

PRIVILEGED IN CONFIDENCE  
FOI(S)A EXEMPT

MINUTE OF VARIATION TO THE INFRACO CONTRACT

among

(1) tie LIMITED

and

(2) BILFINGER BERGER CIVIL UK LIMITED

and

(3) SIEMENS plc

and

(4) CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES S.A.

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in respect of the PRIORITISED WORKS on the EDINBURGH TRAM NETWORK

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## MINUTE OF VARIATION

among

- (1) **tie LIMITED** (company number SC230949), whose registered office is at City Chambers, High Street, Edinburgh, Midlothian, EH1 1YJ ("**tie**") which expression shall include its personal representatives, successors, permitted assignees and transferees;
- (2) **BILFINGER BERGER CIVIL UK LIMITED**, a company incorporated in England and Wales under number 02418086 and having its registered office at 3<sup>rd</sup> Floor Braywick Gate, Braywick Road, Maidenhead, Berkshire SL6 1DA ("**BBUK**") which expression shall include its personal representatives, successors, permitted assignees and transferees;
- (3) **SIEMENS PLC**, a company incorporated in England and Wales under number 00727817 and having its registered office at Faraday House, Sir William Siemens Square, Frimley, Camberley, Surrey, GU16 8QD ("**Siemens**") which expression shall include its personal representatives, successors, permitted assignees and transferees; and
- (4) **CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES S.A.**, a company registered in Spain and having its registered office at J. M. Iturrioz 26, 20200 Beasain, Spain ("**CAF**") which expression shall include its personal representatives, successors, permitted assignees and transferees,

(2), (3) and (4) together the "**Infraco**".

## BACKGROUND

- A tie and Infraco (at that time comprising BBUK and Siemens) entered into a contract on 14 May 2008 under which Infraco was appointed to carry out and manage the design, construction, installation, commissioning, tram procurement, system integration, infrastructure maintenance, tram maintenance and supply of related equipment and materials, trams and related infrastructure in respect of the Edinburgh Tram Network (such contract, amended as detailed below, is herein after referred to as the "**Infraco Contract**");
- B By an agreement in writing dated 13 May 2008 ("**Tram Supply Agreement**") tie appointed CAF to design, manufacture and supply 27 Trams and to supply documentation and associated equipment in connection with the Edinburgh Tram Network;
- C By a Minute of Variation in writing dated 14 May 2008 ("**MoV1**"), tie, BBUK, Siemens and CAF agreed that CAF would become a party to the Infraco Contract;
- D By an agreement in writing dated 14 May 2008 ("**Novation of Tram Supply Agreement**") tie and Infraco agreed, with the consent of CAF as the Tram Supplier, that Infraco would take over the rights and liabilities of tie as the "Client" (as defined in the Tram Supply Agreement) under the Tram Supply Agreement;
- E The Infraco Contract was amended by the Princes Street Supplemental Agreement entered into between the Parties in March 2009 and re-executed on 29 May 2009, a Minute of Variation between the Parties dated 3 June 2009 ("**MoV2**") and a Minute of Variation between the Parties dated 23 April 2010 ("**MoV3**"); and
- F Following a mediation between the Parties which took place at Mar Hall between 8 and 12 March 2011, tie and Infraco have agreed to vary the Infraco Contract to the extent specifically set out in this Minute of Variation ("**MoV4**") to give effect to the Prioritised Works.

1 **DEFINITIONS AND INTERPRETATION**

1.1 The definitions given in the recitals to this Minute of Variation apply to this Minute of Variation.

1.2 In the context of this Minute of Variation where the Infraco Contract has defined a meaning to any capitalised word or expression used in this Minute of Variation, the same meaning shall be given to it in this Minute of Variation, except as follows:

**"Auxiliary Works"** means those of the Prioritised Works identified as such in Schedule Part 2 (*Scope and Pricing of Prioritised Works*);

**"Certificate 1 - First Materials and Equipment and First Payment"** means the certificate issued by the Certifier in accordance with Clause 6 (*Certificate 1 - First Materials and Equipment and First Payment*);

**"Certificate 2 - Second Payment"** means the certificate to be issued by the Certifier in accordance with Clause 7 (*Certificate 2 - Second Payment*);

**"Certificate 3 (A, B and C) - Second Materials and Equipment"** means the certificates to be issued by the Certifier in accordance with Clause 8 (*Certificate 3 (A, B & C) - Second Materials and Equipment*);

**"Certifier"** means Hg Consulting, Chartered Surveyors, 20 Lynedoch Crescent, Glasgow, G3 6EQ;

**"Certifier Agreement"** means the agreement between the Certifier, CEC, tie and Infraco for the certification of completion of the Prioritised Works and amounts payable under this Minute of Variation to be entered into on or about the date of execution of this Minute of Variation;

**"Change"** means, in relation to the Prioritised Works, a tie Change or a Mandatory tie Change as the case may be;

**"Change Procedure"** means the change procedure set out in Schedule Part 7 (*Change Procedure*);

**"Fixed Sum Prioritised Works"** means those of the Prioritised Works identified as such in Schedule Part 2 (*Scope and Pricing of Prioritised Works*);

**"Fixed Sum Prioritised Works Milestone"** means each of the milestones for payment for the Fixed Sum Prioritised Works as set out in Schedule Part 2 (*Scope and Pricing of Prioritised Works*);

**"Fixed Sum Prioritised Works Price"** means the price for carrying out the Fixed Sum Prioritised Works as set out in Schedule Part 2 (*Scope and Pricing of Prioritised Works*) up to the 17 September 2011 and does not represent the total value / price of the Prioritised Works beyond this date;

**"Governance Structure"** means the structure set out in Schedule Part 8 (*Governance Structure*);

**"Heads of Terms"** means the heads of terms signed by tie, CEC, BBUK and Siemens in Glasgow on Saturday 12 March 2011;

**"Interdisciplinary Design Check Procedure"** means the procedure set out at Schedule Part 9 (*Interdisciplinary Design Check Procedure*);

**"Materials and Equipment"** means the materials and equipment to be provided by Siemens including but not limited to the materials and equipment listed in Schedule Part 3 but excluding Trams and Tram Related Equipment (*Materials and Equipment*);

**"Minute of Variation 5" or "MoV5"** means the Minute of Variation to be entered into between tie, BBUK, Siemens and CAF varying the Infraco Contract in respect of the Off-Street Works and On-Street Works as per the Heads of Terms on or before 1 July 2011;

**"Off-Street Works"** means that part of the Infraco Works from the Airport to Haymarket (chainage 712,579.5 to 200,000), including the enabling works to be performed at Lindsay Road Retaining Wall (at outbound chainages W1A 100,168 to 100,404; W1B 100,225 to 100,266, W1C 100,387 to 100,412 and W1D 100,467 to 100,478), Lindsay Road lowering (outbound chainage 100,230 to 100,560 and Lindsay Road LOD at east end) and the civil works at Tower Place Bridge (outbound chainage 101,430 to inbound chainage 101,517) including rail installation;

**"On-Street Works"** means that part of the Infraco Works from Haymarket to York Place (chainage 200,000 to 120,650), other than in respect of any Utilities diversion works;

**"Outstanding Consents"** means any of the Consents referred to Schedule Part 5 in relation to Prioritised Works, which are still to be obtained as at the date of execution of this Minute of Variation;

**"Preliminaries"** means the preliminary milestones forming part of the Fixed Sum Prioritised Works Milestones as set out in Schedule Part 2 (*Scope and Pricing of Prioritised Works*);

**"Prioritised Works"** means that part of the Infraco Works comprising the Depot (excluding any works to the east of the Depot Access Bridge as shown on drawing ULE90130-06-DEP-00016 Rev6), Depot Access Bridge and Depot Access Road, mini test track, Haymarket Yards, A8 Underpass, Princes Street Remedial Works, the Auxiliary Works and any other works agreed by the Parties to comprise the Prioritised Works as more particularly described in the Scope. The Prioritised Works shall comprise part of the Off-Street Works and part of the On-Street Works;

**"Prioritised Works Commencement Date"** means the later of:

- (i) 3 May 2011; and
- (ii) the date on which all of the following events have occurred:
  - (a) Infraco receives the amount payable pursuant to Clause 6 (Certificate 1 First Materials and Equipment and First Mobilisation);
  - (b) the Certifier has issued the certificate (Second Mobilisation Payment) to tie and Infraco pursuant to Clause 7; and
  - (c) the Outstanding Consents required to start the Prioritised Works have been issued by tie or provided by the relevant Approval Body;

**"Prioritised Works Estimate"** means the estimate to be provided by Infraco in response to a tie Notice of Change detailing the time and cost implications of compliance with the proposed Change;

**"Prioritised Works Programme"** means the programme for the Prioritised Works set out in Schedule Part 1 (*Programme of Prioritised Works*) as updated by agreement between the Parties from time to time;

**"Relevant Date"** means either (i) 2 July 2011 in the event that MoV5 has not been entered into for reasons other than insufficient tie and/or CEC funding; or (ii) 1 September 2011 if

MoV5 has been entered into or MoV5 has not been entered into because of insufficient tie and/or CEC funding, as the case may be;

"**Schedule**" means the Schedule in 10 Parts annexed to this Minute of Variation;

"**Scope**" means the scope of the Prioritised Works set out in Schedule Part 2 (*Scope and Pricing of Prioritised Works*) identified by means of narrative, specific drawing and chainage numbers;

"**Target Price**" means the sum to be agreed amongst tie, BBUK and Siemens for the On-Street Works;

"**Target Price Prioritised Works Milestone**" means each of the milestones for payment for the Target Price Prioritised Works as set out in Schedule Part 2 (*Scope and Pricing of Prioritised Works*);

"**Target Price Prioritised Works Price**" means the price for carrying out the Target Price Prioritised Works as set out in Schedule Part 2 (*Scope and Pricing of Prioritised Works*);

"**Target Price Prioritised Works**" means those of the Prioritised Works identified as such in Schedule Part 2 (*Scope and Pricing of Prioritised Works*);

"**Total Price**" has the meaning given in the Heads of Terms;

"**Valuation Certificate**" has the meaning given in Clause 9 (*Payment for the Prioritised Works*);

"**Valuation Dates**" means the dates identified for "Due Certified" set out in Schedule Part 2 (*Scope and Pricing of Prioritised Works*), and Valuation Date shall be construed accordingly; and

"**Vesting Certificate**" means a vesting certificate in the form set out at Schedule Part 6 (*Vesting Certificate*).

1.3 Clause headings in this Minute of Variation are for the convenience of the Parties only and do not affect its interpretation.

1.4 Unless the context otherwise requires:

1.4.1 words importing gender include masculine, feminine and neuter;

1.4.2 the singular includes the plural, and vice versa; and

1.4.3 a reference to any Clause, Sub-Clause or Schedule is, except where it is expressly stated to the contrary, a reference to such clause, sub-clause or schedule to this Minute of Variation and reference in any Schedule to any Part, Paragraph or Sub-Paragraph is, except where it is expressly stated to the contrary, a reference to such part, paragraph or sub-paragraph of that Schedule (as the case may be);

## 2 AMENDMENT OF THE INFRACO CONTRACT

2.1 The Parties hereby agree that the Infraco Contract is amended in accordance with the terms of and as required to implement this Minute of Variation.

2.2 The terms and conditions of this Minute of Variation, together with the Schedule, represent the entire agreement between the Parties relating to this variation of the Infraco Contract. Save as amended or dis-applied by this Minute of Variation, all the terms and conditions of the Infraco Contract remain in full force and effect.

3 APPLICATION OF THE INFRACO CONTRACT TO THE PRIORITISED WORKS

3.1 From the Prioritised Works Commencement Date the Prioritised Works will be carried out in accordance with the Infraco Contract as amended by the application of this Minute of Variation.

3.2 From the Prioritised Works Commencement Date until the Relevant Date unless the Parties agree otherwise Infraco shall not carry out any Infraco Works other than the Prioritised Works, the Tram Supply Obligations and, to the extent applicable, the Tram Maintenance Services. tie's obligations to make payment to Infraco and Infraco's rights and obligations in respect of the Tram Supply Obligations and, to the extent applicable, the Tram Maintenance Services shall remain unchanged by this Minute of Variation.

3.3 If on or before 1 July 2011 the Parties have not entered into an MoV5 on an unconditional basis or on a conditional basis in either case because tie and / or CEC do not have sufficient funding to meet tie's obligations under the Infraco Contract:-

3.3.1 Infraco shall, subject to Clause 3.3.2, continue to carry out the Prioritised Works between 2 July 2011 and 1 September 2011, and inter alia the provisions of Clause 9 of this Minute of Variation shall continue to apply and Infraco shall not be required to carry out the Infraco Works (other than the Prioritised Works);

3.3.2 Infraco shall not carry out the Princes Street Remedial Works forming part of the Prioritised Works unless on or before 2 July 2011 tie has confirmed in writing to Infraco that it should do so. In the event that such written confirmation is not given by tie, the Parties shall as soon as reasonably practicable following 2 July 2011 agree (each Party being obliged to act reasonably) a revised approach to the carrying out of the Princes Street Remedial Works by Infraco, it being acknowledged by the Parties that such revised approach is to have the effect of reducing the disruption to the use of Princes Street by third parties;

3.3.3 the Infraco Contract shall automatically terminate at 5pm on 1 September 2011 and the Parties shall have no rights or obligations in respect of the future performance of the Infraco Works save as provided in Clause 94.6 of the Infraco Contract;

3.3.4 the Parties shall enter into discussions with a view to arriving at mutually acceptable terms to deal with the consequences of termination pursuant to Clause 3.3.3; and

3.3.5 notwithstanding the terms of any agreement or otherwise pursuant to Clause 3.3.4 tie shall make the payments to Infraco in accordance with Clauses 8.2 and 8.3; and *Clause 3.3.6*

*3.3.6* *CLAUSE IN PAPER APART*  
save as agreed between the Parties pursuant to Clause 3.3.4 or as set out in Clause 3.3.5, in the event of termination pursuant to this Clause 3.3 the Parties confirm that such termination shall occur on a no fault basis and, no compensation shall be payable by either Party whether under contract, delict (including negligence), breach of (or compliance with) statutory duty, restitution or otherwise as a result of such termination of the Infraco Contract.

3.4 If the Parties have not entered into MoV5 on or before 1 July 2011 for any reasons other than those set out in Clause 3.3:

3.4.1 Infraco shall not be obliged to perform the Prioritised Works in accordance with Clause 3.1 beyond 1 July 2011;

3.4.2 the Infraco Works (as varied by this Minute of Variation) shall recommence on 2 July 2011; and

3.4.3 tie shall make the payments to Infraco in accordance with Clauses 8.2 and 8.3.

3.5 Infraco shall from the date of this Minute of Variation self certify that the civils and systems and trackwork Design is in accordance with the Employer's Requirements.

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~~3.3.5 at the end add "and Clause 3.3.6"~~

Insert a new Clause 3.3.6 as follows:-

"without prejudice to Clause 3.3.4 and unless otherwise agreed, on the date of termination:-

(i) tie, whom failing CEC, shall acquire the Trams, the Tram Related Equipment and the Depot Equipment (as defined in the TSA) specified or comprising part of the Tram Supply Obligations;

(ii) CAF shall deliver the Trams, the Trams Related Equipment and the Depot Equipment (as defined in the TSA) specified or comprising part of the Tram Supply Obligations to tie or CEC as directed; and

(iii) tie, whom failing CEC, shall pay to CAF (i) all milestone payments set out in Schedule 5 to the TSA that remain unpaid ("the Unpaid Sums") notwithstanding that the milestones to allow application for payment of such milestone payments have not occurred less (ii) the Certified Deduction. In the event that the Unpaid Sums less the Certified Deduction results in a negative figure then such sum shall be payable by CAF to tie, whom failing CEC."

"Certified Deduction" means such sum as the Certifier certifies under the Certifier Agreement should be deducted from the Unpaid Sums to reflect the difference in value attributable to what CAF have delivered under Clause 3.3.6 and what CAF would have been obliged to deliver had the Infraco Contract not been terminated."

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"provided that nothing in this Clause 3.3.6 shall operate to vary or amend the terms of the Tram Supply Agreement or act as an admission by BBCUK or Siemens of any liability to CAF under the Tram Supply Agreement, Infraco Contract or consortium agreement."

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- 3.6 Infraco shall comply with the Interdisciplinary Design Check Procedure. Nothing in this procedure shall affect the legal and statutory obligations of each of CEC and tie.
- 3.7 tie shall have no right or obligation to review and/or approve the civils and systems and trackwork Design and the Infraco shall be relieved of its obligations under Clause 10 and Schedule Part 14 of the Infraco Contract in so far as they relate to the civils and systems and trackwork Design, provided that nothing in this clause 3.7 shall operate to prevent tie from being able properly to discharge its obligations under ROGS.
- 3.8 Infraco shall not be required to obtain any further Permits to Work for any of the Prioritised Works subject to providing tie with such information as is reasonably required to allow tie to comply with the notification and third party requirements (as necessary) for which it is responsible.

**4 SOLE ENTITLEMENT OF INFRACO TO PAYMENT, EXTENSIONS OF TIME OR OTHER RELIEF**

- 4.1 Notwithstanding the terms of the Infraco Contract, the Parties have agreed that the Infraco's sole entitlement to payment and extension of time in relation to Planned Sectional Completion Date A or other relief in respect of
- (i) the Materials and Equipment, Prioritised Works (including the Preliminaries) and matters covered by Certificates 1, 2 and 3 (A, B and C), and
  - (ii) the impact of the Materials and Equipment and Prioritised Works on the Infraco Works

shall be as set out in this Minute of Variation.

- 4.2 Notwithstanding the terms of clause 4.1:-
- 4.2.1 all entitlements of the Parties arising prior to and after the conclusion of this Minute of Variation (including, without prejudice to the foregoing generality, entitlements to payment, extension of time and relief) in respect of the Tram Supply Obligations and the Tram Maintenance Services shall be determined as though this Minute of Variation had not been concluded; and
- 4.2.2 nothing in this Minute of Variation shall operate to exclude, restrict or prejudice all and any claims of the Parties arising prior to and after this Minute of Variation under the terms of the Infraco Contract in respect of the Tram Supply Obligations and the Tram Maintenance Services, determined as though this Minute of Variation had not been concluded.

**5 AMENDMENT TO THE PROGRAMME**

- 5.1 The Parties have agreed that from the Prioritised Works Commencement Date:
- 5.1.1 the Prioritised Works shall be carried out in accordance with the Prioritised Works Programme;
- 5.1.2 the Planned Sectional Completion Date Section A shall be amended to 16 December 2011; and
- 5.1.3 the definition of Section A in Schedule Part 1 of the Infraco Contract shall be deleted and replaced with:

"means the completion of the Depot (including energisation) excluding the area east of the Depot Access Bridge as shown on drawing ULE90130-06-DEP-00016 Rev6 overmarked and included in Schedule Part 2"

- 5.2 Any embargo on working as provided for in Schedule Part 3 (*Code of Construction Practice*) of the Infraco Contract shall not apply to the carrying out of the Prioritised Works to the extent it would be inconsistent with the Prioritised Works Programme.
- 5.3 Notwithstanding the terms of this Clause 5, Infraco shall not be required to commence any part and/or parts of the Prioritised Works in accordance with the Prioritised Works Programme until tie has provided or procured any Outstanding Consents required and/or possession and/or access to all work areas reasonably required to allow Infraco to commence and/or proceed with any such part and/or parts of the Prioritised Works in accordance with the Prioritised Works Programme.
- 5.4 The Prioritised Works Programme and the activity durations therein shall be updated and extended by a day in respect of each day in which tie fails to procure any Outstanding Consents required and/or possession and/or access to work areas by the date on which such Prioritised Works are scheduled to commence and/or proceed in accordance with the Prioritised Works Programme.
- 5.5 The Prioritised Works Programme will be updated to reflect any Change in accordance with Clause 10 and Schedule Part 7 (Change Procedure).

## 6 **CERTIFICATE 1 - FIRST MATERIALS AND EQUIPMENT AND FIRST PAYMENT**

- 6.1 On 15 April 2011 the Certifier issued a certificate (Certificate 1 – First Materials and Equipment and First Payment Certificate) to Infraco and tie, certifying payment of the agreed sum of £27,000,000 (payable as £7,500,000 to BBUK and £19,500,000 to Siemens. Such payments shall be made by tie on 22 April 2011 and transfer of ownership in and unencumbered title to such Materials and Equipment by Siemens to CEC shall be made on the date of receipt of payment by Siemens.
- 6.2 The Parties acknowledge that not all of the Materials and Equipment may be required as part of the Infraco Works. tie/CEC shall make the Materials and Equipment, or any part thereof, transferred or vested in CEC pursuant to this Clause 6 or Clause 8 available to Infraco to incorporate as part of the Prioritised Works as required pursuant to the Infraco Contract. Siemens warrants that the Materials and Equipment meet the Employer's Requirements on the date such Materials and Equipment are vested in CEC.
- 6.3 The Parties acknowledge that tie/CEC has the right to carry out an inspection at reasonable times on Site in respect of all the Materials and Equipment to be transferred to or vested in CEC pursuant to this Clause 6 or Clause 8.

## 7 **CERTIFICATE 2 - SECOND PAYMENT**

By 3 May 2011 tie, BBUK and Siemens shall request that the Certifier shall issue a certificate in accordance with the Certifier Agreement (Certificate 2 – Second Payment Certificate) to Infraco and tie, certifying payment of the agreed sum of £9,000,000 (payable as £5,000,000 to BBUK and £4,000,000 to Siemens) and payment shall be made by tie to Infraco of the amount certified on 17 May 2011.

## 8 **CERTIFICATE 3 (A, B and C) - SECOND MATERIALS AND EQUIPMENT**

- 8.1 On 15 June 2011 tie, BBUK and Siemens shall request that the Certifier issues a certificate in accordance with the Certifier Agreement (Certificate 3A – Second Materials and Equipment) to Infraco and tie, certifying payment of the agreed sum of £4,334,000 (payable as £4,334,000 to Siemens) in respect of an agreed second payment to Siemens in respect of the transfer to CEC of ownership in and unencumbered title to such Materials and Equipment identified in the relevant Vesting Certificate. Such payment and transfer shall be made by tie and Infraco respectively on the later of (i) 29 June 2011, and (ii) the date of receipt by CEC of the relevant Vesting Certificate duly executed by Siemens.

- 8.2 On 13 July 2011 tie, BBUK and Siemens shall request that the Certifier issues a certificate in accordance with the Certifier Agreement (Certificate 3B – Second Materials and Equipment) to Infraco and tie, certifying payment of the agreed sum of £4,333,000 (payable as £4,333,000 to Siemens) in respect of an agreed third payment to Siemens in respect of the transfer to CEC of ownership in and unencumbered title to such Materials and Equipment identified in the relevant Vesting Certificate. Such payment and transfer shall be made by tie and Infraco respectively on the later of (i) 27 July 2011 and (ii) the date of receipt by CEC of the relevant Vesting Certificate duly executed by Siemens.
- 8.3 On 10 August 2011 tie, BBUK and Siemens shall request that the Certifier issues a certificate in accordance with the Certifier Agreement (Certificate 3C – Second Materials and Equipment) to Infraco and tie, certifying payment of the agreed sum of £4,333,000 (payable as £4,333,000 to Siemens) in respect of an agreed fourth payment to Siemens in respect of the transfer to CEC of ownership in and unencumbered title to such Materials and Equipment identified in the relevant Vesting Certificate. Such payment and transfer shall be made by tie and Infraco respectively on the later of (i) 24 August 2011 and (ii) the date of receipt by CEC of the relevant Vesting Certificate duly executed by Siemens.

## 8A INTELLECTUAL PROPERTY RIGHTS

- 8A.1 The Parties acknowledge and agree that in relation to the Infraco IPR in the Materials and Equipment only reference to the Infraco Works in Clause 102.2.2 of the Infraco Contract shall be replaced by reference to the construction and completion of Phase 1a (excluding the spur at Roseburn Junction).
- 8A.2 The Parties acknowledge and agree that provided that tie has made payment in full pursuant to Clauses 8.1, 8.2 and 8.3 of this Minute of Variation nothing in Clause 102.4 of the Infraco Contract shall prevent the use of Materials and Equipment by tie in relation to the construction and commissioning of Phase 1a (excluding the spur at Roseburn Junction) following termination of the Infraco Contract provided that tie may not use such rights to design, construct, manufacture, commission or procure any materials and equipment.

## 9 PAYMENT FOR THE PRIORITISED WORKS

- 9.1 Subject to the terms of this Minute of Variation tie shall pay to Infraco the Fixed Sum Prioritised Works Price and the Target Price Prioritised Works Price for the carrying out and completion of the Prioritised Works.
- 9.2 On each Valuation Date the Parties shall request that the Certifier shall certify in accordance with the Certifier Agreement:
- 9.2.1 the completion of each Fixed Sum Prioritised Works Milestone which has been completed since the last Valuation Date; and
- 9.2.2 the completion of each Target Price Prioritised Works Milestone which has been completed since the last Valuation Date,
- and the Parties acknowledge that the Certifier shall, on the same date issue a certificate ("**Valuation Certificate**") to tie and Infraco pursuant to the Certifier Agreement.
- 9.3 On receipt of a Valuation Certificate Infraco shall submit a valid VAT invoice to tie and payment will become due to the Infraco on receipt by tie of such valid VAT invoice. The final date for payment by tie to the Infraco shall be the date occurring 14 calendar days after receipt by Infraco and tie of the Valuation Certificate (provided a valid VAT invoice has been received by tie from Infraco).
- 9.4 Any certificate issued by the Certifier pursuant to this Minute of Variation and /or the Certifier Agreement and any assessment pursuant to Clause 9.6 below, shall be final and binding on the Parties except in the case of manifest error or fraud.

