## **Edinburgh Tram Network**

SDS Progress Report -Period 20

Doc. Ref: ULE90130-SW-REP-00588 v16



Parsons Brinckerhoff Ltd Edinburgh Tram Network SDS Provider CityPoint 1st Floor 65 Haymarket Terrace Edinburgh, EH12 5HD

Telephone: 44(0) 131 623 8600 Facsimile: 44(0) 131 623 8601 Email: edinburghtram@pbworld.com

29 September 2009

# **AUTHORISATION PAGE**

Title: SDS Monthly Progress Report				
Approvals	Name	Position	Signed	Date
Author	S. Ney	Design Manager		29 Sep 09
Approver	J Chandler	Project Manager		-29 Sep 09

## **Revision History**

Ver No	Date	Description	Prepared By
16	29 Sep 09	Monthly Update	S. Ney

## Distribution

Ver No	Date	Name	Role	Company
16	29 Sep 09	Martin Foerder	Project Director	BSC



## CONTENTS

1		TOP ISSUES	4
2		COMMERCIAL	4
	2.1	General	4
	2.2	Summary of Changes	5
	2.3	Programme	5
3		APPROVALS	5
	3.1	General	5
	3.2	Systemwide	6
	3.3	Section 1	6
	3.4	Section 2	10
	3.5	Section 3	11
	3.6	Section 5	15
	3.7	Section 6	19
	3.8	Section 7	20
4		ISSUE FOR CONSTRUCTION PROGRESS SUMMARY	22
5		UTILITIES	22
	5.1	Utilities	22
6		ADDITIONAL CONSTRUCTION SUPPORT	23
	6.1	TQs	23
	6.2	Month Ahead Org Chart and Activities	24
7		DESIGN AND ADDITIONAL DESIGN SUPPORT	26
	7.1	Activities Undertaken	26
	7.2	Ongoing Design Issues	26
	7.3	Additional Resources	32
APPENDICES			
ΑI	PPENDIX	A – CRITICAL ISSUES DRAWINGS	34
ΑI	PPENDIX	B – ADDITIONAL DESIGN AND CONSTRUCTION SUPPORT ORGANISATIONAL C	HARTS



#### 1 TOP ISSUES

- 1. Acceleration of Design Completion
- Office Move
- 3. Revised Forth Ports Agreement
- 4. Instructions for Mandatory Project Changes
- Resolution to Outstanding SDS Changes
- 6. TRO Strategy Change by tie
- 7. Priority List for CEC Reviews Extended Construction Support Resourcing for tie
- 8. CEC Roads TAA Changes letter
- Audits

#### 2 COMMERCIAL

#### 2.1 General

This report covers Period 13<sup>th</sup> September 09 to 10<sup>th</sup> October 09. The progress is detailed for the time period of 13<sup>th</sup> August 09 to 28<sup>th</sup> September 09, during which actual events occurred. There are several critical issues outstanding on the project. These are presented per the drawings in Appendix A.

SDS has submitted a proposal at BSC's request to provide additional staff to accelerate a large portion of the design to an earlier than currently programmed submission date.

#### 2.1.1 Applications for Payment

SDS has split the Application for Payment as per the Organisation charts, as requested by BSC, from October 2008 to present. BSC and tie are revisiting the certification of this and will confirm to SDS what the new certified value is. SDS to meet with BSC and tie after this to resolve differences, including pre-October 2008 monies on Wednesday 30<sup>th</sup> September..

SDS, BSC and tie will meet next period to run through the percentage completes for the changes, as tie require evidence of what SDS have done. BSC to set up a tripartite meeting to discuss this.

SDS met with BSC and **tie** related to the ongoing Extended Construction Support (ECS) function, and the possibility of reducing the current percentage ECS for a time period (possibly for a quarterly period in lieu of a month to month review) and having agreed percentages of time to be paid without the requirement for supporting timesheets. This is being reviewed.

## 2.1.2 Change Control

Approximately £2.4 million worth of Change Instruction has been instructed to SDS to date. This is a progression in terms of the change process, and SDS is keen to work on this success to 'unlock' other outstanding changes, and to make the process more efficient for further changes.



tie have confirmed verbally that the DCR0008 change for Advertisement consents is not required, as Adshel are obliged to do this. SDS, BSC and tie also met last period to discuss the 'Pre Novation' changes, and as an outcome of this meeting SDS have withdrawn 4no. changes. tie are due to reply to the other 2 changes, to confirm if they can be instructed.

#### 2.1.3 ATR's

There is still outstanding payment on ATR's which BSC and SDS need to resolve this period – Kate Shudall and John Higgins to resolve.

### 2.2 Summary of Changes

- Changes Identified; 215
- Change Notification Received; 139
- Change Estimates Submitted; 118
- Changes Withdrawn/Closed; 49
- Change Instructions Received; 72

#### 2.3 Programme

Version 50 of the SDS programme was provided to BSC at the end of Period 19. Next update will be at end of Period 20.

SDS has been working on an accelerated programme to improve on the dates identified in V50. This proposal includes an estimation of the requirements for all not yet instructed works, which has a significant impact on the overall closure date for the design elements. This proposal has been discussed several times is under consideration by BSC.

#### 3 APPROVALS

#### 3.1 General

SDS is closing in on obtaining the final planning and technical approvals required. There has been a recent increase in the number of approvals required due to new instructions received, and as such, the percentages may indicate lower than last period.

From a total of 231 planning and technical approvals:

- 88% are approved (202).
- 8% are pending approval (18).
- 4% are to be submitted (10).

Current status (today) is:

92% Planning Approvals granted.

84% Technical Approvals granted.



The remaining outstanding approvals are either: 1) to be approved imminently, 2) have been subject to re-prioritisation and long standing changes, or 3) are new with recent changes instructed which has caused the original dates to slide significantly.

To get to 100%, we need to unblock/overcome key obstacles:

- Commercial Gogarburn tram stop Prior Approvals.
- Roads Approvals and Prioritisation Section 1C2 and the entirety of Section 3 need to be reviewed and approved by CEC. SDS understands that this is being completed in line with a prioritisation list.
- Resolution of redesign issues arising in Section 7.
- Instruct additional changes which require new approvals.

The CEC/tie/BSC/SDS Approvals Task Force continues to meet every other week and is proving to be a productive catalyst for troubleshooting any Approval issues and clearly identifying actions for the group to resolve. CEC have issued a letter to SDS on 18 September 09 outlining several changes

Various changes being instructed as part of the approvals process will also require updates to the planning approvals. These items will be included in this report upon receipt of the formal instructions. Variations to the planning approvals due to technical comments / Siemens designs are not included. SDS has been advised that Siemens are undertaking their own approvals regime. Alignment of planning drawings with technical comments is subject to final confirmation of the technical closeouts from CEC.

The Approvals Look Ahead and Approvals Trackers are emailed to BSC (Stefan Rotthaus) on a weekly basis.

