



**Infrastructure Services**

MUDFA Project  
Western Harbour  
Leith Docks  
Edinburgh  
EH6 6QF

Telephone [REDACTED]  
Facsimile 0131 561 2811

www.alfredmcalpineplc.com

Ref: AMIS/tie/letter/KAG/Projects/816

3<sup>rd</sup> March, 2008

**Mr. Graeme Barclay**  
tie MUDFA Utilities Construction Director  
tie Limited.  
Citypoint,  
1<sup>st</sup> Floor,  
65 Haymarket Terrace,  
Edinburgh.  
EH12 5HD

Dear Graeme,

**Subject: MUDFA Alfred McAlpine Infrastructure Services (AMIS) – Contract A150  
Clause 35 Programme & Revision 06 (FINAL); Notes and Assumptions**

AMIS MUDFA refers to the discussions held on 25<sup>th</sup> February 2008, between Messrs Barclay, Casserly, Bell (in part) Hudson, Malkin and Gourlay following Mr. Keith Gourlay's email to Mr. John Casserly of 15<sup>th</sup> February 2008, timed at 1408hrs,

It was apparent that this issue had become a major point of contention, with a consequential impact on Schedule Adherence, the Commercial Agreement and MUDFA Contractor Incentive Scheme had it not been addressed, and the discussions were conducted and concluded with this objective in mind.

Please find attached a copy of the revised Notes and Assumptions, amended in line with the discussions and agreements for your review and approval; an advanced and uncontrolled copy being provided to your Mr. John Casserly at on 27<sup>th</sup> February 2008.

In recognition of this revised submission and the discussions held on the 25<sup>th</sup> February 2008, AMIS MUDFA considers it appropriate to summarise the key and critical issues previously under review and challenge from tie Limited.

In the first instance AMIS MUDFA has not received a considered and structured response from tie Limited to letter Ref: AMIS/tie/letter/KAG/Projects/713 of 9<sup>th</sup> January 2008; current delay of approaching eight (8) weeks.

For the avoidance of doubt the statement made in your letter Ref: DEL.MUDFA.6330.GB, dated 8<sup>th</sup> December 2007, that *"...the information your queries [Notes and Assumptions] relate to has not fundamentally changed since tender..... [therefore] the basis of your statements have no real substance"* is erroneous, anecdotal and totally unsubstantiated.

As a consequence AMIS MUDFA would reiterate their request for your letter of 8<sup>th</sup> December 2007 to be withdrawn forthwith.



Alfred McAlpine Infrastructure Services Limited. Registered in England No. 00728599  
Registered Office: Kinnaird House, 1 Pall Mall East, London SW1Y 5AZ

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The supplementary Notes and Assumptions have been submitted and progressively updated with each and every iteration of the **tie** Limited and Stakeholder Constrained (formerly Imposed) Programme.

The first was submitted under cover of letter Ref; AMIS/tie/letter/KAG/Projects/041 of 21<sup>st</sup> November 2006; ie fourteen (14) months ago.

AMIS MUDFA believed it necessary and beneficial to both parties to provide such detail throughout the early development stages to assist Mr. John McAloon and Mr. Tom Hickman.

In the fourteen months and five (5) full Programme revisions, including multiple iterations, primarily throughout the development of Revisions 05 and 06 of the **tie** Limited and Stakeholder Constrained (formerly Imposed) Programme, between this submission and your letter DEL.MUDFA.6330.GB, dated 8<sup>th</sup> December 2007, the Notes and Assumptions have been accepted without any significant challenge or comment from **tie** Limited.

Before providing a synopsis of the principal areas previously under review and challenge by **tie** Limited, AMIS MUDFA have a general comment that needs to be considered in the overall context of the correspondence and discussions to date.

The Notes and Assumptions were provided, in addition to providing assistance to your Mr. John McAloon, in order to;

- a. Establish the baseline logic, assumptions, mutual understandings and agreements reached in the preparation, development and agreement of the Programme between parties and key stakeholders: all as managed and co-ordinated by **tie** Limited as Employer, Project Sponsor and Project Manager;
- b. Determine the potential and perceived risks to the Programme as defined under the terms and conditions of the MUDFA Agreement where the party incumbent with managing the risk is **tie** Limited, in their role as Employer, Project Sponsor and Project Manager;
- c. Establish what **tie** Limited is required to provide by way of advance support and active input into the **tie** Limited and Stakeholder Imposed Programme activities.

This includes, but is not necessarily limited to interfaces, demarcation and configuration of critical dependencies, provision of Design and Design related information, provision of global, detailed and specific Traffic Management data, including signalling design, specification and approvals, associated enabling works, provision of TTRO's, Stakeholder Management, SUC Management and the like.

- d. Confirm the basis of the Programme in relation to separate and parallel agreements; i.e. the Commercial Agreement and MUDFA Contractor incentivisation scheme; and





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e. Provide an AMIS MUDFA statement and confirmation of intent relating to schedule adherence.

In the circumstances AMIS MUDFA considers this approach to be both highly appropriate and professional, particularly as they are being considered in recognition of and within the overall context of, the parties' defined obligations under the MUDFA terms and conditions.

The key and critical areas, in the considered and professional opinion of AMIS MUDFA can be consolidated into seven (7) discrete areas and one (1) consequential and indirect area, summarised as follows:-

1. **Multi-Utility single diversion quantities;** in the absence of appropriate technical definition and design detail to fully support planning development, Revision 06 of the **tie** Limited and Stakeholder Constrained (formerly Imposed) Programme has been based on the diversion quantities reflected in **tie** Limited imposed Anticipated Final Account (AFA) which contemplates 35,265M of single utility diversion against drawings of an early / preliminary nature.

This is acknowledged by **tie** Limited who confirmed Revision 06 of the **tie** Limited and Stakeholder Constrained Programme was to be based on "*...the current and best available information*", despite their contractual obligation to issue IFC Drawings and Design related information timeously in support of Construction Services.

Please note **tie** Limited have not produced, to date, an independent assessment or verification of the estimated quantities determined by AMIS MUDFA.

AMIS MUDFA consider a more appropriate quantity of single utility diversion to be 38,967M, an 11% increase; the cost driven AFA demands of **tie** Limited have been considered, notwithstanding a series of factors and considerations previously agreed by **tie** Limited agents.

Furthermore no cognisance has been given in this comparison to the 35% risk provision proposed by AMIS MUDFA within Revision 05 of the MUDFA Contractors AFA in the total amount of £10,658,176; letter Ref; AMIS/tie/letter/KAG/Projects/342 dated 7<sup>th</sup> August 2007 refers; no **tie** Limited response received.

This risk profile was reduced by **tie** Limited to 10%, against a lower overall measured work value. The overall variance of risk reduction is £7,707,706 which AMIS MUDFA contemplated being allocated in part against increased growth of single utility diversions, as previously stated.

The overall impact of these reductions in the AFA imposed by **tie** Limited is circa **£12.8M**. Please refer to letter Ref:AMIS/tie/letter/KAG/Projects/523 dated 19<sup>th</sup> October 2007, where a response has been outstanding from **tie** Limited for a period approaching twenty (20) weeks.

An increased growth in the quantity of single utility diversions will have a corresponding impact on the estimated durations contemplated under Revision 06 of the Programme.







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It is for this level of risk that the elements contained within the AMIS MUDFA AFA were provided against, given the absence of utility design detail and definition, in addition to providing an element of reassurance and prudence for all parties concerned.

By way of illustration, the growth of single utility diversion on two recent Worksites is as follows:-

Table with 5 columns: Worksite, Revision 06 / tie Limited AFA, Work Order Proposal (M), Increase (M), Increase (%). Rows include 1B-01-02, 1D-04-01, and Totals.

This represents the impact of Construction Services durations on the Work Order Proposal for Worksite 1B/WSI/001/002 and 1D/WSI/004/001 and is highly dependent on IFC design detail which has been consistently late leading to last minute impact on quantities, durations, resource profiles and the like; see items 4, 5 and 6 below.

AMIS MUDFA have consistently highlighted this issue and the associated risk in respect of the Construction Services programme, with no acknowledgement, positive feedback or input from tie Limited.

Consequently in consideration of your letter Ref; DEL.MUDFA.6947.JM.GB dated 11<sup>th</sup> February 2008 it is inappropriate to state the Work Order Proposal is "...not in line with the timescales reflected in the MUDFA High Level Execution Programme"; and should be amended and resubmitted to the "...agreed timescales".

This issue has been addressed under separate cover; please see letter Ref:AMIS/tie/letter/SM/Projects/806 dated 27<sup>th</sup> February 2008.

The risk in this area is the exclusive responsibility of tie Limited to identify in the first instance and develop outline mitigation / treatment strategies. According to our records tie Limited have still not convened a Worksite or area risk workshop despite several AMIS MUDFA requests; see item 4 below.

It is wholly inappropriate for tie Limited, in their role as Employer, Project Sponsor and Project Manager to issue documentation under the work ordering protocol without an appreciation of the increase in scope. It is also wholly unsatisfactory for tie Limited to issue SDS Provider design information without intervention, checking and trend analysis against the Programme and AFA submission.

Furthermore it is vexatious to then seek retrospectively substantiation for documentation when tie Limited are the originator and primary custodian of the data, all of which is freely available from contemporaneous records.





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The effective management of risk is delivered by the earliest identification of the risk, its scope and integrated approach to mitigation and treatment; this expectation and critical project deliverable was not delivered in this instance, or indeed at any point previously.

If quantities of multi-utility single diversions increase the Worksite durations will, in all likelihood, increase on site as a consequence of the additional Works and the other constraints, dependencies and overall considerations, i.e. Traffic Management et al, as consistently demonstrated to date.

Furthermore the attention of tie Limited is drawn to letter Ref:AMIS/tie/letter/KAG/Projects/675 dated 7<sup>th</sup> December 2007 requesting the tie Limited proposals for Joint Value Engineering Meetings, Risk Management Workshops and Integrated INFRACO – MUDFA Working proposals to actively assist mutual understanding and co-ordination between parties.

The current delay in response or even initial notification of proposals is now approaching thirteen (13) weeks and this lack of response confirms it is deemed to be of low priority by tie Limited, whereas AMIS MUDFA considers it to be key and critical to success.

tie Limited, as Employer, Project Sponsor and Project Manager have an obligation to mitigate the impact of this growth before the Worksites are processed under Work Ordering protocols, through Value Engineering processes / intervention and analysis of potential change and escalation.

It is a matter of record this intervention and proactive management has not materialised, effectively compromising the revised MUDFA Contractor Incentivisation Scheme as a result, drafted with the express intention of providing;

*“.....a suitable and sustainable replacement for the existing Value Engineering Incentive, as set out in Clause 1, Definitions and Interpretation & Clause 48.”*

- 2. Traffic Management;** in the absence of appropriate technical definition to support planning development the programme durations are based on the consolidated outputs contemplated under Schedule Four of the MUDFA Agreement, all as reflected in the AMIS MUDFA Anticipated Final Account submissions, Revision 01 to 05 inclusive.

This aspect is not under challenge or review by tie Limited, however the impact of Traffic Management on these outputs is not necessarily recognised or fully appreciated by tie Limited, given the initial arbitrary and unsubstantiated adjustments to the Programme Notes and Assumptions, together with the lack of direct management of a key stakeholder that had a direct influence on programme delay and duration, i.e. Lothian Buses (Messrs Campbell and White).

Given the acceptance by tie Limited of the link between the agreed Revision 06 Worksite durations and Schedule Four productivity levels, the relationship between these outputs and durations and the Schedule Eight Programme must also be acknowledged and considered within





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the context of anticipated performance and resultant schedule adherence under Revision 06 of the **tie** Limited and Stakeholder Constrained Programme.

The Schedule Eight Programme assumed and defined an agreed modis operandi, sequence and operational methodology, based on the Schedule Four quantities for single utility diversions and the Tender drawings, with significantly less quantities and restricted knowledge of change and consequential impacts.

