

Bilfinger Berger – Siemens – CAF Consortium

**EDINBURGH TRAM NETWORK
INFRACO CONTRACT**

**PERIOD REPORT No 2-2
TO 23 MAY 2009**

CONTENTS

1	Executive Summary
2	HSQE Management
2.1	Health & Safety
2.2	Environment
2.3	KPIs
2.4	Quality
3	Programme
3.1	Programme
3.2	Look Ahead Programme
3.3	Design & Consents Programme Status
3.4	Tramco Programme Status
4	Progress
4.1	Civil & Building Works
4.2	E&M Systems
4.3	Trams
4.4	Systems Integration
4.5	Testing, Commissioning and Start-up
5	Not Used
6	Stakeholder and Third Party Issues
7	Commercial
7.1	Milestones
7.2	Change Management
8	Resources
8.1	Organisation Charts
9	Other Issues
10	Appendices
10.1	KPI Report
10.2	Programme Update
10.3	Look-Ahead Programme
10.4	Tram Programme
10.5	RFI Register
10.6	Civil Works Procurement Report
10.7	Change Register
10.8	Organisation Charts
10.9	Production of Design – Not Included
10.10	Design Issues and Concerns

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1 EXECUTIVE SUMMARY

56,000 hours were worked in period 2-2, of which 27,000 were site hours with one reportable accident.

The basis for progress measurement in this report is the Programme Rev. 1 showing the agreed mitigated impact of the initial design slippage as 38 days (7 weeks 3 days) on the end date. The incorporation of design information from the current design issue programme, actual progress on site and known access dates after MUDFA completion improved the original programme completion date to 12 August 2012.

Work is in progress to produce revised road, trackform and OLE designs, incorporating Infraco proposals.

System engineering design is finalised for OLE and traction power and approaching finalisation for track, Depot equipment, signalling and other disciplines.

Tram manufacturing is progressing well.

Virtually all construction works are impacted by external issues which require resolution through the change process of the contract. Meetings of Principals representing *tie* and the BSC partners and follow-on discussions have continued.

2 HSQE

2.1 Health & Safety

2.1.1 Safety Management including CDM.

The Network Rail Construction Phase Health & Safety Plan Rev 3 has been reviewed internally within BSC and will be issued by end of reporting period 2-2.

2.1.2 Accidents, Incidents and Near Misses/Unsafe Conditions:

Period 2-1 to 2-2 records up to the 8 May 2009

No reportable accidents recorded up to the date above.

5 Near Misses/Unsafe Conditions recorded by Infraco:

- BSC noticed that a road rail vehicle parked near Jenners Depository at Balgreen Road had been vandalised on 8 April 2009.
- Contractor working at Murrayfield on the 5 April 2009 out with CoCP relaxation.

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- 2 reports for mock up tram on various issues, such as PPE and traffic management 19 April 2009.
- CEC recorded carriageway collapse due to ongoing watermain leak.

5 Infraco Near Misses/Unsafe Conditions Recorded in the Period:

- Gates left open at Stenhouse Drive on 8 April 2009.
- Verity House access road mini excavator lifting manhole section with chains wrapped round bucket, reported on 10 April 2009.
- Balfour Beatty rail gained access to site without the knowledge of BSC on 16 April 2009
- 2 fences blown over at Prince Street. on the evening of 7 April 2009.

4 Incidents Recorded:

- Princes Street service damage on a cable by a mini excavator with breaker. Reported on 12 March 2009.
- Frederick Street service damage to a cable with a floor saw on 8 April 2009 – Scottish Power called to site to isolate a lighting cable.
- Princes Street service damage during excavation of a duct box on 29 April 2009.
- Princes Street service damage when removing bus shelters on 7 May 2009.

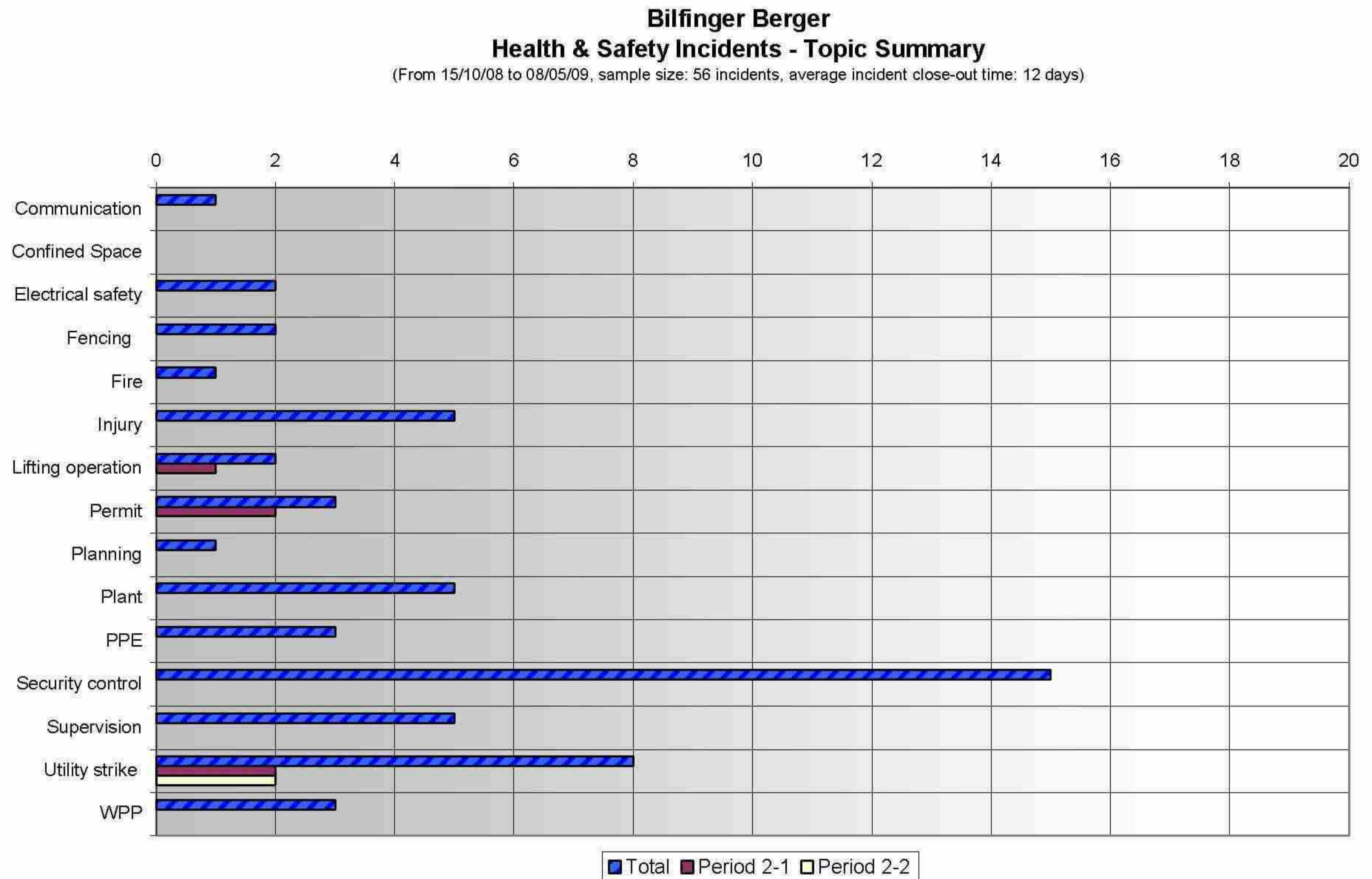
The AFR for period 2-1 is 0.23.

Total Hours worked in Period 2-1:

Total:	55,807
Non site hours =	28,990
Site Hours =	26,817

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2.1.3 Rolling Trend Analysis up to period 2-1 on safety related activities.



2.2 Environment

2.2.1 Construction Environmental Management Plan under review by an external provider to incorporate the Site Specific Environmental Management Plan, Waste Management Plan and the Environmental Mitigation and Management Plan.

2.2.1 No environmental issues raised in the period.

2.3 KPI

KPI spreadsheet for Period 2-1 is attached at Appendix 1.

2.4 Quality

2.4.1 Quality Management System

The 'BSC Document Deliverables Tracking Register (Submittal Programme)' was submitted to *tie* on 5 May 2009.

11 No ITPs were submitted to *tie* on 22 April 2009 for acceptance.

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BSC have identified the need to develop a Project Specific Procedure for the use of BIW – especially in relation to searching for documents.

A newly employed Senior QA/QC Engineer started with Bilfinger Berger on 5 May 2009. Mr Arran Haynes will be the eyes and ears of quality around the worksites in a monitoring and reporting role, but also providing advise and help on quality and environmental (on a part-time basis) matters to Bilfinger Berger and sub-contractor staff.

2.4.2 NCRs

At 8 May 2009 there are currently 16 ‘open’ ‘quality’ NCRs from a total of 33 raised to date – 2 having been cancelled and the remainder having been closed-out. 15 of the currently ‘open’ ‘quality’ NCRs are ‘overdue’. 6 NCRs were raised during the last period.

NCRs are now individually classified with 18 choices of classifications which shall now be exported from BIW and trending report information made available to *tie* upon request. BSC now believe there is enough data collated to begin such a process.

2.4.3 Audits

A ‘BSC Internal ‘Document Control’ Audit was carried out on the 29 April 2009 which resulted in 5 Improvement Proposals in the form of Observations being raised.

A ‘BSC Internal ‘Construction Activities’ Audit is scheduled for late May 2009.

2.5 Other Business

- 2.5.1 Occupational Health meetings and arrangements are ongoing with meeting being held on 25 May 2009 with Contractors, as to their progression with their systems and procedures and the commitment to the project.
- 2.5.2 Meeting with the HSE on 24 April 2009 at CityPoint was well received and further arrangements to be organised for a site visit.

3. PROGRAMME

3.1. Programme

The programme is attached at Appendix 10.2 of this report has the V31 mitigation programme incorporated. This programme has been accepted by *tie* in accordance with Clause 60.4 as the “Programme” (Rev 1)) and is used as a baseline for reporting progress.

