

Edinburgh Tram Network

SDS Progress Report -

Period 22

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1 TOP ISSUES

1. Civil Design Completion (CDC) Programme
2. Receipt of outstanding information to complete design
3. Extended Construction Support Resourcing for **tie** – Instruction for current period outstanding
4. Resolution to Outstanding SDS Changes
5. Instructions for Mandatory Project Changes
6. Revised Forth Ports Agreement and Closeout of Issues Arising
7. Earthworks Issues and Closeout
8. Princes Street Re-Opening
9. BAA Issues and Closeout
10. Instructions for Picardy Place Change 2 and Elder Street

2 COMMERCIAL

2.1 General

This report covers Period 08th November 09 to 05th December 09. The progress is detailed for the time period of 21st October 09 to 16th November '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 resource the proposed CDC programme, providing closeout earlier than currently anticipated programme dates.

The Letter Instruction with agreed Organisation charts is outstanding for Extended Design and Construction Support for this period. It is important for all parties that these instructions are issued in a timely manner.

2.1.1 Applications for Payment

SDS, BSC and **tie** have had to have a meeting this week with regard to the close out of historical Extended Construction and Design Support outstanding monies. This will hopefully conclude with all parties agreeing a way forward of validating the application for payment in an agreed and timely manner.

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 ongoing.

2.1.2 Change Control

Approximately £2.6 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. The unlocking of the remaining change will allow a 'design freeze' as per the CDC process.

SDS, BSC and **tie** met on the 12th August '09 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.

As part of the CDC programme, SDS understands that BSC will instruct the following works which are either: 1) disputed by **tie**, 2) pending acceptance of **tie**, or 3) are newly identified and not yet submitted to **tie**. The initial discussions with BSC indicated agreement with SDS to the following payment terms:

- 100% Payment of original agreed estimate value DCR numbers: 36, 127, 132, 141, 151, 167, 170, 180, 185, 191, 198, 200, 202, 203, 205
- 75% Payment of original agreed estimate value. If additional value is agreed between BSC / **tie**, this additional amount will be paid to SDS for DCR numbers: 98, 101, 102, 103, 136, 144, 145, 163, 169, 172, 181, 193, 201, 204, 209, 211, 212, 213, 214, 216, 219, 220, 227

SDS will support BSC in achieving resolution with **tie** for the above changes.

2.1.3 ATR's

Kate Shudall and John Higgins met on Wednesday 28th October and resolved the majority of the outstanding ATR monies. BSC are due to confirm agreement of a small number of these prior to issuance of the next payment certificate.

2.2 Summary of Changes

- Changes Identified; - 226
- Change Notification Received; - 149
- Change Estimates Submitted; - 125
- Changes Withdrawn/Closed; - 52
- Change Instructions Received; - 76

2.3 Programme

Draft version 51 of the SDS programme was provided to BSC 13 November. Next update will be the final version 51 by 20 November.

SDS has been working on the CDC 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 between SDS and BSC, with the signing of a Memorandum of Understanding (MOU) to complete the works on this basis (with agreed additional resource) understood to be immanent.

3 APPROVALS

3.1 General

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

From a total of 230 planning and technical approvals:

- 88% are approved (203).
- 8% are pending approval (18).
- 4% are to be submitted (9).

Current status (today) is:

92% Planning Approvals granted.

85% 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. The focus of this group has logically changed this month to focus on the Informatives arising. However, it is critical that a focus is maintained on the outstanding items so as not to lose sight of the outstanding requirements.

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

3.2.1 Outstanding:

- Scottish Water Approval/Consents. Formal process now agreed and SDS has received the majority of the formal approvals. Section 3 approvals and Section 1C1/2 outstanding.

3.2.2 Progress

a) General

- DCR0036 works for reconstituted Planing VE is approximately 0% complete.
- DCR0083 works to provide TRO informal consultation plans complete.
- DCR0101 works for wider area modelling approximately 90% complete.
- DCR0144 for Stage E drawings approximately 5% complete.
- DCR0214 works for provision of 110v power supply approximately 0% complete.
- DCR0212 works for Tramstop Development Workshop approximately 0% complete.
- DCR0213 works for Substation Development Workshop approximately 0% complete.
- DCR0216 works for Drainage Development Workshop approximately 0% complete.

b) TRO

- DCR0014 works to provide additional copies of TRO drawings complete.
- DCR0083 works to provide TRO informal consultation plans complete.
- DCR0215 works for additional changes to TRO drawings complete.
- Statutory Consultation completed. Draft comments received from CEC from Statutory Consultees. Meeting with BSC / SDS / tie held 17 November 09 to discuss issues raised. SDS to provide responses to comments once formally received from BSC.

c) Traffic Modelling

- DCR0086 works for incorporating TAL 5/05 complete.
- Traffic modelling progressing according to programme.

d) Track and Trackform

- DCR0125 works for trackform ground improvement and vibration mitigation approximately 60% complete.
- DCR0206 works for DKE check against CAF tram complete. Report issued. Further work to confirm that required mitigations remove any clearance issues will be required culminating in issue of close out report.

e) Roads Design

- DCR0126 works for roads construction details methodology complete.
- Appendix 7/1 designs for Princes Street submitted for TAA approval.
- DCR0140 works for Roads construction analysis of results approximately 33% complete.

f) OLE and OLE Foundations

- DCR0130 works for Section 1 generic pole foundation designs 90% complete.
- DCR0127 for Building Fixing Owner agreements is approximately 75% complete.
- DCR0152 works for OLE pole foundations in Section 1A approximately 70% complete.
- DCR0153 works for OLE pole foundations in Section 1B approximately 70% complete.
- DCR0154 works for OLE pole foundations in Section 1C approximately 70% complete.
- DCR0155 works for OLE pole foundations in Section 1D approximately 70% complete.
- DCR0176 works for line 2 OLE layout and foundation drawings approximately 90% complete.
- DCR0177 works to amend OLE system documents approximately 25% complete.

