

**Infraco Cost Report Section 2A - Approved Change - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
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**Infraco Cost Report Section 2B - Approved Change - Schedule 45**

IC Ref No	Description	Agreed Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
001	Independent Certifiers Schedule Part 45 Period End Change Order to 15/10/2011 relating to the following PAV's and On Street Works Estimates	8,593	8,593	0	Includes TNC 513, TNC 543, TNC 521	01	08
002	Independent Certifiers Schedule Part 45 Period End Change Order to 12/11/2011 relating to the following PAV's and On Street Works Estimates	102,135	102,135	0	Includes TNC513, TNC 521, TNC 528, TNC 535, TNC 543, TNC 547, TNC 548, TNC 549	01	08
003	Independent Certifiers Schedule Part 45 Period End Change Order to 10/12/2011 relating to the following PAV's and On Street Works Estimates	357,140	357,140	0	Includes TNC535, TNC543, TNC548, TNC549, TNC551	01	08
004	Independent Certifiers Schedule Part 45 Period End Change Order to 6/1/2012 relating to the following PAV's and On Street Works Estimates	158,870	158,870	0	Includes TNC535, TNC543	01	08
005	Independent Certifiers Schedule Part 45 Period End Change Order to 4/2/2012 relating to the following PAV's and On Street Works Estimates	332,812	332,812	0	Includes TNC535, 543, 551, 554, 596, 598	01	08
006	Independent Certifiers Schedule Part 45 Period End Change Order to 3/3/2012 relating to the following PAV's and On Street Works Estimates	244,645	244,645	0	Includes TNC543, 547, 554, 600, 604, 606	01	08
007	Independent Certifiers Schedule Part 45 Period End Change Order to 31/3/2012 relating to the following PAV's and On Street Works Estimates	209,363		209,363	Includes TNC 543, 547, 554, 600, 604, 606, 629, 630	01	08
Total		1,413,558	1,204,195	209,363			

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**Infraco Cost Report Section 3A - Change in Progress - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
524	Airport to Gyle - NIL Design Finalisation (also includes Construction)	-40,559	30,000	-70,559		07	01
525	Airport to Gyle - Site Access for Remedial Works	0	0	0	all costs associated with this change allocated to TNC 576	07	08
527	Ingliston - Reimbursement of Costs paid directly to SGN for the diversion of approximately 120m of 10" steel IP gas main to accommodate the new Edinburgh Tram at Ingliston	0	0	0	Saving from Infraco, not included during the period as cost not shown in utility budget	07	04
539	System Wide - Delay in signing - impact on commencement and completion	4,541,161	4,541,161	0	Meeting scheduled to review cost incurred at delay commencement	00	02
541	Princes Street - City Chamber - Annandale Street Communication Links. Usage of CEC available BT-Lines to avoid provision of direct FO link from Princes Street to City Chambers	111,163	50,000	61,163	Allowance for ducting	01	08
555	Haymarket - OLE 196B design revision to avoid main sewer	0	10,000	-10,000	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	08
556	Track Work Materials York Place to Newhaven - Price Fixing for Rheda City C and D	0	0	0	Included in VE register	01	12
557	Haymarket 1 - OLE Base Relocations (Design mods)	0	100,000	-100,000	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	08
571	Hope Street Junction Design	5,000	5,000	0		01	08
573	Roseburn Delta - Non DDA Compliant Footpath	0	0	0	TNC covers design only. Costs associated with this change included in the anticipated change section	05	08
575	Haymarket Station - Take Down Viaduct Staircase and Parapet. TNC now withdrawn - Network Rail carrying out work	0	0	0	Verbal update - NR have indicated that they will remove the staircase and parapet in Haymarket contract. Current cost report allowance offset by contribution (cost neutral).	02	08
586	St Andrew Square - tie in detail	15,228	30,000	-14,772	Change resulting from value engineering exercise	01	08
587	Revise design for amendments to setts areas and specification	30,000	30,000	0	Subject to separate CEC budget?	01	08
592	Haymarket Yards - Realign kerbs at Car Park Entrance	0	0	0	Currently on hold pending A. Sim review.	05	08
593	Secondary Phase 1a - Cessation of Design Work North of York Place	0	0	0	Saving opportunity being investigated in relation to future ownership of design etc prior to finalising value.	01	08
594	Edinburgh Gateway slope option. Awaiting construction estimate	4,200,000	4,850,000	-650,000		05	08

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TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
599	Floating track slab	980,000	0	980,000	Verbal advice from Siemens and Bilfinger Berger of cost of providing floating slab at all locations identified. Potential opportunity to reduce if marginal locations are omitted. Subject to final report from BBS.	01	08
601	Clarification on length of shelter to RBS tram stop (8m)	25,000	25,000	0	Liability for change still to be clarified - basis of contract price unclear	05	08
603	Bus Tracker Interface Specification	10,000	0	10,000	Cost based on option 2	01	08
605	Depot - Sub-Station Switching	80,000	80,000	0	Includes allowance up to Section B completion date (8/3/13)	06	08
608	Delete 110v sockets on Off Street Tram Stops	-16,500	-16,500	0	Assume £1.5k per tram stop. Awaiting estimate	05	08
609	Traffic Management provision in section 1A	130,000	130,000	0		01	08
610	Edinburgh Gateway - Siemens Long Lead Items	0	0	0	Cost covered within the Edinburgh Gateway costs.	05	08
618	Gogar Depot 1800 mm Diameter Manhole - TQ736	15,000	0	15,000		06	0
619	Omit Track Welding Equipment	-3,000	0	-3,000		06	0
620	Airport Tram Stop Design	10,000	0	10,000		05	0
621	Amend the dates of the HV meter installation at substations	12,507	0	12,507		05	0
622	LV power for sub-station and Tramstop.	0	0	0		05	0
623	Repair minor damage to Depot (Intercom, fence panel and broken slabs)	3,000	0	3,000		07	0
624	Compressed Air Supply to Depot Gantry Road and workshop	5,000	0	5,000		07	0
625	Engineering attendance on site at Cathedral Lane.	55,000	0	55,000		01	0
626	Advanced procurement of Edinburgh Gateway Materials and Equipment.	0	0	0	Costs included in tNC 594	05	0
627	Delete pedestrian guardrail in the area outside St John's Church (Design)	5,000	0	5,000		01	0
628	Prepare MUDFA As Built drawings	100,000	0	100,000	Requirements to be confirmed	01	0

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**Infraco Cost Report Section 3A - Change in Progress - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
632	Resolve Depot Building water ingress	0	0	0	Assumed to be BBS liability	06	0
636	Twin Crossing at Lochside Avenue	20,000	0	20,000		05	0
<b>Total</b>		<b>10,293,000</b>	<b>9,864,661</b>	<b>428,339</b>			

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**Infraco Cost Report Section 3B - Change in Progress - Schedule 45**

