Edinburgh Trams

For the attention of Martin Foerder - Project Director
Bilfinger Berger - Siemens - CAF Consortium
9 Lochside Avenue
Edinburgh Park
Edinburgh
EH12 9DJ

Our Ref: INF CORR 5133

Date: 24 May 2010

Dear Sir,

Edinburgh Tram Network – Infraco Contract
Permit to Start Works

We refer to your letter dated 29 April 2010 (reference: 25.1.201/DG/5564) and note that you are unable to understand our letter dated 8 April 2010 (reference: INF CORR 4736). We confirm that we stand by the contents of that letter as being correctly based on the terms and conditions of the Infraco Contract and being a true representation of the facts they refer to. We firmly refute any suggestion that we are making changes to the terms and conditions of the Infraco Contract. All of what we have asked for or instructed is reasonable and your compliance would not place you in breach of any contract terms.

With reference to the condition in your letter 4648, dated 1 April 2010, it will be common ground that unforeseen ground conditions and physical conditions may arise which will require instructions from **tie**. The statement in your letter 4648 which we referred to as a condition, irrespective of how you describe it, is clearly at odds with the actions required of you by the Infraco Contract. We cannot therefore de facto accept your 'condition' by issuing a Permit to Commence Works.

We refer you to the terms of Clause 28, in particular Clauses 28.3, 28.4 and 28.7, which clearly set out the procedures to be followed for the appointment of Key Sub-Contractors and which parts of the Infraco Works you may sub-contract. Whilst you may believe it is clear that "Bilfinger Berger would be carrying out these works as a member of the Infraco Consortium", this does not tell us which Bilfinger Berger entity would be carrying out the works and on what basis, nor does it comply with the requirements of Clause 28 or provision 1 of Schedule Part 38. In principle, we have no objection to Bilfinger Berger (UK) Limited being appointed as a Key Sub-Contractor to the Infraco Contract provided that you comply with the provisions of Clause 28.

We would note that in excess of 40 Business Days has elapsed since we asked for you to comply.

Compliance should not cause you any inconvenience nor would it place you in breach of any term of the Infraco Contract. The delay is solely caused by your refusal to comply with reasonable instructions and requests for further information. Such behaviour is unreasonable and in breach of your general obligations under the Infraco Contract. Other than observing that requiring you to adopt your sequence of working into "mini-packages" would not have caused you to be in breach of any Infraco Contract term we therefore make no further comment on this point.

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For these reasons and in the absence of a fully integrated and assured design, we are unable to issue a Permit to Commence Work on any section of work which can be described as being "On-street".

Responses

Permit to Commence Works

1. We deny that we are "attempting to innovate on the Infraco Contract requirements" for any issue, including those applying to the issuing of a Permit to Commence Works. There is no express list of requirements which, if you met, would automatically entitle you to such permits. You may be assuming, wrongly, that all you have to do is issue a "Permit to Commence Works Form" pursuant to Clause 3.4.4 of Schedule Part 3 for us to issue a "Permit to Commence Work". Not only could this amount to "self-certification" it also ignores the terms of Clause 3.4.1 of Schedule Part 3 which clearly supports our view that it would be gratuitous for us to issue a Permit to Commence Works for anything other than work for which we are in agreement as to its scope.

2. Essential to agreement of the work scope is that we are entitled and indeed must be satisfied that the IFC Drawings are accompanied by suitable Design Assurance Statements and that your design represents best value and is capable of supporting adherence to the programme; and that it complies with the Safety Verification Scheme and will be acceptable to the Independent Competent Person. In explanation, Clauses 10.3 and 10.9 confer the right on us to view and review any Deliverable at any reasonable time and the obligation on you to amend that Deliverable.

3. We instructed you on the 8 April 2010 to provide the following items in order that we may consider issuing you with the Permit to Commence Work:

- Complete and approved integrated construction drawings issued as IFC;
- The Residual Risk Register;
- Your Risk assessment;
- A Method Statement/WPP;
- Health & Safety Plan;
- A programme; and
- Details of your resource and logistics plan and programme.

4. Providing this information would not place you in breach of any term of the Infraco Contract and all of it should be reasonably available if you have complied with your obligations to manage the Infraco Works in the manner expected by Clause 7.2 of the Infraco Contract.

5. Insofar as this information may be regarded as "further information", you are obliged to submit it in accordance with Clause 5.1 of Part A of Schedule Part 14. Moreover, in so far as we have omitted to exercise our rights for any past approval of a Permit to Commence Works, pursuant to Clause 109 of the Infraco Contract, we have not waived our rights to exercise them later.

6. Your purported increase in the cost of the works which you carried out in Princes Street (480%) and the disruption caused to public amenity is sufficient reason for us to reconsider the parameters we applied to the Permit to Commence Works for that Work Package and to enforce the contractual commitments.

Trackform - Design Assurance Statements

7. As yet, some two years into the Contract, and despite numerous review meetings and exchanges in correspondence, you are still not in a position to issue an approved integrated set of construction drawings for the trackslab and roads. Nor can you provide the necessary Design Assurance Statements, or even give any assurance that the design has been completed to enable you to authorise construction at little or no risk.