- DCR0178 works to amend building fixing locations approximately 0% complete.
- DCR0179 works to provide alternative lighting design to accommodate relevant aspects of BSC OLE design approximately 70% complete.
- DCR0180 works for development workshop approximately 0% complete.
- DCR0227 works for OLE technical and planning alignment approximately 0% complete.

g) Ducting

- DCR0156 works for updating cable route and ducting layouts for Section 1B complete.
- DCR0171 works for Siemens cable pulling pits complete.

h) Office Move

- DCR0195 works for office move substantially complete.
- New requirement for additional desks and IT requirements arising from additional resource to deal with accelerated programme.

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.
- DCR0202 works for 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. Approximately 0% complete.

3.3.3 Subsection 1A1 – Dock Gates to Foot of the Walk

a) Roads, Street Lighting, Landscaping, Drainage 1A1

- DCR0098 works to eliminate tree build outs work complete.

- DCR0136 works for new demarcation request by CEC complete.
- IFC already issued.
- 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

- DCR0096 works for splitting Prior Approval batch 1/02 complete.
- DCR0103 works for OLE poles at Tower Place junction complete.
- DCR0136 works for new demarcation request by CEC complete.
- IFC already issued.
- 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.
- DCR0100 works for Road 8 works complete.
- 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.
- DCR0166 works for revised Road 8 requirements complete.
- DCR0175 works for alteration to Road 8 alignment complete.

- SDS issued drawing under ATR0102 showing potential road shift as requested by tie.

b) Drainage – Subsection 1A3 – Ocean Terminal to Port of Leith

- Approved by CEC. Comments being addressed.
- Forth Ports approval awaiting instruction.

c) Tram Stop – Ocean Terminal (Ch 100+950)

- Approved by CEC. Comments being addressed.

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).
- DRC0131 works for feasibility study at ADM Milling complete.
- DCR0136 works for new demarcation request by CEC complete.
- DCR0141 works for new cycleway connection outside LOD approximately 0% complete.
- DCR0147 works for change due to traffic signal modification outside LOD requested by CEC – works approximately 40% complete.
- New change due to CEC request for connection of high and low level at Lindsay Road Retaining Wall. Instruction awaited.
- 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 formally advised of issues arising from new as-built condition by Forth Ports. Change order required.

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. Change order required.

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.
- DCR0111 works survey complete. 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.
- DCR0203 works for redesign of substation approximately 0% complete.

3.3.7 Subsection 1B

a) Roads, Track, Drainage, Street Lighting, Landscaping, and Drainage – Subsection 1B

- DCR0064 works for additional Balfour Street crossing complete.
- DCR0136 works for new demarcation request by CEC complete.
- IFC already issued.
- Closeout Report Issued to CEC. Acceptance received with comments.
- CEC provided letter noting closeout of Road Safety Audit and requirements.

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

a) Roads, Track, Street Lighting, 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.
- DCR0106 issued for works outside LOD on Little King Street. Works 10% complete. Field visit identified issues with instruction provided to reverse direction of street. SDS provided email to CEC outlining issues and proposal. Informal response from CEC indicated no longer desirable to reverse direction of street. Formal CEC response required to confirm. Design on hold awaiting confirmation.
- DCR0172 works for Leith Walk underground structure approximately 60% complete.
- DCR0173 change instruction issued to investigate Stage 1 and 2 works for developer request. Works approximately 10% complete..
- Potential change due to CEC revised requirements at north side of Picardy Place due to traffic modelling issues raised by CEC. 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.
- DCR0167 works for developer request to provide new building works approximately 0% complete.

c) Tram Stop – Picardy Place (Ch120+600)

- TAA submittal with CEC for approval. Initial informal comments from CEC on submittal addressed
- 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.
- DCR0209 works for Crawley tunnel design approximately 90% complete.
- DCR0219 works for new Frederick Street crossing approximately 0% complete.
- 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
- DCR0011, 11a works for Shandwick Place preferential treatments complete.
 - DCR0063 works for design alternative to Haymarket junction complete.
 - DCR0075 works for Haymarket taxi stance complete.
 - DCR0105 works for West End tram stop review complete
 - DCR0149 works for Shandwick Place TRO signage complete.
 - IFC already issued.
 - Closeout Report issued to CEC. Acceptance received with comments.
 - DCR0193 works for Haymarket street light approximately 0% complete.
 - DCR0211 works for West Maitland tunnel design approximately 95% complete.
 - CEC have indicated the potential that they may wish to change the concept at Torphichen Street. Clarification required and instruction as appropriate required.
 - Requirement to change kerb lines and traffic movements at Grosvenor Street. Resolution of TRO change orders required.
- b) Tram Stop – Shandwick Place (Ch130+710)
- DCR0011, 11a works for Shandwick Place preferential treatments complete.
 - 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.
 - Revised design for Phase 1A/1B separation underway. Revised approvals required.
- 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 issued.
- g) Haymarket Station Viaduct – S19 (Ch 200+020)
 - DCR0113 works for internal retaining wall complete.
 - IFC already issued.
 - DCR0169 works for new cycle provision on steps approximately 0% complete. **tie** have informally discussed with CEC and indicated via email to SDS that this change may not be required, **tie** to confirm.
- 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 2008, which was not achieved. The de-prioritisation 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 2008, which was not achieved. The de-prioritisation 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.
- l) 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)
 - DCR0005 works for landscaping completed.
 - 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 2008, which was not achieved. The de-prioritisation 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 2008, which was not achieved. The de-prioritisation 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)

- DCR0067 works for annotated drawings complete.
- 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 2008, which was not achieved. The de-prioritisation 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. Consultation with CEC underway.
- 5/23 – Roseburn Street Bridge – new prior approval required to accommodate change in design. Informal consultation underway, Prior Approval to be submitted immanently.
- 5/24 – Gogar Interchange. SDS is preparing this new design in accordance with the Network Rail guidance and letter received from CEC. BSC have advised that this design should be completed in line with current design in the area (i.e. no instruction to construct a revised design). SDS has formally written to BSC to confirm.
- 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. Consultation underway.
- Potential demolition warrants required at properties 96 and 101. Instruction required for SDS to progress.