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
513.1	Revised design to minimise utility diversions / conflicts - used for slit trenching and trial holes	0	17,210	17,210	17,210	0		01	08
521	Haymarket - Temporary Accommodation	0	1,543	1,543	1,543	0		01	08
522	Haymarket 1 - Road Reconstruction	0	0	0	0	0	Included in VE register	01	08
523	Haymarket 1 - Additional CBR / Plate Testing	0	0	0	0	0	Included within on street priority works (contract milestones)	01	08
528	Haymarket 1 - Slit trench excavation to validate utilities	0	6,565	6,565	6,565	0	Included within on street priority works (contract milestones)	01	08
532	Princes Street - Temporary traffic management design - WITHDRAWN	0	0	0	0	0	Further information required	01	10
533	Princes Street - 500mm Water Main Diversion	0	0	0	0	0	Costs contained within 535	01	08
535	Princes Street - 500mm Water Main Diversion - rev 3 dwg	0	252,986	252,986	252,986	0		01	08
537	Haymarket 1 - Additional visit of Tar planer to facilitate slewing of BT ducts - WITHDRAWN	0	0	0	0	0	Withdrawn	01	08
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	156	283,651	283,807	283,651	156	Only covers section H1. H2 to YP included in item 7 of Anticipated Change.	01	08
545	Site Wide - Power to bus trackers affecting the ability to remove site clearance items	0	0	0	20,000	-20,000	McNicholas to remove. Contra charge BBS; allowance included for BBS attendance	00	08
546	Site Wide - Increased number of drainage boxes including installation	21,482	0	21,482	21,482	0		00	08
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	0	3,787	3,787	3,787	0		00	08
548	Haymarket H1 - BT Fibre Optic Service requires diverting	0	83,053	83,053	83,053	0		00	08
549	Princes Street - Amend the design of the St. Johns Church OLE bases	0	12,284	12,284	12,284	0	Opportunity to deduct original scope to be persued once acceptance of revised pole locations is achieved.	01	08
551	Princes Street - 2011 Christmas Embargo - Temporary Surfacing of Track Infills	0	203,511	203,511	203,511	0		01	08
552	Princes Street - BT diversion @ junction of Princes Street and South St. David Street	0	0	0	0	0	Costs included within TNC 535	01	08
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	84,048	135,710	219,758	219,758	0	Refer to Revised issue of TNC	01	10
560	St. Andrew Square - Omit £0.7m of repairs to road surface finishing	-700,000	0	-700,000	-700,000	0		01	08

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**Infraco Cost Report Section 3B - Change in Progress - Schedule 45**

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
570	Omit the Removal of Trees in Shandwick Place	-9,066	0	-9,066	-9,066	0		01	08
579	Removal of embargo and revised traffic management	0	0	0	0	0	Change resulting from value engineering exercise	01	07
583	Ordering setts for on street works	-90,000	0	-90,000	0	-90,000	Saving based on spreadsheet issued to CEC (GE to AC 22/05/2012). Final value still to be agreed with BBS	01	08
584	Road Reconstruction specification	0	0	0	0	0	Change resulting from value engineering exercise	01	08
588	Stafford St Return of Parking Spaces	0	0	0	0	0		01	08
590	New cycleway from The Mound into Princes Street	20,000	0	20,000	20,000	0	Costs included in PMC 108 - to be allocated to tNC	01	08
596	Section 1D - Costs associated with amended drainage design	67,504	12,626	80,131	12,626	67,504		01	08
598	Section 1D - Incorporate geotextile liner into Clifton Terrace void in accordance with requirements from Archaeologist	1,740	1,760	3,500	3,500	0		01	08
600	Shandwick place - OLE bases affecting utilities (Piling)	67,755	304,957	372,712	319,096	53,616		01	08
604	St Andrew Sq - OLE bases affecting utilities (Piling)	3,344	66,169	69,513	66,867	2,646		01	08
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	19,780	24,331	44,111	26,272	17,839		01	08
607	Delete 110v sockets on On Street Tram Stops	-4,500	0	-4,500	-4,500	0	Assume £1.5k per tram stop. Awaiting estimate	01	08
611	Excavation of Track Slab to be carried out by McNicholas	0	0	0	0	0	Refer to Anticipated change section for costs	01	08
612	Tram stops branding changes. Requirement for etched glass to be confirmed (cost excluded)	0	0	0	0	0	Value TBC	00	08
614	Rothsay Place Traffic Management Amendment	10,000	0	10,000	10,000	0		01	08
629	Utilities affecting Track Excavation at Shandwick Place (S1)	14,109	1,621	15,730	0	15,730		01	0
630	Utilities affecting Track Excavation at Shandwick Place (S2)	4,110	1,794	5,904	0	5,904		01	0
631	Third parties affecting progress at Shandwick Place (S2)	7,522	0	7,522	0	7,522		01	0
633	Ponding on Princes St at junctions of Frederick St/Castle St	40,000	0	40,000	0	40,000	Contract liability for all Princes St snags to be established	01	0

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**Infraco Cost Report Section 3B - Change in Progress - Schedule 45**

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
634	Descope duct installation at Cathedral Lane	0	0	0	0	0	In Anticipated change section	01	0
635	Amend on street drainage scope	0	0	0	0	0	In Anticipated change section	01	0
<b>Total</b>		-442,015	1,413,558	971,542	870,625	100,917			

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**Infraco Cost Report Section 4 - Anticipated Change**

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
1	Pricing Assumptions - 6.4.2.1 Floating Track Slab	0	980,000	-980,000	Cost now contained in tNC 599	01	08
2	Pricing Assumptions - 6.4.2.3 York Place Terminal Point	944,000	944,000	0	Excludes design costs (in change section of report) and sheet piling work to strengthen basement (included in risk allowance).	01	08
3	Pricing Assumptions - 6.4.2.4 Cathedral Lane Substation	250,000	250,000	0	This allowance is for the extra over cost included in the contract for construction of the new tram substation only. There is no allowance for any works in constructing Henderson Global's substation. Design work is included in TNC 509	01	08
4	Pricing Assumptions - 6.4.2.6 Dublin Street	50,000	50,000	0	Excludes piling if required.	01	08
6	Track Lowering - bridging trackform over utilities in St Andrew Square	500,000	500,000	0		01	08
7	Piled OLE base in lieu of utility diversion	110,000	165,000	-55,000	Total of 49 piles. Awaiting on street estimates from BBS to confirm value. Original estimate value £750k. Reduced for piles completed and included within the On Street change in progress section.	01	08
10	Settlement Agreement exclusions not included elsewhere	0	404,378	-404,378	Refer to Schedule E, items 7,8,10,11,12,14. 6 removed - now included in change in progress	01	08
14	Roseburn Delta - non DDA footpath	30,000	30,000	0	No design required. Temporary footpath alignment to be agreed on site. Potential modifications to surface water drainage resulting from revised earthworks and Scottish Water approvals.	05	08
15	MUDFA Reinstatement - Hope Street / Lothian Road	30,000	30,000	0	CEC may undertake this work	01	08
20	Further design changes to OLE resulting from utilities (York Place)	50,000	50,000	0	Initial value of £200k drawn down into tNCs	01	08
23	Drainage redesign and amendments to numbers / depths of manholes, carrier drains / drainage connections.	50,000	250,000	-200,000	Additional design £50k; costs associated with standing time and or delay captured in Schedule Part 45 Costs	01	08

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**Infraco Cost Report Section 4 - Anticipated Change**

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
24	Remove drainage from Infraco scope	-450,000		-450,000	Extent of deduction to be fully established. BBS have advised a total saving of £250k. T&T believe the value is larger and have made further allowance within this number.	01	08
25	Remove excavation of trackbox from Infraco's contract	-500,000	-500,000	0	Value to be determined by detailed site measure and application of Schedule 45 rates. Quantification to be agreed with BBS.	01	08
26	Remove ducting in Cathedral Lane from Infraco's contract	-75,000	-75,000	0		01	08
27	Amend road reconstruction depth from Contract Requirements	-700,000	0	-700,000	Principles instructed, saving subject to site conditions	01	08
28	Opportunity to reduce cost associated with the temporary tram stop at York Place	-150,000	0	-150,000	Design optimisation - still to be realised	01	08
29	Schedule Part E, Items 7. OLE Pole surface finish and decorative top (Finials)	49,760	0	49,760	Current requirements to be established	01	08
30	Schedule Part E, Item 8. Trackside Signage	37,320	0	37,320	Current requirements to be established	01	08
31	Schedule Part E, Item 10. OLE Change: Grosvenor Street Pole Movement	12,440	0	12,440	Current requirements to be established	01	08
32	Schedule Part E, Item 11. Unsuitable building fixings Section 1A	118,258	0	118,258	Current requirements to be established	01	08
33	Schedule Part E, Item 12. SDS Lighting Design update impacts OLE combined poles	62,200	0	62,200	Current requirements to be established	01	08
34	Schedule Part E, Item 14. SDS alignment update to match built structures	124,400	0	124,400	Current requirements to be established	01	08
35	Defer tram stop construction	30,000	0	30,000	Tram stop construction delayed to mitigate risks associated with vandalism	00	08
36	Install fencing to mini test track	20,000	0	20,000		05	08
37	Redesign of OLE bases along Roseburn corridor where they are sited outside of the LOD	100,000	0	100,000		05	08
38	Princes Street snagging			0	Further investigation of liability associated with work to be established.	01	08