- 9.5 All sums expressed or referred to in this Minute of Variation and all sums due under certificates issued by the Certifier pursuant to this Minute of Variation and /or the Certifier Agreement are stated exclusive of Value Added Tax thereon. In addition to payments due under this Minute of Variation and such certificates tie shall in addition pay to the Infraco any Value Added Tax properly chargeable by Infraco thereon.
- 9.6 Preliminaries shall be deemed to be a time based payment and shall be certified for payment once the relevant time period has elapsed without the need for further valuation or substantiation.
- 9.7 For the avoidance of doubt, where pursuant to the terms of the Certifier's Agreement the Certifier makes an assessment that the Prioritised Works are in delay as a result of circumstances in respect of which tie is responsible for delay, Preliminaries shall be certified for payment as set out in Clause 9.6.
- 9.8 Notwithstanding the foregoing, to the extent that Infraco does not progress the Prioritised Works in accordance with the Prioritised Works Programme and to the extent that tie is not responsible for such lack of progress, the Certifier shall make a reasonable assessment of the Preliminaries properly due to Infraco and the same shall be certified for payment.

## 10 TOTAL PRICE

- 10.1 The Parties agree that the Fixed Sum Prioritised Work Price and all sums payable by tie pursuant to Clauses 6, 7 and 8 of this Minute of Variation shall comprise part of the Total Price.
- 10.2 The Parties agree that the Target Price Prioritised Works Price shall comprise part of the Target Price.
- 10.3 Save as hereinafter provided for, the Parties agree that the Change Procedure will, in the period from the date of this Minute of Variation to the Relevant Date apply to all Changes and that Clause 80 of the Infraco Contract shall be dis-applied for the period from the date of this Minute of Variation to the Relevant Date. Nothing in the Change Procedure shall operate to establish the entitlements of Infraco in relation to the Tram Supply Obligations and the Tram Maintenance Services.
- 10.4 The Parties acknowledge that where there is a Change, the Total Price and/or the Target Price shall be adjusted to reflect the value of the tie Change Order.

## 11 EXCESS TRAMS

Infraco agrees to provide such assistance as may be reasonably required to enable tie/CEC to sell, lease or otherwise deal with any Trams which are in excess of the current requirements of tie for that part of the Edinburgh Tram Network running from the Airport to St Andrews Square, subject to agreement between the Parties on terms including reasonable payments on commercial terms to be paid to Infraco for modification of the Trams and assistance as previously described, with it being acknowledged also that any external costs to Infraco arising from these matters are not for the account of Infraco.

## 12 MAR HALL CONFIDENTIALITY AGREEMENT

The Parties acknowledge and agree to remain bound by the provisions of the Mar Hall Confidentiality Agreement entered into on behalf of each of them on 8 March 2011.

## 13 COMMUNICATIONS PROTOCOL

By their execution of this Minute of Variation the Parties agree that the preparation of any required statement shall be prepared by CEC and provided to Infraco for approval, such approval not to be unreasonably withheld or delayed. tie acknowledges that Infraco are

required to seek relevant company head quarters final approval for release of any such statement, such approval not to be unreasonably withheld or delayed.

#### 14 **MORATORIUM**

14.1 The Parties agree that provided that MoV5 is entered into:

14.1.1 tie/CEC will not terminate the Infraco Contract on the basis of any Remediable Termination Notices and/or Underperformance Warning Notices served prior to 12 March 2011 or on any of the same facts and circumstances identified therein to the extent that such facts and circumstances existed on the date of execution of this Minute of Variation; and

14.1.2 all existing claims and further claims by Infraco under the Infraco Contract which relate to events which occurred prior to entering into of this Minute of Variation will not be prosecuted; and

14.1.3 tie/CEC shall not seek to recover liquidated and ascertained damages in respect of any delay in achieving the Planned Sectional Completion Dates in the Infraco Contract or the Agreed Tram Commissioning Dates in the Infraco Contract/Tram Supply Agreement.

14.2 Neither Party shall:

14.2.1 Without prejudice to Clause 4.2, bring a claim against the other Party under the Infraco Contract to the extent that such claim arises out of any act or omission of the other Party where such Party is acting in compliance with its obligations under the Infraco Contract as amended by this Minute of Variation; and/or

14.2.2 seek to deny (i) a claim; or (ii) prevent the exercise of rights or compliance with obligations, under the Infraco Contract to the extent that any relevant provisions in the Infraco Contract have not been complied with in relation to any timing or submission requirements during the period between 24 February 2011 and the Relevant Date. Any period stated in the Infraco Contract in relation to such claim or exercise of rights or compliance with obligations shall be deemed to commence or recommence, as the case may be, on the Relevant Date.

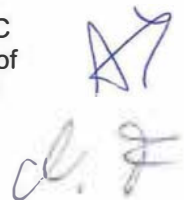
14.3 The Parties agree that all existing Disputes notified by either Infraco or tie under the Dispute Resolution Procedure set out in Schedule Part 9 (*Dispute Resolution Procedure*) to the Infraco Contract shall be effectively stayed or "frozen" until 2 July 2011. Unless the Parties agree otherwise at any time after 2 July 2011 either Infraco or tie shall be entitled to serve notice on the other of its intention to recommence any of the existing Disputes, the Dispute recommencing 7 calendar days following the service of such notice. Should this occur, the Parties agree that no issue shall arise in relation to any failure by either Infraco or tie to comply with the timescales set out in Schedule Part 9 (*Dispute Resolution Procedure*) of the Infraco Contract, during the period of suspension and/or as a consequence of this period of suspension.

#### 15 **KEY SUB-CONTRACTORS**

15.1 Each Infraco Member may appoint Key Sub-Contractors to carry out any part of the Prioritised Works and/or Infraco Works. The Parties acknowledge that there shall be no requirement for each Infraco Member to be a party to any sub-contract with any Key Sub-Contractor.

15.2 Each Infraco Member shall be free to choose the form of sub-contract for the Prioritised Works and/or Infraco Works to be entered into with each Key Sub-Contractor and tie/CEC shall have no entitlement to impose any restrictions on the management or replacement of the Key Sub-Contractors. Such sub-contracts shall contain reasonable obligations on the relevant Key Sub-Contractor in relation to health and safety.

#### 16 **PRESERVATION OF RIGHTS**



16.1 Subject to Clause 16.2 each Party preserves its rights and remedies in relation to any existing breach or other claim under the Infraco Contract as amended by this Minute of Variation as at the date of entering into this Minute of Variation (whether known or not at the date of execution of this Minute of Variation). The Parties further acknowledge that save to the extent varied by this Minute of Variation their respective rights and obligations in respect of the Infraco Works to the extent performed to date (other than works which will be remedied by the Princes Street Remedial Works forming part of the Prioritised Works) shall subsist.

16.2 The Parties agree and acknowledge that:

16.2.1 the Fixed Sum Prioritised Works Price, includes a time related payment for the period during which the Prioritised Works are being undertaken which will be taken into account in any future determination of Infraco's entitlement to prolongation costs (if any) in the event of termination of the Infraco Contract pursuant to Clause 3.3 or otherwise;

16.2.2 the Planned Sectional Completion Date Section A shall be as amended pursuant to Clause 5.1.2.

17 **DISPUTES**

The Parties agree that any dispute, difference or unresolved claim between the Parties in connection with or arising from this Minute of Variation shall be dealt with in accordance with the provisions set out in Schedule Part 9 (*Dispute Resolution Procedure*) of the Infraco Contract save that the Internal Resolution Procedure and paragraph 10 of that Schedule Part 9 shall be amended such that the Joint Project Forum described in the Governance Structure shall take the place of the respective Chief Executives (or equivalent) of tie and Infraco respectively.

18 **VARIATION**

This Minute of Variation is a variation to the Infraco Contract for the purposes of Clause 108 (*Variations to be in Writing*) of the Infraco Contract.

19 **LAW AND JURISDICTION**

Clause 117 (*Applicable Law*) of the Infraco Contract applies.

**IN WITNESS WHEREOF** these presents on this and the preceding 10 pages together with the Schedule in 10 Parts which is annexed and subscribed as relative hereto are executed as follows:

**EXECUTED** for and on behalf of tie **LIMITED**

at

on 2011 by:

Authorised Signatory

Full Name

Witness Signature

Full Name

Address

[Redacted]  
[Redacted]  
Victor Reginald Emery  
[Redacted]  
Elizabeth McCabe  
Waverley Court, 4 East  
Market Street, Edinburgh

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dt. 8  
[Signature]

**EXECUTED for and on behalf of BILFINGER  
BERGER CIVIL UK LIMITED**

at EDINBURGH

on 20 May 2011 by:

Authorised Signatory

Full Name

Witness Signature

Full Name

Address

[Redacted]

MARTIN FOERDER

[Redacted]

CHRISTOPHER OWENS

139 FOUNTAINBRIDGE, EDINBURGH

**EXECUTED for and on behalf of SIEMENS PLC**

at Edinburgh

on 20 May 2011 by:

Authorised Signatory

Full Name

Witness Signature

Full Name

Address

[Redacted]

Attilio Sanderburger

[Redacted]

PATRICK SCULLY

NEWHALL, CARLOPS, MIDLOTHIAN,

**EXECUTED for and on behalf of CONSTRUCCIONES  
Y AUXILIAR DE FERROCARRILES S.A.**

at EDINBURGH

on 20<sup>th</sup> May 2011 by:

Authorised Signatory

Full Name

Witness Signature

Full Name

Address

[Redacted]

ANTONIO M. CAMPO

[Redacted]

GAVIN HUGH PATON

120 BOTHWELL STREET, GLASGOW

THIS IS THE SCHEDULE REFERRED TO IN THE FOREGOING MINUTE OF VARIATION

PART 1

PROGRAMME OF PRIORITISED WORKS



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**NARRATIVE TO ACCOMPANY THE PROGRAMME PREPARED FOLLOWING THE MEDIATION ON 8 to 12 MARCH 2011 Revision 3, revised 6 May 2011.**

Note: The Programme has been revised to accommodate the agreements reached between the parties on the scope and schedule of works to be undertaken on Princes Street.

**Prioritised Works**

Works commenced on 3 May 2011 following the agreement of the form of MoV 4, with the exception of the mini test track and the Depot external works which recommenced on 4 April 2011 and the works on Princes Street which are programmed to commence on 2 July 2011.

Princes Street

The Programme is based on the programme assumption that the whole of Princes Street shall be available and that there will be no interruption of a summer Embargo, i.e. Full Closure of Princes Street from 2 July 2011 until 26 November 2011. Further, there is no allowance in the programme for dealing with utility works or delay resulting therefrom. Completion is subject to the assumption that there is no slippage due to adverse or severe weather.

Scope

1. Princes Street Road/Rail Joint – Enhanced Design

The works involve the removal and replacement of bituminous surfacing adjacent to the rails on Princes Street with coloured concrete to try and match the adjacent asphalt road surface. All road markings, road studs and areas of Antiskid/Coloured Surfacing within the areas that are affected by the works will be replaced / reinstated.

The length of the works is as detailed below.

Inbound Track (East Bound Carriageway)

- Section 1C Chainage 121,370 - Chainage 121,976
- Section 1D Chainage 130,000 - Chainage 130,380

Outbound Track (West Bound Carriageway)

- Section 1C Chainage 121,374 - Chainage 121,980
- Section 1D Chainage 130,000 - Chainage 130,380

July 2011: Works will commence on the tram tracks on the south side of Princes Street, involving planing to a depth of 250mm along the entirety of the street with planing machines working from both ends. Work will subsequently be carried out to infill the area around the tram rails with reinforced concrete. The north side road lanes, during this time will remain open to pedestrians and delivery vehicles, up until the end of the festival period. The south side footpath will remain open throughout the remedial works.

September 2011: Following the Summer Festival fireworks, work will also commence to plane to a depth of 250mm along the north side lanes of Princes Street, and infill the area around the tram rails with concrete.



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End November 2011: All work on Princes Street will cease for the duration of the Christmas/New Year shopping season and the areas where construction has not been completed will be temporarily surfaced and the site compound will be removed. Princes Street will remain pedestrianised.

January 2012: Work will recommence on Princes Street to complete the reinforcement of the outstanding section of tram track and carry out ancillary work, erecting overhead line poles, associated equipment and to install the street furniture at the tram stop.

Early May 2012: Target completion date.

## 2. OLE Works & Street Lighting

OLE Foundations within the section from Hanover Street to Waverley Junction (7 nr) and South Charlotte Street to Lothian Road (4 nr) will be completed. Note there are utility/basement/design conflicts associated with these foundations that require resolution. All OLE poles will be erected and street lighting installed.

## 3. Tram Stop

The tramstop finishes will be completed but no furniture including the shelter, PID, bins etc will be installed.

## 4. Scottish Water

Completion of works from the original phase of construction works and includes provision of additional crossing due to OLE conflict. The pipework is in place and only the connection has to be completed. Notifications and SW requirements may affect the actual start date.

## 5. BT

BT remedial works in the area of South St David Street will be completed.

## 6. Chambers

The remedial works will commence after 2 July 2011 and be completed.

## 7. Finishes

All outstanding works to footways, pedestrian barrier, signs and track drainage will be completed.

## Haymarket Viaduct

The Track is to be constructed from the tangent point at the end of the straight section of track at the eastern end of Haymarket Viaduct to the tangent point at inbound track Chainage 200,260 and the tangent point at outbound track Chainage 200,207 and the road fully reinstated. Prioritised Works to Haymarket Viaduct is restricted to that necessary to lay the tracks including the concrete infill of the Rheda City track construction. (N.B. construction work on track curves must start and finish at tangent points).

Although the track bed is constructed in the second phase of traffic management, a third phase of traffic management is required (that can only take place after phases 1 & 2) to complete the outbound track (Chainage 200,207 to 200,260) that runs in Haymarket Yards. This third phase is not part of the Prioritised Works.

Depot Access Bridge

Construction continues and is anticipated to be complete in May 2011.

The Depot

Internal work on the Depot Building continues. External works recommenced on 4 April 2011. The Depot Building will be available to take delivery of up to the first five trams from 15 October 2011 following the issue by tie of a partial completion certificate in respect of the Depot Building. The trams will be unloaded on track 15 and stabled inside the Depot Building. The unloading and shunting activities of each tram into the Depot Building shall be within reasonable times agreed between BB, Siemens and CAF to minimise the disruption of the Prioritised Works.

The works in the Depot area to the east of the Depot Access Bridge that become redundant once the Edinburgh Gateway is instructed have been deleted from the Programme and hence "Section A" needs to be redefined. The Depot (excluding area east of Depot Access Bridge) will be available to take delivery of any further trams from 16 December 2011 following the issue by tie of a completion certificate in respect of Section A. Note warrantee period commences with the issue of the completion certificate. This will involve handover of Depot and commencement of handover procedures with the Operator.

To create a Programme that represents a complete scope of works, provisional activities have been added to represent what may require construction under the Edinburgh Gateway. The duration and logic applied to these activities is provisional only. The actual impact of the Edinburgh Gateway on the Programme can only be determined once the works are instructed and the appropriate IFC drawings are available.

Mini Test Track

To achieve the shortest programme period the mini test track constitutes a single track on the inbound track from chainage 531,230 to 531,800. These locations are determined by the OHLE design. This track will be connected to the depot via the depot west entrance switch. A temporary Overhead Catenary System will be installed using the final back stay at chainage 531,749 at the west end and a new back stay to be installed around chainage 531,260 in the east end of the mini test track. This will result in an energised and usable track of about 400m. The period reflected in the programme includes a 2 week period for energisation tests. A temporary Overhead Catenary System will be designed and implemented on the east side of the Depot Access Bridge to enable all tracks within the Depot to be energised. The additional costs associated with implementing this temporary Overhead Catenary System to accommodate energisation of the mini test track will need to be agreed. This temporary Overhead Catenary System will be replaced at a later time with the permanent Overhead Catenary System when the Edinburgh Gateway has been designed and constructed.

The Edinburgh Gateway works also prevent the installation of the final radio mast in time to be available for the operation of the mini test track.

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The programme considers that for all works adjacent to the mini test track and the final works on the mini test track area will be executed under normal construction conditions, without any restrictions. Therefore this track cannot be permanently used for testing purposes until the final installation is completed.

#### A8 Underpass

Phases 1, 2 and 4 are programmed to recommence on 3 May 2011.

#### Auxiliary Items

The Programme includes for the following auxiliary items:

- Additional Testing in Murrayfield Corridor
- Water of Leith Sewer Lining Works
- Demolition of Plots 97/102
- Testing of Contamination
- Advanced Site investigation Works in Section 1C/1D

#### **Remaining Off Street Works**

The remaining off street works are programmed to commence on or about 2 September 2011 following the signing of a further MoV by 01 July 2011.

The CAF works no longer form part of the programme however periods have been allowed for their works as previously advised by CAF to allow calculation of the dates for Planned Sectional Completion Section A and Planned Sectional Completion Section B.

## General

The data date of the programme is 31 March 2011. For work activities currently under construction their anticipated actual progress at 31 March 2011 has been taken as the start point of the programme.

The programme for the works recognises the allowed working hours stated in the Code of Construction Practice of 0700 to 1900 Monday to Friday and 0800 to 1300 on a Saturday. However a 40 hour effective working week has been used to calculate the duration of activities to take account of rest breaks, un-exceptional weather delays and travel between work sites. Construction work will be required outside the hours stated in the Code of Construction Practice for Rail Possessions, work on busy road junctions, stringing catenary cables etc. The necessary approvals will be sought in advance for such works in accordance with the tender documents and the programme assumes that such approval will be granted as necessary to maintain the programme.

Assumptions and factual statements upon which the programme has been prepared are as set out in this document. General assumptions are as follows.

The programme assumes that all outstanding drawings have been issued at IFC status by the 31 March 2011 (excluding "Roseburn Viaduct" [the structures at Roseburn Street] (20 June 2011) and the redesign of S21B, C and D (16 May 2011))

The programme assumes that all Third Party approvals / licenses will be in place for these works to commence and proceed as shown.

Detailed programmes are available for all structures. The programme shows summaries of these programmes.

The construction works in general are subject to Network Rail approval. An eleven week period has been assumed for all Network Rail WPP and form C approvals, which includes a three week "cooling off period" for the WPP. The Programme generally shows the latest dates for these approvals.

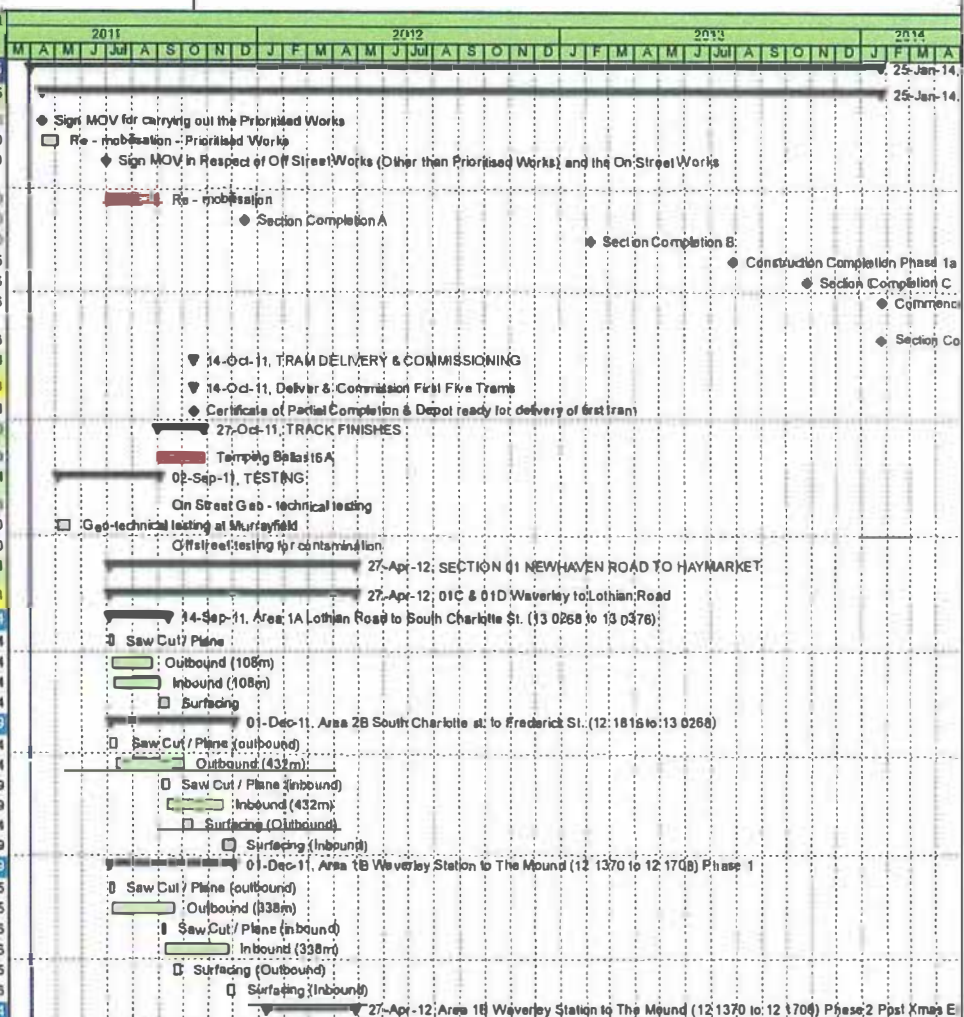
Programme following Mediation  
on 8 - 12 March 2011 (110506)  
Prioritised Works

# EDINBURGH TRAM NETWORK



06-May-11 14:03

Activity ID	Activity Name	Original Duration	Start	Finish	Total / Total
<b>Programme following Mediation 8-12 March 2011 rev 3 (Prioritised Works)</b>					
		692	31-Mar-11	25-Jan-14	
<b>KEY DATES</b>					
1060	Sign MOV for carrying out the Prioritised Works			15-Apr-11*	
1070	Re - mobilisation - Prioritised Works	10	15-Apr-11	03-May-11	120
1000	Sign MOV in Respect of Off Street Works (Other than Prioritised Works) and the On Street Works			01-Jul-11*	0
1050	Re - mobilisation	44	01-Jul-11	02-Sep-11	0
313	Section Completion A			16-Dec-11*	0
314	Section Completion B			07-Feb-13*	0
281	Construction Completion Phase 1a Edinburgh Airport to Haymarket	0		29-Jul-13	75
315	Section Completion C	0		27-Oct-13	106
310	Commencement of Revenue Service Phase 1a Edinburgh Airport to Haymarket	0		25-Jan-14	106
325	Section Completion D	0		25-Jan-14	106
<b>TRAM DELIVERY &amp; COMMISSIONING</b>					
Deliver & Commission First Five Trams					
CAF-01	Certificate of Partial Completion & Depot ready for delivery of first trams	0	14-Oct-11	14-Oct-11	254
<b>TRACK FINISHES</b>					
A20000	Tamping Ballast 6A	40	01-Sep-11	27-Oct-11	0
<b>TESTING</b>					
1C-15/16-1210	On Street Geo - technical testing	86	03-May-11	02-Sep-11	0
5A-11-S21B/21D-19	Geo-technical testing at Murrayfield	10	03-May-11	17-May-11	120
2/5/7-15/16-1220	Off street testing for contamination	43	04-Jul-11	02-Sep-11	0
<b>SECTION 01 NEWHAVEN ROAD TO HAYMARKET</b>					
01C & 01D Waverley to Lothian Road					
Area 1A Lothian Road to South Charlotte St. (13 0268 to 13 0376)					
IC-15/16-1080	Saw Cut / Plane	4	04-Jul-11	08-Jul-11	484
IC-15/16-1090	Outbound (108m)	33	07-Jul-11	24-Aug-11	504
IC-15/16-1100	Inbound (108m)	38	11-Jul-11	02-Sep-11	504
IC-15/16-1150	Surfacing	8	02-Sep-11	14-Sep-11	504
Area 2 South Charlotte st. to Frederick St. (12 1816 to 13 0268)					
IC-15/16-1110	Saw Cut / Plane (outbound)	6	06-Jul-11	14-Jul-11	484
IC-15/16-1120	Outbound (432m)	58	13-Jul-11	30-Sep-11	484
IC-15/16-1290	Saw Cut / Plane (inbound)	6	05-Sep-11	13-Sep-11	449
IC-15/16-1130	Inbound (432m)	49	12-Sep-11	18-Nov-11	449
IC-15/16-1125	Surfacing (Outbound)	8	30-Sep-11	12-Oct-11	484
IC-15/16-1160	Surfacing (Inbound)	8	18-Nov-11	01-Dec-11	449
Area 1B Waverley Station to The Mound (12 1370 to 12 1708) Phase 1					
IC-15/16-1140	Saw Cut / Plane (outbound)	4	04-Jul-11	08-Jul-11	495
IC-15/16-1170	Outbound (338m)	52	07-Jul-11	20-Sep-11	495
IC-15/16-1300	Saw Cut / Plane (inbound)	4	05-Sep-11	09-Sep-11	6
IC-15/16-1180	Inbound (338m)	54	08-Sep-11	23-Nov-11	6
IC-15/16-1135	Surfacing (Outbound)	5	20-Sep-11	27-Sep-11	495
IC-15/16-1160	Surfacing (Inbound)	5	23-Nov-11	01-Dec-11	6
Area 1B Waverley Station to The Mound (12 1370 to 12 1708) Phase 2 Post Xmas E					
		79	09-Jan-12	27-Apr-12	354



Date	Revision	Checked	Approved
02-Feb-11	Revision 0	SCS/MHE	BSC
16-Feb-11	Revision 1	SCS/MHE	BSC
18-Feb-11	Revision 2	SCS/MHE	BSC
06-May-11	Revision 3	SCS/MHE	BSC

- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone
- Summary

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Programme following Mediation  
 on 8 - 12 March 2011 (110506)  
 Prioritised Works

