33	4.81	1.64		
13 period rolling	1,509,871	3	0	18	60	72	1	20	4	21	0.20	4.77	1.32		

Infraco	12/13 - 07	Period	Hours	>3 day RIDDOR	Major RIDDOR	Other injuries	Near miss / unsafe condition	Service damage	Significant Incident	Environmental	RTA	MOP	AFR	SFR	EFR
		Period	50,500	0	0	0	1	2	0	1	2	0	0.00	3.96	1.98
YTD	672,318	2	0	7	18	27	0	7	4	7	0.30	4.02	1.04		
13 period rolling	1,132,868	2	0	18	38	40	0	12	4	14	0.18	3.53	1.06		

Other (Tram)	12/13 - 07	Period	Hours	>3 day RIDDOR	Major RIDDOR	Other injuries	Near miss / unsafe condition	Service damage	Significant Incident	Environmental	RTA	MOP	AFR	SFR	EFR
		Period	12,139	0	0	0	1	2	0	1	0	0	0.00	16.48	8.24
YTD	164,003	1	0	0	11	16	1	8	0	5	0.61	9.76	4.88		
13 period rolling	231,003	1	0	0	22	31	1	8	0	7	0.43	13.42	3.46		



### EXECUTIVE SUMMARY

There were 14 incidents (4 service damage's, 2 environmental, 4 <7 day injury, 2 road traffic accidents and 2 near miss/unsafe condition's). See Appendix A for details.

The rolling 13 Period AFR is at 0.20, better than the benchmark KPI of 0.23 for the project.

CoCP compliance was recorded at 95% during Period 7. See Appendix B for details.

100% of planned PM joint inspections have been carried out during Period 7.

100% of planned safety tours were carried out during Period 7.

## Project Report – Period 7

**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	1	7

### HSQ&E KEY ACHIEVEMENTS

The rolling 13 Period AFR is at 0.20, better than the benchmark KPI of 0.23 for the project.

### Key Issues – Points to Note

During the last period Turner & Townsend have been working to implement a number of initiatives regarding health and safety on the project. These have comprised:

- Undertaking targeted monitoring. With a continued emphasis on housekeeping on sites where there is joint occupancy by contractors, fencing of worksites and reversing vehicles.

Due to the apparent improvement in safety performance on the project the need for a further health and safety resource has been deferred.

### ENVIRONMENTAL SUMMARY

List any significant environmental events, initiatives, breaches etc

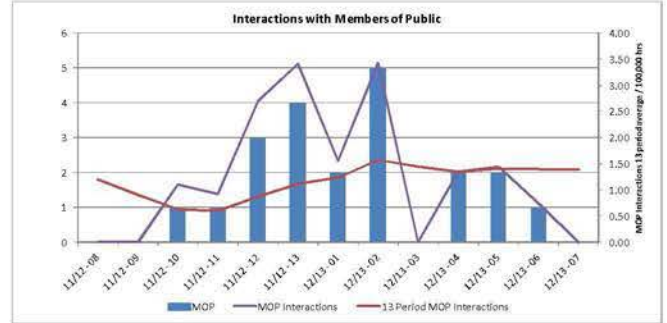
- An environmental incident was recorded in Section 6 during the period. This was as the result of a discharge of silty water into a controlled Scottish Water discharge point. BBS have compiled a report which is currently being review by T&T prior to issue to Scottish Water.
- Photographic survey of chamber found at York Place issued to John Lawson CEC Archaeological Services and GUARD Archaeology.
- Environmental Inspection carried out with BBS at Section 7. No major issues where identified, however the issue of waste on site and noticeable oil spills were highlighted. BBS have issued a report to their site team.



### Member of Public Interaction Summary

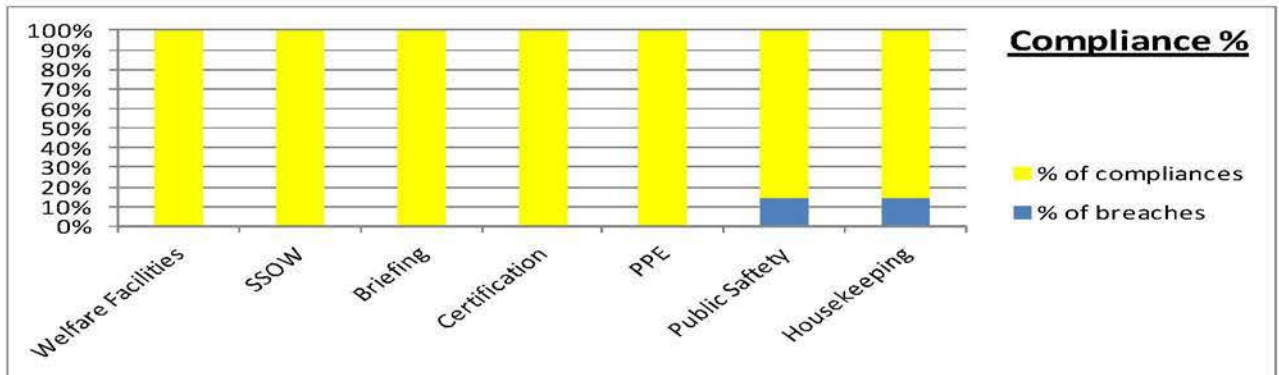
List any significant interactions with members of the public, including RTA's, alleged incidents

There were no incidents which involved the member of the public.



### Leading Indicators

Include details of compliance against leading indicators



### CDM Compliance

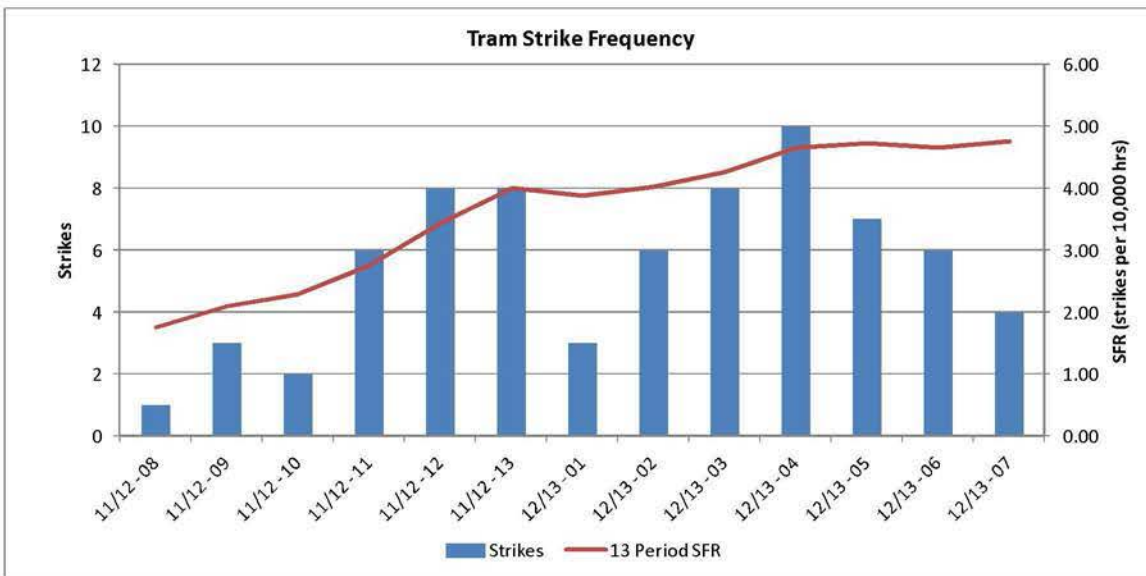
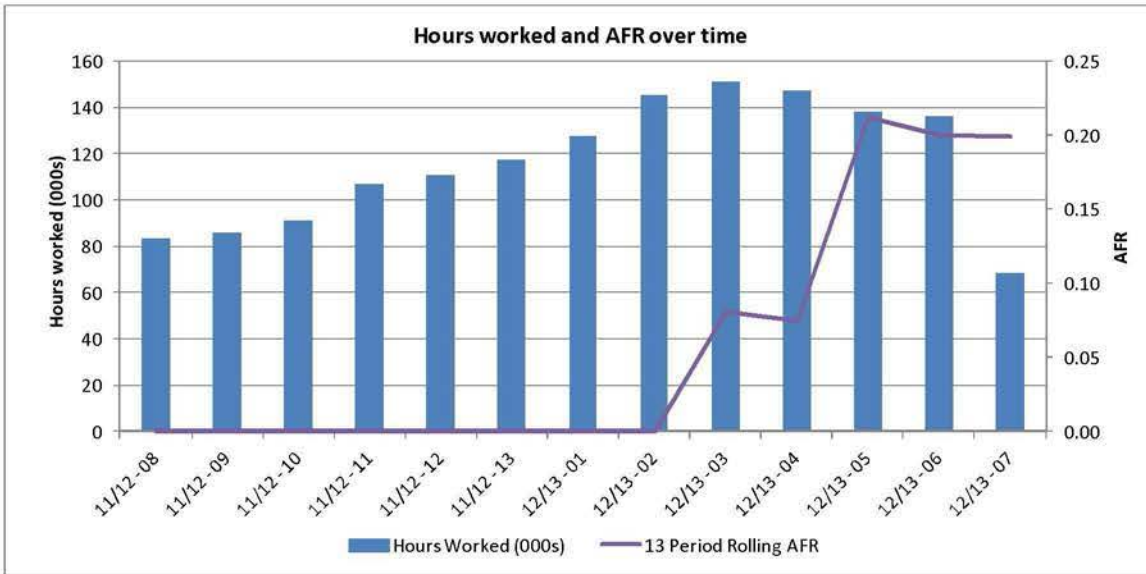
List any significant quality events, initiatives, breaches etc

The CDM arrangements for operating section B test track during the testing and commissioning stage have been reviewed.

Following the resignation of the H&S Inspector (McNicholas), all H&S duties will be carried out by the H&S Manager.

**Project Report – Period 7**

**GRAPHS**





## Project Report – Period 7

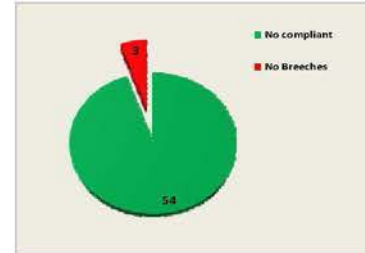
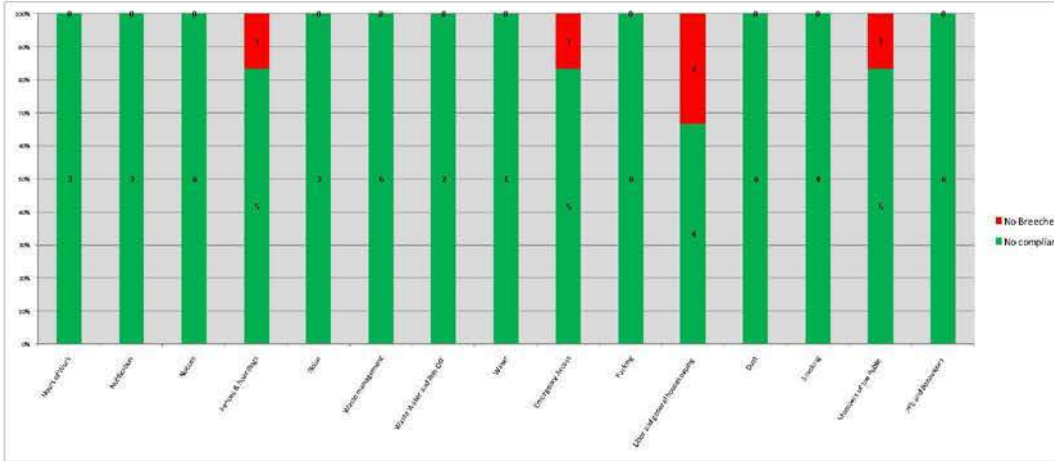
### APPENDIX A

There have been 14 incidents in total since the issue of the last DtTS.