**Infraco Cost Report Section 4 - Anticipated Change**

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
Total		693,378	3,078,378	-2,385,000			

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**Infraco Cost Report Section 5 - Opportunities**

Ref No	Description	Approved Changes	Changes in Progress	Anticipated Changes	Contributions	Secured	To be secured	Total Opportunity	Value per CS report Jan 2012	Notes
01	Remove embargoes and revised TM	0	0	0	0	0		0	-6,460,000	Subject to completion of sections in advance of contract dates. Initial opportunity based on 22 week time saving assumed in the Rev 4C programme. Current master programme indicates 4 week saving as a result of York Place
02	Edinburgh Gateway	0	0	0	-4,200,000	-4,200,000	0	-4,200,000	0	Awaiting instruction from Transport Scotland
03	Setts (separate CEC budget)	0	-90,000	0	-890,000	-980,000	0	-980,000	-1,000,000	Funded by separate CEC budget (added to contributions register)
04	De-scope public realm at St Andrew Sq	0	-700,000	0	0	-700,000	0	-700,000	-700,000	Instructed
05	Contributions 3rd Party Agreements	0	0	0	-2,866,875	-2,866,875	0	-2,866,875	-2,500,000	Refer to contributions register
06	De-scope works at Forth Ports	-2,443,000	0	0	0	-2,443,000	0	-2,443,000	-2,450,000	Instructed
07	Omit Airport Tram Kiosk and Canopy	-150,000	0	0	0	-150,000	0	-150,000	-150,000	Approved, replacement materials t.b.c
08	Temporary tram stop at York Place	0	0	-150,000	0	-150,000		-150,000	-150,000	Design optimisation
09	Redeployment of Trams	0	0	0	0	0	0	0	-5,000,000	Included in CEC budget code
10	Cancel track York Place to Newhaven	-1,100,000	0	0	0	-1,100,000	0	-1,100,000	-1,100,000	Instructed
11	Omit Siemens works at Tower Place	-100,000	0	0	0	-100,000	0	-100,000	-100,000	Instructed
12	Turner & Townsend / CEC resources	0	0	0	0	0	0	0	0	Ongoing
13	Shared recovery vehicle	0	0	0	0	0	0	0	0	Not taken forward
14	Road re-construction depth	0	0	-700,000	0	-700,000	0	-700,000	-700,000	Principles instructed, saving subject to site conditions
15	Design freeze north of York Place	0	0	0	0	0	0	0	-250,000	Infraco design costs expended
16	Reduced requirement for storage	0	0	0	0	0	0	0	-1,000,000	Included in CEC budget code
17	Lay off TM at Forth Ports/Leith Walk	0	0	0	0	0	0	0	-180,000	TM not included in Infraco budget provision
18	Roseburn Viaduct Cladding	-308,004	0	0	0	-308,004	0	-308,004	-300,000	Instructed

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**Infraco Cost Report Section 5 - Opportunities**

Ref No	Description	Approved Changes	Changes in Progress	Anticipated Changes	Contributions	Secured	To be secured	Total Opportunity	Value per CS report Jan 2012	Notes
19	Delete Crew Relief Facility	-74,001	0	0	0	-74,001		-74,001		Instructed
Total		-4,175,005	-790,000	-850,000	-7,956,875	-13,771,880	0	-13,771,880	-22,040,000	

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**Infraco Cost Report Section 6 - Credits & Contributions**

Ref No	Description	Included in Contract Sum	Approved Changes	Changes in Progress	Anticipated Changes	Total Forecast	Previous Period	Change from Previous	Contribution Received	Notes	Section Code	Change Code
01	Edinburgh Gateway Feasibility	860,000	82,995	0		940,000	940,000	0	528,000	£1.2m in total. Remainder of the costs included in CEC sections of the project budget.	05	08
02	New Ingliston Future Proof measures	540,000	0	0		540,000	540,000	0		Construction works element of overall settlement with NIL. Remaining amount contained in Land budget	07	08
03	Henderson Global - Cathedral Lane substation	166,404	233,596	0		400,000	400,000	0		Full extent of agreement with Henderson Global to be established. Allowance assumes all design costs and proportion of construction costs associated with future substation will be borne by Henderson Global. Cost of £470k has been submitted to Henderson Global	01	08
04	RBS Tramstop	500,000	0	0		500,000	500,000	0		Allowance included subject to final agreement with RBS	07	08
05	St Andrew Square Public Realm design		133,075	0		133,075	133,075	0	133,000	As per agreed change value. Assumed to be recovered from separate budget	01	08
06	Forth Ports		0	0		0	0	0		Forth Ports work removed from scope - no further contribution from Forth Ports assumed	01	08
07	CEC Miscellaneous. Mainly George Street CEC costs (£298k)	318,213	0	0		318,213	318,213	0	318,213	CEC finance have confirmed that a credit has been received in the amount shown. The extent of the workscope associated with this credit is not clear.	01	08
08	Network Rail - Haymarket station refurbishment	0	13,798	0		13,798	13,000	798		Majority of this work now being carried out by Network Rail. Remaining allowance for wall to crew relief facilities	02	08
09	Contribution from CEC for public realm work (granite setts) at St Andrews Square	890,000	0	0		890,000	1,000,000	-110,000		No change in scope allowed for - setts funded by CEC. Saving based on spreadsheet issued to CEC (GE to AC 22/05/2012).	01	08
10	Network Rail - Scottish Power Cable diversion - Haymarket Station (TNC 591)		21,789	0		21,789	21,789	0			05	08
11	Edinburgh Gateway Construction		0	4,200,000		4,200,000	4,850,000	-650,000			05	08
<b>Total</b>		<b>3,274,617</b>	<b>485,253</b>	<b>4,200,000</b>	<b>0</b>	<b>7,956,875</b>	<b>8,716,077</b>	<b>-759,202</b>	<b>979,213</b>			

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**Infraco Cost Report Section 7 - Change Summary**

Change Code	Description	Approved Change	Change in Progress	Anticipated Change	Contributions	Total
01	Scope Change	-1,726,583	5,324,832	-1,260,622		2,337,627
02	PAVs (Utilities, etc)	718,479	-513,257	1,954,000		2,159,222
03	Miscellaneous Client Risk Items	10,000	210,000	0		220,000
04	Time Delay	0	4,541,161	0		4,541,161
05	Project Contributions	0	0	0	-7,956,875	-7,956,875
<b>Total</b>		-998,104	9,562,736	693,378	-7,956,875	1,301,135

**Notes:**

Some CE's have costs which relate to more than one change code. In such instances they have been allocated to the predominant reason.