## 3.2 Systemwide

 Scottish Water Approval/Consents. Formal process now agreed and SDS has received the majority of the formal approvals.

#### 3.3 Section 1

- 3.3.1 Outstanding Planning
  - None
- 3.3.2 Outstanding Technical
  - 1C2, Roads with CEC. Being held due to prioritisation and CEC issues with modelling.
  - 1C1 Drainage with designers awaiting confirmation of design.
  - 1A3 Roads with CEC. Design submitted based on revised instruction provided.
  - 1A3 SW Approvals submitted.
  - 1A Forth Ports Drainage advised by CEC that this is a required approval. Instruction required, as the roads were to be adopted by CEC at onset of contract per original Forth Ports agreement.



- 3.3.3 Subsection 1A1 Dock Gates to Foot of the Walk
  - a) Roads, Street Lighting, Landscaping, Drainage 1A1
    - IFC already issued.
    - · Change due to new demarcation request by CEC required.
    - Closeout Report issued to CEC.
  - b) Tram Stop Bernard Street (Ch 102+240)
    - · IFC already issued.
  - c) Tram Stop Foot of the Walk (Ch102+700)
    - IFC already issued.
- 3.3.4 Subsection 1A2 Victoria Docks Entrance Bridge to Dock Gates
  - a) Roads, Street Lighting, Landscaping, and Drainage
    - IFC already issued.
    - Change due to new demarcation request by CEC required.
    - · Closeout Report issued to CEC.
  - b) Tram Stop Port of Leith (Ch 101+780)
    - IFC already issued.
  - c) Victoria Dock Entrance Bridge S16 (Ch 101+370)
    - IFC already issued.
  - d) Tower Place Bridge S17 (Ch101+470)
    - IFC already issued.
- 3.3.5 Subsection 1A3- Ocean Terminal to Victoria Docks Entrance Bridge
  - a) Roads, Track, Street Lighting and Landscaping
    - Forth Ports Final agreement between CEC and Forth Ports on the proposed bypass road (Road 8) pending.
    - SDS has requested copy of agreement with Scottish Government and designs for the
      movement of the access gate to the Scottish Government complex with Forth Port has
      indicated is being completed. SDS has completed review and assessment of required
      gate move in line with request by BSC and ATR approved.
    - SDS has issued drawing under ATR showing the relocated gate position.
    - Traffic modelling numbers required to closeout pavement design for new roads.



- b) Drainage Subsection 1A3 Ocean Terminal to Port of Leith
  - Submitted to CEC based on revised Roads design.
- c) Tram Stop Ocean Terminal (Ch 100+950)
  - Submitted to CEC based on revised Roads design.

#### 3.3.6 Subsection 1A4

- a) Roads, Track, Street Lightning and Landscaping Subsection 1A4 Newhaven to Ocean Terminal
  - IFC already issued (without pending changes noted below).
  - · Change due to new demarcation request by CEC required.
  - New change due to new cycleway connection outside LOD requested by CEC estimate provided.
  - New change due to traffic signal modification outside LOD requested by CEC instruction received.
  - New change due to CEC request for connection of high and low level at Lindsay Road Retaining Wall.
  - Closeout report issued to CEC (not including new changes noted above). CEC letter
    of 18 September 09 indicates refusal to confirm closeout without new changes being
    incorporated.
- b) Drainage Subsection 1A4 Newhaven to Ocean Terminal
  - Prior Approval granted.
  - Forth Ports have completed construction of a new substation and access drive through this area. No as-built information available. DCR0111 has been instructed and survey procured. SDS has informally advised of issues arising from new as-built condition by Forth Ports. SDS to formalise in letter form.
- c) Tram Stop Newhaven (Ch 100+080)
  - IFC already issued.
- d) Lindsay Road Retaining Wall W1 (Ch 100+170)
  - IFC already issued.
  - New change due to CEC request for connection of high and low level at Lindsay Road Retaining Wall.
- e) Substation Leith Sands SS16 (Ch 100+570
  - New change due to Forth Ports having completed construction of a new substation and
    access drive through this area. No as-built information available. Survey has indicated
    that Forth Ports have not constructed their infrastructure in location originally provided
    to SDS. SDS has advised of issues arising from new as-built condition by Forth Ports.
    Change order required.



#### 3.3.7 Subsection 1B

- a) Roads, Track, Drainage, Street Lighting, Landscaping, and Drainage Subsection 1B
  - · IFC already issued.
  - · Change due to new demarcation request by CEC required
  - Closeout Report Issued to CEC. Acceptance received with comments.
- b) Tram Stop Balfour Street (Ch 110+670)
  - IFC already issued.
- c) Substation Leith Walk SS11 (Ch110+380)
  - IFC already issued.
- 3.3.8 Subsection 1C1 Section 1B to north of Annadale Street
  - Roads, Track, Street Lightning, Landscaping, and Drainage Subsection 1C1 London Road
    - IFC already issued.
    - SW approved drainage via email. Design to be submitted to Business Stream and Scottish Water for formal approval with 1C2 due to interrelationship.
    - Closeout Report issued to CEC.
  - b) Tram Stop McDonald Road (Ch110+670)
    - IFC already issued.
    - Revised IFC issued reflecting shift in Tramstop due to levels issues arising.
- 3.3.9 Subsection 1C2 North of Annadale Street to Broughton Street
  - a) Roads, Track, Street Lighting and Landscaping Subsection 1C2 London Road to Picardy Place
    - TAA submittal with CEC for approval. SDS submitted supplemental information based on initial comments received from CEC via letter.
    - Prior Approval granted.
    - SW approved drainage via email. Design to be submitted to Business Stream and Scottish Water for formal approval with 1C1 due to interrelationship.
    - Change due to works outside LOD on Little King Street to be undertaken. Field visit
      identified issued with instruction provided to reverse direction of street. SDS provided
      email to CEC outlining issues and proposal. CEC response required to confirm.
    - Potential change due to developer request. Estimate submitted.
    - Potential change due to CEC revised requirements. Letter received from CEC on 18 September 09 indicating changes required to the area. Change order required.



- b) Substation Cathedral Lane SS12 (Ch120+400)
  - Building Warrant granted.
  - Full planning permission granted.
  - IFC Issued
  - Change due to developer request to be completed. SDS preparing estimate.
- c) Tram Stop Picardy Place (Ch120+600)
  - TAA submittal with CEC for approval. Responding to initial comments from CEC on drainage concept.
  - Prior Approval granted.
- 3.3.10 Subsection 1C3 Broughton Street to Section 1D
  - a) Roads, Track, Street Lighting and Landscaping Subsection 1C3 York Place
    - IFC already issued.
    - Closeout report issued to CEC. Acceptance received with comments.
    - Letter received from CEC on 18 September 09 indicating changes required to the Elder Street junction and removal of bus lane along York Place. Change order required..
  - b) Tram Stop Princes Street (Ch121+950)
    - IFC already issued.
  - c) Tram Stop St Andrew Square (Ch121+150)
    - IFC already issued.
- 3.3.11 Subsection 1D
  - a) Roads, Track, Drainage, Street Lighting and Landscaping Subsection 1D
    - IFC already issued.
    - Closeout Report issued to CEC. Acceptance received with comments.
  - b) Tram Stop Shandwick Place (Ch130+710)
    - IFC already issued.
- 3.4 Section 2
- 3.4.1 Subsection 2A
  - a) Roads, Track, Street Lighting and Landscaping Subsection 2A
    - · IFC already issued.
    - Closeout Report issued to CEC.