AIIR number	Period	Date of event	Location description	Initial description	Contractor involved	Type
AIIR01764	12/13 - 07	19/09/12	Princes Street	Leakage from 6" water main through equipment used for tapping into water main. Scottish Water contacted to attend site. No disruption to consumers identified.	McNicholas	Service damage
AIIR01765	12/13 - 07	19/09/12	Murrayfield tram stop	Person fell on uneven ground causing swelling to knee and shin.	BBS	<7 day
AIIR01766	12/13 - 07	20/09/12	Elder Street	Damage to traffic signal cable at Elder Street / York Place junction. CEC informed – Siemens to attend site	Crummock	Service damage
AIIR01767	12/13 - 07	20/09/12	Coates Crescent	Noise complaint from resident - generator in site accommodation left running overnight.	Crummock	Environmental
AIIR01768	12/13 - 07	21/09/12	Balburnie Place	Person hit finger with hammer whilst driving road pins.	Grahams	<7 day
AIIR01769	12/13 - 07	21/09/12	Edinburgh Airport	Exit barrier caught by haulage lorry. Edinburgh Airport personnel contacted	Farrans	RTA
AIIR01770	12/13 - 07	24/09/12	Shandwick Place	Person injured his hand when lifting a cabinet out of a lorry on Shandwick Place. Incident was not reported immediately. BBS received a form 313 stating that the person's finger was broken. BBS to complete F313 then submit to T&T	Lagan	<7 day
AIIR01771	12/13 - 07	24/09/12	Ingliston Park and Ride	BBS staff found glazing from tram stop had blown out in high winds and was smashed on ground. Cleaned area of glass. Investigating why glass was blown out of shelter	BBS	Near miss / unsafe condition
AIIR01772	12/13 - 07	26/09/12	Roseburn Street	Lorry took wrong turning into Murrayfield main gate when delivering material. Slight damage to fence at main entrance caused by lorry turning. Fence being repaired. Contractor will submit F313 when report received.	Grahams	RTA
AIIR01773	12/13 - 07	26/09/12	Torphichen Street/West Maitland Street	CEC received a call stating that there was an open trench in the road at Torphichen Street/Place junction. McNicholas investigated and found some herras fencing moved at West Maitland Street, exposing an excavation. Fence returned and photographs taken.	McNicholas	Near miss / unsafe condition
AIIR01774	12/13 - 07	26/09/12	Coates Crescent	Damage to street lighting cable outside 5 Coates Crescent. CEC contacted.	McNicholas	Service damage
AIIR01775	12/13 - 07	26/09/12	A8 Edinburgh Gateway	Due to inclement weather, untreated surface water had been building up around and spilling into the Scottish Water discharge point. Redirect the flow of the surface water to prevent pooling of the water within the SW discharge point area. Installation of a temporary pc MH ring and infilling of low area around SW MH to form bund to prevent the pooled surface water from tipping into the discharge point.	Expanded	Environmental
AIIR01776	12/13 - 07	27/09/12	York Place	Cable & Wireless telephone cable damaged outside 24 York Place. C&W contacted but no indication of attendance time. There is no confirmation whether cable in live/dead. Awaiting attendance by C&W technician	Crummock	Service damage
AIIR01777	12/13 - 07	02/10/12	Haymarket	Injured person stood on nail attached to timbers shuttering. Injured person attended hospital and then returned to work.	BBS	<7 day

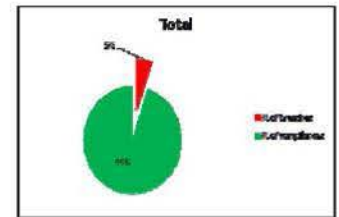
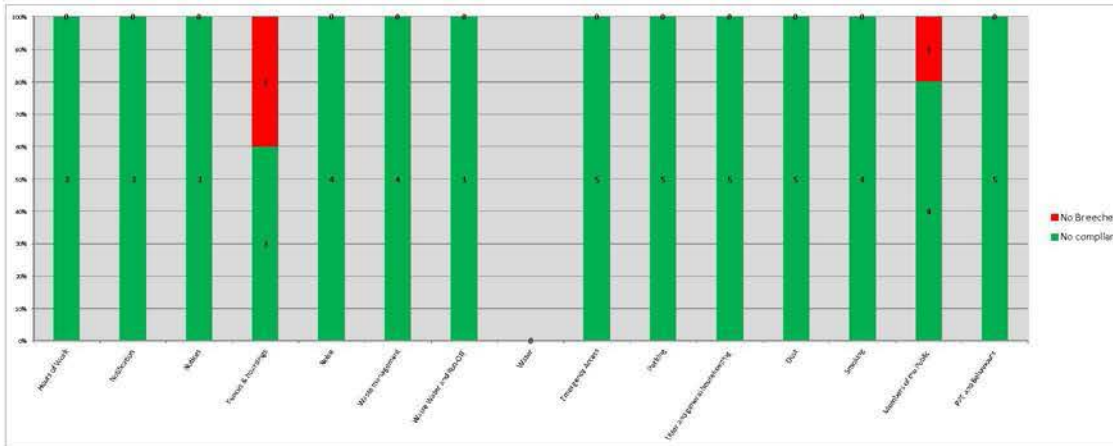
### APPENDIX B – COCP INSPECTIONS

#### COCP Inspections / Issues Period 6 (previous period)



#### COCP Inspections / Issues Period 7

CoCP compliance was recorded at 95% During Period 7





## Project Report – Period 7

### Summary of issues identified during Turner & Townsend CoCP inspections and action taken

Subject	Location	Contractor	Issue detail	Action taken or required to be taken by contractor	Date to rectify or rectified
Fencing and Hoarding	St Andrew Square	Crummock	Fence (Rhino barrier) damaged by wind	Damage section to be repaired/replaced by Crummock	25/09/12
Fencing and Hoarding	Murrayfield Corridor	Grahams	Murrayfield car park area required herras fencing to close off turning area for topper wagons and segregate from general public	Herras fencing placed to close off general public from entering worksite	21/09/12
Members of the Public	York Place	McNicholas	2 x road plates without anti-slip coating in pedestrian areas/walkways	NcNicholas undertook to replace with coated plates	26/09/12







## Appendix 3 – Cost Report



**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	14,659	494,319	4,966	7,560	0	4,000	510,845	-7,640	503,205	3,051	1%	418,940	75,379
1 Infraco - Off Street	360,060	2,065	362,125	362,501	2,065	364,566	3,532	465	0	0	368,563	-5,809	362,754	629	0%	322,559	42,007
2 Infraco - On Street	38,817	2,224	41,041	47,384	2,224	49,608	1,399	-565	0	0	50,442	-1,493	48,949	7,908	19%	20,019	29,589
3 Infraco - Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0%	673	2,545
2.1 York Place Direct Works	0	0	0		1,015	1,015		225			1,240		1,240	1,240		400	615
4.1 Utilities (Post Mediation)	1,812	9,485	11,297	1,812	9,485	11,297	0	5,939	0	0	17,236	-188	17,048	5,751	51%	13,066	-1,769
4.2 Legacy Utilities (Revised Tram Route)	0	965	965	0	965	965	0	446	0	0	1,411	0	1,411	446	46%	1,307	-342
4.3 Legacy Utilities (Leith Walk)	1,100	-1,100	0	1,100	-1,100	0	0	900	0	0	900	0	900	900		90	-90
5 Tram vehicles	62,400	5	62,405	63,645	5	63,650	35	150	0	0	63,835	-150	63,685	1,280	2%	60,826	2,824
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	-13,644	19,103	0	0	0	0			4,000	4,000		4,000	-15,103	-79%	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.  
Includes changes issued to 15/9/12

**Risk:**  
BBS portion of program saving, £6.5m not included.

**Actions**  
Ongoing risk mitigation of major risks.  
Realisation of opportunities associated with specification reductions (road surfacing) and time (York Place)

**Infraco Cost 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
Infraco Contract	402,095	4,289	406,384	413,103	4,289	417,392	4,931	-100	0	0	422,223	-7,302	414,921	8,537	3.90%	343,251	74,141
Off Steet	360,060	2,065	362,125	362,501	2,065	364,566	3,532	465	0	0	368,563	-5,809	362,754	629	1.78%	322,559	42,007
00 Preliminaries and Other Items	150,408	1,979	152,387	150,409	1,979	152,388	3,144	230	0		155,762	0	155,762	3,375	2.21%	125,852	26,536
01 Newhaven Road to Haymarket	85,368	-3,232	82,136	87,738	-3,232	84,506	115	0	0		84,621	-318	84,303	2,167	3.03%	88,237	-3,731
02 Haymarket Corridor	8,692	-4	8,688	8,692	-4	8,688	0	0	0		8,688	-13	8,675	-13	0.00%	7,823	865
05 Roseburn Junction to Gogar	80,035	3,380	83,415	80,105	3,380	83,485	113	235	0		83,833	-4,378	79,455	-3,960	0.50%	66,883	16,602
06 Depot	19,979	261	20,240	19,979	261	20,240	83	0	0		20,323	0	20,323	83	0.41%	19,057	1,183
07 Gogar to Edinburgh Airport	15,578	-319	15,259	15,578	-319	15,259	77	0	0		15,336	-1,100	14,236	-1,023	0.50%	14,707	552
On Street	38,817	2,224	41,041	47,384	2,224	49,608	1,399	-565	0	0	50,442	-1,493	48,949	7,908	22.91%	20,019	29,589
00 Preliminaries and Other Items	21,837	93	21,930	21,837	93	21,930	23	0	0		21,953	0	21,953	23	0.10%	9,320	12,610
01 Newhaven Road to Haymarket	16,980	2,131	19,111	25,547	2,131	27,678	1,376	-565	0		28,489	-1,493	26,996	7,885	49.07%	10,699	16,979
Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0.00%	673	2,545
00 Maintenance & Mobilisation	2,205	0	2,205	2,205	0	2,205	0	0	0		2,205	0	2,205	0	0.00%	673	1,532
00 Spare Parts	1,013	0	1,013	1,013	0	1,013	0	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**

**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 2 of 23

**Infraco Cost 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	01
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	02
514	Utility Mapping	92,756	92,756	0	Time chargeable costs. L&M Surveys and Class One. Complete	01	02
516	Additional Water main requirement at Depot and Mini Test Track	51,282	51,282	0		06	01
517	Additional BT Ducts at Depot and Mini Test Track	2,996	2,996	0		06	01
520	Valve chamber access and alteration works to 800mm water main at the Depot	105,326	105,326	0		06	01
524	Airport to Gyle - NIL Design Finalisation (also includes Construction)	-40,559	-40,559	0		07	01
526	Airport to Gyle - Tram Delivery Temporary Works	6,878	6,878	0		07	01
529	Design Gogar Castle Access Road tram crossing and approaches	31,308	31,308	0		05	01



**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 3 of 23

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

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
530	Amend the design of the Depot Road turning head as per RDC191. Option 2	30,458	30,458	0		06	01
531	Edinburgh Gateway - Advance Temporary Works design	9,349	9,349	0		05	01
534	SP Insurance Ducts - Install Insurance ducts at various locations	5,637	5,637	0		07	01
536	System Wide - Tramstop Cabinets - reduction in 10 years maintenance liability	0	0	0	No saving to contract	01	01
538	Depot - Tramwash Continuous Mode - Requirement for additional hand lances washers	0	0	0	Change rejected - included within contract	06	01
539	System Wide - Delay in signing - impact on commencement and completion - costs incurred at front end of programme	1,397,409	2,000,000	-602,591	tNC accepted although T&T still awaiting further information from BBS on incurred costs	00	04
540	Section 7 - Plot 304 - Omit Landscaping works	-201,120	-201,120	0		07	01
544	Extension to Edinburgh Park Office to accommodate CEC / Transport Scotland	159,900	159,900	0		00	01
550	Shandwick Place OLE & Landscape Design Revision	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	01
553	SDS to provide the services of Matt Fell until August 2012	145,000	126,175	18,825		00	02
555	Haymarket - OLE 196B design revision to avoid main sewer	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	02
557	Haymarket 1 - OLE Base Relocations (Design mods)	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	02
558	Site Wide - Provision of a CAD Technician	1,693	1,693	0		01	02
559	Detailed Design of York Place	56,438	56,438	0	tnc issued - awaiting BBS estimate	01	01
561	Omit all works at the Forth Ports area	-2,443,000	-2,443,000	0	Work deleted from scope.	01	01
562	On Street Generally - OLE Design Changes for On Street Section (PMC 045) - SIEMENS DESIGN WORKS	160,000	160,000	0	Includes original tNC 550, 555, 563	01	02
563	On Street - Amend pile caps from square / rectangular to circular	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	02
564	Worksite Modelling - (TM)	10,000	10,000	0		01	03
565	Advanced design works for Edinburgh Gateway Minimum Option	2,599	2,650	-51		05	01

