

MUDFA Contract Review Report

24 April 2008

Executive Summary

High Level View

- Progress

Period 1 (29.03.08 to 25.04.08)			Overall Performance to Date		
PLANNED	ACTUAL	Variance	PLANNED	ACTUAL	Variance

TOTAL	Metres	3939	2756	-1183	16051	12421	-3630
	Chambers	16	7	-9	120	65	-55
BT/Comm	Metres	1626	1099	-527	7016	5383	-1633
SGN	Metres	473	587	114	1314	1189	-125
Scot W	Metres	1619	1030	-589	6019	4724	-1295
Scot P	Metres	221	40	-181	1388	811	-577
Forth Ports	Metres	0	0	0	314	314	0
Gogar Comm	Metres	0	0	0	0	0	0
Gogar Scot P	Metres	0	0	0	0	0	0
Gogar Scot W	Metres	0	0	0	0	0	0

- Costs

See Appendix 1 – Period Costs Report

- H&S

Subsequent to the first reportable accident (RIDDOR) on 2 April 2008, initially reported in last periods report, a formal review by the tie Project Director, MUDFA Construction Director and AMIS Project Director was carried out on 7 April 2008. Initial findings would indicate that no malpractice was evident and the operatives were working diligently within the excavation. However, several actions have been taken to ensure lessons are learned from the incident :-

- Requirements for improved assessment of excavation support methods
- Assessment of additional training and competency of operatives/supervision
- Implementation of Work Face Risk Assessment procedure

Contact was made with HSE 3rd April 2008, and initial indications are that they are satisfied with both the manner the incident has been dealt with and the immediate actions taken after the incident. Confirmation of HSE stance will follow issue of the final report from AMIS due within w/c 28 April 2008.

General

- 1 RIDDOR reportable incident
- 7 no utility damages
- 2 no near misses
- 1 no environmental incident

The overall MUDFA contractor AFR will be reported at the end of the period.

See Appendix 2 - Utility Damage Data

Period Progress

Works progressing in 7 areas :

- Constitution Street (1A)
- Leith Walk (1B)
- St Andrews Street (1C)
- Princes Street (1C)
- Shandwick Place (1D)
- South Gyle (5B)
- Edinburgh Park (5C)

Progression of service diversions in the period has shown a downturn in output from previous period; 70% achieved in the period. 77% achieved in total to date. Cumulative effect on the sections is approximately 7 weeks. Overall effect on the critical path remains at 2 weeks, but implementation of revised recovery programme actions required urgently.

Key areas of delay are:-

- Insufficient resource levels – operative and supervisory to match requirements of rev 06 programme.
- Increased temporary diversion provision (primarily on Leith Walk)
- Delay in outages from SW affecting programmed diversions.
- Chamber output performance
- Additional demands/constraints imposed by TM

Rescheduling of key areas has been carried out to address resource peak demand and critical interface areas with Infracore (prioritising Infracore early start areas).

Specific critical areas identified are Foot of the Walk, Constitution Street, St Andrew's Square and Gogar Depot. These areas have been prioritised in terms of resource management to ensure programme requirements are adhered to. Additionally the sections at London Road junction and the Mound/Hanover Street junction have been deferred; London Road to assess impact of St James Centre development on Picardy Place utility diversions to avoid potentially abortive diversionary work.

Leith Walk operations have been reviewed to ensure sectional completion and subsequent release into the public domain is achieved at the earliest possible date.

See Appendix 3 – Leith Walk Clearance Summary Sheet

The Mound will now commence September 2008, as opposed to 7 July 2008, as the complexity and extent of the works are such that no benefit would be achieved by commencing 4 weeks in advance of the August embargo. Completion of the Mound works can still be achieved in advance of Infracore commencement in this area.

Commencement of the 800mm diameter watermain at Gogar within w/c 28 April 2008 critical to Infracore start at the depot on the 2 June 2008.

Review of recovery programme and re-phasing of several sections has led to the development of the latest agreed MUDFA Construction Programme revision 07.

Recovery programme has shown a reduction in peak resource demand of 25%, down to 185 no personnel (increase of 45no on present level).

Peak demand is within the months of May through to July. Output demand indicates a required increase of 40% in present average output of 64%. This being achieved, completion date (excluding the Mound) would be maintained as mid December 2008.

Continual monitoring of output essential to ensure recovery plan implementation is successful.

Rescheduling of the works in line with the Rev 07 programme will result in elements of the city centre works (the Mound area) extending into the first quarter of 2009. The additional prelims associated will be covered in our contingency within our current AFC £51.542m.

This remains unchanged and in line with our reported AFC over the last financial year.

Section 1A

Design

1-5

Drawings 1-5: Design still in development. **tie** and SDS working with Scottish Power and SGN to minimise expenditure.

6-12

6-10: Issued for approval but **tie** believe some savings can be made. Significant expenditure on electrical diversions (SP & FP). New proposals have been outlined; these will be verified prior to seeking approval.

Target commencement: 12 May 2008

11-12: On hold awaiting information regarding bridge construction.

13-15

13: Works complete based on IFC issued in June 2007.

14-15: SDS regard these drawings as a revision to completed design. As such they will only begin work on them when all other designs have been completed.

Section 1A 16-21 (Constitution Street)

Traffic Management in place between Duke Street and Laurie Street (Section A); Coatfield Lane and Queen Charlotte Street (Section C); and Mitchell Street and Baltic Street (Section E) to accommodate MUDFA works.

Progress

Progress during period against work programme: 7%

- Section A: Works on programme in this section of Constitution Street
- Section C: Works one and a half weeks behind programme in this section of Constitution Street
- Section E – works on programme in this section of Constitution Street

Highlights

- Installation of Constitution Street Traffic Management in two hit strategy
- Discovery of bones in excavation adjacent to South Leith Parish Church. Bones to be carbon dated. Future works to be progressed in line with existing Archaeological arrangements
- Outside of LOD works
- SGN – Works complete
- Commencement of Traffic Management design process for Constitution Street/Baltic Street junction

Key Issues/Blockers

Programme adherence in Section C of Constitution Street is behind works programme due to erroneous assumption that MUDFA works would be carried out on both sides of the street in this section simultaneously. The need to maintain emergency service and pedestrian access has prevented this.

Action – Revised works programme to be produced by AMIS during w/c 21 April 2008. Target for acceptance of revised works programme Wednesday 30 April 2008.

Programme Lookahead

- Outside of LOD works
- Scottish Power – Phase 2 to commence on 5 May 2008 in conjunction with MUDFA TM arrangements for Foot of the Walk/Constitution Street
- Scottish Water: Commencement due late May 2008
- BT: Commencement due late May 2008
- Sign off of Constitution/Baltic Street Traffic Management approach
- MUDFA diversions continue in this area

Section 1B Sheets 22-26 (Foot of the Walk to Balfour Street)

Traffic Management in place between Balfour Street and the Foot of the Walk to accommodate MUDFA works

Progress

Progress during period against work programme: 31%

- Works include installation of gas, water, power and telecoms apparatus in this area on both sides of Leith Walk
- Critical path works on the Duke Street utility crossings have commenced and are 15% complete (on programme)
- Overall the works are 5 weeks behind programme
- Resources in the section lower than required to deliver the work programme

Highlights

- Foot of the Walk junction amended as part of installation of Constitution Street Traffic Management arrangements.
- Construction of major BT chamber completed at the Foot of the Walk (on programme)
- Leith Walk/Manderston Street junction traffic signals commissioned to support Foot of the Walk TM arrangements

Key Issues/Blockers

Duke Street Utility Crossings are required to be completed before Manderston Street and Leith Walk utility crossings can be completed and existing conflict mains in Leith Walk can be abandoned.

Action – Target date for completion of Duke Street crossings brought forward to Monday 19th May 2008.

Issues related to construction of BT chamber opposite Manderston Street delaying Water and BT works on Northbound side of Leith Walk in this area.

Action – Solution to be agreed with BT and SW during this period

Resources in the section lower than programme requirements demand.

Action – revised agreed programme developed to address this issue.

Programme Lookahead

Gas and water mains to be tested and commissioned
Gas and water service transfer works to commence

Section 1B Sheets 27-31 (Balfour Street to McDonald Road)

Traffic Management in place between Balfour Street and McDonald Road to accommodate MUDFA works.