8. To accommodate the manner in which you have sought to manage this issue, such Design Assurance Statements would include input from all relevant designers, including SDS or Siemens, such assurance should include warranty from any sub-contracted design (for example BAM for track design) and a licence from the Intellectual Property Owner for "Rheda City"(if part of the design solution) in favour of **tie** (in accordance with Clause 102.2.2 of the Infraco Contract). All should be confirmed by Infraco in an integrated consolidated solution, including a register of residual risks and how they are expected to be controlled. You may refer to Clause 2.8.2 of Part C of Schedule Part 14 for a detailed list of the information which is subject to review. The list given in our letter dated 8 April 2010 provides a summary for you.

9. We do confirm once again that the current iteration of the design solution for trackslab and its foundation is not acceptable to us. In separate conversations with SDS and yourselves we understand that it is common ground that this proposal does not represent a "best value" solution. Moreover, as was confirmed by our recent meeting with SDS Provider, with your representative Mr. Kitzman in attendance, you have been making very little progress towards finalising a design solution which is consistent with your proposal to use Rheda City C as a trackbed. We are unable to deduce what is preventing you from finalising the design and trust that you will be bringing forward your proposals quickly for Section 1D.

Your Contractual Arguments

10. We believe that the position the project is in is a product of the way you have chosen to perform your duties and obligations and the interpretation you have put on certain key contractual terms appertaining to design development responsibilities – Clause 80 and Schedule Part 4 in particular. To support your position it has been necessary for you to repudiate your overriding general and specific obligations to proceed with due expedition in a manner which inter alia results in best value for **tie** (and by extension the eventual best value in terms of whole life costs for the ETN owner). Your stance defies commercial sense and requires you to reject the clear and conventional terms of Clause 34.1. (We attach hereto a Paper Apart which inter alia explains the meaning of Clause 80.13, Clause 34.1 and the application of Schedule Part 4).

11. The manner in which you have acted indicates that you have sought to concentrate on extracting additional payment by offering explanations of Schedule Part 4 which are convenient to you at the time. For example, in explaining your assertions on design of the track you have referred only to Schedule Part 4, paragraph 3.6.1 (b) and not (c) which in fact produces "the finished earthworks levels ..... for construction". Your ambiguous approach to Schedule Part 4 is also demonstrated by your assertions in the Adjudications about the meaning of Pricing Assumption 1.

12. During the adjudication hearing for Russell Road Retaining Wall 4 (December 2009), you asserted that you had only priced for BDDI and that anything not represented on the BDDI was a Notified Departure. Indeed your legal representative's view was that the exclusionary drafting of Pricing Assumption 1 did not allow for any development and completion of the design. You shifted your view by the hearing for Section 7 Drainage (May 2010) to argue that "of course" there was a qualitative allowance for development and completion of design, that you had reasonably allowed for that in such cases and that there needed to be a materiality test applied to Pricing Assumption 1.

Method Statements

13. You refer to and make certain allegations about Method Statements which appear to be predicated on Schedule Part 3, clause 3.2.2 meaning that only method statements with a category A3 risk rating are subject to the reviewing process set out in Schedule Part 14. We do not agree with this interpretation. These provisions require that a 4 week look-ahead schedule be provided to **tie** identifying relevant method statements and risk assessments in respect of each scope. **tie** will identify from this which risk assessments and method statements require to be provided by Infraco based on the categorisation of method statements. This allows **tie** to request method statements and risk assessments in other categories should we believe that such categorisation is wrong or to confirm that adequate control measures are in place to justify a lower categorisation. We have not been provided with this look-ahead schedule and so are unable to confirm which risk assessments and method statements we require to review.

14. Additionally, though you have submitted a number of method statements associated with Haymarket, these have not been categorised according to Schedule Part 3, Clause 3 and therefore any categorisation of such method statements has not been agreed by **tie**. We note your assertion that Works Package Plan 0135 has been agreed as Category A1 risk rating. This is not the case and we sent you a Record of Review in respect of this document on 26 January 2010. This had a number of mandatory requirements to be completed. No response has been received from you.

Design management & design not compatible with Programme

15. Another consequence of your approach to design production is that you have placed yourself in a position where you are expressing an inability to programme the Works to complete within the Planned Completion Dates. The manner in which you have acted has denied us the opportunity to properly consider the impact of your proposals on programme as well as price. (We attach a simple programme which illustrates how the On-street Works could be programmed to be completed, with mitigation measures within the Planned Completion Dates).

16. Your actions are clearly not compliant with your obligation to progress the Infraco works with due expedition and in a timely and efficient manner without delay, to achieve timeous delivery and completion of the Infraco Works (Clause 60.1). Nor does it reflect compliance with Clause 60.9 whereby you are required to "take all reasonable steps to mitigate the effects of any delay to the progress of the Infraco works". Given their true meaning these requirements place emphasis on the need to progress the Infraco Works in a manner which achieves the sufficiently earliest dates for completion.

17. It is not only completion of the On-street works which are affected by the manner in which you have acted. You now assert that the design you have developed for the various sections of Retaining Walls between Russell Road and Baird Drive requires such longer construction

period that it would have, in any event, caused the Planned Completion Dates to be substantially delayed. Clearly you have not taken account of the requirement to develop design solutions and validate these sufficiently early to achieve the Planned Completion Dates.