CEC01891277\_0068

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

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
565.1	Advanced design works for Edinburgh Gateway Minimum Option	3,350	3,350	0		05	01
566	On Street Generally - Ducting Design Changes Due to Utilities Conflicts	60,000	60,000	0		00	02
567	On Street Generally - Drainage Design Changes Due to Utilities Conflicts	125,000	125,000	0		00	02
568	On Street Generally - Trackform Design Changes Due to Utilities Conflicts	30,000	30,000	0		00	02
569	Additional Running Costs associated with the extension to the Edinburgh Park offices	79,200	79,200	0		00	01
571	Hope Street Junction Design	22,061	22,061	0		01	01
572	Cathedral Lane Substation - Retaining Wall Design	34,459	34,459	0	Value based on submitted estimate from BBS	01	01
574	Haymarket Station - Delete viaduct cladding	-5,571	-5,571	0		02	01
576	Depot - Reinstatement to 250mm Water main Remedial Works	36,788	36,788	0		07	01
577	Haymarket Viaduct - Deletion of Sub Station Retaining Wall and Plinth	1,580	1,580	0		02	01
578	SI Provisional Sum Allowance	-57,984	-57,984	0		01	02
580	Cancellation of trackwork materials York Place to Newhaven	-1,100,000	-1,100,000	0	Change resulting from value engineering exercise	01	02
581	Omit Siemens work to Tower Place and Victoria Dock bridges	-100,000	-100,000	0	Change resulting from value engineering exercise	01	02
582	Delete proposed cladding installation costs on Roseburn Viaduct Structures	-308,004	-308,004	0	Change resulting from value engineering exercise	05	01
585	Descope of Service Vehicle	-21,565	-21,565	0		00	01
586	St Andrew Square - tie in detail	15,228	15,228	0	Change resulting from value engineering exercise	01	01
587	Revise design for amendments to setts areas and specification	15,512	15,512	0	Subject to separate CEC budget	01	01
589	Descoping airport tramstop kiosk and canopy	-150,000	-150,000	0		07	01
591	Diversion of Scottish Power Cable at Haymarket Viaduct	21,789	21,789	0	NR contribution	05	01
595	Haymarket Viaduct - Deletion of fitting out of Crew Relief Facility	-74,001	-74,001	0		05	01

**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 5 of 23

**Infraco Cost Report Section 2A - Approved Change - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
597	Section 1D - Omit disconnection of Bus Tracker	-14,928	-14,928	0		01	01
601	Clarification on length of shelter to RBS tram stop (8m)	27,863	27,863	0		05	01
602	Omit purchase of poles for PIDs North of York Place	-23,740	-23,740	0		01	01
609	Traffic Management provision in section 1A	133,140	133,140	0		01	03
615	Haymarket Viaduct - design wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	1,900	3,000	-1,100		05	01
616	Haymarket Viaduct - construct wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	10,798	10,798	0		05	01
617	Tram stops branding changes. Requirement for etched glass to be confirmed	0	0	0	Value TBC	05	01
618	Gogar Depot 1800 mm Diameter Manhole - TQ736	6,176	6,176	0		06	01
619	Omit Track Welding Equipment	-14,420	-14,420	0		06	01
620	Airport Tram Stop Design	17,784	17,784	0		05	01
621	Amend the dates of the HV meter installation at substations	12,507	12,507	0		05	01
622	LV power for sub-station and Tramstop.	0	0	0		05	01
623	Repair minor damage to Depot (Intercom, fence panel and broken slabs)	1,867	1,867	0		07	01
624	Compressed Air Supply to Depot Gantry Road and workshop	5,576	5,576	0		07	01
627	Delete pedestrian guardrail in the area outside St John's Church (Design)	0	0	0	No costs related to tnc	01	01
632	Resolve Depot Building water ingress	0	0	0	Assumed to be BBS liability	06	01
636	Twin Crossing at Lochside Avenue	31,500	20,000	11,500	Includes abortive cost of work carried out to date. Full forecast £140k as assumed work will no longer be carried out.	05	01
640	Unimog Insurance	-1,000	-1,000	0		00	01

CEC01891277\_0070



**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 6 of 23

**Infraco Cost Report Section 2A - Approved Change - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
643	Edinburgh Gateway Construction	3,416,010	3,416,010	0	Construction costs; excludes fees and OLE Poles (refer to tNC 594 & 610). Excludes any contingency which is reported separately by Transport Scotland	05	01
647	Design work to support VE on carriageway reconstruction & kerb realignment	50,000	50,000	0		01	01
648	Cabinet Position For Street Lighting - design	10,000	10,000	0	Provision of as-built drawings	01	01
652	Maintenance of The Depot Workshop Equipment	49,633	49,633	0		06	01
653	Provision of IFC Drawings in DWG CAD format	4,924	4,924	0	Contractual requirements being reviewed - BBS have stated that there is a charge for this work.	01	01
657	Drainage As Built Drawings - Princes Street	5,000	15,000	-10,000		00	01
662	Eastfield Avenue Topographical Survey	2,857	3,000	-143		07	01
663	Heras fencing at depot	6,424	6,424	0		06	01
664	Gogar Castle Access Road - Additional High Friction Surfacing	3,186	6,000	-2,814	Requirements being investigated	07	01
666	Pedestrian gate next to the vehicle access gate at the ScotRail Depot.	2,213	2,000	213		05	01
667	Call off service to respond to Network Rail TQs and interface issues	15,000	15,000	0		05	01
668	De-scoping of Infraco works in York Place to be undertaken direct by Crummock.	-1,015,156	-1,015,156	0		01	01
670	SDS Response to Road Safety Audit for Princes St	3,000	10,000	-7,000		01	01
671	ScotRail car park security fence	10,000	10,000	0	Contribution from ScotRail to be reviewed	05	01
672	Amend drainage drawings to incorporate changes introduced through redesign process	15,000	15,000	0	Not to be provided by Infraco	06	01
673	Cancel order for OLE poles required for Secondary Phase 1a	-41,789	-41,789	0		01	01
679	Works to prevent water stagnation at Depot (L8 Compliance)	2,500	2,500	0		06	01
681	Hoarding design for York Place	5,000	0	5,000		01	01
683	Carry out trial holes to locate 125mm diameter pipe at Depot	5,000	5,000	0		06	01

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



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 7 of 23

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

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
685	Provide technical information on Lindsay Road works	7,090	5,000	2,090		01	01
689	CAD resource and engineering support to revise drawings to show the layout required for Road Sign Bases, Street Light Columns, Traffic Signal Poles, Ducting and Chambers to avoid utilities	50,000	50,000	0		01	01
690	Remedial work to repair West Shunt line at Haymarket Depot	75,000	75,000	0		05	01
691	Cathedral Lane re-design	0	0	0	No cost included at present - assume design cost will be covered through construction savings	01	01
703	Repair Switch Rail at Depot	1,000	1,000	0		06	01
<b>Total</b>		<b>2,066,015</b>	<b>2,652,084</b>	<b>-586,070</b>			

CEC01891277\_0072





**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

**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
525	Airport to Gyle - Site Access for Remedial Works	0	0	0	all costs associated with this change allocated to TNC 576	07	01
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	01
539.1	System Wide - Delay in signing - impact on commencement and completion - prolongation costs at end of programme	3,143,752	2,541,161	602,591	No costs yet incurred - this relates to delay to end of Rev 3c programme	00	04
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	184,125	184,125	0	Off and on street combined under Clause 80	01	01
556	Track Work Materials York Place to Newhaven - Price Fixing for Rheda City C and D	0	0	0	Included in VE register	01	01
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	01
575	Haymarket Station - Take Down Viaduct Staircase and Parapet. TNC now withdrawn - Network Rail carrying out work	0	0	0	Work to be carried out by Network Rail	02	01
592	Haymarket Yards - Realign kerbs at Car Park Entrance	0	0	0	Currently on hold pending A. Sim review.	05	01
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	01
594	Edinburgh Gateway slope option - design costs	0	0	0	Costs included in tNC 643	05	01
603	Bus Tracker Interface Specification	11,535	10,000	1,535	Cost based on option 2	01	01
605	Depot - Sub-Station Switching	80,000	80,000	0	Includes allowance up to Section B completion date (8/3/13)	06	03
607	Delete 110v sockets on On Street Tram Stops	-6,154	-6,154	0	Assume £1.5k per tram stop. Awaiting estimate	01	01
608	Delete 110v sockets on Off Street Tram Stops	-36,851	-36,851	0	Assume £1.5k per tram stop. Awaiting estimate	05	01
610	Edinburgh Gateway - Siemens Long Lead Items	0	0	0	Costs included in tNC 643	05	01
625	Engineering attendance on site at Cathedral Lane.	0	0	0	All costs captured against tNC 566	01	01
626	Advanced procurement of Edinburgh Gateway Materials and Equipment.	0	0	0	Costs included in tNC 643	05	01
628	Prepare MUDFA As Built drawings	100,000	100,000	0	Requirements to be confirmed	01	01
649	Princes Street Blister - Design Works	0	0	0	No cost impact	01	01

CEC01891277\_0074

**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 10 of 23

**Infracost Report Section 3A - Change in Progress - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
651	Defer Off Street Tramstop Shelter Installation and Fit-out	50,000	50,000	0		05	01
655	Revise CCTV & PA coverage at Murrayfield tram stop	75,000	5,000	70,000		05	01
661	Blank off signage to Depot	10,000	10,000	0	On hold - may not be required	05	01
669	SGN Remedial Works - backfill at New Ingliston Land	16,063	12,000	4,063		07	03
674	Topographical survey at Eastfield avenue - DESIGN	5,000	5,000	0		07	01
675	Remove concrete around the water meter at the ScotRail Depot.	1,000	1,000	0		05	01
676	Design associated with work to Lord Bodos Bar	0	3,000	-3,000	BBS confirmed that the design work associated with this has been incorporated into PMC46 (tNC566). (25.1.201/SN/9826)	01	01
684	Repair works to utility trough cover slabs damaged by tram deliveries	0	0	0	No cost included at present - assume recharge to CAF contract	06	01
694	Traffic Light de-scope to West St Andrew St	-189,460	-170,000	-19,460	Final value to be agreed. May be an issue with mark-ups	01	01
695	Tanker Access Edinburgh Airport	2,500	0	2,500		07	01
696	SGN as Builts for New Ingliston Limited	3,000	0	3,000		07	01
701	Reinstatement works at the Airport	20,000	20,000	0		07	01
702	Eastfield Avenue Pedestrian Crossing	30,000	30,000	0		07	01
704	Redesign of St Andrew Square - East	15,000	5,000	10,000		01	01
705	Re-design works due to NWR fence encroaching into the LoD	13,669	0	13,669		05	01
708	RailCom Software Interface	0	0	0	No cost impact	00	01
709	Scotrail Car park landscaping	0	0	0	No cost impact	05	01
710	Gogar Depot - Repair areas of damaged flooring	3,000	0	3,000		06	01
<b>Total</b>		<b>3,531,179</b>	<b>2,843,281</b>	<b>687,898</b>			