3.6.2 Outstanding - Technical:

- Revised Roseburn Street Bridge and retaining structures – revised designs have been issued to CEC for review and approval.

3.6.3 Subsection 5A

a) Roads, Track, Street Lighting and Landscaping – Subsection 5A

- DCR0201 works for Network Rail Turning head lighting complete.
- 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)

- DCR0016 works for amended technical design complete.
- Design issued to Network Rail and CEC. Form B approval received from NWR.
- Minor comments received from CEC via email. SDS has addressed.

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 DCR0076 works for sewer / pile conflict.

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)

- DCR0018 works for patterned finish complete.
- DCR0157 works for additional GI complete.
- IFC already issued

- j) Roseburn Street Bridge – S21A (Ch 510+580)
 - DCR0024A works for preliminary VE redesign complete.
 - DCR0024 works for detailed VE redesign approximately 75% complete.
 - New TAA and Prior Approval required.
 - 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. Meeting held 06 November 09 - comments received and under consideration. Submittal of Prior Approval imminent.
- k) Murrayfield Tramstop Retaining Wall – W18 (Ch 510-450)
 - Change Order received.
 - SDS progressing design.
- l) Tram Stop – Murrayfield (Ch 510-470)
 - DCR0019 works stop design change complete.
 - 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
- o) SRU / Murrayfield Accommodation Works (DCR0114 / DCR0194)
 - Coordination with SRU on-going.
 - Planning application submitted. Approval expected immanently.
 - Detailed points raised by planning for fence type and gate position being addressed with detailed design.
 - Coordination of lighting and drainage requirements underway.
 - Building warrant package under development for submittal January 2010.
 - Design approximately 60% complete.

3.6.4 Subsection 5B

- a) Roads, Track, Drainage, Street Lighting and Landscaping – Subsection 5B
 - DCR0090 works for environmentally friendly lighting complete.
 - DCR0092 works for cycleway design at Edinburgh Park station complete.
 - IFC already issued
 - Closeout Report issued to CEC. Acceptance received with comments.

- DCR0168 works for revisions to WEBS trackform approximately 20% complete.
 - DCR0185 works for WEBS GI approximately 0% complete.
- 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)
- DCR0027 – awaiting scope clarification from BSC for VE works.
 - DCR0150 works for U12 Beams complete.
 - 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.
 - DCR0133 works for preliminary design of option 4 complete.
 - SW has indicated that they have not previously accepted principle of instruction provided by **tie. tie** to confirm.
 - Additional works are required based on tie selected alternative. SDS to identify in Preliminary Design report. Change order required for additional works.
 - Preliminary Design Report submitted.
- 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.
- DCR0084 works for beam design complete.
- DCR0190 works for beam design complete.
- Revised IFCs issued.

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

- DCR0070 works for hedge north of tramway complete.
- DCR0107 works for Gyle stop cycleway widening complete.
- DCR0108 works for Gogar Roundabout lighting complete.
- IFC already issued
- Closeout Report issued to CEC.
- DCR0104 change instruction received to upgrade Lochside Avenue junction. Updated TAA progressing, submittal immanent. Further CEC clarification on lighting requirements to be confirmed as part of potential VE opportunity.
- DCR0102 works for operator comments approximately 0% complete.

b) Drainage

- IFC already issued

c) Tram stop – Gogarburn (Ch 531+860)

- DCR0170 works for RBS Tramstop existing utility works approximately 0% complete.
- DCR0132 works for RBS tram stop future proofing. Confirmation of scope received. Approximately 0% complete.

d) Depot Access bridge – S32 (Ch531+230)

- IFC already issued.

e) A8 Underpass – S28 (Ch 531+000)

- DCR0028 – awaiting scope clarification from BSC for VE works.
- DCR0116 works for underpass piling options complete.
- IFC already issued.

- DCR0139 works for modification of permanent works to facilitate temporary work approximately 0% complete.
- f) Tram Stop – Gyle Centre (Ch 530+770)
- IFC already issued.
- g) Gyle Stop Retaining Wall – W19 (Ch 530+750)
- IFC already issued.
- h) Tram Stop – Gogar Interchange
- DCR0082 change instruction for new tram stop issued. Works approximately 20% complete.
 - Coordination with Network Rail designer on-going
 - Informal Consultation underway with CEC.
 - Clarification on delivery of landscaping on south side of A8 required from tie.
 - Written confirmation from tie / BSC of new design approach to be provided.
 - OLE design required from Siemens.

3.7 Section 6

3.7.1 Outstanding:

- Confirmation being sought on requirements due to revised earthworks (north and south batters)
- DCR0026 – awaiting scope clarification from BSC for VE works.

3.7.2 Subsection 6A

a) Roads, Street Lighting & Landscaping – Subsection 6 – Depot

- DCR0145 works for turning head complete.
- DCR0148 works for street lighting complete.
- 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.
- DCR0160 works for modifications to north batter complete.
- DCR0184 works for stability of north batter drainage complete.