Progress

Progress during period against work programme: 65%

- Sections of gas main tested and commissioned on Leith Walk.
- Water, gas and telecoms works continue throughout the section.
- Overall the works are 3 weeks behind programme.
- Resources in the section lower than required to deliver the work programme.

Highlights

- Traffic Signals altered at Leith Walk/Pilrig Street junction to release work area to AMIS to allow through connection of two sections of Gas and Water main.
- Commencement of Traffic Management design process for reducing Leith Walk to one way flow (Southbound). The Northbound flow would be directed via Easter Road

Key Issues/Blockers

- Utility crossings over the Network Rail Bridge. Utility crossings originally planned to be completed in 2007, commencement delayed due to:
 - Requirement for trial holes to determine depth of cover across tunnel crowns and associated requirement for Network Rail approval for trial holes
 - Utility company approval for reduced depth of cover and apparatus protection arrangements
 - Requirement for Network Rail approval of utility crossings and proximity of diverted assets to tunnel crowns

Action - Work Package Plan for utility crossings across Leith Walk Railway Bridge submitted to Network Rail on 22nd April 2008.

Resources in the section lower than required to deliver the work programme

Action – revised programme to address this issue.

Programme Lookahead

Commencement of utility diversions across the Leith Walk Railway Bridge
McDonald Road Traffic Lights to be amended
Gas and water mains to be tested and commissioned
Gas and water service transfer works to commence

Section 1C Sheets 32-38 (McDonald Road to York Place)

Traffic Management in place between Annandale Street and Greenside Place to accommodate enabling works for Traffic Management measures in this section

Progress

- Enabling works to remove central reservation in this section on programme.
- MUDFA work in this section reprogrammed to commence on 2 June 2008 against original planned start date of 28 April 2008. Start date deferred to allow review of CEC St James redevelopment plans and confirm 'no conflicts' on Picardy Place utilities. Additionally, reduces compounding effect of implementation of City Centre Phase II Traffic Management. Both were planned to be initiated same date. Similar compound effect on the Traffic Management on Leith Walk is minimised. The revised start date (5 weeks later) not critical to the INFRACO programme start date.

Design

- Drawings 32-38: Problem section. IFC drawings have been received but since it is known that changes have occurred at Picardy Place, drawings 36-38 have been held back. SDS await a Change Order to revisit these drawings.

Highlights

- Designs produced for Traffic Management arrangements based on three phase approach to the London Road junction using a mini roundabout.
- Additional design work being carried out to accommodate the coincident affects of the proposed Leith Walk one way system.

Key Issue/Blockers

- Picardy Place.

Programme Lookahead

Traffic Management enabling works continue, including, signing, lining and installation of traffic signal at junction of Leith Walk/London Road.

Section 1C Sheets 39-41 (St Andrew Square)

Traffic Management on York Place at its junction with North St Andrew Street; and between York Place and Princes Street on North and South St Andrew Street to accommodate BT related MUDFA works

Progress

Progress during period against work programme: 58%

- Completion of 2 no. BT chambers and installation of 100m of ducts; duct run includes 34 way and 9 way ducts therefore approximately 2km of ducts laid in the period.
- Works restricted at the head of Dublin Street due to proximity of parking VMS. Head of VMS was removed during w/c 7 April 2008.
- Resources in the section lower than required to deliver the work programme

Highlights

- Commencement of Traffic Management design process for City Centre Phase III. Proposals include closure of St Andrew Street and East side of St Andrew's Square from 7 July 2008.

Key Issues/Blockers

- Scottish Water Sewer – Damage to SW sewer to be repaired at same time as BT diversion works are progressed.

Action – tie and SW to agree repair design and duct crossings across route of sewer. Design agreed in principle with SW. Works planned to be complete by 23rd May

BT Duct installation across York Place. Traffic Signals require to be relocated to allow TM footprint to be amended to support crossing of York Place with 34 way BT duct run

Action – Siemens to amend traffic signal layout w/c 28 April 2008.

Resources in the section lower than required to deliver the work programme.

Action – revised programme to address this issue.

Programme Lookahead

BT diversion works – ducts and chamber construction – continue in area

Section 1C Sheets 42-46 and Section 1D Sheets 47-48 (Princes Street)

- Traffic Management on Princes Street at its junction with South St David Street to accommodate SW related Princes Street crossings.

Progress

- No works planned during period

Design

- Drawing 44 requires design of a 30" cast iron gas main. SDS have written to **tie** to indicate their reluctance to proceed with this design. **tie** have responded by confirming that the design is to be completed asap. All other IFC information relating to the remaining utilities has been released. Gas main diversion commences beginning September 2008. Design element non-critical.

Highlights

- Commencement of Traffic Management design process for City Centre Phase III. Proposals include partial closure of The Mound and Hanover Street junction with Princes Street from 8th September 2008

Key Issues/Blockers

- Diversions between the Mound and South St Andrew Street behind programme due to extent of existing services and requirements to alter/amend TM impacting on progress. In addition the works were delayed four weeks to allow trial holes on the SGN medium pressure main to be undertaken. The trial holes on the medium pressure main have meant that the scope of the diversion has been reduced by 70%. 3 no. water and 1 no. gas crossing to be installed and commissioned prior to 7 July 2008 to allow for City Centre Phase III Traffic Management to go live.

Action: Scottish Water complete valve investigation works by Friday 9th May to allow completion of diversions.

TM proposals for outstanding Princes Street crossings to be presented to TMRP for approval on Monday 28 April 2008.

Programme Lookahead

Completion of Princes Street water and gas crossings at South St David Street and Waverley Bridge

Section 1D Sheets 49-53 (Shandwick Place)

Traffic Management on Shandwick Place between its junction with Lothian Road and Manor Place to accommodate MUDFA works

Progress

Progress during period against work programme: 20%

- MUDFA works at the Lothian Road/Shandwick Place junction complete by Friday 25 April 2008 to allow City Centre Phase II TM arrangements to be introduced.
- Enabling works completed on Hope Street and Queensferry Street as part of City Centre Phase II TM arrangements.
- LUX temporary pedestrian crossings replaced by Siemens temporary pedestrian crossings on both Hope Street and Queensferry Street.
- 60m of multi utility (gas, water and telecoms) shared trenches completed on both sides of Shandwick Place.
- Removal of abandoned Scottish Power cables, South side, allowing gas and water diversions to proceed.

Highlights

- Issue of abandoned cables resolved with Scottish Power, cost sharing agreed
- MUDFA works on programme to allow City Centre Phase II TM arrangements to be introduced – works planned for Saturday 26 April 2008.
- Commencement of Traffic Management design process for City Centre Phase III. Proposals include phased works on West Maitland Street and Haymarket from 14 July 2008

Key Issues/Blockers

- Resources in the section lower than programme, less than half that required to deliver the work programme. The resources were allocated to the East end of the section primarily, to ensure Phase 2 Traffic Management requirements were complete for the weekend of Saturday 26 April 2008. This has impacted on the output on the utility diversions within the period.

Action – Issue to be addressed in the revised programme.

Programme Lookahead

City Centre Phase II traffic management arrangements implemented over weekend of Saturday 26 April 2008 and Sunday 27 April 2008.

Review potential to open up additional areas ahead of programmed.

Section 2A

Design

1-3: Issued for approval. Verbal approval has been given by the Utility companies, however the R.O.R carried out by tie has again highlighted a significant number of mistakes. This has been reverted back to SDS for re-submission.

Programme start date: 6 May 2008

Section 5B Sheets 14-20 (South Gyle Access Tram Stop to Edinburgh Park Tram Stop)

Progress

- Critical path works on the Openreach ducts and chambers are 50% complete.
- Water main diversion (90%) has been installed awaiting final testing but the road reinstatement progressed in advance to allow Phase 2 Traffic Management to proceed. The installed length is approximately 130m, increased from the planned 76m due to the design conflicting with the new retaining wall.
- Overall the works are 3 weeks behind programme due to the water main diversion extension preventing commencement of Phase 2 traffic management. This can be recovered during the enabling works and the construction of the second Openreach chamber.

Highlights

- Openreach chamber in South Gyle Access/Bankhead Drive Junction programme recovered from 1 week behind to being completed 2 weeks ahead.
- Non-critical path diversions are progressing cumulatively ahead of the programme.