- Revised street lighting Issued for Construction which deals with agreed Operational Design Review comment.
- b) Drainage
  - IFC already issued.
- c) Substation Russell Road SS03 (Ch 200+790)
  - IFC already issued
- d) Russell Road Bridge S20 (Ch 200+770)
  - IFC already issued
- e) Substation Haymarket SS02 (Ch 200+070
  - Prior Approval granted and Siemens now to complete the design and issue the IFC.
- f) Tram Stop Haymarket (Ch 200+070)
  - IFC already issued.
  - Revised design issued to CEC to deal with comments received on bus and tram shelter location and integration. Revised IFC to be issued.
- g) Haymarket Station Viaduct S19 (Ch 200+020)
  - IFC already issued
- h) Verity House Access road retaining wall
  - · IFC already issued.
- i) Crew Relief Facility
  - Building Warrant granted.
  - IFC issued.
- 3.5 Section 3
- 3.5.1 Outstanding Planning: None
- 3.5.2 Outstanding Technical:
  - All 6 technical approvals that are with CEC for consideration are currently on hold due
    to the agreed prioritisation list between tie and CEC. SDS is in delay with respect to
    these items.
  - Drainage information submitted to Scottish Water (SW).



#### 3.5.3 Subsection 3A

- a) Roads, Track, Street Lighting and Landscaping Subsection 3A
  - Prior Approval achieved.
  - Roads, Drainage and Street Lighting IFC is outstanding as TAA comments are
    outstanding. Section 3 has been de-prioritised by CEC therefore it is not know at present
    when comments are likely to be received. Letter sent to BSC 08 July 2008. tie responded
    07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC.
    tie stated expected IFC submission 09 August 208, which was not achieved. The deprioritisation is apparently as tie to CEC agreement. SDS awaits approval and any
    comments.

#### b) Drainage

- Submittal with SW for approval.
- Section 3 has been de-prioritised by CEC therefore it is not know at present when
  comments are likely to be received. Letter sent to BSC 08 July 2008. tie responded 07
  August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. tie
  stated expected IFC submission 09 August 208, which was not achieved. The deprioritisation is apparently as tie to CEC agreement. SDS awaits approval and any
  comments.
- c) Tram Stop Crewe Toll for Western General (Ch 303+010)
  - IFC already issued.
- d) Roseburn Corridor Retaining Structure H (Ch 302+600) (Ch 303+030)
  - IFC already issued.
- e) Tram Stop Telford Road (Ch 302+604)
  - IFC already issued.
- f) Roseburn Corridor Retaining Structure G (Ch 302+300) (Ch 302+600)
  - IFC already issued.
- g) Telford Road Bridge S10 (Ch 302+220)
  - IFC already issued.
- h) Groathill Road South Bridge S09 (Ch 302+010)
  - IFC already issued.
- i) Substation Craigleith SS13 (Ch 301+960)
  - Prior Approval granted and Siemens now to complete the design and issue the IFC.
- j) Roseburn Corridor Retaining Structure F (Ch301+900) (Ch 302+300)
  - IFC already issued.



- k) Tram Stop Craigleith (Ch 301+860)
  - IFC already issued.
- I) Queensferry Road Bridge S07 (Ch 301+700)
  - IFC already issued.
- m) Holiday Inn Access Bridge S07 (Ch 301+630)
  - IFC already issued.
- n) Roseburn Corridor Retaining Structure E (Ch 301+600) (Ch 301+900)
  - · IFC already issued.
- o) Craigleith Drive Bridge S06 (Ch 301+320)
  - IFC already issued.
- p) Roseburn Corridor Retaining Structure D (Ch 301+200) (Ch 301+600)
  - · IFC already issued.
- q) Ravelston Dykes Bridge S05 (Ch 300+960)
  - · IFC already issued.
- r) Roseburn Corridor Retaining Structure C (Ch 300+900) (Ch 301+200)
  - IFC already issued.
- s) Tram Stop Ravelston (Ch 300+860)
  - IFC already issued.
- t) St George's School Footbridge S04 (Ch 300+650)
  - IFC already issued.
- u) St George's School Access Bridge S03 (300+640)
  - · IFC already issued.
- v) Roseburn Corridor Retaining Structure B (Ch 300+500) (Ch 300+900)
  - IFC already issued.
- w) Coltbridge Viaduct S02 (Ch 300+470)
  - · IFC already issued.
- x) Tram Stop Roseburn (Ch 300+260)
  - IFC already issued.



- y) Roseburn Terrace Bridge S01 (Ch 300+210)
  - IFC already issued.
- z) Roseburn Corridor Retaining Structure A (Ch 300+200) (Ch 300+500)
  - · IFC already issued.

#### 3.5.4 Subsection 3B

- a) Roads, Track, Street Lighting and landscaping Subsection 3B
  - Roads, Drainage and Street Lighting IFC is outstanding as TAA comments are outstanding. Section 3 has been de-prioritised by CEC therefore it is not know at present when comments are likely to be received. Letter sent to BSC 08 July 2008. tie responded 07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. tie stated expected IFC submission 09 August 208, which was not achieved. The deprioritisation is apparently as tie to CEC agreement. SDS awaits approval and any comments.
- b) Drainage Subsection 3B
  - Submittal with SW for approval.
  - Section 3 has been de-prioritised by CEC therefore it is not know at present when
    comments are likely to be received. Letter sent to BSC 08 July 2008. tie responded 07
    August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. tie
    stated expected IFC submission 09 August 208, which was not achieved. The deprioritisation is apparently as tie to CEC agreement. SDS awaits approval and any
    comments.
- c) Tram Stop Caroline Park (Ch 311+310)
  - IFC already issued.
- d) Substation Granton Mains East SS14 (Ch 310+950)
  - Prior Approval granted and Siemens now to complete the design and issue the IFC.
- e) Tram Stop West Pilton (Ch 310+670)
  - · IFC already issued.
- f) Crewe Road Gardens Bridge S12 (Ch 310+390)
  - · IFC already issued.