It also contemplated the Traffic Management Design and TTRO Process would be completed, in its entirety, by 9<sup>th</sup> January 2007, to support Construction Services as formulated under the MUDFA terms and conditions, in accordance with the contractual obligations of **tie** Limited and their agents / advisers.

The attention of **tie** Limited is drawn to letter Ref:AMIS/tie/letter/KAG/Projects/557 dated 29<sup>th</sup> October 2007, where again a response has been outstanding from **tie** Limited for eighteen (18) weeks.

It is a matter of record that the Traffic Management Design and TTRO Process was not completed on the 9<sup>th</sup> January 2007 and is subject to ongoing preparation, review and approval on an ad hoc basis, within a three to four week window in advance of the Revision 06 Worksite commencement dates; please refer to Traffic Management Plans by SDS Provider / Mr. Keith Rimmer issued on the 9<sup>th</sup> October 2006 at 1530hrs.

The present delay in completion of this contract obligation by **tie** Limited is approaching sixty (60) weeks.

This process and the outputs agreed define and dictate the modus operandi of the MUDFA Contractor under Revision 06 of the Programme, with a consequential impact on the Work Order Proposal durations in the first instance, see Section 7 below for the commercial and financial impact.

Furthermore the impact of the growth in the multi-utility single diversion quantities illustrated above will have a direct and consequential impact on the Traffic Management modelling, Design, approved TTRO and ultimately MUDFA Worksite durations.

Furthermore the inter-dependency of multiple Worksite and concurrent operations has not been considered by **tie** Limited.

- 3. Prime Cost and Provisional Sums;** **tie** Limited have asserted that the Prime Cost and Provisional Sum spend has been *“assessed and taken account of in the Rev 06 Programme development”*.

The requirements in respect of Prime Cost and Provisional Sums, as defined under Schedule Four, states all expenditure are to be instructed *“...at the entire discretion of **tie** [Limited]”*.







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In these circumstances, given these provisions are managed exclusively as part of the overall Master Schedule, Project Budget and integrated programmes by **tie** Limited, the phasing and proportion of the spend attributable to labour etc, is the prime responsibility of **tie** Limited, giving due consideration to ongoing operations and emerging issues.

AMIS MUDFA would be very grateful if **tie** Limited could provide a full appraisal of the anticipated spend, by category against the Schedule requirements, complete with the algorithms being used in the determination of draw-down by the **tie** Limited estimating and planning teams.

- 4. Contract Compliance by tie Limited;** although not expressly stated within the Programme Notes and Assumptions schedule compliance under Revision 06 of the Programme is predicated and solely dependent upon the ability of **tie** Limited to discharge their obligations, in full, under the MUDFA terms and conditions.

This includes, but is not necessarily limited to:-

- the provision of IFC Designs and Design related information to support schedule adherence and Work Order Proposal preparation with minimal re-work and technical challenge;
- provision of Work Orders and Work Order Requirements under Clause 8.8.1 and 8.9 respectively (strictly in accordance with the dates, durations and timescales contemplated within Revision 06 of the Programme); and
- the robust management of Clause 46, technical queries, traffic management, Health/Safety/Environmental documentation and the like with specific needs and requirements fully detailed and defined.

Please note it is a contractual covenant that no construction works can commence until the provisions of Clause 8.8, 8.9 and 8.10 have been discharged in full by **tie** Limited and this will be the subject of separate correspondence and the issuing of a series of NCR's, secured by balanced scorecards for each Work Order in existence.

It is a matter of record that **tie** Limited have failed to discharge their obligations in this respect and that AMIS MUDFA have proceeded in good faith, but nevertheless at contractual, commercial, health, safety, environmental and operational risk, in order to ensure schedule adherence under Revision 06 of the Programme is safeguarded within our limited authority and jurisdiction.

As demonstrated under cover of letter Ref: AMIS/tie/letter/KAG/Projects/560 and 632 dated 29<sup>th</sup> October and 26<sup>th</sup> November 2007 respectively, the management by **tie** limited of Clause 8 falls significantly short of an acceptable standard with non-compliance level, against a fully substantiated and Balanced Scorecard of circa 70%+, when measured against the agreed contractual provisions of the MUDFA terms and conditions; i.e. only 30% compliant.





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It is also a matter of record that tie Limited have not acknowledged or formulated a response that satisfactorily addresses the non-compliance issues identified under these items of correspondence, with the delay in responses being the equivalent of eighteen (18) and fourteen (14) weeks respectively.

Furthermore tie Limited have not adequately or appropriately discharged their obligations in this and other areas, as confirmed in the following representative correspondence issued within recent weeks:-

- Letter Ref; AMIS/tie/letter/TL/Projects/779 dated 14<sup>th</sup> February 2008;
- Letter Ref; AMIS/tie/letter/KAG/Projects/780 dated 14<sup>th</sup> February 2008; and
- Letter Ref; AMIS/tie/letter/KAG/Projects/783 dated 19<sup>th</sup> February 2008.

Following the discussions held on 25<sup>th</sup> February 2008 tie Limited have undertaken to address all outstanding Work Order and Work Order Confirmation Notices; an uncontrolled copy of Work Order Status Schedule, demonstrating £12,947,479.61 of outstanding Work Order Confirmation Notices under Clause 8.8.3.1 was provided to Mr. John Casserly by Mr. Keith Gourlay during the meeting; an additional copy is attached herewith.

The lack of appreciation from tie Limited Project Management staff in respect of their obligations under the MUDFA Terms and Conditions is also highlighted by letter Ref; DEL.MUDFA.6860.KG.GB dated 5<sup>th</sup> February 2008, under the heading "Forward Planning".

The requests and observations included within this letter display a fundamental deficiency in the recognition and comprehension of the parties' respective obligations under the MUDFA Contract provisions and in respect of design detailing and work ordering, specifically Clause 2.4 and Clause 8.9, "Work Order Requirements".

Furthermore AMIS MUDFA awaits the robust and consistent implementation of the Pre-Start Up Meetings confirmed in your email of 30<sup>th</sup> August 2007, timed at 1455 hrs and transcribed below for ease of reference:-

*"Gents, it is paramount that we all are fully conversant with the construction works associated with each section and the associated critical elements within and more specifically, areas of particular protective measures/requirements. It is vital that all the key parties have full visibility of what the works entail and when they are due to occur. To this end, I have instructed Ian and Michael to ensure prior to commencement of **ANY** section, they are to arrange a pre-start up meeting with AMIS, SDS and all the relevant SUC's, to confirm what the programme of works entails and what the key operations will be. I have asked them to organise retrospective meetings for both sections 1B & 5A as quickly as possible.*

*I personally believe this will be highly beneficial to all concerned and would appreciate and anticipate your full cooperation in this matter.*







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*Michael and Ian will be contacting the relevant people in the very near future for the aforementioned meetings."*

Adherence to this commitment and resultant meeting structure, in your prescribed format, would have proved invaluable to the mobilisation of Worksites, better appreciation of the technical issues and challenges to be overcome, communication and addressing interface management issues between the various parties and key/critical Stakeholders.

The potential identification of Value Engineering opportunities and risk mitigation strategies would also have been developed at this forum, facilitating 'real time' management of issues which AMIS MUDFA has consistently demonstrated on behalf of **tie** Limited as the party responsible for management of the MUDFA technical interfaces.

AMIS MUDFA formally request these Meetings are reinvigorated by **tie** Limited with immediate effect.

A concern also exists in relation to the ability of **tie** Limited to proficiently manage the configuration and control of the work ordering protocol, taking due cognisance of the level of change being experienced to date in all future Programmes and Work Orders.

Notwithstanding the above noted issues relating to contract compliance concerns also exists in relation to the precise management and assimilation of the Works Order Requirements contemplated under Clause 8.9 in the case of Work Orders and Clause 46.3.1 in the case of **tie** Limited Notice(s) of Change.

The attention of **tie** Limited is drawn to the following representative correspondence, highlighting and demonstrating in comprehensive detail the concern of AMIS MUDFA in the performance of **tie** Limited in this critical area;

- Letter Ref; AMIS/tie/letter/KAG/Projects/532 dated 27<sup>th</sup> October 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/672 dated 6<sup>th</sup> December 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/747 dated 29<sup>th</sup> January 2008;
- Letter Ref; AMIS/tie/letter/KAG/Projects/782 dated 18<sup>th</sup> February 2008; and
- Letter Ref; AMIS/tie/letter/KAG/Projects/790 dated 21<sup>st</sup> February 2008

This information is not intended to be exhaustive and is submitted to provide a representative example in relation to the AMIS MUDFA concerns on the co-ordination and configuration of key and critical design and technical information.

- 5. Design Process / Accuracy;** this aspect represents a fundamental dependency in the foregoing areas. Accurate IFC Designs reflecting the existing infrastructure, with a sustainable and economical diversionary route(s) are a contract deliverable and the responsibility of **tie** Limited under the MUDFA terms and conditions.

Please note Issued For Approval (IFA) advance issues do not substitute for IFC approved detail by **tie** limited, supported by appropriate Work Order Requirements related information, i.e. safety,





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environmental and traffic management data, provided by **tie** Limited in accordance with the MUDFA terms and conditions and Revision 06 of the **tie** Limited and Stakeholder Constrained Programme.

This matter has been the subject of extensive and protracted correspondence from AMIS MUDFA with limited acknowledgement or response from **tie** Limited. There has been no discernible or sustained improvement in the quality or suitability of the information provided since the Exemplar challenges of December 2006 and January 2007.

This will be the predominate issue that will lead to programme delay, disruption and dislocation in association with the extent of Change.

As detailed above schedule adherence will only be secured through the compliance with and discharge of the parties' obligations under the MUDFA terms and conditions.

The attention of **tie** Limited is drawn to the following key and critical items of correspondence that represents appropriate Early Warnings, proposals by way of mitigation, requests for information and/or records of relevant events;

- Letter Ref; AMIS/tie/letter/AM/Projects/007 dated 27<sup>th</sup> October 2006;
- Letter Ref; AMIS/tie/letter/AM/Projects/030 dated 13<sup>th</sup> November 2006;
- Letter Ref; AMIS/tie/letter/AM/Projects/055 dated 12<sup>th</sup> December 2006;
- Letter Ref; AMIS/tie/letter/AM/Projects/083 dated 7<sup>th</sup> February 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/086 dated 7<sup>th</sup> February 2007;
- Letter Ref; AMIS/tie/letter/AM/Projects/101 dated 20<sup>th</sup> February 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/239 dated 12<sup>th</sup> June 2007;
- Letter Ref; AMIS/tie/letter/AM/Projects/259 dated 19<sup>th</sup> June 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/274 dated 28<sup>th</sup> June 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/340 dated 7<sup>th</sup> August 2007;
- Letter Ref; AMIS/tie/letter/AM/Projects/380 dated 20<sup>th</sup> August 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/555 dated 29<sup>th</sup> October 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/556 dated 29<sup>th</sup> October 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/558 dated 29<sup>th</sup> October 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/563 dated 31<sup>st</sup> October 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/611 dated 20<sup>th</sup> November 2007; and
- Letter Ref; AMIS/tie/letter/KAG/Projects/673 dated 6<sup>th</sup> December 2007,

Please note the period from October 2006 to February 2008 constitutes a lack of response(s) approaching seventeen (17) months and **tie** Limited have been remiss in addressing the key issues under their direct control and responsibility.

By way of illustration a copy of Letter Ref; AMIS/tie/letter/AM/Projects/030 dated 13<sup>th</sup> November 2006 is attached for your ease of reference, pertaining to escalating cost and prolongation as a consequence of late design details.