Key Issues/Blockers

- The extension of the water main diversion past the guided bus-way at the South Gyle Access is completed allowing reinstatement of the road and removal of Phase 1. This has impacted the Phase 2 Traffic Management works for the removal of the central reservations required for the works in the South Gyle Access. It is anticipated that this will delay commencement of the second Openreach chamber by 3 weeks.

Action: Unimpeded construction of the second chamber will recover part of this delay. Trial holes cannot be carried out in advance due to the traffic management restrictions.

- The Traffic Management for Phase 2 has been approved but final requirements for the pedestrian crossing and the signal changes still being addressed.

Action: Requirements will be finalised at TMRP on 22 April 2008 for implementation.

Programme Look-ahead

Completion of the Phase 2 Traffic Management, which is now the critical path.

Commence 402 Openreach chamber at South Gyle Access.

Section 5C Sheets 21-26 (Edinburgh Park Tram Stop to Gogarburn Tram Stop)

Progress

- Works commenced in the Gyle Car Park on 21 April 2008 on the 450mm DI water main and the 33kV power cable diversions.

Design

- Drawings 21-26 issued for approval. This has been a problematic area. Approvals are expected soon. Some conflicts have been removed and renamed 6a by SDS. IT now appears redesign of the bridge providing road access to the depot has removed these utilities as conflicts.

Issues/Blockers

- The co-ordinates and level for the levels at the A8 underpass are required from SDS to relocate chambers and apparatus which SDS has previously shown through or in the cutting.

Action: SDS to confirm agreement to proposals as a matter of urgency.

- MUDFA has issued TQs proposing alternative route for the 33kV cables through the Gyle Car Park as a result of both the above relocation and the conflict with the existing duct chambers missed in the SDS design.

Action: Scottish Power has agreed to reduce the 33kV cable spacing to get this diversion passed the chambers.

- The existence of the chambers will have a direct impact on the programme with the water main and power cables needing to be double trenched. This will delay the works by at least 1 week.

Action: MUDFA to approach the Gyle Centre requesting relaxation of the vehicle movement restriction initially imposed once the works have been established.

- IFC documents are not available for the utility crossings of the Gogar Roundabout awaiting issue from SDS.

Action: MUDFA has progressed approval in principle of the traffic management for the crossings but final dates cannot be agreed until the IFC issue date has been confirmed.

The roundabout crossings will be issued to AMIS as a Change Order to the Section 5C Work Package.

Programme Look-ahead

Works outside the car park are to commence 28 April 2008. This is in accordance with the Rev 06 programme for the works between Edinburgh Park Tram Stop and the A8 roundabout but is 8 weeks late for the works between the roundabout and the Gogarburn Tram Stop, pending IFC documents.

Section 6 (Gogar Depot)

Progress

- Preparation of s/c order to allow work to commence on the earthworks trimming in advance of the 800mm water main installation. This is a critical activity to ensure commencement of Infracore work at the beginning of June 2008.

Design

- 1500mm Sewer issued for approval drawings are expected on Tuesday 29 April 2008.

800mm Water main diversion Drawings have been approved by Scottish Water.

Key Issues/Blockers

- SDS to provide proposed ground levels on the route of the pipe.
- SDS to provide IFC documentation. Documents issued to date do not contain sufficient information to complete the installation or carry out the Record of Review. However, preparation work can commence.

Programme Look-ahead

Preparation for the installation of the 800mm main to commence 28 April 2008 in accordance with the latest programme.

Review proposed 1525mm sewer diversion. Assess potential options to initial diversion, to allow Infracore site establishment erection as planned in mid May 2008.

Section 7A

Progress

MUDFA works at 7A were completed under RATS. Some remaining diversions have been allocated to Infracore due to earthworks or access restrictions making MUDFA diversions uneconomical.

Section 7B

Progress

7B design by Carillion/Grontmij is in progress.

Design

Design and build contract with AMIS.

Programme Look-ahead

Workshop will be arranged with BAA following progress meeting with Carillion/Grontmij w/c 28 April 2008.

Advance works will be identified and carried out under RATS with the agreement of BAA.

Programme start date: 2 June 2008.

See Appendix 4 – Performance Measures

1.0 Traffic Management

Traffic Modelling and design for City Centre Phase 2 works complete. TM requirements for signage, traffic signals and enabling works completed. Resources and measures in place for implementation of Phase 2 traffic diversions on Saturday 26th April'08, as programmed.

Traffic Modelling and enabling works ongoing for Leith Walk/London Road; design of signalised junction ongoing.

Traffic Modelling near completion for City Centre Phase 3

Major Traffic Management in place at:

- Shandwick Place
- Foot of Walk/Constitution Street

Other traffic management in place at:

- Leith Walk
- York Place
- Princes Street
- Cultins Road
- Bankhead Drive/South Gyle Access
- Lochside Avenue
- Slip to Morrison's

1.1 Commercial

Require approval to transfer contingency allowance budget to variations for City Centre enabling works Phase 2 & 3, Constitution Street Enabling Works, Haymarket enabling works, Traffic Management Modelling Works and the 1525mm diameter sewer diversion under the A8 at Gogar, Authorisation sheets and details will be tabled during the Period 1 PM review meeting.

Potential issue associated with the access to SU apparatus which will remain within the DKE; the draft agreement produced by DLA Piper has been reviewed in conjunction with Alastair Richards/DLA/MUDFA. DLA Piper are incorporating a number of amendments to the draft agreement, including 'Emergency' definition approval from OCIP Insurers prior to issue to the SU's. Anticipate issue to SU's by 9 May 2008.

The joint review of the required utility diversions to update the AFA based upon currently issued IFC and issued for approval drawings has not been fully agreed with AMIS but the exercise has confirmed an anticipated increase measured quantity of 10,550m of utility diversions from the originally assessed measured works quantity. The current AFC includes for the anticipated increase of measure works. Note: the joint review is based upon approximately 90% of the designs for the project with an assessment made for the remaining elements.

A formal Contract/Agreement for Faber Maunsell to carry out the Traffic Management modelling and design is critical. The appointment was arranged and instructed through Citypoint and MUDFA require a copy of the agreement and terms ASAP.

The MP Gas main at the Mound has been discussed in detail with SGN and a number of potential solutions have been reviewed. MUDFA are currently pursuing the minimum

diversion length required. This solution carries a manageable degree of risk, associated with a 30" connection which has not been specifically callipered in the anticipated connection area, to accommodate the Programme requirements. The tie proposed principle of cost sharing is being explored at director level of both organisations.

tie await existing asset details from Scottish Water and BT to allow an informed assessment of the betterment and deferment contributions associated with the utility diversions, in accordance with the NRSWA. It is anticipated that the information related to BT apparatus may not be forthcoming, or pursued by **tie**, until the cable designs have been completed by BT and the requisite approvals etc for the BT works have been received.

AMIS have submitted a number of global summaries listing areas of delay, disruption and associated additional costs without quantifying the actual delay, disruption or financial consequences of same. **tie** have responded and will continue to respond to the correspondence received, however to date there is little **tie** agree with within the issues raised to date.

Awaiting confirmation and transfer of budgetary funding from Infraco to MUDFA for works carried out in advance of Infraco construction i.e.; enabling works, BAA fence, central reserve removal etc.

See Appendix 5 – Risk Register

2.0 Operations Next Period

- Focus on Duke Street crossings/Foot of the Walk.
- Rationalising Traffic Management on Leith Walk to release sections asap.
- Commencement of diversionary work on Leith Walk railway bridge crossing.
- Implementation of City Centre Phase 2.
- Commencement of works outside Gyle car-park.
- Implementation of phase Traffic Management; Bankhead Drive/South Gyle access.
- Commencement of 800mm Water Main in Gogar Depot.

3.0 Initiatives

- Review of service utility diversions requirements based on revised depth and protection. Area of review 400 – 1200 depth range below FRL. Further review of latest detail of INFRACO proposed RHEDA CITY track system and potential reduced diversions ongoing. Overall construction depth to be of the order of 350 – 400mm. Protected services identified on 'as-builts' for informing SUC's/ INFRACO et al. Method of measurement may affect overall saving.
- Maximise recovery of costs associated with SUC C4 estimates via specialist consultant's advice/input – this would only be related to SW and BTO. Telecom specialist has joined the MUDFA team to assist in the design/construction and C4 implications related to betterment/deferment etc. Agreement reached with SGN for whole of the works – retained within the allowance (excl. MP gas main at the Mound). Agreement reached with Scottish Power for whole of the works.
- Provision of an independent survey team to carryout dilapidation surveys along the tram route (SDS responsibility) – protect **tie**'s position from potential 3rd Party claims

post MUDFA & INFRACO – Commencement of dilapidation surveys by independent body on 10 December 2007. Expect these to be completed by end of April 2008, due to additional requirement to survey the route of the diversions.