**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 11 of 23

**Infraco Cost 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	02
521	Haymarket - Temporary Accommodation	0	1,543	1,543	1,543	0		01	02
522	Haymarket 1 - Road Reconstruction	0	0	0	0	0	Included in VE register	01	02
523	Haymarket 1 - Additional CBR / Plate Testing	0	0	0	0	0	Included within on street priority works (contract milestones)	01	02
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	02
532	Princes Street - Temporary traffic management design - WITHDRAWN	0	0	0	0	0	Further information required	01	02
533	Princes Street - 500mm Water Main Diversion	0	0	0	0	0	Costs contained within 535	01	02
535	Princes Street - 500mm Water Main Diversion - rev 3 dwg	0	252,986	252,986	252,986	0		01	02
537	Haymarket 1 - Additional visit of Tar planer to facilitate slewing of BT ducts - WITHDRAWN	0	0	0	0	0	Withdrawn	01	02
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	0	257,147	257,147	257,147	0	Only covers section H1. H2 to YP included in item 7 of Anticipated Change.	01	02
545	Site Wide - Power to bus trackers affecting the ability to remove site clearance items	0	0	0	0	0	McNicholas to remove. Contra charge BBS; allowance included for BBS attendance	00	02
546	Increased number of drainage boxes including installation	21,482	0	21,482	21,482	0		00	02
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	1,378	9,710	11,088	9,751	1,336		00	02
548	Haymarket H1 - BT Fibre Optic Service requires diverting	0	83,053	83,053	83,053	0		00	02
549	Princes Street - Amend the design of the St. Johns Church OLE bases	0	32,642	32,642	32,642	0	Opportunity to deduct original scope to be pursued once acceptance of revised pole locations is achieved.	01	02
551	Princes Street - 2011 Christmas Embargo - Temporary Surfacing of Track Infills	0	203,511	203,511	203,511	0		01	02
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	02
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	46,548	221,159	267,706	236,809	30,897	Refer to Revised issue of TNC	01	02
560	St. Andrew Square - Omit £0.7m of repairs to road surface finishing	-700,000	0	-700,000	-700,000	0		01	02

CEC01891277\_0076



**Infraco Cost 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	3,299	-5,767	-5,767	0		01	02
579	Removal of embargo and revised traffic management	0	0	0	0	0	Change resulting from value engineering exercise	01	02
583	Ordering setts for on street works	-118,329	28,329	-90,000	-90,000	0	Saving based on spreadsheet issued to CEC (GE to AC 22/05/2012). Final value still to be agreed with BBS	01	02
584	Road Reconstruction specification	0	201	201	201	0	Change resulting from value engineering exercise	01	02
588	Stafford St Return of Parking Spaces	0	0	0	0	0		01	02
590	New cycleway from The Mound into Princes Street	0	30,375	30,375	30,375	0		01	02
596	Section 1D - Costs associated with amended drainage design	13,082	118,851	131,933	118,851	13,082		01	02
598	Section 1D - Incorporate geotextile liner into Clifton Terrace void in accordance with requirements from Archaeologist	0	1,760	1,760	1,760	0		01	02
599	Floating track slab	746,986	3,014	750,000	750,000	0	Forecast reduced on the basis that BBS have £109k in their On Street Price for civils work. Remaining allowance for Siemens work plus contingency for extra civils costs	01	01
600	Shandwick place - OLE bases affecting utilities (Piling)	5,547	315,946	321,493	315,964	5,530		01	02
604	St Andrew Sq - OLE bases affecting utilities (Piling)	0	37,550	37,550	37,550	0		01	02
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	96,446	63,312	159,758	72,160	87,598		01	02
611	Excavation of Track Slab to be carried out by McNicholas	0	0	0	0	0	Refer to Anticipated change section for costs	01	01
612	Tram stops branding changes. Requirement for etched glass to be confirmed (cost excluded)	0	0	0	0	0	Value TBC	00	01
613	Temporary Bus Station at St Andrew Square/Waterloo Place - design	40,293	8,885	49,178	49,178	0		01	01
614	Rothesay Place Traffic Management Amendment	10,000	0	10,000	10,000	0		01	01
629	Utilities affecting Track Excavation at Shandwick Place (S1)	0	35,417	35,417	35,417	0		01	02
630	Utilities affecting Track Excavation at Shandwick Place (S2)	0	26,867	26,867	26,867	0		01	02

**Infraco Cost 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
631	Third parties affecting progress at Shandwick Place (S2)	0	7,161	7,161	7,161	0		01	02
633	Ponding on Princes St at junctions of Frederick St/Castle St	0	0	0	0	0		01	01
634	Descope duct installation at Cathedral Lane	0	0	0	0	0	Part of York Place descope	01	01
635	Amend on street drainage scope	0	9,044	9,044	9,044	0		01	02
637	St Andrew Square Pedestrian Crossing	0	3,027	3,027	3,027	0		01	01
638	Remove pedestrian guardrail outside St John's Church	5,000	0	5,000	5,000	0		01	01
639	York Place - Traffic Management Design	88,000	128,551	216,551	216,048	503		01	01
641	Cathedral Lane substation - scope change to suit Henderson Global requirements. Excludes demolition.	450,000	0	450,000	281,000	169,000	This allowance is for the extra over cost included in the contract for construction of the new tram substation. BBS have submitted a price for the substation which would add a further £100k to this value. However, we are looking to value engineer this scope and consider a further tendering exercise.	01	01
642	York Place temporary Tram Stop	944,000	0	944,000	944,000	0	Excludes design work (see tNC 505) and sheet piling work to strengthen basement (included in risk allowance).	01	01
644	Finials for On Street Poles	7,120	22,880	30,000	30,000	0		01	01
645	Princes Street Outstanding Works	0	231,868	231,868	255,734	-23,867		01	01
646	Cabinet Position For Street Lighting	20,000	0	20,000	20,000	0	Relates to locations only - assume no additional work	01	01
650	Princes Street Blister	10,000	0	10,000	10,000	0		01	01
654	De-scope coloured high friction surfacing at Princes / Sth St David Street Jctn	0	0	0	0	0	Savings contained in tNC 560	01	01
656	Defer On Street Tramstop Shelter Installation and Fit-out	10,000	0	10,000	10,000	0		01	01
658	Clarification of scope to Shandwick Place Wall	0	0	0	0	0	Work to be descope from BBS. No adjustment as work will be carried out by others.	01	01
659	Road signage at Junction of Manor Place / Melville Street	2,000	0	2,000	2,000	0		01	01

**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 14 of 23

**Infraco Cost 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
660	Princes Street Traffic Management	10,000	0	10,000	10,000	0		01	01
665	Removal of Princes Street "plug"	5,000	0	5,000	5,000	0	Current requirements to be established	01	02
677	Install 20mph roundels on Lansdowne Crescent	1,500	0	1,500	1,500	0		01	01
678	Temporary traffic management design at York Place to keep bus station access open	10,000	0	10,000	10,000	0		01	01
680	Coates Crescent - Bus running single lane	10,000	0	10,000	10,000	0	Feasibility study	01	01
682	Descope work associated with street lighting, road signage & traffic signals	-500,000	0	-500,000	-500,000	0	Previously included in anticipated change section	01	01
686	Alter kerbs next to CEC Connection Manhole	1,000	0	1,000	1,000	0		01	01
687	Relaxation of specification Appendix 11/1 to allow new in lieu of recovered whin kerbs	60,705	0	60,705	60,705	0		01	01
688	Descope footways outside Atholl & Coates Crescent	0	0	0	0	0	Included in forecast for road reconstruction saving	01	01
692	Installation of additional traffic management measures around St. James Centre car park	15,000	0	15,000	15,000	0		01	01
693	Footway and kerbing reinstatement in Shandwick Place	10,000	0	10,000	10,000	0		01	01
697	Remedials to Clifton Terrace kerb and footway	10,000	0	10,000	10,000	0		01	01
698	Removal of Contaminated Material in SP4	30,000	61,619	91,619	91,636	-17		01	01
699	Pedestrian walkway from Haymarket Station	5,000	0	5,000	5,000	0		01	01
700	Hope Street Junction Works	30,000	0	30,000	30,000	0		01	01
707	Traffic Management adjacent Apple store (Princes St)	10,000	0	10,000	0	10,000		01	01
<b>Total</b>		<b>1,398,691</b>	<b>2,223,480</b>	<b>3,622,171</b>	<b>3,328,109</b>	<b>294,062</b>			

CEC01891277\_0079



**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 15 of 23

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

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
4	Pricing Assumptions - 6.4.2.6 Dublin Street	70,000	70,000		0 Excludes piling if required. Includes allowance for works to adjacent properties.	01	02
6	Track Lowering - bridging trackform over utilities in St Andrew Square	150,000	150,000		0 Requirement for 30m section in St Andrews Square. Costs will come through On Street Works estimates	01	02
7	Piled OLE base in lieu of utility diversion	80,000	85,000	-5,000	0 Allowance for remaining scope at 23/06/2012. 1 OLE base at Shandwick Place; 2 piles, 3 bases. Costs will come through On Street Works estimates	01	02
14	Roseburn Delta - non DDA footpath	30,000	30,000		0 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	01
24	Remove drainage from Infraco scope	-200,000	-200,000		0 Extent of deduction to be fully established. BBS are disputing the markup that applies to deductions. Reduced in period to take account of York Place removal elsewhere	01	01
25	Remove excavation of trackbox from Infraco's contract	-200,000	-200,000		0 Value to be determined by detailed site measure and application of Schedule 45 rates. Quantification to be agreed with BBS. Note that this value has been reduced as BBS are disputing the method of calculating the deduction. Reduced in period as York Place removed	01	01
26	Remove ducting in Cathedral Lane from Infraco's contract				0 This work is included within the descoped York Place contract sum	01	01
27	Amend road reconstruction depth from Contract Requirements	-700,000	-700,000		0 Principles instructed, saving subject to site conditions	01	01
28	Opportunity to reduce cost associated with the temporary tram stop at York Place	-150,000	-150,000		0 Design optimisation - still to be realised	01	01
30	Schedule Part E, Item 8. Trackside Signage	37,320	37,320		0 Includes allowance for additional signage requirements identified during the testing and commissioning	01	01
31	Schedule Part E, Item 10. OLE Change: Grosvenor Street Pole Movement	12,440	12,440		0 Current requirements to be established	01	01

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



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 16 of 23

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

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
32	Schedule Part E, Item 11. Unsuitable building fixings Section 1A	118,258	118,258	0	Current requirements to be established	01	01
33	Schedule Part E, Item 12. SDS Lighting Design update impacts OLE combined poles	62,200	62,200	0	Current requirements to be established	01	01
34	Schedule Part E, Item 14. SDS alignment update to match built structures	124,400	124,400	0	Current requirements to be established	01	01
35	Defer tram stop construction	30,000	30,000	0	Increased protection / security	00	01
36	Install fencing to mini test track	20,000	20,000	0		05	01
37	Redesign of OLE bases along Roseburn corridor where they are sited outside of the LOD	10,000	10,000	0		05	01
40	Disposal of contaminated excavations at Shandwick Place	0	75,000	-75,000	Costs included in tNC 698	01	01
41	Additional SDS Preliminaries (25.65%)	200,000	200,000	0	Final total to be reviewed, based on agreed base values.	00	01
42	Re ballast shunt line	75,000	75,000	0		05	01
43	Road level modifications in St Andrew Square resulting from comms ducts	30,000	30,000	0	Design cost included in tNC 704. Final solution to be developed	01	01
44	Construction costs associated with LOD conflicts at Network Rail boundary	100,000		100,000	Confirmation form IC that costs associated with this work should be borne by the Client	05	01
Total		-100,382	-120,382	20,000			

CEC01891277\_0081

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



Reporting Period: 12-07 - Rev 0 - 13/10/2012

**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	0	0	0	-6,460,000	Subject to completion of sections in advance of contract dates. Initial opportunity based on 22 week time saving assumed in the Rev 4C programme. Current master programme indicates 4 week saving as a result of York Place
02	Edinburgh Gateway	0	0	0	-3,416,010	-3,416,010	0	-3,416,010	0	Awaiting instruction from Transport Scotland
03	Setts (separate CEC budget)	0	-90,000	0	-890,000	-980,000	0	-980,000	-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	0	-700,000	0	-700,000	-700,000	Instructed
05	Contributions 3rd Party Agreements	0	0	0	-2,995,775	-2,995,775	0	-2,995,775	-2,500,000	Refer to contributions register
06	De-scope works at Forth Ports	-2,443,000	0	0	0	-2,443,000	0	-2,443,000	-2,450,000	Instructed
07	Omit Airport Tram Kiosk and Canopy	-150,000	0	0	0	-150,000	0	-150,000	-150,000	Approved, replacement materials t.b.c
08	Temporary tram stop at York Place	0	0	-150,000	0	-150,000	0	-150,000	-150,000	Design optimisation
09	Redeployment of Trams	0	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	0	-1,100,000	0	-1,100,000	-1,100,000	Instructed
11	Omit Siemens works at Tower Place	-100,000	0	0	0	-100,000	0	-100,000	-100,000	Instructed
12	Turner & Townsend / CEC resources	0	0	0	0	0	0	0	0	Ongoing
13	Shared recovery vehicle	0	0	0	0	0	0	0	0	Not taken forward
14	Road re-construction depth	0	0	-700,000	0	-700,000	0	-700,000	-700,000	Principles instructed, saving subject to site conditions
15	Design freeze north of York Place	0	0	0	0	0	0	0	-250,000	Infraco design costs expended
16	Reduced requirement for storage	0	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	0	-180,000	TM not included in Infraco budget provision
18	Roseburn Viaduct Cladding	-308,004	0	0	0	-308,004	0	-308,004	-300,000	Instructed