# EDINBURGH TRAM NETWORK

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Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
1C-15/16-1200	Saw Cut / Plane	4	09-Jan-12*	12-Jan-12	354
1C-15/16-1220	Outbound	59	12-Jan-12	03-Apr-12	354
1C-15/16-1230	Inbound	65	16-Jan-12	16-Apr-12	354
1C-15/16-1240	Surfacing	9	17-Apr-12	27-Apr-12	354
<b>Area 2A: The Mound to Frederick Street (12 1706 to 12 1816) Tramstop Area</b>					
1C-15/16-1250	Saw Cut / Plane	4	11-Jan-12	16-Jan-12	359
1C-15/16-1270	Inbound	38	18-Jan-12	09-Mar-12	381
1C-15/16-1260	Outbound	59	19-Jan-12	11-Apr-12	359
1C-15/16-1280	Surfacing	7	12-Apr-12	20-Apr-12	359
<b>Tramstop</b>					
1C-15/16-1310	Finishes	29	20-Oct-11	01-Dec-11	449
OLE		43	04-Jul-11	01-Sep-11	513
1C-15/16-1320	OLE Base Remedials	18	04-Jul-11*	27-Jul-11	513
1C-15/16-1330	OLE Pole Erection	25	28-Jul-11	01-Sep-11	513
<b>Street Lighting</b>					
1C-15/16-1350	Power Supply/Cabinets/Cabling/Lighting Heads	30	14-Jul-11	25-Aug-11	518
Chambers		15	04-Jul-11	22-Jul-11	541
1C-15/16-1340	Remove/Reset/Resurface	15	04-Jul-11*	22-Jul-11	541
<b>SECTION 2 HAYMARKET CORRIDOR</b>					
<b>02A Haymarket Corridor</b>					
Haymarket (inc.) to Roseburn Junction (inc.)					
Haymarket Station Viaduct (S19)					
2A-13-S19-80	Finishes	15	10-Aug-11	30-Aug-11	294
Trackwork (1135m)		125	03-May-11	27-Oct-11	483
<b>Construction</b>					
Haymarket Yards					
Phase 2 Ch 125 to 260 (inbound) Ch 125 to 207 (Outbound)					
2A-13B-TRCK-260	Establish Traffic Management	1	03-May-11	04-May-11	294
2A-13B-TRCK-270	Site Clearance	1	04-May-11	05-May-11	294
2A-13B-TRCK-280	Plane Out Surfacing	1	05-May-11	06-May-11	294
2A-13B-TRCK-290	Tram Ducts	14	06-May-11	28-May-11	298
2A-13B-TRCK-300	Excavate	4	06-May-11	12-May-11	308
2A-13B-TRCK-310	OLE Bases	18	06-May-11	02-Jun-11	294
2A-13B-TRCK-320	Drainage	16	06-May-11	31-May-11	286
2A-13B-TRCK-330	Improvement Slab	11	02-Jun-11	17-Jun-11	294
2A-13B-TRCK-340	Set Track	9	01-Jul-11	13-Jul-11	294
2A-13B-TRCK-350	Concrete Track	9	06-Jul-11	18-Jul-11	294
2A-13B-SIGN-100	wayside preparation for loops(2) and boxes(8)	6	06-Jul-11	13-Jul-11	558
2A-13B-TRCK-360	Pavement Construction Outside Rails	25	22-Jul-11	26-Aug-11	294
2A-13B-TRCK-370	Pavement Construction Between Rail	7	26-Jul-11	04-Aug-11	296
Phase 1 Ch 80 to 125					
2A-13B-TRCK-140	Establish Traffic Management	1	09-Aug-11	09-Aug-11	294
2A-13B-TRCK-150	Site Clearance	1	10-Aug-11	10-Aug-11	300
2A-13B-TRCK-160	Plane Out Surfacing	1	11-Aug-11	11-Aug-11	300
2A-13B-TRCK-170	Tram Ducts	1	12-Aug-11	16-Aug-11	303
2A-13B-TRCK-180	Excavate	1	12-Aug-11	12-Aug-11	305



Date	Revision	Checked	Approved
02-Feb-11	Revision 0	SCS/MHE	BSC
16-Feb-11	Revision 1	SCS/MHE	BSC
18-Feb-11	Revision 2	SCS/MHE	BSC
06-May-11	Revision 3	SCS/MHE	BSC

Page 2 of 5

Legend:

- Actual Work (Blue bar)
- Remaining Work (Green bar)
- Critical Remaining Work (Red bar)
- Milestones (Diamond)
- Summary (Arrow)

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Programme following Mediation

on 8 - 12 March 2011 (110506)

Prioritised Works

EDINBURGH TRAM NETWORK



06-May-11 14:0

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
2A-13B-TRCK-190	OLE Bases	6	12-Aug-11	18-Aug-11	300
2A-13B-TRCK-200	Drainage	2	12-Aug-11	15-Aug-11	304
2A-13B-TRCK-210	Improvement Slab	1	22-Aug-11	22-Aug-11	300
2A-13C-TRCK-701	Track Laying 3 (Haymarket Viaduct + Phase 1)	15	31-Aug-11	20-Sep-11	294
2A-13B-SIGN-80	wayside preparation for loops(1) and boxes(2)	2	19-Sep-11	20-Sep-11	510
2A-13B-TRCK-230	Concrete Track	3	21-Sep-11	23-Sep-11	294
2A-13B-TRCK-240	Pavement Construction Between Rail	4	03-Oct-11	06-Oct-11	297
2A-13B-TRCK-250	Pavement Construction Outside Rails	7	03-Oct-11	11-Oct-11	294
2A-13B-TRCK-500	Pavement Incl. Haymarket Terrace Haymarket Yards.	12	12-Oct-11	27-Oct-11	294
<b>SECTION 05 ROSEBURN JUNCTION TO GOGAR</b>					
<b>05A Roseburn Junction (exc.) to Balgreen Road (inc.)</b>		30	04-Jul-11	16-Aug-11	156
Roseburn Junction (exc.) to Murrayfield Stadium (inc.)		30	04-Jul-11	16-Aug-11	156
<b>Russell Road Retaining Walls (W3 and W4)</b>		30	04-Jul-11	16-Aug-11	156
<b>Construction</b>		30	04-Jul-11	16-Aug-11	156
5A-12-W4-22	Building Warrant Approval	0	04-Jul-11	16-Aug-11	156
5A-12-W4-31	Demolish and rebuild	30	04-Jul-11	16-Aug-11	156
Murrayfield Stadium (exc.) to Balgreen Road (inc.)		20	04-Jul-11	02-Aug-11	105
<b>Water of Leith Bridge (S21E)</b>		20	04-Jul-11	02-Aug-11	105
<b>Enabling Works</b>		20	04-Jul-11	02-Aug-11	105
5A-11-S21E-35(3)	Sewer Enabling Works	20	04-Jul-11	02-Aug-11	105
<b>05C Edinburgh Park Central (exc.) to Gogarburn (inc.)</b>		172	31-Mar-11	02-Dec-11	448
Gyle Centre (exc.) to Depot Stop (inc.)		140	31-Mar-11	18-Oct-11	480
<b>A3 Underpass (W28)</b>		118	03-May-11	18-Oct-11	237
<b>Phases 1 &amp; 2</b>		67	03-May-11	08-Aug-11	237
5C-03-W28-10	Finishes	67	03-May-11	08-Aug-11	237
<b>Phase 4</b>		103	03-May-11	27-Sep-11	174
5C-03-W28-20	Deck Construction	30	03-May-11	15-Jun-11	174
5C-03-W28-30	South Portal	55	01-Jun-11	16-Aug-11	202
5C-03-W28-40	Finishes	73	15-Jun-11	27-Sep-11	174
<b>Tunnel Construction</b>		91	10-Jun-11	18-Oct-11	237
5C-03-W28-90	Phases 1 & 2	91	10-Jun-11	18-Oct-11	237
<b>Depot Access Bridge (S32)</b>		20	31-Mar-11	28-Apr-11	600
5C-03-W32-90	Completion Works	20	31-Mar-11	28-Apr-11	600
Depot Stop (exc.) to Gogarburn (inc.)		170	04-Apr-11	02-Dec-11	448
<b>Mini Test Track related</b>		170	04-Apr-11	02-Dec-11	448
Trackwork Ch 1230 to 1588		170	04-Apr-11	02-Dec-11	448
5C-02-TRCK-15	Trim & Sod Baller/ Bulk Earthworks / Improvement Layer	15	04-Apr-11	25-Apr-11	26
5C-02-TRCK-25	Pre Earthworks Drainage 1.016 to 1.014	6	26-Apr-11	04-May-11	193
5C-02-TRCK-105	Pre Earthworks Drainage outfall for 5 & 7	5	03-May-11	09-May-11	22
5C-02-TRCK-95	Pre Earthworks Drainage 1.013 to 1.012 to 1.011 to 1.004	25	05-May-11	09-Jun-11	287
5C-02-TRCK-125	Pre Earthworks Drainage 5.002 to 5.000	10	10-May-11	23-May-11	22
5C-02-TRCK-135	Pre Earthworks Drainage 7.002 to 7.000	10	24-May-11	07-Jun-11	22
5C-02-TRCK-35	Excavation / Fill (sub base foundation to track slab)	15	08-Jun-11	28-Jun-11	284
5C-02-TRCK-45	OLE Foundations	10	29-Jun-11	12-Jul-11	284
5C-02-TRCK-55	Drainage & Ducting	9	13-Jul-11	25-Jul-11	284



Date	Revision	Checked	Approved
02-Feb-11	Revision 0	SCS/MHE	BSC
16-Feb-11	Revision 1	SCS/MHE	BSC
18-Feb-11	Revision 2	SCS/MHE	BSC
06-May-11	Revision 3	SCS/MHE	BSC

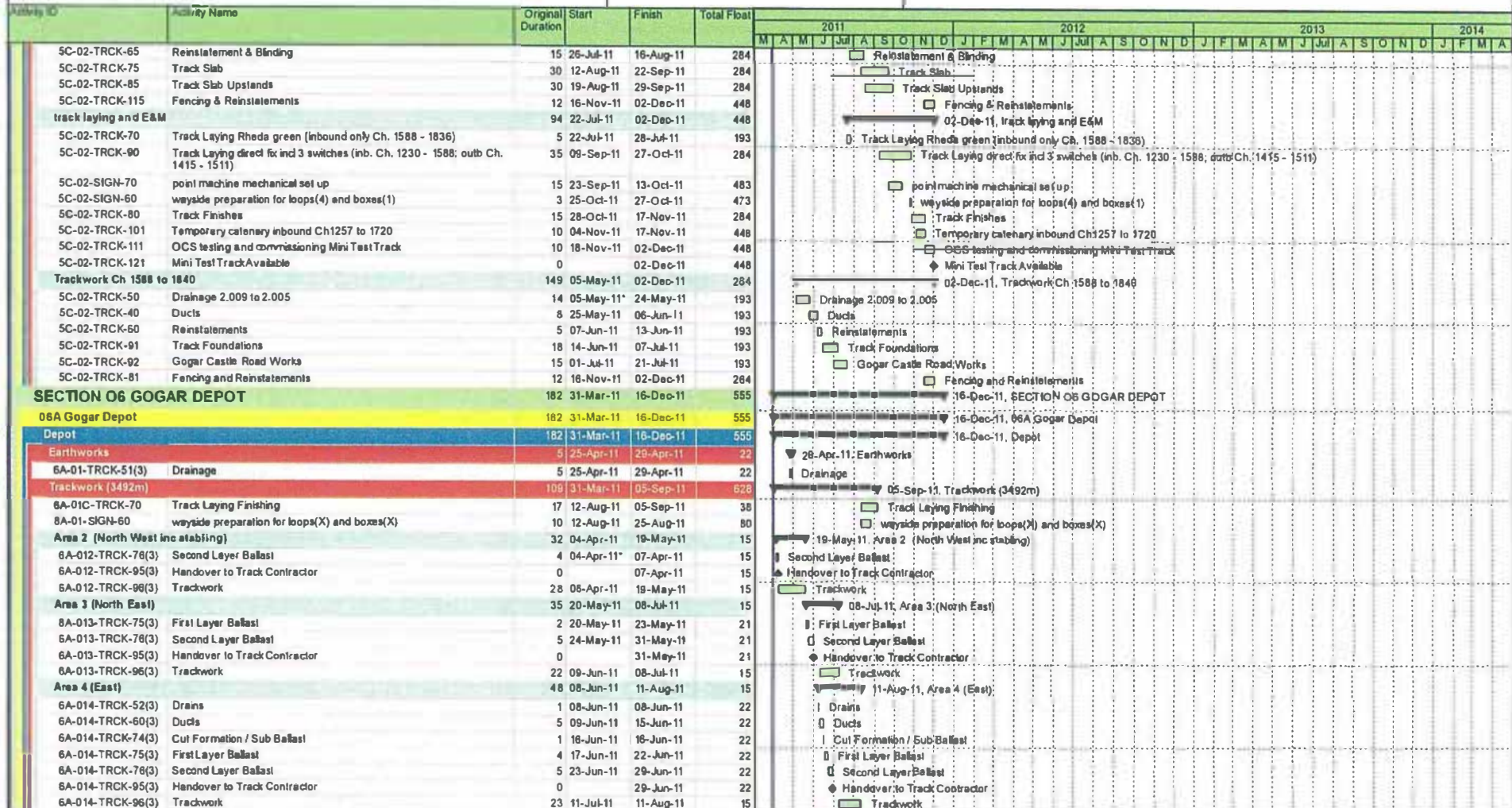
Page 3 of 5

- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone
- Summary

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Date	Revision	Checked	Approved
02-Feb-11	Revision 0	SCS/MHE	BSC
16-Feb-11	Revision 1	SCS/MHE	BSC
18-Feb-11	Revision 2	SCS/MHE	BSC
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- Actual Work
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Programme following Mediation  
on 8 - 12 March 2011 (110506)  
Prioritised Works

# EDINBURGH TRAM NETWORK



06-May-11 14:01

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2011												2012												2013												2014											
						M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A										
<b>Area 5 (Workshop Area inc. hardstanding)</b>						08-Jun-11, Area 5 (Workshop/Area inc. hardstanding)																																															
6A-014-TRCK-152(3)	Drains	9	04-Apr-11	14-Apr-11	15	Drains																																															
6A-014-TRCK-180(3)	Ducts	5	15-Apr-11	21-Apr-11	15	Ducts																																															
6A-014-TRCK-174(3)	Cut Formation	3	25-Apr-11	27-Apr-11	15	Cut Formation																																															
6A-014-TRCK-175(3)	Subbase	5	28-Apr-11	05-May-11	15	Subbase																																															
6A-014-TRCK-176(3)	Track Slab	10	06-May-11	19-May-11	15	Track Slab																																															
6A-014-TRCK-195(3)	Handover to Track Contractor	0		19-May-11	15	Handover to Track Contractor																																															
6A-014-TRCK-196(3)	Trackwork	13	20-May-11	08-Jun-11	15	Trackwork																																															
<b>Area 6 (East of Access Bridge)</b>						31-Mar-11, Area 6 (East of Access Bridge)																																															
6A-013-TRCK-195	Works suspended awaiting Edinburgh Gateway decision	0		31-Mar-11	737	Works suspended awaiting Edinburgh Gateway decision																																															
<b>Depot Building</b>						18-Oct-11, Depot Building																																															
<b>E &amp; M Workshop Equipment Installation</b>						20-Sep-11, E & M Workshop Equipment Installation																																															
6A-01-BLDS-72	Installation of workshop equipment	120	31-Mar-11	20-Sep-11	42	Installation of workshop equipment																																															
<b>Inspection &amp; Handover</b>						18-Oct-11, Inspection & Handover																																															
6A-01-BLDS-81	Inspection and Testing	20	21-Sep-11	18-Oct-11	42	Inspection and Testing																																															
<b>Access Roads</b>						05-Jul-11, Access Roads																																															
6A-01-ROAD-90(3)	Carpark	6	04-Apr-11	11-Apr-11	118	Carpark																																															
6A-01-ROAD-91(3)	Hardstanding	40	04-Apr-11	01-Jun-11	140	Hardstanding																																															
6A-01-ROAD-94(3)	Access Road	22	12-Apr-11	13-May-11	116	Access Road																																															
6A-01-ROAD-95(3)	Complete Access Road & Finishes	30	18-May-11	27-Jun-11	118	Complete Access Road & Finishes																																															
6A-01-JNCS-60	Installation of traffic light control - Junction 208	6	28-Jun-11	05-Jul-11	118	Installation of traffic light control - Junction 208																																															
<b>E &amp; M Installations</b>						16-Dec-11, E & M Installations																																															
6A-01-ELEC-40	Access for visual inspection to cable pits for cable laying (Depot)	0	13-Apr-11		728	Access for visual inspection to cable pits for cable laying (Depot)																																															
6A-01-OHLE-40	Access for visual inspection for E&M Depot installation	0	16-Apr-11		724	Access for visual inspection for E&M Depot installation																																															
6A-01-SGNW-70	Initial Signalling Wayside Equipment (Depot)	12	20-May-11	07-Jun-11	136	Initial Signalling Wayside Equipment (Depot)																																															
6A-01-OHLE-50(3)	Installation of poles and building fittings (Depot)	12	20-May-11	07-Jun-11	60	Installation of poles and building fittings (Depot)																																															
6A-01-OHLE-41	Access for E&M Depot installation	0	20-May-11		60	Access for E&M Depot installation																																															
6A-01-ELEC-41	Access to cable pits for cable laying (Depot)	0	20-May-11		108	Access to cable pits for cable laying (Depot)																																															
6A-01-ELEC-70	Install Electrical Cables Depot	25	20-May-11	24-Jun-11	123	Install Electrical Cables Depot																																															
6A-01-SIGN-40	Installation of 2 SIG-interlocking cubicles depot entries	25	06-Jun-11	08-Jul-11	108	Installation of 2 SIG-interlocking cubicles depot entries																																															
5C-02-SIGN-90	Installation of SIG equipment on depot entry west	10	20-Jun-11	01-Jul-11	106	Installation of SIG equipment on depot entry west																																															
6A-01-SIGN-80	Commissioning of 2 SIG-interlocking cubicles depot entries	10	04-Jul-11	15-Jul-11	108	Commissioning of 2 SIG-interlocking cubicles depot entries																																															
6A-01-OHLE-60(3)	Overhead Catenary Line (Depot)	61	31-Aug-11	24-Nov-11	0	Overhead Catenary Line (Depot)																																															
6A-01-TRCK-80	Points machine mechanical set up	20	29-Sep-11	27-Oct-11	35	Points machine mechanical set up																																															
6A-01-OHLE-60(3)10	OCS Testing & Commissioning	15	24-Nov-11	16-Dec-11		OCS Testing & Commissioning																																															
<b>Operational Control Center (OCC)</b>						13-Jun-11, Operational Control Center (OCC)																																															
6A-01-SIGN-150	equipment floor fit out SIG/COM/SCADA/Radio	25	31-Mar-11	06-May-11	132	equipment floor fit out SIG/COM/SCADA/Radio																																															
6A-01-SIGN-110	operating floor fit out	25	09-May-11	13-Jun-11	132	operating floor fit out																																															
<b>SECTION 07 GOGAR TO EDINBURGH AIRPORT</b>						06-Apr-11, SECTION 07 GOGAR TO EDINBURGH AIRPORT																																															
<b>07A Gogarburn (exc.) to Edinburgh Airport (inc.)</b>						06-Apr-11, 07A Gogarburn (exc.) to Edinburgh Airport (inc.)																																															
<b>Ingliston Park &amp; Ride (exc.) to Edinburgh Airport (inc.)</b>						06-Apr-11, Ingliston Park & Ride (exc.) to Edinburgh Airport (inc.)																																															
<b>Trackwork (833m)</b>						06-Apr-11, Trackwork (833m)																																															
<b>EAL Programme</b>						06-Apr-11, EAL Programme																																															
<b>Phase C</b>						06-Apr-11, Phase C																																															
7A-05-W14C-07	Site Clearance	5	31-Mar-11	06-Apr-11	103	Site Clearance																																															

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- Actual Work
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**PART 2**  
**SCOPE AND PRICING OF PRIORITISED WORKS**

AG  
di. 7

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**Edinburgh Tram Network**

**Prioritised Civil Works**

29 March 2011

A handwritten signature in blue ink, appearing to be 'D. F.', with a checkmark above it.

A handwritten signature in blue ink, appearing to be 'J. B.', written in a stylized cursive.

## Summary

The works defined as 'Prioritised Works' are identified in the Mar Hall Heads of Terms dated 11 March 2011 and have been further developed, as discussed and agreed, through meetings and discussions.

The main items remain as per the Heads of Terms however it was felt prudent to highlight several areas where it would be beneficial to carry out work of low value to secure a programme benefit in the event that agreement is reached which would allow all of the works to proceed from Edinburgh Airport to Haymarket.

The attached schedule identifies work which could be defined as 'Prioritised Works' and contains elements of works which are Ongoing, On Hold and Not Yet Started.

Work which is On Hold and Not Yet Started would only start as a result of a Minute of Variation as envisaged by the Mar Hall Heads of Terms .

This note deals with the clarification of the original envisaged 'Prioritised Works' together with the development of other potential 'prioritised works and some additional comments on other ongoing issues.

We have also included some notes on the Advanced Expenditure of the On Street Target Price.

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## **Prioritised Works**

The Main Elements of the 'Prioritised Works' Minute of Variation consists of

- **The Princes Street Remedial Works and any outstanding Target Price works**
- **Haymarket Yards**
- **The A8 Underpass**
- **The Depot Access Bridge**
- **The Depot Building and External Works**
- **The Mini Test Track**
- **Auxiliary Works**

We have prepared the amounts due to be paid under the 'Prioritised Works' Minute of Variation with reference to our Project Phoenix Proposal. i.e. Actual cost of the Subcontract Works.

The amounts noted for the Princes Street Works excluded the cost of the remedial works and represent only the TM and Enabling Works required to implement a full closure on Princes Street which will allow work which was planned to be done under the Target Price to be carried out.

We anticipate that the works in Haymarket Yards will be valued at around £900k. This is based on an assessment of the quantities for this area and subcontractor rates and prices.

It was not originally envisaged under the 'Prioritised Works' Minute of Variation that any works would proceed on the A8 Underpass however CEC have requested that the A8 Underpass be included as part of any 'Prioritised Works'.

Before the works were suspended we were constructing Phases 1, 2 and 4 of the A8 Underpass, therefore there is significant traffic management arrangements and utility protection measures which need to remain in place until work restarts.

Phases 1 and 2 also interact with the 250mm dia watermain feed to the Depot and Scottish Water have previously indicated that they will not permit the connection to happen until such times as this main is completed in its entirety. There is a risk that Scottish Water may revert to this position which would require Phases 1 and 2 to be backfilled and constructed to finished level to allow the installation of the main.

The re-commencement of the works at the A8 Underpass would be highly visible to the public.

**Prioritised Works (Contd)**

It is anticipated that the Depot Access Bridge structure will be complete by the 3 May 2011 however the connection of the Depot Access Road, which is identified as being carried out under the 'Prioritised Works' Minute of Variation, across the Depot Access Bridge and onto the Gogarburn Roundabout may not be complete until July 2011.

The Depot External Civil works would be expected to be complete by August 2011, perhaps slightly earlier on the assumption of an early start in April.

The value of the remaining works in the Depot has been calculated using, as a base, the Project Phoenix Price from Barr Ltd with the addition of the Mini Test Track.

The civil element of the Depot Building is essentially complete with the exception of minor works related to the integration of Systems equipment.

We have assessed the value of the Mini Test Track using quantities and subcontractor rates.

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116

### **Auxiliary Works**

As a result of the ongoing mediation there are a number of areas across the site where work is currently suspended and it is not envisaged that any work will be done in these areas under a 'Prioritised Works' Minute of Variation however there is an ongoing requirement to maintain traffic management, site safety arrangements and utility protection measures in the meantime.

The following areas come under this category :-

- Section 1A Traffic Management and Safety Fencing to accommodate works to Lindsay Road Retaining Wall and Tower Place Bridge.
- Traffic Management and Safety Fencing Section 2A through 5A, B and C
- Traffic Management and Utility Protection Measures at the A8 Underpass

We have also identified some key areas of work, some of which are comparatively low in value, where it would be beneficial to the future Programme if these works were instructed under a 'Prioritised Works' Minute of Variation.

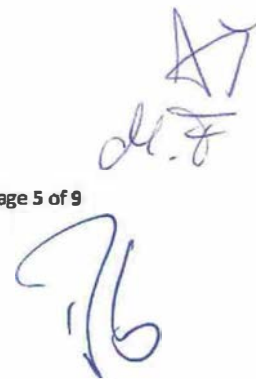
They are as follows

- **Additional testing in the Murrayfield Retaining Wall Corridor.**

Through the normal process of submitting and agreeing Estimates under the Infracore Contract (INTC 625) it was identified that there was a need for extensive ground improvement works in the area of Murrayfield Stadium, in particular Retaining Walls S21B and D.

We have identified that it would be prudent to instruct around this ground investigation work to finalise the design.

The total cost of this work would be the order of 100k and would include testing and design costs. This process could be complete within 10 weeks of an instruction to proceed. This would allow the design to be finalised in advance of the works commencing in September 2011 thus ensuring the programme for this section of works.

Handwritten signature and initials in blue ink, including a large 'A' and '7' at the top right, and a large '16' at the bottom.



## Auxiliary Work (Contd)

- **Water of Leith Sewer Lining.**

Through the normal process of submitting and agreeing Estimates under the Infraco Contract (INTC 479) it was identified that there was a need for advanced works to protect an existing sewer in the area of the Water of Leith Bridge (S21E).

We consider that it would be prudent to instruct this work to ensure the Programme in this area, however we accept this structure is not on the critical path.

The total cost of this work would be the order of 70k. These works could be complete within 8 weeks of an instruction to proceed.

- **Demolition of Plots 96/97 Roseburn Garage**

Through the normal process of submitting and agreeing Estimates under the Infraco Contract (INTC 368) it was identified that there was a need for additional demolition in the area of Russell Road Retaining Wall.

The demolition or otherwise of these properties will have a critical effect on the Programme in this discrete area and Section 5 as a whole.

We require CEC to finalise an agreement with the current owner which allows Infraco to take access and demolish these properties. It would be necessary to start these works in advance of the currently planned date of 1 September 2011 to provide any programme benefit.

We anticipate that it will take 10 weeks to demolish these properties from an instruction to proceed, the demolition works are likely to cost around £100k.

- **Demolition of Plots 101/102**

Through the normal process of submitting and agreeing Estimates under the Infraco Contract (INTC 368) it was identified that there was a need for additional demolition in the area of Russell Road Retaining Wall.

However this additional demolition (Plot 102) may have an impact on another existing property (Plot 101) and this needs to be resolved.