Alfred McAlpine Infrastructure Services Limited. Registered in England No. 00728599  
Registered Office: Kinnaird House, 1 Pall Mall East, London SW1Y 5AZ

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The above noted list is not intended to be exhaustive and is intended to provide a representative example of the proactive, solutions focussed approach adopted by AMIS MUDFA throughout the contract period in direct support of tie Limited as Employer, Project Sponsor and Project Manager.

Notwithstanding this approach will be curtailed simply to reapportion the appropriate responsibilities under the MUDFA Terms and Conditions over the coming month in order to safeguard all parties and correctly manage the risk profile.

It is a matter of contemporaneous record that the IFC Designs and critical Design Related Information have consistently failed to achieve an appropriate level of adequacy and fitness for purpose and does not, as a result, adequately support Revision 06 of the Programme as a precursor activity to Construction Services.

This is further evidenced by the disproportionate level of Change under Clause 46 managed through excessive Technical Queries, Confirmation of Verbal Instructions and Record Sheets with no provisions being made by either tie Limited or SDS Provider.

All of these have been adopted and proactively implemented by AMIS MUDFA as a substitute for the appropriate and compliant management of the MUDFA terms and conditions by tie Limited; see item 4 above.

The management, co-ordination and configuration of the Technical Query (TQ) process have been the subject of protracted and extensive correspondence from AMIS MUDFA with no, or at best a limited response from tie Limited.

Please refer to the following key and critical items of correspondence:-

- Letter Ref; AMIS/tie/letter/KAG/Projects/331 dated 3<sup>rd</sup> August 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/427 dated 5<sup>th</sup> September 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/462 dated 19<sup>th</sup> September 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/543 dated 25<sup>th</sup> October 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/673 dated 6<sup>th</sup> December 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/723 dated 14<sup>th</sup> January 2008; and
- Letter Ref; AMIS/tie/letter/KAG/Projects/783 dated 19<sup>th</sup> February 2008.

Once again this information is not intended to be exhaustive and is submitted to provide a representative example in relation to the AMIS MUDFA concerns on the co-ordination, configuration and management of the TQ process.

6. **SDS Provider – Schedule Adherence**; please refer to letter Ref; AMIS/tie/letter/SM/Projects/796 dated 22<sup>nd</sup> February 2008, indicating that Schedule Adherence of IFC Designs and Design related information against Revision 06 of the Programme is causing a significant degree of







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concern, even at this late stage, with forecast design completion dates nearing the Revision 06 construction completion dates.

AMIS MUDFA takes this opportunity to reiterate previously stated concerns in this area throughout the contract period and to date.

At the time of writing there are presently a total of 287 IFC designs still not provided by tie Limited under the schedule and timescales contemplated under Revision 06 of the Programme and this compromises both the revised MUDFA Contractors Incentivisation Proposal and the agreed Programme at this stage.

AMIS MUDFA seek the assurances of tie Limited that this matter will be addressed in order to support Construction Services timeously, all while the Work Ordering protocol is not unduly compromised or indeed accelerated, leading to increasing cost and potential rework as a result.

Furthermore, AMIS MUDFA does not currently believe that the utility design planned and forecast dates to completion are sufficiently robust to support Revision 06, based on recent performance and accuracy of design information being released is deteriorating in terms of quality and configuration to related Schedules.

- 7. Enabling Works Programme;** the MUDFA terms and conditions clearly indicate that "*Advance Construction Works*" together with "*Enabling Works*" may be required prior to commencement of Construction Services in March 2007; please refer to Schedule One, paragraphs 2.50 and 2.51 respectively.

In recognition of the obligations of the parties under Clause 2.4, i.e. "*...the SDS Provider shall be responsible for the design and specification of the MUDFA Works in accordance with all applicable Law*", the MUDFA Contractor anticipated the design and technical definition of any enabling works would be addressed by tie Limited and their nominated agents.

This aspect would either be carried out independently of the MUDFA Contract, or alternatively would be instructed through Clause 8.8.1, Work Orders and Clause 8.9, Work Order Requirements taking into consideration the type of non-utility related works and workload commitments of the AMIS MUDFA team.

As the Programme and scope of works associated with the Leith Walk and the City Centre works crystallised throughout the latter part of 2007 it became apparent that a significant volume of civil related enabling works and permanent traffic light design was necessitated to support the MUDFA Works that were ultimately formalised under the Revision 06 Programme.

Despite the obligation relating to "*the design and specification of the MUDFA Works*" being the direct responsibility of SDS Provider and other agents, under the exclusive and direct management of tie Limited, as Employer, Project Sponsor and Project Manager, AMIS MUDFA sought to safeguard schedule compliance by preparing an enabling works proposal for the civils





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works and actively supporting **tie** Limited throughout the traffic modelling, traffic light design and procurement process.

This support, led predominately by Mr. Roddy Aves, our Design and Programme Manager, has been provided to the detriment of his core duties and responsibilities under the AMIS MUDFA Management structure impacting primarily on work ordering and technical resolution of key issues to support Construction Services.

It is a matter of record that the aforementioned enabling works respectively have been completed and continue to be carried out under a series of Confirmation of Verbal Instructions (CVI's), in contravention of the Work Order provisions under Clauses 8.8, 8.9 and 8.10, to a project outturn value of circa £1.4M; see item 4 above.

As Phase 1 nears completion and in view of the foregoing, the responsibility to design, specify, plan, co-ordinate and manage the next phases of enabling works associated with Traffic Management Phases 2, 3, 4 et al must be discharged by **tie** Limited in full and encompassing all associated activities in the form of alternate subcontracts or procurement means.

Please refer to letter Ref; AMIS/tie/letter/KAG/Projects/815 dated 3<sup>rd</sup> March 2008.

8. **Schedule Four Rates and Prices;** it is a matter of contemporaneous records and early warning notifications, that the impact of the foregoing and other related issues, will all impact on the integrity, veracity and granulation of the Schedule Four Rates and Prices.

The attention of **tie** Limited is drawn to the following items of correspondence, considered as representative of the issue, but not exhaustive:-

- Letter Ref; AMIS/tie/letter/KAG/Projects/155 dated 3<sup>rd</sup> April 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/186 dated 2<sup>nd</sup> May 2007;
- Letter Ref; AMIS/tie/letter/KAG/Projects/333 dated 3<sup>rd</sup> August 2007; and
- Letter Ref; AMIS/tie/letter/KAG/Projects/535 dated 23<sup>rd</sup> October 2007.

As discussed at the Commercial Meetings held on the 12<sup>th</sup> December 2007 and 25<sup>th</sup> February 2008 this matter will be the subject of a formal submission to be reviewed and agreed by Mr. Steven Bell, **tie** Limited Tram Director and Mr. Steve Hudson, AMIS Commercial Director.

This submission, scheduled for completion on 10<sup>th</sup> March 2008, will outline the basis of the additional entitlement necessitating a realignment of the Schedule rates and prices to more accurately reflect the emerging nature of the MUDFA works and the prevailing management of the Contract by **tie** Limited.

Notwithstanding and in advance of the aforementioned submission it is apparent from the foregoing, as exacerbated in more recent months, that the integrity and viability of the Schedule Four Rates and Prices have been fundamentally compromised.





## Infrastructure Services

3<sup>rd</sup> March 2008

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Ref: AMIS/tie/letter/KAG/Projects/816

The outputs and productivity levels presently being achieved by AMIS MUDFA have been significantly impaired as a direct and irrevocable consequence of the factors outlined under items 1 to 7 above and according to our records this determination has not been challenged by **tie** Limited.

In the absence of any discernable improvement and the forthcoming augmentation in Construction Services activity over multiple Worksites, it is apparent that the risks and consequences of the aforementioned factors and influences cannot satisfactorily be controlled or mitigated by **tie** Limited.

This has and will continue to result in additional costs being incurred by AMIS MUDFA over and above the allowables contemplated in the Schedule Four rates and prices and a diminution of the production levels and productivity contemplated under the Revision 06 Programme.

### Conclusion

In recognition of the foregoing our contemporaneous records demonstrate, beyond all reasonable doubt, that;

- There is an ongoing failure of **tie** Limited to co-ordinate and discharge their obligations under the MUDFA terms and conditions and a lack of appreciation in respect of the critical weighting and dependency for delivery of all MUDFA precursor activities.

This is evidenced by the failure of **tie** Limited to respond to Early Warning correspondence, drive Value Engineering initiatives and address correspondence / issues critical to schedule adherence and outturn cost in a timely and proactive manner;

- The management approach and delivery of key and critical dependencies, demarcation and configuration requirements necessary to support Revision 06 of the Programme, by **tie** Limited, has not been recognised, appreciated and/or appropriately discharged in full and mutual agreement;
- Risk events clearly identified by AMIS MUDFA in the "Notes and Assumptions" upon which Revision 06 of the programme is predicated have materialised, either in part or in full and without active and demonstrable consideration by **tie** Limited; and
- The absence of a manifest risk mitigation strategy or strategies, which are the responsibility of **tie** Limited to develop and implement as Employer, Project Manager and Project Sponsor will result, if not addressed as a matter of urgency, in escalating costs, delay, disruption and potentially prologation of the MUDFA works beyond the Revision 06 programmed completion date.







## Infrastructure Services

3<sup>rd</sup> March 2008  
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Ref: AMIS/tie/letter/KAG/Projects/816

This should include the consideration of potential MUDFA / INFRACO dependencies; please refer to letter Ref; AMIS/tie/letter/AM/Projects/007 dated 27<sup>th</sup> October 2006 for the initial early warning and cost assessment, i.e. initial warning in November 2006.

**tie** Limited letter Ref; DEL.MUDFA.6330.GB of 8<sup>th</sup> December 2007 seeks to imply that the inclusion of the Programme "*Notes and Assumptions*" result in "...*the validity of the programme [being]... somewhat compromised*".

Such an assertion is totally and wholly inappropriate given the fact **tie** Limited are the custodian and owners of the Revision 06 Programme supported by AMIS MUDFA for the Construction Services element only.

Therefore in the considered and professional opinion of AMIS MUDFA, as demonstrated above, it is not the "*Notes and Assumptions*" which should be perceived as having compromised, or as seeking to jeopardise the programme, but the lack of 'front-end' management and timely delivery of the Design and Work Order related activities.

In the event Revision 06 of the Programme is compromised the root cause is most likely to be the materialisation of risk events and the manner in which these risks have been identified, controlled and/or mitigated through the management approach adopted by **tie** Limited as Employer, Project Manager and Project Sponsor.

AMIS MUDFA, since execution of the contract on 4<sup>th</sup> October 2006, have consistently sought to be forward and client-facing, proactive and diligent in all matters, raising early warning notification of identified risk events, whilst seeking to ensure Contract compliance at all levels and at all times to the best of our ability, given our restricted jurisdiction, responsibility and overall influence.

Contemporaneous records, a number of which have been highlighted above, have endeavoured to identify risks and mitigation strategies, together with 'left-shift' opportunities (i.e. RATS proposals) that were intended to assist **tie** Limited in the joint objectives of ensuring schedule compliance and controlling outturn costs, thereby demonstrating best value under Clause 2.3.10.

It is also a matter of record that these proposals, early warnings and risk mitigation strategies have invariably received no confirmation from **tie** Limited, and certainly far less active engagement in addressing any of the risks and opportunities set out by AMIS MUDFA.

AMIS MUDFA would have expected **tie** Limited, in their role as Employer, Project Sponsor and Project Manager to have adopted such an approach as a remedy from risk mitigation review and planning.

AMIS MUDFA remains committed to schedule adherence under Revision 06 of the **tie** Limited and Stakeholder Constrained Programme. AMIS MUDFA will use their best endeavours to discharge our obligations under the Contract and demand the corresponding level of effort and resolute approach from all other parties to the Contract, either direct or indirect.