18. You have also degraded the responsibility the SDS Provider owes to us – their representative recently refuting responsibility for design of the track under explanation that the manner in which you have managed and are managing the design (to the extent that you have) has rendered them "not the designer – only the design provider". As we have stated many times previously, you have clear contractual obligations in relation to the completion of the SDS Services in accordance with the SDS Agreement, the management of SDS, and the delivery of a competent and contractually satisfactory design. You are wholly liable for the performance of the SDS Services and design production and you have reaffirmed this on several occasions.

Conclusion

19. It is now some 40 Business Days since we gave you the instruction to provide us with the necessary Deliverables in order that we may issue a Permit to Commence Works in accordance with the Infraco Contract. Your letter 5564 dated 29 April 2010 is a clear declaration that you were not (at that time) agreeing to comply with our instruction. Your continued failure to provide the Deliverables asked for by us on 8 April 1010 is a clear confirmation that you have persisted with that behaviour.

19 This behaviour causes a material and adverse effect on the completion of the Infraco Works and moreover prevents **tie** from enjoying the essential benefits of Design Assurance Statements, and licences to certain key Intellectual Property Rights.

By this letter, we also give notice that, whilst we will comply with any decision reached by an Adjudicator, we will seek to have decisions which are based on a flawed interpretation of Schedule Part 4 overturned by the Courts.

This letter does not respond to all of the issues raised in your letter, it cannot be taken to imply that we accept what you assert in respect of any issues not responded to herein.

Yours faithfully,

[redacted]

Steven Bell
Project Director - Edinburgh Tram

cc Richard Walker, Chairman, BSC Consortium
Michael Flynn, BSC Consortium
Antonio Campos, BSC Consortium
Richard Jeffrey, Chief Executive, **tie** Limited

PAPER APART - EXPLANATION OF CLAUSES 34.1 AND 80.13

tie have difficulty in seeing Infraco's direction of thinking, and do not believe they have explained why they should be excused from the conditions of the Infraco Contract. Moreover **tie** hold to the view that Infraco's behaviour has been "delinquent" as, in applying their averred meaning of Clauses 80.13 and 34.1. They have failed in their duties and obligations under the Infraco Contract.

Despite what Infraco say in the penultimate paragraph of their letter dated 6 November 2008 they make it clear that they do not agree with the interpretation of Clauses 80.13 and 34.1 of the Infraco Contract as asserted by **tie** in their responses to Infraco.

The interpretation **tie** will rely on is set out in this Paper Apart.

Clause 34.1

Clause 34.1 states that:

"*The Infraco shall construct and complete the Infraco Works in strict accordance with this Agreement and shall comply with and adhere strictly to tie and tie's Representative's instructions on any matter connected therewith (whether mentioned in this Agreement or not) provided that such instructions are given in accordance with the terms of this Agreement and will not cause Infraco to be in breach of this Agreement.*"

Accordingly, we are entitled to issue instructions to Infraco, and Infraco are obliged to comply with those instructions, provided that they do not conflict with Infraco's obligations under the Infraco Contract.

Where there is a dispute or difference between us as to whether the work which is the subject matter of an instruction issued pursuant to clause 34.1 is a Notified Departure, work should progress in the interim until that dispute or difference is resolved.

In the event that it eventually transpires that the work in question is properly a Notified Departure, or a variation to any part of the Infraco Works, then Infraco will be entitled to recover the time and cost consequences in accordance with the provisions of the contract in the usual way. Infraco's legitimate interests in this respect are safeguarded by the provisions of clause 34.3, which state:

"*If in pursuance of Clause 34.1...tie's Representative shall issue instructions which involve the Infraco in delay or disrupt its arrangements or methods of construction or so as to cause the Infraco to incur cost then such instructions shall be a Compensation Event under Clause 65 (Compensation Events) except to the extent that either such instructions have been required as a consequence of the Infraco's breach of its obligations under this Agreement or such delay and/or extra cost result from the Infraco's default. If such instructions require any variation to any part of the Infraco Works, tie shall be deemed to have issued a tie Notice of Change requiring such variation, which tie Change shall be a Mandatory tie Change.*"

Where it transpires that the work in question was not a Notified Departure, or did not constitute a variation to the Infraco Works, no Compensation Event will have arisen: the instruction issued to Infraco constitutes an instruction to proceed with work which forms part of your contractual scope of work, and in relation to which there is no entitlement to additional payment or an extension of time.

The contract should not be interpreted in such a way as to mean that Infraco are entitled to hold up the progress of the project in circumstances where *firstly* the only issue between the parties is who should bear the cost and time consequences of a particular item of work, but there is clarity in relation to the scope and nature of that work; and *secondly*, Infraco will be entitled to apply for recovery of the cost and time consequences in the event that it transpires that **tie** should bear those consequences.

Clause 80.13

Clause 80.13 contains the words:

"*Subject to Clause 80.15, for the avoidance of doubt, the Infraco shall not commence work in respect of a tie Change until instructed through receipt of a tie Change Order unless otherwise directed by tie*."

We understand Infraco's position to be that clause 80.13 should be read in such a way as to mean that **tie** are only entitled to direct Infraco to proceed with work in the specific circumstances set out in clause 80.15, and that they are not entitled to "*otherwise direct*" where an Estimate has not been referred to DRP – and by extension, that **tie** are not entitled to issue such a direction either where there is a dispute about the existence of a Notified Departure or Infraco have failed to produce an Estimate.