- DCR0204 works for BAA drainage complete.
 - Revised IFC for north batter drainage design issued.
- 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.
 - DCR0163 works for operational design review of depot approximately 0% complete.
 - DCR0181 works for additional design approximately 75% complete.
 - DCR0220 for Compressed air supply approximately 20% complete.
- 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.
 - DCR0188 works for pit for manual bogie turntable approximately 25% complete.
- j) Depot Building Steel Superstructure
- IFC already issued.
 - Reviews of contractor drawings on-going.
- k) Track – Subsection 6 – Depot
- DCR0151 works for west turnout revision complete.
 - IFC already issued.
- l) 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.
- Revised applications to deal with NIL changes.
- Revised applications to deal with revised earthworks.

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.
- DCR0134 works for NIL future proofing approximately 10% complete. Track alignment completed and provided to NIL for acceptance. Coordination meeting held with NIL on 19 November 09.
- 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.
- Revised earthworks and drainage design issued.
- Design progressing on earthworks solution at Gogar Landfill.
- DCR0191 works for Gogar Landfill utility diversion approximately 0% complete.
- DCR0198 works for BAA dualling future proofing approximately 0% complete.
- DCR0200 works for BAA new Burnside Road alignment approximately 0% complete.
- DCR0205 works for CCRC interfaces with slope and drainage approximately 0% complete.

b) Species Mitigation Plan

- Issued as approved by SNH

c) Tram Stop – Edinburgh Airport (Ch 712+560)

- IFC Issued (less pending changes).
- DCR0095 change order for Airport Kiosk received. Design progressing.
- DCR0135 works for interface with CCRC scheme complete.

- Informal consultation meeting scheduled with CEC on 01 December 09.
 - DCR0146 works for Airport Canopy approximately 33% complete.
- d) Gogar Burn Retaining Wall Two – W14 (Ch 712+220) (Ch 712+570) –
- DCR0015 works redesign of wall complete.
 - DCR0091 works amending wall finish complete.
 - IFC already issued.
 - Issue identified with burn migration. Change instruction required.
 - Issue identified with BAA acceptance to be resolved with redesign.
- e) Gogar Burn Retaining Wall One – W14 (Ch 712+100) (Ch 712+190)
- DCR0091 works amending wall finish complete.
 - IFC already issued
 - Issue identified with burn migration. Change instruction required.
 - Issue identified with BAA acceptance to be resolved with redesign.
- 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)
- DCR0069 works complete.
 - IFC already issued

4 ISSUE FOR CONSTRUCTION PROGRESS SUMMARY

As of 17 November 2009, the Issue for Construction packages status is as follows:

From a total of 114 IFC Packages, 102 (90%) 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) IFC drawings have been issued to **tie** (Excluding SW foul which has been Approved by SW with plate requiring further information) .
- 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

- 76 TQs received during the reporting period and 49 responded to, refer to the TQ register referenced below.

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. Assistance with snagging walkthroughs.
 - 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
- i. Monitoring and confirming design compliance for surfacing, line marking and signage
- Section 1A
 - a. 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
- Section 7A
 - a. Monitoring and checking road construction at Hilton Car Park worksSection 5
 - d. Monitoring and checking road/car park construction at Network Rail/Scotrail Depot replacement car park

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. Ongoing technical support to construction team through Technical Queries
 - b. Attendance at client and package contractor progress meetings
 - c. Monitoring of ongoing activities in line with ITP requirements
 - d. Formation inspection for depot foundations
 - e. Formation inspections for road build up
 - 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

- 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

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. Review of drainage and ducting as installed
 - b. Responding to site queries related to Ducting and drainage and others as necessary
 - c. Attendance at Contractor and package contractor progress meetings
 - d. Review and ongoing support for Crawley Tunnel remedial works
 - e. Support to BSC in resolution of Tower Place Bridge issues with Forth Ports
- Section 7
 - a. Ongoing inspections of, bridge and culvert concrete works.
 - b. Attendance at Contractor and Package contractor progress meetings
 - c. Ongoing technical support to construction teams through technical queries
- Section 5
 - a. Ongoing inspections of piling for OLE foundations
 - b. Ongoing inspections and technical support at S27 & S23 bridge works.
 - c. Inspections and responding to technical queries for Russell Road Retaining Walls, piling works
 - d. Attendance at contractor and package contractor progress meetings
 - e. Monitoring of construction activities in line with ITP requirements

- f. 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:

- Coordination of CAF DKE and swept path run
- Coordination of review of implications to Street Lighting from Siemens OLE design.
- 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 06th 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 email.
- CEC Planning have provided no feedback on plaza concept provided for informal comment.
- Informal Consultation drawings issued to CEC 26th 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 1st 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 3rd 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.
- Instruction issued for Stage 1 and Stage 2 of island re-shaping change. Design underway.

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 provide 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.
- Letter received from BSC containing **tie** position on this issue. SDS reviewing letter and SDS / BSC to have meeting to discuss as agreed in Design-Change Issues meeting.
- Meeting to be held between BSC and SDS to discuss issues arising. BSC to advise of meeting time.

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 order received.
- SDS has submitted final TRO drawings to **tie** / CEC containing all comments.
- SDS / BSC attended meeting with **tie** on 17 November 09 to discuss comments received from Statutory Consultation. **tie** indicated that they are looking for further written formal justification for the agreed and approved design in addition to the information previously supplied to support the TRO process. SDS believes this request to be extra work, as the drawings, schedules, public meetings, and informal TRO consultations have demonstrated the case that the design has been consulted with all parties in an appropriate manner. SDS to provide response to Statutory Consultation comments when formally received from BSC.
- Outstanding commercial issues to be resolved.

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 30th 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.
- Meeting to be held between BSC and SDS to discuss issues arising. BSC to advise of meeting time.

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. Change order required.

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.
- Meeting held week of 16 November to discuss issues related to re-opening of Princes Street.
- New change (DCR0219) identified for additional crossing at Frederick Street

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.
- Change order required.