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



Reporting Period: 12-07 - Rev 0 - 13/10/2012

**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	-74,001	0	0	0	-74,001		-74,001		Instructed
Total		-4,175,005	-790,000	-850,000	-7,301,785	-13,116,790	0	-13,116,790	-22,040,000	

CEC01891277\_0083

## Infracost 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	82,944	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	01
02	New Ingliston Future Proof measures	540,000	0	0		540,000	540,000	0		Construction works element of overall settlement with NIL. Remaining amount contained in Land budget	07	01
03	Henderson Global - Cathedral Lane substation	-44,596	233,596	450,000	-169,000	470,000	470,000	0		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	01
04	RBS Tramstop	560,000	0	0		560,000	560,000	0		Agreement reached with RBS 11/06/2012	07	01
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	01
06	Forth Ports		0	0		0	0	0		Forth Ports work removed from scope - no further contribution from Forth Ports assumed	01	01
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	01
08	Network Rail - Haymarket station refurbishment	0	12,698	0		12,698	13,798	-1,100		Majority of this work now being carried out by Network Rail. Remaining allowance for wall to crew relief facilities	02	01
09	Contribution from CEC for public realm work (granite setts) at St Andrews Square	890,000	0	0		890,000	890,000	0		No change in scope allowed for - setts funded by CEC. Saving based on spreadsheet issued to CEC (GE to AC 22/05/2012).	01	01
10	Network Rail - Scottish Power Cable diversion - Haymarket Station (TNC 591)		21,789	0		21,789	21,789	0			05	01
11	Edinburgh Gateway Construction		3,416,010	0		3,416,010	3,416,010	0		Cost based on agreed TCO. No contingency included (TS carrying their own contingency)	05	01
Total		3,123,617	3,900,112	450,000	-169,000	7,301,785	7,302,885	-1,100	979,213			

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



Reporting Period: 12-07 - Rev 0 - 13/10/2012

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

Change Code	Description	Approved Change	Change in Progress	Anticipated Change	Contributions	Total
01	Scope Change	1,449,094	2,327,968	-400,382		3,376,680
02	PAVs (Utilities, etc)	1,276,972	-637,913	300,000		939,059
03	Miscellaneous Client Risk Items	143,140	96,063	0		239,203
04	Time Delay	1,397,409	3,143,752	0		4,541,161
05	Project Contributions	0	0	0	-7,301,785	-7,301,785
<b>Total</b>		<b>4,266,615</b>	<b>4,929,870</b>	<b>-100,382</b>	<b>-7,301,785</b>	<b>1,794,318</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.

CEC01891277\_0085



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



Reporting Period: 12-07 - Rev 0 - 13/10/2012

Page 21 of 23

**Infracost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	0		0	1,336	1,336
553	SDS to provide the services of Matt Fell until August 2012	18,825		0	0	18,825
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	0		0	30,897	30,897
565	Advanced design works for Edinburgh Gateway Minimum Option	-51		0	0	-51
596	Section 1D - Costs associated with amended drainage design	0		0	13,082	13,082
600	Shandwick place - OLE bases affecting utilities (Piling)	0		0	5,530	5,530
603	Bus Tracker Interface Specification	0		1,535	0	1,535
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	0		0	87,598	87,598
615	Haymarket Viaduct - design wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	-1,100		0	0	-1,100
636	Twin Crossing at Lochside Avenue	11,500		0	0	11,500
639	York Place - Traffic Management Design	0		0	503	503
641	Cathedral Lane substation - scope change to suit Henderson Global requirements. Excludes demolition.	0		0	169,000	169,000
645	Princes Street Outstanding Works	0		0	-23,867	-23,867
655	Revise CCTV & PA coverage at Murrayfield tram stop	0		70,000	0	70,000
669	SGN Remedial Works - backfill at New Ingliston Land	0		4,063	0	4,063

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

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
676	Design associated with work to Lord Bodos Bar	0		-3,000	0	-3,000
681	Hoarding design for York Place	5,000		0	0	5,000
685	Provide technical information on Lindsay Road works	2,090		0	0	2,090
695	Tanker Access Edinburgh Airport	0		2,500	0	2,500
696	SGN as Builts for New Ingliston Limited	0		3,000	0	3,000
698	Removal of Contaminated Material in SP4	0		0	-17	-17
704	Redesign of St Andrew Square - East	0		10,000	0	10,000
705	Re-design works due to NWR fence encroaching into the LoD	0		13,669	0	13,669
707	Traffic Management adjacent Apple store (Princes St)	0		0	10,000	10,000
710	Gogar Depot - Repair areas of damaged flooring	0		3,000	0	3,000
<b>Total</b>		<b>36,265</b>	<b>0</b>	<b>104,767</b>	<b>294,062</b>	<b>435,094</b>

Anticipated Change			100,000	-80,000	20,000
--------------------	--	--	---------	---------	--------

Opportunities			0	0	0
---------------	--	--	---	---	---

CEC01891277\_0087

**Infracost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
	Change to Anticipated Final Cost	36,265	0	204,767	214,062	455,094
	Contributions			-1,100	0	-1,100
	Change to Anticipated Final Project Cost	36,265	0	205,867	214,062	456,193



**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-07 - Rev 0 - 13/10/2012

**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	9,350	12,262	2,912	9,350	12,262	0	7,285	0	0	19,547	-188	19,359	7,097	57.9%	14,463	-2,201
McNicholas	1,812	9,064	10,876	1,812	9,064	10,876	0	5,043	0	0	15,919	-188	15,731	4,855	44.6%	12,984	-2,108
01 Conflicts	1,812	4,144	5,956	1,812	4,144	5,956		-78			5,878		5,878	-78	-1.3%	5,751	205
01A Drainage		1,980	1,980		1,980	1,980		452			2,432		2,432	452	22.8%	2,432	-452
01B Grosvenor St / Haymarket Sewer Collapse		188	188		188	188		-10			178	-188	-10	-198	-105.3%	178	10
01C Tower Place Bridge		50	50		50	50		21			71		71	21	42.0%	71	-21
01D Princes Street Outstanding Works		143	143		143	143		-35			108		108	-35	-24.5%	70	73
01E Priority 2 Works		0	0		0	0		2,971			2,971		2,971	2,971		1,114	-1,114
01F Public Realm Works		0	0		0	0		67			67		67	67		67	-67
02 Legacy Works		965	965		965	965		446			1,411		1,411	446	46.2%	1,307	-342
03 Standby Team		0	0		0	0		0			0		0	0		0	0
04 Management Team		788	788		788	788		589			1,377		1,377	589	74.7%	925	-137
05 Design Team		775	775		775	775		582			1,357		1,357	582	75.1%	1,045	-270
06 Accomodation		31	31		31	31		38			69		69	38	122.6%	24	7
Statutory Utility Companies	0	1,386	1,386	0	1,386	1,386	0	1,342	0	0	2,728	0	2,728	1,342	96.8%	1,389	-3
01 Scottish Power		126	126		126	126		89			215		215	89	70.6%	123	3
02 Scottish Gas Networks		55	55		55	55		70			125		125	70	127.3%	48	7
03 Scottish Water		693	693		693	693		771			1,464		1,464	771	111.3%	795	-102
04 Virgin Media		104	104		104	104		155			259		259	155	149.0%	175	-71
05 Verizon		20	20		20	20		-14			6		6	-14	-70.0%	0	20
06 Cable & Wireless		49	49		49	49		84			133		133	84	171.4%	50	-1
07 Fibrenet		250	250		250	250		-62			188		188	-62	-24.8%	188	62
08 BT		89	89		89	89		410			499		499	410	460.7%	70	19
09 Siemens		0	0		0	0		14			14		14	14		7	-7
12 Contributions (all companies)		0	0		0	0		-175			-175		-175	-175		-67	67
00 Legacy Works	1,100	-1,100	0	1,100	-1,100	0		900			900		900	900		90	-90

Comments:  
All values are in £k.

Risk  
Refer to Risk register for risks identified against McNicholas

Actions

CEC01891277\_0089

Section 1 - Tramco 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	N = M / C - 1	O	P
	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
Trams	62,400	5	62,405	63,645	5	63,650	35	150	0	0	63,835	-150	63,685	1,280	2.29%	60,826	2,824
CAF	62,400	5	62,405	63,581	5	63,586	35	150	0	0	63,771	-150	63,621	1,216	2.19%	60,762	2,824
01 Trams	55,042	0	55,042	55,042	0	55,042	0	0			55,042	0	55,042	0	0.00%	52,290	2,752
02 Tram Maintenance Mobilisation	2,276	0	2,276	2,276	0	2,276	0	0			2,276	0	2,276	0	0.00%	2,116	160
03 Depot Equipment	740	0	740	740	0	740	0	0			740	0	740	0	0.00%	703	37
04 Miscellaneous	73	0	73	73	0	73	0	0			73	0	73	0	0.00%	73	0
05 Modification 1 - Interior Layout	300	0	300	300	0	300	0	0			300	0	300	0	0.00%	300	0
06 Modification 2 - Delivery First Tram	38	0	38	38	0	38	0	0			38	0	38	0	0.00%	38	0
07 Phoenix and Prioritised Works	3,931	0	3,931	5,112	0	5,112	0	0			5,112	0	5,112	1,181	30.04%	5,112	0
10 Post Mediation Change		5	5		5	5	35	150			190	-150	40	35	3700.00%	130	-125
Non CAF	0	0	0	64	0	64	0	0	0	0	64	0	64	64	#DIV/0!	64	0
01 Miscellaneous Costs		0	0	64		64					64		64	64	#DIV/0!	64	0

Comments:  
Miscellaneous costs were expended prior to mediation and have been allocated to this budget