We consider this approach to be misconceived, for reasons which include the following:

- Infraco's interpretation gives no meaning to the words "*unless otherwise directed by tie*". It would be enough for the clause to read "*subject to Clause 80.15, for the avoidance of doubt, the Infraco shall not commence work in respect of a tie Change until instructed through receipt of a tie Change Order*", as the opening words of the sentence would be sufficient to enable the clause 80.15 exception to stand.

- The words "*subject to clause 80.15*" at the opening of the relevant paragraph should be interpreted as meaning "*unless prohibited, or contradicted, by clause 80.15*". Infraco's interpretation gives no meaning to these words.

- Infraco's interpretation does not make sense in the context of the words "*until instructed through receipt of a tie Change Order.*" The 80.15 mechanism envisages **tie** issuing a **tie** Change Order in any event. It does not refer to some "lesser" instruction in the form of a "direction", and there would be no need to use the words "*unless otherwise directed by tie*" if all that was intended was that Infraco should proceed on the basis of **tie** Change Orders.

- It is clear from clause 80.13.2 that the Infraco Contract envisages situations where the Infraco has executed works at cost prior to the agreement of an Estimate and any **tie** Change Order on the basis of a **tie** instruction. That instruction clearly correlates with **tie** directing otherwise.

Accordingly, we consider that our entitlement to "*otherwise direct*" in terms of clause 80.13 arises independently of clause 80.15.

If an entitlement to a Notified Departure is established then clause 80 will be applicable, failing which the matter is governed by clause 34.

It makes no commercial sense for Infraco to be entitled to frustrate the progress of the work where the only debate is about who will bear the ultimate cost of the work in question, and there is no controversy about the nature or scope of the work.

The provisions of both clause 34.1 and 80.13 that we have referred to above both point to a clear contractual entitlement which allows us to instruct work to proceed, while still protecting Infraco's entitlement to make recovery for it in the event that it transpires that tie should be responsible for its cost and time consequences.

Infraco should also take account of the provisions of Clause 80.20 which inter alia requires them to comply with instructions and within 20 business days operate clause 80.4 or 80.5 if relevant.

Schedule Part 4

A significant area of dispute between us concerns the interpretation to be given to Pricing Assumption No. 1 (Clause 3.4.1 of Schedule Part 4). This is evident from the adjudications that have taken place and those which are currently ongoing. In meetings Infraco have requested that we set out our interpretation and we now do so in order that we can identify where common ground does exist and where we diverge.

The starting point for the interpretation of Pricing Assumption No. 1 is that the Design will not be amended in terms of design principle, shape, form and/or specification, other than amendments arising from the normal development and completion of design.

This starting point is then subject to an exclusion: applying the literal and wide interpretation which you have argued for in the adjudications between us that have involved a consideration of Pricing Assumption No. 1 would mean that all changes of design principle, shape and form and outline specification are excluded from normal design development.

That interpretation would emasculate the initial premise: the exclusionary words would, on your interpretation, make the opening words of clause 3.4.1 empty of meaning.

It cannot, objectively speaking, have been the intention of the parties that the wording should be interpreted in a way which wholly negates the initial premise that normal development and completion of design falls within Infraco's risk. The concept of normal development and completion of design requires to be given some efficacy and meaning.

Furthermore, the interpretation which Infraco have contended for would produce a result where the provisions of the Infraco Contract in relation to price are also deprived of meaning.

The Construction Works Price is a lump sum, fixed and firm price for delivering the Employer's Requirements and the Infraco Proposals. Infraco's price was therefore required to take account of all matters which are stipulated in the Employer's Requirements, and no entitlement to additional payment should flow for delivering the Employer's Requirements.

Infraco have previously relied on clause 3.5 of Schedule Part 4 in this context: that provides that the Contract Price has been fixed on the basis of inter alia the Base Case Assumptions: the words inter alia here are of crucial import.

The Contract Price is not fixed solely by reference to the Base Case Assumptions. The Construction Works Price – which is one element of the Contract Price – has also been fixed by reference to the Employer's Requirements and the Infraco Proposals. It has not been fixed solely by reference to that

part of the Infraco Works which had been incorporated in the design information drawings issued up to 25 November 2007. That would, again, in any event, make no commercial sense.

Clause 3.5 of Schedule Part 4 provides that a Notified Departure:

> "*will be deemed to be a Mandatory* ***tie*** *Change requiring a change to the Employer's Requirements...*" [emphasis added]

Where the BDDI fails to take account of something in the Employer's Requirements it would make little sense for the resulting design change to be deemed to require a change to the Employer's Requirements: the essence of the issue is that the design is changed to take account of the Employer's Requirements, and there is no change to the Employer's Requirements. Infraco's interpretation fails to make sense of the Clause 3.5 wording.

Taking the example of change to the BDDI which occurs in order to provide for something which is required by the Employer's Requirements (such as the provision of bat boxes at Gogarburn Bridge[1]) but which was not shown on the BDDI: the Construction Works Price was fixed on the basis that it would deliver all elements of work required as specified in the Employer's Requirements.

To take a further example, the interpretation that Infraco contend for would lead to the proposition that you would be entitled to be paid for changes which you Infraco have promoted – for example, to improve buildability. Such a change would be wholly within your control and for your own benefit: no reasonable person would conclude that it was intended that you would be entitled to be paid for this type of amendment to the BBDI.