Progress achieved up to 15 May 2009 has then been recorded against the above baseline including inputting the latest IFC dates received from SDS

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(V44). Where the V44 IFC dates are forecast to be after the data date of the V44 programme (06 April 2009) but before the data date of this programme (15 May 2009) and the drawings have not been received the date is defaulting to the 15 May 2009.

No IFC date has been received for the redesign of South Gyle Access Bridge (again showing 15 May 2009).

We have recently received revision 8.0 of the MUDFA programme which is currently been considered. However, this report still uses the information from revision 7.9. The Programme identifies completion of MUDFA works in each Intermediate Section and uses this date as a start milestone for the INFRACO work. Dates have been extracted from MUDFA revision 7.9 to update the Programme using the same logic. However, in a number of areas the works have not been completed in line with revision 7.9 and this update of the Programme is showing the finish of these works defaulting on the 15 May 2009.

It should be recognised that the Programme has only been updated were noted in this report and does not include for all changes that we are aware of or have been notified to date e.g. dealing with abandoned services, misalignment issues etc.

The result is the following changes to Section Completion Dates:

	15 May 2009 Update	17 April 2009	Programme
A	31 March 2011	13 June 2011	01 June 2010
B	09 June 2011	18 August 2011	01 July 2010
C	14 February 2012	17 April 2012	10 March 2011
D	12 August 2012	14 October 2012	06 September 2011

Higher than planned production rates are currently being achieved for the excavation and disposal of earthworks at the Depot. This has resulted in an improvement to the forecast section completion dates as shown above.

Despite the above mentioned improvement the critical path still runs through; depot earthworks; depot track work; track work in area 5C and 7A; track work in York Place and Picardy Place; OHLE in areas 1D, 1A, 5A and 1A as noted in the last report.

At a number of locations the construction sequence has been changed, from that originally considered, to suit current constraints. Presently the logic of the Programme remains unaltered from that envisaged at Contract Award. Therefore some minor inaccuracies occur when “progress to date” has been entered into the Programme.

Note – the links between the third party consents and the related activities present in the Programme have been deleted to enable a true analysis to be provided of the current situation.

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3.2 Look Ahead Programme

The current construction programme updated with the latest IFC dates from the SDS V44 Programme. MUDFA activities are now being scheduled in accordance with their programme Rev.08 received 05 May 08. Where MUDFA Works are ongoing, the Completion Milestones will continue to default to the report date unless planned completion dates are later. The programme has also been updated with progress of The Works recorded to 15 May 2009.

Section 1A

This section is currently being re-scheduled to suit design change, timing of MUDFA diversion works, and revised Traffic Management.

Leith Walk (Section 1B)

A revised Traffic Management Scheme is currently under review by the TMRP. An initial programme appraisal indicates a reduction in the period of disruption on Leith Walk. These works are planned to commence in September 2009 after MUDFA planned completion.

Princes Street

The Princes Street detailed construction programme has been updated to Revision C to reflect the revised MUDFA Completion Dates for the Lothian Road, The Mound, and South St Andrew Street junctions in accordance with tie e-mails of 16, 21 and 22 April 2009.

The Tram Display was removed from Princes Street on 26 April 2009. Ongoing occupation of the site by MUDFA has resulted in East Section Activities achieving approx 70 % of the required scope at this stage. The works are estimated to be 1wk behind the Rev.C detailed construction programme at this time giving completion 33 weeks behind the Programme Rev.1.

The Princes Street detailed construction programme has been updated to a Draft Revision D which was issued to tie on 11 May 2009 for discussion. The revision is planned with the removal of the August Embargo and increased outputs in an attempt to achieve the desired completion before the Christmas Festival on 3 December 2009. A further revision is being undertaken to determine a realistic completion date.

Haymarket Junction to Shandwick Place

INFRACO Works on Haymarket Junction were originally planned to commence on 5 January 2009. Ongoing Utility Works currently delay the commencement of this section. A draft detailed construction programme for work at Haymarket Junction from the viaduct through Shandwick Place to

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Lothian Road tie-in is in place and this programme will be updated to reflect the MUDFA Rev. 8 programme.

A revised Traffic Management proposal for this section is under review. Should the proposal pass initial feasibility studies, it will be included in the plan which is currently expected to commence July 2009 following completion of MUDFA operations.

These works, as planned using the above dates, are 21 weeks behind Programme Rev.1.

Picardy Place to Princes Street

A detailed construction schedule is being developed for this section.

3.3 Design and Consents Programme Status

Programme (Rev 1) has been issued by BSC to take account of the 7 weeks 3 day extension of time awarded by *tie*.

The combined effect of post V31 design programme slippages, late site possession due to the presence of MUDFA, the transfer of MUDFA scope to Infraco, dealing with abandoned services, notified variation and alignments issues are currently being considered in a sequential manner by BSC.

Planners from *tie* and BSC have jointly prepared first draft delay schedules for the above classes of delay measured at month end time slices of July, September and December 2008. This analysis has been placed on hold by agreement between *tie* and BSC.

An EOT entitlement programme is being prepared for submission to tie. Concurrently, a separate revised programme (Rev 2) is being prepared for submission to tie following the submission of the EOT entitlement programme.

3.4 Tramco Programme Status

Updated tram design, procurement, manufacturing, delivery and commissioning programme is attached as Appendix 10.4.

4 PROGRESS

Programme update attached as Appendix 10.2.

4.1.1 Civil & Building Design

4.1.1.1 Production IFC Design

In Progress Report 2.1 BSC reported on submitted IFC drawings rather than design packages which was reported on in previous reports.

As this did not find *tie* approval we have reverted back to reporting on design package submissions.

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The following submissions are with City of Edinburgh Council for Planning and Prior Approval:

- Cathedral Lane Toilet Block
- Ocean Terminal Bypass Road
- West Pilton Tramstop
- JB McLean
- Murrayfield Tramstop and Retaining Wall

The remaining Applications to be submitted for approval are:

- Murrayfield Accomodation Works
- Roseburn Street Viaduct
- Gogarburn Tramstop

The following submissions are with City of Edinburgh Council for Technical Approval:

- 1A Roads
- 1C Roads
- Section 3 Roads and Drainage
- Murrayfield Retaining Wall Redesign
- Balgreen Road NWR Access Bridge
- Section 6 Roads

Out of a total of 122 Technical Approval Packages 102 have been approved, 17 packages are with CEC for approval and 3 are being prepared.

BSC will internally maintain to report progress on received IFC drawings rather than design packages.

Following a review of the section design, it is proposed to reduce the number of development workshops to identify misalignments. These are as detailed below:

- Trackform (close out)
- Substations
- Cable ducts and Draw pits
- Power Supply
- Earthing and Bonding
- Depot
- Point and Switch Heating
- Tramstops

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4.1.1.2 Approvals & Consents

Business Stream (BS) and Scottish Water (SW) have now provided formal approval for all sections submitted to date (1A1, 1A2, 1A4, 1B, 1C3, 1D, 5A, 5B, 5C and 6). Sections 1A3, 1C1 and 1C2 are still to be submitted and are subject to change issues being resolved prior to finalisation and submission to BS and SW for approval.

A flow chart process with SW is being finalised to detail how any approvals of design changes and submission of method statements for review prior to issue of construction permits will be managed between BSC and SW. SW are to provide draft flow chart on 15 May 2009.

Balgreen Road NWR Access Bridge (Section 5A) has been submitted to CEC for Technical Approval. IFC drawings are on target to be issued on 15 May 2009.

The Roads Packages for Sections 1C2 and 6A are with CEC for approval. They are reviewing these packages based on the prioritisation list which was provided to CEC on 10 April 2009.

Section 1A3 Roads Package is outstanding and dependant on clarification from CEC/Forth Ports. A further Design Change Instruction in regard to Road 8 has been issued from *tie* and change estimate to be issued by 15 May 2009. Design is currently on hold to avoid any further abortive work. Design time is approximately two weeks. Section A3 could be submitted to CEC before end of May 2009 if instruction is issued by 18 May 2009.

The Road Design for Sections 1A1, 1A2, 1A4, 1B, 1C1, 1C3, 1D, 2A, 5A, 5B, 5C and 7A are approved with comments by CEC. Responses to comments have been agreed and submitted.

Roads Close out Reports for 1A1, 1A2, 1A4 1B, 1D, 1C1, 1C3, 2A, 5A, 5B, 5C and 7A have been submitted to CEC. The Closeout Reports for 1B, 1C3 and 1D have been signed off by CEC.

4.1.1.3 Issues and Concerns

A fortnightly Design Change Issues Meeting between BSC, SDS and *tie* has been set up to work through and seek resolution to Design Change Issues and has included the following key issues:

- TAL 505 instruction received from *tie*. Modelling work is now progressing and will feed into Main Traffic Model Iteration for CEC review.
- New Ingliston Limited (NIL); BSC has provided supplemental estimate based on new scope of work. BSC are awaiting *tie* instruction.
- CEC preference for Demarcation between Tramway and Roadway; Demarcation solution accepted by SDS. Commercial issue to be resolved between *tie* and BSC (SDS). SDS has provided additional information to support their argument. BSC are awaiting *tie* response.

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- CEC Transport request for relocation of OLE poles is deemed to be a genuine change. SDS has provided additional information to support this argument. *tie* to set up meeting to discuss and resolve this issue with CEC.
- Environmentally Friendly Bat Lighting – SDS has confirmed Bat Survey carried out in line with relevant standards and no bats are present within this area. *tie* to review with CEC. BSC awaiting *tie* response. This has a potential impact on the lighting design for all of Line 2.
- Picardy Place (Section 1C2) – Clarification provided by *tie*. SDS preparing change estimate. It is noted CEC are reviewing existing design for this area at present.
- Resolution of Forth Ports (Road 8) in Section 1A3 as detailed above. SDS preparing change estimate.