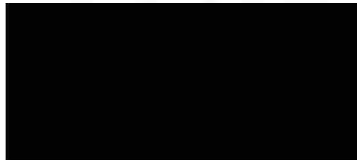
**Infrastructure Services**

3<sup>rd</sup> March 2008  
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Ref: AMIS/tie/letter/KAG/Projects/816

Following the consensus achieved on 25<sup>th</sup> February 2008 AMIS MUDFA anticipate appropriate engagement from tie Limited to address the key issues presently and potentially at large, which if not managed effectively, will significantly compromise schedule adherence and outturn cost under the Contract, above the levels contemplated in the MUDFA Contractors AFA at Revision 05.

Yours sincerely,  
For and on behalf of **Alfred McAlpine Infrastructure Services Ltd**



**Andrew Malkin**  
**MUDFA AMIS Project Director**

**Copies:-**

**tie Project Team**

John Casserly  
John McAloon  
Steven Bell

**MUDFA Project Team**

Keith Gourlay  
Rod Aves  
Stephen Miller  
Taryne Lowe  
Steve Hudson

**Attached/....** **Notes and Assumptions (Six Pages)**  
**Work Order Status Report (One Page)**  
**Letter Ref; AMIS/tie/letter/AM/Projects/030 dated 13<sup>th</sup> November 2006 (9 Pages)**



Alfred McAlpine Infrastructure Services Limited. Registered in England No. 00728599  
Registered Office: Kinnaird House, 1 Pall Mall East, London SW1Y 5AZ

**MUDFA Works - tie Limited and Stakeholder Imposed Programme (Rev. 06 Final); Programme Notes and Assumptions**

ID	Notes / Assumptions ; 30 <sup>th</sup> November 2007
1	All current SDS preliminary drawings show single line utility diversions; no allowances have been made for multiple utility trenching ducts, etc and only limited technical definition and detail are available to support detailed technical planning development at this stage.
2	SDS Provider detailed IFC design development may produce increase or decrease the measured diversions over and above the Preliminary and C4 Approval Pending drawings; consequently there may be a corresponding increase or decrease in the current scope of work anticipated at this stage.
3	<p>Of the assessed 918 IFC Utility design drawings (including Section 3 requirement), including composite drawings required for the MUDFA Works 157 No. have been provided for completed and current Worksite and 17 No. have been provided for review purposes. These design details, 174 No. in total, have been adopted in preparation of the Revision 06 Programme.</p> <p>The balance have been assessed on the current and best available information, i.e. the first generation preliminary designs issued by tie Limited to AMIS MUDFA in late October 2006; these drawings were predominately dated August 2006.</p>
4	<p>In recognition of items 1 and 3 above the procurement risks and dependencies, to support Construction Services are not reflected, in full, on the Programme, which is based on the current and best available information.</p> <p>The procurement and/or committed cost of all material, logistic support and the like in advance of a Work Order Confirmation Notice from tie Limited shall be at the commercial risk of tie Limited, under an agreed instruction, with due diligence being exercised by AMIS MUDFA.</p>
5	AMIS MUDFA has assumed that the tie Limited / Statutory Utility Company Agreements support the Programme, i.e. through the provision of appropriate support, resources, approvals, technical input and the like, according to the demarcation schedule; as formalised under letter Ref; AMIS/tie/letter/KAG/Projects/610 dated 20th November 2007.
6	AMIS MUDFA has assumed that tie Limited secure the necessary Statutory Utility Company C4 approvals of SDS Provider detailed utility designs, in accordance with the dates set out in the Programme.
7	<p>No allowance or provision has been made for any other Non-MUDFA works or services being undertaken by Statutory Utility Companies or any other third party during the currency of each Worksite.</p> <p>Other parties, Statutory Utility Companies may, with the agreement and approval of AMIS MUDFA, work in each Worksite during the currency of the MUDFA Works, with all such Works, cost and schedule adherence, treated as a Change under Clause 46.</p>

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ID	Notes / Assumptions ; 30 <sup>th</sup> November 2007																														
8	<p>In recognition of items 1 and 3 above the construction durations have been derived from the following quantities, as defined in tie Limited email of 15<sup>th</sup> October 2006, timed at 1237hrs;</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th align="center">MUDFA Utilities</th> <th align="center">Single Utility Quantities (LM)</th> </tr> </thead> <tbody> <tr><td>Power Systems</td><td align="center">8,587</td></tr> <tr><td>Gas - Mains &amp; Branch</td><td align="center">4,416</td></tr> <tr><td>Water - Clean</td><td align="center">6,971</td></tr> <tr><td>Water - Foul &amp; Gravity Piping</td><td align="center">2,192</td></tr> <tr><td>Telecoms - British Telecom (BT)</td><td align="center">6,063</td></tr> <tr><td>Telecoms - Tele West (TW)</td><td align="center">1,166</td></tr> <tr><td>Telecoms - Cable &amp; Wireless (C&amp;W)</td><td align="center">2,351</td></tr> <tr><td>Telecoms - THUS</td><td align="center">1,171</td></tr> <tr><td>Telecoms - EasyNet (EN)</td><td align="center">173</td></tr> <tr><td>Telecoms - NTL</td><td align="center">0</td></tr> <tr><td>Street Lighting</td><td align="center">540</td></tr> <tr><td>Surface Water Systems</td><td align="center">192</td></tr> <tr><td>Miscellaneous &amp; Other UTL Systems</td><td align="center">1,445</td></tr> <tr> <td align="right"><b>Total:</b></td> <td align="center"><b>35,265</b></td> </tr> </tbody> </table> <p>Consolidated average outputs per linear meter (LM) and traffic management arrangements have been derived from those established within the contractual framework, specifically Schedule Four and Schedule Eight.</p>	MUDFA Utilities	Single Utility Quantities (LM)	Power Systems	8,587	Gas - Mains & Branch	4,416	Water - Clean	6,971	Water - Foul & Gravity Piping	2,192	Telecoms - British Telecom (BT)	6,063	Telecoms - Tele West (TW)	1,166	Telecoms - Cable & Wireless (C&W)	2,351	Telecoms - THUS	1,171	Telecoms - EasyNet (EN)	173	Telecoms - NTL	0	Street Lighting	540	Surface Water Systems	192	Miscellaneous & Other UTL Systems	1,445	<b>Total:</b>	<b>35,265</b>
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<b>Total:</b>	<b>35,265</b>																														
9	The availability of any specialist plant, equipment or sub-contractors will be identified by tie Limited, in advance, under Clause 8.																														
10	As the Programme is based on the current and best available information maintaining business and retail centre critical power supplies have not been considered, in full, at this stage in the planning development phase.																														
11	Statutory Utility Company regulatory requirements, which are additional to the MUDFA works (i.e. betterment), have not been not been included in the development of the Programme and will be considered only under Clause 8, Work Ordering and/or Clause 46, Change; as appropriate..																														

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**MUDFA Works - tie Limited and Stakeholder Imposed Programme (Rev. 06 Final); Programme Notes and Assumptions**

ID	Notes / Assumptions ; 30 <sup>th</sup> November 2007
12	<p><b>tie</b> Limited to provide AMIS MUDFA with traffic light designs, wiring schematics, phase schedules and all associated documentation in relation to any temporary or permanent modifications to traffic management infrastructure necessitated to support the Programme requirements.</p> <p>AMIS MUDFA provide Worksite specific Traffic Management, i.e. Phasing Plans.</p>
13	<p>The impact of the Schedule 13 Requirements on Construction Services has been considered insofar as is practical or reasonable in recognition of the current and best available information.</p> <p>Particular concerns relates to British Airports Authority (BAA) / Edinburgh Airports Limited and Stakis Hotels in relation to Sections 7A and 7B due to the pending programme requirements.</p>
14	<p>Service/supply maintenance or replacement, not included in the design reasonably and practically available at the date of finalising the Programme has not been allowed in the planning development.</p> <p>If the main is to be replaced by the MUDFA Contractor and regulations require branches from that section of main to be replaced, i.e. lead pipe upgrade and gas/metal plastic upgrade, no provision has been included within the Programme at Revision 06.</p>
15	<p>No consideration has been given to any divergence with the provisions and basis of the Addendum to Preambles within Schedule Four, i.e. CARP Part 10, Miscellaneous Matters, items 1 to 4 inclusive and 5.1 to 5.10 inclusive.</p>
16	<p>Work site activities and durations are based on five (5 No.) working days, comprising 40 hours per week for operatives and staff, as contemplated within Schedule Four rates and prices.</p> <p>Disruptive, extended and/or accelerated working has not been considered and is not viewed as appropriate.</p>
17	<p>Previous iterations of the Programme contemplated the full closure of St. Andrews Square. The agreed programme contemplates, as requested by <b>tie</b> Limited, two lanes of traffic flowing either side of the square at all times.</p> <p>AMIS MUDFA has assumed that the scheduled works at St. Andrews Square, by others (CEC nominated Contractor) will have no impact on the MUDFA Works, or programme requirements.</p>
18	<p>The programme does not take cognisance of the interfaces and/or dependencies associated with the INFRACO Contractor and/or TRAMCO service provider.</p>

**MUDFA Works - tie Limited and Stakeholder Imposed Programme (Rev. 06 Final); Programme Notes and Assumptions**

ID	Notes / Assumptions ; 30 <sup>th</sup> November 2007
19	No allowance made, to the Worksite durations / dependencies for the impact of Prime Cost and Provisional Sums not subject to a formal Work Order from <b>tie</b> Limited as at 29th November 2007. Provisions have been made within the P3 cost and resource modelling only to the values and phasing instructed by <b>tie</b> Limited.
20	AMIS MUDFA shall use their best endeavours to mobilise all resources in recognition of the demands and requirements of the Programme; any abortive costs associated with the unproductive and inefficient allocation of these resources, including the consequential relocation and/or redeployment costs will be consistently underwritten by <b>tie</b> Limited.
21	No consideration given to benefits derived from Value Engineering / Risk and Trade Off Proposals and the like, with the exception of Section 6, 7A and 7B.
22	No consideration given to MUDFA utility diversions only. Utility diversion activities which are not required to accommodate the Edinburgh Tram project are not incorporated in the programme.
23	The Programme will be adopted as a basis for the management and application of the Commercial Agreement and MUDFA Contractor Incentivisation Proposal currently under review between the parties.
24	Traffic Management and Opening Notices are to be raised on issue of C4 drawings, by <b>tie</b> Limited, assisted by AMIS MUDFA where appropriate under the Contract, in accordance with the durations set out in the Programme and at no risk to AMIS MUDFA should late and/or changes in design detail require Traffic Management Plan modification.
25	The Programme assumes horizontal and vertical alignment for Sections 7A and 7B are correctly established; Risk and Trade Off dependent; criticality will be addressed by <b>tie</b> Limited and yield 50% / 50% gainshare opportunities.
26	AMIS require all SDS Provider Planning data in P3/P5 format; including programme logic, key deliverable dates and latest forecast dates, all updated weekly.
27	SDS Provider utility IFC designs and design related information, in terms of accuracy and schedule adherence, will serve Construction Services in a consistent and robust fashion, all requiring virtually no re-work by AMIS MUDFA.
28	Resolution of all Technical Queries shall be resolved in a timely and consistent manner, which adequately serves Construction Services; i.e. distributed on a daily basis following formal request.