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.
- Revised design issued to CEC and NWR including concept discussed at 01 July 09 meeting.
- SDS has submitted updated design to CEC and NWR for approval.
- Acceptance and comments received from CEC.
- Acceptance of Form B received from NWR.

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.
- SDS issued information requested by Network Rail.
- Network Rail confirmed which proposal they intend to progress forward with. **tie** to issue formal instruction of Network Rail proposal. SDS working to verbal agreement with BSC / **tie** of modified concept.
- Meeting held 22 September to confirm scope requirements.
- Preliminary design completed.
- Assisted Mott McDonald with NWR planning application as requested.
- Informal Consultation meeting with CEC held 06 November 09.
- BSC confirmed at progress meeting on 21 October 09 that design should be finalised assuming new interchange to be built after implementation of base tram scheme.
- SDS has identified issues with track / sewer level interface which needs to be resolved.
- OLE and trackform designs from Siemens critical to closing out design and planning requirements.
- Radio Mast requirements to be closed out at meeting on 24 November 09.
- Tram stop and canopy design progressing, including structural steel framework.
- Earthworks being progressed, including landscaping based on information received from Mott Macdonald. Change order required for new / additional works identified.

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.
- Formal Prior Approval Issued to CEC

7.2.14 Phase 1A/1B Split

- Sections 2A, 3A, 5A
- SDS submitted change and awaiting instruction. Discussed at 26 June 09 Design Change Meeting. Agreed included at Novation.
- Design programmed and being progressed based on v51 of programme.

7.2.15 CAF DKE Swept Path Analysis

- Systemwide
- Assumptions and analysis finalised.

- Several issues requiring more in-depth analysis have been identified during the review process.
- Draft results issued to BSC via email.
- Closeout report issued.

7.2.16 Crawley Tunnel

- Section 1C
- Revised requirements for north side design presented to SDS after completion of original approved design.
- Revised design for tunnel incorporates agreed requirement to eliminate arch from top of tunnel in impacted area.
- Scottish Water have identified potential requirement to replace pipes within accessible areas of tunnel. Clarification required.
- Revised Scottish Water requirements may introduce alternative design solution (fill) which would require additional design to accommodate. Clarification required.

7.2.17 Section 7 Earthworks

- Revised earthworks and landscaping layout required due to topo issues arising.
- Revised design investigation due to issues arising at Gogar Landfill.
- Revised vertical alignment issued.
- Revised earthworks drawings issued.
- Revised environmental drawings issued.

7.2.18 Section 3 Technical Reviews by CEC

- Required to closeout detailed design.
- Revised Road Safety Audits provided.
- De-prioritised by CEC.
- Confirmation of programme to complete required.

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.

<u>DISCIPLINE</u>	<u>Code</u>	<u>DTL (and contact details)</u>
Tram	TRM	Tony Goodyear
Track (and Alignment)	TRK	Phil Bull
Track Auxiliaries	TRA	Mike Reeves
Roads	RDS	Mike Rogers
Pavement Design	RDS	Orlando Walters
Structures (P)	STR-P	Andy Groves
Structures (H)	STR-H	Colin Walker
Traction Power Supply	TPS	Graeme Evans
Sub Stations	SUB	Brian Hall
Depot	DEP	Richard Young
Tram Stops / Gogar Interchange	STP	John Ash
Overhead Line Equipment	OLE	Mike Coupe
Supervisory, Control and Comms	SCC	Mike Goldsworthy
Low Voltage Supplies	LVS	John Ash
Street Lighting	STL	Anthony Walsh
Drainage	DRN	Mike Rogers
Ducting	DUC	Chris Reid
Geotechnical	GEO	David Raeside
Environment	ENV	Kat Dennis
Utilities (L2 - Sections 2, 5, 6 and 7)	UTL	Alan Dolan
Utilities (L1 - Sections 1 and 3)	UTL	Brian McCrear
Landscape	LSC	John Ramsay
Noise		Rupert Taylor

