

Infraco Civils Proposals - PB Commentary

Scope of Work	Information from BBS to SDS	Description of Design completion activities	1	A	1B	1C	1D	2A	5A	5B	5C	7A	6	PB Comments
Accommodation Works														
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Complete Design	x	x	x	x	x	x	x	x	x	x		PB seeks clarification of this statement which is used on many occasions. i.e Which IFC Design has BBS allowed for to construct? Is this the SDS design or some variant which BBS is considering when referring to 'finalising design'
Building (Depot)														
Liaison on steelwork design for Depot Building may be required to allow BBS to comply with BAA requirements for notice period to lower crane jibs if BAA require use of the auxiliary runway. Any re-design is unlikely or minimal		Liaise with structural steel subcontractor on design of steelwork, where required, to allow BBS to comply with BAA requirements for notice period to lower crane jibs if BAA require use of the auxiliary runway.											x	x BAA risks are assumed to remain with tie
Drainage														
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Complete Design	x	x	x	x	x	x	x	x	x	x		
Requirements for maximising use of and connection to existing drainage network to be confirmed.		Review and complete design	x	x	x	x	x	x	x	x	x	x		
Earthworks														
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Complete Earthworks Design	x	x	x	x	x	x	x	x	x	x		

Date 27 March 2008

CEC01377842_0001

Infraco Civils Proposals - PB Commentary

Scope of Work	Information from BBS to SDS	Description of Design completion activities	1A	1B	1C	1D	2A	5A	5B	5C	7A	6	PB Comments	
Requirements for excavation and filling below Earthworks Outline to be designed and specified and assessment of anticipated formation conditions		Standard Details for treatment of low CBR or Stiffness or Soft Material; excavate and replace with class 6, Lime Modification, Geotextiles	x	x	x	x	x	x	x	x	x	x	PB has carried out sufficient SI /GI to inform the design. With reference to the Scope Split meetings a rolling programme of SI /GI is to be carried out by BBS. PB will provide a suite of treatments which can be applied when the requirements are established by BBS. Note that this scope of work will be impacted by the lower void spanning capacity of BBS's Trackform offering in comparison with the PB reference design.	
		Extent; length, width and depth of areas requiring earthworks below Earthworks Outline	x	x	x	x	x	x	x	x	x	x		
Formation requirements to be confirmed.		CBR or Stiffness Requirements at Formation for Highways and Track	x	x	x	x	x	x	x	x	x	x		
Requirements for excavation and disposal of contaminated material, and refilling of void, to be designed and specified.		Extent; length, width and depth of areas requiring earthworks below Earthworks Outline and materials to be used for refilling where required	x	x	x	x	x	x	x	x	x	x		It is assumed that BBS carries the risk associated with the discovery of contaminated land. It is also assumed that BBS carries the risk associated with Archaeological remains.
Special Geotechnical measures, e.g. embankment slope steepening (by selection of fill type, re-inforced earth) cut slope steepening (by slope drains, buttresses, soil nails) soft ground treatment (by surcharging/consolidation, load transfer platforms) to be designed and specified.		embankment slope steepening (by selection of fill type, re-inforced earth) cut slope steepening (by slope drains, buttresses, soil nails) soft ground treatment (by surcharging/consolidation, load transfer platforms) to be designed and specified.	x			x	x	x	x	x	x	x		

Date 27 March 2008

CEC01377842_0002

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Design special Geotechnical measures for Gogar Landfill Site. Solution to be dev		Design solution to be developed with BBS Engineers for surcharge embankment with appropriate consolidation period and excavation and replacement in the vicinity of Gogarburn Bridge East Abutment											x	
Geometry			x	x	x	x	x	x	x	x	x	x	x	
Horizontal Alignment			x	x	x	x	x	x	x	x	x	x	x	
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Complete Design	x	x	x	x	x	x	x	x	x	x	x	
Confirmation required that alignment is compatible with CAF Tram DKE and LOD.		Incorporate CAF Tram DKE in Design	x	x	x	x	x	x	x	x	x	x	x	Change required to wording. Confirmation required that the CAF Tram is compatible with the alignment.
Landscaping			x	x	x	x	x	x	x	x	x	x	x	
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Complete Design	x	x	x	x	x	x	x	x	x	x	x	
OLE Foundations			x	x	x	x	x	x	x	x	x	x	x	
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design	Information from BBS to be issued on OLE poles, including loadings.	Design OLE Foundations	x	x	x	x	x	x	x	x	x	x	x	PB is preparing a suite of standard OLE base designs which should cover the requirement
Roads			x	x	x	x	x	x	x	x	x	x	x	
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Complete Design	x	x	x	x	x	x	x	x	x	x	x	