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**MUDFA Works - tie Limited and Stakeholder Imposed Programme (Rev. 06 Final); Programme Notes and Assumptions**

ID	Notes / Assumptions ; 30 <sup>th</sup> November 2007
29	Issues pertaining to the Longstop Date, Time for Completion, Extension of Time for Completion, together with Liquidated and Ascertained Damages, as detailed in letter Ref; AMIS/tie/letter/KAG/Projects/353 dated 8 <sup>th</sup> August 2007 shall be addressed by <b>tie</b> Limited following agreement of the Programme in accordance with the provisions of the MUDFA terms and conditions accordingly.
30	AMIS MUDFA will endeavour to seek and implement 'left shift' and schedule compliance initiatives to safeguard the <b>tie</b> Limited dependencies; and
31	The logic associated with the City Centre works is predicated upon the attached Appendix 'A' and the following Assumptions / Pre-Requisites:-
i	<p>Princes Street Crossings and linear runs; all traffic Management approvals and permits to be in place prior to Christmas closedown on 21<sup>st</sup> December 2007.</p> <p>Central reservation removal, including the works cancelled for the week commencing 3<sup>rd</sup> December 2007 to be rescheduled and completed prior to linear works commencing. The programme as submitted contemplates this work being completed by the 7<sup>th</sup> December 2007, as per the approved Access Permit.</p>
ii	St Andrews Square Enabling works; work specification and scope of works to be issued by <b>tie</b> Limited, together with Traffic Management approvals by 10 <sup>th</sup> December 2007, for AMIS MUDFA pricing, which is to include the new traffic signal designs required at the junction of North St. Andrews Street and York Place.
iii	St Davids Street Enabling works; to be completed by others, under the direction and control of <b>tie</b> Limited. In the event <b>tie</b> Limited wish AMIS MUDFA to complete these works, work specification and scope of works (to include road pavement designs, levels, drainage details, signage, traffic signals, markings and the like) to be issued by <b>tie</b> Limited, together with Traffic Management approvals by 10 <sup>th</sup> December 2007.
iv	St Andrews Square BT (MUDFA); all traffic Management approvals and permits to be in place by 21 <sup>st</sup> December 2007, with all remaining trial holes to be undertaken first, including those originally planned to be undertaken between the 3 <sup>rd</sup> and 7 <sup>th</sup> December 2007.
v	St Andrews Square BT (MUDFA); IFC designs to be reviewed by SDS Provider and <b>tie</b> Limited to take account of the survey information received from the trial holes undertaken to date, noting the majority of the trial hole survey cards indicate there is no space available to undertake the works reflected in the current IFC Designs.
vi	Frederick St Enabling works; work specification/scope of works to be issued by <b>tie</b> Limited, together with Traffic Management approvals by 10 <sup>th</sup> December 2007, for AMIS MUDFA pricing; this is to include the new traffic signals and pedestrian crossing designs.

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**MUDFA Works - tie Limited and Stakeholder Imposed Programme (Rev. 06 Final); Programme Notes and Assumptions**

ID	Notes / Assumptions ; 30 <sup>th</sup> November 2007
vii	The Mound; all traffic Management approvals and permits to be in place by 21 <sup>st</sup> Dec.07. Princes St, central reservation to be removed and Frederick St. re-opened. New traffic signals to be installed at Hanover Street, Frederick Street, George Street & St. Andrews Square and modifications to existing traffic signals at Waverly Bridge / Princes Street Junction & Market Street / North Bank Street Junction, together with enabling works at Market Street. AMIS MUDFA has made no allowance for demobilisation of the Mound Construction Sites during the August 2008 embargo.
ix	Lothian Rd Junction / Shandwick Place (MUDFA Diversions); all traffic Management approvals and permits to be issued by tie Limited by 21 <sup>st</sup> December 2007.
x	St. Andrews Square (MUDFA); AMIS MUDFA have assumed that the St. Davids Street works will be completed by others and that the four lane traffic flow can be diverted to St. Davids Street allowing St. Andrews side of the Square to be closed to all traffic giving sole access to AMIS MUDFA to undertake the Utility Diversions.
xi	Canning St to Haymarket; AMIS MUDFA assume trial holes can be undertaken at this Section in parallel with the Chandwick Place MUDFA works.
xii	Canning St to Haymarket; all traffic diversions and approvals to be sought by tie Limited.

\*\*\*\*\* Notes and Assumptions End \*\*\*\*\*



Work Order Status

Work Pack Description	Work Pack I.D.	Date Submitted	Work Order Estimated Value	Tie Confirmation Notice Received	Time taken to issue WO Confirmation Notice (Weeks)	Weeks late (Clause 8.8.3 allows 5 days to either Confirm, Withdraw, or Discuss Issues)	Complete on Site	Forecast Completion	Still Active	Section	Plate ID
<b>WORK SITES (Original MUDFA)</b>											
TBC	Plates 1 to 12										1 to 12
Tower Street to Rennie's Isle Bridge	1AWSI003/001	28-Jun-07	748,137.28	06-Jul-07	1	0	19-Oct-07		No	1A	13 to 15
TBC	Plates 16 to 21										16 to 21
Balfour Street to Duke Street	1B WSI 002/001	?	2,475,719.02	outstanding	outstanding			TBC	Yes	1B	22 to 26
McDonald Road to Balfour Street	1BWSI001/001 Rev 02	06-Sep-07	3,166,392.60	outstanding	outstanding	24		02 June 2008	Yes	1B	27 to 31
Jane Street (Leith Walk)	R A T. 1B/1 - Jane Street	12-Oct-07	221,196.86	outstanding	outstanding	18		15 January 2008	Yes	1B	23
TBC	Plates 32 to 38										32 to 38
Princess Street Crossings	R A T. 1C/1 - Princess Street (BT Only)	?	422,659.33	outstanding	outstanding			TBC	Yes	1C	39 to 41
Princess Street Crossings	1C WSI 002/001	?	466,179.33	outstanding	outstanding			TBC	Yes	1C	42 to 43
The Mound	1C WSI 001/001 (Gas needs updating)	?	587,534.37	outstanding	outstanding			TBC	Yes	1C	44
Princess Street Crossings	1C WSI 001/002	08-Nov-07	133,542.45	outstanding	outstanding	15		TBC	Yes	1C	45 to 46
Princess Street Crossings	1D WSI 005/002	08-Nov-07	125,155.22	outstanding	outstanding	15		TBC	Yes	1D	46 to 48
Charlotte Street to Shandwick Place	1D WSI 004/001	?	2,518,655.22	outstanding	outstanding			TBC	Yes	1D	49 to 53
Shandwick Place to Haymarket	1D WSI 001/001	Not yet submitted								1D	54 to 56
Roseburn Street to Russell Road	5AWSI008/002	17-Aug-07	354,949.56	24/08/2007 (partial)	outstanding	26	24-Oct-07	Small portion to do	No	5A	01 to 03
?	5B	?	487,838.81	outstanding	outstanding				Yes	5B	14 to 20
Gogarburn Depot	6WSI001/001 (Utilities)	21-Sep-07	457,730.16	outstanding	outstanding	21		12 November 2008	Yes	6A	01 to 02
Gogar Depot to Edinburgh Park & Ride	7A WSI 002/001	Not yet submitted	427,952.01					TBC	Yes	7A	tbc
<b>ADDITIONAL WORK SITES</b>											
Gogarburn Depot	Phase 1	19-Mar-07	3,079,487.39	25-Apr-07	5	4	03-Aug-07		No	6A	01 to 02
Gogarburn Depot	Phase 2	26-Jul-07	1,940,010.76	31-Aug-07	5	4	19-Oct-07		No	6A	01 to 02
Gogarburn Depot	Phase 2a	21-Sep-07	No longer required	No longer required	No longer required	No longer required	No longer required	No longer required	No	6A	01 to 02
Enabling Works	City Wide (Cost Plus OH & P)	06-Dec-07	1,000,000.00	outstanding	outstanding	11		TBC	Yes	various	various
<b>TRIAL HOLES (Advance works)</b>											
Constitution Street	Constitution Street Trial Holes	29-Nov-07	147,033.93	outstanding	outstanding	12		TBC	Yes	1A	16 to 21
Leith Walk	Leith Walk Trial Holes	27-Jul-07	111,684.29	29/07/2007 (CVI 17152)	outstanding	29			No	1B	22 to 31
St Andrews Square Trial Holes Issue 2	St Andrews Square Trial Holes Issue 2	22-Nov-07	20,912.71	outstanding	outstanding	13			No	1B	39-41
St Andrew Square Trial Holes	St Andrew Square Trial Holes	19-Oct-07	1,076.72	17/10/2007 (CVI 17358)	outstanding	17	22-Oct-07		No	1C	40
Princess Street Trial Holes	Princes Street Trial Holes (1)	24-Jul-07	9,343.92	27-Jul-07	0	0	29-Jul-07		No	1C	44
Princess Street Trial Holes	Princes Street Trial Holes (2)	21-Sep-07	10,715.70	21-Sep-07	0	0	23-Sep-07		No	1C	45 to 50
Princess Street Trial Holes	Princes Street Trial Holes (3)	04-Oct-07	47,920.26	outstanding	outstanding	20	21-Oct-07		No	1C	45 to 50
Shandwick Place	Shandwick Place Trial Holes (1)	21-Sep-07	3,822.19	outstanding	outstanding	21	10-Oct-07		No	1D	50
Shandwick Place	Shandwick Place Trial Holes (2)	19-Oct-07	87,129.40	17/10/2007 (CVI 17359)	outstanding	17			No	1D	50
Shandwick Place to Haymarket Trial Holes	Shandwick Place to Haymarket Trial Holes	16-Jan-08	110,347.18	outstanding	outstanding	5		TBC	Yes	1D	51 to 55
Edinburgh Park	Edinburgh Park Station Trial Holes	06-Dec-07	1,158.37	21-Jan-08	7	6			No	5B	tbc
			<b>Total</b>		<b>Average Weeks Late</b>	<b>13</b>					

5,788,853.42	Work Order value where Work Order Confirmation received by AMIS MUDFA
12,947,479.61	Work Order value where Work Order Confirmation NOT received by AMIS MUDFA
427,952.01	Work Order value where not yet submitted to tie Limited for approval





## Infrastructure Services

Regus House  
10 Lochside Place  
Edinburgh Business Park  
South Gyle  
Edinburgh  
EH12 9RG

Telephone 0131 248 3633  
Facsimile 0131 248 3001

[www.alfredmcalpineplc.com](http://www.alfredmcalpineplc.com)

Ref : AMIS/tie/letter/AM/Projects/030

13<sup>th</sup> November 2006

**Mr. Alasdair Slessor**  
tie MUDFA Utilities Project Manager  
tie Limited.  
Verity House,  
19 Haymarket Yards,  
Edinburgh.  
EH12 5BH

Dear Alasdair,

**Subject : MUDFA Alfred McAlpine Infrastructure Services (AMIS) – Contract A150**  
**AMIS MUDFA Design and Construction Planning Interface**

I refer to your E-Mail dated 13<sup>th</sup> November 2006 (12.18pm) complete with ETN-Utilities Requirements schedule and acknowledge receipt of the information. I am assuming that the term "Sub-Section" means "WBS" and that "Worksites 01, 02, etc" means "Work Areas" which constitutes a new term for the MUDFA project and would appreciate confirmation of our understanding.

I have completed a review with the AMIS project team and our first pass analysis highlights in our opinion that the SDS design outputs and deliverables do not support the planned construction dates and mode of operation that AMIS had expected during the tendering and contract award phases. The SDS design output dates according to the baseline programme of 5<sup>th</sup> October 2006 presented in part do not allow sufficient time to carry out all the necessary detailed coordination activities and integrated logistics associated with AMIS construction and this matter requires an immediate in depth analysis between the respective planning teams.

I also refer to correspondence AMIS/tie/letter/AM/Projects/025 dated 7<sup>th</sup> November 2006 requesting a copy of the current Utility Design and Construction Programme and take this opportunity to re-emphasise the importance and criticality of this integrated programme. AMIS has recently issued a copy of the AMIS Risk Register for tie review and comment and the true value of risk analysis and mitigation planning can only be materialised with time domain and dependency based on an integrated programme between parties.