#### 3.5.5 Subsection 3C

- a) Roads, Track, Street Lighting and Landscaping Subsection 3C
  - Roads, Drainage and Street Lighting IFC is outstanding as TAA comments are
    outstanding. Section 3 has been deprioritised by CEC therefore it is not know at present
    when comments are likely to be received. Letter sent to BSC 08 July 2008. tie responded
    07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC.



tie stated expected IFC submission 09 August 2008, which was not achieved. The deprioritisation is as tie to CEC agreement. SDS awaits approval and any comments.

- b) Drainage Subsection 3C
  - Submittal with SW for approval.
  - Section 3 has been de-prioritised by CEC therefore it is not know at present when comments are likely to be received. Letter sent to BSC 08 July 2008. tie responded 07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. tie stated expected IFC submission 09 August 208, which was not achieved. The deprioritisation is apparently as tie to CEC agreement. SDS awaits approval and any comments.
- c) Tram Stop Saltire Square (Ch 320+370)
  - · IFC already issued.
- d) Tram Stop Granton (Ch 321+120)
  - IFC already issued.
- e) Substation Granton Road SS15 (Ch 400+020)
  - Prior Approval granted and Siemens now to complete the design and issue the IFC.

#### 3.6 Section 5

#### 3.6.1 Outstanding - Planning:

#### Approvals:

- 5/07a Murrayfield Turnstiles and Accommodation Works (Full Planning Permission).change order has been received. Design was on hold for a period of time, however is now underway.
- 5/07d Murrayfield Accommodation Works (Advertising Consent). Change order has been received.
- 5/23 Roseburn Street Bridge new prior approval required to accommodate change in design. Informal consultation underway.
- 5/24 Gogar Interchange. SDS is preparing this new design in accordance with the Network Rail guidance and letter received from CEC.
- 5/30 Tram Stop Gogarburn. SDS awaiting Change Order. tie has indicated in recent Approvals Task Force meeting that this stop may now revert to a standard tram stop.

#### **Building Warrants:**

- 5/05c JB McLean submitted, pending consideration. Additional comments received from CEC. SDS and BSC preparing required information to address CEC comments and resubmit. Extension of time requested formally by CEC to deal with this application.
- 5/07c Murrayfield Accommodation Works. Change order has been received.
- Potential demolition warrants required at properties 96 and 101. Instruction required for SDS to progress.



### 3.6.2 Outstanding - Technical:

- Balgreen Road Network Rail Access Bridge with CEC and Network Rail for approval.
   Network Rail has initially rejected the design requesting reduced clearance over roadway.

   SDS has responded to the comments and Network Rail is currently reconsidering the position based on the further clarification / information provided. Meeting held 01 July 09 to resolve issues raised. Confirmation of acceptance of proposal agreed in principle by CEC and NWR at above meeting is required.
- Revised Roseburn Street Bridge and retaining structures instruction has been issued and designs have been issued to CEC for review and approval.

#### 3.6.3 Subsection 5A

- a) Roads, Track, Street Lighting and Landscaping Subsection 5A
  - · IFC already issued.
  - · Closeout Report issued to CEC.
- b) Drainage Subsection 5A
  - IFC already issued.
- c) Balgreen Road Tram Bridge S22 (Ch 511+400)
  - IFC already issued
- d) Balgreen Road Network Rail Access Bridge (Ch 511+410)
  - Design issued to Network Rail and CEC.
  - Minor comments received from CEC via email. SDS has addressed
  - Network Rail has initially rejected the design requesting reduced clearance over roadway. SDS has responded to the comments and Network Rail is currently reconsidering the position based on the further clarification / information provided. Meeting held 01 July 09 to resolve issues raised. Confirmation of acceptance of proposal agreed in principle by CEC and NWR at above meeting is required.
- e) Baird Drive Retaining Wall W8 (Ch 511+190)
  - IFC already issued
- f) Water of Leith Bridge S21E (Ch 511+060)
  - IFC already issued.
  - Revised IFC issued based on change instructed.
- g) Murrayfield Training Pitches Retaining Wall (Ch 510+870) (Ch 511-060)
  - IFC already issued
- h) Murrayfield Stadium Underpass S21C (Ch 510+860)
  - IFC already issued



- i) Murrayfield Stadium retaining Wall S21B (Ch 510+650) (Ch 510-870)
  - · IFC already issued
- j) Roseburn Street Bridge S21A (Ch 510+580)
  - · Change Order Received.
  - New TAA required.
  - New Prior Approval required.
  - Design underway.
  - Several pieces of information were outstanding a number of weeks, as outlined in various correspondence between SDS, BSC, and tie. Design now progressing with information recently provided.
  - Bridge and retaining structures issued to CEC for technical approvals.
  - · Informal consultation started with planning.
- k) Murrayfield Tramstop Retaining Wall W18 (Ch 510-450)
  - · Change Order received.
  - · SDS progressing design.
- l) Tram Stop Murrayfield (Ch 510-470)
  - IFC issued.
- m) Russell Road Retaining Wall 1 W3 (Ch 510-200)
  - IFC already issued.
- n) Russell Road Retaining Wall 2 W4 (Ch 510-150)
  - · IFC already issued
- 3.6.4 Subsection 5B
  - a) Roads, Track, Drainage, Street Lighting and Landscaping Subsection 5B
    - · IFC already issued
    - Closeout Report issued to CEC. Acceptance received with comments.
  - b) Drainage
    - IFC already issued
  - c) Tram Stop Edinburgh Park Central (Ch 524+530)
    - · IFC already issued



- d) Edinburgh Park Station Bridge S27 (Ch 524+010)
  - IFC already issued
- e) Tram Stop Edinburgh Park Station (Ch 523+740)
  - IFC already issued
- f) Tram Stop Bankhead (Ch 522+960)
  - · IFC already issued
- g) Bankhead Drive Retaining Wall W11 (Ch 522+800)
  - IFC already issued
- h) South Gyle Access Bridge S26 (Ch 522+750)
  - · IFC already issued
  - Pending change at South Gyle Access Bridge. Partial instruction received.
  - SW has indicated that they have not previously accepted principle of instruction provided by tie. tie to confirm.
  - tie to confirm alternative to be progressed.
- i) Substation Bankhead Drive SS22 (Ch 522+580)
  - Prior Approval already Granted, Siemens to complete the design and issue IFC.
- j) Tram Stop Saughton (Ch 521+690)
  - · IFC already issued
- k) Carrick Knowe Underbridge S23 (Ch 521+030)
  - IFC already issued.
  - Revised IFCs issued based on various instructions provided.
- l) Substation Jenners Depository (Balgreen) SS21 (Ch 520+060)
  - Prior Approval already Granted, Siemens to complete the design and issue IFC.
- m) Tram Stop Balgreen (Ch 520+050)
  - IFC already issued
- 3.6.5 Subsection 5C
  - a) Roads, Track, Drainage, Street Lighting and Landscaping Subsection 5C
    - · IFC already issued
    - · Closeout Report issued to CEC.