APPENDICES

APPENDIX A – RFI REGISTER

BSC RFI Register

HB#	BIW Ref	RFI Reference	Title	Issuer	Issue date	Requested response date	Response date
92191	SDS RFI-00001	ULE90130-SW-RFI-00120	Earth Bonding Requirements	C. Reid	23/02/09		
92193	SDS RFI-00002	ULE90130-SW-RFI-00121	Base Plate Hole & Anchor Bolt Diameter	C. Reid	23/02/09		
92194	SDS RFI-00003	ULE90130-SW-RFI-00122	Locking Nut Confirmation	C. Reid	23/02/09		
92195	SDS RFI-00004	ULE90130-SW-RFI-00123	Ghoul Below Base Plate Information	C. Reid	23/02/09		
92196	SDS RFI-00005	ULE90130-SW-RFI-00124	Loading Issue	C. Reid	23/02/09		
92197	SDS RFI-00006	ULE90130-SW-RFI-00125	Axes Convention for applied load effects	A. Groves	23/02/09		
92199	SDS RFI-00007	ULE90130-SW-RFI-00126	Load Effects at Other Limit State	A. Groves	23/02/09		
92348	SDS RFI-00008	ULE90130-SW-RFI-00128	Inclination of Backstay Cables	A. Groves	23/02/09		
92349	SDS RFI-00009	ULE90130-SW-RFI-00129	Inclination of Backstay Cables	A. Groves	23/02/09		
92350	SDS RFI-00010	ULE90130-SW-RFI-00130	Inclination of Backstay Cables	A. Groves	23/02/09		
92575	SDS RFI-00011	ULE90130-SW-RFI-00131	Vibration Assessment	C. Reid	23/02/09		
92576	SDS RFI-00012	ULE90130-SW-RFI-00132	Vibration Assessment	C. Reid	23/02/09		
92577	SDS RFI-00013	ULE90130-SW-RFI-00133	Deflection/Rotation Limits	A. Groves	23/02/09	25/02/09	
92876	SDS RFI-00014	ULE90130-SW-RFI-00134	Rheda City Interfaces	C Reid	02/03/09	asap	20/04/2009
92881	SDS RFI-00015	ULE90130-SW-RFI-00135	Rheda City Interfaces	C Reid	02/03/09	asap	20/04/2009
92883	SDS RFI-00016	ULE90130-SW-RFI-00136	Grooved Rail Bearers	C Reid	02/03/09	asap	20/04/2009
92889	SDS RFI-00017	ULE90130-SW-RFI-00137	Rheda City Derailment	C Reid	02/03/09	asap	20/04/2009
92890	SDS RFI-00018	ULE90130-SW-RFI-00138	Trackform at S20 Russell Road Bridge	C Reid	02/03/09	asap	20/04/2009
92891	SDS RFI-00019	ULE90130-SW-RFI-00139	Groove Rail Containment	C Reid	02/03/09	asap	20/04/2009
92897	SDS RFI-00020	ULE90130-SW-RFI-00140	Groove Rail Containment	C Reid	02/03/09	asap	20/04/2009
94197	SDS RFI-00021	ULE90130-01-RFI-00078	Transitions to ballasted track	C Pope	15/04/09	asap	
94486	SDS RFI-00022	ULE90130-05-RFI-00018	At grade crossing grass track (Rheda green trackform)	C Pope	29/04/09	asap	
94526	SDS RFI-00023	ULE90130-05-RFI-00019	Rheda city green document	C Pope	29/04/09	asap	
94527	SDS RFI-00024	ULE90130-01-RFI-00079	Transitions to ballasted track	C Pope	29/04/09	asap	
94879	SDS RFI-00025	ULE9013-SW-RFI-00141	CCTV Camera Specification	S Ney	15/05/09		
95179	SDS RFI-00026	ULE90130-06-RFI-00003	Basic design - special track forms	C Pope	22/05/09	asap	
97808	SDS RFI-00027	ULE90130-SW-RFI-00142	Requirements for Earthing and Bonding	Huseyim Yildirim	27/08/09		
97809	SDS RFI-00028	ULE90130-SW-RFI-00143	Depot Sub Station	Huseyim Yildirim	27/08/09		
97810	SDS RFI-00029	ULE90130-SW-RFI-00144	Traction Power Containment	Huseyim Yildirim	27/08/09		
97812	SDS RFI-00030	ULE90130-SW-RFI-00145	Gogar Depot Wesurail Tramwash Proposal	Huseyim Yildirim	27/08/09		15/09/2009
97813	SDS RFI-00031	ULE90130-SW-RFI-00146	Gogar Depot Wesurail Tramwash Proposal	Huseyim Yildirim	27/08/09		15/09/2009
97817	SDS RFI-00032	ULE90130-SW-RFI-00147	Gogar Depot Wesurail Tramwash Proposal	Huseyim Yildirim	27/08/09		15/09/2009
97818	SDS RFI-00033	ULE90130-SW-RFI-00148	Gogar Depot Wesurail Tramwash Proposal	Huseyim Yildirim	27/08/09		15/09/2009
97823	SDS RFI-00034	ULE90130-SW-RFI-00149	Traction Power	Huseyim Yildirim	27/08/09		
98454	SDS RFI-00035	ULE90130-06-RFI-00004	OLE pole foundation ch.121+674	C Reid	18/09/09		28/09/2009
98587	SDS RFI-00036	ULE90130-06-RFI-00005	Gogar depot sub-station building Siemens drawings	S Schatten	23/09/09	29/09/09	
98589	SDS RFI-00037	ULE90130-06-RFI-00006	Gogar depot sand silo details	S Schatten	23/09/09	29/09/09	19/10/2009
98590	SDS RFI-00038	ULE90130-06-RFI-00007	Gogar depot sanding plant details	S Schatten	23/09/09	29/09/09	
98592	SDS RFI-00039	ULE90130-06-RFI-00008	Gogar depot sand silo details (2)	S Schatten	23/09/09	29/09/09	
98592	SDS RFI-00040	ULE90130-06-RFI-00009	Gogar depot Wesurail tramwash issued drawings	S Schatten	23/09/09	29/09/09	14/10/2009
98940	SDS RFI-00041	ULE90130-06-RFI-00010	Airside Drainage and Levels North Batter Area	N Baldwin	06/10/09	05/10/09	12/10/2009
98951	SDS RFI-00042	ULE90130-05-RFI-00032	Section 5B TPDS Detector Locations for Connection to Trackside Ducting	M Fell	05/10/09	07/10/09	
98982	SDS RFI-00043	ULE90130-06-RFI-00011	Depot Tramwash Siemens Drawings	R Young	06/10/09	07/10/09	12/10/2009
99087	SDS RFI-00044	ULE90130-06-RFI-00012	Depot Technical Specification of PFAFF Manual Turntable (1)	R Young	07/10/09	09/10/09	13/10/2009
99088	SDS RFI-00045	ULE90130-06-RFI-00013	Depot Technical Specification of PFAFF Manual Turntable (2)	R Young	07/10/09	09/10/09	12/10/2009
99246	SDS RFI-00046	ULE90130-06-RFI-00014	Gogar Depot Wesurail Tramwash Drawing	S Thiyagarajah	14/10/09	15/10/09	
99253	SDS RFI-00047	ULE90130-06-RFI-00015	Gogar Depot Building Bogie Wash Details	D James	14/10/09	20/10/09	
99450	SDS RFI-00048	ULE90130-06-RFI-00016	Sand Filling System	S. Thiyagarajah	22/10/09	23/10/09	
99470	SDS RFI-00049	ULE90130-06-RFI-00017	GOGAR DEPOT – Equipments & Communication Room	I Akerkaou	22/10/09	28/10/09	
99566	SDS RFI-00050	ULE90130-01-RFI-00105	OLE Query - Relocation of Building Fixing 121000	S. Ney	26/10/09	03/11/09	
99857	SDS RFI-00051	ULE90130-01-RFI-00106	Traction Power Duct Cross Section Reduction at Crawley Tunnel	M Fell			
100000	SDS RFI-00052	ULE90130-05-RFI-00033	Edinburgh Park Station Bridge – OLE Pole Base Plates	M Coupe	12/11/09	16/11/09	