It is evident that even on Infraco's interpretation, you have accepted that there must be some departure from the literal meaning of the exclusionary words. During the course of the Wilson adjudication, your engineering expert (Mr Hunt) conceded that if a change was *minor* or "*reasonable*" and "*comprising normal development and completion of designs*", then this would not give rise to a Notified Departure.

That would therefore appear to lead to some common ground that the exclusionary words cannot be interpreted in a literal way; we accept that, equally, it cannot have been the intention of the parties that the exclusionary words should be empty of meaning.

Pricing Assumption No.1 requires to be interpreted in such a way as to give meaning to all the concepts that the parties have deployed there: both the starting point of normal development and completion of design, and the exclusion from that concept of some types of change. This should be done in such a way as to reflect the way in which the parties objectively intended to balance risk between them.

Infraco's general obligations in relation to the Infraco Works are set out at clause 7.3 of the Infraco Contract: those obligations include compliance with the Employer's Requirements, the Code of Construction Practice, Applicable Law, Good Industry Practice and so on.

The Design is to be developed in such that a way that it meets these requirements. Clause 2.1.4 of Schedule Part 14 C at page 21 states that:

"*detailed design takes the preliminary design forward to achieve a series of deliverables, which are tailored to obtain consents and approvals and to provide all information required to allow the Infraco works to be constructed.*"

[1] Adjudication decision of John Hunter dated 16 November 2009 at p27

In arriving at the Construction Works Price, Infraco should have taken into account any amendments to the BBDI which were necessary to meet the Employer's Requirements etc and which could reasonably have been foreseen by a properly qualified and competent professional contractor experienced in design and build contracts and projects of this scope and complexity on the basis of the information that was available to them at contract formation.

Normal design development is constituted by developing the design in order to meet the Employer's Requirements, Codes of Construction Practice etc. In other words, normal design development means that which is required to be done to the BDDI in order to take it to the point of being issued for construction in line with the contractual requirements. Accordingly construing Pricing Assumption No 1 objectively in the context of the Infraco Contract an amendment does not give rise to a Notified Departure if the amendment is necessary to make the design work in a way that complies with stated (ie those stated in the contract), statutory or best practice requirements.

In any event consideration requires to be given to whether a reasonably experienced design and build contractor in Infraco's position could reasonably have foreseen the amendment on the basis of the information that it had at contract formation. If it could reasonably have been foreseen, then you ought to have taken account of it in the Construction Works Price.

Applying these tests to the above mentioned bat box example: bat boxes are necessary to comply with the Employer's Requirements. Moreover, because the necessity for the bat boxes is capable of being discerned from the Employer's Requirements, an experienced design and build contractor ought reasonably to have foreseen that they would be needed. The bat boxes would not therefore give rise to a Notified Departure.

In conclusion our interpretation of Pricing Assumption No. 1 is that Infraco are required to develop the design in terms of design principle, shape, form and/or specification from the drawings forming the BDDI to completion such as is necessary to meet the Employer's Requirements, Codes of Construction Practice etc and in doing so a Notified Departure cannot be triggered. There is in any event the question of what could reasonably have been foreseen as is mentioned above.