- Instruction for upgrading of Lochside Avenue junction received. Updated TAA progressing.
- b) Drainage
  - IFC already issued
- c) Tram stop Gogarbum (Ch 531+860)
  - On hold as instructed by tie awaiting RBS concept design / scope clarification.
- d) Depot Access bridge S32 (Ch531+230)
  - IFC already issued.
- e) A8 Underpass S28 (Ch 531+000)
  - · IFC already issued.
- f) Tram Stop Gyle Centre (Ch 530+770)
  - IFC already issued.
- g) Gyle Stop Retaining Wall W19 (Ch 530+750)
  - IFC already issued.
- 3.7 Section 6
- 3.7.1 Outstanding Technical:
  - None
- 3.7.2 Subsection 6A
  - a) Roads, Street Lighting & Landscaping Subsection 6 Depot
    - IFC already issued.
    - · Closeout report submitted to CEC.
  - b) Drainage Subsection 6 Depot
    - · Design received formal approval from SW.
    - · Revised IFC submitted.
  - c) Depot Earthworks
    - IFC already issued.
    - · Revised IFC for South Batter design issued.
    - · Revised IFC for north batter design issued
    - New drainage design for top of north embankment imminent.



- d) Depot Internal Retaining Walls
  - IFC already issued.
  - · On-going discussion between tie / BSC regarding use of soil nail slope.
- e) Depot Ductwork External Services
  - IFC already issued.
  - SDS progressing with revised design based on Siemens requirements provided.
- f) Depot General Layout
  - IFC already issued.
- g) Depot Building Foundations
  - IFC already issued.
- h) Depot Main Building
  - · IFC already issued.
- i) Ground Floor Slab and Pits
  - IFC already issued.
  - Revisions to IFC undertaken to account for Siemens design element details provided.
- j) Depot Building Steel Superstructure
  - IFC already issued.
  - Reviews of contractor drawings on-going.
- k) Track Subsection 6 Depot
  - IFC already issued.
- I) Depot Halt
  - IFC already issued.
- m) OLE in Depot
  - IFC already issued.
  - SDS received letter confirming Siemens pole layout. Foundation layout drawings to Siemens design being progressed.
- n) Substation Gogar Depot SS01
  - IFC already issued.
- 3.8 Section 7
- 3.8.1 Outstanding Planning:

Approvals:



• 7/29a - Airport Kiosk (Full Planning Permission). Change order has been received.

### **Building Warrants:**

7/29b – Airport Kiosk. Change order has been received.

#### 3.8.2 Subsection 7A

- a) Roads, Track, Drainage, Street Lighting and Landscaping
  - IFC already issued
  - · Closeout Report issued to CEC.
  - Revised earthworks and landscaping layout required due to topo issues arising and design update a Gogar. Amendment to Prior Approval required.
  - Revised track vertical alignment issued.
  - Design progressing on earthworks solution at Gogar Landfill.
- b) Species Mitigation Plan
  - · Issued as approved by SNH
- c) Tram Stop Edinburgh Airport (Ch 712+560)
  - · IFC Issued (less pending changes).
  - · New change for Airport Kiosk received.
  - New change for interface with CCRC received.
  - New change for Airport Canopy received.
- d) Gogar Burn Retaining Wall Two W14 (Ch 712+220) (Ch 712+570) -
  - IFC already issued.
  - Issue identified with burn migration. Change instruction required.
- e) Gogar Burn Retaining Wall One W14 (Ch 712+100) (Ch 712+190)
  - IFC already issued
  - Issue identified with burn migration. Change instruction required.
- f) Gogarburn Culvert Three S34 (Ch712+030)
  - IFC already issued
- g) Gogarburn Culvert Two S31 (711+830)
  - · IFC already issued
- h) Tram Stop Ingliston Park & Ride (Ch 711+740)
  - IFC already issued



- i) Substation Tram Eastfield Road (Ch 711-630)
  - Prior Approval granted. Siemens to issue IFC upon completion of their design.
- j) Gogarburn Culvert One S30 (Ch 711+420)
  - IFC already issued
- k) Gogarburn Bridge S29 (Ch 710+400)
  - IFC already issued

#### 4 ISSUE FOR CONSTRUCTION PROGRESS SUMMARY

As of 27 August 2009, the Issue for Construction packages status is as follows:

From a total of 114 IFC Packages, 101 (89%) have been delivered.

The remaining packages outstanding are being finalised, and have been subject to changes and/or delays due to resolution of comments. It should be noted that several IFC drawings already submitted will require to be updated in line with the emerging changes.

#### 5 UTILITIES

#### 5.1 Utilities

#### 5.1.1 Section 1A

- Section 1A (1-5) IFA drawings issued and SDS awaiting SUC approvals being sought by tie.
- Section 1A (6-10) IFC drawings have been issued to tie.
- Section 1A (11-12) IFC drawings have been issued to tie.
- Section 1A (13-20) IFC drawings have been issued to tie.
- Change Order issued to SDS for re-design of Baltic Street, tie/SDS held first design
  meeting at which tie highlighted that they require additional diversions to be design and
  that an additional change request would be submitted.

#### 5.1.2 Section 1B

- IFC drawings have been issued to tie.
- The IDC has been carried out and issued to tie showing the conflicts between the Utilities IFC infrastructure design and the Approved infrastructure design.

#### 5.1.3 Section 1C

- . IFC drawings have been issued to tie
- 1C (Picardy Place) tie have requested that SDS compare the IFC design with the
  roads and track layout issued to CEC for approval, The IDC has been carried out and
  issued to tie showing the conflicts between the designs.
- The redesign of the Mound Gas design has been issued IFC.



#### 5.1.4 Section 1D

- IFC drawings have been issued to tie.
- · Haymarket Junction utilities redesign is complete and issued IFC.

#### 5.1.5 Section 2A

IFC drawings have been issued to tie

#### 5.1.6 Section 5A

- IFC drawings have been issued to tie (except Scottish Water Sewers at Water of Leith)
- Water of Leith Sewer lining issued IFC to tie.
- Roseburn St Viaduct Change means that the utility diversions need to be reassessed in proximity to the new structure. Awaiting information from Network Rail/tie.

#### 5.1.7 Section 5B

- IFC drawings have been issued to tie.
- All sewer design issued for IFC except at South Gyle Access, design approved by Scottish Water. tie have undertaken an external survey of the South Gyle Access Bridge conflicting sewer, SDS to produce design report.

#### 5.1.8 Section 5C

IFC drawings have been issued to tie.

#### 5.1.9 Section 6A

IFC drawings have been issued to tie.

#### 5.1.10 Section 7A

- 7A was carried out under RATS, **tie** to supply XYZ coordinate as-builts for comparison to design and issue any required IFC's.
- 5.1.11 Section 7B (utilities only section)
  - Design being carried out by others (not SDS scope)

### 6 ADDITIONAL CONSTRUCTION SUPPORT

## 6.1 TQs

 TQs received during the reporting period, refer to the Weekly Report Summaries and the TQ register referenced below.