**Infraco Cost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
524	Airport to Gyle - NIL Design Finalisation (also includes Construction)	0		-70,559	0	-70,559
541	Princes Street - City Chamber - Annandale Street Communication Links. Usage of CEC available BT-Lines to avoid provision of direct FO link from Princes Street to City Chambers	0		61,163	0	61,163
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	0		0	156	156
545	Site Wide - Power to bus trackers affecting the ability to remove site clearance items	0		0	-20,000	-20,000
553	SDS to provide the services of Matt Fell until August 2012	40,869		0	0	40,869
555	Haymarket - OLE 196B design revision to avoid main sewer	0		-10,000	0	-10,000
557	Haymarket 1 - OLE Base Relocations (Design mods)	0		-100,000	0	-100,000
562	On Street Generally - OLE Design Changes for On Street Section (PMC 045) - SIEMENS DESIGN WORKS	115,000		0	0	115,000
563	On Street - Amend pile caps from square / rectangular to circular	-5,000		0	0	-5,000
567	On Street Generally - Drainage Design Changes Due to Utilities Conflicts	40,000		0	0	40,000
583	Ordering setts for on street works	0		0	-90,000	-90,000
586	St Andrew Square - tie in detail	0		-14,772	0	-14,772
594	Edinburgh Gateway slope option. Awaiting construction estimate	0		-650,000	0	-650,000
595	Haymarket Viaduct - Deletion of fitting out of Crew Relief Facility	-74,001		70,000	0	-4,001



**Infraco Cost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
596	Section 1D - Costs associated with amended drainage design	0		0	67,504	67,504
599	Floating track slab	0		980,000	0	980,000
600	Shandwick place - OLE bases affecting utilities (Piling)	0		0	53,616	53,616
603	Bus Tracker Interface Specification	0		10,000	0	10,000
604	St Andrew Sq - OLE bases affecting utilities (Piling)	0		0	2,646	2,646
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	0		0	17,839	17,839
616	Haymarket Viaduct - construct wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	798		0	0	798
618	Gogar Depot 1800 mm Diameter Manhole - TQ736	0		15,000	0	15,000
619	Omit Track Welding Equipment	0		-3,000	0	-3,000
620	Airport Tram Stop Design	0		10,000	0	10,000
621	Amend the dates of the HV meter installation at substations	0		12,507	0	12,507
623	Repair minor damage to Depot (Intercom, fence panel and broken slabs	0		3,000	0	3,000
624	Compressed Air Supply to Depot Gantry Road and workshop	0		5,000	0	5,000
625	Engineering attendance on site at Cathedral Lane.	0		55,000	0	55,000
627	Delete pedestrian guardrail in the area outside St John's Church (Design)	0		5,000	0	5,000

**Infraco Cost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
628	Prepare MUDFA As Built drawings	0		100,000	0	100,000
629	Utilities affecting Track Excavation at Shandwick Place (S1)	0		0	15,730	15,730
630	Utilities affecting Track Excavation at Shandwick Place (S2)	0		0	5,904	5,904
631	Third parties affecting progress at Shandwick Place (S2)	0		0	7,522	7,522
633	Ponding on Princes St at junctions of Frederick St/Castle St	0		0	40,000	40,000
636	Twin Crossing at Lochside Avenue	0		20,000	0	20,000
<b>Total</b>		<b>117,666</b>	<b>0</b>	<b>498,339</b>	<b>100,917</b>	<b>716,922</b>

Anticipated Change			150,000	-2,535,000	-2,385,000
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Opportunities			0	6,752,091	6,752,091
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Change to Anticipated Final Cost	117,666	0	648,339	4,318,008	5,084,013
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Contributions			-649,202	-110,000	-759,202
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Change to Anticipated Final Project Cost	117,666	0	1,297,541	4,428,008	5,843,215
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**Edinburgh Trams**  
City of Edinburgh Council



Reporting Period: 12-02 - Rev 0 - 25/05/2012

**Utilities Cost Report: Section 1 - Utilities Summary**

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals	
	A	B	C = A + B	D	E	F = D + E	G	H	I	J	K = F + G + H + I + J	L	M = K - L	N = M - C	O = M / C - 1	P	Q
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Provision	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	Cost of Work Done	Outstanding Amount
Post Settlement Utilities	2,912	4,861	7,773	2,912	4,861	7,773	0	11,304	0	0	19,077	0	19,077	11,304	145.4%	7,782	-9
McNicholas	1,812	4,763	6,575	1,812	4,763	6,575	0	6,417	0	0	12,992	0	12,992	6,417	97.6%	6,570	5
01 Conflicts	1,812	2,547	4,359	1,812	2,547	4,359		2,620			6,979		6,979	2,620	60.1%	3,689	670
01A Drainage		444	444		444	444		1,156			1,600		1,600	1,156	260.4%	1,225	-781
01B Grosvenor St / Haymarket Sewer Collapse		0	0		0	0		0			0		0	0		0	0
01C Tower Place Bridge		0	0		0	0		50			50		50	50		0	0
02 Legacy Works		500	500		500	500		687			1,187		1,187	687	137.4%	614	-114
03 Standby Team		0	0		0	0		0			0		0	0		0	0
04 Management Team		549	549		549	549		1,015			1,564		1,564	1,015	184.9%	506	43
05 Design Team		692	692		692	692		844			1,536		1,536	844	122.0%	515	177
06 Accomodation		31	31		31	31		45			76		76	45	145.2%	21	10
Statutory Utility Companies	0	1,198	1,198	0	1,198	1,198	0	2,187	0	0	3,385	0	3,385	2,187	182.6%	1,212	-14
01 Scottish Power		126	126		126	126		210			336		336	210	166.7%	100	26
02 Scottish Gas Networks		55	55		55	55		144			199		199	144	261.8%	36	19
03 Scottish Water		505	505		505	505		1,199			1,704		1,704	1,199	237.4%	722	-217
04 Virgin Media		104	104		104	104		178			282		282	178	171.2%	115	-11
05 Verizon		20	20		20	20		0			20		20	0	0.0%	8	12
06 Cable & Wireless		49	49		49	49		104			153		153	104	212.2%	36	13
07 Fibrenet		250	250		250	250		-62			188		188	-62	-24.8%	189	61
08 BT		89	89		89	89		544			633		633	544	611.2%	69	20
09 Siemens		0	0		0	0		20			20		20	20		7	-7
12 Contributions (all companies)		0	0		0	0		-150			-150		-150	-150		-70	70
00 Legacy Works	1,100	-1,100	0	1,100	-1,100	0		2,700			2,700		2,700	2,700		0	0

**Comments:**  
All values are in £k.  
Conflict resolution forecast to complete based resourced schedule.  
Legacy works forecast based on current budget. Work is iongoing to establish the full scope.

**Risk**  
Refer to Risk register for risks identified against McNicholas programme  
All risk is held at programme level. This section of the cost report makes no allowance for risk.

**Actions**  
Drainage scope and extent of work emerging. Provisional allowance included at present.  
Full forecast of legacy scope of works to be carried out once scope is properly defined.