- RAT's proposal put forward for section 7b and following discussions with BAA, principle to adopt process on less complex utility diversions accepted.
- Review of both MUDFA/INFRACO programmes to identify critical areas wherein synergies can be adopted through interface of programmes. Revised design programme impacting on ability to obtain visibility of interfaces.
- Review of section 1A diversions – assess potential programme gains due to implementation of temporary diversions, thereby allowing earlier construction start to INFRACO works. Awaiting details of retaining wall structure on Lindsay Road to verify alternative diversions. Proposed structural changes to bridges on Ocean drive under review to assess impact on temporary diversion proposals.

4.0 Key Issues/Blockers

- SGN 30" gas main at the Mound: Ratifying commercial regarding minimum diversion.
- SGN service work outside of the LOD (service connections); SGN to carry out works.
- Leith Walk Cable Tunnel – require definition of trackform to enable SP to assess impact of tunnel and provide approval for utility diversion crossings above the tunnel; resolution required as a matter of urgency.
- Scottish Water acceptance of the Gogar 800 water main to enable issue of IFC documents received. MUDFA are in frequent discussion with SDS to progress remaining details for works to commence; proposed ground profile.
- Section 7B – procurement of D&B ongoing. Potential delay to commencement of this section. Presently programmed to commence 2 June 2008.

PHASE 1A - APPENDIX A - SUMMARY

Project Name	Project No.	CEC 1293830 - 10A - 10/17/17				CEC 1293830 - 10B - 10/17/17				CEC 1293830 - 10C - 10/17/17				CEC 1293830 - 10D - 10/17/17				Total	MFC
		Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4		
1.1. Project Overview	965,250	867,410	867,410	867,410	867,410	867,410	867,410	867,410	867,410	867,410	867,410	867,410	867,410	867,410	867,410	867,410	867,410	3,470,040	3,470,040
1.2. General Notes	3,272,200	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	4,502,200	4,502,200
1.3. Materials & Labor	26,800,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	1,130,000	28,930,000	28,930,000
1.4. Construction	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	680,000	680,000
1.5. Contingency	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	400,000	400,000
1.6. Other	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	400,000	400,000
1.7. Total	3,470,040	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	4,502,200	17,011,440	17,011,440
2.0. Summary	11,700,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	11,772,000	11,772,000
3.0. Details	11,700,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	11,772,000	11,772,000
4.0. Other	11,700,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	11,772,000	11,772,000

Project Managers Report

Period: **13** Project No: **T18.01**
 Year: **07/08** Project Title: **MUDFA**

Cost Forecast

Element	EBC	Adjusted EBC	Current AFC	Previous AFC	Movement	Cumulative to Period				
						AMIS Application Cert 15 - Period 12	adjustments	Certified Amount	Accruals	COWD
Pre Construction Services	996,353		996,353	996,353	-	987,610	-	987,611	-	987,611
Prelims	5,322,296		4,856,145	4,856,145	0	1,671,543	89,529	1,582,014	250,000	1,832,014
Measured Works	18,410,646		18,559,542	18,558,982	560	6,736,897	226,839	6,510,058	2,152,119	8,662,177
Provisional Sums	8,611,031		8,611,031	8,611,031	-					
Contingency	3,085,956		1,689,935	1,689,935	-					
Variations	1,398,388		2,929,094	2,929,094	-	2,172,613	27,203	2,145,410	45,303	2,190,713
Sub Total	39,945,727		39,915,185	39,914,576	609	11,684,351	347,238	11,317,113	2,447,422	13,764,535
Claims	-		-	-	-	1,356,355	-	1,356,355	-	1,356,355
Miscellaneous	-		-	-	-	-	-	-	-	-
T18.01 Total	39,945,727		39,915,185	39,914,576	609	13,020,706	347,238	12,673,468	2,447,422	15,120,890
Utilities	11,627,214		11,627,214	11,627,214	-	4,071,818	-	4,071,818	3,457,872	7,529,690
Total	51,572,941		51,542,399	51,541,790	609	17,092,524	347,238	16,745,286	5,905,294	22,650,580

Includes BAA prov sum allowance of £4.971k Anticipated actual cost circa £1.4m, BAA £1m allowance Gogar £850k, A6 Sewer £350k, Gain share £200k total £3.8m balance £1.028m

£304k unallocated. Currently includes full SGN costs of £3.6m for Gogar, £165k Constitution st, £250k design/supervision total £4.035 less SGN contribution of £1.2m total £2.835m. Includes SP C4 estimates plus allowances of £160k for jointing at 1A (1-12)

Variations/Claims Analysis	Anticipated Final Claimed	Taken to AFC	Balance not taken	Comments	Risks/Opportunities	Included in AFC	Estimate balance not included in AFC	P80 Risk Allocation	Comments
Variations	2,929,094	2,929,094	0		Risks				
Claims	2,500,000	1,750,000	750,000	Claim allowance no details/ substantiation submitted from AMIS for claims in addition to the Settlement upto Oct 07 of £1,356,355	A6 sewer crossing at Gogar	350,000	1,500,000	1,387,220	Final solution to be established. AFC includes for minimum cost option within tunnel construction. Risk ID 342 - probability high
Potential Insurance claims issues with properties in Leith walk potential affected by deep excavations adjacent to building and running sand ground conditions	100,000	Nil	100,000	Settlement for claims below the insurance policy excess - method and payment to be discussed and agreed with insurance department and also which budget to be used	Traffic management/enabling works for phase 2, 3, constitution street, Haymarket and models cost in excess of allowances made in contingency this period	800,000			
					Measured works quantity is greater than anticipated and budget allowances inc PC & Prov Sums	440,000			Exercise underway with additional commercial resource to establish the designed measured works total from a mixture of IFC and IFA drawings for the Tram route - Initial finding show approx 9,000lm more service diversions than original measure which equates to circa £440k.
					BAA fence line re-ignment at Gogar Depot	40,000	160,000		Recent quote received from BAA amounts to circa £200k which is £160k greater than original estimate - currently reviewing and discussing with BAA. These works are included in the INFRACO scope.
					SP diversions at 1A (1-4) 3,500m more than anticipated of 33kv cables	250,000	132,500		Currently being assessed and design reviewed
					SP cable tunnel in Leith Walk may require remedial alterations/ relocation/protection to accommodate Tram and utility diversions			554,530	Extent and requirement for work to be established and agreed with Scottish Power - dependant upon Tram track design and associated loading to the existing tunnel. Risk ID 911 - probability high
					Unknown or abandoned assets or unforeseen/contaminated ground conditions affect scope, design & construction method & progress of MUDFA works			4,176,810	Extent of issue unknown but to date the issue and associated costs have been managed within the MUDFA measured works and PC & PS sums. Risk ID 164
					Potential utility diversions around the proposed BBS accommodation at Gogar		250,000		Subject to final location of BBS accommodation at Gogar.
						5,840,000	3,236,000	6,116,360	Note : Total P80 risk allocation to complete MUDFA £6,644k
					Opportunities				
					Potential recovery from SW for sewer surveys undertaken	0	450,000		Subject to ongoing discussions and final agreement with SW no benefit taken to date
					Potential recovery from CEC for traffic management/enabling works required for their approval which are in addition to the required CEC standard specification requirements	0	TBA		Subject to ongoing review by Faber mensell to identify the additional CEC requirements prior to submission and request for funding
					SGN gas works to accommodate Gogar	0	800,000		Total actual cost for diversion by SGN maybe in excess of original CA and not under NRSMA - included within utilities but investigating agreement made in Nov 2008

					Potential recovery/ transfer from INFRACO for removal of central reservations and traffic management enabling works	0 TBA	0 Subject to discussion and final agreement with INFRACO Contractor, with the INFRACO team to confirm the budget allowances for same within INFRACO tender no benefit taken to date.
						0	1,050,000