Note TQ Register ULE90130-SW-MAT-00080 is provided to BSC on a weekly basis.



### 6.2 Month Ahead Org Chart and Activities

Proposed staffing for the upcoming month, based on anticipated construction activities from the BSC look-ahead programme is included as Appendix B.

#### **Roads Construction Support Teams**

- Support and attendance to section progress meetings
- Section 1C/1D (Princes Street)
  - a. Supervision and consideration of road and footway construction.
  - b. Monitoring of ongoing activities in line with ITP requirements
  - c. Supervision of ongoing formation testing.
  - d. Responding to on site and technical queries as required
  - e. Ensuring compliance with drainage designs
  - f. Ongoing monitoring of installation of ducting and drainage.
  - g. Monitoring and inspection of Tram Stop construction
  - h. Monitoring of collection of data on voids and obstructions
- Section 1A
  - Responding to on site and technical queries as activity commences with BSC package contractor McKean.
  - b. Supporting Forth Ports applications and queries
  - c. Attending meetings as required

#### **Geotechnical Construction Support Teams**

- Section 1C/1D
  - a. Assistance with formation testing for trackform ground improvement layer and OLE foundations and road construction.
- Section 6
  - a. Depot remediation works design
  - b. Ongoing technical support to construction team through Technical Queries
  - c. Attendance at client and package contractor progress meetings
  - d. Monitoring of ongoing activities in line with ITP requirements
  - e. Formation inspection for depot foundations
  - f. Slope inspections



#### Section 7

- a. Ongoing investigations and verifications of ground conditions in line with Farrans programme of works
- b. Ongoing technical support to construction team through technical queries
- c. Attendance at client and package contractor progress meetings as required
- d. Monitoring of activities in line with ITP requirements
- e. Design support for remediation works at OGL error area

### Section 5

- a. Inspection and witness of OLE base locations
- b. Inspection and witness of formations
- c. Ongoing technical support to construction team through technical queries
- d. Review and check suitability of arising for use in make up
- e. Monitoring of the placement of material
- f. Monitoring of activities in line with ITP requirements
- g. Support at Audit

#### · Civil and Structural teams

- a. Ongoing review of Construction programmes to ensure appropriate supervision of construction activities and ITP requirements.
- b. Attendance at development workshops as required.
- c. Monitor and manage TQ's in and out
- d. Manage and provide detail for design changes as a result of site queries

#### Section 1C/1D

- a. Princes Street area only, supervision and consideration of GI survey input for trackform ground improvement layer and OLE foundations
- b. Monitoring FWD.CBR testing for Formation and road make up
- c. Review of drainage and ducting as installed
- d. Responding to site queries related to Ducting and drainage and others as necessary
- e. Attendance at Contractor and package contractor progress meetings
- f. Review of Crawley Tunnel remedial works

#### Section 7

a. Ongoing inspections of, bridge and culvert concrete works.



- b. Design input and monitoring of beams at S29
- c. Attendance at Contractor and Package contractor progress meetings
- d. Ongoing technical support to construction teams through technical queries

#### Section 5

- a. Ongoing inspections of piling for OLE foundations and bridge works.
- b. Attendance at contractor and package contractor progress meetings
- c. Monitoring of construction activities in line with ITP requirements
- d. Ongoing technical support to construction teams through technical queries

#### 7 DESIGN AND ADDITIONAL DESIGN SUPPORT

#### 7.1 Activities Undertaken

SDS has continued to provide as-needed Additional Design Support to BSC as required and attended several meetings related to various items. Main focus over the past 4 weeks has been around:

- Meeting and IDR of emerging BSC OLE designs
- Design and coordination of requirements for Road Rehabilitation Works
- Design and coordination of requirements for upcoming design for BSC Trackform integration
- Design and coordination of requirements for OLE design.
- Design and coordination of requirements for OLE foundation designs

#### 7.2 Ongoing Design Issues

#### 7.2.1 Picardy Place

- 29 Jul 2008
- Section 1C-2
- Layout generally agreed with Roads Authority at coordination meeting 06<sup>th</sup> August pending confirmation of updated modelling results. CEC to advise any further TAA issues. Impact on PA, TA and IFC.
- CEC planning desire 6no. additional cross sections as advised 01-September 08 via
- CEC Planning have provided no feedback on plaza concept provided for informal comment.
- Informal Consultation drawings issued to CEC 26<sup>th</sup> Sep '08. Meeting to finalise PA on 02 Oct '08.
- Informal meeting of tie / CEC / SDS on 30 September 2008 where CEC identified new constraints with hotel.



- Informal meeting with CEC on 1<sup>st</sup> October 2008 to discuss design development. SDS issued letter on 2 October 2008.
- Prior Approval meeting on 2 October 2008. SDS issued information to CEC via email.
- Prior Approval issued on 17 October 2008.
- Comments on Prior Approval received informally from CEC on 30 October 2008.
- Technical Approval issued on 3<sup>rd</sup> November 2008. SDS responding to initial comments from CEC on TAA submittal.
- CEC informally noted to SDS on 20 November 2008 that they may wish to change Roads layout.
- Prior Approval including CEC comments re-submitted on 28 November 2008.
- TAA including CEC comments resubmitted on 28 November 2008.
- Updated Planning drawings submitted 05 December based on advance TAA comments received.
- Road Safety Audit and Tram Stop submitted to CEC on 12 December 2009.
- Meeting on 15 January 09 with CEC to discuss potential comments and provide clarifications.
- Meeting on 21 January 2009 to discuss CEC modelling concerns. No response from CEC on information provided.
- Email from CEC on 30 March 09 indicates potential CEC change to layout of the area.
   Clarification required.
- SDS received change notice from BSC. SDS reviewing and preparing estimate.
- tie requested this change be included on w/e 08 May Design Changes meeting.
- CEC identified that they have issue with operation of junction based on CEC internal
  modelling. Junction is designed to instruction provided and subsequent discussions
  during design development. SDS has done significant advance modelling and has
  advised CEC of potential issue in advance of CEC raising the issue.
- CEC indicated in recent TRO Meetings that paper sits with M. Paulson and awaits final decision before instruction can be issued.
- Letter issued by CEC on 18 September 09 identifying additional changes required.
- 7.2.2 CEC preference for Demarcation between Tramway and Roadway (DCR0136)
  - 09 Sept 2008
  - Section 1
  - CEC design comment unresolved as CEC need to determine preferred method of demarcation. Cost implications being discussed between tie and CEC. SDS awaiting resolution. Action with tie / CEC.
  - SDS / BSC attended meeting on 11 November 2008 at the request of tie to discuss
    potential options proposed by tie / CEC.
  - Samples placed by tie in Haymarket Car Park 14 November 2008.
  - Draft letter received from CEC noting acceptance of imprinted concrete and desire to change concept at various locations.
  - CEC note this as open issue in Section 1B, affecting closeout.