The following other issues need to be resolved as a matter of urgency:

- Resolution and finalisation of Forth Ports Agreement. Further changes have been intimated by *tie* which could further delay finalisation of Section 1A3.
- Transdev comments received late and need *tie* instruction.
- TRO Programme – meeting required urgently to move this issue forward.
- RBS Gogarburn Tram Stop – Agreement between *tie* and RBS is required in order to complete the Gogarburn Tram Stop design.
- West End Tram Stop Review – *tie* to authorise change estimate.
- Section 7A – Airport Changes – awaiting tie instruction for INTC 275 and 277.

4.1.1.4 Extended Construction Support and Design Support

The proposed organisational chart for the upcoming month is currently under review and will be issued separately prior to the progress meeting for approval

4.1.1.5 Request for Information

BSC and *tie* met on 29 April 2009 to discuss and close out open RFIs.

On status date 11May 2009 – RFI summarise as follows:

RFIs open:	50 overall
RFIs open and unanswered:	26 overall
RFIs open and need further clarification:	24 overall
RFIs issued in April 2009:	15
RFIs responded in April 2009:	12
RFIs closed in April 2009:	4

We propose to continue RFI meetings between *tie* and BSC to close out open RFIs on a regular base.

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4.1.2 Procurement

4.1.2.1 Sub-Contractors

A Sub-Contract Procurement Schedule, showing status at 12 May 2009, is attached as Appendix 10.6.

Section 1A

Section 1A has now been split into three areas, Newhaven to Ocean Terminal (1A1), Ocean Terminal to Port of Leith (1A2) and Port of Leith to Foot of the Walk (1A3).

Final negotiations continue however uncertainty over programme, service diversions and design is hindering progress.

BSC intend to extend Crummock's involvement down from Foot of the Walk to Port of Leith (1A3).

Section 1B

BSC have concluded our procurement process for Section 1B.

Section 1C

Crummock have submitted their price for 1C1 (MacDonald Road - London Road) and BSC are currently reviewing this. BSC's ability to conclude discussions with Crummock are restricted by the uncertainty over programme and access.

BSC are concluding terms and conditions with Mackenzie Construction Ltd over section 1C3 (Castle Street - Waverley Bridge).

It is our current intention to self deliver the remaining works in Section 1C2 (London Road – Waverley Bridge) and a final strategy for carrying out the works is still to be agreed. This work is now not expected to start until January 2010 and a procurement process will commence late spring 2009.

Section 1D

Final negotiations are proceeding with MacKenzie to conclude a Sub-Contractor order.

Section 2A and 5A (Part)

Final negotiations are proceeding to conclude a Sub-Contractor order.

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Section 5A (Part), 5B and 5C (Part)

Dunne, Expanded and Farrans have provided competitive lump sum fixed price quotations for the balance of the structures. Discussions continue over programme and placing a subcontract.

Package quotations for the balance of the civils works in Section 5 have been received and are currently under review; however BSC's ability to review these prices is affected by the uncertainty over programme and access.

Section 6

BSC are finalising the terms and conditions of the full Sub-Contractor order for Barr Ltd for the construction of the depot.

In the meantime Barr Ltd has been issued with a Limited Instruction to Proceed to progress any area of the depot where it is possible to do so.

Section 7A

Final negotiations with Farrans on the terms and conditions of a Sub-Contract order have been concluded.

Outstanding issues in respect of the EAL Collateral Warranties prevent BSC from concluding Farrans Sub-Contract.

General

Procurement of relevant key Sub-Contractors (Major Civil Works Contractors, Piling Contractors, Ground Stabilisation Specialists) includes the requirement for provision of a Collateral Warranty, in accordance with Clause 28.7 of the Contract.

BSC may need to offer *tie*, in some instances, alternative wording for their agreement, as BSC have not as yet been able to conclude our negotiations with potential Sub-Contractors using the template in Schedule 8 Part F.

The length of time it has taken to either procure, negotiate and conclude any Sub-Contract has been affected by the complexity of the main contract negotiations and how BSC and *tie* require step down into the subcontract, the necessity to operate a complex milestone schedule which can be adversely affected by progress and change on site and the overall uncertainty on programme.

4.1.3 Materials

No comment.

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4.1.4 Long Lead Procurement Management

A Letter of Intent was issued to Fairfield Mabey to secure delivery of the beams for the Water of Leith Bridge.

BSC are currently sourcing prices for the beams and bearings for Tower Dock Bridge to maintain programme. These materials relate to section 1A2.

4.1.5 Construction

4.1.5.1 Progress on site, to 15 May 2009

Reported against Programme (Rev 1)

**Progress on site to 15 May 2009
Reported against Programme (Rev 1)
Duration % Complete**

1A	29%	0%	07/03/2011	24/01/2012
1B	34%	3%	05/11/2010	12/10/2011
1C	25%	1%	11/03/2011	14/02/2012
1D	36%	2%	17/09/2010	20/07/2011
2A	54%	8%	03/03/2010	10/02/2011
5A	35%	0%	20/12/2010	27/10/2011
5B	42%	10%	31/08/2010	10/08/2011
5C	39%	1%	20/09/2010	25/08/2011
6	44%	1%	01/06/2010	31/03/2011
7	44%	10%	05/10/2010	14/09/2011
Construction	38%	4%	Section C 10/03/2011	Section C 14/02/2012
			Section D 06/09/2011	Section D 12/08/2012

4.1.5.2 Section 1A Newhaven Road to Foot of the Walk

No activities carried out during period, section progress remains at 0%.

Currently 28.5 weeks behind Programme (Rev 1).

4.1.5.3 Section 1B Foot of Leith to McDonald Road

Section progress remains at 3%.

No activities carried out during period.

Currently 39 weeks behind Programme (Rev 1).

4.1.5.4 Section 1C McDonald Road to Princes Street West

Section progress now at 3%.

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No activities carried out during period.

Construction activities currently 28.5 weeks behind Programme (Rev 1).

4.1.5.5 Section 1C/1D Princes Street to Haymarket

Section progress now at 4%.

Princes Street - Waverly Bridge to Mound

Site clearance has activities have now been substantially completed. Planning of carriageway and breaking out of concrete to track box has been completed. Duct and drainage installation has commenced.

Princes Street – Mound to South Charlotte Street

Duct & drainage activities have commenced. OLE foundation construction is scheduled to commence on 12 May 2009.

Testing of track box formation has been completed.

Construction activities are currently 1 week behind Programme (Rev 1).

Haymarket Ch1250 -1125

No activities carried out during period.

Construction activities 17 weeks behind Programme (Rev 1).

4.1.5.6 Section 2A Haymarket to Roseburn Junction

Section progress remains at 8%.

Haymarket Station Viaduct

No activities carried out during period.

Currently 33 weeks behind Programme (Rev 1).

Verity House Access Road

Carriageway construction has continued during the period with completion scheduled for 15 May 2009.

Haymarket – Roseburn Trackwork

No activities carried out during period.

Construction activities currently 37 weeks behind Programme (Rev 1).

4.1.5.7 Section 5A Roseburn Junction to Balgreen Road

Section progress remains at 0%.

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Russell Road Bridge

No activities carried out during period.

Currently 47 weeks behind Programme (Rev 1).

Russell Road Retaining Walls W3 & W4

No activities carried out during period.

Currently 26 weeks behind Programme (Rev 1).

Murrayfield Tram Stop Retaining Wall

No activities carried out during period.

Currently 40 weeks behind Programme (Rev 1).

Roseburn Street Viaduct

No activities carried out during period.

Murrayfield Retaining Wall

No activities carried out during period.

Currently 38 weeks behind Programme (Rev 1).

Murrayfield Stadium Underpass

No activities carried out during period.

Currently 38 weeks behind Programme (Rev 1).

Murrayfield Retaining Walls 21D

No activities carried out during period.

Currently 15 weeks behind Programme (Rev 1).

Water of Leith Bridge

No activities carried out during period.

Currently 32 weeks ahead of Programme (Rev 1).

Baird Drive Retaining Wall

No activities carried out during period.

Currently 37 weeks behind Programme (Rev 1).

4.1.5.8 Section 5B Balgreen Road to Edinburgh Park Central

Section progress now at 11%.

Carrick Knowe Bridge

No activities carried out during period

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Currently 33 weeks behind Programme (Rev 1).

Trackwork Balgreen Road – Saughton Road
Currently 38 weeks behind Programme (Rev 1).

Bankhead Retaining Wall
No activities carried out during period.

Currently 47 weeks behind Programme (Rev 1).

South Gyle Access Bridge
No activities carried out during period.

47 weeks behind Programme (Rev 1).

Track work Saughton Road North – Bankhead
GI in area of guided busway has been completed during the period.

Currently 28 weeks behind Programme (Rev 1).

Track Work Bankhead – Edinburgh Park Station
No activities carried out during period.

Currently 43 weeks behind Programme (Rev 1).

Track Work Edinburgh Park Station – Edinburgh Park Central
No activities carried out during period.

Currently 38 weeks behind Programme (Rev 1)

Edinburgh Park Station Bridge
Construction of sub-structure has continued.

PC Beams to span five and three have been erected during the period.
Diaphragm and deck falsework erection has commenced.

Currently 22 weeks behind Programme (Rev 1).

4.1.5.9 Section 5C Edinburgh Park Central to Gogarburn

Section progress remains at 1%.

Track Work Edinburgh Park Central – Gyle Centre
No activities carried out during period.

Currently 37 weeks behind Programme (Rev 1).

Gyle Tram Stop Retaining Wall
No activities carried out during period.

Currently 48.5 weeks behind Programme (Rev 1)

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A8 Underpass

Currently 26 weeks behind Programme (Rev 1).

Design of revised temporary works has commenced.

Track Work Depot Stop – Gogarburn

No activities carried out during period.

Currently 27 weeks behind Programme (Rev 1).

4.1.5.10 Section 6A Depot

Section progress now at 4%.

Bulk excavation to Depot has continued.

Currently 38 weeks behind Programme (Rev 1).

4.3.5.11 Section 7A Gogarburn to Edinburgh Airport

Section progress remains 10%.

Gogarburn Culvert No 1

Precasting of Culvert units has been completed.

Currently 21 weeks behind Programme (Rev 1).

Gogarburn Culvert No 2

Excavation has been completed and PC units placed. Backfill to structure has continued. River training works have commenced.