## Auxiliary Work (Contd)

- **Demolition of Plots 101/102 (Contd)**

The options available are to either strengthen and make watertight Plot 101 to allow the demolition of Plot 102 to proceed or alternatively extend the agreement with the current owner to demolish both plots in their entirety.

Our preferred option is to demolish both properties

It would be necessary to start these works in advance of the currently planned date of 1 September 2011 to provide any programme benefit.

Again we understand that there is no agreement with the current owner to allow any of these works to proceed in any event.

- **Russell Road Retaining Wall**

The early resolution of Plots 96/97 and 101/102 could allow a start of the main construction works on the 1 September 2011.

- **Site Clearance in Section 7A.**

We have proceeded to clear trees in the area of the Gogarburn Retaining Wall (W14) prior to the start of the nesting season thus removing this constraint from future works. The works is of a nominal value of £20k and will be complete shortly.

- **Testing for Contamination**

There is a nominal amount of testing required to be done to complete our assessment of the remaining contaminated land on the site.

Whilst not critical to the overall programme it does allow for the measures for dealing with contamination to be finalised in advance of any works starting in September 2011.

In addition we require the client to confirm the status of the Planning Application, which he has progressed, for the storage of non-hazardous material on or adjacent to the site. This would need to be in place for the 1 September 2011.

## Milestone Schedule Updates

There are two areas of the site where work has been/is in progress and where either the current Milestone Schedule does not represent the works actually carried out or that we have been prevented from updating the Milestone Schedule due to the lack of the issue of a tie Change Order.

They are as follows

- **The Depot Building and External Work**
- **Section 5 Structures generally**

We propose that the 1<sup>st</sup> and 2<sup>nd</sup> Mobilisation payments as envisaged under the 'Prioritised Works' Minute of Variation take into account, equally, the fact that the works have been properly carried out and that save for the absence of a tie Change Order the Milestone Schedule would have been updated and allowed the recovery of this cost.

It would not be correct to simply spread any balance due through a new, revised and simplified milestone schedule which would only come into effect after the 1 September 2011.

In respect of the Depot Building and External Works there was, prior to the Mediation, an initiative to resolve many of the outstanding INTCs relating to the Depot Area and there was a general recognition that there was an entitlement to be paid for these works.

The initiative was never concluded given that events were overtaken by the Mar Hall Heads of Terms however we continue to carry a significant cost which has not been reimbursed by way of being able to update the Milestone Schedule.

The amount of work carried out in the Depot Area in advance of being able to update the milestone Schedule is approximately £2 million.

In respect of the Structures in Section 5 we have assessed the cost of work carried out in advance of being able to update the Milestone Schedule to be of the order of £3.5 million.



## Target Price

The Mar Hall Head of Terms sets out that the On Street Works shall be paid for on a Target Sum basis and that the mechanism for calculating and amending the Target Sum will be agreed at a later date.

Since the Mar Hall Heads of Terms were signed further discussions have taken place whereby it has been identified that, for a variety of reasons, it would be beneficial to start these works before the 1 September 2011.

During discussions with CEC Roads Department it was identified that to inform both the Design and the Target Price it would be advantageous to identify, by way of trial holes, the condition of the existing road and sub-formation from Haymarket to St Andrews Square.

Additionally and at the same time this resource could identify the location of any utilities to allow CEC and the Infraco to plan and programme the works in these areas to minimise the effect of utilities on the construction of the Civils and Systems works.

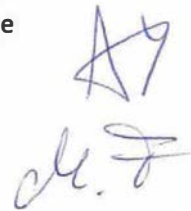
We have for the purposes of this initial submission based the cost on our experience of trial holes on Leith Walk (INTC 490)

We understand also that a full closure on Princes Street will be permitted commencing early May 2011 and that the Embargo which prevents work being carried out in July and August will be lifted.

We had anticipated that we would carry out any remaining works on Princes Street in conjunction with the works to Haymarket to Lothian Road and Waverley Bridge to St Andrews Square.

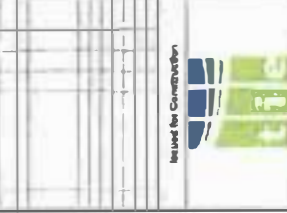
It would be beneficial to take advantage of this closure and execute as much of the outstanding works as is technically feasible. We have not, in the time available, been able to prepare a detailed analysis of the value of the outstanding works, however we have provided an indication, by way of an assessment based on our experience, the value of the outstanding works.

We will work with you to develop this to conclusion to ensure that this element of the work does not prejudice any future mechanism which we will seek to develop and agree for the Target Price as envisaged by the Mar Hall Heads of Terms.

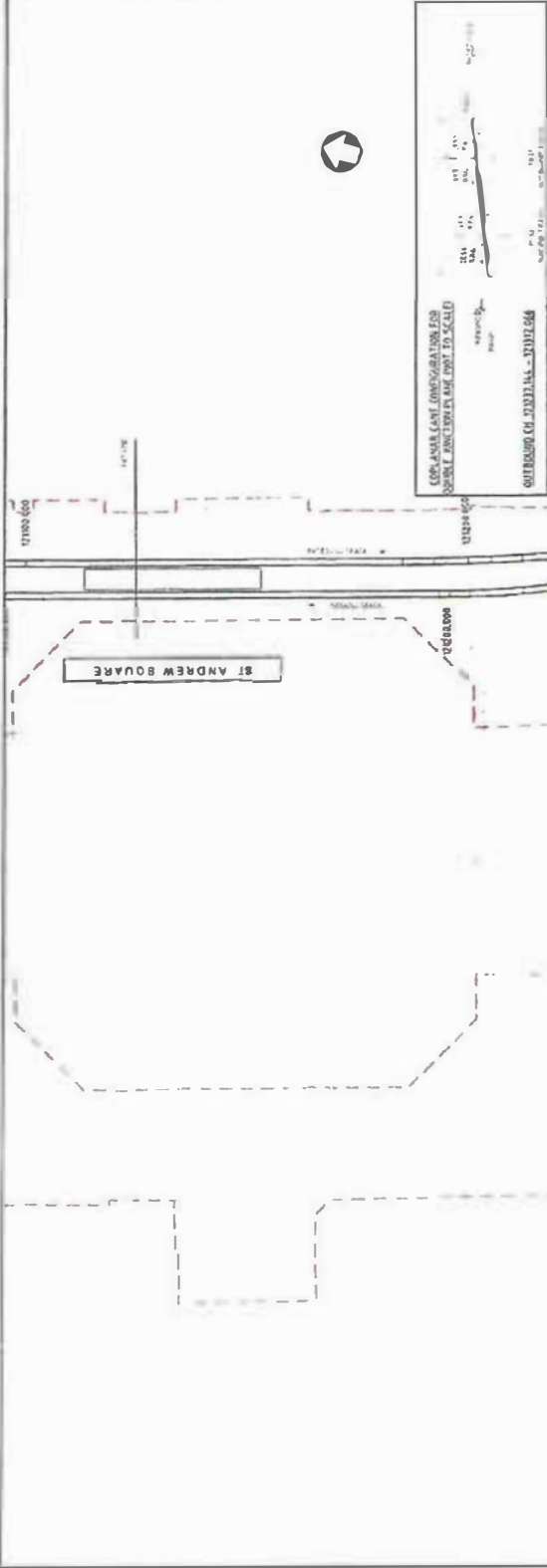
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KEY

- 1. TRACKS
- 2. TRACKS TO BE DEMOLISHED
- 3. TRACKS TO BE RECONSTRUCTED
- 4. TRACKS TO BE RECONSTRUCTED WITH A DIFFERENT TRACK GAUGE
- 5. TRACKS TO BE RECONSTRUCTED WITH A DIFFERENT TRACK GAUGE AND A DIFFERENT TRACK PROFILE
- 6. TRACKS TO BE RECONSTRUCTED WITH A DIFFERENT TRACK GAUGE AND A DIFFERENT TRACK PROFILE AND A DIFFERENT TRACK ALIGNMENT
- 7. TRACKS TO BE RECONSTRUCTED WITH A DIFFERENT TRACK GAUGE AND A DIFFERENT TRACK PROFILE AND A DIFFERENT TRACK ALIGNMENT AND A DIFFERENT TRACK CROSS-SECTION
- 8. TRACKS TO BE RECONSTRUCTED WITH A DIFFERENT TRACK GAUGE AND A DIFFERENT TRACK PROFILE AND A DIFFERENT TRACK ALIGNMENT AND A DIFFERENT TRACK CROSS-SECTION AND A DIFFERENT TRACK MATERIAL
- 9. TRACKS TO BE RECONSTRUCTED WITH A DIFFERENT TRACK GAUGE AND A DIFFERENT TRACK PROFILE AND A DIFFERENT TRACK ALIGNMENT AND A DIFFERENT TRACK CROSS-SECTION AND A DIFFERENT TRACK MATERIAL AND A DIFFERENT TRACK COLOR
- 10. TRACKS TO BE RECONSTRUCTED WITH A DIFFERENT TRACK GAUGE AND A DIFFERENT TRACK PROFILE AND A DIFFERENT TRACK ALIGNMENT AND A DIFFERENT TRACK CROSS-SECTION AND A DIFFERENT TRACK MATERIAL AND A DIFFERENT TRACK COLOR AND A DIFFERENT TRACK WEIGHT



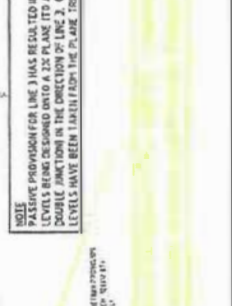
EQUIDISTANT TRACK NETWORK	
TRACK NO.	1
TRACK NAME	PRINCES STREET / ST ANDREW SQUARE
TRACK TYPE	DOUBLE TRACK
TRACK GAUGE	1435mm
TRACK PROFILE	AS SHOWN
TRACK ALIGNMENT	AS SHOWN
TRACK CROSS-SECTION	AS SHOWN
TRACK MATERIAL	AS SHOWN
TRACK COLOR	AS SHOWN
TRACK WEIGHT	AS SHOWN



**NOTE: SPECIAL CANT APPLICATION**  
 CANT IS TO BE APPLIED TO BOTH RAILS BY RAISING OR LOWERING EACH RAIL BY HALF THE REQUIRED AMOUNT OF CANT. THE TRACKS ARE TO BE RAISED OR LOWERED TO THE DESIGN LEVEL. TRACKING FROM THE TRACK CENTRE LINE THIS METHOD HAS TO BE INCORPORATED TO ENSURE THE TRACK HAS THE CORRECT CANT PRODUCED CROSSFALL WHEN ENTERING THE PLANE CREATED TO A COMPROMISE THE DOUBLE JUNCTION REQUIRED FOR LINE 3

**NOTE**  
 PASSIVE PROVISION FOR LINE 3 HAS BEEN DESIGNED INTO THE TRACK LEVELS BEING DESIGNED INTO A 25 PLANE ITS APPROPRIATE DOUBLE JUNCTION IN THE DIRECTION OF LINE 3. CANT / CROSSFALL LEVELS HAVE BEEN THROWN FOR THE PLANE THROUGHOUT THE PROJECT

**NOTE**  
 PASSIVE PROVISION FOR LINE 3 HAS BEEN DESIGNED INTO THE TRACK LEVELS BEING DESIGNED INTO A 25 PLANE ITS APPROPRIATE DOUBLE JUNCTION IN THE DIRECTION OF LINE 3. CANT / CROSSFALL LEVELS HAVE BEEN THROWN FOR THE PLANE THROUGHOUT THE PROJECT



**NOTE**  
 CANT IS TO BE APPLIED TO THE TRACKS ONLY BY RAISING THE RAIL TO ABOVE THE DESIGN LEVEL. TRACKING FROM THE TRACK CENTRE LINE THIS METHOD HAS TO BE INCORPORATED TO ENSURE THE TRACK HAS THE CORRECT CANT PRODUCED CROSSFALL WHEN ENTERING THE PLANE CREATED TO A COMPROMISE THE DOUBLE JUNCTION REQUIRED FOR LINE 3

**NOTE**  
 PASSIVE PROVISION FOR LINE 3 HAS BEEN DESIGNED INTO THE TRACK LEVELS BEING DESIGNED INTO A 25 PLANE ITS APPROPRIATE DOUBLE JUNCTION IN THE DIRECTION OF LINE 3. CANT / CROSSFALL LEVELS HAVE BEEN THROWN FOR THE PLANE THROUGHOUT THE PROJECT

**NOTE**  
 PASSIVE PROVISION FOR LINE 3 HAS BEEN DESIGNED INTO THE TRACK LEVELS BEING DESIGNED INTO A 25 PLANE ITS APPROPRIATE DOUBLE JUNCTION IN THE DIRECTION OF LINE 3. CANT / CROSSFALL LEVELS HAVE BEEN THROWN FOR THE PLANE THROUGHOUT THE PROJECT

**NOTE**  
 PASSIVE PROVISION FOR LINE 3 HAS BEEN DESIGNED INTO THE TRACK LEVELS BEING DESIGNED INTO A 25 PLANE ITS APPROPRIATE DOUBLE JUNCTION IN THE DIRECTION OF LINE 3. CANT / CROSSFALL LEVELS HAVE BEEN THROWN FOR THE PLANE THROUGHOUT THE PROJECT

Princes Street Prioritised Works

*Handwritten signatures and initials.*

**NOTES**

1. ALL PROPOSED WORK SHALL BE COMPLETED WITHIN THE PERIOD OF THE WORK PROGRAM.
2. THE DESIGN SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS AND THE DESIGN MANUAL.
3. THE DESIGN SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS AND THE DESIGN MANUAL.
4. THE DESIGN SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS AND THE DESIGN MANUAL.
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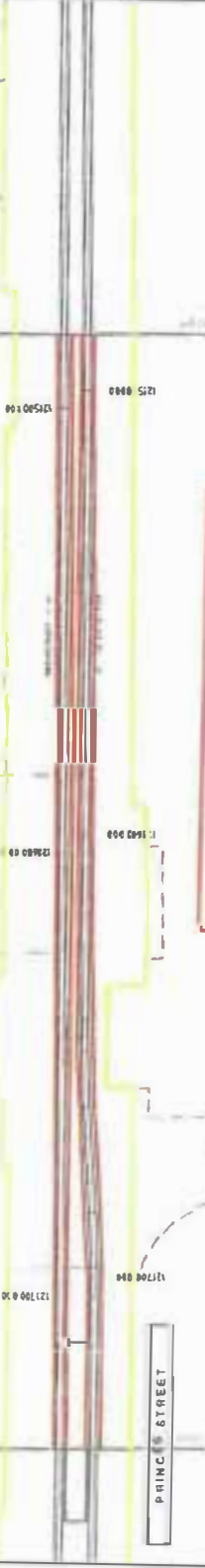
**Princes Street**

Edinburgh Tram Network

NEW HAVEN ROAD TO HAYMARKET

TRAVERSE WORKS UNDERWAY. ALLOWED PERIOD: 15th Feb 2015 - 15th Feb 2015

Author	1001001
Drawn	1001001
Checked	1001001
Scale	1:100
Sheet No.	1001001
Revision	1001001



**COMPARISON OF ROAD / FOOTWAY PRIORITISED SECTION**  
NOT TO SCALE

**EDINBURGH TRAM NETWORK - STATIONARY**

**NOTE**

THE DESIGN SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS AND THE DESIGN MANUAL. THEREFORE IN SOME CASES THE DESIGN SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS AND THE DESIGN MANUAL. THEREFORE IN SOME CASES THE DESIGN SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS AND THE DESIGN MANUAL.

**COMPARISON OF ROAD / FOOTWAY PRIORITISED SECTION**  
NOT TO SCALE

**COMPARISON OF ROAD / FOOTWAY PRIORITISED SECTION**  
NOT TO SCALE

**COMPARISON OF ROAD / FOOTWAY PRIORITISED SECTION**  
NOT TO SCALE

**Princes Street Prioritised Works**

**COMPARISON OF ROAD / FOOTWAY PRIORITISED SECTION**  
NOT TO SCALE

**COMPARISON OF ROAD / FOOTWAY PRIORITISED SECTION**  
NOT TO SCALE

**NOTE**

THE DESIGN SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS AND THE DESIGN MANUAL. THEREFORE IN SOME CASES THE DESIGN SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS AND THE DESIGN MANUAL. THEREFORE IN SOME CASES THE DESIGN SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS AND THE DESIGN MANUAL.

**NOTE**

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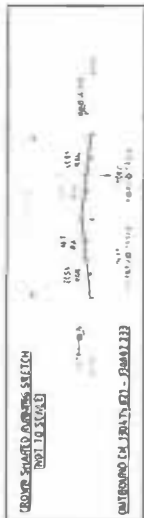
*Handwritten signatures and initials:*  
 [Signature]  
 [Initials]







76 del. 8

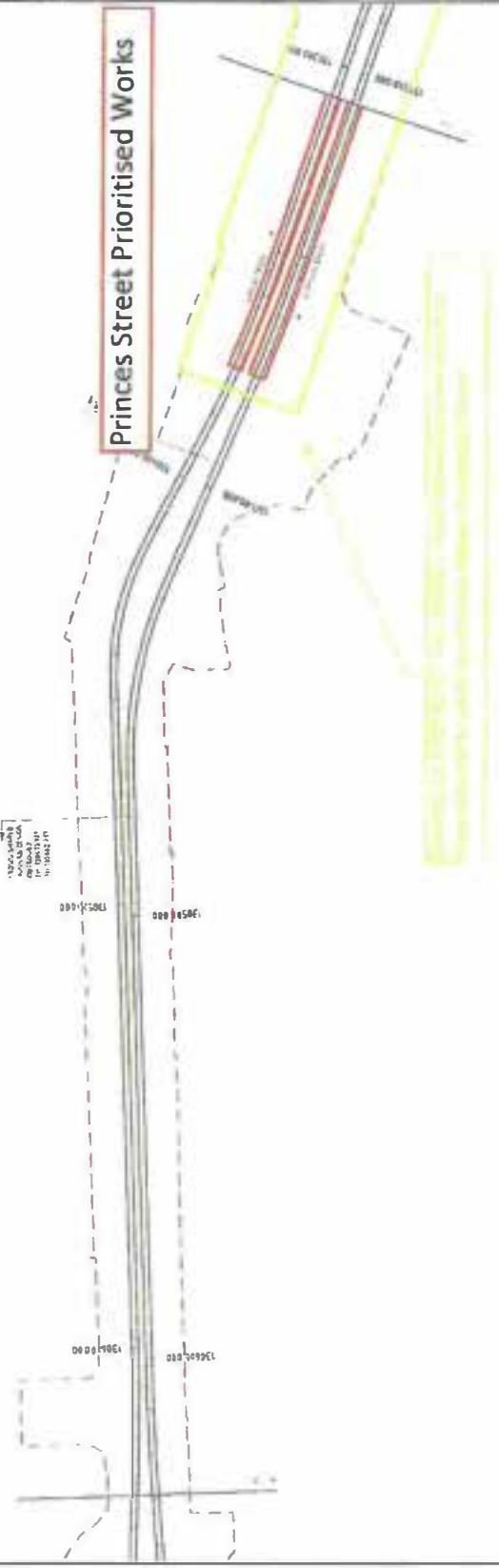


**NOTE**  
 LEVELS IN THIS SKETCH ARE THE DESIGN RAIL LEVELS. THE RAIL IS 100MM ABOVE THE DESIGN RAIL LEVEL. ON SKECHES THEREFORE, AS SOME CASES CANT BE APPLIED USING THE CONVENTIONAL METHOD ON CURVES, E RAISING THE DESIGN RAIL AND LABELS. OTHER CASES CANT BE APPLIED BY RAISING THE RAIL AND USING THE OUTER SIDE AS THE DESIGN RAIL LEVEL. THE CASES



**NOTE**  
 LEVELS IN THIS SKETCH ARE THE DESIGN RAIL LEVELS. THE RAIL IS 100MM ABOVE THE DESIGN RAIL LEVEL. ON SKECHES THEREFORE, AS SOME CASES CANT BE APPLIED USING THE CONVENTIONAL METHOD ON CURVES, E RAISING THE DESIGN RAIL AND LABELS. OTHER CASES CANT BE APPLIED BY RAISING THE RAIL AND USING THE OUTER SIDE AS THE DESIGN RAIL LEVEL. THE CASES

**Princes Street Prioritised Works**



**NOTES**

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. THE TRACKS ARE TO BE CONSTRUCTED TO THE DESIGN RAIL LEVEL.
3. THE TRACKS ARE TO BE CONSTRUCTED TO THE DESIGN RAIL LEVEL.
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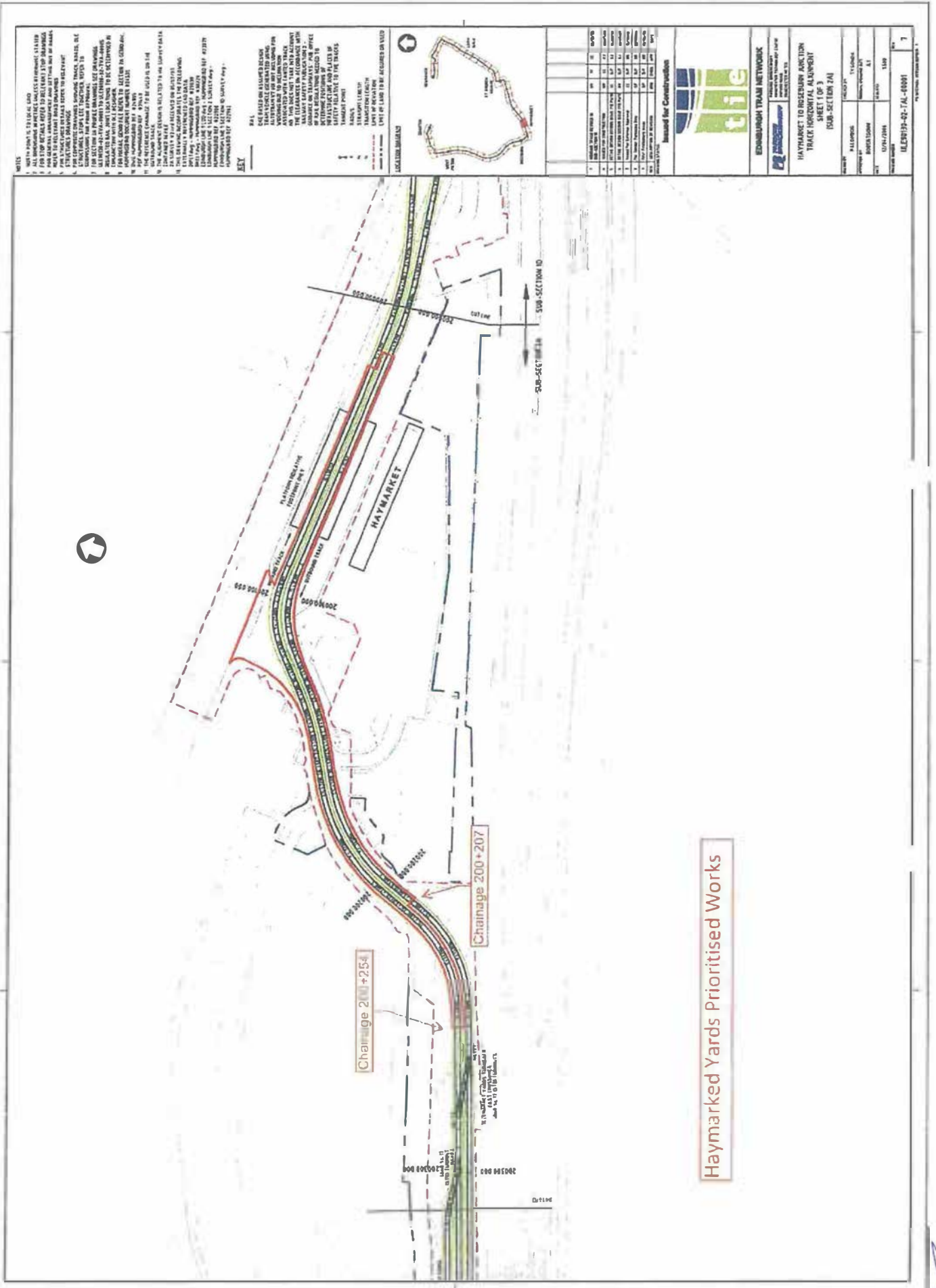
Issued for Construction

EDINBURGH TRAM NETWORK

TRACK-HORIZONTAL ALIGNMENT  
 SHEET 22 OF 24  
 100M - 1:1000

DATE	18/08/2018
PROJECT	Edinburgh Tram Network
SCALE	100M - 1:1000
PROJECT NO.	100M - 1:1000

Haymarket Yards Prioritised Works



- NOTES
1. ALL DIMENSIONS ARE UNLESS OTHERWISE STATED
  2. FOR STOP DETAILS REFER TO RELATED STOP DRAWING
  3. REFER TO PLANNING AND CONSTRUCTION DRAWINGS FOR DETAILS OF CONSTRUCTION
  4. ALL DIMENSIONS ARE UNLESS OTHERWISE STATED
  5. FOR CONCRETE CHANGES TO TRACKS, BRIDGES, SIGNS, SIGNALS AND PAVEMENTS REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS
  6. REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS FOR DETAILS OF CONSTRUCTION
  7. FOR DETAILS OF TRACKS TO BE CONSTRUCTED IN CONCRETE REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS
  8. FOR DETAILS OF TRACKS TO BE CONSTRUCTED IN BALLAST REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS
  9. FOR DETAILS OF TRACKS TO BE CONSTRUCTED IN RAIL REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS
  10. REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS FOR DETAILS OF CONSTRUCTION
  11. REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS FOR DETAILS OF CONSTRUCTION
  12. REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS FOR DETAILS OF CONSTRUCTION
  13. REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS FOR DETAILS OF CONSTRUCTION
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  28. REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS FOR DETAILS OF CONSTRUCTION
  29. REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS FOR DETAILS OF CONSTRUCTION
  30. REFER TO THE RELEVANT DRAWINGS AND SPECIFICATIONS FOR DETAILS OF CONSTRUCTION

KEY

NO.	DESCRIPTION
1	STANDARD TRACK
2	TRACK UNDER CONSTRUCTION
3	NEW TRACK
4	EXISTING TRACK
5	TRACK TO BE REMOVED
6	TRACK TO BE PRESERVED
7	TRACK TO BE REPLACED
8	TRACK TO BE MAINTAINED
9	TRACK TO BE RECONSTRUCTED
10	TRACK TO BE REPAIRED
11	TRACK TO BE RESTORED
12	TRACK TO BE REINFORCED
13	TRACK TO BE RESTRUCTURED
14	TRACK TO BE REENGINEERED
15	TRACK TO BE REDESIGNED
16	TRACK TO BE RELOCATED
17	TRACK TO BE REORIENTED
18	TRACK TO BE RECONFORMED
19	TRACK TO BE RECALIBRATED
20	TRACK TO BE RECOMMERCIALIZED
21	TRACK TO BE RECOMMUNICIALIZED
22	TRACK TO BE RECOMMUNICIALIZED
23	TRACK TO BE RECOMMUNICIALIZED
24	TRACK TO BE RECOMMUNICIALIZED
25	TRACK TO BE RECOMMUNICIALIZED
26	TRACK TO BE RECOMMUNICIALIZED
27	TRACK TO BE RECOMMUNICIALIZED
28	TRACK TO BE RECOMMUNICIALIZED
29	TRACK TO BE RECOMMUNICIALIZED
30	TRACK TO BE RECOMMUNICIALIZED

NO.	DESCRIPTION	QTY	UNIT	REMARKS
1	STANDARD TRACK	10	M	1000M
2	TRACK UNDER CONSTRUCTION	10	M	1000M
3	NEW TRACK	10	M	1000M
4	EXISTING TRACK	10	M	1000M
5	TRACK TO BE REMOVED	10	M	1000M
6	TRACK TO BE PRESERVED	10	M	1000M
7	TRACK TO BE REPLACED	10	M	1000M
8	TRACK TO BE MAINTAINED	10	M	1000M
9	TRACK TO BE RECONSTRUCTED	10	M	1000M
10	TRACK TO BE REPAIRED	10	M	1000M
11	TRACK TO BE RESTORED	10	M	1000M
12	TRACK TO BE REINFORCED	10	M	1000M
13	TRACK TO BE RESTRUCTURED	10	M	1000M
14	TRACK TO BE REENGINEERED	10	M	1000M
15	TRACK TO BE REDESIGNED	10	M	1000M
16	TRACK TO BE RELOCATED	10	M	1000M
17	TRACK TO BE REORIENTED	10	M	1000M
18	TRACK TO BE RECONFORMED	10	M	1000M
19	TRACK TO BE RECALIBRATED	10	M	1000M
20	TRACK TO BE RECOMMERCIALIZED	10	M	1000M
21	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M
22	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M
23	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M
24	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M
25	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M
26	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M
27	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M
28	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M
29	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M
30	TRACK TO BE RECOMMUNICIALIZED	10	M	1000M

Issued for Construction

EDINBURGH TRAM NETWORK

HAYMARKET TO ROSSLEIGH SECTION  
TRACK HORIZONTAL ALIGNMENT  
SHEET 1 OF 3  
SUB-SECTION 2A

PROJECT NO	EDIN101-02-TM-0001
DATE	07/11/2011
SCALE	1:1000
DRAWN BY	AL
CHECKED BY	AL
DATE	11/11/2011

10 of 10

*Handwritten signature and initials*

- NOTES**
1. THE DRAWING SHALL BE AS CONSTRUCTION WITH THE CONTRACTOR RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
  2. ALL DIMENSIONS ARE IN METERS AND ALL SETTING OUT POINTS AND CHANGES ARE IN METERS UNLESS NOTED OTHERWISE.
  3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
  5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
  6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
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  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
  10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.