ID	Task Name	Duration	Start	Finish
1	**BSC Rev3Step4Ver3 REVISED DURATIONS WITH REVISED SEQUENCING**	1 day?	Mon 04/01/10	Mon 04/01/10
2				
3	**01A Newhaven Road (inc.) to Foot of the Walk (exc.)**	546 days?	Mon 29/03/10	Mon 28/05/12
4	**Newhaven Road (inc.) to Ocean Terminal (exc.)**	393 days?	Mon 29/03/10	Wed 12/10/11
5				
6	TTM PHASE 8 (CH. ~ 0-160)	75 days	Mon 29/03/10	Fri 09/07/10
7	TTM PHASE 7 (CH. ~ 160-450)	104 days	Mon 02/08/10	Thu 23/12/10
8	TTM PHASE 5A (LINDSAY ROAD EAST BOUND)	89 days	Mon 12/04/10	Thu 12/08/10
9	TTM PHASE 5B (LINDSAY ROAD WEST BOUND)	47 days	Fri 13/08/10	Mon 18/10/10
10	TTM PHASE 6 (CH. ~ 450-600)	62 days	Tue 19/10/10	Wed 26/01/11
11	TTM PHASE 9 (CH. ~ 600-685)	95 days?	Thu 27/01/11	Wed 08/06/11
12	TTM PHASE 4A (CH. ~ 685-830)	90 days	Thu 09/06/11	Wed 12/10/11
13	TTM PHASE 4B (CH. ~ 830-1060)	112 days	Tue 23/11/10	Wed 11/05/11
14				
15	**Ocean Terminal (inc.) to Port of Leith (exc.)**	259 days?	Mon 29/03/10	Thu 07/04/11
16	TTM PHASE 3 (CH. ~ 1060-1400)	75 days?	Thu 01/07/10	Wed 13/10/10
17	TTM PHASE 1 (CH. ~ 1400-1650)	171 days	Mon 29/03/10	Mon 22/11/10
18	TTM PHASE 1A (CASINO ACCESS ROAD)	17 days	Mon29/03/10	Tue 20/04/10
19	Victoria Bridge (road and track only)	20 days	Thu 14/10/10	Wed 10/11/10
20	TTM PHASE 2 (CH. ~ 1650-1880)	88 days	Tue 23/11/10	Thu 07/04/11
21				
22	**Port of Leith (inc.) to Bernard Street (exc.)**	164 days	Mon 06/12/10	Thu 04/08/11
23	TTM PHASE (18) (CH. ~ 1880-1957)	58 days	Mon 06/12/10	Mon 07/03/11
24	TTM PHASE (17) (CH. ~ 1957-2012)	54 days	Mon 23/05/11	Thu 04/08/11
25	TTM PHASE (16) (CH. ~ 2012-2103)	54 days	Tue 08/03/11	Fri 20/05/11
26	TTM PHASE (15) (CH. ~ 2103-2145)	50 days	Mon 23/05/11	Fri 29/07/11
27				
28	**Bernard Street (inc.) to Foot of the Walk (exc.)**	366 days	Mon 06/12/10	Mon 28/05/12
29	TTM PHASE (14) (CH. ~ 2145-2296)	72 days	Mon 06/12/10	Tue 29/03/11
30	TTM PHASE (13) (CH. ~ 2296-2367)	54 days	Wed 30/03/11	Mon 13/06/11
31	TTM PHASE (12) (CH. ~ 2367-2442 Inbound/2420 Outbound)	52 days	Tue 14/06/11	Wed 24/08/11
32	TTM PHASE (11) (CH. ~ 2442 Inbound/2420 Outbound-2645)	83 days	Mon 06/12/10	Wed 13/04/11
33	TTM PHASE (10 - 1) (CH. ~ 2645-110.030) - TO BE INTEGRATED INTO FOOT OF THE WALK	55 days	Thu 25/08/11	Wed 09/11/11
34	TTM PHASE (10 - 2) (GREAT JUNCTION ST/DUKE ST) - TO BE INTEGRATED INTO FOOT OF THE WALK	18 days	Thu 10/11/11	Mon 05/12/11
35	TTM PHASE (10 - 3) (GREAT JUNCTION ST/DUKE ST) - TO BE INTEGRATED INTO FOOT OF THE WALK	47 days	Tue 06/12/11	Wed 22/02/12
36				
37	**E&M (with scope to reduce duration by commencing in some areas before the final area is ready)**	68 days	Thu 23/02/12	Mon 28/05/12
38				
39	**01B Foot of the Walk (inc.) to McDonald Road (exc.)**	500 days	Fri 30/04/10	Thu 26/04/12
40	**Foot of the walk (inc.) to Balfour Street (exc.)**	414 days	Fri 30/04/10	Wed 14/12/11
41	Leith Walk Ch 80 - 350	184 days	Fri 30/04/10	Wed 26/01/11
42	Leith Walk Ch 350-630	194 days	Fri 18/03/11	Wed 14/12/11
43				
44	**Balfour Street (inc.) to McDonald Road (exc.)**	454 days	Mon 05/07/10	Thu 26/04/12
45	Balfour Street Ch 630-920	174 days	Mon 05/07/10	Thu 17/03/11
46	McDonald / Brunswick Road Ch 920-1260	216 days	Fri 18/03/11	Fri 27/01/12
47				
48	**E&M (with scope to reduce duration by commencing in some areas before the final area is ready)**	64 days	Mon 30/01/12	Thu 26/04/12
49				
50	**01C McDonald Road (inc.) to Princess Street West (exc.)**	441 days	Fri 25/06/10	Fri 30/03/12
51	**McDonald Road (inc.) to Picardy Place (exc.)**	295 days	Mon 16/08/10	Fri 14/10/11
52	Leith Walk Ch 0-375	295 days	Mon 16/08/10	Fri 14/10/11
53	London Road Ch 375-450	113 days	Mon 27/09/10	Wed 16/03/11
54				
55	**Picardy Place (inc.) to St. Andrews Square (exc.)**	355 days	Mon 19/07/10	Fri 09/12/11
56	**Picardy Place Ch 450-700**	348 days	Mon 19/07/10	Wed 30/11/11