Currently 22 weeks behind Programme (Rev 1).

Gogarburn Culvert No 3

Precasting of Culvert units has been completed.

Currently 22 weeks behind Programme (Rev 1).

Issues and Concerns

Section 1A

Newhaven Road to Ocean Terminal

Lindsay Road Retaining Wall - Change from BDDI to IFC has not been agreed. MUDFA have not commenced diversion of existing Public Utilities.

Existing Public Utilities within re alignment of Lindsay Road have yet to be diverted.

Ocean Terminal to Port of Leith

Tower Place Bridge - Change from BDDI to IFC are yet to be agreed. MUDFA diversion works have not commenced.

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Victoria Dock Bridge - Change from BDDI to IFC are yet to be agreed.

Port of Leith to Bernard Street

MUDFA service diversions are incomplete.

Bernard Street to Foot of the Walk

MUDFA/Archaeological works are incomplete.

Trackworks - Change from BDDI to IFC are yet to be agreed.

Roadworks - Change from BDDI to IFC are yet to be agreed.

Section 1B

Foot of the Walk to Balfour Street

MUDFA works are incomplete.

Trackworks - Change from BDDI to IFC are yet to be agreed.

Roadworks - Change from BDDI to IFC are yet to be agreed.

Balfour Street to McDonald Road

MUDFA works are incomplete.

Trackworks - Change from BDDI to IFC are yet to be agreed.

Roadworks - Change from BDDI to IFC are yet to be agreed.

Section 1C

McDonald Road to Picardy Place

MUDFA works are incomplete.

Trackworks - Change from BDDI to IFC are yet to be agreed.

Roadworks - Change from BDDI to IFC are yet to be agreed.

Picardy Place to St Andrew Square

MUDFA works are incomplete.

No IFC Design.

Trackworks - Change from BDDI to IFC are yet to be agreed.

Roadworks - Change from BDDI to IFC are yet to be agreed.

St Andrew Square to Princes Street West

MUDFA works are incomplete.

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Section 1D

Princes Street West to Shandwick Place

MUDFA works incomplete at Mound.

MUDFA works incomplete at Lothian Road.

Shandwick Place to Haymarket

MUDFA works incomplete at Haymarket.

Trackworks - changes from BDDI to IFC are yet to be agreed.

Roadworks - changes from BDDI to IFC are yet to be agreed.

Section 2A

Verity House Access Road – quality issues with regard to bollards/surfacing require close out.

Changes from BDDI to IFC are yet to be agreed.

Haymarket Viaduct - changes from BDDI to IFC are yet to be agreed.

Trackworks - changes from BDDI to IFC are yet to be agreed.

Roadworks - changes from BDDI to IFC are yet to be agreed.

Section 5A

Russell Road Bridge – changes from BDDI to IFC are yet to be agreed.

Russell Road Retaining Walls - changes from BDDI to IFC are yet to be agreed .

W3 has yet to be re-designed.

Temporary and permanent diversion of existing services in entrance to depot has not been completed.

HV cables entering depot from side of indoor bowling alley have not been decommissioned because new cable installed by First Scotrail has a fault.

Japanese Knotweed cannot be confirmed as dead.

No plans have been made to divert depot private utilities including fibre optic and comms cables.

Continued slippage of Rainsway contract in depot now puts completion at June 2009.

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Murrayfield Tram Stop Retaining Wall – redesign awaited - changes from BDDI to IFC are yet to be agreed.

Roseburn St Viaduct – redesign awaited.

Murrayfield Underpass - changes from BDDI to IFC are yet to be agreed.

Murrayfield Training Pitches Retaining Walls - changes from BDDI to IFC are yet to be agreed.

Awaiting SRU accommodation works instruction.

Water of Leith Bridge - changes from BDDI to IFC are yet to be agreed.
Awaiting redesign of Pier substructure.

Baird Drive Retaining Wall - changes from BDDI to IFC are yet to be agreed.

Balgreen Tram Bridge - changes from BDDI to IFC are yet to be agreed.
Awaiting redesign.

Balgreen Access Bridge - changes from BDDI to IFC are yet to be agreed.

Section 5B

Balgreen Retaining Wall - changes from BDDI to IFC are yet to be agreed.

Trackworks - Change from BDDI to IFC are yet to be be agreed

No IFC information on guided bus way.

Carrick Knowe Bridge - changes from BDDI to IFC are yet to be agreed.

South Gyle Access Bridge - Changes from BDDI to IFC are yet to be agreed.
Awaiting redesign.

Edinburgh Park Bridge - changes from BDDI to IFC are yet to be agreed.

Resequence of superstructure activities required to mitigate delayed beam erection.

Trackwork Edinburgh Park to Edinburgh Central – changes from BDDI to IFC are yet to be agreed.

Section 5C

Edinburgh Central to Gyle Centre – diversion of existing services – changes from BDDI to IFC are yet to be agreed.

Gyle Centre Tram Stop – changes from BDDI to IFC are yet to be agreed.

A8 Underpass - changes from BDDI to IFC are yet to be agreed.

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Construction sequence has been revised to reduce overall construction Period.

Depot Access Bridge - changes from BDDI to IFC are yet to be agreed.

No drainage consents received from Scottish Water – SDS unable to complete design.

MUDFA works incomplete.

Public utilities and other existing services have not been diverted.

Trackwork Edinburgh Central to Gogar Tramstop – changes from BDDI to IFC are yet to be agreed.

Section 6

Structural steel, foundation & drainage changes from BDDI to IFC have not been agreed.

Section 7

Gogarburn Bridge - changes from BDDI to IFC are yet to be agreed.

Culverts - changes from BDDI to IFC are yet to be agreed.

Trackwork - changes from BDDI to IFC are yet to be agreed.

4.2 E&M SYSTEMS

4.2.1 OLE (Overhead Line Equipment)

Design

Number of packages submitted in total: 9

General review comments received from *tie*: 9 (“Level B – proceed subject to comments”)

BSC replied: 2

Resubmission for final close out: 2

Further test planning is currently under preparation.

Approvals and Consents

No specific review comments have been received from *tie* with respect to location of poles with specified timescales.

An update of the concept of combined OCL poles has been presented to *tie* an updated version for CEC has been re-issued to *tie*.

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Presentation to outside bodies in support of planning consents set for 12 May 2009 (Edinburgh Park) and 13 May 2009 (CEC and third parties).

Issues and Concerns

Clarification on approach to letting of long lead material and installation sub-contracts in light of delays to preceding site works.

Production

Subcontractors for materials supply have been defined. Installation subcontractors have been shortlisted.

See issues and concerns.

4.2.2 TPS (Traction Power Supply)

Design

Number of packages submitted in total: 11 (4 basic + 7 detailed design)
Review comments received from *tie*: 11 (1 Level A “no objection” + 10 Level B “proceed subject to comments”)
BSC replied: 11
Resubmission for final close out: N/A

Last remaining detail design document (11kV switchgear) is short before being finalized and will be submitted shortly.

FAT procedures submitted: 6
Review comments received from *tie*: 6 (4 Level A “no objection” + 2 Level B “proceed subject to comments”)
BSC replied: 2 (rest was accepted with Level A)

Last remaining FAT procedure (“11kV switchgear”) is short before being finalized and will be submitted shortly.

Further test planning is currently under preparation.

Approvals and Consents

No current issues.

Issues and Concerns

Clarifications regarding Employers’ Requirements wording conflicts formal response received from *tie* which appears defensive and does not resolve issues. The aim was to provide a mutually beneficial solution not to place blame or elicit accusations. For what ever reason the signed agreement has contradictions that require resolution a more constructive approach would be appreciated and considered to be mutually beneficial. This simple issue has

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now been unresolved 6 months after the initial proposal. This applies for 2 separate derogation proposal forms addressing REL issues.

Clarification on approach to letting of long lead material and installation sub-contracts in light of delays to preceding site works.

Production

Transformers, AC- & DC-switchgear have been ordered. Cables are to be ordered next. Installation subcontractors have been shortlisted.

See issues and concerns regarding material and production.

4.2.3 TRW (Trackwork)

Design

- Basis of Design Report Trackwork is re-submitted.
- Basic Design Rheda City C is re-submitted.
- Basic Design Switches and Crossings is submitted.

Approvals and Consents

- Basic Design Longitudinal Calculations, Expansion Joints and Rail Stressing is not accepted.
- Basic Design Document Transition to Ballasted Track on Structures is not accepted by *tie*.
- Further clarification to Wheel rail interface report necessary.

Issues and Concerns

- Changes in Design and Change Orders may influence the programme.
- Vibration Issues may influence design and programme.
- Un-clarified programme situation.

Following activities are planned within the reporting period

- Submittal of Basic Design Rheda City Green.
- Re-submittal of Basic Design Report Rheda City D.
- Re-submittal of Basic Design Report Ballasted Track.
- Submittal of detailed design Princes Street.
- Re-design track Guided Busway.
- Advanced Design Rheda Track as light mass-spring design.

Production

- WPP Princes Street under revision.
- WPP Integrated Test Track South approved.
- Inspection and Test Plan under revision.
- Delivery of 500 m Rheda City D materials.
- Delivery of 500 m Rheda City G materials.

Following activities are planned within the reporting period

- Installation of integrated Test Track South Gyle.
- Preparation to start trackwork construction Guided Busway.
- Further preparation start of trackwork construction Princes Street.

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4.2.4 DWE (Depot Workshop Equipment)

Design

Design is further progressing.

Design of the Measuring Equipment are finished is submitted to *tie*.

Current progress includes preparation of detailed design of:

- Machines
- Storage equipment

all in support of procurement of long lead time items and to provide design input.

In order to finish these outstanding design submittals the topics mentioned under “Issues and Concerns” needs to be clarified.

Technical meetings with the tram maintenance for the performance requirements of the equipment are conducted and will be followed up.

Approvals and Consents

Under floor Wheel Lathe design submittals handed over in October 2008.

Crane Submittal handed over in January 2009.

Lifting Plant Submittal handed over in January 2009.

Washing Plant Submittal handed over in January 2009.

Service Vehicle Submittal handed over in April 2009.