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

Actions

## Appendix 4 – Change Log



















INC No.	PRC No.	FOI No.	Location	Description	Reason for Change	On Street / Off Street	Close By / Off Street	Change Category	Sub. Ref	Letter Ref	Dates Schedule	Estimate	Revised	Estimate Change	Value (Book)	Time Implication	Date Issued to DEC	Approved by OHS	Sub-Approved	Agreed Cost for Approved Contract Changes	Date TO Issue	TO BE TURNED OUT	Comments	
638	136	N/A	On Street - Prince St	Proposed 5.0m wide, 4m high sidewalk on Prince St	Revised on Prince St	On Street	Schedule 45	UC	22/05/2012	RF CO#8 8329	22/05/2012	N/A	N/A	N/A	N/A	TBA	22/05/2012	DEC	22/05/2012	22/05/2012	RF CO#8 8329	N/A	Schedule 45	
639	137	N/A	On Street - Cathedral Lane	Excavation and duct installation for Phoenix Cathedral Lane low voltage utility contractor	Addressed changes to the excav and void design to improve work	On Street	Schedule 45	UC	22/05/2012	RF CO#8 8331	22/05/2012	N/A	N/A	N/A	N/A	TBA	22/05/2012	DEC	22/05/2012	22/05/2012	RF CO#8 8331	N/A	Schedule 45	
640	138, 142	N/A	On Street - Orange	On Street Driveway Scope	Identifies changes to be carried out by utility contractor and that remaining work to be carried out by Council	On Street	Schedule 45	UC	20/05/2012	RF CO#8 8340	20/05/2012	N/A	N/A	N/A	N/A	TBA	20/05/2012	DEC	20/05/2012	20/05/2012	RF CO#8 8340	N/A	Schedule 45	
641	138	44	Off Street - Ladbroke Place	Tree Pruning at Ladbroke Place	Pruning of trees to avoid power lines and within 2m envelope	Off Street	Class 60	UC	22/05/2012	RF CO#8 8332	22/05/2012	N	N/A	N/A	N/A	TBA	22/05/2012	DEC	22/05/2012	22/05/2012	RF CO#8 8332	N/A	Schedule 45	
642	138	44	Off Street - Ladbroke Place	Tree Pruning at Ladbroke Place	Pruning of trees to avoid power lines and within 2m envelope	Off Street	Class 60	UC	22/05/2012	RF CO#8 8332	22/05/2012	N	N/A	N/A	N/A	TBA	22/05/2012	DEC	22/05/2012	22/05/2012	RF CO#8 8332	N/A	Schedule 45	
643	137		On Street	Self Protection Crossing	Clear instructions	On Street	Schedule 45	DC	20/05/2012	RF CO#8 8336	20/05/2012	N/A	N/A	N/A	N/A	TBA	20/05/2012	DEC	20/05/2012	20/05/2012	RF CO#8 8336	N/A	Schedule 45	
644	143		On Street	Deliver pedestrian guard rail in the area outside St John's Church CONSTRUCTION	Guard rail no longer required	On Street	Schedule 45	DC	20/05/2012	RF CO#8 8345	20/05/2012	N/A	N/A	N/A	N/A	TBA	20/05/2012	DEC	20/05/2012	20/05/2012	RF CO#8 8345	N/A	Schedule 45	
645	144		On Street	TM Design to allow commencement of work for Phase	TM Design to allow commencement of work for Phase	On Street	Schedule 45	DC	20/05/2012	RF CO#8 8346	20/05/2012	N/A	N/A	N/A	N/A	TBA	20/05/2012	DEC	20/05/2012	20/05/2012	RF CO#8 8346	N/A	Schedule 45	
646	144		On Street	Work Phase - Traffic Management Design - Row A for commencement	Work Phase - Traffic Management Design - Row A for commencement	On Street	Schedule 45	DC	18/05/2012	RF CO#8 8390	18/05/2012	N/A	N/A	N/A	N/A	TBA	18/05/2012	DEC	18/05/2012	18/05/2012	RF CO#8 8390	N/A	Schedule 45	
647	144		On Street	Work Phase - Traffic Management Design - Row B for proposed to full implementation	Work Phase - Traffic Management Design - Row B for proposed to full implementation	On Street	Schedule 45	DC	18/05/2012	RF CO#8 8418	18/05/2012	N/A	N/A	N/A	N/A	TBA	18/05/2012	DEC	18/05/2012	18/05/2012	RF CO#8 8418	N/A	Schedule 45	
648	144		On Street	Work Phase - Row C/COM to complete traffic signification design	Work Phase - Row C/COM to complete traffic signification design	On Street	Schedule 45	DC	18/05/2012	RF CO#8 8415	18/05/2012	N/A	N/A	N/A	N/A	TBA	18/05/2012	DEC	18/05/2012	18/05/2012	RF CO#8 8415	N/A	Schedule 45	
649	144		On Street	Progress with Kingsway (St Andrew Street) signification implementation. Time is necessary to facilitate the implementation of road works for Phase	Progress with Kingsway (St Andrew Street) signification implementation. Time is necessary to facilitate the implementation of road works for Phase	On Street	Schedule 45	DC	08/07/2012	RF CO#8 8381	08/07/2012	N/A	N/A	N/A	N/A	TBA	08/07/2012	DEC	08/07/2012	08/07/2012	RF CO#8 8381	N/A	Schedule 45	
650	140	538	Side Walk - Insurance of Driveway	Agreement on Method of Recovery for Driveway Insurance	Method of Recovery for insurance premium	Side Walk	Class 60	UC	20/05/2012	RF CO#8 8342	20/05/2012	N	N/A	N/A	N/A	None	20/05/2012	DEC	20/05/2012	20/05/2012	RF CO#8 8342	N/A	Schedule 45	
651	147	N/A	On Street - Cathedral Lane	Over Maintenance and Change of Use to Temporary Stop of Driveway Construction	Over Maintenance and Change of Use to Temporary Stop of Driveway Construction	On Street	Schedule 45	DC	12/05/2012	RF CO#8 8380	12/05/2012	N/A	N/A	N/A	N/A	TBA	12/05/2012	DEC	12/05/2012	12/05/2012	RF CO#8 8380	N/A	Schedule 45	
652	178		On Street - Temporary Stop	Over Maintenance and Change of Use to Temporary Stop of Driveway Construction	Over Maintenance and Change of Use to Temporary Stop of Driveway Construction	On Street	Schedule 45	DC	14/05/2012	RF CO#8 8306	14/05/2012	N/A	N/A	N/A	N/A	TBA	14/05/2012	DEC	14/05/2012	14/05/2012	RF CO#8 8306	N/A	Schedule 45	
653	148	572	Off Street - Edinburgh Gateway	Edinburgh Gateway Construction	Construction TNC	Off Street	Class 60	DC	18/05/2012	RF CO#8 8388	18/05/2012	N	N/A	N/A	N/A	TBA	18/05/2012	DEC	18/05/2012	18/05/2012	RF CO#8 8388	N/A	Schedule 45	
654	148	572.1	Off Street - Edinburgh Gateway	Edinburgh Gateway Construction	Construction TCO	Off Street	Class 60	DC	18/05/2012	RF CO#8 8388	18/05/2012	N	N/A	N/A	N/A	TBA	18/05/2012	DEC	18/05/2012	18/05/2012	RF CO#8 8388	N/A	Schedule 45	
655	148		Off Street - Edinburgh Gateway	Edinburgh Gateway Construction	Construction TNC	Off Street	Class 60	DC	18/05/2012	RF CO#8 8388	18/05/2012	N	N/A	N/A	N/A	TBA	18/05/2012	DEC	18/05/2012	18/05/2012	RF CO#8 8388	N/A	Schedule 45	
656	149		Off Street - Edinburgh Gateway	Edinburgh Gateway Construction	Construction TCO	Off Street	Class 60	DC	18/05/2012	RF CO#8 8388	18/05/2012	N	N/A	N/A	N/A	TBA	18/05/2012	DEC	18/05/2012	18/05/2012	RF CO#8 8388	N/A	Schedule 45	
657	150		On Street - Prince St	Underpinning of Edinburgh Gateway	Underpinning of Edinburgh Gateway	On Street	Class 60	DC	27/04/2012	RF CO#8 8328	27/04/2012	Y	N/A	N/A	N/A	TBA	27/04/2012	DEC	27/04/2012	27/04/2012	RF CO#8 8328	N/A	Schedule 45	
658	150	581	On Street - Prince St	Underpinning of Edinburgh Gateway	Underpinning of Edinburgh Gateway	On Street	Class 60	DC	27/04/2012	RF CO#8 8328	27/04/2012	Y	N/A	N/A	N/A	TBA	27/04/2012	DEC	27/04/2012	27/04/2012	RF CO#8 8328	N/A	Schedule 45	
659	150	581	On Street - Prince St	Underpinning of Edinburgh Gateway	Underpinning of Edinburgh Gateway	On Street	Class 60	DC	27/04/2012	RF CO#8 8328	27/04/2012	Y	N/A	N/A	N/A	TBA	27/04/2012	DEC	27/04/2012	27/04/2012	RF CO#8 8328	N/A	Schedule 45	
660	150	577	On Street	Signage for VE on Carneggie Reconstruction & Info	Design Change	On Street	Class 60	DC	11/06/2012	RF CO#8 8328	11/06/2012	Y	N/A	N/A	N/A	TBA	11/06/2012	DEC	11/06/2012	11/06/2012	RF CO#8 8328	N/A	Schedule 45	
661	150	577.1	On Street	Design Change	Design Change	On Street	Class 60	DC	08/07/2012	RF CO#8 8338	08/07/2012	Y	N/A	N/A	N/A	TBA	08/07/2012	DEC	08/07/2012	08/07/2012	RF CO#8 8338	N/A	Schedule 45	
662	150	577.2	On Street	Design Change	Design Change	On Street	Class 60	DC	08/07/2012	RF CO#8 8338	08/07/2012	Y	N/A	N/A	N/A	TBA	08/07/2012	DEC	08/07/2012	08/07/2012	RF CO#8 8338	N/A	Schedule 45	
663	150	577.3	On Street	Design Change	Design Change	On Street	Class 60	DC	08/07/2012	RF CO#8 8338	08/07/2012	Y	N/A	N/A	N/A	TBA	08/07/2012	DEC	08/07/2012	08/07/2012	RF CO#8 8338	N/A	Schedule 45	
664	150	577.4	On Street	Design Change	Design Change	On Street	Class 60	DC	08/07/2012	RF CO#8 8338	08/07/2012	Y	N/A	N/A	N/A	TBA	08/07/2012	DEC	08/07/2012	08/07/2012	RF CO#8 8338	N/A	Schedule 45	