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## Appendix 4 – Change Log







TNC No.	PMC No.	TCO No.	Location	Description	Reason For Change	On Street / Off Street	Clause 80 / Schedule 45 Instruction	T&T Change Owner	Change Category DC/UC/CR/SR	Budget Cost for Risk and Potential Changes	Date TNC Issued	Letter Ref	Date Estimate Due	Date Estimate Received	Estimate Change Value (Design)	Estimate Change Value (Construction)	Time Implications	Date Issued to CEC	Approved BY CEC/T&T	Date Approved or Rejected	Agreed Cost for Approved Contract Changes	Date TCO Issued	Comments
629	99	N/A	On Street - Section 1D East End of Shandwick S1 (Lothian Road Junction)	Utilities affecting Track Excavation at S1	Utilities encountered whilst excavating the Track Box	On Street	Schedule 45	RL	PAV				N/A Schedule 45	N/A Schedule 45	N/A Schedule 45	N/A Schedule 45		PAV				N/A	
630	100	N/A	On Street - Section 1D Shandwick S2 (Atholl Place)	Utilities affecting Track Excavation at S2	Utilities encountered whilst excavating the Track Box	On Street	Schedule 45	RL	PAV				N/A Schedule 45	N/A Schedule 45	N/A Schedule 45	N/A Schedule 45		PAV				N/A	
631	101	N/A	On Street - Section 1D Shandwick S2 (Atholl Place)	Third parties affecting ability to progress excavating Track Box	Third Parties	On Street	Schedule 45	RL	PAV				N/A Schedule 45	N/A Schedule 45	N/A Schedule 45	N/A Schedule 45		PAV				N/A	
632		570	Off Street - Depot	Depot Building water ingress resolution	Resolve water ingress around the building door and inspection pits	Off Street	clause 80	SM	UC		16/05/2012	INF CORR 8317	12/06/2012					21/05/2012	CEC	21/05/2012		16/05/2012	
633		N/A	On Street - Princes St	Princes St Ponding at junction Frederick St/Castle St	Ponding on Princes St	On Street	Schedule 45	RL	UC		22/05/2012	INF CORR 8329	N/A Schedule 45	N/A Schedule 45	N/A Schedule 45	N/A Schedule 45		21/05/2012	CEC	21/05/2012		N/A	
634		N/A	On Street - Cathedral Lane	Excavation and duct installation York Place to Cathedral Lane now by Utilities Contractor	Address Utilities clashes as they occur, and avoid disruption to Infraco work	On Street	Schedule 45	RL	UC		22/05/2012	INF CORR 8331	N/A Schedule 45	N/A Schedule 45	N/A Schedule 45	N/A Schedule 45		21/05/2012	CEC	21/05/2012		N/A	
635			On Street - Drainage	On Street Drainage Scope	Identifies Drainage now being carried out by Utilities Contractor and that remaining with Infraco	On Street	Schedule 45	RL	UC		28/05/2012												
636		571	Off Street - Lochside Place	Twin Crossing at Lochside Avenue	Proximity of red blaes to existing pipes and valves are within DKE + 2m envelope	Off Street	clause 80	SM	UC		22/05/2012	INF CORR 8332	15/06/2012					21/05/2012	CEC	21/05/2012		21/05/2012	

DC - Design Change  
UC - Unforeseen Circumstances  
CR - Client Request  
SR - Statutory Requirement  
PAV - Pricing Assumption Variation



RISK ID		Cause	Risk Description	Effect/Impact	Risk Owner (Organisation)	Risk Owner (Individual)	Status	Level	RISK ANALYSIS - Pre Mitigated					RISK RESPONSE PLANNING					RISK ANALYSIS - Post Mitigated										
Prob	Conseq	Time	Envir	H&S	Reput	Prob	Conseq	Time	Envir	H&S	Reput	Act	Own	Date	Prob	Conseq	Time	Envir	H&S	Reput	Act	Own	Date	Prob	Conseq	Time	Envir	H&S	Reput
ED071	Due to legacy issues and unknown services	Discovery of additional Track construction conflicts (Live)	Further diversion requirements increase of works where plans delays to work Delays for consents Additional costs		CEC	Stephen Lovcock	Active	Construction - On Street	5	5	5	2	3	5	25	RED	Training controls (BBS Actions)	Mitigating Actions (Client/T&T Measures)	Action Owner	Date	4	4	1	2	3	3	16	RED	
R067	Concern expressed by NFI that works not carried out in accordance with PCL Requirements	Suspension of works by NFI	Delay to construction works and Programme		BBS	Shirley Mustick	Active	Construction	2	4	4				8	AMBER	(1) NFI/BBS/T&T/CEC meetings ongoing to obtain NFI confidence in BBS ability to comply with PCL Requirements; (2) Decentralised BBS resource to manage PCL requirements and ensure compliance	(1) NFI/BBS/T&T/CEC meetings ongoing to obtain NFI confidence in BBS ability to comply with PCL Requirements		Ongoing	4	3	3			12	RED		
R028	Height available for BBS system and its substructure is less than 1,200 mm due to crossing of utilities or other underground obstacles	Fluctuating system envelope of TTW system (less than 1,200 mm) - on street	Indication of numerous locations with system heights much less than 1,200 mm in the On Street Works. Problem: Utility as-built drawings are not yet available		BBS/CEC/T&T	Julian Weatherley	Active	Construction	3	3	3				9	AMBER	(1) Create special track improvement layer solutions and/or trackform solutions (e.g. reinforced Rheda slab to 'span' such areas of risk; cod system height) (Design submitted to T&T in Period 4-12)	(2) Utility to be instructed to mitigate such obstacles as far as reasonable possible, CEC/T&T have to produce accurate as built information. (T&T Utilities contractor relocating utilities - ongoing)		asap	4	1	3			12	RED		
R034	Lack of early applications/submissions with NFI	Delayed NFI approvals as applicable	Delayed start of works. Disruption to off-street works		BBS	Shirley Mustick	Active	Construction	2	4	3	2	2	1	8	AMBER	(1) Comply with Contract requirements to obtain NFI approvals and comply with approval periods. Meet Asset Protection Agreement obligations. (2) NFI/BBS/T&T/CEC meetings ongoing to obtain NFI approval	(1) Assisting contractor in production of a detailed plan for the submission and approval of NFI approval documents, ensuring quality and timeliness of submission. Obtain NFI agreement on proposals for interface management (2) NFI/BBS/T&T/CEC meetings ongoing to obtain NFI approval		asap	4	1	3	2	2	3	12	RED	
ED109	Poor management of Scottish Water by T&T and poor record keeping during the MUDFA works	Risk that the project relationship with Scottish Water deteriorates and access to utilities and resolving of delay issues becomes prolonged	SW less inclined to work closely with the project to solve problems; potential delays to overall programme at a time when time is critical in finalising utility diversions; knock on impact on Infraco works with potential overall delay to project end date		T&T	Rob Loch	Active	Construction - On Street	5	5	5	2	3	5	25	RED		Decentralised Scottish Water account Manager appointed Steering Group set up and attended by Project Director. Appointed senior manager to take over all non-infraco works	3. Finalise database of all SW issues and sign-off with SW 4. Finalise programme of works for Lothian legacy issues 5. Consider co-location of T&T resources with SW	Andy Scott	3. Ongoing 4. 01/05/2012 5. 01/05/2012	3	4	3	2	3	4	12	RED
ED018	Under new 21 days Cost Over £750k Failure to agree variation time and costs	Risk that contract is moved to cost reimbursement	Costs		CEC	Julian Weatherley	Active	Non Construction	5	5	1	0	0	4	25	RED	Monitor. Continue project management efforts to avoid	Weekly PMO meetings escalation to control meeting where necessary			3	4	1			4	12	RED	
ED019	Lack of Design certainty for Infraco driven on level sections (e.g. York place bank side etc)	Risk that additional excavation is required that is not currently scheduled or costed	Cost and time		CEC	Julian Weatherley	Active	Client	5	5	5			5	25	RED	Continuous liaison with Infraco regarding additional excavation to identify what stage Managed on the section. Engage Design Manager in place				3	4	4			3	12	RED	
ED116 (NEW)	Inefficient H&S Governance by McNicholas	H&S breaches, incidents and stoppages	Fines, late site & stoppages Potential removal of contractor		CEC	Julian Weatherley	NEW	Construction	5	4	4	1	5	5	25	RED	McNicholas related risk	Focus on method statements, working practices and H&S standards. Increase awareness and raise issues		Ongoing	3	4	4	1	4	4	12	RED	
ED101	Due to the lack of a communications strategy and changing IM requirements with limited time to communicate	Risk that the public, local newspapers, media and other stakeholders receive poor quality incorrect information about the project and IM plans	Loss of confidence, loss of media and political support (Local and National)		CEC	Barry McCallum	Active	Client	4	3	2	0	0	5	20	RED	Regular, reliable and timely communications of information to the public, correct and media. Additional resources provided to support communication plans (1) & other project info	Strategy & resources plan being developed by joint communications group	CEC		3	3	2			4	12	RED	
ED115	Legacy issues	Risk that the scope and extent of the Lothian utility works will increase	Additional costs and time		CEC	Rob Loch	New	Non Construction	5	5	1	1	1	4	25	RED		Design works ongoing. Scope definition proceeding and costed for as appropriate			5	3	1	1	1	4	12	RED	
ED084	Construction works	Late 3rd party claims for utility property damages from works	Additional costs		CEC	Gary Easton	Active	Non Construction	3	5	1	1	1	1	15	RED		Utility provider presence on site	SW legacy works included in forecast			3	3	1	1	1	2	9	AMBER
ED076	Delayed provision of permissions from Utility Companies	Delay to achieving utility consents & subsequent requirements for work increase	Delay to construction works and Programme		CEC	Stephen Lovcock	Active	Construction - On Street	4	4	4			4	16	RED		Close working relationship with utility companies developed with the exception of SW	1) Map out consent requirements			3	3	3			3	9	AMBER
ED012	Lack of construction installation of utilities	Inefficient documentation to meet handover requirements	Works not being accessed Handover deadlines not achieved Delay		BBS	Martin Aynes	Active	Non Construction	3	3	3			2	9	AMBER	Section project manages co-ordinating deliverable documents	Technical library established continuously	1. BBS to provide co-ordinated program to support the delivery	1. Martin Aynes	2.13/04/12	3	3	3			2	9	AMBER
R041	Decision on preferred option and/or non-incorporation in the works could delay the works	Approval of plans for Edinburgh Gateway	Delay to construction works and Programme		CEC	Shirley Mustick	Active	Construction	3	4	4	1	1	4	12	RED	(1) Meetings held with Transport Scotland (2) SDS carrying out advanced Enabling Works Design and BBS to procure Steel for 33 KVA cable support ahead of TS decision on Edinburgh Gateway structure (3) BBS undertaking Feasibility Study for limited Construction works. Report expected to be submitted to TS in Period 4-13	(1) Meetings held with Transport Scotland (2) TCO issued to BBS for advanced Enabling Works Design and procurement of Steel for 33 KVA cable support (3) TCO issued to BBS for Feasibility Study for limited Construction works. TS to decide on scope for BBS to carry out by 17 February 2012		asap	3	3	3	1	1	3	9	AMBER	
R066	Not satisfied in agreement for wayleaves by affected parties	Approval/consent for remaining wayleaves associated with Scottish Power works	Delay to SP works and increased costs. Delays to BBS Programme		SP/CEC/T&T	Julian Weatherley	Active	Construction	2	2	3			6	AMBER		Identify all wayleave requirements and manage process proactively to ensure consents are obtained. Flag issues to CEC	PR1 Station - HV cable wayleave approval		asap	3	2	3			2	9	AMBER	
ED112	Old Tram system	Discovery of old Tram tracks and equipment	Additional works to remove and delays to schedule		CEC	Rob Loch	Active	Construction - On Street	5	4	3	3	3	2	20	RED	Specialist removal of old tram structures	Tracing of old Tram path	1) Stephen Lovcock	13/28/02/2012	4	2	2	2	2	2	8	AMBER	
ED003	Removal of CAF from utility offering as part of settlement agreement. Infraco do not follow integration responsibility	Tram (CAF) / Infraco do not follow integration. Risk that Infraco do not follow integration responsibility	Delay for commissioning		CEC	Martin Aynes	Active	Construction	4	4	4	1	1	5	20	RED		Tram integration manager appointed	CAF Infraco manager (Miles) to start from mid-January 2012	1. Paul Robinson	1.30/01/12	2	4	4	1	1	4	8	AMBER
ED048	Failure to locate apparatus prior to excavation. Failure to excavate carefully and use known apparatus. Failure to protect apparatus during works or backfilling	Damage to Utility Apparatus (By McNicholas)	Safety hazard to workforce or public (gas release). Information to as, poly - impact on third parties and/or reputation damage. Penalties and/or compensation claims		T&T	Rob Loch	Active	Construction - On Street	2	2	2			3	6	AMBER		Rob's Permit to Dig procedure	Communications in place to call out utility for urgent repairs	1) Martin Aynes	12/03/2012	2	4	4	3	5	4	8	AMBER
ED072	Due to legacy issues and unknown services	Discovery of abandonment of utilities during Infraco works	Infraco stop work to seek further instruction delays to prove abandonment		CEC	Stephen Lovcock	Active	Construction - On Street	5	4	4	2	3	4	20	RED		Utility owners providing loc and dead drawings	Building float into the programme to enable siting in advance of removal works by early implementation of traffic management plan and utilising 2 week soft start			2	3	4	2	3	3	8	AMBER
ED009	Poor quality workmanship or inadequate materials	Poor installation or latent defects occur during or after Infraco maintenance period	As built work does not meet employers requirements additional costs & delays		CEC	Martin Aynes	Active	Construction	3	4	4	2	3	12	RED		T&T PMO to provide regular feedback on progress, workmanship and quality on site	Ongoing during			2	3	2	2	9	4	8	AMBER	
ED080	Unidentified voids found during excavations/demolitions	Unknown or abandoned chambers, collars, voids etc	Redesign and delays pending resolution - cost impact		CEC	Rob Loch	Active	Construction - On Street	3	3	5			2	15	RED		Design management process/Outline Design in place	Advanced diversion works			2	3	4			2	8	AMBER