Measuring Equipment Submittal handed over in May 2009.

Comments from *tie* to the submittals of:

- Underfloor Wheel Lathe Submittal
- Crane Submittal
- Lifting Plant Submittal
- Washing Plant Submittal

Have been received and will be answered and resubmitted as version B documents.

Resubmission of Crane and Underfloor Wheel Lathe are done in April 2009.

Resubmission of the remaining submittals is scheduled for May/June 2009 depending on the input required by manufacturers and interface partners and on the receipt of *tie* comments.

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Issues and Concerns

In order to finish these outstanding design submittals decisions are required regarding:

- additional turn table
- change of fork lift to pallet stagger for the store
- cancelation of ultrasonic cleaning bath and arc welding kit from BSC offer
- provision of compressed air supply

Production

Procurement of long lead items finalised.

Orders placed for underfloor wheel lathe, underfloor lifting plant, washing plant.

4.2.5 Signalling, Communication, SCADA, PIS, PA

Design

Signalling

Responses provided to all *tie* design Records of Review (RORs).

Requirements workshop held with *tie*/Transdev and agreement reached on method of verification for each requirement.

SCADA, PIS, PA (RailCom Manager), PABX, Radio

Responses provided to all *tie* design Records of Review (RORs).

Approvals and Consents

Approval in principle agreed for Tramstop Cabinet, formal application for this and Points Control (Interlocking) Cabinets to be made.

Ofcom licence to be formally applied for based on advanced copy of information as supplied by *tie*.

Issues and Concerns

Clarification on approach to letting of long lead material and installation sub-contracts in light of delays to preceding site works.

Joint BSC/*tie* meeting to be convened 27 April 2009 to resolve approach to Tramstop equipment (Passenger Help Point appearance, PID mounting, PA speaker location aspirations, inductive loop provision and positions) approvals. Principles agreed, record awaited from *tie*

Production

See issues and concerns.

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4.2.6 TLC (Traffic Light Control)

Design

No current issues.

Approvals and Consents

No current issues.

Issues and Concerns

No current issues.

Production

No current issues.

4.2.7 HV/LV - Supply

Design

Cable ducting required for Gogar depot being clarified.

Approvals and Consents

Third part, outside LOD, wayleaves being progressed by Core; Gogar depot wayleave information required by Scottish Power clarified.

Issues and Concerns

Clarification on approach in light of delays to preceding site works, specifically Gogar Depot.

Production

See issues and concerns.

4.3 TRAMS

4.3.1 Design

Detailed design is nearly finished and CAF works in order to fully close this process.

There is a *tie* Change request (INTC 303 and *tie* Notice of Change 0037) regarding the interior Lay-out of the trams, with no impact for other BSC partners. The change has been agreed with *tie*.

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Free issue equipment to CAF:

This definition refers to:

- TPDS, Radio supplied by Siemens
- Bus Tracker supplied by *tie*

It is important to state that CAF is not responsible for the performance and functionality of the TPDS (Siemens), Radio (Siemens) or Bus Tracker (*tie* via Ineo). Then, it is *tie* and Siemens responsibility to provide any demonstration about it. It is an issue for *tie* and Siemens to both collect relevant documentation and present it in front of *tie*, as they may do for some other performance or functionality.

CAF considers as an outstanding issue the fully definition of the Bus Tracker system provided by *tie*/Lothian Buses.

It is important to clarify that the Bus Tracker supplier (Ineo) already delivered information to CAF at the end of 2008 and it has recently has informed CAF that the mechanical interface will not change and that they are on the final stages defining the functionality which for CAF will imply the full definition of the system with no mayor change compared with existing information

CAF has used the information delivered last year 2008 in order develop its tram design. Hopefully, there will be no impact when fully and final detailed information is released.

4.3.2 Procurement

Procurement for the trams is going according to programme. CAF intends to install and test all systems on the different phases of the testing process (CAF premises, Test Track and Edinburgh Tram Network), including Free Issue Equipment delivered by Siemens (TPDS and Radio) and Bus Tracker (*tie*).

4.3.2.1 Delivery

In order to meet CAF's programme, CAF needs all the materials been delivered when necessary according to CAF programme. This need includes Free Issue Equipment. Each material has its detailed delivery dates to meet the different manufacturing stages of each module of the tram and the information is delivered to each supplier.

Regarding Free Issue Equipment, if any material is not delivered as it is necessary to feet manufacturing purposes, CAF will evaluate the impact and will let the supplier know.

According to CAF manufacturing needs, all equipment for the first tram should be already available at CAF premises in Irun since mid April.

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4.3.3 Manufacturing

CAF manufacturing process started at beginning of December 2008. The status up to the 3 May 2009 is the following:

- First tramset of bodysells completed and approved.
- The manufacture of the seven bodysells for the second tram has also started.
- Manufacture has been launched up to the first module of the fifth tram.
- Six of the first tramset bodysells have been also painted (A1, B1, C1, D1, F1, G1).
- Finishing has also started for four of the painted modules (B1, C1, D1, F1).

4.4 SYSTEMS INTEGRATION

4.4.1 EMC

4.4.1.1 Earthing & Bonding

Clarification of individual civil structures is ongoing. Civil requirements of Signalling installations for improved tracklayer are transferred into design proposals.

EMC Filed Survey Report has been prepared. Submission is forthcoming.
EMC Matrices are prepared. Submission is forthcoming.

4.4.1.2 Stray Current

As a result of the last SCWPs the Stray Current documentation has been updated.

Stray Current Corrosion strategy and Code of Practice for Stray Current Control are prepared. Submission is forthcoming.

4.4.1.3 Network Rail Immunisation

HAZID meeting with FMA carried out.

4.4.2 System Assurance

4.4.2.1 Deliverables Issued

- System Hazard Log - Comments and updates on the Hazards have been received from Transdev, Comms and Control, REL, RA, Tram Maintenance.
- Hazard Log has been updated accordingly. PSCC Sub-Committee is to review these comments on 20 May 2009. Initial comments and mitigations still being progressed from SDS and CAF.

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4.4.2.2 Activities Completed

- Hazard Log - Operational Risk Assessments (ORA's). Transdev ORA have been reviewed so that where a risk has been identified that could have an impact on design, this has been cross referenced to hazards in the hazard log. Activity now complete. Hazard Owners have been issued with updated Hazard Log and have instructed to review ORA and assess risks and subsequent issues in respect to design using the design review process.
- Safety Assurance Meeting, Manchester between BSC, *tie*, Transdev – 07/08 April 2009, held to discuss 'Detailed Design Case for Safety' (DDCS) from SDS and Design Assurance Statements (DAS). This was a preliminary meeting for one held on 15th April with SDS, *tie*, etc. during which an agreement for SDS to deliver all DAS's in line with the structure and content defined in Contract by May 15th was reached.
- Immunisation – Review of Immunisation Hazard Log carried out with FMA. Hazards agreed. Design mitigation now being supplied to FMA with objective of being able to close hazards from a design perspective.
- Review of *tie*/Transdev/SDS documentation - Reviewed and supplied comments to Transdev (Crossing Assessment Guidance), SDS (DDCS, DAS, Traffic Signals Safety Case)

4.4.2.3 Activities Ongoing and Planned:

- Update and manage Hazard Log based on Hazard owners responses (on going). Based on mitigation provided by the Hazard owner the *tie* PSCC will review the hazard, rank the hazards' residual risk and confirm the if the hazard has been controlled so Far As Is Reasonably Practicable (SFAIRP). (Target Date ongoing)
- Conduct Hazard Analysis Work Shops as per System Assurance Plan (SAP). The objective is to ensure that a complete set of risks / hazards is has been identified and managed. Meetings being organised with Hazard Owners to review Hazards and confirm mitigation measures.
- NR / ETN Immunisation Work - See above. A presentation is planned to the Network Rail Infrastructure Systems Review Panel (ISRP) a 'Case For Safety' to demonstrate that the two work streams that we have undertaken above have minimised the risk to the Network Rail Infrastructure ALARP. This document is due in August / September 2009.
- Human Factors - Control Centre - The contract requires an ergonomic assessment of the control centre against Standard - ISO 11064 "Ergonomic Design of Control Centres." To date some work has been done by the LOTS (REL, RA, York and Transmitton) to involve the Operator and Maintainer but this standard also requires an assessment in respect to the SCC furniture, lighting, climate control, etc).

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4.4.2.4 Regular Activities and Attendances:

- As well as the above a number of other activities are ongoing such as regular attendance at the following meetings; PSCC, PSCC Sub-Committee, Technical Coordination, Requirements Man, SCWP.

4.4.3.1 General

Following a review of the section design, it is proposed to reduce the number of development workshops to identify misalignments. These are as detailed below:

- Trackform (close out)
- Substations
- Cable ducts and Draw pits
- Power Supply
- Earthing and Bonding
- Depot
- Point and Switch Heating
- Tramstops
- Loop positions

4.5 TESTING, COMMISSIONING AND START-UP

CAF manufacturing process commenced at the beginning of December 2008. First body shell finish should be available for inspection before the end of February. As an attachment you can see the up-date for manufacturing.

5 NOT USED

6 STAKEHOLDER AND THIRD PARTY ISSUES

Discussions have continued to agree how *tie's* existing Stakeholder Management and Communications team can be best used to mutual advantage. BSC are willing in principle to contribute in kind or cost transfer to supplement this team, rather than duplicating resources to comply with the specific requirements of the Employer's Requirements as drafted.

7 COMMERCIAL

7.1 Milestones

Preliminary Milestones Achieved in the Period:

Month 13 Preliminaries (BB)
Month 13 Preliminaries (S)
Month 13 SDS Interface

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Construction Milestones Achieved in the Period

17	Completion of 1st Tramset of Bodyshells	Pre Delivery Activities

Milestones Programmed but not Achieved

Regular discussions take place now between *tie* and BSC on the subject of Milestones and the Milestones Programmed but not achieved are recorded elsewhere.

7.2 CHANGE MANAGEMENT

7.2.1 The Change Register in Appendix 10.7 to this report shows 398 notifications of change at 11 May 2009, which are being processed currently.