**GENERAL ARRANGEMENT SHEET 1 OF 2**

**ROSEBURN JUNCTION TO GOSSABAIRN STRUCTURE S20**

**A8 UNDERPASS**

**GENERAL ARRANGEMENT SHEET 1 OF 2**

NO.	DESCRIPTION	DATE	BY	CHECKED
1	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
2	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
3	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
4	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
5	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
6	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
7	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
8	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
9	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
10	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES

**Approved for Construction**

**CONSTRUCTION NETWORK**

**ROSEBURN JUNCTION TO GOSSABAIRN STRUCTURE S20**

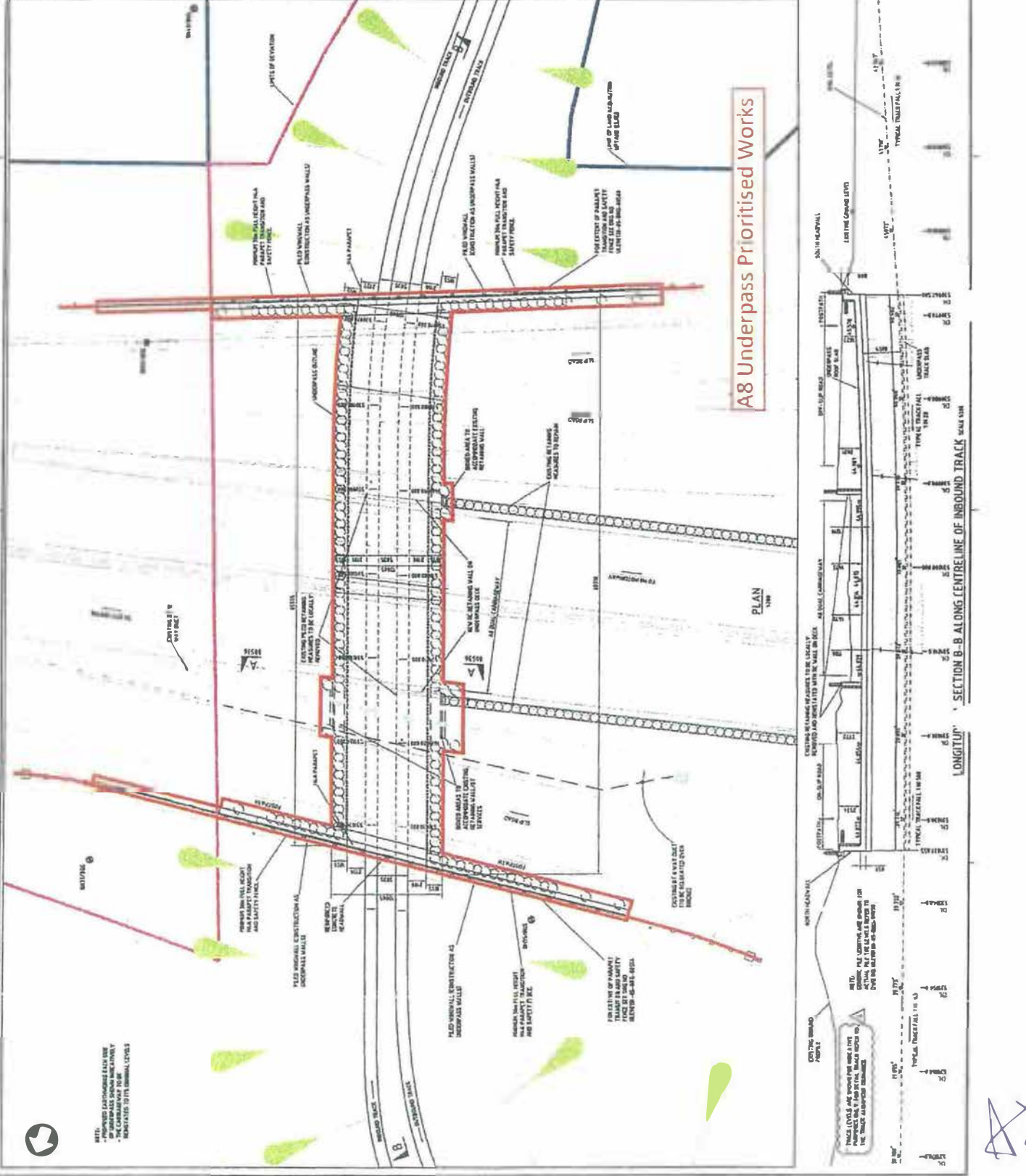
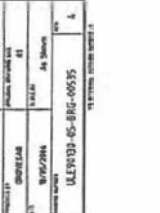
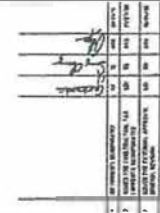
**A8 UNDERPASS**

**GENERAL ARRANGEMENT SHEET 1 OF 2**

**SECTION B - B ALONG CENTRELINE OF INBOUND TRACK**

**LONGITUDINAL**

**SCALE 1:500**



**NOTES**

1. THE DRAWING SHALL BE AS CONSTRUCTION WITH THE CONTRACTOR RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
2. ALL DIMENSIONS ARE IN METERS AND ALL SETTING OUT POINTS AND CHANGES ARE IN METERS UNLESS NOTED OTHERWISE.
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9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.

**GENERAL ARRANGEMENT SHEET 1 OF 2**

**ROSEBURN JUNCTION TO GOSSABAIRN STRUCTURE S20**

**A8 UNDERPASS**

**GENERAL ARRANGEMENT SHEET 1 OF 2**

NO.	DESCRIPTION	DATE	BY	CHECKED
1	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
2	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
3	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
4	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
5	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
6	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
7	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
8	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
9	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES
10	ISSUED FOR CONSTRUCTION	10/10/2018	J. SMITH	M. JONES

**Approved for Construction**

**CONSTRUCTION NETWORK**

**ROSEBURN JUNCTION TO GOSSABAIRN STRUCTURE S20**

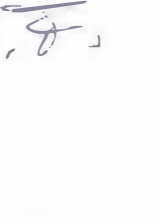
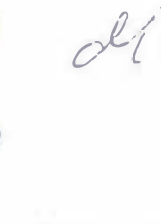
**A8 UNDERPASS**

**GENERAL ARRANGEMENT SHEET 1 OF 2**

**SECTION B - B ALONG CENTRELINE OF INBOUND TRACK**

**LONGITUDINAL**

**SCALE 1:500**



**NOTES**

1. THE TRACK ALIGNMENT IS THE RESULT OF THE DESIGN PROCESS AND IS SUBJECT TO CHANGE.
2. THE TRACK ALIGNMENT IS SUBJECT TO CHANGE BASED ON THE RESULTS OF THE DESIGN PROCESS.
3. THE TRACK ALIGNMENT IS SUBJECT TO CHANGE BASED ON THE RESULTS OF THE DESIGN PROCESS.
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10. THE TRACK ALIGNMENT IS SUBJECT TO CHANGE BASED ON THE RESULTS OF THE DESIGN PROCESS.

**LEGEND**

- 1. TRACK ALIGNMENT
- 2. TRACK ALIGNMENT
- 3. TRACK ALIGNMENT
- 4. TRACK ALIGNMENT
- 5. TRACK ALIGNMENT
- 6. TRACK ALIGNMENT
- 7. TRACK ALIGNMENT
- 8. TRACK ALIGNMENT
- 9. TRACK ALIGNMENT
- 10. TRACK ALIGNMENT



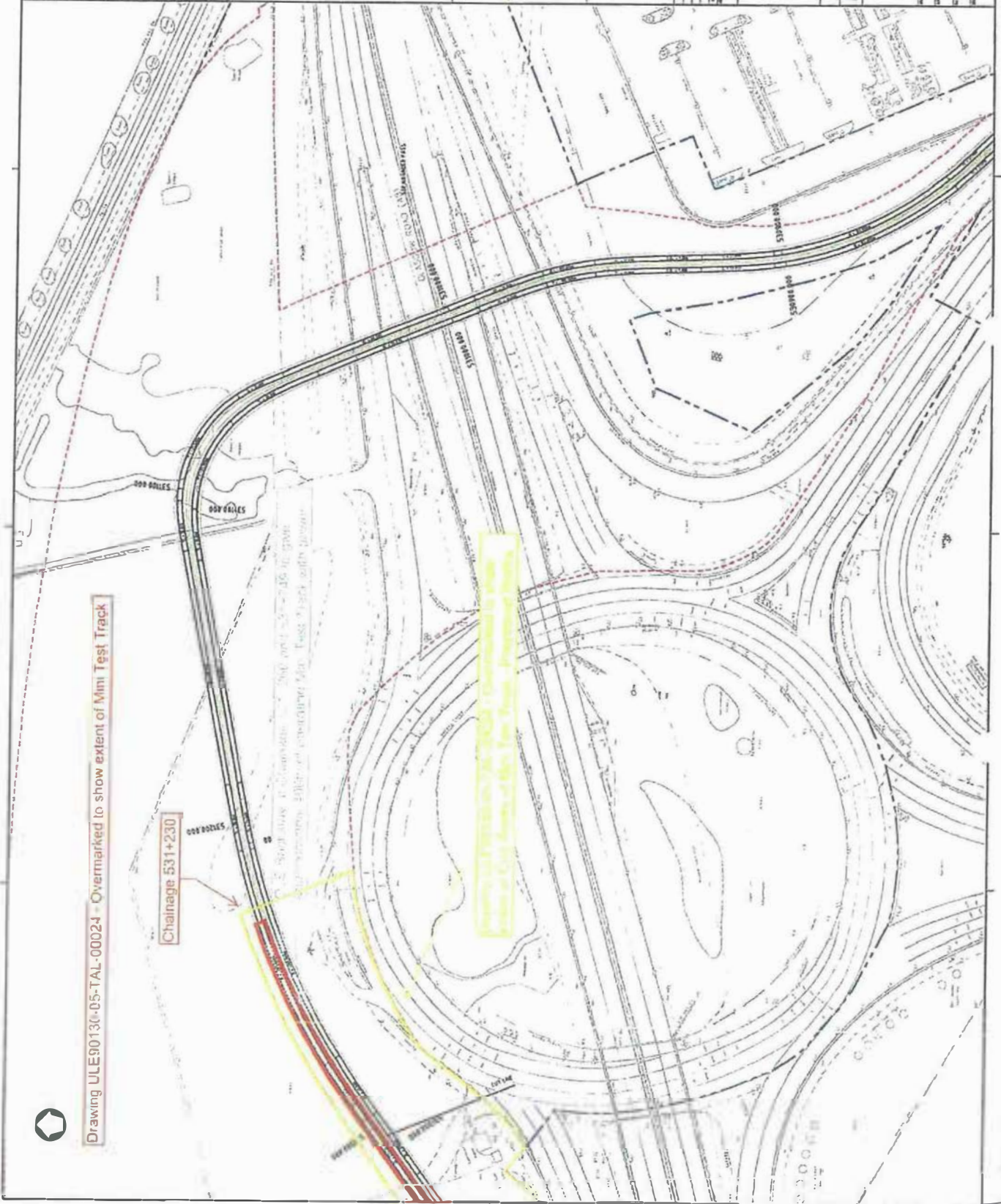
**Legend for Construction**

Symbol	Description
(Symbol)	1. TRACK ALIGNMENT
(Symbol)	2. TRACK ALIGNMENT
(Symbol)	3. TRACK ALIGNMENT
(Symbol)	4. TRACK ALIGNMENT
(Symbol)	5. TRACK ALIGNMENT
(Symbol)	6. TRACK ALIGNMENT
(Symbol)	7. TRACK ALIGNMENT
(Symbol)	8. TRACK ALIGNMENT
(Symbol)	9. TRACK ALIGNMENT
(Symbol)	10. TRACK ALIGNMENT

**tie**

**ROSELBURG JUNCTION TO GOSBURGH TRACKS HORIZONTAL ALIGNMENT SHEET 24 OF 28 (SUB-SECTION 5C)**

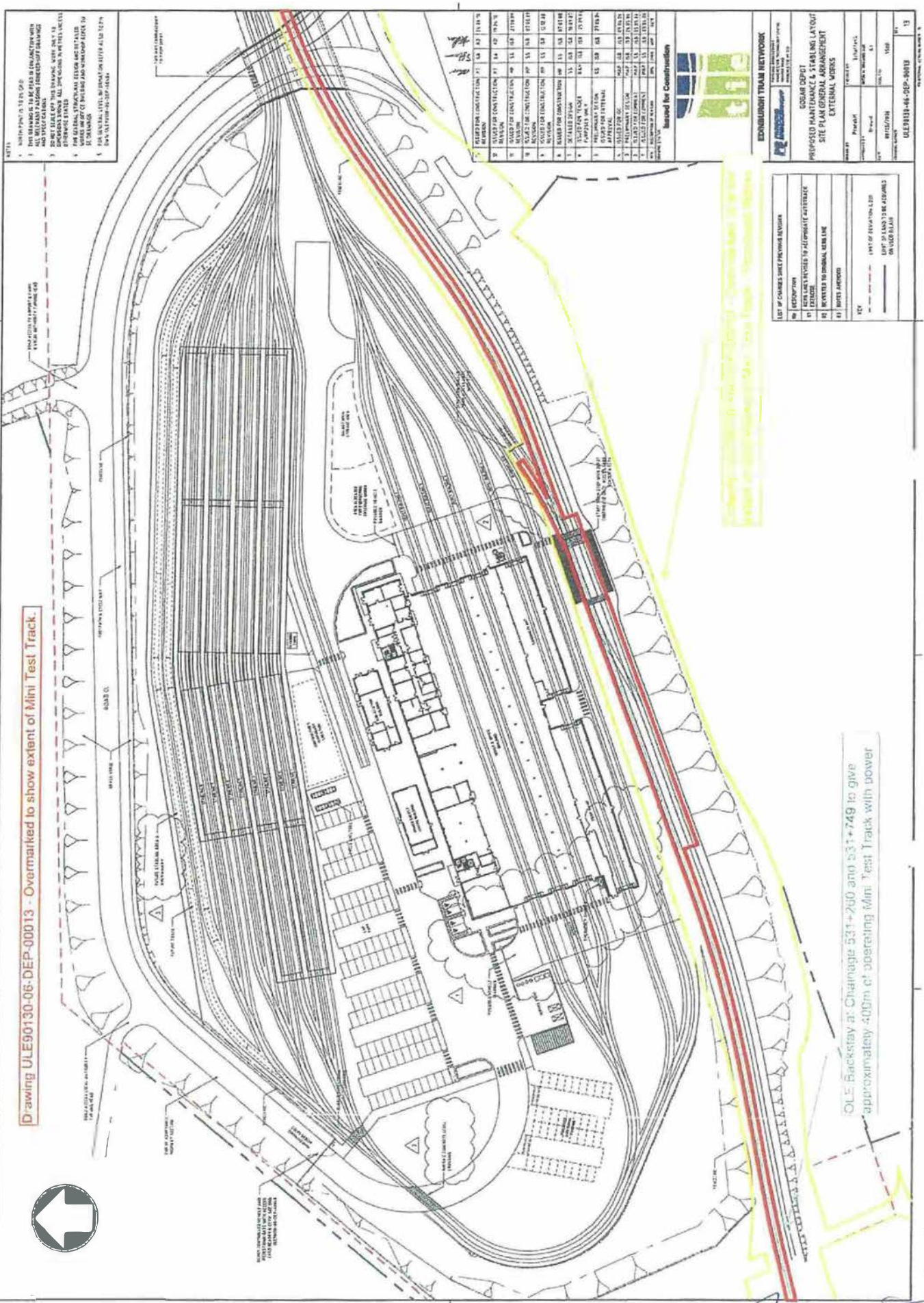
DATE: 11/11/11  
 DRAWN BY: J. HARRIS  
 CHECKED BY: J. HARRIS  
 SCALE: 1" = 100'



Drawing ULE90130-05-TAL-00024 - Overmarked to show extent of Mini Test Track

Chainage 531+230

*Handwritten notes and signatures in blue ink, including a large arrow pointing towards the top right.*



Drawing ULE90130-06-DEP-00013 - Overmarked to show extent of Mini Test Track.

- KEY
- 1. BOUNDARY OF THE SITE
  - 2. BOUNDARY OF THE EXISTING CONSTRUCTION AND STRUCTURES
  - 3. BOUNDARY OF THE EXISTING STRUCTURES AND STRUCTURES
  - 4. BOUNDARY OF THE EXISTING STRUCTURES AND STRUCTURES
  - 5. BOUNDARY OF THE EXISTING STRUCTURES AND STRUCTURES
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  - 9. BOUNDARY OF THE EXISTING STRUCTURES AND STRUCTURES
  - 10. BOUNDARY OF THE EXISTING STRUCTURES AND STRUCTURES

Legend for Construction

1. EXISTING CONSTRUCTION	21. 1:5	22. 1:10	23. 1:20	24. 1:30	25. 1:40	26. 1:50	27. 1:60	28. 1:70	29. 1:80	30. 1:90	31. 1:100	32. 1:120	33. 1:150	34. 1:200	35. 1:250	36. 1:300	37. 1:400	38. 1:500	39. 1:600	40. 1:700	41. 1:800	42. 1:900	43. 1:1000	44. 1:1200	45. 1:1500	46. 1:2000	47. 1:2500	48. 1:3000	49. 1:4000	50. 1:5000
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EDINBURGH TRAM NETWORK

GOVERNMENT OF SCOTLAND

PROPOSED MAINTENANCE & STAGING LAYOUT SITE PLAN GENERAL ARRANGEMENT EXTERNAL WORKS

DATE: 08/10/2014

SCALE: 1:500

PROJECT NO: ULE90130-06-DEP-00013

DRAWING NO: 13

LIST OF CHANGES SINCE PREVIOUS REVISION

NO.	DESCRIPTION	DATE
01	REVISIONS BY ARCHITECT	15/01/2014
02	REVISIONS BY CIVIL ENGINEER	22/01/2014
03	REVISIONS BY ELECTRICAL ENGINEER	22/01/2014

OLE Backstay at Chainage 531+250 and 531+749 to give approximately 400m of operating Mini Test Track with power

*Handwritten notes and signatures*



Application	42	43	44	45	46	47	48
Period End	31-Mar	26-Apr	28-May	25-Jun	23-Jul	20-Aug	17-Sep
Due Commenced	03-Apr	03-May	15-Jun	13-Jul	10-Aug	07-Sep	05-Oct

FIXED SUM PRIORITISED WORKS

Item	Description	Section	Work Description	Status	Member	01-Apr	17-May	28-Jun	27-Jul	24-Aug	21-Sep	19-Oct	Total	
1	Prioritised Works	1	Site Wide	Mobilisation (Certs 1 & 2)	BBCUK	12,500	7,500	5,000					12,500	
					Siemens	11,500	7,500	4,000					11,500	
	2	Site Wide	Materials and Equipment (Certs 1 & 3A, B & C)	Siemens	25,000	12,000			4,333	4,333	4,333		25,000	
				BBCUK	7,200		1,200	1,200	1,200	1,200	1,200	1,200	7,200	
		Site Wide		Preliminaries	BBCUK	2,984	494	494	494	494	494	494	2,984	
					Siemens	550		350	50	50	50	50	50	
		1C/1D		Princes Street TMA / Enabling Works	Not Yet Started	Siemens							0	
		2A		Haymarket Yards	On Hold	BBCUK	875		175	175	175	175	175	875
						Siemens	500					250	250	500
		5C		AB Underpass - Phase I, II & IV Works	Not Yet Started	BBCUK	750		150	150	150	150	150	750
Siemens														
	5C		Depot Access Bridge	Ongoing	BBCUK	518		403	115				518	
					Siemens									
	6		Depot Area : Building	Ongoing	BBCUK	1,000	500	500					1,000	
					Siemens	1,600		200	200	400	400	400	1,600	
	6		Depot Areas : External Works	On Hold	BBCUK	2,650	750	750	600	300	250		2,650	
					Siemens	1,400		200	200	250	250	250	1,400	
	10	6	Depot Areas : Mini Test Track	Not Yet Started	BBCUK	600		200	200	200			600	
					Siemens	1,000				250	400	400	1,000	
<b>Total for Agreed Priority Works</b>						<b>70,601</b>	<b>27,500</b>	<b>12,547</b>	<b>3,834</b>	<b>7,652</b>	<b>7,752</b>	<b>9,985</b>	<b>70,601</b>	
2	Auxiliary Works	1A	Ongoing Maintenance Works	Ongoing	BBCUK	105	15	15	15	15	15	15	105	
					Siemens								0	
		5A	Additional Testing in Murrayfield Corridor	Not Yet Started	BBCUK	110			20		90			110
					Siemens								0	
		5A	Water of Leith Sewer Linking Works	Not Yet Started	BBCUK	70					70			70
					Siemens								0	
		5A	Demolition of Plots 57/102	Not Yet Started	BBCUK	100					100			100
					Siemens								0	
		5C	AB Underpass - Ongoing Maintenance Works	Ongoing	BBCUK	525	75	75	75	75	75	75	75	525
					Siemens								0	
5A, B & C	Structures Generally Work in Progress	On Hold	BBCUK	3,165		3,165							3,165	
			Siemens								0			
7A	Site Clearance Works (already underway)	Ongoing	BBCUK	20	20								20	
			Siemens										0	
	Site Wide		Testing for Contamination	Not Yet Started	BBCUK	20					20		20	
					Siemens									0
<b>Total for Auxiliary Works</b>						<b>4,115</b>	<b>110</b>	<b>3,255</b>	<b>110</b>	<b>90</b>	<b>370</b>	<b>90</b>	<b>4,115</b>	
<b>Total for Fixed Sum Prioritised Works - 'Fixed Sum Prioritised Works Price'</b>						<b>74,722</b>	<b>27,610</b>	<b>15,802</b>	<b>3,944</b>	<b>7,742</b>	<b>8,122</b>	<b>8,042</b>	<b>3,459</b>	<b>74,722</b>

TARGET PRICE PRIORITISED WORKS

Item	Description	Section	Work Description	Status	Member	01-Apr	17-May	28-Jun	27-Jul	24-Aug	21-Sep	19-Oct	Total		
1	Target Price Works	1	1C/1D	Advanced Site Investigation works in Section 1	Not Yet Started	BBCUK	600		100	100	100	100	600		
						Siemens	350				50	100	100	100	350
							600			100	200	200	200	600	
<b>Total for Target Price Prioritised Works - 'Target Price Prioritised Works Price'</b>						<b>1,350</b>		<b>100</b>	<b>250</b>	<b>300</b>	<b>600</b>	<b>300</b>	<b>1,350</b>		