- SDS received letter directly from CEC outlining changed requirements.
- No further action to be taken by SDS until instructed with requirements.
- SDS submitted letter to BSC on 22 January 2009. SDS requested to revise estimate.
- Change Notice received.
- SDS submitted change estimate w/e 27 Feb 09.
- SDS awaiting completed report from PRIMSO before completing safety assessment.
   tie to provide.
- SDS received letter from BSC requesting information. SDS provided response letter.
- SDS received completed PRISMO report from tie on 17 March.
- SDS received letter from BSC on 23 March 09. Response provided under letter cover 29 April 09.
- Discussed at Change Meeting on 23 April. SDS to provided substantiation on suitability of original SDS design 29 April 09.
- Change order required.

#### 7.2.3 Transdev comments on 5C Technical Approval – Roads (DCR0102)

- 17 Sept 2008
- Section 5C
- Transdev have written a paper on the design at Edinburgh Park. SDS has notified BSC of Change and will review paper when instructed.
- SDS received response to letter from BSC. SDS has returned response confirming position that change is required.
- Change Notice received. SDS submitted estimate w/e 27 Feb 09. SDS requested to provide revised estimate.
- Meeting scheduled for week of 22 June 09 to discuss responses.
- SDS evaluating relevant comments as outcome of meeting.

#### 7.2.4 TRO Drawings (DCR0083, DCR0110, DCR0119)

- 17 Oct 2008
- Section 1
- tie (Keith Rimmer) informally handed SDS marked up drawings catching fundamental changes to kerb lines for drawings already approved by CEC and in some instances, Issued For Construction to BSC. Change Order required.
- These drawings must be formally submitted to SDS under cover of tie letter for audit trail and QA / QC procedures.
- Discussion is required prior to execution of design work with the priority of Section 1B
  as changes to the Technical Drawings (i.e. gullies / kerbs etc) will need to be
  immediately instructed to BSC as construction work is already ongoing.
- · Additional work outside the LOD arising from drawing mark-ups.
- Informal meeting with CEC on 14 November 2008 to discuss the mark-ups.
- SDS provided updated responses to Public Exhibition comments on 08 January 2009.



- SDS prepared scope and estimate for Changes (DCR0110)
- tie / CEC request final drawings for public deposit to be provided before Christmas.
   CEC have indicated that they have not yet reviewed sections 2-7. CEC indicate that they wish TAL 5/05 to be modelled. SDS yet to be instructed to use TAL 5/05, and have previously advised of potential issues which may arise.
- SDS advised tie via email on 08 January 2009 about issues arising from TAL5/05 and need for change order to SDS.
- BSC requested a meeting for discussion of TRO changes. BSC to advise.
- Change notices received, SDS submitted estimates w/e 27/02/09.(DCR0083, DCR0119)
- SDS received letter on 24 March 09.
- SDS has requested meetings with BSC to discuss, however these have been cancelled by BSC prior to meeting.
- Discussed at change meeting on 23 April 09. Agreed that higher level meeting to be scheduled to resolve commercial issue, as there is a fundamental disagreement with tie.
- CEC provided new comments with respect to recent made TRO along Fastlink after 26 May 09 meeting.
- Site walkout scheduled for 08 June 09 for Little King Street requirements.
- Meeting scheduled with CEC for 10 June 09 to confirm all requirements for TRO and aligned design moving forward.
- Additional meeting held on 17 June 09 completing information not covered in meeting of 10 June 09.
- TRO drawings issued to BSC / tie on 19 August 2009.
- Letter received from CEC outlining additional requirements and design for TRO drawings.
- Additional meeting held on 14 September 09 to talk through changes. Change estimate submitted.

#### 7.2.5 Operator Comments

- 21 Oct 2008
- System-wide
- At the Design Assurance Presentation, SDS and BSC were informed that Transdev are currently undertaking Operator reviews of the Design. Any changes arising out of this must be instructed via the Change Control procedure.
- 2A Operational Review was on Thursday 30<sup>th</sup> October 2008. BSC could not attend.
- 6A Operational Review was on Wednesday 29 October 2008. BSC in attendance (Colin Brady).
- There is an ATR outstanding for attendance at these meetings and any future meetings.
- Letter from BSC received on 02 March 09. SDS to formally respond indicating that no revisions to be made unless formally instructed.



- SDS provided response letter to BSC on 09 March 09 (our ref ULE90130-SW-LET-01442)
- Meeting scheduled for week of 22 June 09 to discuss responses.
- SDS evaluating relevant comments as outcome of meeting.

#### 7.2.6 Cycle Connection at Hawthornevale (DCR0141)

- Section 1A
- CEC requested new cycleway connection outside LOD. Change order required.
- Change estimate submitted w/e 27 Feb 09.
- Discussed at 23 April 09 change meeting. tie to review and respond.
- Discussed at 28 May 09 Meeting. CEC to respond and clarify what facility is desired and tie to instruct.
- Estimate issued.

#### 7.2.7 Section 1C3 Closeout

- Section 1C3
- CEC provided letter closing out 1C3.
- Meeting anticipated to be held week of 29 June 09 to discuss and new / remaining comments to and requirements to close.
- New informatives included which must be closed during construction with procurement of items.

#### 7.2.8 Little King Street Reversal

- Section 1C2
- SDS and CEC completed walkout on 08 June 09 and identified several potential issues arising out of instruction.
- Current change instruction does not account for all required works if moved forward.
- SDS provided email to CEC on 12 June 09 outlining issues arising, potential impacts, and proposed resolution. Preliminary information on modelling impacts of not reversing direction of street included to assist CEC in decision making process.
- Formal response from CEC required.
- Letter issued by CEC on 18 September 09 outlining issues with this area.

### 7.2.9 Murrayfield Tramstop

- Section 5A
- CEC (Roads) requested technical submittal of information outwith remit of Roads Authority. SDS responded to BSC.
- BSC issued email to tie indicating issue arising.
- SDS not proposing to take any action unless formally instructed.



## 7.2.10 Elder Street / York Place Design Change

- Section 1C3
- tie (D. Fraser) informally requested a design change to the TRO and Roads design via email to SDS (S. Ney) on 19 June 09.
- SDS response was that no action to be taken unless formally instructed through appropriate contractual channels.
- Letter issued by CEC on 18 September 09 outlining changes to this area to accommodate Henderson Global Development.

#### 7.2.11 Balgreen Road Access Bridge

- Section 5A
- Network Rail (NR) intends to reject proposal after SDS clarifications provided. Design requested by NR is betterment to existing condition, and would be a further departure to the Roads design.
- Meeting with BSC, tie, NR and CEC on 01 July 09 to resolve issues.
- Confirmation by NWR and CEC of agreed solution required.