INC No.	PRC No.	103 No.	Location	Description	Reason for Change	On Street / Off Street	Class ID / Schedule	Change Category	Sub. No.	Letter Ref	Start Date / Due	Estimate Received	Estimate Value (Book)	Estimate Change (Book)	Time Implication (Commutation)	Date Issued to DEC	Approved by C/181	Sub-Approved / Registered	Agreed Cost for Approved Contract Changes	Data / CO Head	TO BE RETURNED BY / CLOSED OUT	Comments	
64.6	151	252	On Street - Princes St	Cable installation for street lighting - Design	Design Change	On Street	Class 80	DC	12/02/2012	RF COR 8383	05/07/2012	N		N/A	TBA	11/06/2012	DEC	11/06/2012	15/02/2012	RF COR 8393	Y		
64.7			Blank TRC number not to be coded in future																				
65.0	152		On Street - Princes St/Bishop	Construction	Client instruction to meet 28th June deadline	On Street	Schedule 45	CK	15/06/2012	RF COR 8394	N/A	Schedule 45	N/A	N/A	TBA	15/06/2012	DEC	15/06/2012	15/06/2012	RF COR 8400	N/A	Schedule 45	
65.1	153		Off Street - Trainspods	Train stop marker installation and fix-out agreement	Reduce Risk of Damage	Off Street	Class 80	SM	22/06/2012	RF COR 8395	17/07/2012	N		N/A		18/06/2012	DEC	18/06/2012	22/06/2012	RF COR 8406	Y	N/A - TO DO be with draw, as longer 1 requirement.	
65.2	122	510	Off Street - Chapel	Maintenance of the Chapel Workshop Equipment	Client instruction to meet 28th June deadline	Off Street	Class 80	CL	26/06/2012	RF COR 8409	N/A	Y	N/A	N/A	None	25/06/2012	DEC	25/06/2012	26/06/2012	RF COR 8408	CO		
65.3	154	543	On Street - York Place	Provide J2C Draining to DWG CAD format.	Planning Requirements	On Street	Class 80	DC	22/06/2012	RF COR 8406	17/07/2012	N	08/06/2012	£1,304.6	N/A	18/06/2012	DEC	18/06/2012	22/06/2012	RF COR 8406	Y	N/A - TO DO be with draw, as longer 1 requirement.	
65.4			On Street - Princes St	See change order for further details	Availability of materials - Administration	On Street	Schedule 45	CK														N/A	
65.5	156		Off Street - Murrayfield Trainspods	Additional CCTV & A coverage - to utilize Gate Only	Following instruction 2nd June indicated that the client required additional CCTV coverage TMA.	Off Street	Class 80	DC	10/07/2012	RF COR 8419	08/08/2012				TBA	08/07/2012	DEC	08/07/2012	22/06/2012	RF COR 8400	Y		
65.6	154		On Street - Trainspods	Train stop marker installation and fix-out agreement	Reduce Risk of Damage	On Street	Class 80	SM	22/06/2012	RF COR 8399	17/07/2012	N		N/A		26/06/2012	DEC	26/06/2012	22/06/2012	RF COR 8400	Y		
65.7	155	542	On Street - Princes St	Install Water As Built Drawings	Client instruction to meet 28th June deadline	On Street	Class 80	CK	22/06/2012	RF COR 8400	17/07/2012	Y	£1,100.582	£1,100.582	TBA	26/06/2012	DEC	26/06/2012	22/06/2012	RF COR 8400	Y		
65.7	155	542	On Street - Princes St	Install Water As Built Drawings, TO3342 New As-Built to agree detailed submission to the TRC.	Client instruction to meet 28th June deadline	On Street	Class 80	CK	22/06/2012	RF COR 8400	17/07/2012	Y	£1,100.582	£1,100.582	TBA	26/06/2012	DEC	26/06/2012	22/06/2012	RF COR 8400	Y		
65.8	155		On Street - Sharncliffe Road	Standard Road Mark - De coat	Transfer works to others	On Street	Schedule 45	UC	15/06/2012	RF COR 8420	N/A	Schedule 45	N/A	N/A	TBA	14/06/2012	DEC	13/06/2012	N/A	Schedule 45	N/A		
65.9	170		On Street - Sharncliffe	Realigning Junction Minor Road/Warwick St	Realigning Junction	On Street	Schedule 45	CK	26/12/2011	RF COR 8407	N/A	Schedule 45	N/A	N/A	TBA	26/06/2012	DEC	26/06/2012	N/A	Schedule 45	N/A		
66.0	176		On Street - Princes St	Princes St - Traffic Management	Traffic Management Upgrade	On Street	Schedule 45	CK	29/12/2011	RF COR 8414	N/A	Schedule 45	N/A	N/A	TBA	08/07/2012	DEC	08/07/2012	N/A	Schedule 45	N/A		
66.1	176		On Street - Princes St	Princes St - Traffic Management - New A maintenance of temporary JAT post.	Maintenance to meet 28th June deadline	On Street	Schedule 45	CK	14/06/2012	RF COR 8411	N/A	Schedule 45	N/A	N/A	TBA	08/07/2012	DEC	08/07/2012	N/A	Schedule 45	N/A		
66.2	176		On Street - Princes St	Princes St - Traffic Management - New A maintenance of temporary JAT post.	Maintenance to meet 28th June deadline	On Street	Schedule 45	CK	07/10/2012	RF COR 8407	N/A	Schedule 45	N/A	N/A	TBA	07/10/2012	DEC	07/10/2012	N/A	Schedule 45	N/A		
66.1			Off Street - Capri Road/Abbots Bridge	Blank off the train Dependent on all signage agreement with the regular floor about Redcross sign interference		Off Street	Class 80	SM															
66.2	149	330	Off Street - Station 7A	Earthed Avenue - Topographical Survey	Client instruction to meet 28th June deadline	Off Street	Class 80	SM	11/07/2012	RF COR 8442	08/08/2012	N		N/A	TBA	08/07/2012	DEC	08/07/2012	11/07/2012	RF COR 842	Y		
66.3	122	518	Off Street - Chapel	Workshop of Princes Being surrounding Main Test Track at Capri Depot	Prevent access to main test track during Train Testing and Commissioning.	Off Street	Class 80	SM	14/07/2012	RF COR 8454	N/A	Y	£6,235.88	£6,235.88	None	04/07/2012	DEC	04/07/2012	14/07/2012	RF COR 8454	Y		
66.4	209	351	Off Street - Capri Cattle Access Road	Additional Area of High Friction Surfacing	Construction - Work following Road Safety Audit	Off Street	Class 80	CL	06/07/2012	RF COR 8462	01/10/2012	N		N/A		06/07/2012	DEC	06/07/2012	06/07/2012	RF COR 8462	Y		
66.5	148		On Street - Princes St	Removal of Princes Street 'BAG'	Additional work required to decommission equipment required to facilitate the bag.	On Street	Ref 45	UC	14/06/2012	RF COR 8404	N/A	Schedule 45	N/A	N/A	TBA	14/06/2012	DEC	13/06/2012	N/A	Schedule 45	N/A		
66.5.1	148		On Street - Princes St	Removal of Princes Street 'BAG' - New A Authority check on sign for the closure of York Place should be modified to reflect the signed road caption. Queens St will be via North South St Street and Princes St.	Additional work required to decommission equipment required to facilitate the bag.	On Street	Schedule 45	UC	21/06/2012	RF COR 8428	N/A	Schedule 45	N/A	N/A	TBA	20/06/2012	DEC	20/06/2012	N/A	Schedule 45	N/A		
66.5.2	148		On Street - Princes St	Removal of Princes Street 'BAG' - New A Further work required east of bag.	Additional work required to decommission equipment required to facilitate the bag.	On Street	Ref 45	UC	26/07/2012	RF COR 8469	N/A	Schedule 45	N/A	N/A	TBA	10/07/2012	DEC	10/07/2012	N/A	Schedule 45	N/A		
66.6	173	531	Off Street - Station 5A	Provide Pedestrian Gate ref to the Vehicle access gate at the Station Depot.	Required for Police/Pedestrian Access	Off Street	Class 80	SM	19/07/2012	RF COR 8466	14/08/2012	N		N/A		14/07/2012	DEC	14/07/2012	19/07/2012	RF COR 8466	Y		
66.7	120	534	Off Street - Station 5A	Call off Service to repair to Network Rail Technical Queries and insert issues on the ETN.	Set up call off service to deal with ongoing Network Rail Technical Queries and insert issues on the ETN.	Off Street	Class 80	SM	11/07/2012	RF COR 8446	TIME CHANGE TRC	Y	£3,454.49	£3,454.49	TBA	08/07/2012	DEC	08/07/2012	11/07/2012	RF COR 8446	Y	TRC/CO for Call Off Service to deal with Network Rail Queries, some items incorrectly allocated, estimate should be reduced to £3,454, remainder re-allocated to TRC 625.	







## Appendix 5 – Risk Register



San Diego State University

ID	Title	Description	Status	Priority	Due Date	Risk Level				Risk Score				Risk Category	Risk Owner	Risk Mitigation Strategy	Risk Status	Risk Score	Risk Category	Risk Owner	Risk Mitigation Strategy	Risk Status	Risk Score
						High	Medium	Low	Very Low	High	Medium	Low	Very Low										
ED001	Project Kick-off Meeting	Establish project goals, scope, and timeline. Identify key stakeholders and communication channels.	Active	High	2023-09-15	4	3	2	1	12	12	12	12	High	John Doe	Regular communication and stakeholder engagement.	Active	12	High	John Doe	Regular communication and stakeholder engagement.	Active	12
ED002	Resource Allocation	Identify and allocate resources for project tasks. Ensure resource availability and capacity.	Active	Medium	2023-09-20	3	2	1	1	8	8	8	8	Medium	Jane Smith	Monitor resource usage and adjust as needed.	Active	8	Medium	Jane Smith	Monitor resource usage and adjust as needed.	Active	8
ED003	Task Delegation	Assign tasks to team members based on skills and availability. Provide clear instructions and expectations.	Active	Medium	2023-09-25	3	2	1	1	8	8	8	8	Medium	John Doe	Regular check-ins and communication.	Active	8	Medium	John Doe	Regular check-ins and communication.	Active	8
ED004	Progress Monitoring	Track project progress against the schedule. Identify and address any deviations or delays.	Active	High	2023-10-01	4	3	2	1	12	12	12	12	High	Jane Smith	Regular status reports and communication.	Active	12	High	Jane Smith	Regular status reports and communication.	Active	12
ED005	Risk Management	Identify potential risks and develop mitigation strategies. Monitor risks throughout the project.	Active	High	2023-10-05	4	3	2	1	12	12	12	12	High	John Doe	Regular risk assessments and communication.	Active	12	High	John Doe	Regular risk assessments and communication.	Active	12
ED006	Communication	Establish communication protocols and channels. Ensure clear and consistent communication.	Active	Medium	2023-10-10	3	2	1	1	8	8	8	8	Medium	Jane Smith	Regular team meetings and communication.	Active	8	Medium	Jane Smith	Regular team meetings and communication.	Active	8
ED007	Quality Assurance	Implement quality control measures to ensure project deliverables meet requirements.	Active	High	2023-10-15	4	3	2	1	12	12	12	12	High	John Doe	Regular quality checks and communication.	Active	12	High	John Doe	Regular quality checks and communication.	Active	12
ED008	Documentation	Develop and maintain project documentation, including schedules, reports, and meeting minutes.	Active	Medium	2023-10-20	3	2	1	1	8	8	8	8	Medium	Jane Smith	Regular documentation updates and communication.	Active	8	Medium	Jane Smith	Regular documentation updates and communication.	Active	8
ED009	Stakeholder Engagement	Engage stakeholders throughout the project. Address their concerns and expectations.	Active	High	2023-10-25	4	3	2	1	12	12	12	12	High	John Doe	Regular stakeholder communication and engagement.	Active	12	High	John Doe	Regular stakeholder communication and engagement.	Active	12
ED010	Project Review	Conduct regular project reviews to assess progress and identify areas for improvement.	Active	Medium	2023-11-01	3	2	1	1	8	8	8	8	Medium	Jane Smith	Regular project review meetings and communication.	Active	8	Medium	Jane Smith	Regular project review meetings and communication.	Active	8
ED011	Project Closure	Finalize project deliverables and close the project. Conduct a final review and evaluation.	Active	High	2023-11-15	4	3	2	1	12	12	12	12	High	John Doe	Regular communication and stakeholder engagement.	Active	12	High	John Doe	Regular communication and stakeholder engagement.	Active	12

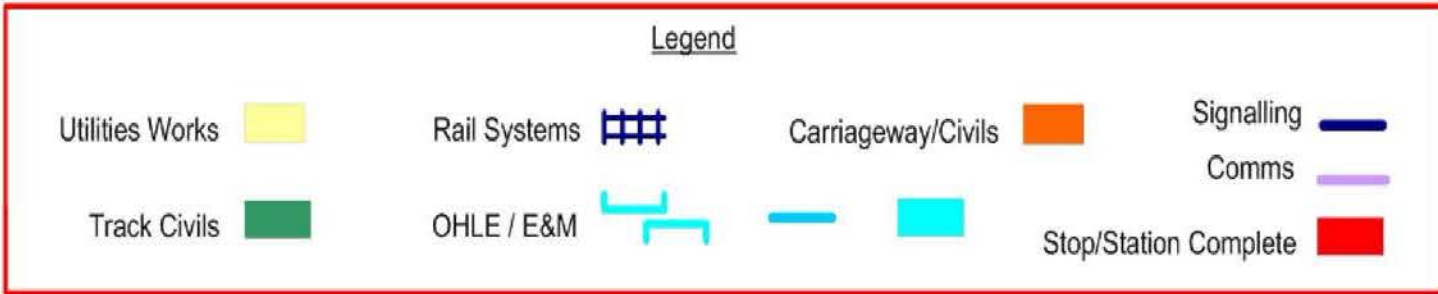
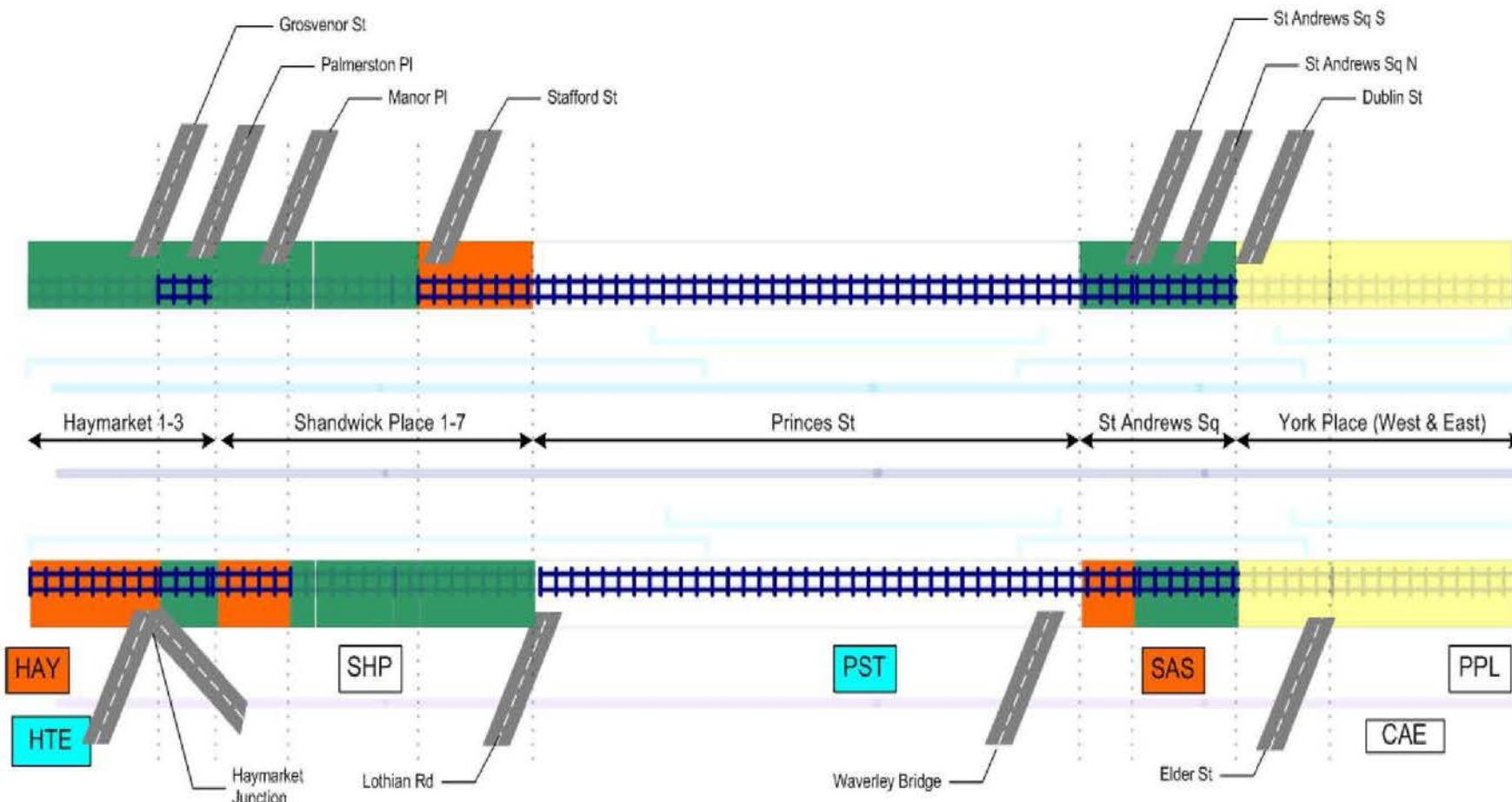