SUMMARY : BY WORK DESCRIPTION

Item	Description	Section	Work Description	01-Apr	17-May	28-Jun	27-Jul	24-Aug	21-Sep	19-Oct	Total	
1	Summary	1	Mobilisation / Materials & Equipment (Certs 1, 2 & 3A, B & C)	49,200	27,000	9,000	4,333	4,333	4,333		49,200	
			Priority Works	71,401	500	3,567	3,834	3,319	3,419	3,619	3,669	71,401
			Auxiliary Works	4,115	110	3,255	110	90	370	90	90	4,115
			Target Price Works	1,350			100	250	300	400	300	1,350
<b>Totals</b>				<b>76,071</b>	<b>27,610</b>	<b>15,802</b>	<b>8,044</b>	<b>7,742</b>	<b>8,422</b>	<b>8,662</b>	<b>3,799</b>	<b>76,071</b>

SUMMARY : BY INFRACO MEMBER

Item	Description	Section	Infraco Member	01-Apr	17-May	28-Jun	27-Jul	24-Aug	21-Sep	19-Oct	Total	
1	Summary	1	Bilfinger Berger Civil UK Limited	31,500	8,110	11,100	3,130	2,615	2,645	2,115	1,760	31,500
			Siemens plc	44,561	19,500	4,694	894	5,377	5,777	6,327	1,994	44,561
<b>Totals</b>				<b>76,071</b>	<b>27,610</b>	<b>15,802</b>	<b>4,044</b>	<b>7,992</b>	<b>8,422</b>	<b>8,662</b>	<b>3,799</b>	<b>76,071</b>

Note: This table only shows the expenditure of the Prioritised Works up to the 17 September 2011 and does not represent the total value of the Prioritised Works

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Edinburgh Tram Network  
 Prioritised Works  
 Schedule Part 2 : Prioritised Works Milestone Schedule

Updated : 15 Apr 11

						Application	42	43	44	45	46	47	48					
						Period End	15-Mar	26-Apr	24-May	25-Jun	23-Jul	20-Aug	17-Sep					
						Due Certificate	08-Apr	03-May	15-Jun	13-Jul	10-Aug	07-Sep	05-Oct					
Item	Description	Section	Work Description	Milestone Type	Member	Due Paid	23-Apr	17-May	29-Jun	27-Jul	26-Aug	21-Sep	19-Oct	Total				
1	Prioritised Works	1	Site Wide	Mobilisation (Certs 1 & 2)	Fixed Sum Prioritised Works Milestone	BBCLJK	12,500	7,300	5,000						17,500			
							Siemens	11,500	7,500	4,000								
		2	Site Wide	Materials and Equipment (Certs 1 & 3A, B & C)	Fixed Sum Prioritised Works Milestone	Siemens	25,000	12,000			4,333	4,333	4,333			25,000		
							BBCLJK	7,200	1,200	4,200	1,200	1,200	1,200	1,200				7,200
		3	Site Wide	Preliminaries	Fixed Sum Prioritised Works Milestone	Siemens	2,964		494	494	494	494	494	494	494	2,964		
							BBCLJK	550		330	50	50	50	50	50			550
		4	1C/1D	Princes Street TM /Enabling Works	Fixed Sum Prioritised Works Milestone	BBCLJK	875		175	175	175	175	175	175	175	875		
							Siemens	500					250	250				500
		5	5C	AB Underpass - Phase 1: I & IV Works	Fixed Sum Prioritised Works Milestone	BBCLJK	350		150	190	150	150	150	150	150	350		
							Siemens											
		6	5C	Depot Access Bridge	Fixed Sum Prioritised Works Milestone	BBCLJK	518		403	115						518		
							Siemens											
		7	6	Depot Area : Building	Fixed Sum Prioritised Works Milestone	BBCLJK	1,000	500	500							1,000		
Siemens	1,600								200	200	400	400	400	400				
8	6	Depot Area : External Works	Fixed Sum Prioritised Works Milestone	BBCLJK	2,850		750	750	600	300	250			2,850				
					Siemens	1,400		200	200	230	250	250	250	250			1,400	
9	10	6	Depot Area : Mini Test Track	Fixed Sum Prioritised Works Milestone	BBCLJK	600			200	200	200			600				
						Siemens	1,500					200	400	400			1,500	
<b>Total for Agreed Priority Works</b>						<b>70,807</b>	<b>27,500</b>	<b>13,847</b>	<b>1,888</b>	<b>7,850</b>	<b>7,752</b>	<b>7,952</b>	<b>8,889</b>	<b>70,807</b>				
2	Auxiliary Items	1	1A	Ongoing Maintenance Works	Fixed Sum Prioritised Works Milestone	BBCLJK	105	15	15	15	15	15	15	15	105			
							Siemens											
		2	3A	Additional Testing in Murrayfield corridor	Fixed Sum Prioritised Works Milestone	BBCLJK	110			20		90			110			
							Siemens											
		3	5A	Water of Leith Sewer Lining Works	Fixed Sum Prioritised Works Milestone	BBCLJK	70					70			70			
							Siemens											
		4	5A	Demolition of Poles 57/52	Fixed Sum Prioritised Works Milestone	Siemens	100					100			100			
							BBCLJK											
		5	5C	AB Underpass - Ongoing Maintenance Works	Fixed Sum Prioritised Works Milestone	BBCLJK	525	75	75	75	75	75	75	75	75	525		
							Siemens											
		6	5A,B & C	Structures Generally Work in Progress	Fixed Sum Prioritised Works Milestone	BBCLJK	3,165		3,165							3,165		
Siemens																		
7	7A	Site Clearance Works (already underway)	Fixed Sum Prioritised Works Milestone	BBCLJK	70	20								70				
					Siemens													
8	Site Wide	Testing for Contamination	Fixed Sum Prioritised Works Milestone	BBCLJK	20					20				20				
					Siemens													
<b>Total for Auxiliary Works</b>						<b>4,115</b>	<b>110</b>	<b>3,253</b>	<b>110</b>	<b>90</b>	<b>370</b>	<b>90</b>	<b>90</b>	<b>4,115</b>				
<b>Total for Fixed Sum Prioritised Works - 'Fixed Sum Prioritised Works Price'</b>						<b>74,722</b>	<b>27,610</b>	<b>15,807</b>	<b>1,988</b>	<b>7,742</b>	<b>8,122</b>	<b>8,042</b>	<b>8,459</b>	<b>78,772</b>				

TARGET PRICE PRIORITISED WORKS

Item	Description	Section	Work Description	Target Price Prioritised Works Milestone	Member	42	43	44	45	46	47	48	Total
1	Target Price Works	1	1C/1D	Advanced Site Investigation works in Section	BBCLJK	400			100	100	100	100	400
						Siemens							
		2	1C/1D	Princes Street Outstanding Works	Siemens	350			50	100	100	100	350
						BBCLJK	600			100	100	200	200
<b>Total for Target Price Prioritised Works - 'Target Price Prioritised Works Price'</b>						<b>1,350</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>250</b>	<b>300</b>	<b>300</b>	<b>1,350</b>

SUMMARY : BY WORK DESCRIPTION

Item	Description	Section	Work Description	BBCLJK	42	43	44	45	46	47	48	Total
1	Summary	1	Mobilisation / Materials & Equipment (Certs 1,2 & 3A & C)	17,500	27,000	9,000	0	4,333	4,333	4,333	0	17,500
				7,200	300	3,547	3,834	3,319	3,415	3,419	3,569	21,801
				4,115	110	3,253	110	90	370	90	90	4,115
				1,350	0	0	100	250	300	300	300	1,350
<b>TOTALS</b>				<b>70,807</b>	<b>27,610</b>	<b>15,807</b>	<b>4,048</b>	<b>7,992</b>	<b>8,422</b>	<b>8,442</b>	<b>1,719</b>	<b>78,772</b>

SUMMARY : BY INFRACO MEMBER

Item	Description	Section	Infraco Member	BBCLJK	42	43	44	45	46	47	48	Total	
1	Summary	1	SW	Bilfinger Berger Civil UK Limited	17,500	8,110	11,108	3,190	2,615	2,645	2,115	1,763	17,500
					Siemens plc	4,564	19,500	4,694	894	5,377	5,977	6,327	1,994
<b>Total</b>				<b>70,807</b>	<b>27,610</b>	<b>15,807</b>	<b>4,084</b>	<b>7,992</b>	<b>8,422</b>	<b>8,442</b>	<b>1,719</b>	<b>78,772</b>	

Note : This table only shows the expenditure of the Prioritised Works up to the 17 September 2011 and does not represent the total value of the Prioritised Works

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**PART 3**  
**MATERIALS AND EQUIPMENT**



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**Schedule Part 3  
Materials and Equipment**

**Siemens Material Location - Inventory**

Rev: 15-Apr-2011

Subgroup	Material	Supplier	Current Storage Location	Qty	Unit	General Remark
DWE	Access locks	Castell Safety	Broxburn, UK	1	set	
DWE	Battery Charging Equipment	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	consists of 2 pieces
DWE	Benches and Equipment	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	15	sets	set consists of bench, vice, tool chart
DWE	Cleaning Machines	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	2	unit	different units
DWE	Compressor station	Kaeser	Broxburn, UK	1	set	
DWE	Earthing equipment for catenary	Siemens	Siemens store Berlin	1	set	
DWE	Electric Double Grinder	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	unit	
DWE	Electrical Hand Tools	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	consists of 13 pieces and accessories
DWE	Electrical measuring devices	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	consists of 16 pieces
DWE	Folding machine	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	unit	
DWE	Hydraulic pan jacks	Abril rail	Broxburn, UK	4	unit	
DWE	Hydraulic Workshop Press	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	unit	
DWE	Ladders and Scaffolds	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	
DWE	Lifting plant	Siemens AG	Broxburn, UK	1	unit	vested to CEC 22-Apr-2011
DWE	Macminder	Donfabs & Consilia	Broxburn, UK	1	unit	
DWE	Manual Lever Snips	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	unit	
DWE	Mechanical Hand tools	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	30	set	different sets
DWE	Mechanical Measuring Devices	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	consists of 55 pieces and accessories
DWE	Miniprof Rail System	Bakerall	Broxburn, UK	1	unit	
DWE	Mobile Lifting Equipment	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	consists of 24 pieces and accessories
DWE	Overhead crane	Street Crane	Stockport, UK	1	unit	

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**Schedule Part 3  
Materials and Equipment**

Subgroup	Material	Supplier	Current Storage Location	Qty	Unit	General Remark
DWE	Pallet stacker	Siemens plc	Broxburn, UK	1	unit	
DWE	Pallet truck	Pfaff-silberblau Verkehrstechnik GmbH & Co. KG	Broxburn, UK	3	unit	in container #2 with lifting plant
DWE	Petrol Generator	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	2	unit	
DWE	Portable Lighting Stands	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	10	unit	
DWE	Safety and site protection equipment	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	consists of different equipment
DWE	Scottish Voidmeter	Abtus	Broxburn, UK	6	unit	
DWE	Semi Automatic Hacksaw	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	unit	
DWE	Service Vehicle, Boggles and Trailors	G. Zwihehoff GmbH/Zweiweg GmbH	Lelchlingen, DE	1	set	consists of 10 different units
DWE	Stop boards, clamps	MC Electronic	Broxburn, UK	1	set	
DWE	Sump pumps	T&T Pumps	Broxburn, UK	1	set	
DWE	Tools for Fibre Glass Works	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	
DWE	Tools for Point Machine Maintenance	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	consists of different equipment
DWE	Turn Table	Pfaff-silberblau Verkehrstechnik GmbH & Co. KG	Pfaff, Enzensfeld, DE	1	unit	
DWE	Underfloor wheel lathe	Siemens plc (Hegenscheidt)	Broxburn, UK	1	unit	vested to CEC 22-Apr-2011
DWE	Universal Workshop Lathe	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	unit	
DWE	Washing Plant	Smith Bros & Webb Ltd.	Edinburgh, UK	1	unit	vested to CEC 22-Apr-2011
DWE	Waste containers	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	
DWE	Welding Tools	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	
DWE	Workshop Furniture	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	set	tool storage, cupboards, safety cabinets etc.
DWE	Workshop Furniture	Sperrin Metal	Broxburn, UK	1	set	storage equipment
DWE	Workshop Pillar Drilling Machine	HAHN+KOLB Werkzeuge GmbH	Siemens store Berlin	1	unit	
<b>DWE Total</b>						

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Edinburgh Tram Network  
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**Schedule Part 3  
Materials and Equipment**

Subgroup	Material	Supplier	Current Storage Location	Qty	Unit	General Remark
REL	Combined Poles (till 372 pcs)	Pfeiffer / Siemens plc	Ortenberg, DE	316	pcs	
REL	Combined Poles (till 372 pcs)	Pfeiffer / Siemens plc	Broxburn, UK	41	pcs	vested to CEC 22-Apr-2011
REL	Combined Poles (till 372 pcs)	Pfeiffer / Siemens plc	Section 1 (Princes Street)	15	pcs	
REL	Contact Wire (150mm <sup>2</sup> ) (49.483m)	Isodraht / Siemens plc	Mannheim, DE	31.055	m	
REL	Contact Wire (150mm <sup>2</sup> ) (49.483m)	Siemens AG	Broxburn, UK	18.428	m	vested to CEC 22-Apr-2011
REL	Control Cable (5x2,5mm <sup>2</sup> ) - 700m	Siemens plc	Broxburn, UK	700	m	
REL	Control Cable (12x2,5mm <sup>2</sup> and 4x1,5mm <sup>2</sup> )- 700m+	Siemens plc	Broxburn, UK	750	m	
REL	Control Cable (3x4mm <sup>2</sup> )- 1100m	Siemens plc	Broxburn, UK	1,100	m	
REL	Control Cable (7x2,5mm <sup>2</sup> )- 52.000m	Siemens plc	Broxburn, UK	52,500	m	vested to CEC 22-Apr-2011
REL	Lettung / Cable N2XCH4x2,5 RE/2,5 0,6/1 kV	Siemens plc	Broxburn, UK	100	m	
REL	Medium Voltage Cable (95mm <sup>2</sup> ) - 600m	Siemens plc	Broxburn, UK	617	m	
REL	Messenger Wire (25 554 m)	Isodraht / Siemens plc	Mannheim, DE	11.193	m	
REL	Messenger Wire (25 554 m)	Siemens AG	Broxburn, UK	14,361	m	vested to CEC 22-Apr-2011
REL	Multifunctional distribution boards	Siemens plc	Broxburn, UK	7	pcs	
REL	MV Swg Incoming + transformer feeding panel	Siemens AG	Broxburn, UK	9	pcs	vested to CEC 22-Apr-2011
REL	OCL Material (General)	Siemens AG	Broxburn, UK	84,076	kg	vested to CEC 22-Apr-2011
REL	OCL Material Alu Tubes L=8 0m	Siemens plc	Broxburn, UK	9,376	m	vested to CEC 22-Apr-2011
REL	OCL Material Constructions (steel components)	Siemens AG	Broxburn, UK	4,399	pcs	vested to CEC 22-Apr-2011
REL	OCL Material Isolators SEFAG	Siemens plc	Broxburn, UK	447	pcs	vested to CEC 22-Apr-2011
REL	Power cable DC (150mm <sup>2</sup> ) - 8.000m+20.600m	Siemens AG	Broxburn, UK	31,835	m	vested to CEC 22-Apr-2011
REL	Power cable DC (400mm <sup>2</sup> ) - 2.500m	Siemens plc	Broxburn, UK	2,535	m	vested to CEC 22-Apr-2011
REL	Rectifier Transformer	Siemens AG	Broxburn, UK	9	pcs	vested to CEC 22-Apr-2011

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Edinburgh Tram Network  
Axel Eickhorn



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**Schedule Part 3  
Materials and Equipment**

Subgroup	Material	Supplier	Current Storage Location	Qty	Unit	General Remark
REL	Stepped Poles / 451 pcs.	Europoles / Siemens plc	Neumarkt, DE	272	pcs	
REL	Stepped Poles / 451 pcs.	Europoles / Siemens plc	Broxburn, UK	25	pcs	vested to CEC 22-Apr-2011
REL	Stepped Poles / 451 pcs.	Europoles / Siemens plc	Section 7 (FARRANS)	18	pcs	
REL	Stepped Poles / 451 pcs.	Europoles / Siemens plc	Section 6 (Gogar Depot)	85	pcs	
REL	Stepped Poles / 451 pcs.	Europoles / Siemens plc	Section 6 (Gogar Depot)	51	pcs	
REL	TSS DC Coupling panel (bypass)	Siemens AG	Broxburn, UK	8	pcs	vested to CEC 22-Apr-2011
REL	TSS DC Disconnecter panel	Siemens AG	Broxburn, UK	8	pcs	vested to CEC 22-Apr-2011
REL	TSS DC REC Incoming & return cubicle	Siemens AG	Broxburn, UK	9	pcs	vested to CEC 22-Apr-2011
REL	TSS DC Rectifier	Siemens AG	Broxburn, UK	9	pcs	vested to CEC 22-Apr-2011
REL	TSS DC SCD	Siemens AG	Broxburn, UK	8	pcs	vested to CEC 22-Apr-2011
REL	TSS DC Track feeder panel cubicle (+depot)	Siemens AG	Broxburn, UK	19	pcs	vested to CEC 22-Apr-2011
<b>REL Total</b>						
SIG	Control centre hardware (computer, monitors, switch)	Siemens AG	Broxburn, UK	1	pcs	
SIG	Control centre hardware (VICOS ATT, VICOS Arch)	Siemens plc	Ashby-de-la-Zouch, UK	1	Set	whole system (includes several PCs and other equipment)
SIG	Data Manager	IVU	Aachen, DE	1	pcs	
SIG	IMU boxes	Siemens plc	Broxburn, UK	220	pcs	vested to CEC 22-Apr-2011
SIG	IMU100 Antennas / Loops	Siemens plc	Broxburn, UK	230	pcs	vested to CEC 22-Apr-2011
SIG	IMU100 onboard equipment	CAF	Irun, ES	27	one per train	
SIG	IMU100 Receiver CPU850 (16 pcs)	Siemens plc	Ashby-de-la-Zouch, UK	21	pcs	
SIG	IMU100 Receiver CPU850 (25 pcs)	Siemens AG	Braunschweig, DE	24	pcs	
SIG	Interlocking Airport, New Haven, Ocean Terminal	Siemens AG	Broxburn, UK	3	pcs	vested to CEC 22-Apr-2011
SIG	Interlocking S7 Depot East, Depot West	Siemens AG	Broxburn, UK	2	pcs	vested to CEC 22-Apr-2011

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**Schedule Part 3  
Materials and Equipment**

Subgroup	Material	Supplier	Current Storage Location	Qty	Unit	General Remark
SIG	Interlocking S7 Haymarket	Siemens AG	Broxburn, UK	1	pcs	vested to CEC 22-Apr-2011
SIG	Multicore signalling cable	Siemens plc		1	lot	
SIG	Panasonic Wide Screen Display 103	Barco	Gogar Tram Depot, Ed	1	pcs	
SIG	Point blocking circuits (PBC)	Siemens AG	Broxburn, UK	50	pcs	vested to CEC 22-Apr-2011
SIG	Point healling control	Siemens AG		6	pcs	
SIG	Radio equipment for 27 trams	CAF	Irun, ES	27	one per train	
SIG	TPDS onboard computer	CAF	Irun, ES	27	one per train	
SIG	Wifi equipment	IVU	Broxburn, UK	1	set	
<b>SIG Total</b>						
SIG/COM	Antenna	Siemens plc	Broxburn, UK	1	pcs	vested to CEC 22-Apr-2011
SIG/COM	Battery Circuit Breakers	Siemens plc	Broxburn, UK	7	pcs	vested to CEC 22-Apr-2011
SIG/COM	Battery Circuit Breakers	Siemens plc	Section 6A (Gogar Depot)	1	pcs	
SIG/COM	Cable for point heaters	Siemens plc	Broxburn, UK	1	lot	
SIG/COM	Coaxial cable	Siemens plc	Broxburn, UK	1	lot	vested to CEC 22-Apr-2011
SIG/COM	Control centre UPS	Siemens plc	Section 6A (Gogar Depot)	1	pcs	
SIG/COM	Depot PABX	Siemens plc	Section 6A (Gogar Depot)	1	lot	
SIG/COM	Depot PABX (telephones only)	Siemens plc	Broxburn, UK	1	lot	vested to CEC 22-Apr-2011
SIG/COM	Fibre Optic Cable	Siemens plc	Broxburn, UK	1	lot	vested to CEC 22-Apr-2011
SIG/COM	Mechanical Points Indicator	DTS	Chesterfield, UK	1	lot	
SIG/COM	Multicore signalling cable	Siemens plc	Broxburn, UK	1	lot	vested to CEC 22-Apr-2011
SIG/COM	NAL boxes	Siemens plc	Broxburn, UK	18	pcs	
SIG/COM	OLE isolation cabinets	Siemens plc	Broxburn, UK	7	pcs	vested to CEC 22-Apr-2011

Siemens plc  
Mobility Complete Transportation  
Edinburgh Tram Network  
Axel Eickhorn

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**Schedule Part 3  
Materials and Equipment**

Subgroup	Material	Supplier	Current Storage Location	Qty	Unit	General Remark
SIG/COM	Point Heaters	Siemens plc	Broxburn, UK	16	pcs	vested to CEC 22-Apr-2011
SIG/COM	Point Machines	Siemens plc	Broxburn, UK	60	pcs	vested to CEC 22-Apr-2011
SIG/COM	Point Machines (61 pcs)	Siemens plc	Section 6A (Gogar Depot)	1	pcs	
SIG/COM	Radio base station equipment racks	Siemens plc	Ashby-de-la-Zouch, UK	1	pcs	
SIG/COM	Radio base station equipment racks	Siemens plc	Broxburn, UK	3	pcs	vested to CEC 22-Apr-2011
SIG/COM	Radio base station UPS racks ( 3 off)	Siemens plc	Broxburn, UK	3	pcs	vested to CEC 22-Apr-2011
SIG/COM	Radio equipment for 27 trams	CAF	Irun, ES	27	pcs	
SIG/COM	Radio Masts	Tait Europe Ltd	Huntingdon, UK	4	pcs	
SIG/COM	Radio system - Hand Helds plus chargers plus veh	Tait Europe Ltd	Broxburn, UK	1	lot	vested to CEC 22-Apr-2011
SIG/COM	Radio system - Control rack	Tait Europe Ltd	Ashby-de-la-Zouch, UK	1	lot	
SIG/COM	Radio system - 2 hand held radios incl. batteries at	Tait Europe Ltd / CAF	Irun, ES	1	lot	
SIG/COM	Speaker cable	Siemens plc	Broxburn, UK	1	lot	
SIG/COM	Substation chargers (8 pcs)	Siemens plc (7 off Broxburn, 1 off Gogar Depot Substation)	Broxburn, UK	7	pcs	vested to CEC 22-Apr-2011
SIG/COM	Substation chargers (8 pcs)	Siemens plc (7 off Broxburn, 1 off Gogar Depot Substation)	Section 6A (Gogar Depot)	1	pcs	
SIG/COM	Substation comms racks (8 pcs)	Ashby & 1 off Gogar Depot Substation)	Broxburn, UK	7	pcs	vested to CEC 22-Apr-2011
SIG/COM	Substation comms racks (8 pcs)	Ashby & 1 off Gogar Depot Substation)	Section 6A (Gogar Depot)	1	pcs	
SIG/COM	Tramstop equipment cabinet (23 off)	Siemens plc (4 off Broxburn, 19 off Ashby)	Ashby-de-la-Zouch, UK	19	pcs	
SIG/COM	Tramstop equipment cabinet (23 off)	Siemens plc (4 off Broxburn, 19 off Ashby)	Broxburn, UK	4	pcs	vested to CEC 22-Apr-2011
SIG/COM	Tramstop equipment cable	Siemens plc	Broxburn, UK	1	lot	
SIG/COM	Tramstop local power cable	Siemens plc	Broxburn, UK	1	lot	vested to CEC 22-Apr-2011
<b>SIG/COM Total</b>						
SIG/SCA	CCTV Equipment - Cameras, Matrix, Storage, etc	Siemens plc	Ashby-de-la-Zouch, UK	1	lot	

Siemens plc  
Mobility Complete Transportation  
Edinburgh Tram Network  
Axel Eickhorn

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**Schedule Part 3  
Materials and Equipment**

Subgroup	Material	Supplier	Current Storage Location	Qty	Unit	General Remark
SIG/SCA	Depot Comms Equipment Cabinets (5 pcs)	Siemens plc	Ashby-de-la-Zouch, UK	5	pcs	
SIG/SCA	Maintenance Workstation (2 pcs)	Siemens plc	Ashby-de-la-Zouch, UK	2	pcs	
SIG/SCA	ODN Hardware Equipment	Siemens plc	Ashby-de-la-Zouch, UK	1	lot	
SIG/SCA	Operator Workstations (3 pcs)	Siemens plc	Ashby-de-la-Zouch, UK	3	pcs	
SIG/SCA	PA Induction Loop (35 pcs)	Siemens plc	Ashby-de-la-Zouch, UK	35	pcs	
SIG/SCA	PA Tramstop Equipment	Siemens plc	Ashby-de-la-Zouch, UK	23	pcs	
SIG/SCA	Passenger Help Points (35 pcs)	Commend		35	pcs	
SIG/SCA	Passenger information displays (PID) (3 pcs)	Siemens plc	Ashby-de-la-Zouch, UK	3	pcs	
SIG/SCA	Passenger information displays (PID) (42 pcs)	Siemens plc	Broxburn, UK	42	pcs	vested to CEC 22-Apr-2011
SIG/SCA	PID pole prototypes	Siemens plc	Broxburn, UK	2	pcs	
SIG/SCA	Speakers (Tramstop Platform) (278 pcs)	Penton		278	pcs	
SIG/SCA	Speakers (Tramstop shelters) (84 pcs)	Penton		84	pcs	
SIG/SCA	Tramstop SCADA Equipment	Siemens plc	Ashby-de-la-Zouch, UK	23	pcs	
<b>SIG/SCA Total</b>						
TRW	ACO-drain every 60 meter in embedded track - P	BAM Rail	South Yards, Edinburgh, UK	117	pcs	
TRW	Ballast Sleepers - Pos. 200170	BAM Rail	Facility, Edinburgh, UK	990	pcs	
TRW	Ballast Sleepers - Pos. 200170	BAM Rail	Section 6 Gogar Depot, Edinburgh, UK	4,089	pcs	
TRW	Ballast Sleepers - Pos. 200170	BAM Rail	Busway, Edinburgh, UK	455	pcs	
TRW	Ballast Sleepers - Pos. 200170	BAM Rail	Edinburgh Park Bridge site, Edinburgh, UK	4,093	pcs	
TRW	Ballast Sleepers - Pos. 200170	BAM Rail	Section 7, Edinburgh, UK	1,441	pcs	

