

Steve Reynolds
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Ref: DES-ADM-1091

Date: 6 February 2008

Dear Steve

Separation of Phase 1a and 1b

Having undertaken a review of your Report on Phase 1a / 1b Separation (ULE90130-SW-REP-00529 V1) tie are now in a position to instruct SDS on how to progress their design.

There are two key elements which require further clarification, Power supply and ducting.

Power

Your report outlines two areas of concern regarding the scheme power requirements, Leith and Roseburn junction.

With respect to Leith the power requirements appear to only be inadequate when operating in the degraded mode with one substation out of commission. In this respect through further investigation with the operator it has been agreed that it will not be necessary to reinforce the network beyond the Phase 1a provision at this time. Hence SDS are not required to complete design with either a phase 1b substation (with associated linking cable) nor an additional Leith Docks substation. This will be kept under review through the implementation phase as the Infracore contractor's power modelling is developed.

As the SDS report confirms that the Russell Road TPH can be safely removed tie would like to instruct that this opportunity be realised along with its saving to the project.

Ducting

In relation to the ducting tie would like to reiterate the position set out in the Employers Requirements that ducting be provided sufficient to the requirements for Phase 1a and 1b and a 20% contingency.

(v.s.)

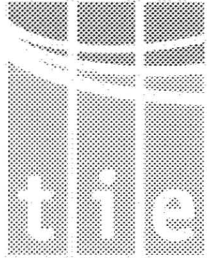
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In the vicinity of Roseburn Junction tie accepts the SDS proposal to complete roadwork to implement a revised cycleway / footpath as far as Roseburn Terrace (A8) bridge including appropriate earthworks.

In other respects it is anticipated that the attached summary table provides appropriate direction regarding each section of the SDS report, however should there be any queries please do not hesitate to request clarification.

Yours sincerely



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Project Manager
Edinburgh Tram Project

Copy to Bob Dawson, David Crawley

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Edinburgh Tram Network
Report on Phase 1a/1b Separation
Summary Note

Report Chapter	Issue	Recommendation / Comment	Direction to SDS	Direction to BBS
5	Trams	Not considered to be an issue	Agreed	
6	Track Alignment	Accept proposal of report (do not install switches and crossing for Roseburn Jct East as part of phase 1a)	Agreed	Plane track to be installed through Roseburn Jctn
7	Track Auxiliaries	Not considered to be an issue (accept the report findings)	Agreed	
8	Roads	Accept the Optimistic Scenario of constructing Roseburn ped/cycle path to final design at initial stage	Agreed	Construct as per SDS section 3a Design
9	Structures	No Structural Issues	Agreed	Construct Russell Road Bridge No XXX As per SDS design
10	Traction Power Supply	<p>Include some of Phase 1b infrastructure / Additional Substation at Leith Docks? Removal of Track Paralleling Hut at Roseburn?</p> <p>a) Newhaven Study - SDS recommend that "implementing the small amount of Phase 1b Traction Power infrastructure required to install (Granton View Substation) GVE and retain the proposed DC link remains the best compromise between performance, cost and time for the Edinburgh Tram Network."</p> <p>The alternative to this would be introduction of an additional new substation at Leith Docks, clearly an expensive option though it provides significant enhancement.</p> <p>b) Roseburn Junction -- the SDS report states "Further analysis ... has also demonstrated that Tram Russell Road TPH can also be safely removed from the Phase 1a package. Whilst this seems to be a very effective value engineering option it should be carefully noted that Tram Russell Road TPH is essential to the Traction Power Supply when Phase 1b is built. On balance we feel that we should consider removing it from Phase 1a construction package if Phase 1b is to follow at a later date. However, we should carefully consider two key issues in removing that (Tram Russell Road TPH) RRE from the phase 1a package:</p> <p style="text-align: center;"><i>OLE configuration and electrical Sectioning -- and; Site Location and Protection Of</i></p>	<p>Newhaven No Requirement for Granton View Substation or Additional link between Newhaven and Granton</p> <p>Roseburn Jctn Russell Road TPA not required</p>	
11	Depot	No issues	Agreed	Reduced Sidings now required as per phase 1a tram requirement
12	OLE	No significant issues	Agreed	Plane Wire to be installed through Roseburn Jctn
13	Supervisory Control & Communications	Operational Data Network - Progress with Ring 1 & 3, Ring 2 Roseburn Corridor with phase 1b	Ducting to provide capacity for 1a + 1b + 20% spare as required by Employers Requirements	
		Telephone Network - Provide for full system from the outset	Agreed	
		Operational Radio System - No change	Agreed	Deliver Sufficient coverage for Phase 1a
13.5	Other SC&C systems	Comms Links from Control room to Roseburn Jctn to be implemented as part of Phase 1a. SDS have suggested that care needs to be taken to protect against equipment obsolescence between phase 1a and 1b however given that Siemens as part of the Infracore provider are expected to utilise inhouse equipment this is less likely to be an issue.	Agreed	
	Integrated Fare Collection	No issues	Agreed	
14	Collection		Agreed	
15	Low Voltage Supply	No issues	Agreed	
16	Street Lighting	considered within Roads section	Agreed	Lighting required for new section of Cyclepath/footway at south end of Roseburn Corridor
17	Drainage	include appropriate chambers to connect Southern most Phase 1b drainage as part of Phase 1a works	Agreed	
18	Cable Ducting	Include such ducting as necessary to facilitate all systems at Roseburn Junction so as to minimise operational impacts if Phase 1b is being constructed at a later date.	Agreed	
19	Utilities	Design of utilities diversion is complete however MUDFA works programme would need revision	Revision 06 programme Applies	
20	Geotechnical	Linked to the Roads decision to divert the footpath/cycleway	Agreed	
21	Landscaping	Linked to the Roads decision to divert the footpath/cycleway	Agreed	
22	Construction access	Not a significant issue	Subject to Programme Methodology agreement with BBS	Subject to Programme Methodology agreement with BBS