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APPENDIX B – CRITICAL ISSUES DRAWINGS

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

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



THE FINAL DESIGN INFORMATION FOR THE PROJECT IS PROVIDED IN ORDER OF COMPLETION TO THE RECORD.

EARTHINGS AND BONDING (EVI) IS TO BE UPDATED
 TRAM WASH TRACKWORK DRAWING
 BOGE TURNABLE ORIENTATION OF PLANT
 DETAIL DESIGN OF TRACKWORK INCLUDING THE CONFIRMATION OF STUB SUPPORTS WITHIN THE PLINTH TRACKS
 TRACKWORK FINISHES DRAWING FOR THE DEPOT TO BE AMENDED BY SIEMENS
 HEAT LOADS AND DETAILED DESIGN INFORMATION FROM LEFT SUB-CONTRACTOR SUCH THAT STRUCTURE ELEVATION CAN BE ADJUSTED TO SUIT
 GASKETS/SEALING AND REQUIRE TO BE CONFIRMED
 CHANGE ORDERS FOR OUTSTANDING DESIGN
 DETAILS/STAND PLANT ARRANGEMENTS/PAIN/COAT
 DEPOT EXTERNAL TRACKWORK DETAILED DESIGN (TURN-OUTS COMPONENTRY)
 CONFIRMATION OF LIFT PIT CHANGES
 TRAM STOP FURNITURE DETAILED DESIGN (PODS, CCTV POLES, EARTHING AND BONDING ARRANGEMENTS)
 FINAL DESIGN INFORMATION RELATING TO TRACK FORM
 VIBRATION MITIGATION - AREAS OF SPECIAL TRACK FORM TO BE USED
 CROSS SECTION OF SPECIAL TRACK FORM FOR NOISE AND VIBRATION MITIGATION
 DEPOT TRACKWORK DETAILS
 BONDING DETAIL REQUIREMENTS FOR ALL STRUCTURES
 REQUIREMENTS FOR STAY CURRENT MITIGATION MEASURES FOR THE ENTIRE ROUTE
 SWITCH AND CROSSING TRACK FORM DETAILS
 POINTS/MOTION DETAILS FROM STREET SECTIONS
 MUD/A/S BUILT INFORMATION FOR IDC CORRELATION

GENERAL
 SDS AWAITING MUD/A/S-BUILT
 DRAWINGS WITH COORDINATED A/T/A

1. DWG HUMMINGBIRD REF: 88241
 PDF HUMMINGBIRD REF: 88241

KEY

- Denotes Outstanding Issue (New)
- Denotes Outstanding Issue < 4 Weeks Old
- Denotes Outstanding Issue Greater Than 4 Weeks Old

VE SCOPE CLARIFICATIONS
 REQUIRED TO COMPLETE
 INSTRUCTED CHANGES
 DCR002A
 DCR002B
 DCR002C

DCR005 - SCOPE REQUIRED
 FROM BSC TO ALLOW SDS TO
 PROVIDE REQUESTED ESTIMATE

DCR012 - CHANGE
 ORDER REQUIRED OR
 CONFIRMATION THAT
 CHANGE IS NOT
 REQUIRED

DCR015 - CHANGE
 ORDER REQUIRED

DCR011 - CHANGE
 ORDER REQUIRED

DCR002A - FINAL SCOPE FOR
 GOGAR INTERCHANGE TO BE
 INSTRUCTED

DCR0023 - FOOTWAY AT DEPOT
 ACCESS BRIDGE - BSC TO ISSUE
 CHANGE NOTICE

DCR001 - FUTURE PROOFING FOR
 EXPANSION OF DEPOT CHANGE
 ORDER REQUIRED

DCR002 - CHANGE
 ORDER REQUIRED

DCR002 - RE-DESIGN OF RBS
 STOP CHANGE ORDER REQUIRED

DCR010 - AS-BUILT
 INFORMATION REQUIRED

DCR0226 - GLE BASE
 SPECIAL - BSC TO
 SEND CHANGE NOTICE

DESIGN FREEZE OF BAA
 ISSUES REQUIRED

SEC ROADS TAA CLOSEOUT
 FOR 7A REQUIRED

NO.	DESCRIPTION	DATE	STATUS
1	DCR001	23/06/23	Open
2	DCR002	23/06/23	Open
3	DCR003	23/06/23	Open
4	DCR004	23/06/23	Open
5	DCR005	23/06/23	Open
6	DCR006	23/06/23	Open
7	DCR007	23/06/23	Open
8	DCR008	23/06/23	Open
9	DCR009	23/06/23	Open
10	DCR010	23/06/23	Open
11	DCR011	23/06/23	Open
12	DCR012	23/06/23	Open
13	DCR013	23/06/23	Open
14	DCR014	23/06/23	Open
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24	DCR024	23/06/23	Open
25	DCR025	23/06/23	Open
26	DCR026	23/06/23	Open
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31	DCR031	23/06/23	Open
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46	DCR046	23/06/23	Open
47	DCR047	23/06/23	Open
48	DCR048	23/06/23	Open
49	DCR049	23/06/23	Open
50	DCR050	23/06/23	Open