Risk ID	Risk Description	Impact	Likelihood	Severity	Status	Risk Analysis - Pre-Mitigation				Risk Analysis - Post-Mitigation				Risk ID	Risk Description	Impact	Likelihood	Severity	Status			
						Score	Category	Score	Category	Score	Category	Score	Category									
R001	Construction delays due to weather conditions.	Minor	Low	Low	Active	3	Low	3	Low	3	Low	3	Low	Active	3	Low	3	Low	3	Low		
R002	Supply chain issues for critical materials.	Medium	Medium	Medium	Active	5	Medium	5	Medium	5	Medium	5	Medium	Active	5	Medium	5	Medium	5	Medium	5	Medium
R003	Cost overruns due to inflation and exchange rates.	High	High	High	Active	7	High	7	High	7	High	7	High	Active	7	High	7	High	7	High	7	High
R004	Regulatory changes affecting project scope.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R005	Labour shortages in key construction areas.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R006	Technical challenges in complex engineering.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R007	Weather-related delays and safety concerns.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R008	Communication gaps between stakeholders.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R009	Quality control issues in manufacturing.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R010	Security concerns regarding data and intellectual property.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R011	Environmental impact and sustainability challenges.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R012	Public relations and community engagement issues.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R013	Health and safety incidents on the construction site.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R014	Supply chain volatility due to global events.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R015	Integration challenges between different systems.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R016	Compliance with international standards and regulations.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R017	Resource allocation and budget management.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R018	Contract management and dispute resolution.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R019	Market fluctuations and economic uncertainty.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R020	Technological advancements and digital transformation.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R021	Geopolitical risks and trade tensions.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R022	Energy transition and sustainability goals.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R023	Infrastructure resilience and disaster preparedness.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R024	Artificial intelligence and automation adoption.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R025	Space exploration and satellite technology.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R026	Autonomous vehicles and smart infrastructure.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R027	Quantum computing and data security.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R028	5G networks and digital connectivity.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R029	Cloud migration and IT infrastructure.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R030	Blockchain technology and digital identity.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R031	Augmented reality and virtual reality applications.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R032	Robotics and automation in manufacturing.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R033	Space-based solar power and satellite internet.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R034	Artificial intelligence in healthcare and diagnostics.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R035	Autonomous drones and delivery services.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R036	Smart cities and IoT sensor networks.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R037	Vertical farming and urban agriculture.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R038	Biotechnology and synthetic biology.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R039	Space exploration and lunar colonization.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R040	Autonomous ships and maritime technology.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R041	Artificial intelligence in education and training.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R042	Autonomous cars and smart transportation.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R043	Artificial intelligence in finance and trading.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R044	Autonomous mining and resource extraction.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R045	Artificial intelligence in agriculture and food security.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R046	Autonomous construction and infrastructure.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R047	Artificial intelligence in energy and power generation.	Medium	Medium	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium	Active	4	Medium	4	Medium	4	Medium	4	Medium
R048	Autonomous logistics and supply chain optimization.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R049	Artificial intelligence in cybersecurity and digital defense.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High
R050	Autonomous space exploration and planetary science.	High	High	High	Active	6	High	6	High	6	High	6	High	Active	6	High	6	High	6	High	6	High



## Appendix 6 – On Street Schematic



CEC01891277\_0105

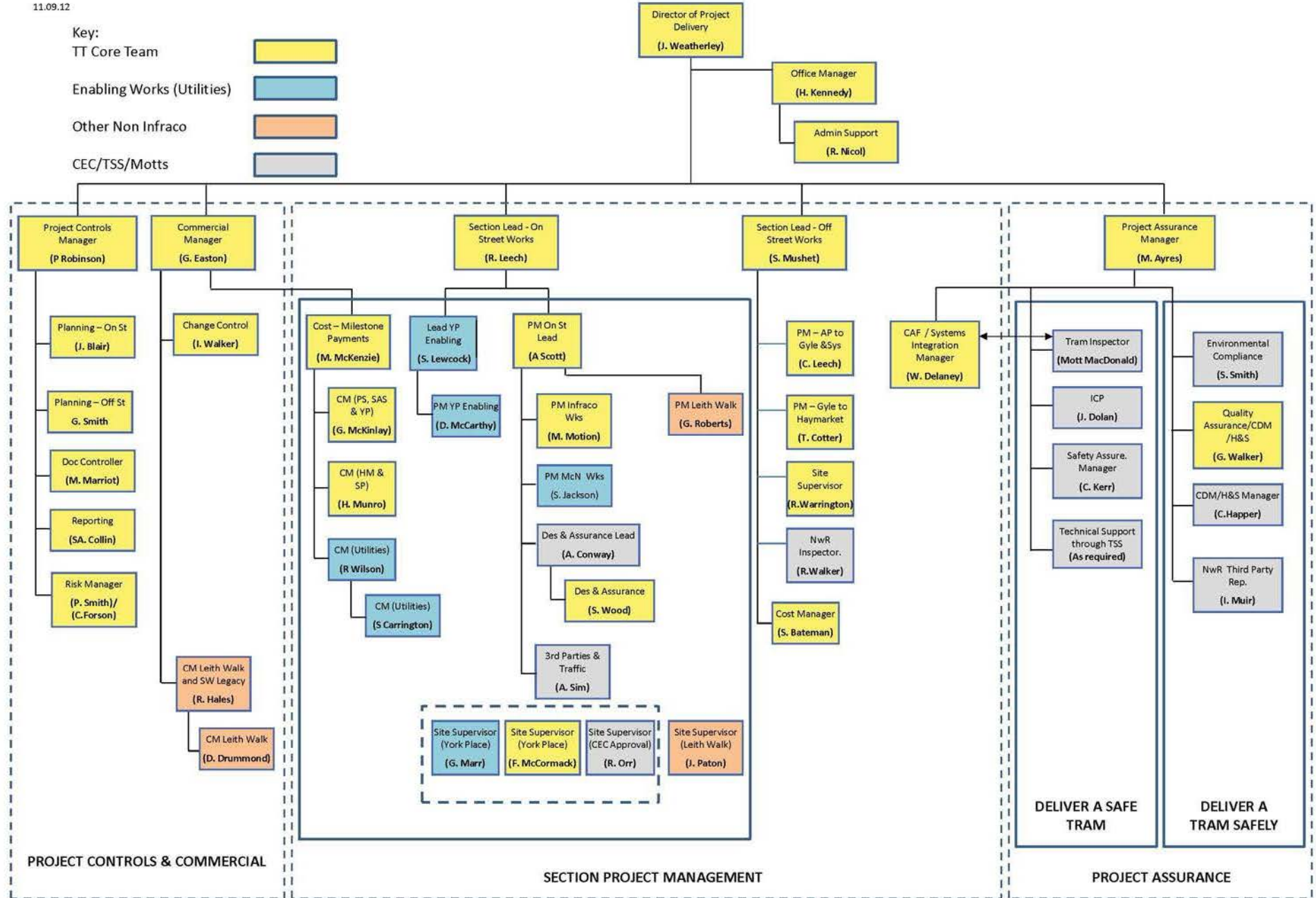
## Appendix 7 – Organisation Chart



11.09.12

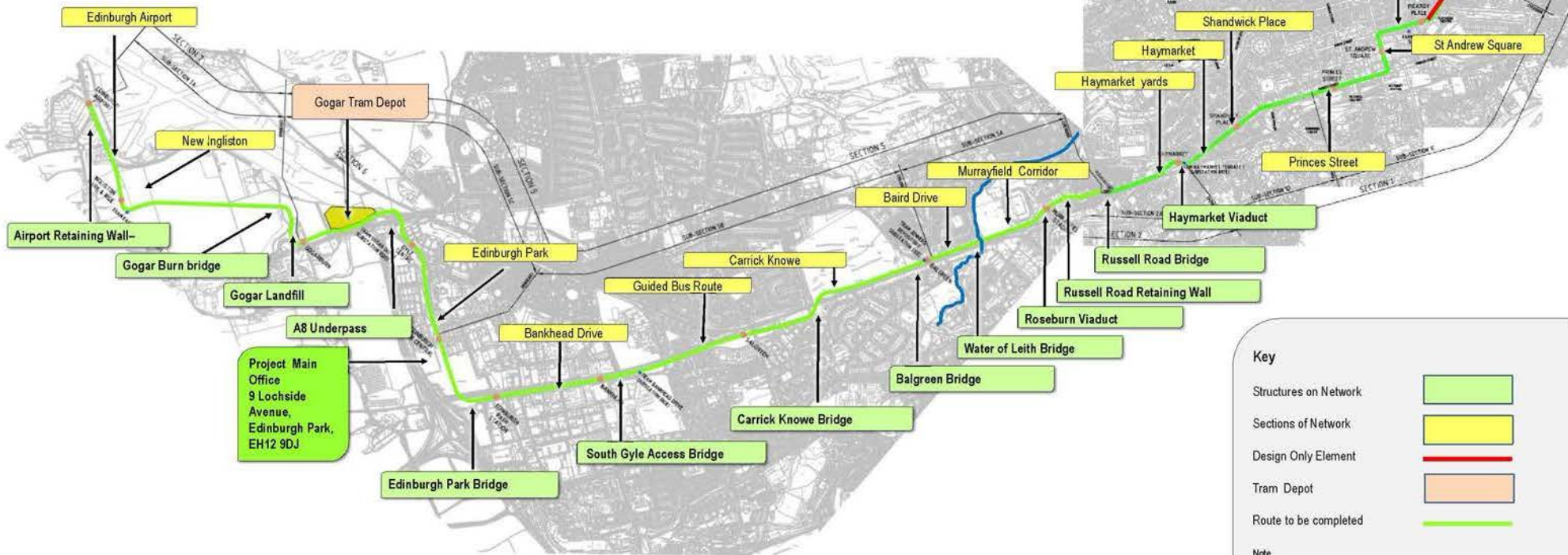
Key:

- TT Core Team
- Enabling Works (Utilities)
- Other Non Infraco
- CEC/TSS/Motts



## Appendix 8 – Route Map

# Edinburgh Tram Network – Route Map & Key Locations



CEC01891277\_0109



## Appendix 9 – 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