Prov Sums/Measured Works Commitments	Contract Amount	IFC Measured and valued	Relevant Contract amount	Variance	Remaining Contract amount	Anticipated value	AFC (C+G)
Prov Sums (exc line 2 BAA 7a & 7b of £4 971m)	8,611,030	-4,720,710	4,680,000	40,710	3,890,320	3,600,000	8,320,710
Measured Works (inc prov sum line 2 for BAA 7a & 7b of £4 971m)	18,410,646	10,368,884	9,808,974	559,910	8,601,672	7,481,000	17,849,884

Appendix One

Year to Date Service Strike Information

Hours Expended in Period =	17848
Hours Expended year to date =	184255
Service strikes in period =	6
Service Strikes Year to date =	28

Period Service Strike

Frequency Rate (per 10000hrs) = 3.36

Year to date Service Strike

Frequency Rate (per 10000hrs) = 1.23

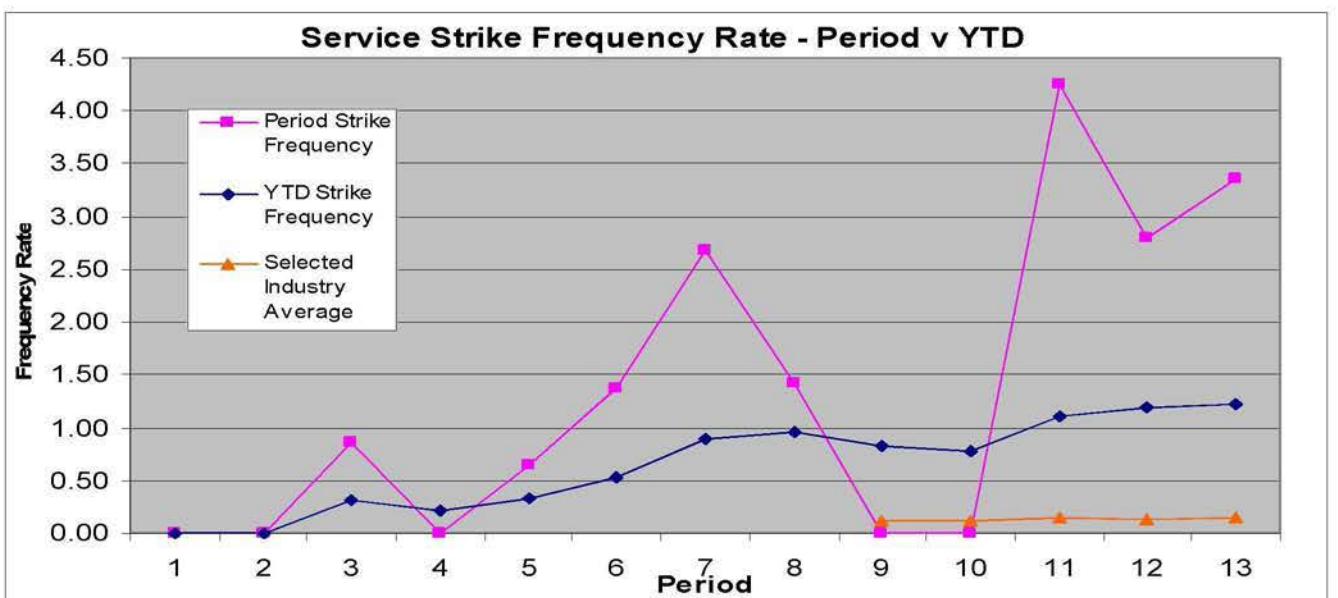
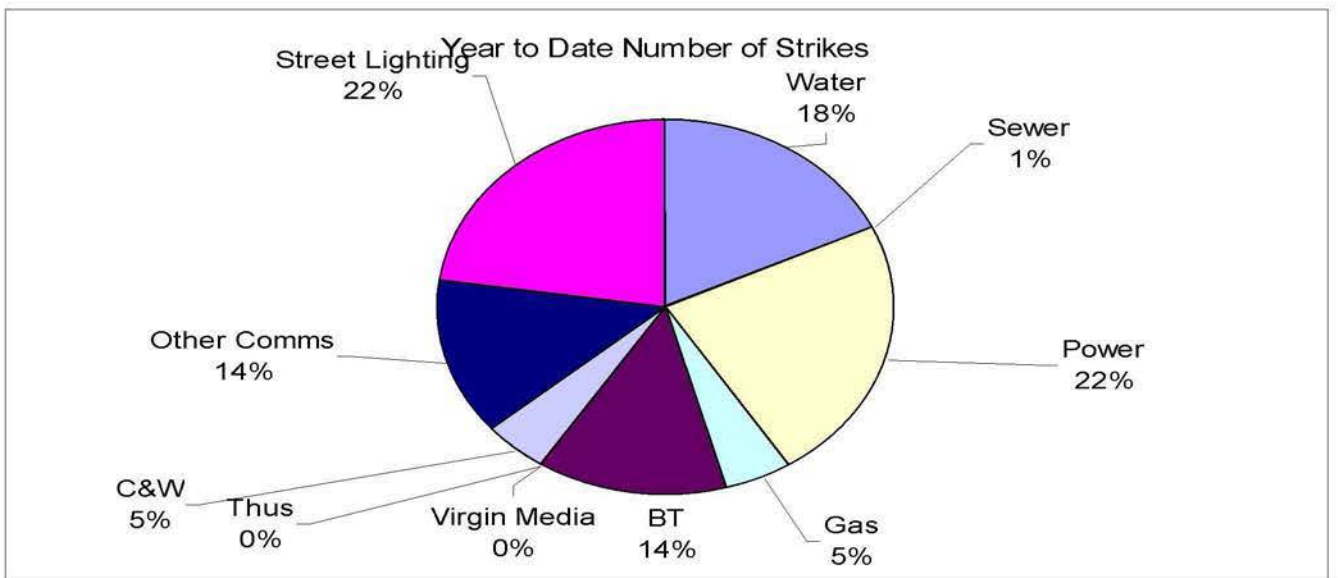


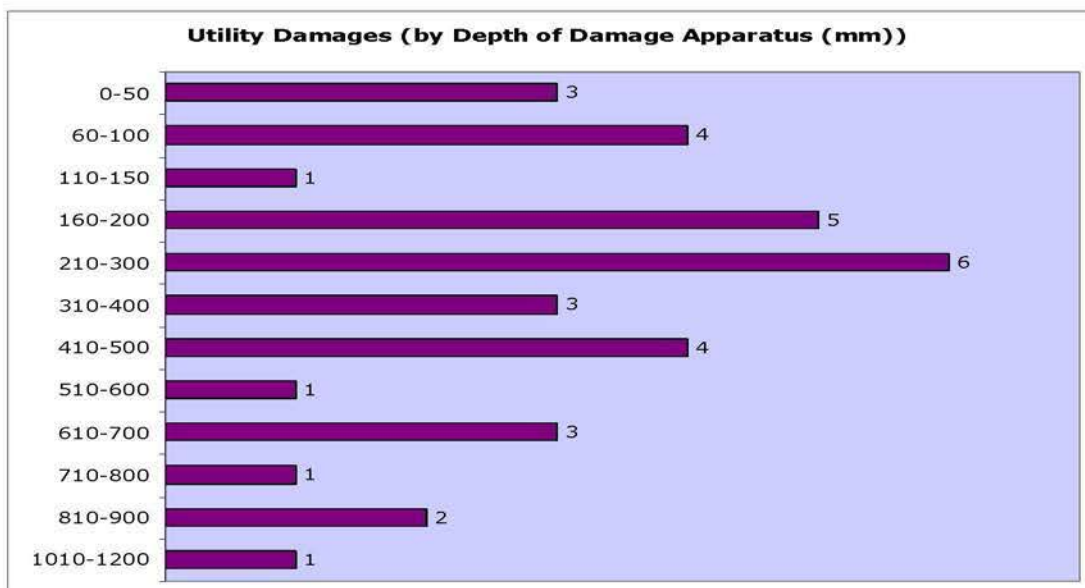
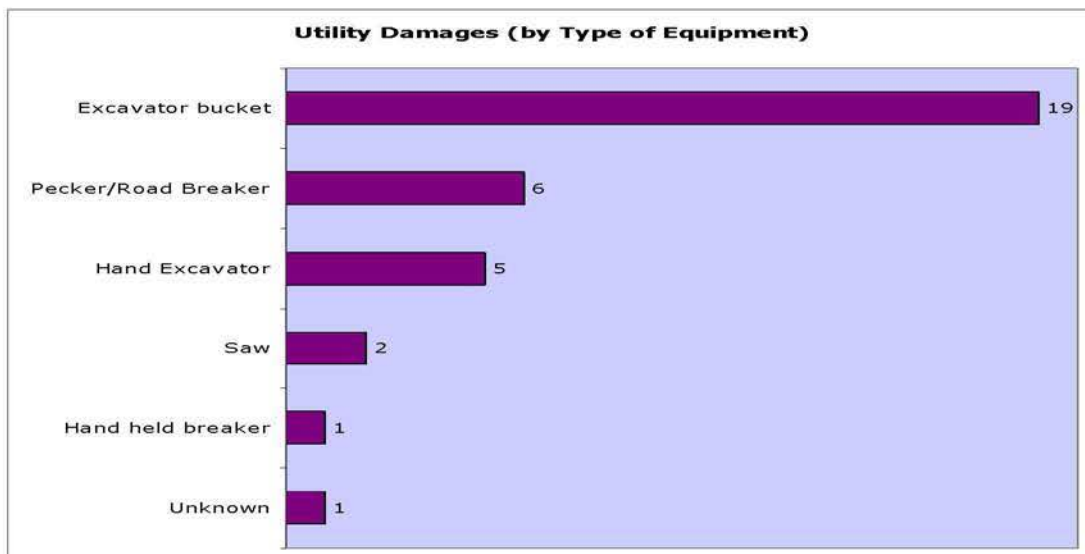
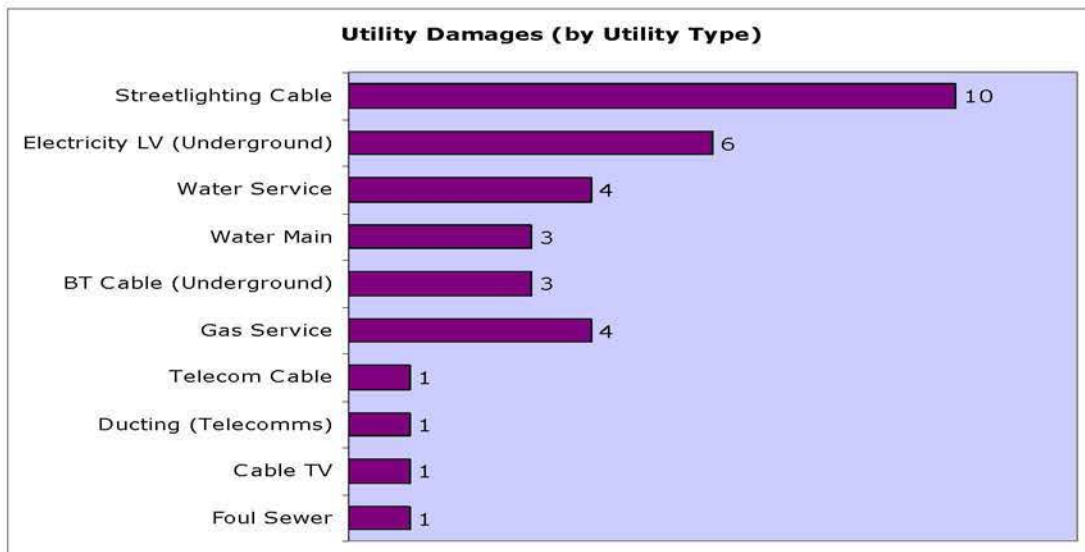
Table one

Period	Period Strike Frequency	YTD Strike Frequency	SWAYTD Freq
1	0.00	0.00	
2	0.00	0.00	
3	0.86	0.32	
4	0.00	0.22	
5	0.64	0.33	
6	1.38	0.53	
7	2.68	0.89	
8	1.43	0.96	
9	0.00	0.83	0.12
10	0.00	0.77	0.12
11	4.26	1.11	0.15
12	2.80	1.19	0.13
13	3.36	1.23	0.15

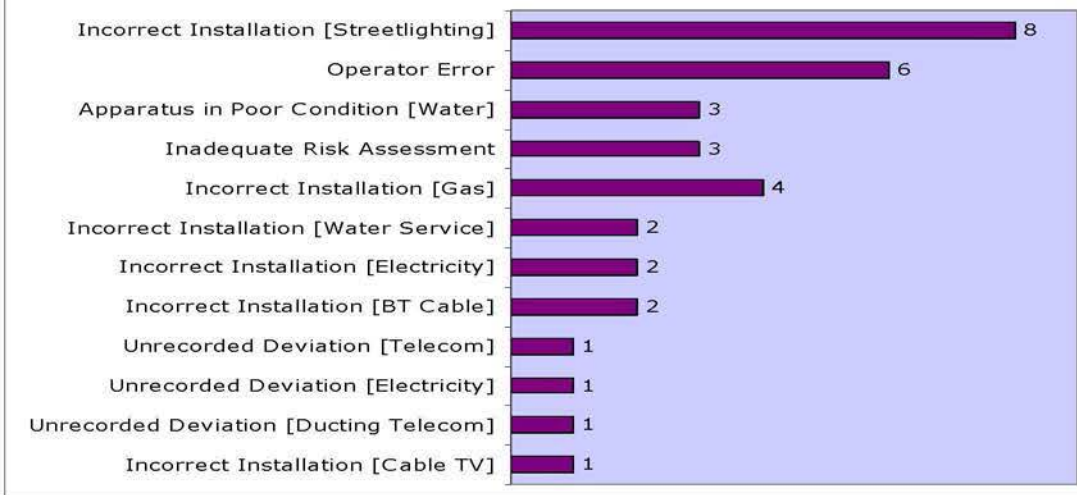
Table 2

Utility	Rolling Number of Strikes
Water	5
Sewer	1
Power	6
Gas	2
BT	4
Virgin Media	0
Thus	0
C&W	1
Other Comms	3
Street Lighting	6
	28