To date, 51 *tie* Change Orders have been issued. However there is no agreement to some Estimates that BSC provided as *tie* have unilaterally modified these Estimates and issued the *tie* Change Orders. Also included in *tie's* Change Order Pro-forma; "Relief required from compliance with Infraco obligations under the contract", "Programme impact and required Extension of Time", "Impact on Performance" remain unresolved.

Main reasons for not issuing Change Orders are: change not agreed in principle, BSC not being able to submit estimates within contract period, figures in estimates not agreed, Base Date Design Information not agreed, percentages for preliminaries and overheads not agreed.

Cost related issues for INTC No.1 programme misalignment V26 - V31 remain not agreed. Time related issues have been agreed.

With regards to matters corresponding to the SDS provider notices, *tie* has rejected all SDS Provider's notices of extension of time and related impact. *tie* does not accept that these issues constitute a change.

The complexity, nature and amount of changes have overloaded the change mechanism included in the Infraco contract, because the estimates cannot be submitted within the time frame requested in the contract and also due to the fact that the overall impact to the programme from a given change cannot be assessed on an individual basis. It has been agreed that the estimates submitted by BSC will only deal with direct related effects (costs) of a given change. Time related effect will be assessed separately.

An informal copy of the prioritisation of changes was provided to *tie* for information and this prioritisation is aligned with the anticipated construction of the Works. Note that a number of Estimates cannot be submitted in

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accordance with some target dates as the design portion of the Change has not yet been provided by the SDS Provider.

A series of high level management meetings with the aim of solving major outstanding issues (among others: Base Date Design Information, applicable percentages for preliminaries and overheads, period for estimate submission, etc) are being held.

8 RESOURCES

8.1 Organisation Charts

Consortium and Systems organisation charts are included in this report.

See Appendix 10.8.

9 OTHER ISSUES

No comments.

10 Appendices

10.1 KPI Report

Contractor Period H.S. & E. Return



To be completed and returned to tie Ltd (Pauline Goldie Pauline.goldie@tie.ltd.uk) by the Thursday of week 1 for each period (a period is 4 weeks, for dates of start and finish please contact Pauline)

RETURN DATA

Contractor –

Date completed –

Year –

Period –

PEOPLE DATA

Average number of direct employees on ETP –

Hours worked of direct employees on ETP –

Average number of subcontract / others inc visitors on ETP –

Hours worked of subcontract / others inc visitors on ETP –

Number of work sites –

INCIDENT DATA (leave blank if none)

	DIRECT	SUBCON	M.O.P.
Fatal	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>
Major	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>
Over 3 day	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>
Dangerous Occurrence	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>
Reportable Disease	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>
Injury – Non RIDDOR	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>
Near Miss/ Unsafe Condition	<input type="text" value="0"/>	<input type="text" value="5"/>	<input type="text"/>
Service Damage	<input type="text" value="0"/>	<input type="text" value="2"/>	<input type="text"/>
RTA (in and around ETP)	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>
Positive intervention (if measured)	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>
Environmental Incident	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>

ENFORCEMENT NOTICE / VISIT DATA

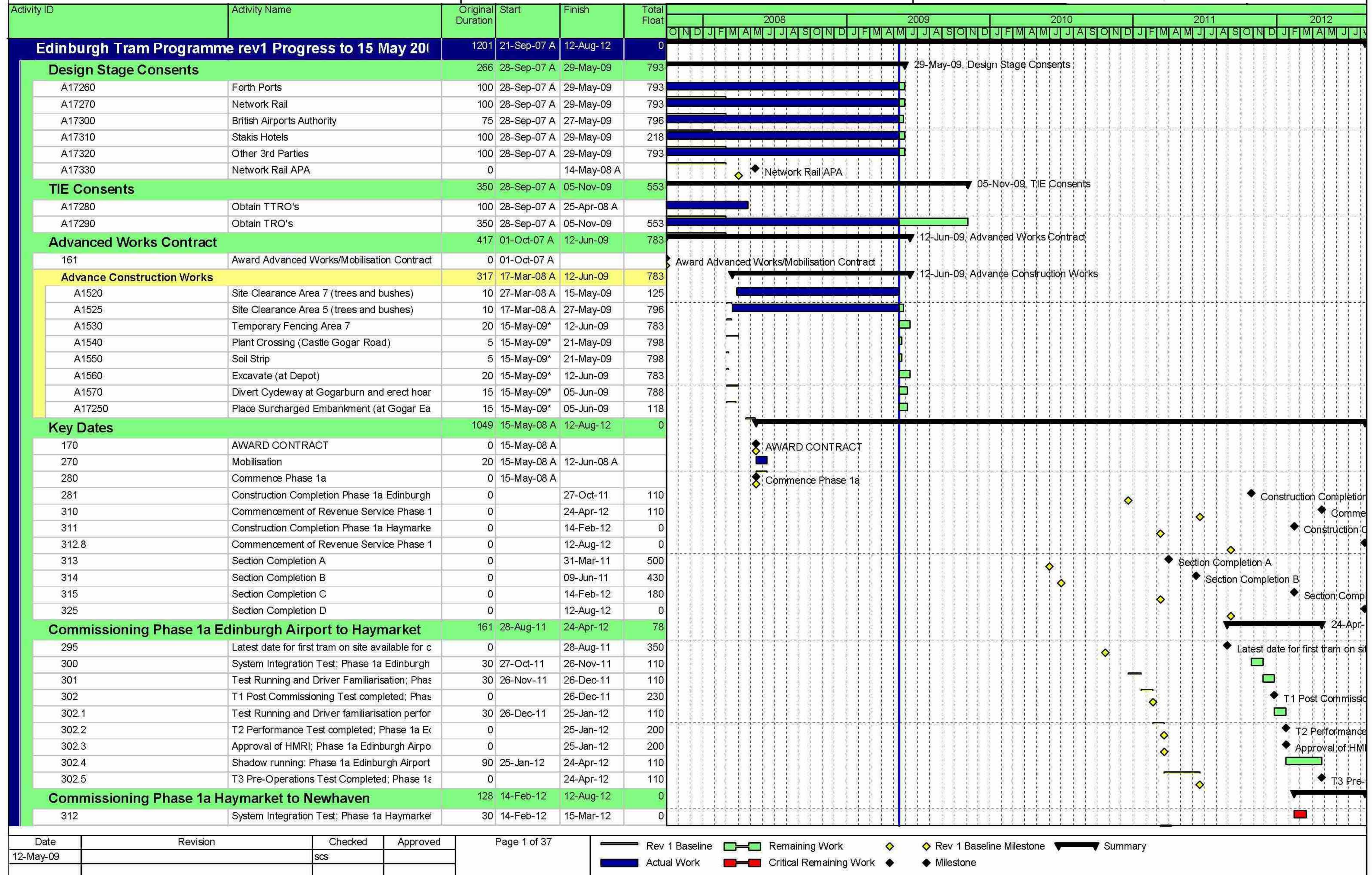
	NOTICE	VISIT
H.S.E Enforcement	<input type="text"/>	<input type="text"/>
SEPA	<input type="text"/>	<input type="text"/>
Local Authority	<input type="text"/>	<input type="text"/>
Other	<input type="text"/>	<input type="text"/>

CONTRACTOR AUDIT / INSPECTION DATA

	PLANNED	ACTUAL
Inspections	<input type="text" value="3"/>	<input type="text" value="3"/>
Audits	<input type="text" value="1"/>	<input type="text" value="1"/>

Please supply supporting data for all RIDDORs, Service Damages and ENF visits if not previously submitted – Rev0

10.2 Programme Update



Date	Revision	Checked	Approved
12-May-09		scs	

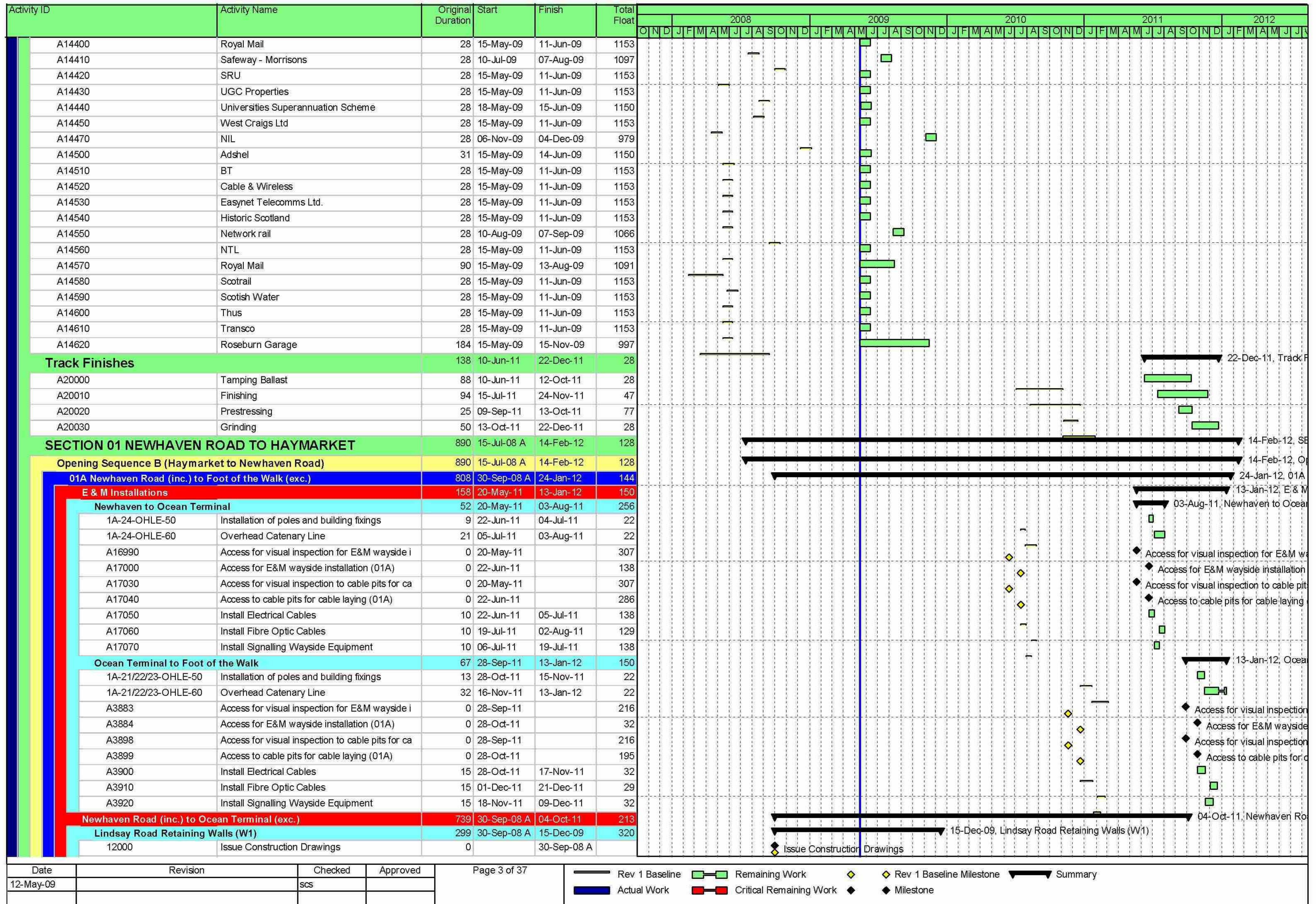
— Rev 1 Baseline
 ■ Remaining Work
 ◇ Rev 1 Baseline Milestone
 → Summary
■ Actual Work
 ■ Critical Remaining Work
 ◇ Milestone