ID	Cause	Risk Description	Risk / Impact / Issue	Owner / Lead	RISK ANALYSIS - Pre Mitigation				RISK ANALYSIS - Post Mitigation				RISK ANALYSIS - For Mitigation							
					Status	Level	Risk Impact - Client		Risk Impact - Client		Action Owner	Due Date	Risk Impact - Client		Risk Impact - Client					
							Cost	Time	Cost	Time			Cost	Time	Cost	Time				
ED045	Landowner access	Risk that access to stop party land is delayed or denied	Delays and additional costs for compensation	Shirley Mulcraft	Active	On-Off Street	3	4	0	3	12	RED	2	3	4	0	3	8	AMBER	
ED046	Change clients and issues	Risk of further escalation in client consultation relationship	Client issues, relationship with client, impact on project, delays to programme	Julian Weatherly	Active	On-Off Street	4	5	0	5	20	RED	2	3	3	0	4	8	AMBER	
ED047	Quality issues	Public enquiries and/or consultation	Delays to programme, additional costs	Bruce McCallum	Active	Client	1	3	4	4	4	GREEN	2	3	3	3	4	8	AMBER	
ED048	Public access to stop party land is delayed or denied	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	4	3	2	1	12	RED	2	3	4	1	8	AMBER		
ED049	Lack of resources & clear coordinated approach	Impediment to programme, additional costs	Delays to programme, additional costs	Bruce McCallum	Active	Client	3	2	2	5	15	RED	2	2	2	2	4	8	AMBER	
ED050	Lack of clear and coordinated information on the ground	Public access to stop party land is delayed or denied	Delays to programme, additional costs	Bruce McCallum	Active	Client	3	1	1	5	15	RED	2	2	1	1	4	8	AMBER	
ED051	Highly and complex public access and distribution	Highly and complex public access and distribution	Delays to programme, additional costs	Bruce McCallum	Active	Client	3	1	4	5	15	RED	2	1	3	4	8	AMBER		
ED052	Lack of communication and communication between parties	Non-communication between project teams and council departments	Delays to programme, additional costs	Bruce McCallum	Active	Client	4	1	1	5	20	RED	2	1	1	4	8	AMBER		
ED053	Delay to start of agreed timescale (instructions)	Violation of instructions on issued timescale	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	4	2	1	2	6	AMBER	2	2	1	2	6	AMBER		
ED054	Slow start to work on site (not started until 20th)	Unavailability of contractor resources	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	3	2	2	1	6	AMBER	3	2	2	2	6	AMBER		
ED055	Public access to stop party land is delayed or denied	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	3	2	2	2	6	AMBER	3	2	2	2	6	AMBER		
ED056	October closure	Rail that operator is late in providing information & associated routing	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	3	3	4	2	12	RED	2	3	1	2	2	6	AMBER	
ED057	Various rail services, possession, notified use of possession or other rail	Delays to programme, additional costs	Delays to programme, additional costs	Shirley Mulcraft	Active	On-Off Street	3	2	2	6	AMBER	3	2	2	2	6	AMBER			
ED058	Shirley in stop party land or in possession affect works	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	1	2	0	0	2	GREEN	2	2	0	0	6	AMBER		
ED059	Transfer, Variation, Transfer, Design	Stop party land (red)	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	3	2	0	0	6	AMBER	3	1	2	0	0	6	AMBER	
ED060	Design not finished on time	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	3	2	0	0	6	AMBER	3	1	1	0	0	6	AMBER	
ED061	Contractor issues with access to stop party land	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	4	5	1	4	20	RED	2	3	2	1	3	6	AMBER	
ED062	Contractor issues with access to stop party land	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	3	2	2	3	6	AMBER	2	3	3	0	1	3	6	AMBER
ED063	Design not finished on time	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	5	5	5	5	25	RED	2	3	2	3	2	3	6	AMBER
ED064	Design not finished on time	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	3	2	1	2	6	AMBER	2	3	1	0	0	6	AMBER	
ED065	Lack of clarity of agreement / contracts prior to programme start	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	3	4	3	4	12	RED	2	3	2	3	3	1	6	AMBER
ED066	Lack of communication with stakeholders and lack of strategy with client	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	2	3	0	0	6	AMBER	2	3	0	0	0	6	AMBER	
ED067	Surface from adjacent & top of ground	Delays to programme, additional costs	Delays to programme, additional costs	Julian Weatherly	Active	On-Off Street	2	1	3	3	6	AMBER	2	1	3	3	6	AMBER		

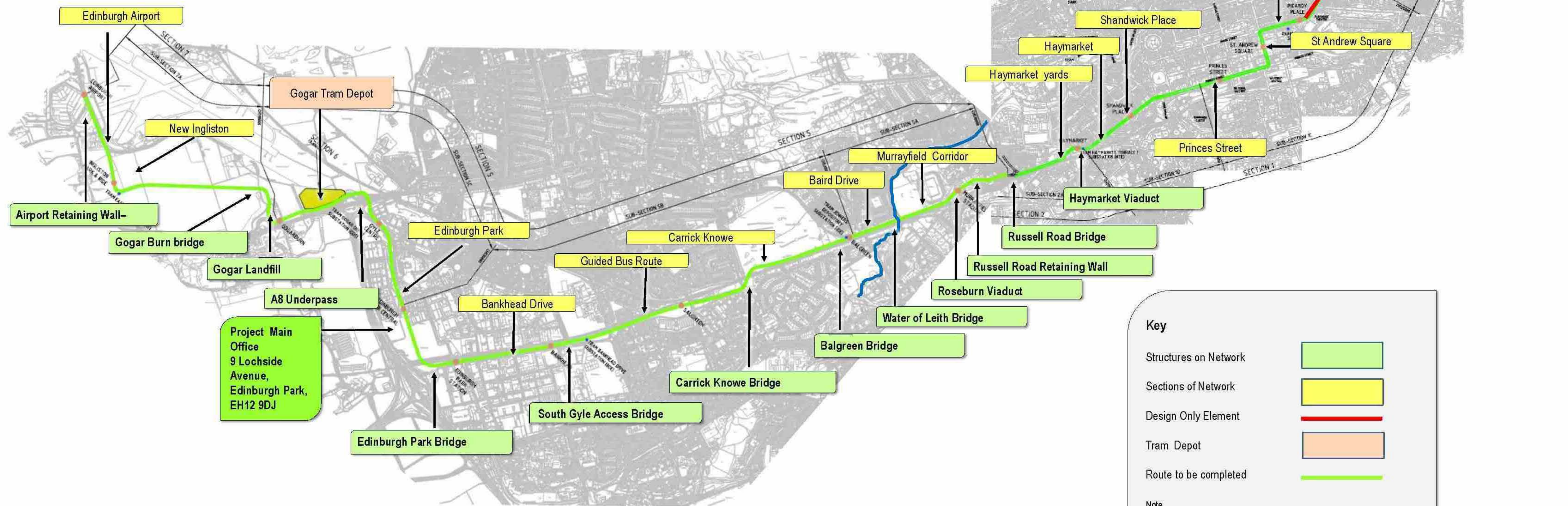


R&I Risk ID		Cause	Risk Description	Effect/Impact	Risk Owner (Organisation)	Risk Owner (Individual)	Status	Level	RISK ANALYSIS - Pre Mitigated							RISK RESPONSE PLANNING				RISK ANALYSIS - Post Mitigated								
R&I Risk ID		Cause	Risk Description	Effect/Impact	Risk Owner (Organisation)	Risk Owner (Individual)	Status	Level	Probability Score	Cost Impact Score	Time Impact Score	Environmental Impact Score	H&S Impact Score	Reputation Impact Score	Risk Level	Existing Controls (H&S Actions)	Mitigating Actions (Client/ T&T Measures)	Action Owner	Due Date	Probability Score	Cost Impact Score	Time Impact Score	Environmental Impact Score	H&S Impact Score	Reputation Impact Score	Risk Level		
ED052		Concurrent major projects in Edinburgh	Other major project conflicts with frame (excluding existing NRT projects)	Delay and additional project management costs	CEC	Shirley Mustard	Active	Construction	3	2	2			2	6	AMBER		CEC tracking external projects			1	2	2			2	2	GREEN
R002		(1) Failure to supervise works correctly (2) Failure to install or maintain guarding, lighting, signage, TM, temporary roads and paths (3) Failure to inform third parties of works	Death, injury or damage to third parties (people or property) during construction	Construction incidents causing death or injury, damage to works or adjacent infrastructure, delay and/or additional costs, involvement in investigation process, legal penalties or insurance issues, reputation damage	BBS/CEC/T&T	Julian Weatherley	Active	Construction	2	3	4	1	4	3	8	AMBER	(1) Operate robust Construction Health & Safety management system (2) Identify risks at Work Package Plan stage and mitigate in method planning and appropriate control measures (3) Ensure works are carried out in compliance with WPP, and that WPP is amended in advance of implementation if works methodology change is necessary	T&T implementing appropriate H&S Management System to monitor performance McNicholas - see risk ED116	Ongoing		1	2	2	1	3	2	2	GREEN
ED094		Unknown condition of utilities	Failure of utility assets which impacts on infra work, (i.e. power supply, burst pipes etc)	Delay to infra work	CEC	Julian Weatherley	Active	Construction	2	2	3			4	8	AMBER		Close liaison with utility companies			1	1	2			2	2	GREEN
R003		Construction methodology including use of plant and equipment on-site, results in CoGP or statutory noise level exceeded	Construction noise limit exceeded	Failure to plan works methodology or plant utilisation to minimise noise impact, or failure to implement mitigation measures, results in noise level exceeded, work stoppage, delay and/or additional costs, penalties, reputation damage	BBS	Julian Weatherley	Active	Construction	3	2	2	2	3	3	9	AMBER	(1) mitigate noise generation by selection of appropriate methodology, equipment at WPP stage (2) Use appropriate, well maintained equipment, ensuring equipment is operated correctly and shut down when not in use (3) Implement appropriate mitigation (noise baffles/absorbers, mains power instead of generators	T&T to manage McNicholas activities	Ongoing		1	1	2	1	1	2	2	GREEN
R005		(1) Spillage from discharge pump during filling (2) leakage from storage tanks	Hydrocarbon Spill during filling/discharging	Hydrocarbon contamination of the ground, groundwater and water courses, resulting in ecological damage, penalties, legal action, delay and/or clean-up costs	BBS/CEC/T&T	Julian Weatherley	Active	Construction	2	1	3	3	0	3	6	AMBER	(1) Fueling of mobile equipment to be carried out in low risk locations, using appropriate equipment (2) comply with Oil Storage Regulations (3) Storage away from sensitive receptors and/or drainage systems (4) Ensure spill kits available for minor spillage (5) Implement an emergency response plan, including specialist response contractor	T&T to manage McNicholas activities	Ongoing		1	1	1	2	0	2	2	GREEN
R006		Failure to prevent death or injury of protected birds, amphibians etc and/or excavated material placed on/in watercourse or contamination, destruction of nesting sites, damage to wetland areas	Death or injury of protected wildlife or damage to plants and/or damage to wildlife habitats	Failure to identify presence of protected wildlife (Otter, Badger, birds, water voles, amphibians) and take appropriate mitigation measures, or failure to implement/maintain agreed measures for wildlife or ecological protection, can delay works, Breaches to licence conditions - prosecution if found rockless	BBS	Shirley Mustard	Active	Construction	2	2	3	4	0	2	6	AMBER	(1) Ensure licence conditions within method statements (2) Check Ecologist who is the licensee for conditions - ensure wildlife survey data is complete and available to site team (3) Training for site team (toolbox talks ongoing)		Ongoing		1	1	2	3	0	2	2	GREEN
R020		Extreme weather or with normal weather pattern	Exceptional adverse weather	(1) Delay to work due to access restrictions or rock/cut outputs (e.g. concrete placing in prolonged cold weather) (2) Damage to work in progress - rework	BBS/CEC/T&T	Julian Weatherley	Active	Construction	3	2	2	0	0	0	6	AMBER	(1) Pre planning for weather mitigation (focuss covers, lighting, water protection, provision of drinking water/canteen, cream, pumps) (2) Plan using suitable weather forecast information for high risk activities (e.g. wind susceptible crane lifts)	T&T to manage McNicholas activities	Ongoing		1	1	2	0	0	0	2	GREEN
R014		Lack of QA control of construction information	Failure to implement rigorous QA control of information for construction	Errors, rework, delay and/or cost	BBS	Martyn Ayres	Active	Construction	1	3	3	0	0	2	3	GREEN	(1) Establish robust document register (drawings and other documents) (2) Establish robust process for release of information for construction (3) Robust procedures in place and continued monitoring of compliance through Audits		Ongoing		1	1	1	0	1	1	1	GREEN

## Appendix 5 – Risk Register

## Appendix 6 – Route Map

# Edinburgh Tram Network – Route Map & Key Locations



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## Appendix 7 – Acronyms



## ACRONYMS

ACCB	Accommodation and Boundary Works
AiP	Approval in Principle
ANC	Advice of Non Compliance
APPP	Prior Approvals – Detail Design
APPR	Approvals
APPT	Technical Approvals – Detail Design
ARCH	Architecture
AUXI	Auxilliary Power
BAA	British Airports Authority
BBS	Bilfinger Berger Siemens
BLDS	Buildings
BRDG	Bridges
BSC	Bilfinger Berger / Siemens / CAF - previous consortium
CAF	Tram Provider - (Construcciones y Auxiliar de Ferrocarriles)
CAR	Corrective Action Request
CAR	Water Environment (Controlled Activities) Regulations 2011
CDM	Construction (Design and Management) Regulations 2007
CEC	City of Edinburgh Council
CECS	CEC Services
CFS	Case for Safety
CHAR	Charette Changes
COCP	Code of Construction Practice
COMM	Commissioning
CVI	Confirmation of Verbal Instruction
DAS	Design Assurance Statement
DASB	Design – As Built
DaST	Deliver a Safe Tram
DDAP	Detailed Design Assurance Plan
DEMO	Demolition
DEPO	Depot
DKE	Dynamic Kinetic Envelope
DoC	Declaration of Conformity
DRAN	Drainage
DtTS	Deliver the Tram Safely
E&M	Electrical & Mechanical
EAL	Edinburgh Airport Limited
EART	Earthworks / Embankments
ELEC	Electricity
EMC	Electromagnetic Compatability
ENVI	Environmental
ER's	Employers Requirements
ESM	Engineering Safety Management
FAT	Factory Acceptance Test
FATs	Factory Acceptance Tests
GASS	Gas
GEOT	Geotechnical
HAZID	Hazard Identification Study
HAZOP	Hazard and Operability Study
HIGH	Highways
HIRA	Hazard Identification and Risk Assessment
HMRI	Railway Inspectorate
HS	Historic Scotland
HSE	Health and Safety Executive
HV	High Voltage
ICCO	Independent Certifiers Change Order
ICP	Independent Competent Person

IDC	Inter Disciplinary Check
IDR	Inter Disciplinary Review
Infraco	Infrastructure contract
ISA	Independent Safety Assessor
ISRP	Infrastructure Safety Review Panel
ITP	Inspection and Test Plan
JNCS	Junctions
KPI	Key Performance Indicator
LAND	Landscaping
LIGH	Lighting
LOLER	Lifting Operations and Lifting Equipment Regulations 1998
MANA	Management
MECH	Mechanical
MILE	Milestones
MISC	Miscellaneous
MODL	Modelling
MUDFA	Multi-Utility Diversions Framework Agreement
MUDFA	Multi Utility Diversions Framework Agreement
MULT	Multi-Discipline
NCR	Non Conformance Report
NR	Network Rail
NWR	Network Rail
O&M	Operation and Maintenance
OCC	Operational Control Centre
OCIP	Owner Controlled Insurance Policy
OCL	Overhead Catenary Line
OLE	Overhead Line Equipment
ORA	Operational Risk Assessment
ORR	Office of Rail Regulation
ORS	Operational Radio System
OTHW	Other Works
PHA	Preliminary Hazard Analysis
PLAT	Platforms
PM	Planned Maintenance
POWR	Power (Traction)
PSCC	Project Safety Certification Committee
QCRA	Quantified Cost Risk Analysis
QRA	Quantified Risk Analysis
QSRA -	Quantative Schedule Risk Analysis
RAIB	Rail Accident Investigation Branch
RAM	Reliability Availability Maintainability
REL	Railway Electrification
RFI	Request for Information
RFO	Request for Opinion
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurences Regulations 1995
ROGS	The Railway and other Guided Transport System (Safety) Regulations 2006
RSA	Road Safety Audit
RSAR	Road Safety Audit Report
S&T	Signalling and Telecoms
SAC	Safety Application Condition
SAT	System Acceptance Test
SATs	Site Acceptance tests
SCADA	Supervisory Control and Data Acquisition
SDS	System Design Services
SEPA	Scottish Environmental Protection Agency
SEWR	Sewerage
SFAIRP	So Far As Is Reasonably Practicable
SGN	Scotland Gas Networks
SI	Site Instruction
SIGN	Signalling
SIT	System Integration Test
SMS	Safety Management System
SNH	Scottish Natural Heritage
SP	Scottish Power
STAK	Stakeholder
STRL	Street Lighting
STRU	Structures / Retaining Structures
SUBM	Submissions
SUBS	Sub-Stations
SURV	Surveys

SW	Scottish Water
TPS	Traction Power Supply
T&T	Turner & Townsend
TCO	Tie Change Order
TM	Traffic Management
TNC	Tie Notice of Change
TS	Transport Scotland
TSS	Technical Support Services
UCO	Utilities Change Order
UNC	Utilities Notice of Change