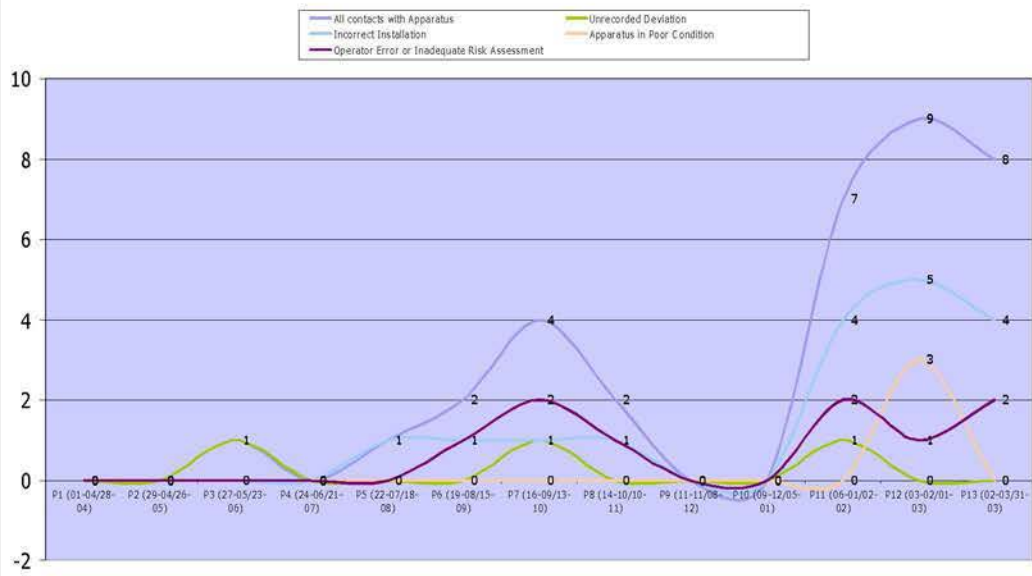
Appendix Two



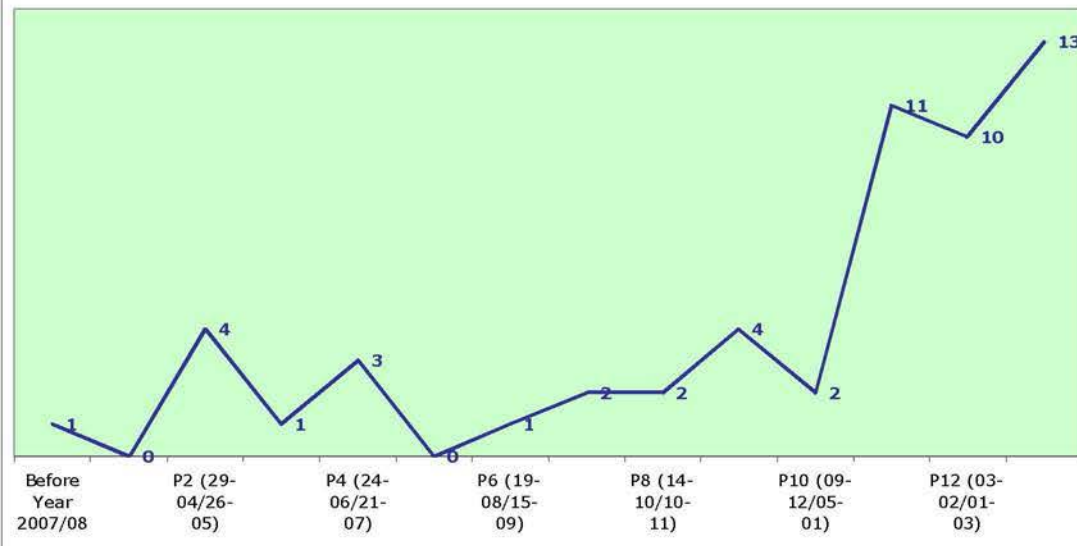
Utility Damages (by Root Cause)



Number of events in time (2007-2008)



Near Misses in time



Leith Walk Site Clearance Programme

AREA	START DATE	END DATE	NOTES
4A	Existing	25 th April 2008	
5	Existing	2 nd May 2008	
7A	Existing	2 nd May 2008	
10	Existing	2 nd May 2008	
16	Existing	2 nd May 2008	
1	Existing	9 th May 2008	
2	Existing	9 th May 2008	
8	Existing	9 th May 2008	
9A	Existing	9 th May 2008	
15A	Existing	9 th May 2008	
3A	Existing	16 th May 2008	
6	Existing	16 th May 2008	Last 2 weeks on footpath only
11	Existing	23 rd May 2008	Last 3 wks = 1 lane of carriageway under TM
12B	28 th April 2008	23 rd May 2008	Last 2 wks = 1 lane of carriageway under TM
13B	Existing	23 rd May 2008	
7B	26 th May 2008	30 th May 2008	Junction of Iona/Leith
14A	Existing	30 th May 2008	
3B	Existing	6 th June 2008	
4B	28 th April 2008	6 th June 2008	
9C	2 nd June 2008	6 th June 2008	Junction of Dalmeny/Leith
9D	9 th June 2008	13 th June 2008	Junction of Jameson/Leith
4C	9 th June 2008	20 th June 2008	Junction of Albert/Leith
9B	Existing	27 th June 2008	
12A	Existing	27 th June 2008	
13A	Existing	27 th June 2008	Footpath only
14B	2 nd June 2008	27 th June 2008	
15B	12 th May 2008	27 th June 2008	
17 + Duke Street TM	Existing	4 th July 2008	Taxi Rank + Kirk Street reopened 2 nd May 2008

In summary, Traffic Management and Worksites will be reduced and cleared every Friday for the next 11 weeks.

Future works requiring Traffic Management

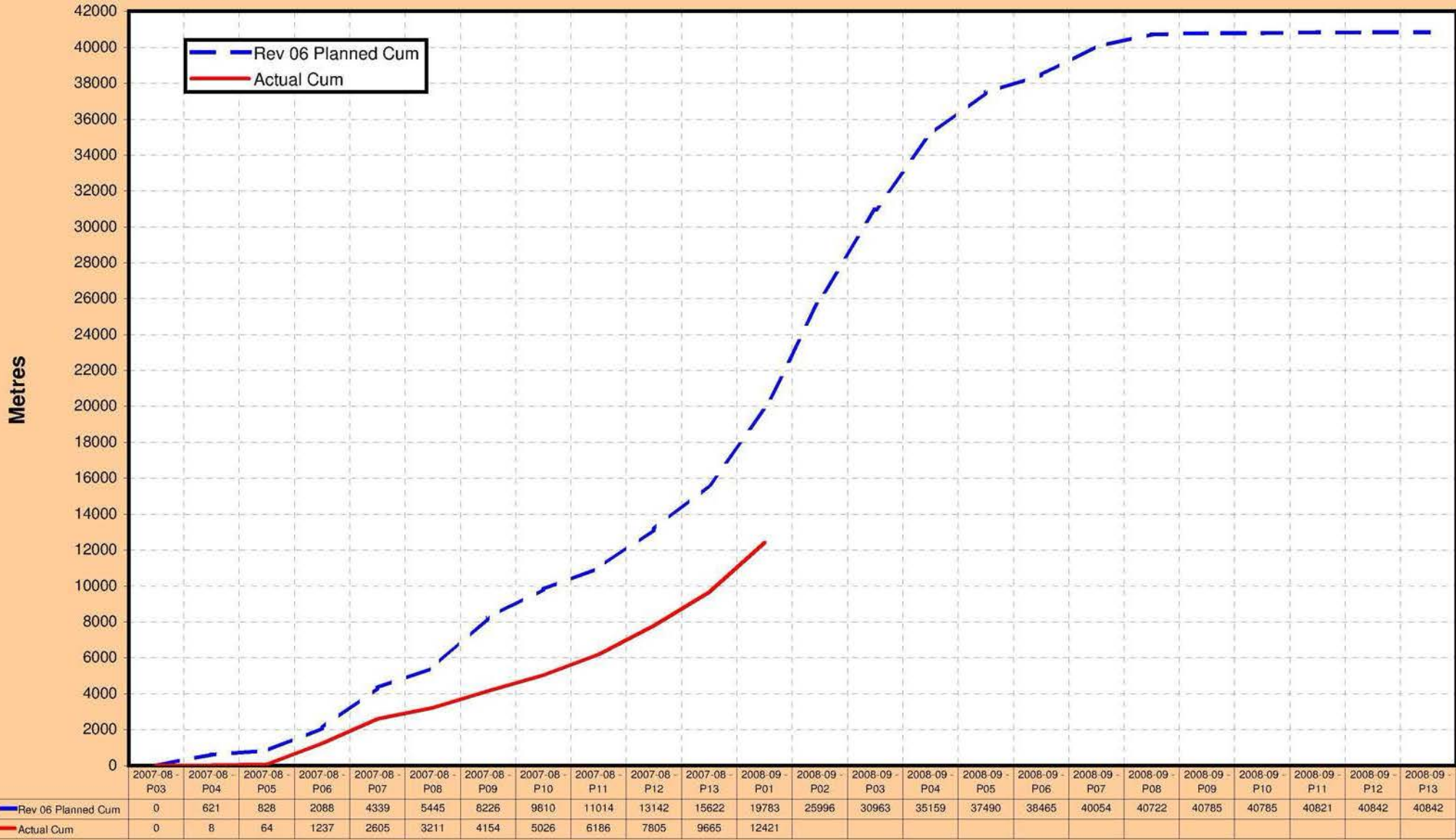
In addition to the installation of new pipes, cables, ducts and chambers there are other activities required to be completed prior to INFRACO entering Leith Walk. The additional works being the installation of utility crossings, consumer service transfers and the abandonment of the utility apparatus in conflict with the tram alignment.

The Traffic Management arrangements required for the remaining works will be localised and much smaller than presently seen on Leith Walk.

Note – the utility crossings are proposed to be carried out by installing a one way system on Leith Walk, with traffic flowing southbound on Leith Walk and making the return northbound journey via Easter Road. One way system to commence once Duke Street is returned to two way flow in early July.