Date 27 March 2008

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Subject to survey, pavement design to be developed and finalised to minimise work scope		Pavement design is to be revised to a plane and re-surface (new regulating and surface course only) when survey information is available and where it confirms the feasibility of this design solution Note This activity is an alternative to the Vertical Alignment activity above)	x	x	x	x	x	x	x	x	x		PB cannot identify where this approach may apply. Clarification sought from tie. Any surveys to be carried out and paid for by BBS.
Further pavement surveys and assessments are required.		GPR and/or Pavement Condition surveys as required by xxxx (above)	x	x	x	x	x	x	x	x	x		Clarification sought from tie.
Site Clearance													
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Complete Design	x	x		x	x	x	x	x	x	x	
Design to be completed to IFC status and all design consents and approvals obtained.		Complete Design			x								

Date 27 March 2008

CEC01377842_0004

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Scope of Work	Information from BBS to SDS	Description of Design completion activities	1A	1B	1C	1D	2A	5A	5B	5C	7A	6	PB Comments
Sub-station Buildings													
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design	Information on Sub-station equipment to be supplied to SDS by BBS	Complete Design	x	x	x	x	x	x	x	x	x	x	<p>For the purposes of the Infraco Procurment SDS has provided comprehensive procurement information, including detailed and dimensioned drawings, schematics, wiring diagrams, protection diagrams etc all of which are based upon the many tie/tie technical advisors/Transdev and Scottish Power meetings.</p> <p>All substation equipment performance and functionality has been approved by SP as have the equipment layouts within the associated substations which themselves have progressed through planning. Completion of the Sub-station designs is to be a BBS responsibility</p>
Sytems and Power Cable Ducts													
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design	Information on cabling requirements to be supplied to SDS by BBS	Design duct group and spacing to accommodate cabling requirements and incorporate information on drawings	x	x	x	x	x	x	x	x	x	x	<p>Comprehensive SDS cable duct drawings and layouts have been produced based upon the tie approved SDS design and procurement documentation. The cabling requirements may change dependent upon the BBS proprietary solution. Identification of scope and incorporation on drawings to be BBS responsibility</p>

Date 27 March 2008

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Trackform			x	x	x	x	x	x	x	x	x	x	
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design			x	x	x	x	x	x	x	x	x	x	All Trackform design and development issues are to be the responsibility of BBS. PB provides the horizontal and vertical alignment design together with Civils infrastructure design outwith the Trackform envelope. All design within the envelope is assumed to be the responsibility of BBS. PB (SDS) will not engage in agreement and approval in relation to the BBS Trackform design.
Cross sections required to reflect BBS's selected Track System, including minimum track construction depths (top of rail to formation) with corresponding formation condition requirements.	SDS believe that loadings are required to enable them to complete this Design activity	Incorporate BBS selected Trackform on drawings and confirm minimum track construction depth and corresponding formation condition requirement as Pricing Assumption or at some other depth condition measure to be agreed/approved by SDS, BBS, tie and CEC	x										
				x	x	x	x	x	x	x	x	x	
Tramstops			x	x	x	x	x	x	x	x	x	x	
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Complete Design	x	x	x	x	x	x	x	x	x	x	
Vertical Alignment			x	x	x	x	x	x	x	x	x	x	
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Complete Design	x	x	x	x	x	x	x	x	x	x	
Revise alignment, where possible and where Programme permits for on-street section to minimise Roads work-scope.		Revise, generally raise, vertical alignment of Track	x										It is assumed that PB will complete the SDS Alignment Design as currently agreed and that any changes which are deemed to be possible will be instructed and paid for when they are identified and agreed

Date 27 March 2008

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Revise alignment, where possible and where Programme permits to minimise Roads work-scope.		Revise, generally raise, vertical alignment of Track		x	x	x	x						The SDS alignment is designed to accommodate the most economical vertical and horizontal passage of the tram throughout its journey. It should also be noted that any change in the track alignment may impact other aspects of the infrastructure e.g tramstops.
Revised alignment required to facilitate direct fixing of rails to structures and guideway.		Revise, lower, vertical alignment of Track	x						x				Trackform issue - BBS responsibility
Revised alignment required to facilitate direct fixing of rails to structures		Revise, lower, vertical alignment of Track					x	x		x	x		