For Information Only

EDINBURGH TRAM NETWORK

PR PARTNERS DRÄWER & SMITZ

SYSTEM WIDE
 LINE 2
 POST - NOVATION
 PROJECT ISSUES

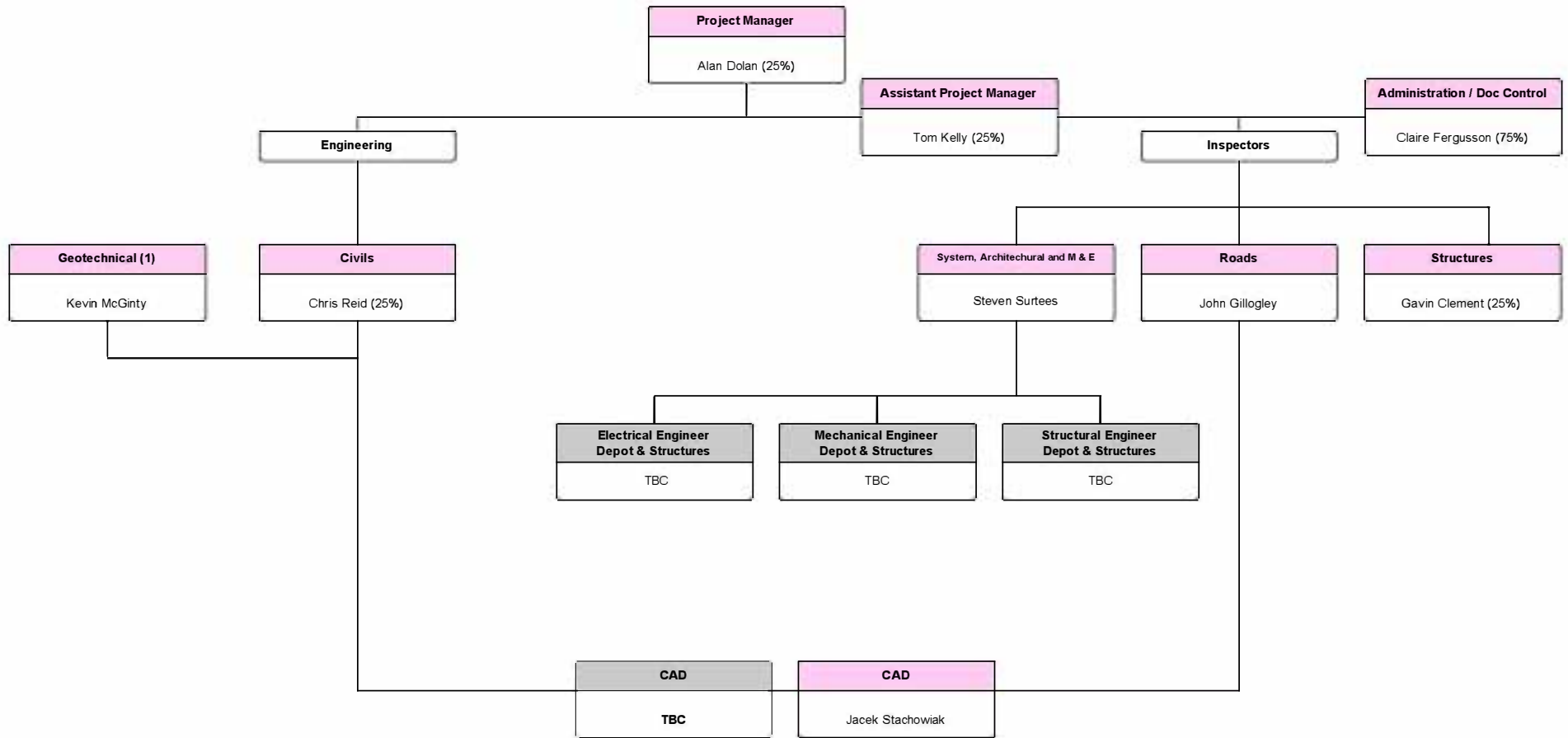
NO.	DESCRIPTION	DATE	STATUS
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3	DCR003	23/06/23	Open
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5	DCR005	23/06/23	Open
6	DCR006	23/06/23	Open
7	DCR007	23/06/23	Open
8	DCR008	23/06/23	Open
9	DCR009	23/06/23	Open
10	DCR010	23/06/23	Open
11	DCR011	23/06/23	Open
12	DCR012	23/06/23	Open
13	DCR013	23/06/23	Open
14	DCR014	23/06/23	Open
15	DCR015	23/06/23	Open
16	DCR016	23/06/23	Open
17	DCR017	23/06/23	Open
18	DCR018	23/06/23	Open
19	DCR019	23/06/23	Open
20	DCR020	23/06/23	Open
21	DCR021	23/06/23	Open
22	DCR022	23/06/23	Open
23	DCR023	23/06/23	Open
24	DCR024	23/06/23	Open
25	DCR025	23/06/23	Open
26	DCR026	23/06/23	Open
27	DCR027	23/06/23	Open
28	DCR028	23/06/23	Open
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46	DCR046	23/06/23	Open
47	DCR047	23/06/23	Open
48	DCR048	23/06/23	Open
49	DCR049	23/06/23	Open
50	DCR050	23/06/23	Open

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**APPENDIX C – ADDITIONAL DESIGN AND CONSTRUCTION SUPPORT
ORGANISATIONAL CHARTS (PERIOD 23 FORECAST)**

Extended Construction Support Services - For The Period 06/12/09 to 30/01/10



Design Support Services - For The Period 06/12/09 to 30/01/10