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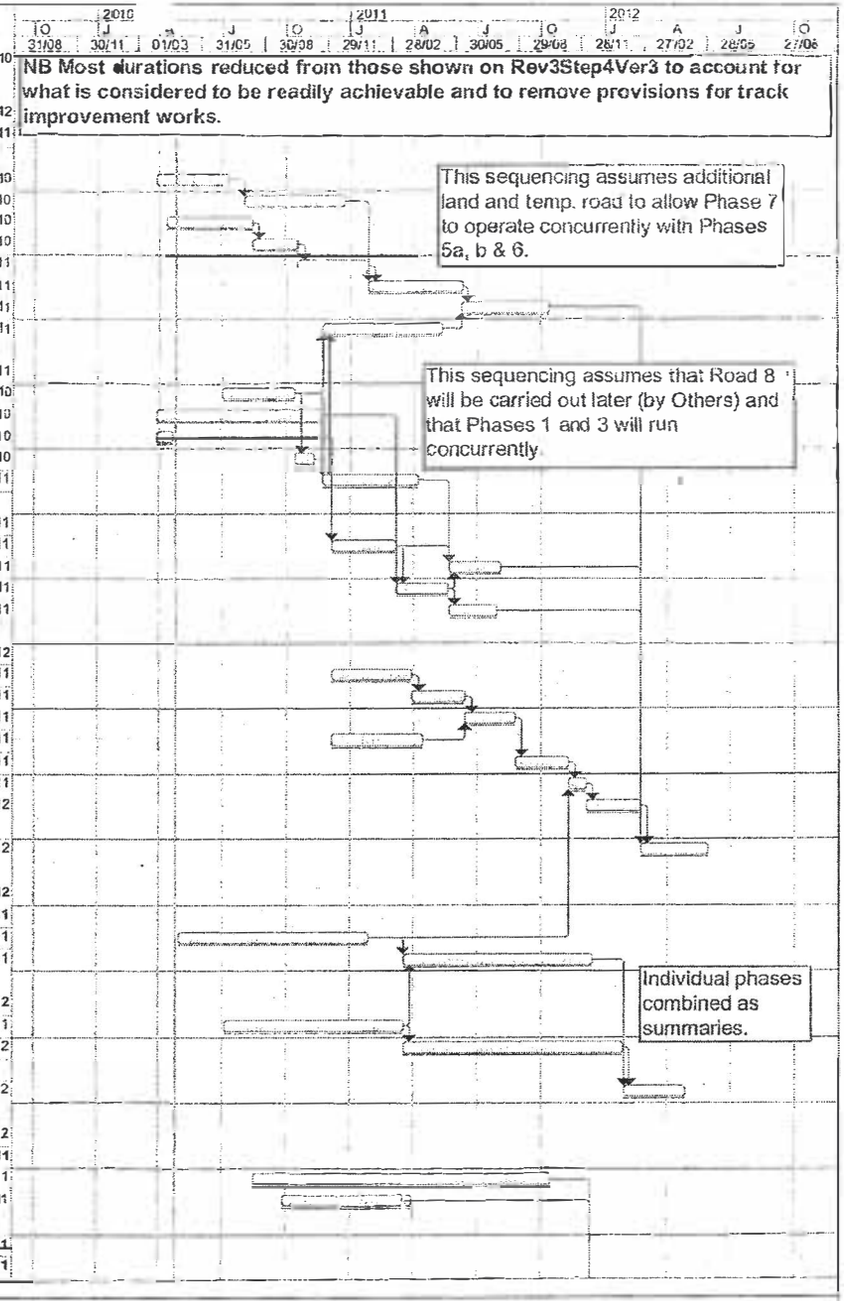
NB Most durations reduced from those shown on Rev3Step4Ver3 to account for what is considered to be readily achievable and to remove provisions for track improvement works.

This sequencing assumes additional land and temp. road to allow Phase 7 to operate concurrently with Phases 5a, b & 6.

This sequencing assumes that Road 8 will be carried out later (by Others) and that Phases 1 and 3 will run concurrently

Individual phases combined as summaries.