Date 27 March 2008

CEC01377842_0007

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Structures													
Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design													
W1 Lindsay Road		Complete Design	x										
S16 Victoria Dock Entrance		Complete Design	x										
S17 Tower Place		Complete Design	x										
S18 Leith Walk Railway		Complete Design		x									
W3 Russell Road (Wall) No 1		Complete Design						x					
W4 Russell Road (Wall) No 2		Complete Design						x					
W18 Murrayfield Tramstop (Wall)		Further GI required to inform Design						x					
S21B Murrayfield Stadium (Wall)		Complete Design						x					
S21C Murrayfield Stadium Underpass		Complete Design						x					
S21D Murrayfield Training Pitches		Complete Design						x					
W8 Baird Drive		-						x					
S22 Balgreen Road (A and B)		-						x					
W9 Balgreen Road (Wall)		Complete Design							x				
S26 South Gyle Access Road		Complete Design							x				
W11 Bankhead Drive Tramstop (Wall)		Complete Design							x				
W19 Gyle Tramstop (Wall)		Complete Design								x			
S29 Gogar Burn		Complete Design									x		
S30, 31 and 34 Gogarburn Culverts 1,2 and 3		Complete Design										x	
W14 and 15 Gogarburn Walls 1 and 2		Complete Design										x	

Date 27 March 2008

CEC01377842_0008

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Possible Re-design														
S21A Roseburn Street Viaduct														
Possible re-design to reduce scope and cost.		Re-Design to 2 separate single span structures with re-inforced earth walled embankments replacing removed spans						x					Clarification sought from tie on what has been accepted in relation to this part of the BBS Civils Offer.	
Further GI required to confirm foundation design.		Further GI, in conjunction with GI for W18 (see above) to ascertain extent of soft layer												
Re-design required to allow cost efficient fabrication of structural steel.	Appoint steelwork sub-contractor	Liaise with BBS and steelwork sub-contractor and re-design/re-detail accordingly												
S21E Water of Leith														
Subject to Programme allowance, redesign pier foundations to improve buildability.		Re-design with 2 No larger dia bored piles (mono-piles), one per column. Design a direct connection to the columns, to be made within the pile casing. Pile casings will be cut off at river bed level						x					Clarification sought from tie on what has been accepted in relation to this part of the BBS Civils Offer.	
Re-design required to allow cost efficient fabrication of structural steel.	Appoint steelwork sub-contractor	Liaise with BBS and steelwork sub-contractor and re-design/re-detail accordingly												
S23 Carrick Knowe														
Completed design to have foundations outwith Track Support Zone ?		Review and Revise Design							x				Clarification sought from tie on what has been accepted in relation to this part of the BBS Civils Offer.	

Date 27 March 2008

CEC01377842_0009

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S27 Edinburgh Park Station Viaduct													
Possible re-design to reduce scope and cost		Redesign piers with flared tops and/or crossheads so that pre-cast deck beams can be placed without the need for Temporary Works (temporary beam supports)										x	Clarification sought from tie on what has been accepted in relation to this part of the BBS Civils Offer.
Completed design to have foundations outwith Track Support Zone		Review and Revise Design											
S28 A8 Underpass													
Subject to Programme allowance, re-design to incorporate a more economical piling solution along with further GI to confirm ground water regime.		subject to programme allowance, re-design secant piles as contiguous piles										x	Clarification sought from tie on what has been accepted in relation to this part of the BBS Civils Offer.
Re-design for BT duct crossing (over structure)		re-design section of underpass to facilitate construction under BT duct											
S19 Haymarket Viaduct													
Requirements for a design condition survey of the existing wall.												x	Clarification sought from tie on what has been accepted in relation to this part of the BBS Civils Offer.
Requirements for special foundations at Pier 4 and Abutment E to be confirmed.													
S20 Russell Road													
Possible re-design (subject to programme allowance) of sub-structure to improve buildability												x	Clarification sought from tie on what has been accepted in relation to this part of the BBS Civils Offer.
S32 Depot Access Bridge (or Depot Access Bridges)													
													x

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CEC01377842_0010

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Design to be completed to IFC status, all design consents and approvals obtained and BBS will construct IFC Design		Design to be completed from basic information, discussed at meeting on xxxx between BBS and SDS. The DABs are to be 2 separate structures. BBS will work with SDS to develop a cost effective Design		Clarification sought from tie on what has been accepted in relation to this part of the BBS Civils Offer.

Date 27 March 2008

CEC01377842_0011