Siemens plc  
Mobility Complete Transportation  
Edinburgh Tram Network  
Axel Flickhorn

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**Schedule Part 3  
Materials and Equipment**

Subgroup	Material	Supplier	Current Storage Location	Qty	Unit	General Remark
TRW	Ballast Sleepers - Pos. 200170	BAM Rail	Gordon Bow Storage Facility, Edinburgh, UK	90	pcs	
TRW	Flat Bottom Rails (standard) - Pos. 200020	BAM Rail	Section 6 Gogar Depot, Edinburgh, UK	7,884	m	
TRW	Flat Bottom Rails (standard) - Pos. 200020	BAM Rail	Edinburgh Park Bridge Site, Edinburgh, UK	3,096	m	
TRW	Flat Bottom Rails (standard) - Pos. 200020	BAM Rail	Edinburgh Park Bridge Site, Edinburgh, UK	8,604	m	
TRW	Flat Bottom Rails (standard) - Pos. 200020	BAM Rail	Section 7, Edinburgh, UK	4,986	m	
TRW	Flat Bottom Rails (standard) - Pos. 200020	BAM Rail	currently in transit (acc. to BAM)	14,670	m	
TRW	Grooved Rails - Pos. 200030	BAM Rail	Facility, Edinburgh, UK	17,010	m	
TRW	Grooved Rails - Pos. 200030	BAM Rail	Section 6 Gogar Depot, Edinburgh, UK	144	m	
TRW	Grooved Rails - Pos. 200030	BAM Rail	Edinburgh Park Bridge site, Edinburgh, UK	612	m	
TRW	Grooved Rails - Pos. 200030	BAM Rail	currently in transit (acc. to BAM)	1,292	m	
TRW	Rail Fastenings for plinth track - Pos.200140	BAM Rail	Facility, Edinburgh, UK	6,766	pcs	
TRW	Rail Fastenings for plinth track - Pos.200140	BAM Rail	currently in transit (acc. to BAM)	9,701	pcs	
TRW	Small material	BAM Rail	South Yards, Edinburgh, UK	1	lump sum	
TRW	Specific Material for Grass Track - Pos. 200250	BAM Rail	Facility, Edinburgh, UK	2,705	m	
TRW	Specific Material for Grass Track - Pos. 200250	BAM Rail	Edinburgh Park Bridge site, Edinburgh, UK	244	m	
TRW	Specific Material for embedded track - Pos. 200230	BAM Rail	Facility, Edinburgh, UK	5,476	m	
TRW	Transitionrails - Pos. 200290	BAM Rail	Facility, Edinburgh, UK	17	sets	
TRW	Transitionrails - Pos. 200290	BAM Rail	Section 6 Gogar Depot, Edinburgh, UK	8	sets	
TRW	Transitionrails - Pos. 200290	BAM Rail	currently in transit (acc. to BAM)	2	sets	
TRW	Turnouts (depot) acc. to alignment drawings - Pos	BAM Rail	Section 6 Gogar Depot, Edinburgh, UK	8	pcs	
TRW	Turnouts (depot) acc. to alignment drawings - Pos	BAM Rail	currently in transit (acc. to BAM)	9	pcs	
TRW	Turnouts (main-line) - Pos. 200040	BAM Rail	Facility, Edinburgh, UK	0	pcs	

Siemens plc  
Mobility Complete Transportation  
Edinburgh Tram Network  
Axel Eickhorn

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**Schedule Part 3  
Materials and Equipment**

Subgroup	Material	Supplier	Current Storage Location	Qty	Unit	General Remark
TRW	Turnouts (main-line) - Pos. 200040	BAM Rail	currently in transit (acc. to BAM)	21	pcs	

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 Mobility Complete Transportation  
 Edinburgh Tram Network  
 Axel Eickhorn

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PART 4  
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**PART 5**  
**OUTSTANDING CONSENTS**

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## Suzanne Smith

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**From:** Andy Conway [[Andy.Conway@edinburgh.gov.uk](mailto:Andy.Conway@edinburgh.gov.uk)]  
**Sent:** 05 April 2011 17:21  
**To:** Sue Bruce (Chief Executive); Dave Anderson  
**Cc:** Colin Smith; Bob McCafferty; Ritchie Somerville; Marshall Poulton  
**Subject:** Tram - CEC Approvals

Sue/Dave,

A further tram update.

We have continued to review the lighting, tram stops and roads design today and I have updated the outstanding technical approval comments table. We are now down to 85 outstanding comments remaining.

I have started to draft my consolidated report for all the approvals and consents and I intend to issue that by close of business tomorrow.

We have also received and approved our first Planning Variation submission (Planning gave formal approval for the A8 underpass in 16 hours) – that was a great turnaround achievement and if the rest follow that pattern then we should easily conclude the remaining 32 by 30 April (18 of them being between the Airport and York Place).

Date	Open Technical Approval Comments	Open Technical Approval Comments %	Closed Technical Approval Comments	Closed Technical Approval Comments %
24-Mar-11	2782	31.3	6099	68.7
25-Mar-11	2736	30.8	6145	69.2
26-Mar-11	2531	28.5	6350	71.5
27-Mar-11	2133	24.0	6748	76.0
28-Mar-11	1648	18.6	7233	81.4
29-Mar-11	1639	18.5	7242	81.5
30-Mar-11	1568	17.7	7313	82.3
31-Mar-11	1431	16.1	7450	83.9
01-April -11	1258	14.0	7723	86.0
02-April -11	394	4.4	8487	95.6
04-April-11	278	3.1	8603	96.9
05-April -11	85	1.0	8796	99.0

Regards

Andy Conway

Tram Co-ordination Manager / City of Edinburgh Council  
Level 2 / Citypoint / 65 Haymarket Terrace / Edinburgh / EH12 5HD  
Mobile: 07825 823 289  
Citypoint (t/c): 0131 623 8803 / City Chambers: 0131 469 3785  
[andy.conway@edinburgh.gov.uk](mailto:andy.conway@edinburgh.gov.uk)

*From time to time we like to check on the quality of the responses we are providing. We would like to know your views on the response you have just received. By clicking on this link: <http://www.edinburgh.gov.uk/CEC/CityDevelopment/CustomFeedbackForm/Form.html> and completing the feedback form you will be helping us to learn what we need to do better.*

### Design Issues

#### 1. Timelines for close out of design

The intention by 08 April 2011 was to show significant progress towards completion of design. CEC and Infraco believe this has been achieved. Deadline for completion of design is the end of April 2011. This excludes the items outlined below in Section 2 of this report. The exemptions are predominantly design changes or linked to design changes.

Refer attached Design Status Summary for breakdown of progress.

#### 2. Design that will not be closed out by 30 April 2011

- i) Edinburgh Gateway
- ii) Picardy Place / Section 1C2 Roads Approval (& Planning Variation for this batch)
- iii) St Andrew Square Public Realm design works (CEC)
- iv) Airport Canopy & Kiosk
- v) Roseburn Viaduct
- vi) Murrayfield RWs (S21 B - D) Ground Improvement Works
- vii) Floating Track slab design
- viii) York Place Terminal Point
- ix) Cathedral Lane Substation "original" Design
- x) Close out of final signalling works
- xi) Wall Mounted Lighting (CEC / Infraco)
- xii) Lindsay Road Cycle paths
- xiii) Forth Ports Fencing requirements
- xiv) Forth Ports Cruise Liner Terminal Road (Full Planning Approval required)
- xv) W14C – SEPA CAR Licence Approval
- xvi) A number of Planning Variations (statutory process only)
- xvii) Final IDCs and Design Assurance Statements (DAS)

#### 3. Design that will not be closed out by 01 July 2011

- i) Edinburgh Gateway
- ii) York Place Terminal Point design
- iii) Final IDC and DAS

#### 4. Traffic Modelling

CEC have accepted that SDS has done "all they can within the constraint of the LOD". Direction required from CEC as to whether Traffic Modelling can be approved as it stands or whether additional works are required outwith LOD prior to approval being granted (in which case, Approvals by end of April 2011 may not be achievable). This applies to approximately five or six junctions within on-street section and impacts on signalling design.

**Traffic Modelling still not signed off. This is impacting on Siemens ability to complete Traffic Light Control Design. Final "tweaks" to traffic modelling are required to achieve CEC sign off. This will also have implications on Roads design. It should be noted that this impacts on-street section only. SDS are reviewing programme for close out.**

The history of the separate contract between tie, CEC and Siemens Traffic (to which Infraco was not party) is being reviewed against ERs.

5. TNC 129 Gogar Castle Access Road

New TNC issued by tie – letter INF CORR 7510/DB dated 11 March 2011. Redesign of road required to avoid land take issue (land not procured by tie). This impacts on "mini test track" and will require CEC Technical Approval. The scope of this change was unknown prior to issue of letter by tie.

Instruction required from tie.

6. TNC 130 Depot Access Road, Hammer Head

New TNC issued by tie – letter INF CORR 7508/DB dated 11 March 2011. Detailed design and CEC Technical Approval will be required. This potentially impacts on final Approvals for the Depot Access Road. The scope was unknown prior to issue of letter by tie.

Instruction required from tie.

7. Role of tie

tie are sitting in on Infraco / SDS / CEC meetings. Limited if any contribution to meetings. No role for tie moving forwards with close out of design.

Infraco concerned about scope creep by tie (e.g. Roseburn Viaduct, Edinburgh Park Viaduct North Abutment, Airport Canopy / Kiosk). tie representatives do not appear to have been briefed on the new way of working.

8. Forth Ports – Tower Place Bridge – Ramp Issue

CEC have confirmed steps solution will be acceptable; although CEC Structures raised concern with this proposal. Infraco are progressing design solution; however, it is unlikely that the steps solution will remove all loading from dock wall which may not be acceptable to Forth Ports.

Infraco and CEC are meeting with Forth Ports w/c 18 April 2011 to discuss this and other design issues related to Forth Ports.

9. Forth Ports (FP) Licence – Approvals and Access Issue

From a FP perspective they would only like one more closure with all the work scope completed in it to cause minimum disruption.

CEC – FP Agreement is not legally binding. CEC recognise there are issues with FP that may impact on CEC / tie ability to secure FP third party consent (i.e. Section 1A Drainage approval, steps at Tower Place Bridge, additional fencing requirements)

10. Design Assurance Statements (DAS)

Infraco have invited CEC to attend upcoming IDR/IDC meetings to give them comfort in this process. DAS Presentation issued to CEC.

11. Scottish Water (SW) Approvals issues

Approvals issued by SW since October 2010 have a limited 6 month approval period (i.e. the approval lapses after 6 months and the drainage design needs to be resubmitted to SW every six months). Infraco's position is that this 6 month approval period is unreasonable – particularly for on-street sections where there is no net increase to the SW network. This has been raised to tie; however, tie has stated this is Infraco's issue to resolve with SW.

CEC should note that this will impact on the Design and Approvals between SAS and NEW.

Infraco are awaiting response from SW in regard to a proposed meeting to discuss and resolve 6 month approval issue.

12. PSCC and ICP Liaison meetings

Confirmed and agreed that management of the ICP is to remain with tie. Role of PSCC meeting has been reviewed by tie following Infraco request. tie survey results have been issued; however, no conclusion provided as yet.

13. Scope of Works for York Place Terminal Point

It was confirmed on 22 March 2011 that Terminal Point will be York Place Cross over. Concept design options were issued to CEC on 07 April 2011 for consideration.

Agreement on selected option to be agreed between CEC and TEL with appropriate instruction issued to Infraco. Budget design costs range - £140,000 to £280,000 depending on option selected.

Instruction required from tie.



14. Cathedral Lane Substation

Infraco will progress the original Cathedral Lane Substation Design (based on conversion of existing toilet block). Should the Henderson Global development proceed, a change order would be required.

Instruction required from tie.

15. Additional Cycle path at Lindsay Road – Hawthornvale

This additional design was introduced by CEC at meeting on 29 March 2011. CEC are to issue the scope of works to Infraco. Infraco will progress design but this was not considered within Phoenix and Infraco require change order from tie.

Instruction required from tie.

16. OLE Foundation – Utility Conflict at Princes St

Building fixing option for two of the three poles; however third pole cannot be a building fixing. tie may need to divert or slew the utilities to accommodate this pole, so it would make sense to divert / slew the utilities for all three poles and avoid Listed Building Consent.

Infraco agreed to submit briefing note on issue to CEC for consideration.

17. SEPA W14C CAR Licence

SEPA confirmed on 29 March 2011 that flooding issue resolved and that SEPA had sufficient information to progress derogation and licence application. This is due end of May 2011 (statutory period).

SEPA advised verbally on 12 April 2011 that other issues will impact the processing of the CAR Licence. Issue of Licence by end of April is now unlikely.

18. W18 – LOD issue

Issue with W18 Retaining Wall and LOD is to be resolved. CEC propose to move W18 by 300mm to avoid any LOD issue. Infraco to undertake redesign works.

Confirmed by CEC that there is no LOD issue at Retaining Wall W4 (PO Sorting Office)

19. 250mm main connection (for Depot Water Supply)

Infraco understand tie will complete 250 mm main works by 20 May 2011.



20. Forth Ports / Section 1A Design Issues

Separate Section 1A Design meeting identified 15 items (all known about however scope / status of some issues not known) that need to be resolved. New design changes identified and outlined below.

tie / CEC to confirm Forth Ports Approval for Section 1A drainage.

21. Section 1A – Ocean Drive – New Footpath

New footpath required along Ocean Drive. Instruction required from tie.

22. Section 1A – Ocean Terminal Bypass Road

New design has been developed by AECOM for tie. CEC expressed desire at meeting on 01 April 2011 for this to be integrated into Infraco design.

Instruction required from tie.

23. Section 1A – Lindsay Road 0 – 230m Road Alignment Redesign

The full scope of works issued under TNC may not be feasible. Discussions between Infraco and CEC are ongoing to determine the feasibility.

24. Roseburn Viaduct

tie to issue letter to confirm scope of works agreed between CEC and Infraco on 16 March 2011.

25. Tram Stops

Tram Working Group presentation held 06 April 2011. No significant objections resulting in impact on submission or consents. IFCs are being issued w/c 11 April 2011 to close out Informatives. Technical Informatives are to be closed first with Planning Informatives to follow the close out of other non Tram Stop Technical design issues.

Design based on branding details as agreed with tie, TEL and CEC. Should branding change, a change order would be required.

tie to issue letter to confirm no lettering on top of shelters.

26. "mini" Test Track

Instruction to be issued by tie for design of temporary Overhead Catenary System

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27. Traffic Regulation Orders (TROs)

2 No TRO changes proposed by CEC that may impact design at Picardy Place (Blenheim Place) and Shandwick Place (Canning Street). Infraco / CEC workshop to be held; however, this may require further instructions for any design changes.

28. Trackform – Setted Areas

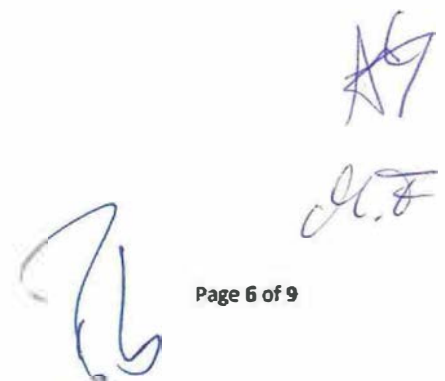
Clarification required on whether setted areas are still required.

29. Cessation of Audits

Intention is that no more Audits are scheduled before July 2011. tie to review Audit Schedule and confirm.

30. SRU / Murrayfield Accommodation Works

Infraco carried out design works for tie; who, separate to Infraco Contract, completed the construction works. A number of issues are to be resolved with tie (Form Q, as-builts and tie request for Collateral Warranty to be signed by SDS).



**Outstanding Consents**

1. **CEC Planning**

- i) Access Road at Ocean Terminal – to be submitted
- ii) Listed Building Consent for 4 Dublin Street – to be submitted
- iii) Roseburn Viaduct Prior Approval – to be submitted
- iv) Planning Variations including OLE positions. 13 of 36 planning batches approved to date. Remainder are split as follows: 1 relate to Priority Works; 8 off street; and 14 on street.
- v) Planning Informatives – to be submitted
- vi) Trackform – colour and finish of concrete to be agreed with CEC Planning. Sample for inspection to be prepared by 14 April 2011.
- vii) Tram Stop Informatives – Submission of agreed planning drawings required to close out.
- viii) Colours of systems equipment (cabinets etc) – to be finalised
- ix) Points position indicators locations – to be submitted

2. **CEC Technical (Roads) – to be submitted**

- i) Section 1D - Grosvenor Street (amendment due to TRO) – OLE and Roads design issues being progressed.
- ii) Picardy Place – design progressing based on scope of works issued by tie that excludes any Henderson Global development.
- iii) Technical Informatives – remainder to be submitted and closed
- iv) Critical Comments – 45 of 46 have been closed (98%)
- v) Trackform – CEC have issued Approval in Principle for trackform design. Design Statement and Drawings to be submitted to CEC for Approval. Anticipated date for formal submission 20/4/11.
- vi) Overall tram and traffic signalling strategy – impacted on by Traffic Modelling (refer Item 4 of Design Issues)
- vii) Junction 91 (Sect 2A) issue to be finalised - operator inputs required to resolve
- viii) Signalling and ducting details to be submitted to close Informatives
- ix) High Level Control (following on from Traffic Modelling close out)

3. **CEC Technical (Roads) – submissions with or in discussion with CEC**

- i) Traffic Modelling – some “tweaks” to modelling required to close out. Impact on roads design to be assessed.
- ii) Close out of submitted Technical Informatives
- iii) Close out of Earthing & Bonding Informative
- iv) CEC to provide info on existing comms links for CCTV to permit design to be finalised
- v) CEC / TEL to provide data/protocols for Bus Tracker

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4. CEC Technical (Structures)

- i) Murrayfield Retaining Walls S21B – D – Ground Improvement Works – to be submitted.
- ii) Edinburgh Gateway – Retaining Wall – to be submitted
- iii) Review of Roseburn Viaduct (cladding around abutments)
- iv) Tower Place Bridge – Steps in place of ramp – to be submitted

5. CEC Building Control

- i) Edinburgh Gateway Tram Stop - Building Warrant – Infraco to respond to CEC comments
- ii) Edinburgh Airport Kiosk and Canopy – Building Warrant – tie provided final scope of works on 24 March 2011. SDS progressing design for Building Warrant.

6. Scottish Water

- i) Edinburgh Gateway – 1525 sewer diversion and interface with Retaining Wall
- ii) Standard Connection Details to be approved – submitted to SW 22 November 2010
- iii) Depot Water connection – Infraco require 250 mm main connection by tie to be completed.
- iv) Six month time limit on Approvals – process to manage this requirement to be agreed between CEC, SW and Infraco.

7. SEPA

- i) W14C – CAR Licence – with SEPA for approval.

8. Third Party Approvals

- i) Consents and requirements required for 4 PIDs located outside LOD (BAA approval etc) – Infraco proposal submitted to tie. tie / CEC to advise.
- ii) TEL/CEC to respond on use of existing fibre links – strategic decision required
- iii) Forth Ports Licence issues – CEC / tie to advise

9. Forth Ports

- i) Section 1A Drainage – tie to issue Forth Ports Approval to Infraco
- ii) Forth Ports Fencing requirements – scope to be agreed with CEC and FP w/c 18 April 2011
- iii) Ocean Terminal Tram Stop Finishes, Lighting etc to be agreed with FP

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10. Network Rail

- i) Edinburgh Gateway – Retaining Wall - preferred design option to be advised by tie / Transport Scotland following meeting on 21 March 2010. **Confirmation from NWR still required. Decision now expected 15 April 2011 (likely to be delayed).**

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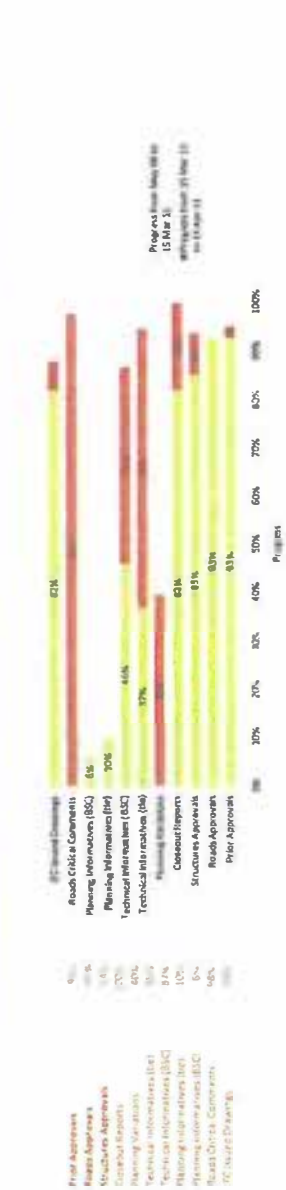


**EDINBURGH TRAM NETWORK - PHASE 1A DESIGN STATUS**

**13 April 2011**

Section	Approvals										
	Prior Approvals		Roads Approvals		Structures Approvals		Technical (1st)		Technical (2nd)		Planning (3rd)
Grant Ref	Def Number	Grant Ref	Def Number	Grant Ref	Def Number	Grant Ref	Def Number	Grant Ref	Def Number	Grant Ref	
A	11	97	100	100	100	100	100	100	100	100	100
B	100	100	100	100	100	100	100	100	100	100	100
C	100	100	100	100	100	100	100	100	100	100	100
D	100	100	100	100	100	100	100	100	100	100	100
E	100	100	100	100	100	100	100	100	100	100	100
F	100	100	100	100	100	100	100	100	100	100	100
G	100	100	100	100	100	100	100	100	100	100	100
H	100	100	100	100	100	100	100	100	100	100	100
I	100	100	100	100	100	100	100	100	100	100	100
J	100	100	100	100	100	100	100	100	100	100	100
K	100	100	100	100	100	100	100	100	100	100	100
L	100	100	100	100	100	100	100	100	100	100	100
M	100	100	100	100	100	100	100	100	100	100	100
N	100	100	100	100	100	100	100	100	100	100	100
O	100	100	100	100	100	100	100	100	100	100	100
P	100	100	100	100	100	100	100	100	100	100	100
SW	100	100	100	100	100	100	100	100	100	100	100
Phase 1A	100	100	100	100	100	100	100	100	100	100	100

Section	Approved Variations										
	Approved Variations		Approved Variations		Approved Variations		Approved Variations		Approved Variations		
Grant Ref	Def Number	Grant Ref	Def Number	Grant Ref	Def Number	Grant Ref	Def Number	Grant Ref	Def Number	Grant Ref	Def Number
A	11	97	100	100	100	100	100	100	100	100	100
B	100	100	100	100	100	100	100	100	100	100	100
C	100	100	100	100	100	100	100	100	100	100	100
D	100	100	100	100	100	100	100	100	100	100	100
E	100	100	100	100	100	100	100	100	100	100	100
F	100	100	100	100	100	100	100	100	100	100	100
G	100	100	100	100	100	100	100	100	100	100	100
H	100	100	100	100	100	100	100	100	100	100	100
I	100	100	100	100	100	100	100	100	100	100	100
J	100	100	100	100	100	100	100	100	100	100	100
K	100	100	100	100	100	100	100	100	100	100	100
L	100	100	100	100	100	100	100	100	100	100	100
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O	100	100	100	100	100	100	100	100	100	100	100
P	100	100	100	100	100	100	100	100	100	100	100
SW	100	100	100	100	100	100	100	100	100	100	100
Phase 1A	100	100	100	100	100	100	100	100	100	100	100



Key Approvals include Prior Approvals and Casepoint Reports. Road Critical Comments, Planning Information (BSC), Technical Information (BSC), Planning Information (BSC), Casepoint Reports, Structures Approvals, Roads Approvals, and Prior Approvals are all 100% approved.

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PART 6  
VESTING CERTIFICATE

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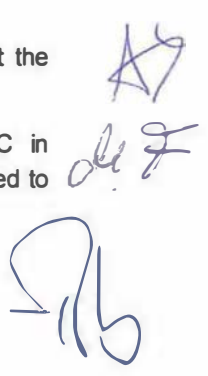
## CERTIFICATE OF VESTING OF MATERIALS

This Certificate is for the benefit of City of Edinburgh Council, constituted in terms of the Local Government etc. (Scotland) Act 1994 and having its principal offices at City Chambers, High Street, Edinburgh, Midlothian, EH1 1YJ ("CEC") and relates to the vesting of the Materials and Parts described in Schedule 1 hereto attached.