CEC00624376_0038



CEC00624376_0039

Date	Revision	Checked	Approved
12-May-09		scs	



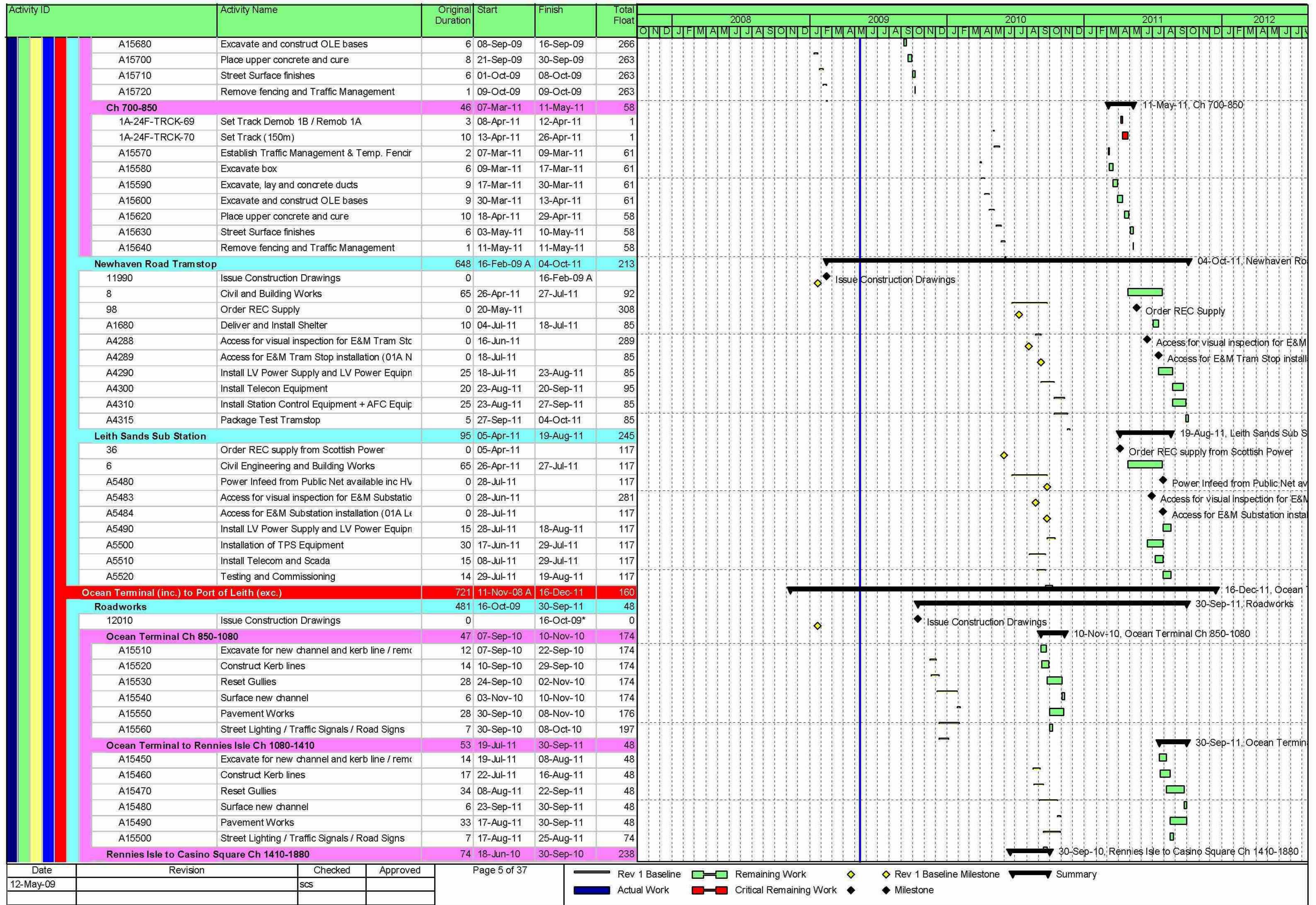
Date	Revision	Checked	Approved	Page 3 of 37
12-May-09		scs		

█ Rev 1 Baseline
 █ Remaining Work
 █ Critical Remaining Work
 ◆ Rev 1 Baseline Milestone
 ◆ Milestone
 Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2008												2009												2010												2011												2012													
						O N D J F M A M J J A S O N D												O N D J F M A M J J A S O N D												O N D J F M A M J J A S O N D												O N D J F M A M J J A S O N D												O N D J F M A M J J A S O N D													
5	Wall B Contiguous Bored Piles	100	15-May-09	05-Oct-09	320																																																														
A1710	Wall A Reinforced Earth	50	06-Oct-09	15-Dec-09	320																																																														
Roadworks						547	21-Apr-09 A	06-Jul-11	147																																																										
11970	Issue Construction Drawings	0		21-Apr-09 A																																																															
A1090	CH 0000 to 0300	50	26-Apr-11	06-Jul-11	147																																																														
A1100	CH 0300 to 0700	50	08-Nov-10	31-Jan-11	256																																																														
A1110	CH 0700 to 0850	203	20-May-09	17-Mar-10	298																																																														
Trackwork						508	21-Apr-09 A	11-May-11	58																																																										
11980	Issue Construction Drawings	0		21-Apr-09 A																																																															
Ch 0-265						80	20-Dec-10	25-Apr-11	69																																																										
1A-24A-TRCK-69	Set Track (265m) Demob 1D / Remob 1A	3	02-Mar-11	04-Mar-11	41																																																														
1A-24A-TRCK-70	Set Track (265m)	25	07-Mar-11	11-Apr-11	41																																																														
A15970	Establish Traffic Management & Temp. Fencir	2	20-Dec-10	22-Dec-10	72																																																														
A15980	Excavate box	11	22-Dec-10	20-Jan-11	72																																																														
A15990	Excavate, lay and concrete ducts	16	20-Jan-11	11-Feb-11	72																																																														
A16000	Excavate and construct OLE bases	16	11-Feb-11	07-Mar-11	72																																																														
A16020	Place upper concrete and cure	25	10-Mar-11	14-Apr-11	69																																																														
A16030	Street Surface finishes	6	15-Apr-11	22-Apr-11	69																																																														
A16040	Remove fencing and Traffic Management	1	25-Apr-11	25-Apr-11	69																																																														
Ch 265-425						47	02-Sep-10	05-Nov-10	101																																																										
1A-24B-TRCK-70	Set Track (160m)	11	08-Oct-10	22-Oct-10	30																																																														
A15890	Establish Traffic Management & Temp. Fencir	2	02-Sep-10	06-Sep-10	104																																																														
A15900	Excavate box	6	06-Sep-10	14-Sep-10	104																																																														
A15910	Excavate, lay and concrete ducts	9	14-Sep-10	27-Sep-10	104																																																														
A15920	Excavate and construct OLE bases	9	27-Sep-10	08-Oct-10	104																																																														
A15940	Place upper concrete and cure	11	13-Oct-10	27-Oct-10	101																																																														
A15950	Street Surface finishes	6	28-Oct-10	04-Nov-10	101																																																														
A15960	Remove fencing and Traffic Management	1	05-Nov-10	05-Nov-10	101																																																														
Ch 425-475						22	01-Apr-10	04-May-10	188																																																										
1A-24C-TRCK-70	Set Track (50m)	5	16-Apr-10	22-Apr-10	29																																																														
A15810	Establish Traffic Management & Temp. Fencir	2	01-Apr-10	06-Apr-10	191																																																														
A15820	Excavate box	2	06-Apr-10	08-Apr-10	191																																																														
A15830	Excavate, lay and concrete ducts	3	08-Apr-10	13-Apr-10	191																																																														
A15840	Excavate and construct OLE bases	3	13-Apr-10	16-Apr-10	191																																																														
A15860	Place upper concrete and cure	5	21-Apr-10	27-Apr-10	188																																																														
A15870	Street Surface finishes	3	28-Apr-10	30-Apr-10	188																																																														
A15880	Remove fencing and Traffic Management	1	04-May-10	04-May-10	188																																																														
Ch 475-600						43	20-Jan-10	19-Mar-10	199																																																										
1A-24D-TRCK-70	Set Track (125m)	10	22-Feb-10	05-Mar-10	33																																																														
A15730	Establish Traffic Management & Temp. Fencir	2	20-Jan-10	22-Jan-10	202																																																														
A15740	Excavate box	5	22-Jan-10	29-Jan-10	202																																																														
A15750	Excavate, lay and concrete ducts	8	29-Jan-10	10-Feb-10	202																																																														
A15760	Excavate and construct OLE bases	8	10-Feb-10	22-Feb-10	202																																																														
A15780	Place upper concrete and cure	10	25-Feb-10	10-Mar-10	199																																																														
A15790	Street Surface finishes	6	11-Mar-10	18-Mar-10	199																																																														
A15800	Remove fencing and Traffic Management	1	19-Mar-10	19-Mar-10	199																																																														
Ch 600-700						36	21-Aug-09	09-Oct-09	263																																																										
1A-24E-TRCK-69	Set Track Demob 2A /Remob 1A	3	11-Sep-09	15-Sep-09	59																																																														
1A-24E-TRCK-70	Set Track (100m)	8	16-Sep-09	25-Sep-09	59																																																														
A15650	Establish Traffic Management & Temp. Fencir	2	21-Aug-09	25-Aug-09	266																																																														
A15660	Excavate box	4	25-Aug-09	31-Aug-09	266																																																														
A15670	Excavate, lay and concrete ducts	6	31-Aug-09	08-Sep-09	266																																																														

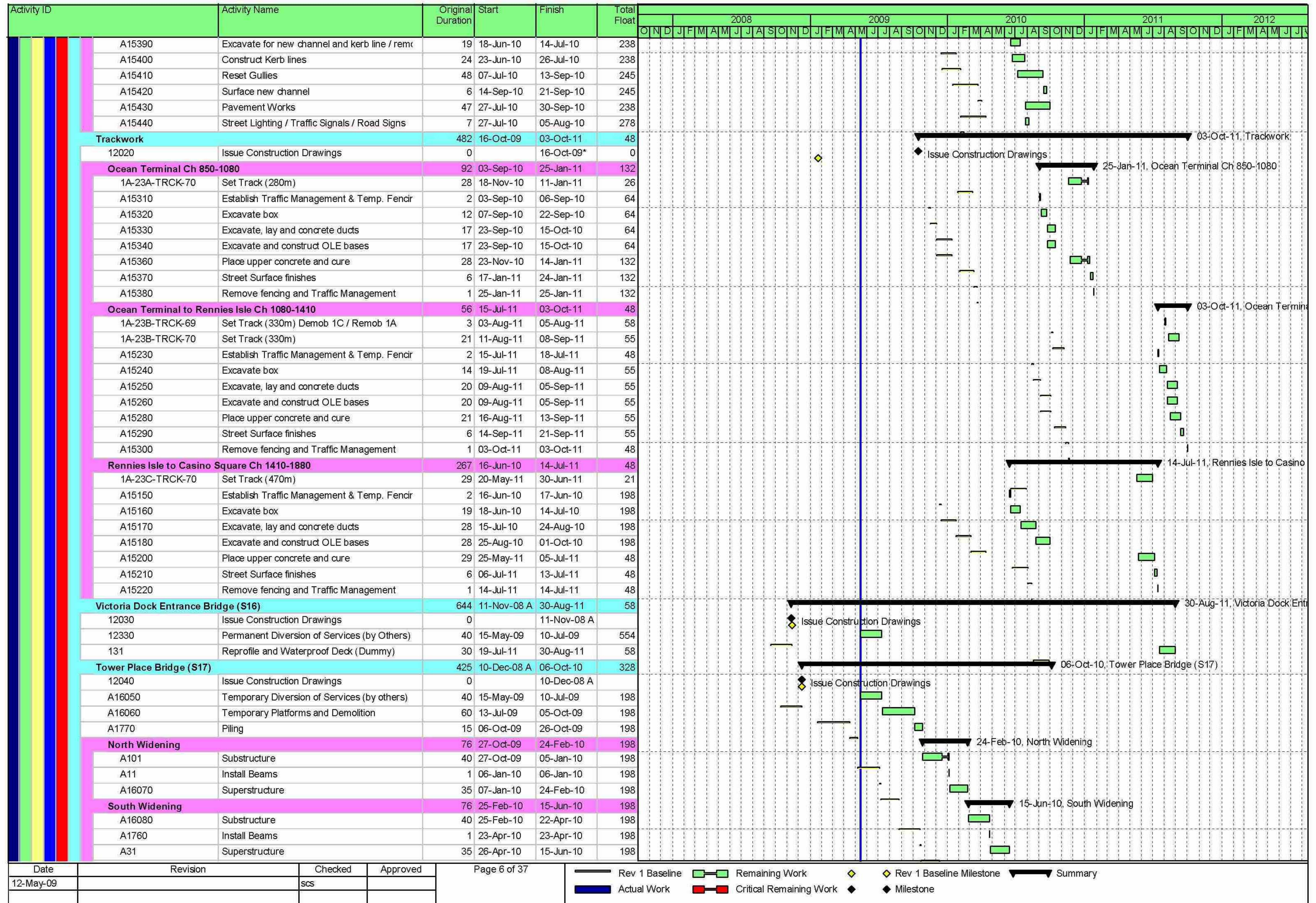
Date	Revision	Checked	Approved	Page 4 of 37	Rev 1 Baseline	Remaining Work	Rev 1 Baseline Milestone	Summary
12-May-09		scs			Actual Work	Critical Remaining Work	Milestone	

CEC00624376_0041



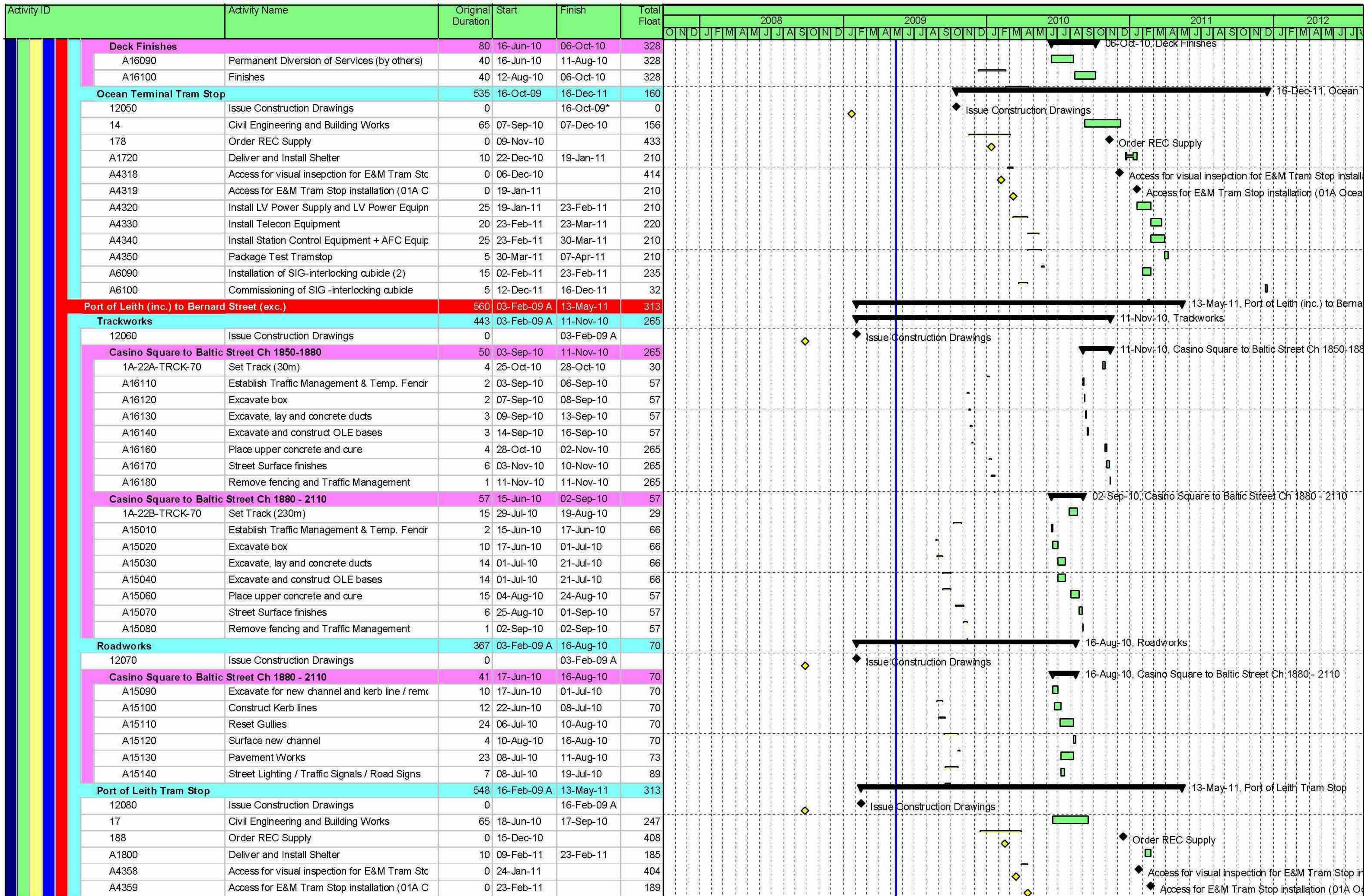
Date	Revision	Checked	Approved
12-May-09		scs	

Rev 1 Baseline
 Remaining Work
 Rev 1 Baseline Milestone
 Critical Remaining Work
 Milestone
 Summary

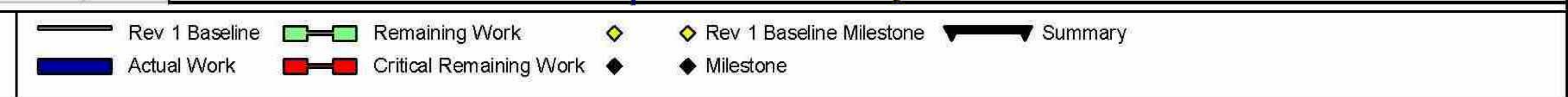


Date	Revision	Checked	Approved	Page 6 of 37
12-May-09		scs		

— Rev 1 Baseline
 ■ Remaining Work
 ◆ Rev 1 Baseline Milestone
 ■ Critical Remaining Work
 ◆ Milestone
 ▬ Summary



Date	Revision	Checked	Approved	Page 7 of 37
12-May-09		scs		



CEC00624376_0044