Edinburgh Tram Project MUDFA Rev 06 Programme Project Metres Status



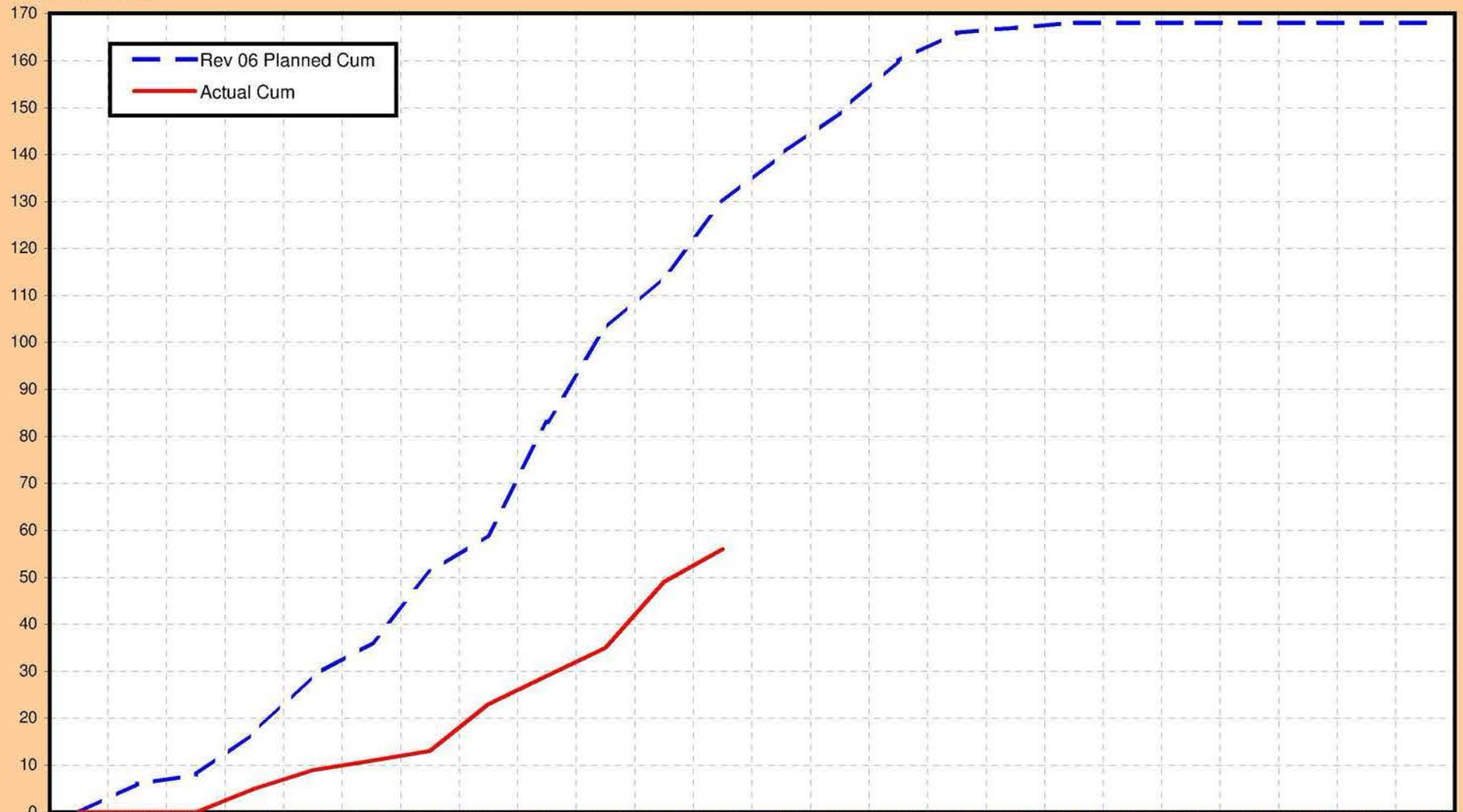
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Edinburgh Tram Project MUDFA Rev 06 Programme Project Chambers Status



No. of Chambers



	2007-08 - P03	2007-08 - P04	2007-08 - P05	2007-08 - P06	2007-08 - P07	2007-08 - P08	2007-08 - P09	2007-08 - P10	2007-08 - P11	2007-08 - P12	2007-08 - P13	2008-09 - P01	2008-09 - P02	2008-09 - P03	2008-09 - P04	2008-09 - P05	2008-09 - P06	2008-09 - P07	2008-09 - P08	2008-09 - P09	2008-09 - P10	2008-09 - P11	2008-09 - P12	2008-09 - P13
Rev 06 Planned Cum	0	6	8	17	29	36	51	59	83	103	114	130	140	149	160	166	167	168	168	168	168	168	168	168
Actual Cum	0	0	0	5	9	11	13	23	29	35	49	56												

Period

MUDFA Risk Register - Period 1

Risk Description											
ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Black Flag	Treatment Strategy	Previous Status	Current Status	Due Date	Action Owner
139	Utilities diversion outline specification only from plans	Uncertainty of Utilities location and consequently required diversion work/ unforeseen utility services within LoD	Increase in MUDFA costs or G Barclay delays as a result of carrying out more diversions than estimated		High - 25.00		Carry out GPR Adien survey	Complete	Complete	31-Oct-07	J Casserly
							Identify increase in services diversions. MUDFA to resource/re-programme to meet required timescales.	Complete	Complete	23-Nov-07	J McAloon
							In conjunction with MUDFA, undertake trial excavations to confirm locations of Utilities and inform designer	On Programme	On Programme	31-May-08	A Hill
164	Utilities assets uncovered during construction that were not previously accounted for; unidentified abandoned utilities assets; asbestos found in excavation for utilities diversion; unknown cellars and basements intrude into works area; other physical obstructions; other contaminated land	Unknown or abandoned assets or unforeseen/contaminated ground conditions affect scope of MUDFA work.	Re-design and delay as investigation takes place and solution implemented; Increase in Capex cost as a result of additional works.	I Clark	High - 25.00		Carry out GPR Adien survey	Complete	Complete	31-Oct-07	J Casserly
							Identify increase in services diversions. MUDFA to resource/re-programme to meet required timescales.	Complete	Complete	23-Nov-07	J McAloon
							In conjunction with MUDFA, undertake trial excavations to confirm locations of Utilities and inform designer	On Programme	On Programme	31-May-08	A Hill
342	Tram alignment at A8 crossing at Gogar coincides with 1500mm sewer	1500mm sewer required to be diverted	Capex cost to cover BT data nest/cable move; additional design costs; delay while works to undertake move are carried out; additional tunnelling costs.	I Clark	High - 24.00		Confirm if diversion required	On Programme	Complete	8-Mar-08	G Barclay
							Confirmation of BT requirements to tie	Complete	Complete	15-Oct-07	I Clark

911	Scottish Power own and maintain a cable tunnel in the vicinity of Leith Walk that may or may not interfere with Tram construction and operation; exact location and depth of tunnel is unknown; condition of tunnel is unknown.	Presence of Scottish Power tunnel in Leith Walk requires approved construction methodology from Scottish power - works scheduled for August 08.	Tunnel may have to be decommissioned and re-laid in a more suitable location; tram alignment may require to be adjusted; special foundation solution e.g. cantilever may be required; increased capex; potential for tunnel collapse during operation and consequent disruption for tram.	M Blake	High - 24.00	Liase with Scottish Power to agree and approve method of crossing tunnel	Undefined	On Programme	31-Aug-08	M Blake
						Scottish Power to establish exact location of tunnel	Complete	Complete	2-Apr-07	M Blake
						SDS to try and ensure tram alignment footprint is outwith Scottish Power alignment - confirmation via thumbnails due 16th November	Complete	Complete	28-Dec-07	T Glazebrook
						tie to undertake engineering feasibility study	Complete	Complete	2-Apr-07	J Casserly
914	Required approval/acceptance turnaround time does not reflect SUC standard practice; SUCs do not have enough resource or process capability to achieve 20 day turnaround	Statutory Utility Companies unable to meet design approval/acceptance turnaround time to meet programme	Additional period required for design approval/acceptance turnaround	T Glazebrook	High - 20.00	SDS to obtain consent for design in accordance with programme requirements - Scottish Water and all Telecoms	On Programme	On Programme	30-Jun-08	I Clark
						SDS to obtain consent for design in accordance with programme requirements - SGN and Scottisk Power	On Programme	On Programme	30-Jun-08	M Blake
926	Complexity of traffic management proposals require additional approvals (relating mainly to city centre)	Approvals for traffic management proposals are not approved or take so long to approve that work cannot commence in line with the programme	Delay to project.	G Barclay	High - 18.00	Review traffic management requirements for rev 6 programme and the alignment of these requirements with programme start dates	On Programme	On Programme	1-Jun-08	K Rimmer