As you are aware AMIS has been carrying out pre-requisite construction planning and development work over the past four weeks based on SDS Detailed Design (DDI+ Preliminary) outputs as an integrated part of the AFA cost evaluation and modelling process. It is a contract requirement and in the best interests of tie and AMIS to mutually share planning and development information and I therefore attach for your review and information a number of documents for your review, namely :

- AMIS Construction Services Contract – High Level Construction Execution and Planning Strategy (Revision 01 – Stakeholders Programme)
- AMIS Construction Services Contract – High Level Construction Execution and Planning Strategy (Revision 00 – Contract Award Baseline)





Ref : AMIS/tie/letter/AM/Projects/030

- MUDFA Profiles (Design and Construction Interface) – Comparison of Project Profiles and Dependency on Timely Delivery of SDS Design Outputs in Construction Sequence
- AMIS MUDFA 2<sup>nd</sup> Pass Estimate of Utility Quantities in Linear Metres by Utility Specific and AMIS Sectors, and
- SDS Design and AMIS MUDFA Schedule of Integrated Programme Dates (Provisional)

In specific relation to the SDS Design and AMIS MUDFA Schedule of Integrated Programme Dates (Provisional) there are a number of anomalies resulting from the lack of information received or available at time of AMIS review. In addition the schedule includes a series of imposed AMIS lead times associated with Traffic Management and given the complexities in certain areas this element must not be underestimated

I would welcome a joint review of the information attached at your earliest convenience and propose we commence discussions at the next tie / AMIS Commercial review meeting.

Yours sincerely,

For and on behalf of **Alfred McAlpine Infrastructure Services Ltd**



**Andrew Malkin**  
MUDFA AMIS Project Director

**Copies :**

**tie Project Team**

Allan Hill  
John Low  
James Bruce

**MUDFA Project Team**

Keith Gourlay  
William Jarvie





Ref : AMIS/tie/letter/AM/Projects/030

**Attached /...**

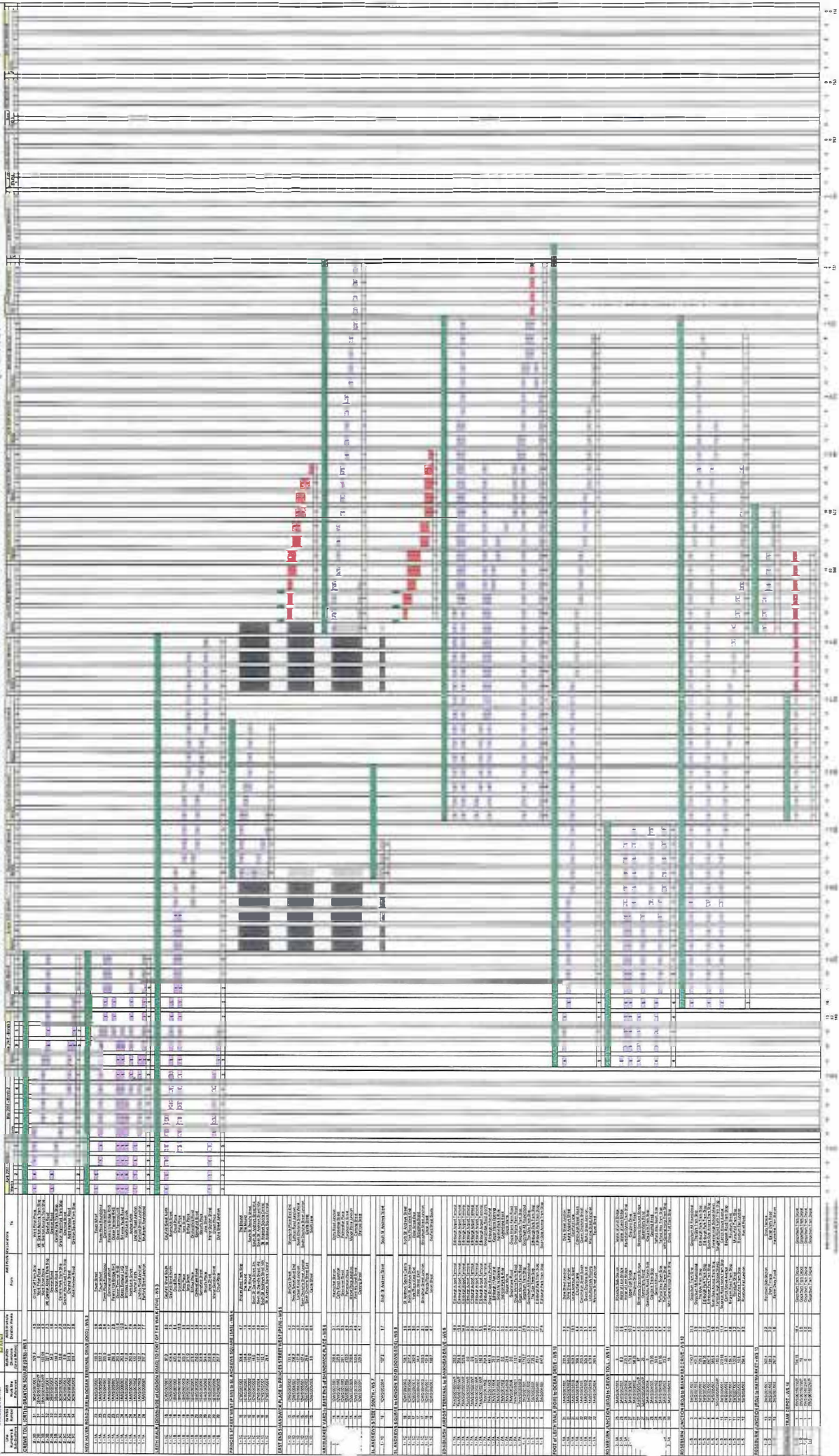
1. AMIS Construction Services Contract – High Level Construction Execution and Planning Strategy (Revision 01 – Stakeholders Programme)
2. AMIS Construction Services Contract – High Level Construction Execution and Planning Strategy (Revision 00 – Contract Award Baseline)
3. MUDFA Profiles (Design and Construction Interface) – Comparison of Project Profiles and Dependency on Timely Delivery of SDS Design Outputs in Construction Sequence
4. AMIS MUDFA 2<sup>nd</sup> Pass Estimate of Utility Quantities in Linear Metres by Utility Specific and AMIS Sectors, and
5. SDS Design and AMIS MUDFA Schedule of Integrated Programme Dates (Provisional)







AMIS MUJDA CONSTRUCTION SERVICES CONTRACT - HIGH LEVEL CONSTRUCTION EXECUTION AND PLANNING STRATEGY (REVISION 01 - STAKEHOLDERS PROGRAMME)









SDS Design Sections	AMIS Work Sectors	AMIS Work Sites	AMIS Work Packs	AMIS Work Site Locations		AMIS Worksite Duration Days	AMIS Worksite Duration Weeks	AMIS Lead Times	AMIS Worksite Start Dates (tie Stakeholder Plan)	AMIS Worksite Finish Dates	tie Work Order Approval Dates	SDS Design Drawing AFG/BoM Dates
				FROM	TO							
1A	1AWSE001	1AWSI001/001	N/A	Duke Street Junction	Duke Street Junction	17.2	3.4	126.0	04/06/2007	21/06/2007	28/01/2007	22/01/2007
1A	1AWSE001	1AWSI001/002	N/A	Duke Street Junction	Laurie Andrews Street	38.1	7.8	84.0	04/06/2007	12/07/2007	12/03/2007	05/03/2007
1A	1AWSE001	1AWSI001/003	N/A	Laurie Andrews Street	Coatfield Lane	67.5	13.5	84.0	04/06/2007	10/08/2007	12/03/2007	05/03/2007
1A	1AWSE001	1AWSI001/004	N/A	Coatfield Lane	Constitution Street South	21.8	4.4	84.0	04/06/2007	25/06/2007	12/03/2007	05/03/2007
1A	1AWSE002	1AWSI002/001	N/A	Constitution Street South	Queen Charlottes Street	19.2	3.8	84.0	04/06/2007	23/08/2007	12/03/2007	05/03/2007
1A	1AWSE002	1AWSI002/002	N/A	Queen Charlotte Street	Baltic Street Junction	15.3	3.1	84.0	04/06/2007	19/06/2007	12/03/2007	05/03/2007
1A	1AWSE002	1AWSI002/003	N/A	Leith Assembly Rooms	Maritime Street Junction	23.0	4.6	84.0	04/06/2007	27/06/2007	12/03/2007	05/03/2007
1A	1AWSE002	1AWSI002/004	N/A	Maritime Street Junction	Tower Street	17.6	3.5	84.0	04/06/2007	21/06/2007	12/03/2007	05/03/2007
1A	1AWSE003	1AWSI003/001	N/A	Tower Street	Tower Wharf	9.5	1.9	84.0	04/04/2007	13/04/2007	07/02/2007	31/01/2007
1A	1AWSE003	1AWSI003/002	N/A	Tower Wharf	Tower Place Roundabout	47.5	9.5	84.0	04/04/2007	21/05/2007	07/02/2007	31/01/2007
1A	1AWSE004	1AWSI004/001	N/A	Tower Place Roundabout	Commercial Wharf	26.8	5.4	84.0	04/04/2007	30/04/2007	07/02/2007	31/01/2007
1A	1AWSE004	1AWSI004/002	N/A	Commercial Wharf	Pennies Isle Bridge RHS	8.4	1.7	84.0	04/04/2007	12/04/2007	07/02/2007	31/01/2007
1A	1AWSE005	1AWSI005/001	N/A	Pennies Isle Bridge RHS	Ocean Terminal RHS	11.3	2.3	84.0	04/04/2007	15/04/2007	07/02/2007	31/01/2007
1A	1AWSE005	1AWSI005/002	N/A	Ocean Terminal RHS	Ocean Terminal LHS	55.2	11.0	84.0	04/04/2007	29/05/2007	07/02/2007	31/01/2007
1A	1AWSE006	1AWSI006/001	N/A	Ocean Terminal LHS	Britannia Yacht Road	60.2	12.0	84.0	04/04/2007	03/06/2007	10/01/2007	03/01/2007
1A	1AWSE006	1AWSI006/002	N/A	Britannia Yacht Road	North Leith Sands	33.7	6.7	84.0	04/04/2007	07/05/2007	07/02/2007	31/01/2007
1A	1AWSE007	1AWSI007/001	N/A	North Leith Sands	Anchor Fields	39.4	7.9	84.0	04/04/2007	13/05/2007	07/02/2007	31/01/2007
1A	1AWSE007	1AWSI007/002	N/A	Anchor Fields	Lindsay Road Junction	19.0	3.8	84.0	04/04/2007	22/04/2007	07/02/2007	31/01/2007
1A	1AWSE007	1AWSI007/003	N/A	Lindsay Road Junction	Portland Street Junction	25.9	5.2	84.0	04/04/2007	29/04/2007	07/02/2007	31/01/2007
1A	1AWSE008	1AWSI008/001	N/A	Portland Street Junction	Newhaven Roundabout	38.3	7.7	84.0	04/04/2007	12/05/2007	10/01/2007	03/01/2007
1B	1BWSE001	1BWSI001/001	N/A	Croall Place	Croall Place	42.2	8.4	126.0	04/04/2007	16/05/2007	29/11/2006	22/11/2006
1B	1BWSE001	1BWSI001/002	N/A	Croall Place	Pirrig Place	82.4	16.5	84.0	04/04/2007	25/06/2007	10/01/2007	03/01/2007
1B	1BWSE001	1BWSI001/003	N/A	Pirrig Place	Iona Street	28.9	5.8	84.0	04/04/2007	02/05/2007	10/01/2007	03/01/2007
1B	1BWSE001	1BWSI001/004	N/A	Iona Street	Balfour Place	42.7	8.5	84.0	04/04/2007	16/05/2007	10/01/2007	03/01/2007
1B	1BWSE002	1BWSI002/001	N/A	Balfour Place	Orchardfield Road	20.2	4.0	84.0	04/04/2007	24/04/2007	10/01/2007	03/01/2007
1B	1BWSE002	1BWSI002/002	N/A	Orchardfield Road	Springfield Street	19.6	3.9	84.0	04/04/2007	23/04/2007	10/01/2007	03/01/2007
1B	1BWSE003	1BWSI003/001	N/A	Springfield Street	Stead's Place	20.8	4.2	84.0	04/04/2007	24/04/2007	10/01/2007	03/01/2007
1B	1BWSE003	1BWSI003/002	N/A	Stead's Place	Jane Street	28.4	5.7	84.0	04/04/2007	02/05/2007	10/01/2007	03/01/2007
1B	1BWSE003	1BWSI003/003	N/A	Jane Street	Manor Gordon Street	21.8	4.4	84.0	04/04/2007	25/04/2007	10/01/2007	03/01/2007
1B	1BWSE003	1BWSI003/004	N/A	Manor Gordon Street	Crown Place	17.0	3.4	84.0	04/04/2007	20/04/2007	10/01/2007	03/01/2007
1B	1BWSE003	1BWSI003/005	N/A	Crown Place	Duke Street Junction	13.0	2.6	126.0	04/04/2007	17/04/2007	29/11/2006	22/11/2006
1C	1CWSE001	1CWSI001/001	N/A	Princes West Tram Stop	The Mound	23.3	4.7	126.0	03/09/2007	28/09/2007	30/04/2007	23/04/2007
1C	1CWSE002	1CWSI002/001	N/A	The Mound	The Mound	8.8	1.8	126.0	03/09/2007	11/09/2007	30/04/2007	23/04/2007
1C	1CWSE002	1CWSI002/002	N/A	The Mound	South St. David's Street	23.8	4.8	84.0	03/09/2007	26/09/2007	11/06/2007	04/06/2007
1C	1CWSE002	1CWSI002/003	N/A	South St. David's Street	South St. Andrews Street	3.2	0.6	84.0	03/09/2007	06/09/2007	11/08/2007	04/06/2007
1C	1CWSE002	1CWSI002/004	N/A	South St. Andrews Street	South St. Andrews Street	8.4	1.7	84.0	03/09/2007	11/09/2007	11/08/2007	04/06/2007
1C	1CWSE003	1CWSI003/001	N/A	South St. Andrews Street	St. Andrews Square Central	8.4	1.7	126.0	03/09/2007	11/09/2007	30/04/2007	23/04/2007
1C	1CWSE003	1CWSI003/002	N/A	St. Andrews Square Central	St. Andrews Square Central	2.9	0.6	126.0	03/09/2007	05/09/2007	30/04/2007	23/04/2007
1C	1CWSE003	1CWSI003/003	N/A	St. Andrews Square Central	North St. Andrews Street	8.1	1.6	126.0	07/01/2008	15/01/2008	03/09/2007	27/08/2007
1C	1CWSE003	1CWSI003/004	N/A	North St. Andrews Street	York Place West End	18.9	3.8	126.0	07/01/2008	25/01/2008	03/09/2007	27/08/2007
1C	1CWSE004	1CWSI004/001	N/A	York Place West End	Elder Street East	14.9	3.0	84.0	07/01/2008	21/01/2008	15/10/2007	08/10/2007
1C	1CWSE004	1CWSI004/002	N/A	Elder Street East	Broughton Street	6.6	1.3	84.0	07/01/2008	13/01/2008	15/10/2007	08/10/2007
1C	1CWSE004	1CWSI004/003	N/A	Broughton Street Junction	Broughton Street Junction	10.7	2.1	126.0	07/01/2008	17/01/2008	03/09/2007	27/08/2007
1C	1CWSE004	1CWSI004/004	N/A	Broughton Street Junction	Picardy Place	4.8	1.0	126.0	07/01/2008	11/01/2008	03/09/2007	27/08/2007
1C	1CWSE005	1CWSI005/001	N/A	Picardy Place	Union Street	32.3	6.5	126.0	07/01/2008	08/02/2008	03/09/2007	27/08/2007
1C	1CWSE006	1CWSI006/001	N/A	Union Street	Gayfield Street South	23.5	4.7	84.0	07/01/2008	30/01/2008	15/10/2007	08/10/2007
1C	1CWSE007	1CWSI007/001	N/A	Gayfield Street South	Gayfield Street North	29.8	6.0	84.0	04/04/2007	03/05/2007	10/01/2007	03/01/2007
1C	1CWSE008	1CWSI008/001	N/A	Gayfield Street North	Brunswick Street	37.7	7.5	84.0	04/04/2007	11/05/2007	10/01/2007	03/01/2007

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SDS Design Sections	AMIS Work Sectors	AMIS Work Sites	AMIS Work Packs	AMIS Work Site Locations		AMIS Worksite Duration Days	AMIS Worksite Duration Weeks	AMIS Lead Times	AMIS Worksite Start Dates (ie Stakeholder Plan)	AMIS Worksite Finish Dates	Work Order Approval Dates	SDS Design Drawing AFC/BoM s Dates
				FROM	TO							
1D	1DWSE001	1DWSI001/001	N / A	Haymarket Station	Dairy Road Junction	15.6	3.1	126.0	07/01/2008	22/01/2008	03/09/2007	27/08/2007
1D	1DWSE001	1DWSI001/002	WP001	Dairy Road Junction	Grosvenor Street	17.6	3.5	126.0	07/01/2008	24/01/2008	03/09/2007	27/08/2007
1D	1DWSE001	1DWSI001/003	WP 002	Grosvenor Street	Palmerston Place	17.5	3.5	126.0	07/01/2008	24/01/2008	03/09/2007	27/08/2007
1D	1DWSE001	1DWSI001/004	WP 003	Palmerston Place	Torhocken Street	24.5	4.9	126.0	07/01/2008	31/01/2008	03/09/2007	27/08/2007
1D	1DWSE001	1DWSI001/005	N/A	Manor Place Junction	Manor Place Junction	17.8	3.5	84.0	07/01/2008	24/01/2008	15/10/2007	08/10/2007
1D	1DWSE002	1DWSI002/001	N/A	West Maitland Street	Canning Street	24.7	4.8	84.0	07/01/2008	31/01/2008	15/10/2007	08/10/2007
1D	1DWSE003	1DWSI003/001	N/A	Canning Street	Stafford Street	23.6	4.7	84.0	07/01/2008	30/01/2008	15/10/2007	08/10/2007
1D	1DWSE003	1DWSI003/002	N/A	Stafford Street	Shandwick Place East End	21.2	4.2	84.0	07/01/2008	28/01/2008	15/10/2007	08/10/2007
1D	1DWSE004	1DWSI004/001	WP001	Princes Street West End	Lothian Road Junction	16.1	3.2	126.0	07/01/2008	23/01/2008	03/09/2007	27/08/2007
1D	1DWSE004	1DWSI004/002	N/A	Lothian Road Junction	South Charlotte Street West	20.2	4.0	126.0	07/01/2008	27/01/2008	03/09/2007	27/08/2007
1D	1DWSE005	1DWSI005/001	N/A	South Charlotte Street Junction	South Charlotte Street Junction	11.9	2.4	126.0	07/01/2008	18/01/2008	03/09/2007	27/08/2007
1D	1DWSE005	1DWSI005/002	N/A	South Charlotte Street East	Castle Street	4.2	0.8	84.0	07/01/2008	11/01/2008	15/10/2007	08/10/2007
1D	1DWSE005	1DWSI005/003	N/A	Castle Street	South Lane	3.0	0.6	84.0	07/01/2008	10/01/2008	15/10/2007	08/10/2007
2	2WSE001	2WSI001/001	N/A	Roseburn Sub-Station	Dairy Terrace	11.0	2.2	84.0	07/01/2008	16/01/2008	12/11/2007	05/11/2007
2	2WSE001	2WSI001/002	N/A	Dairy Terrace	Easter Dairy Road	10.2	2.0	84.0	07/01/2008	17/01/2008	12/11/2007	05/11/2007
2	2WSE001	2WSI001/003	N/A	Easter Dairy Road	Haymarket Train Station	7.8	1.6	84.0	07/01/2008	14/01/2008	15/10/2007	08/10/2007
3A	3AWSE001	3AWSI001/001	N/A	Roseburn Sub-Station	Water of Leith Bridge	0.0	0.0	66.0	04/06/2007	04/06/2007	09/04/2007	02/04/2007
3A	3AWSE002	3AWSI002/001	N/A	Water of Leith Bridge	Water of Leith Bridge	0.6	0.1	66.0	04/06/2007	04/06/2007	09/04/2007	02/04/2007
3A	3AWSE002	3AWSI002/002	N/A	Water of Leith Bridge	Ravelston Dykes Tram Stop	14.3	2.9	66.0	04/06/2007	18/06/2007	09/04/2007	02/04/2007
3A	3AWSE003	3AWSI003/001	N/A	Upper Coil Bridge	Craigleith Drive	10.2	2.0	84.0	04/06/2007	14/06/2007	12/03/2007	05/03/2007
3A	3AWSE003	3AWSI003/002	N/A	Craigleith Drive	Blinkbonny Road	4.7	0.9	66.0	04/06/2007	08/06/2007	09/04/2007	02/04/2007
3A	3AWSE003	3AWSI003/003	WP001	Blinkbonny Crescent Bridge	Blinkbonny Crescent Bridge	4.0	0.8	66.0	04/06/2007	08/06/2007	09/04/2007	02/04/2007
3A	3AWSE003	3AWSI003/003	WP 002	Queensferry Road	Queensferry Road	6.7	1.3	126.0	04/06/2007	10/06/2007	29/01/2007	22/01/2007
3A	3AWSE003	3AWSI003/004	N/A	Queensferry Road North Side	Craigleith Tram Stop	0.0	0.0	84.0	04/06/2007	04/06/2007	12/03/2007	05/03/2007
3A	3AWSE004	3AWSI004/001	N/A	Craigleith Tram Stop	Groathill Road	5.3	1.1	66.0	04/06/2007	09/06/2007	09/04/2007	02/04/2007
3A	3AWSE004	3AWSI004/002	N/A	Groathill Road	Telford Way South Side	4.4	0.9	84.0	04/06/2007	08/06/2007	12/03/2007	05/03/2007
3A	3AWSE004	3AWSI004/003	N/A	Telford Way South Side	Telford Way Tram Stop	6.7	1.3	126.0	04/06/2007	10/06/2007	29/01/2007	22/01/2007
3A	3AWSE005	3AWSI005/001	N/A	Telford Way Tram Stop	W'n General Hosp. Tram Stop	4.4	0.9	84.0	04/06/2007	08/06/2007	12/03/2007	05/03/2007
3A	3AWSE006	3AWSI006/001	N/A	W'n General Hosp. Tram Stop	Crewe Toll Tram Stop	0.0	0.0	84.0	04/06/2007	04/06/2007	12/03/2007	05/03/2007
3B	3BWSE001	3BWSI001/001	N/A	Crewe Toll Tram Stop	West Pilton Place	22.7	4.5	84.0	04/04/2007	26/04/2007	10/01/2007	03/01/2007
3B	3BWSE001	3BWSI001/002	WP 001 - HV *	West Pilton Place	Wt. Granton Access Tram Stop	0.0	0.0	66.0	04/04/2007	04/04/2007	07/02/2007	31/01/2007
3B	3BWSE001	3BWSI001/002	WP 002 - BT *	West Pilton Place	Wt. Granton Access Tram Stop	21.3	4.3	66.0	04/04/2007	25/04/2007	07/02/2007	31/01/2007
3B	3BWSE002	3BWSI002/001	N/A	Wt. Granton Access Tram Stop	Granton Road	36.7	7.3	84.0	04/04/2007	10/05/2007	10/01/2007	03/01/2007
3B	3BWSE002	3BWSI002/002	WP 001 - HV *	Granton Road	Granton Road	8.1	1.6	84.0	04/04/2007	12/04/2007	10/01/2007	03/01/2007
3B	3BWSE002	3BWSI002/003	N/A	Granton Road	Caroline Park Tram Stop	8.4	1.7	66.0	04/04/2007	12/04/2007	07/02/2007	31/01/2007
3C	3CWSE001	3CWSI001/001	N/A	Caroline Park Tram Stop	Granton Waterfront Tram Stop	11.6	2.3	66.0	04/04/2007	15/04/2007	07/02/2007	31/01/2007
3C	3CWSE002	3CWSI002/001	N/A	Granton Waterfront Tram Stop	Chestnut Street	0.0	0.0	84.0	04/04/2007	04/04/2007	10/01/2007	03/01/2007
3C	3CWSE002	3CWSI002/002	N/A	Chestnut Street	West Harbour Road	13.6	2.7	84.0	04/04/2007	17/04/2007	10/01/2007	03/01/2007
3C	3CWSE002	3CWSI002/003	N/A	West Harbour Road	Granton Square Tram Stop	14.4	2.9	66.0	04/04/2007	18/04/2007	07/02/2007	31/01/2007
5	5WSE001	5WSI001/001	N/A	Gogarburn Tram Stop	Gogarburn A8 Roundabout	157.5	31.5	84.0	01/10/2007	06/03/2008	09/07/2007	02/07/2007
5	5WSE001	5WSI001/002	N/A	Gogarburn A8 Roundabout	The Gyle Tram Stop	19.5	3.9	84.0	01/10/2007	20/10/2007	09/07/2007	02/07/2007
5	5WSE002	5WSI002/001	N/A	The Gyle Tram Stop	Edinburgh Park Tram Stop	36.2	7.2	66.0	01/10/2007	06/11/2007	06/08/2007	30/07/2007
5	5WSE003	5WSI003/001	WP001 - Burn *	Edinburgh Park Tram Stop	Edinburgh Park Train Stop	3.5	0.7	66.0	01/10/2007	04/10/2007	06/08/2007	30/07/2007