#### 7.2.12 Gogar Intermodal Stop

- Section 5C
- Kick-off meeting held 17 June 09 with Transport Scotland.
- Change order received. Tie to schedule workshop for 02 July 09 to discuss design details.
- SDS preparing list of required items from NR designer in advance of meeting.
- SDS completed actions arising from initial meeting.
- · Dedicated design team in place.
- SDS issued information requested by Network Rail.
- Network Rail to confirm which proposal they intend to progress forward with.
- Meeting held 22 September to confirm scope requirements.

#### 7.2.13 Murrayfield Accommodation Works

- Section 5A
- SDS received additional change order for the balance of the scope.
- Meeting undertaken with SRU leading to design comments,
- SRU then submit additional comments once amendments had commenced.
- tie to discuss with BSC and SDS impacts to original change.
- Informal consultation underway.

## 7.2.14 Phase 1A/1B Split

Sections 2A, 3A, 5A



- BSC requesting SDS complete required works.
- SDS submitted change and awaiting instruction. Discussed at 26 June 09 Design Change Meeting.
- Design being programmed and progressed based on discussion with BSC.

### 7.3 Additional Resources

The Design Team Leaders detailed below can be made available to respond to TQ's and attend the appropriate meeting (subject to suitable notice) on the proviso that BSC give instruction that these DTL's time spent will be paid for.



## **APPENDICES**

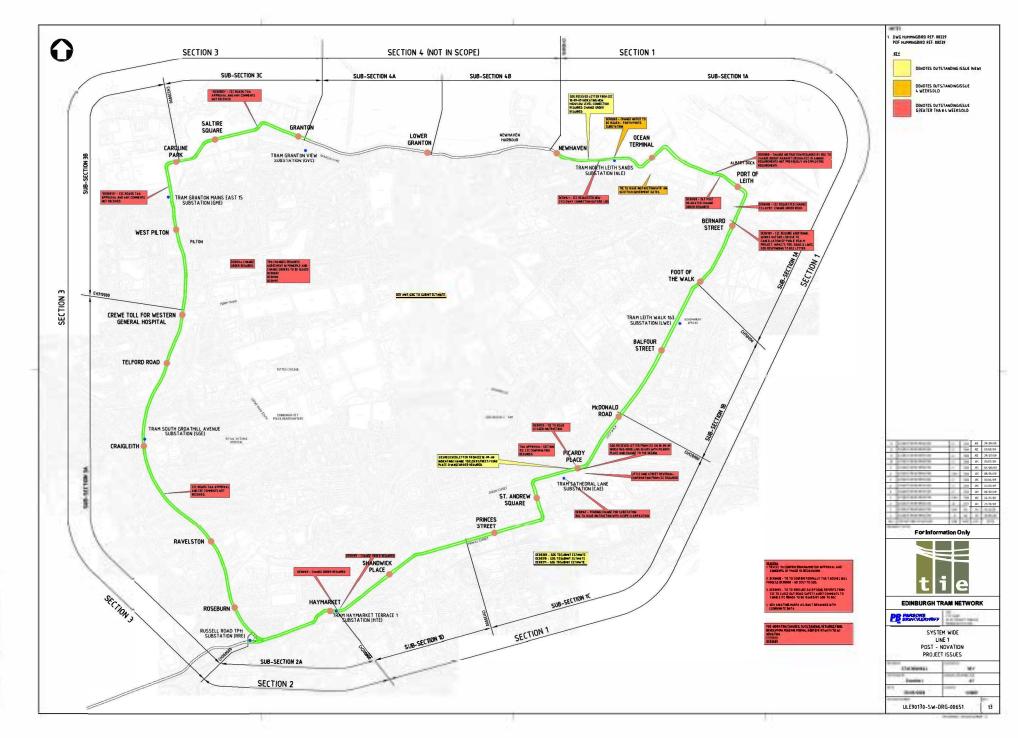


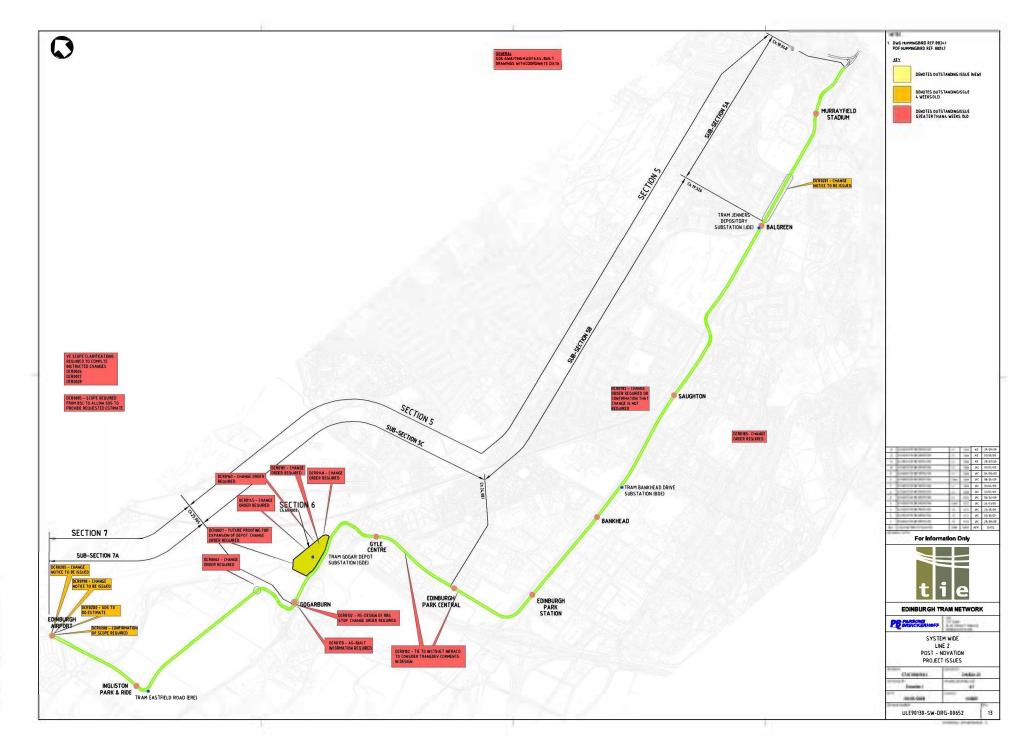
## **APPENDIX A - CRITICAL ISSUES DRAWINGS**

Doc Ref ULE90130-SW-DRG-00651 (Line 1)

Doc Ref ULE90130-SW-DRG-00652 (Line 2)







# APPENDIX B – ADDITIONAL DESIGN AND CONSTRUCTION SUPPORT ORGANISATIONAL CHARTS (PERIOD 21 FORECAST)



# Design Support Services - For The Period 11/10/09 to 07/11/09