We Siemens plc of Faraday House, Sir William Siemens Square, Frimley, Camberley, GU16 8QD, England, in consideration of tie's payment to Infraco under the Infraco Contract as varied by the Minute of Variation between tie, Bilfinger Berger Civil UK Limited, Siemens plc and Construcciones Y Auxiliar de Ferrocarriles S.A. dated [15 April 2011] (the "Minute of Variation") to Siemens of the sum of [INSERT AMOUNT PAYABLE TO SIEMENS IN RESPECT OF RELEVANT CERTIFICATE](£ INSERT VALUE (exclusive of VAT) on or before [INSERT DATE] in respect of the Materials and Parts, hereby warrant and undertake to CEC that:-

- 1 the Materials and Parts listed in Schedule 1 are supplied pursuant to the Minute of Variation;
- 2 nothing remains to be done to the Materials or Parts to complete the same up to the point of their incorporation in (i) the Prioritised Works pursuant to the Minute of Variation, and (ii) the On-Street and/or the Off-Street Works (as defined in the Minute of Variation);
- 3 the Materials and Parts have been set apart from any third party property and stored at the Siemens warehouse situate at Broxburn, EH52 5NP (the "Premises") and have been clearly and visibly marked, so far as practicable, in order to identify such Materials and Parts as belonging to CEC ;
- 4 property in the Materials and Parts (including but not limited to supplies received by us from a third party for incorporation in the Materials and Parts) is vested absolutely in us and the Materials and Parts are free from all Security Interests, encumbrances, charges or third party rights of any kind and we are able to pass title to CEC in the Materials and Parts;
- 5 the Materials and Parts are in every respect in accordance with the requirements of the Infraco Contract;
- 6 the Materials and Parts shall at all times after the date of this Certificate be insured by tie by way of the OCIP Insurances taken out and maintained in full force and effect by tie for the required term;
- 7 the Materials and Parts can be inspected at the Premises at any time upon reasonable notice by tie, CEC or by their duly authorised agents; and
- 8 we shall not, except for use on the Infraco Works, remove or cause or permit the Materials or Parts to be moved or removed from the Premises.

We declare that property in the Materials and Parts shall unconditionally vest in CEC in accordance with the provisions of the Minute of Variation upon receipt of the payment referred to above.



EDINBURGH TRAM NETWORK-INFRACO CONTRACT

We acknowledge our obligations pursuant to Clause 102.2.1 of the Infraco Contract insofar as they relate to the Materials and Parts.

Nothing contained in this Certificate or the Infraco Contract or any payment that may be made to us in respect of the Materials or Parts shall be taken as any approval by tie, CEC or by their duly authorised agents that the Materials or Parts are in accordance with the Infraco Contract.

We Siemens plc of Faraday House, Sir William Siemens Square, Frimley, Camberley, GU16 8QD, England engaged under a contract ("Infraco Contract") dated 08 May 2008 by tie Limited for and on behalf as an operating company of City of Edinburgh Council in consideration of the payment to us of [ ] by tie warrant that the statements made in provisions 1 to 8 above are true and correct and that all the actions referred to have been taken.

Executed for and on behalf of Siemens PLC

Authorised Signatory .....

Full Name .....

Dated .....

.....

*Handwritten signatures and initials:*  
A large signature in blue ink.  
Initials "A4" and "dl. F" in blue ink.

**SCHEDULE 1**

**SCHEDULE OF MATERIALS AND PARTS**

The Material and Parts are detailed herein in sheet reference [INSERT REFERENCE]

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**PART 7**  
**CHANGE PROCEDURE**

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## Schedule Part 7: Change Procedure

### Change Procedure

- 1.1 In respect of all Changes to the Prioritised Works tie shall serve a tie Notice of Change upon Infraco setting out in reasonable detail to enable Infraco to provide its Prioritised Works Estimate.
- 1.2 Upon receipt of the tie Notice of Change Infraco shall as soon as practicable provide its Prioritised Works Estimate.
- 1.3 The Parties shall seek to agree the time and cost implications of the proposed Change as soon as reasonably practicable including agreement of any impact upon the Prioritised Works Programme and required extension of time to the date or dates for completion of the Prioritised Works or any part thereof. Where the time and/or cost aspects are not agreed the Certifier shall make a reasonable interim assessment of the extension of time award in respect of the Prioritised Works Programme.
- 1.4 Notwithstanding the absence of agreement of the Infraco's Prioritised Works Estimate in respect of the proposed Change Infraco shall be required to proceed with the proposed Change upon receipt of a tie Change Order in advance of agreement or determination of the Prioritised Works Estimate. Further, the Infraco shall be required to proceed with the proposed Change upon receipt of a tie Change Order in advance of the provision of an Prioritised Works Estimate where considered necessary by tie.
- 1.5 tie shall be permitted to instruct Infraco to continue with any works which are the subject of a Change prior to agreement of the Prioritised Works Estimate or issue of a tie Change Order in respect of such works.
- 1.6 Pending agreement or determination of the Prioritised Works Estimate tie shall pay Infraco on an interim on account basis such sums as shall be assessed as being fair and reasonable by the Certifier. Further, where the programme implications of the Change are not agreed the Certifier shall make a reasonable interim assessment of the extension of time award in respect of the Prioritised Works Programme.
- 1.7 The Parties acknowledge that the Certifier shall value the Change as follows:
  - a) by measurement and valuation at the rates and prices for similar work in Appendix F to Schedule Part 4 (Pricing) of the Infraco Contract as the case may be in so far as such rates and prices apply;
  - b) where such rates and prices do not apply, by measurement and valuation at rates and prices deduced therefrom insofar as it is practical to do so;
  - c) where such rates and prices do not apply and it is not practicable to deduce rates and prices therefrom, by measurement and/or valuation at fair rates and prices in accordance with Appendix G Schedule Part 4 (Pricing) of the Infraco Contract;

Schedule Part 7: Change Procedure

For the avoidance of doubt a) to c) above are not applicable to the valuation of tie Changes in respect of Systems and Trackwork and any such part of the Prioritised Works Estimate relating to Systems and Trackwork, including preliminaries, shall be valued by way of actual cost and or Prioritised Works Estimated actual cost.

1.8 In respect of a valuation of any work under paragraph 1.7 above, tie shall apply head office overheads and profit percentages as follows:

- |    |                         |     |
|----|-------------------------|-----|
| a) | Civil Engineering works | 10% |
| b) | Systems and Track works | 17% |

Site related overheads (preliminaries) shall be valued and added as follows:

- a) 7.4% to be added to the net valuation of the Change to cover the consortium preliminaries.
- b) 17.5% to be added to the net valuation of the Change to cover any other preliminaries with regard to any Change associated with Civil Engineering Works, provided that this calculation shall in no case apply to Systems and Trackwork or claims for other preliminaries in relation to prolongation costs arising from extensions of time or delay.

1.9 As soon as the Prioritised Works Estimate has been agreed or determined, tie shall issue a tie Change Order to Infracore reflecting the same.

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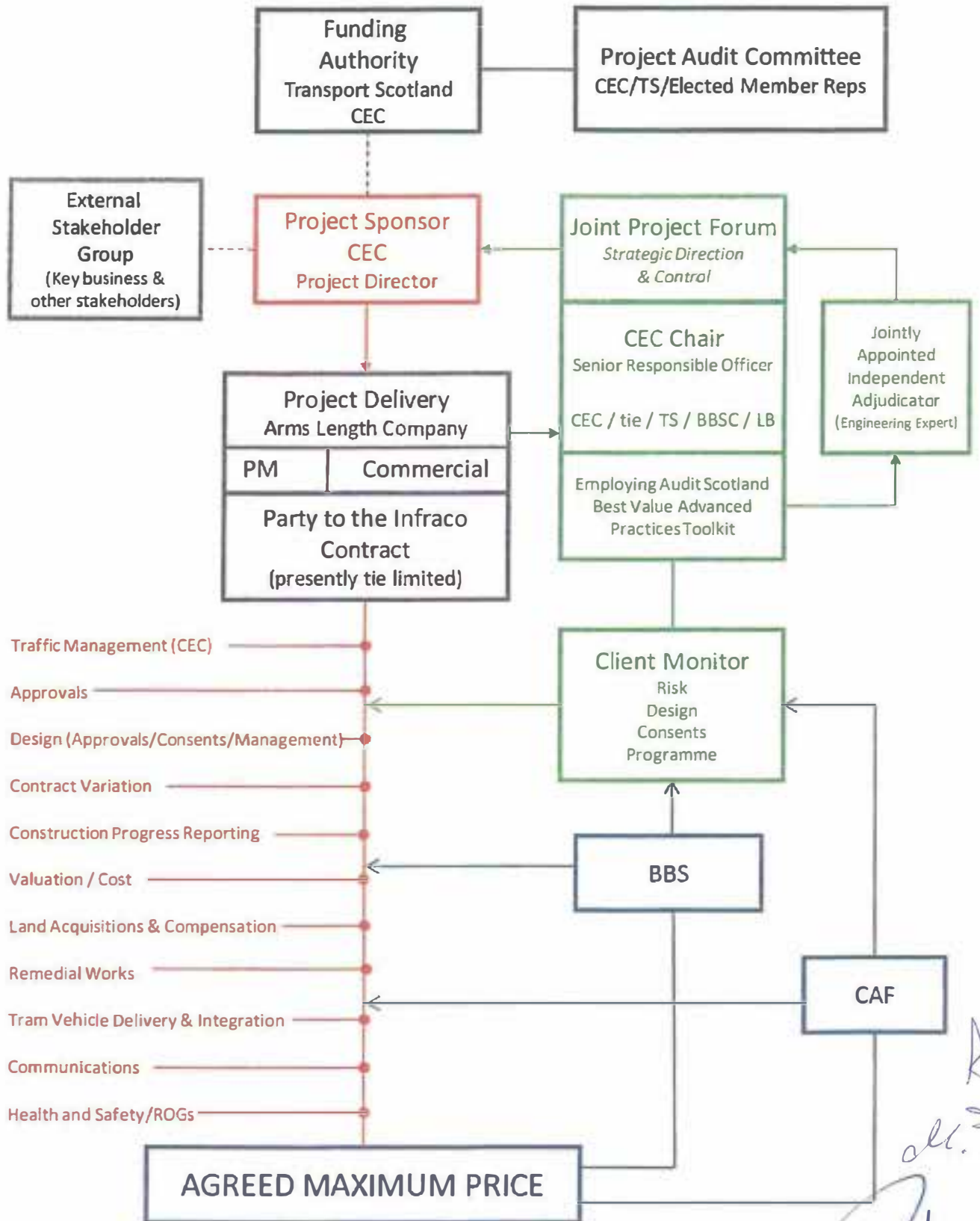
**PART 8**  
**GOVERNANCE STRUCTURE**

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# Governance Structure: Airport to St Andrew Square

Hg/CRS/07.04.11

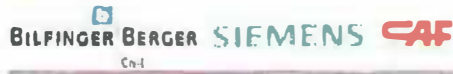
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**PART 9**  
**INTERDISCIPLINARY DESIGN CHECK PROCEDURE**

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## BSC Project Specific Procedure – Design Assurance Statement (DAS) & Interdisciplinary Design Check (IDC)

BSC Consortium				
Position	Date	Approval		
BSC Project Director	14/04/2011			
BSC Deputy Project Director	14/04/2011			
Inter Discipline Checking Process				
	Name	Position	Date	Signatures
Checked by (Siemens)	Michael Wilken <i>mw</i>	System Engineering Manager	14/04/2011	
Reviewed by (CAF)	Antonio Campos	CAF Project Director	14/04/2011	
Checked by (BB)	Oliver McLoughlin	Quality Manager	14/04/2011	
Author	Stefan Rotthaus	Civil Eng. Manager	14/04/2011	
Document History				
Rev.	Issue Date	Description of Change	Author	
A	02/09/2009	First Issue	Stefan Rotthaus	
B	14/04/2011	Second Issue	Stefan Rotthaus	

REVISION	SUMMARY OF CHANGES	
	REFERENCE	DESCRIPTION
A	N/A	FIRST ISSUE
B		Process amended

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[Signature]

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## 1 INTRODUCTION

This document defines the requirements on the Design Assurance Statement (DAS) and the Interdisciplinary Design Check (IDC) as part of the overall Design Management Plan and its relation to the Interface Management Process.

### 1.1 SCOPE

The DAS of the civil designer for each section, the DAS of the E&M systems and tram designer for each of the lots / disciplines (Appendix 1) as part of the Generic Integration Approach (Appendix 2) will form the basis for the IDC and the overall BSC DAS (Appendix 3).

The process for the DAS and IDC is shown in Appendix 5.

The DAS of the lots / disciplines will be provided after the relevant design is completed. The main purpose of the IDC procedure is to ensure that the design of the system meets the requirements on functionality, performance and safety it is intended for and as defined in the Employer's Requirements.

While the Interface Management Process is an ongoing process over the complete design stage (Appendix 2), the IDC is the final check and confirmation, that the design is fully integrated. With the BSC DAS (Appendix 3) BSC confirms that the design is fully integrated and the IDCs have been performed in an appropriate manner.

### 1.2 DEFINITIONS

N/A

### 1.3 REFERENCES

Design Management Plan (BSC/25.1.201/DMP/001),  
Interface Management Procedure (ETN(SPM\$Q&ADB#050151 Revision B)

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## 2 IDC - PROCESS

### 2.1 GENERAL

The BSC Generic Integration Approach and IDC Process, in accordance with this procedure, are shown in Appendix 2 and 5 respectively.

The Interface Management Process takes place during the design process, making each of the disciplines aware of specific requirements of other disciplines. Design documents, and the DAS of the relevant disciplines will form the basis for the required IDC as part of the overall BSC DAS. (Refer Appendix 2 for Interface Management Process)

The basic requirement for performing the IDC is a frozen design status. In the event amendments to the design or drawings are required due to the results of the IDC workshop or other minor design changes, these amendments have to be documented in an appropriate way. Details for this documentation are defined by the documentation management.

The System Integration Manager (SIM) will invite participants to and prepare the IDC workshop, which will be performed as a "walk – through" of the designs for the relevant geographical sections based on the design documents and drawings. The findings from the workshop and results gained from previous workshops will be used to ensure that the design of neighbouring sections is consistent and fulfils the overall requirements.

Within the workshop performed per section, the representative of the disciplines will ensure and confirm that the design and the DAS performed on subsystem basis, meets the specific requirements of the relevant section of the ETN system.

Findings of the IDC will be documented in the IDC report and referred back for action (Refer Appendix 5). A special check will take place on the relevance of the reported items in respect to a potential application for other sections or the overall system. By signing the IDC Certificate each of the discipline's representatives will confirm this specific cross - check and the conclusions gained during this walk-through approach (Refer Appendix 4 for example IDC Certificate).

After the IDC is carried out, the BSC DAS (Appendix 3) will be prepared and issued to the Client for information.

### 2.2 RESPONSIBILITIES

#### SYSTEM INTEGRATION MANAGER

The System Integration Manager (SIM) will coordinate the IDC process and will ensure it is conducted to programme.

The SIM will take particular responsibility for controlling the overall design workflow for system wide designs and is responsible for planning and initiating the system wide IDCs and ensuring that the relevant disciplines partake at the appropriate time and complete their IDCs to programme.

The SIM is the owner of this document. The SIM will liaise with Civil Engineering Manager, Systems Engineering Manager and the Tram Technical Manager regularly. The SIM will ensure that the overall design coordination and review process is working efficiently so that IDC can be initiated as and when required.

The SIM will ensure that the IDCs are of the required technical standard and that the appropriate representatives of the disciplines take part in the IDC.

Further responsibilities of the SIM can be summarised as follows:

- Ensure that the required IDC milestones are considered in the programme
- Ensure that DAS of lots /disciplines and other preparations for IDC are in place
- Invites lots / disciplines required to IDC meeting
- Convene and chair IDC meetings
- Ensure that design input gained in IDC workshops will be transferred into other IDC workshops
- Prepare IDC report
- Issue IDC report and final DAS

*CAF*  
*[Signature]*

## APPENDIX 1: DESIGN ASSURANCE STATEMENT LOTS / DISCIPLINES

### Design Assurance Statement for design package:

Subsystem / discipline:  
**Communications (COM)**  
Section(s): **linewide**

BSC Consortium			
	Date	Agreed	
BSC General Product Director	2010/07/29		
BSC Deputy Project Director	2010/07/29		

This document was produced electronically and requires no signature. It may be signed manually.

Reviewed by	Name	Department	Date	Signature
Checked by	John Kilby	Systems Engineering Manager	2010/07/29	
Checked by	John Kilby	Quality Manager	2010/07/29	
Checked by	John Kilby	System Assurance Manager	2010/07/29	
Author	Tony Wright	COM Project Manager	2010/07/29	

Document History			
Rev	Issue Date	Description of Change	Author
A	2010/07/29	First Issue	

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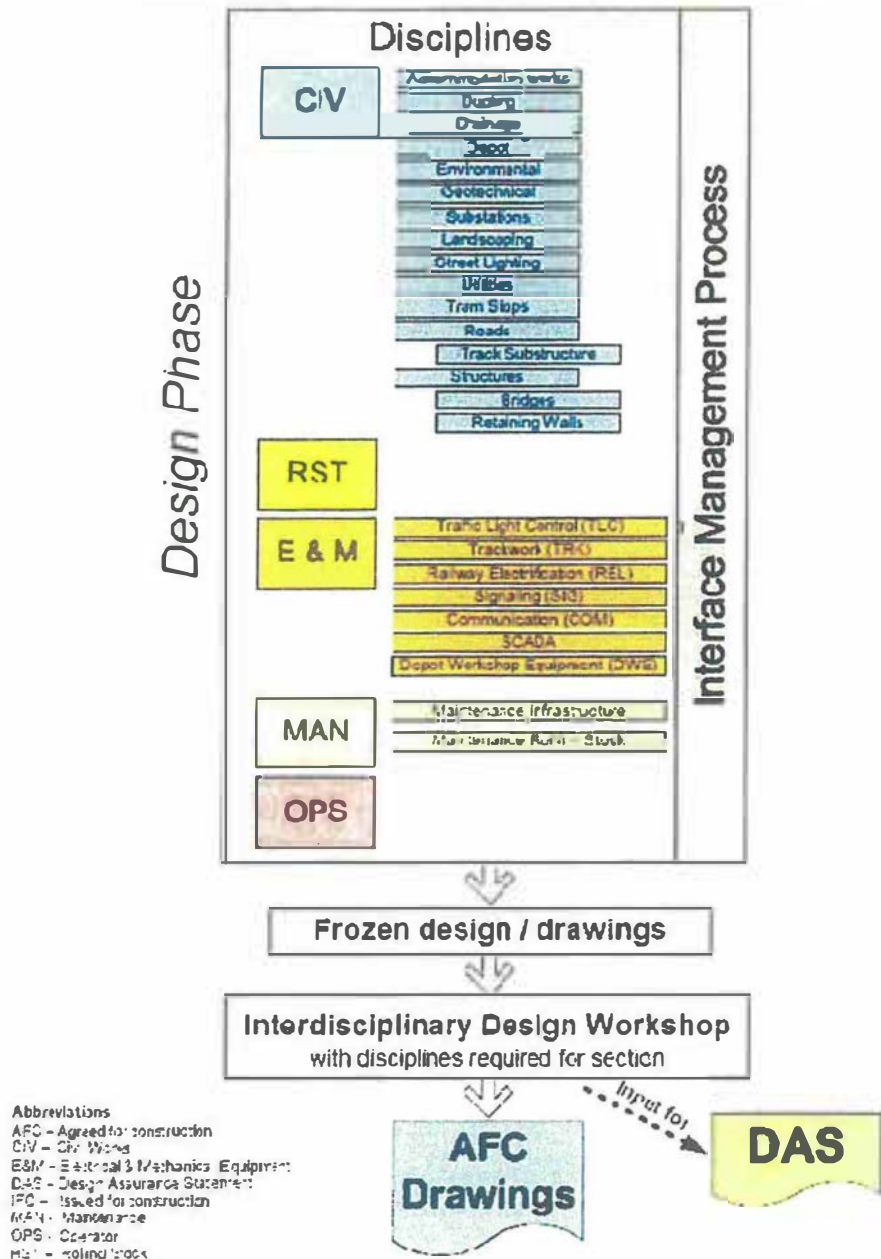
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## APPENDIX 2: GENERIC INTEGRATION APPROACH

### BSC – Generic Integration Approach



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## APPENDIX 3: BSC - DESIGN ASSURANCE STATEMENT

BSC Infracore for BSC Integrated Design Assurance Statement (Section 6A)  
Doc No:  
**BILFINGER BERGER SIEMENS CAF** Revision A Date 2010/07/28  
Page 1 of 26

### Design Assurance Statement

### Integrated DAS

### Section 6A

BSC Consortium				
		Date	Agreed	
	BSC General Project Director	2010/ /		
	BSC Deputy Project Director	2010/ /		
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	Name	Department	Date	Signature
Checked by	Stefan Rotthaus	Civils Engineering Manager	2010/ /	
Checked by	Michael Wilken	Systems Engineering manager	2010/ /	
Checked by	Jason Chandler	SDS Project Manager	2010/ /	
Checked by	Alejandro Uriza	CAF Project Manager	2010/ /	
Author	John Riley	System Assurance Manager	2010/ /	
Document History				
Rev	Issue Date	Description of Change	Author	
A	2010/07/28	First Issue		

This document procedure applies only to goods/services delivered to us by BSC under the current Contract. CAF's scope delivered under the Train Supply Agreement and Train Maintenance Agreement is not covered by this document. The procedure documents submitted to us under the CAF will be reviewed according to the TGA and TMA, as and where required by the agreements.

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Integrated DAS Section 6A - Part A - E.docx  
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## APPENDIX 4: IDC CERTIFICATE

BSC Infraco for  
ETN, Edinburgh Tram Network

IDC Certificate: IDC-XX-CEB-XXX

**BILFINGER BERGER SIEMENS CAF**

Page 1 of 2

Section	
Discipline	
Stage:	
Date	

Disciplines for the Permanent Works	Discipline Leader	Name	For and on Behalf of	Signature	Date
Design	CIV	Ala. Ecker	SDS		
Design	CIV	Ala. Ecker	SDS		
Design	CIV	Ala. Ecker	SDS		
Structures	CIV	Ala. Ecker	SDS		
Geotechnical	CIV	Ala. Ecker	SDS		
Substations	CIV	Ala. Ecker	SDS		
Landscaping	CIV	Ala. Ecker	SDS		
Street Lighting	CIV	Ala. Ecker	SDS		
Joints	CIV	Ala. Ecker	SDS		
Track Lays	CIV	Ala. Ecker	SDS		
Track Bedding	CIV	Ala. Ecker	SDS		
Structures Bridges	CIV	Ala. Ecker	SDS		
Structures Retaining Walls	CIV	Ala. Ecker	SDS		
Low Voltage (LV) Power	CIV	Ala. Ecker	SDS		
TV	CAF	David Stewart/David Stewart	CAF		
Traffic Light Control	EBM	David Stewart	SDS		
Trackbed	EBM	David Stewart	SDS		
Track Bedding	EBM	David Stewart	SDS		
Earthquake Bedding	EBM	David Stewart	SDS		
Signaling	EBM	David Stewart	SDS		
Communication	EBM	David Stewart	SDS		
High Voltage (HV) Power	EBM	David Stewart	SDS		
SCADA	EBM	David Stewart	SDS		
Operational Control	EBM	David Stewart	SDS		
Manufacturing Plant	MAN	Edith Stewart	SDS		
Manufacturing Plant	MAN	Edith Stewart	CAF		
CPS	CPS	Edith Stewart	CTL		
Checked by					Date

By signing this certificate the signatories acknowledge and agree their obligations and liabilities in relation to the design of the Edinburgh Tram Network shall not be released, diminished or in any other way affected by the completion of the IDC process, issue of a BSC Design Assurance Statement or the signing of this certificate by or on behalf of Bilfinger Berger AG, Siemens AG or Construtora e Operadora S/A (COSA) Ferrovias SA.

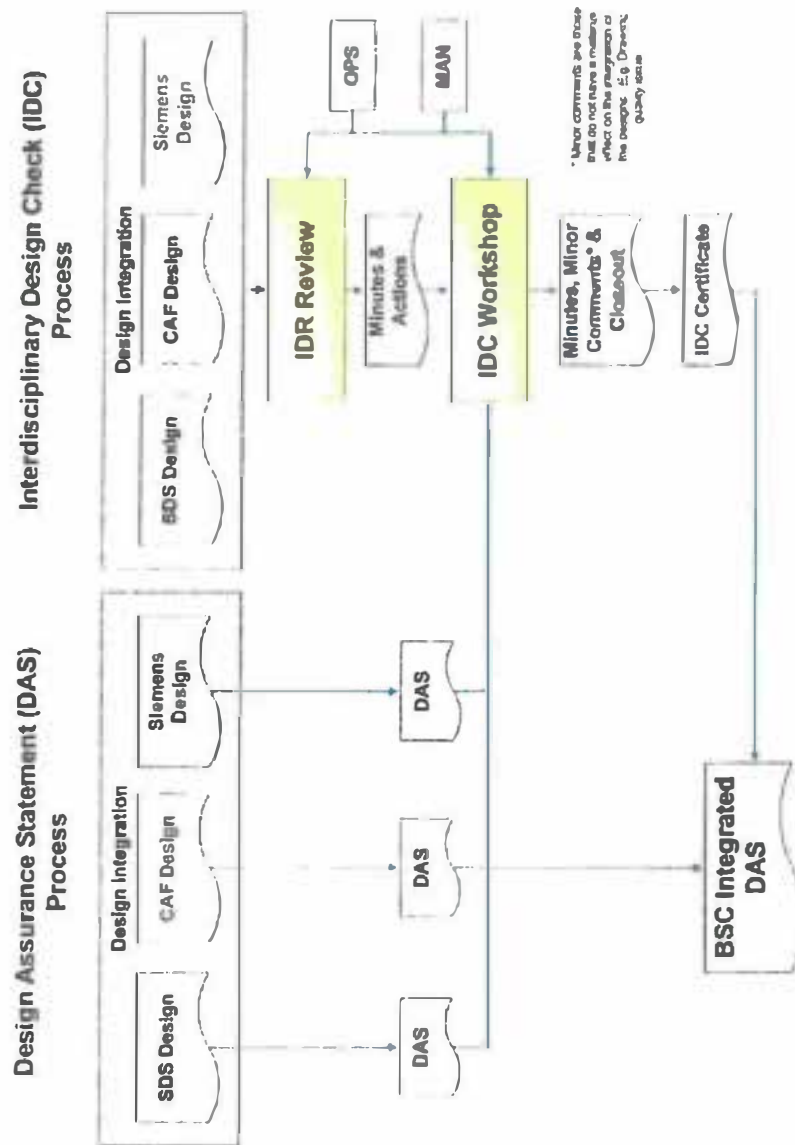
IDC Certificate  
Confidentiality: non confidential

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J.B.



## APPENDIX 5: IDC PROCESS



*M. J.*

*[Signature]*

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