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SDS Design Sections	AMIS Work Sectors	AMIS Work Sites	AMIS Work Packs	AMIS Work Site Locations		AMIS Worksite Duration Days	AMIS Worksite Duration Weeks	AMIS Lead Times	AMIS Worksite Start Dates (via Stakeholder Plan)	AMIS Worksite Finish Dates	1st Work Order Approval Dates	SDS Design Drawing Approval Dates
				FROM	TO							
5	5WSE004	5WSI004/001	N/A	Edinburgh Park Train Stop	South Gyle Access Tram Stop	138.0	27.6	58.0	02/07/2007	17/11/2007	07/05/2007	30/04/2007
5	5WSE005	5WSI005/001	N/A	South Gyle Access Tram Stop	Forrester High School (West)	49.5	9.9	84.0	02/07/2007	20/08/2007	09/04/2007	02/04/2007
5	5WSE005	5WSI005/002	N/A	Forrester High School (West)	Saughton Road North Tram Stop	12.6	2.5	58.0	02/07/2007	14/07/2007	07/05/2007	30/04/2007
5	5WSE006	5WSI006/001	N/A	Saughton Road North Tram Stop	Carrick Knowe Avenue	56.8	11.4	84.0	02/07/2007	27/08/2007	07/05/2007	30/04/2007
5	5WSE006	5WSI006/002	N/A	Carrick Knowe Avenue	Balgreen Road Tram Stop	25.7	5.1	58.0	02/07/2007	27/07/2007	07/05/2007	30/04/2007
5	5WSE007	5WSI007/001	N/A	Balgreen Road Tram Stop	Roseburn Street	24.2	4.8	68.0	02/07/2007	26/07/2007	07/05/2007	30/04/2007
5	5WSE007	5WSI007/002	N/A	Roseburn Street	Murrayfield Tram Stop	16.1	3.2	58.0	02/07/2007	18/07/2007	07/05/2007	30/04/2007
5	5WSE008	5WSI008/001	N/A	Murrayfield Tram Stop	Roseburn Rail Junction	3.5	0.7	84.0	02/07/2007	05/07/2007	07/05/2007	30/04/2007
5	5WSE008	5WSI008/002	N/A	Roseburn Rail Junction	Russell Road	46.2	9.2	84.0	02/07/2007	17/08/2007	09/04/2007	02/04/2007
5	5WSE009	5WSI009/001	Non - MUDFA *			12.1	2.4	84.0	02/07/2007	14/07/2007	09/04/2007	02/04/2007
5	5WSE009	5WSI009/002	Non - MUDFA *			1.1	0.2	84.0	02/07/2007	03/07/2007	09/04/2007	02/04/2007
5	5WSE009	5WSI009/003	Non - MUDFA *			0.0	0.0	58.0	02/07/2007	02/07/2007	07/05/2007	30/04/2007
5	5WSE009	5WSI009/004	Non - MUDFA *			0.0	0.0	56.0	02/07/2007	02/07/2007	07/05/2007	30/04/2007
6	6WSE001	6WSI001/001	WP001	Gogarburn Tram Depot	Gogarburn Tram Depot	91.8	18.4	84.0	01/10/2007	31/12/2007	09/07/2007	02/07/2007
6	6WSE001	6WSI001/001	WP002	Gogarburn Tram Depot	Gogarburn Tram Depot	3.2	0.6	84.0	01/10/2007	04/10/2007	09/07/2007	02/07/2007
6	6WSE001	6WSI001/002	WP001 - HV *	Gogarburn Tram Depot	Gogarburn Tram Depot	0.0	0.0	84.0	01/10/2007	01/10/2007	09/07/2007	02/07/2007
6	6WSE001	6WSI001/002	WP 002 - GAS *	Gogarburn Tram Depot	Gogarburn Tram Depot	0.0	0.0	84.0	01/10/2007	01/10/2007	09/07/2007	02/07/2007
7A	7AWS001	7AWSI001/001	WP001 - HV 1	Edinburgh Airport Terminal	Edinburgh Airport Terminal	84.3	16.9	126.0	01/10/2007	24/12/2007	28/05/2007	21/05/2007
7A	7AWS001	7AWSI001/001	WP 002 - HV 2	Edinburgh Airport Terminal	Edinburgh Airport Terminal	68.2	13.6	126.0	01/10/2007	08/12/2007	28/05/2007	21/05/2007
7A	7AWS001	7AWSI001/001	WP 003 - HV 3	Edinburgh Airport Terminal	Edinburgh Airport Terminal	174.5	34.9	126.0	01/10/2007	23/03/2008	28/05/2007	21/05/2007
7A	7AWS001	7AWSI001/001	WP 004 - TC 1	Edinburgh Airport Terminal	Edinburgh Airport Terminal	0.0	0.0	126.0	01/10/2007	01/10/2007	28/05/2007	21/05/2007
7A	7AWS001	7AWSI001/001	WP005 - TC 2	Edinburgh Airport Terminal	Edinburgh Airport Terminal	0.0	0.0	126.0	01/10/2007	01/10/2007	28/05/2007	21/05/2007
7A	7AWS001	7AWSI001/001	WP 006 - TC 3	Edinburgh Airport Terminal	Edinburgh Airport Terminal	10.7	2.1	126.0	01/10/2007	11/10/2007	28/05/2007	21/05/2007
7A	7AWS001	7AWSI001/001	WP007 - MU	Edinburgh Airport Terminal	Edinburgh Airport Terminal	27.6	5.6	126.0	01/10/2007	28/10/2007	28/05/2007	21/05/2007
7A	7AWS001	7AWSI001/002	N/A	Edinburgh Airport Terminal	Gogar Bridge Road (North)	89.8	18.0	126.0	01/10/2007	29/12/2007	28/05/2007	21/05/2007
7A	7AWS001	7AWSI001/003	N/A	Gogar Bridge Road (North)	Edinburgh Hilton Hotel	77.0	15.4	126.0	01/10/2007	17/12/2007	28/05/2007	21/05/2007
7A	7AWS001	7AWSI001/004	N/A	Edinburgh Hilton Hotel	Gogar Mains Opening	11.7	2.3	84.0	01/10/2007	12/10/2007	09/07/2007	02/07/2007
7A	7AWS002	7AWSI002/001	N/A	Gogar Mains Opening	Ingliston Park & Ride	6.9	1.4	58.0	01/10/2007	07/10/2007	08/08/2007	30/07/2007
7A	7AWS002	7AWSI002/002	N/A	Ingliston Park & Ride	Gogarstone Road	0.0	0.0	58.0	01/10/2007	01/10/2007	08/08/2007	30/07/2007
7A	7AWS002	7AWSI002/003	N/A	Gogar Mains	Gogar Mains	2.9	0.6	58.0	01/10/2007	03/10/2007	06/08/2007	30/07/2007
7A	7AWS002	7AWSI002/004	N/A	Gogarstone Road	Gogar Mains Farm Road	0.0	0.0	58.0	01/10/2007	01/10/2007	08/08/2007	30/07/2007
7A	7AWS003	7AWS003/001	N/A	Gogar Mains Farm Road	Gogar Mains Farm Road	15.8	3.2	84.0	01/10/2007	16/10/2007	09/07/2007	02/07/2007
7A	7AWS003	7AWS003/002	N/A	Gogar Mains Farm Road	Gogarburn Tram Stop	8.1	1.6	84.0	01/10/2007	09/10/2007	09/07/2007	02/07/2007

AMIS Lead Times

Lead Time (Weeks)	Subject	Descriptions	Timescales	Responsibilities	
120.0	High Complexity Areas and Junctions (18 Weeks) *	Traffic Management Long Lead Items SUC Permits SUC Network Access 3rd Party Resources Plant & Equipment Communications	Complex Junctions, Traffic Modelling & Analysis High Value, Long Lead and Special Items (Engineering) SDS Design Drawings (DD/AFC) to Support Applications Permit Applications & Impact on Network Considerations Applications and 3rd Party Agreements / Negotiations AMIS Resources & Support AMIS Resources & Support Local Resident and Business Communications	15 - 18 Weeks 14 - 18 Weeks 10 - 14 Weeks 15 - 18 Weeks 10 - 12 Weeks 4 Weeks 4 Weeks 6 - 10 Weeks	CEC, tie, etc SDS Design & AMIS SDS Design SUC's & tie AMIS AMIS AMIS AMIS
84.0	Medium Complexity Areas and Junctions (12 Weeks) *	Traffic Management Long Lead Items SUC Permits SUC Network Access 3rd Party Resources Plant & Equipment Communications	Complex Junctions, Traffic Modelling & Analysis High Value, Long Lead and Special Items (Engineering) SDS Design Drawings (DD/AFC) to Support Applications Permit Applications & Impact on Network Considerations Applications and 3rd Party Agreements / Negotiations AMIS Resources & Support AMIS Resources & Support Local Resident and Business Communications	10 - 12 Weeks 10 - 12 Weeks** 10 - 12 Weeks 6 - 10 Weeks 4 - 8 Weeks 4 Weeks 4 Weeks	CEC, tie, etc SDS Design & AMIS SDS Design SUC's & tie AMIS AMIS AMIS AMIS
56.0	Low/Normal Complexity Areas and Junctions (8 Weeks) *	Traffic Management Long Lead Items SUC Permits SUC Network Access 3rd Party Resources Plant & Equipment Communications	Complex Junctions, Traffic Modelling & Analysis High Value, Long Lead and Special Items (Engineering) SDS Design Drawings (DD/AFC) to Support Applications Permit Applications & Impact on Network Considerations Applications and 3rd Party Agreements / Negotiations AMIS Resources & Support AMIS Resources & Support Local Resident and Business Communications	4 - 8 Weeks 4 - 8 Weeks** 4 - 8 Weeks 6 - 8 Weeks 4 - 6 Weeks 2 - 4 Weeks 2 - 4 Weeks 4 - 6 Weeks	CEC, tie, etc SDS Design & AMIS SDS Design SUC's & tie AMIS AMIS AMIS AMIS

LEGEND :

\* Denotes 7 days per Week  
\*\* Items maybe sourced earlier

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### MUDFA Profiles (Design & Construction Interface)