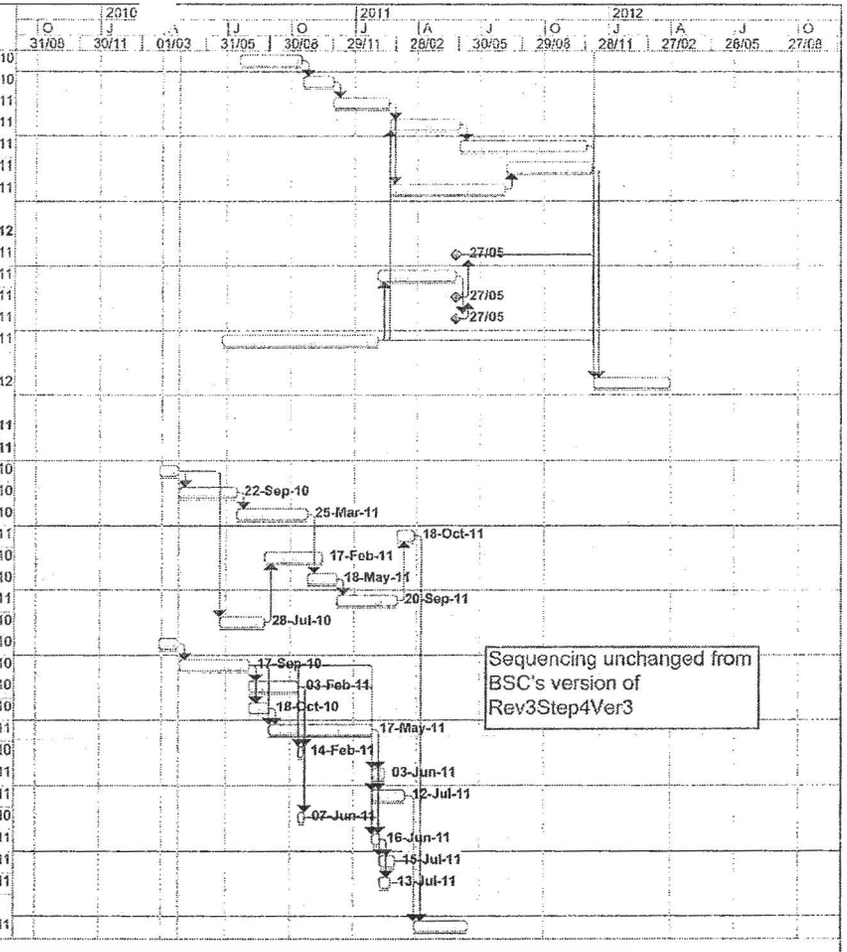


Project: J656 - 713 - Ver.01 Rev3Step
Date: Sat 24/04/10

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

ID	Task Name	Duration	Start	Finish
57	Phase 1a - Dummy	65 days	Mon 19/07/10	Fri 15/10/10
58	Phase 1b - Dummy	32 days	Mon 18/10/10	Tue 30/11/10
59	Phase 1c - Dummy	46 days	Wed 01/12/10	Fri 18/02/11
60	Phase 2 - Dummy	73 days	Mon 21/02/11	Wed 01/06/11
61	Phase 3a - Dummy	130 days	Thu 02/06/11	Wed 30/11/11
62	York Place Ch 700-850	90 days	Mon 08/08/11	Fri 09/12/11
63	York Place Ch 850-1000	120 days	Mon 21/02/11	Fri 05/08/11
64				
65	**St. Andrews Square (inc.) to Princes Street West (exc.)**	441 days	Fri 25/06/10	Fri 30/03/12
66	St Andrews Sq. West (Public Realm works not critical to tram)	0 days	Fri 27/05/11	Fri 27/05/11
67	North St Andrews Street	81 days	Fri 04/02/11	Fri 27/05/11
68	St Andrews Sq. South(Public Realm works not critical to tram)	0 days	Fri 27/05/11	Fri 27/05/11
69	St Andrews Sq. North(Public Realm works not critical to tram)	0 days	Fri 27/05/11	Fri 27/05/11
70	Waverley Junction / South St Andrews St. Ch 370 to 150	150 days	Fri 25/06/10	Thu 03/02/11
71				
72	E&M (with scope to reduce duration by commencing in some areas before the final area is ready)	70 days	Mon 12/12/11	Fri 30/03/12
73				
74	**01D Princes Street (Inc.) to Haymarket (exc.)**	307 days	Mon 29/03/10	Tue 14/06/11
75	**Haymarket Junction / Shandwick Place (Sections 1D Ch.130,380 to 2A Ch.200,030)**	307 days	Mon 29/03/10	Tue 14/06/11
76	Enabling works - Undefined (Shandwick Place)	20 days	Mon 29/03/10	Fri 23/04/10
77	Phase SP1 - Inbound Ch.130,670 – 130,380 (Crescents to Princes Street)	59 days	Mon 26/04/10	Thu 15/07/10
78	Phase SP3 - Outbound Ch.130,670 – 130,380 (Crescents to Princes Street)	72 days	Fri 16/07/10	Mon 25/10/10
79	Phase SP7 - Outbound Ch.130,660 (East Atholl Crescent)	17 days	Fri 04/03/11	Mon 28/03/11
80	Phase SP4 - Ch.130,813 – 130,667 (Coates Crescent / Atholl Crescent)	59 days	Wed 25/08/10	Mon 15/11/10
81	Phase SP5 - Outbound Ch.130,850 – 130,813 (Palmerston Place – Crescents)	30 days	Tue 26/10/10	Mon 06/12/10
82	Phase SP6 - Inbound Ch.130,960 – 130,813 (Palmerston Place – Crescents)	53 days	Tue 07/12/10	Thu 03/03/11
83	Phase SP2 - Outbound Ch.130,960 – 130,850 (Palmerston Place – Crescents)	46 days	Tue 22/06/10	Tue 24/08/10
84	Enabling works - Undefined (Haymarket Junction)	20 days	Mon 29/03/10	Fri 23/04/10
85	Phase H1 - Main Area - Eastbound Side	72 days	Mon 26/04/10	Tue 03/08/10
86	Phase H2 - Haymarket Station frontage and approach to Viaduct	51 days	Wed 04/08/10	Wed 13/10/10
87	Phase H3A - Ch.131,100 – 131,050 (West Maitland Street)	20 days	Wed 04/08/10	Tue 31/08/10
88	Phase H3B - Ch.131,100 – 130,980 (West Maitland Street)	97 days	Wed 01/09/10	Thu 27/01/11
89	Phase H4 – Haymarket Terrace Westbound	5 days	Thu 14/10/10	Wed 20/10/10
90	Phase H5 – West Maitland Street / Grosvenor Street	12 days	Fri 28/01/11	Mon 14/02/11
91	Phase H6/1 - Dalry Road (central island)	33 days	Fri 28/01/11	Tue 15/03/11
92	Phase H6/2 – Dalry Road Eastbound	7 days	Thu 14/10/10	Fri 22/10/10
93	Phase H6/3 – Morrison Street – Westbound Lane	7 days	Fri 28/01/11	Mon 07/02/11
94	Phase H6/4 - Morrison Street - Dalry Road	16 days	Tue 08/02/11	Tue 01/03/11
95	Phase H6/5 - Complete Memorial Island	11 days	Tue 08/02/11	Tue 22/02/11
96				
97	E&M (with scope to reduce duration by commencing in some areas before the final area is ready)	56 days	Tue 29/03/11	Tue 14/06/11

Lack of detail as design not yet finalised.
This requires further discussion



Sequencing unchanged from BSC's version of Rev3Step4Ver3

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Project: J086 - 713 -Ver.01 Rev3Step
Date: Sat 24/04/10

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone