

GRIP 2 Estimate - Work Breakdown Structure (WBS)					OP No.	116647
					Est No.	10SC0129
Aberdeen - Inverness Line Speed Improvements					Date	06/10/2010
Asset	Work Type	Description	Quantity	Unit of Meas.	Rate £	Total £
P WAY						
	Plain Line					
		Remove plain line and dispose	35,000	m	90	3,150,000
		New plain line	35,000	m	850	29,750,000
		Recant / Re-align	46,000	m	300	13,800,000
	New Loops					
		New plain line - Dalcross Station	750	m	700	525,000
		New plain line - Forres Station	1,500	m	700	1,050,000
		New plain line - Keith Station (extend exist loop)	300	m	700	210,000
		New plain line - Inveramsay Re-alignment	1,000	m	700	700,000
		New plain line - Kintore Station	750	m	700	525,000
		Alternative for upgrading conventional loops to dynamic loops (3nr)	25,000	m	700	17,500,000
	S & C					
		Remove turnout (existing route)	10	nr	15,000	150,000
		New FV turnout (exiting route)	10	nr	500,000	5,000,000
		New FV turnout - Dalcross Station	2	nr	500,000	1,000,000
		New FV turnout - Forres Station	2	nr	500,000	1,000,000
		New FV turnout - Keith Station	2	nr	500,000	1,000,000
		New FV turnout - Kintore Station	2	nr	500,000	1,000,000
PROPERTY						
	Stations					
		Dalcross - new unmanned station - 2 platforms - car park - DDA compliant - access road - including lifts	1	sum	4,000,000	4,000,000
		Forres - enhance existing manned station - 2 platforms - DDA compliant - access road	1	sum	3,000,000	3,000,000
		Keith - enhance existing manned station - 1 platform - DDA compliant - access road	1	sum	2,500,000	2,500,000
		Kintore - new unmanned station - 2 platforms - car park - DDA compliant - access road	1	sum	3,000,000	3,000,000
		Gauging - line of route and passing clearances	1	sum	1,000,000	1,000,000
		DDA compliance to existing stations	3	nr	500,000	1,500,000
CIVILS						
	Footbridge					
		Dalcross Station	1	sum	700,000	700,000
		Forres Station	1	sum	500,000	500,000
		Keith Station	1	sum	500,000	500,000
		Kintore Station	1	sum	500,000	500,000
	Underbridge					
		Remove existing UB and renew - Inveramsay re-alignment	250	m2	20,000	5,000,000
		Redeck overbridges	16	nr	900,000	14,400,000
		Form embankment for new bridge at Inveramsay	30,000	m3	35	1,050,000
		Allowance for strengthening / renewing other small structures on route	1	sum	2,000,000	2,000,000
	Devegetation					
		Deveg for sighting generally	1	sum	500,000	500,000
	Access					
		Trackside positions of safety and access points and amendments to hazard directory	35	nr	15,000	525,000

	<b>Earthworks</b>					
		Fencing to new formation and access points and walking routes	45,000	m	50	2,250,000
		Allowance for upgrading / altering existing plain line formation	1	sum	10,000,000	10,000,000
		Upgrade drainage for new infrastructure work	1	sum	6,000,000	6,000,000
<b>S &amp; T</b>						
	<b>Signalling</b>					
		Signalling - Dalcross Station - SEU's	19	nr	210,000	3,990,000
		Signalling - Forres Station - SEU's	19	nr	210,000	3,990,000
		Signalling - Keith Station - SEU's	19	nr	210,000	3,990,000
		Signalling - Kintore Station - SEU's	19	nr	210,000	3,990,000
		Signalling - Kittybrewster Station - SEU's	4	nr	210,000	840,000
		Remove electronic token block and replace with alternative	24	nr	210,000	5,040,000
		Alterations to remaining signalling system	100	nr	50,000	5,000,000
	<b>Sig Centre</b>					
		Building REB's to accomm new controls	1	sum	2,000,000	2,000,000
	<b>Cable Route</b>					
		Troughing to existing route (80% of route)	65,000	m	80	5,200,000
		Troughing to new loops and new stations	22,300	m	50	1,115,000
	<b>Telecoms</b>					
		FTN node & cable (use existing cable route)	1	sum	4,000,000	4,000,000
		Alterations to telephone concentrators	1	sum	500,000	500,000
	<b>Level Xings</b>					
		Allowance for upgrading / removal (as required)	1	sum	5,000,000	5,000,000
		AHB = 7: AOCR = 1: MCB = 4: MWLV = 1: PED = 7: UWC = 45				
<b>ELEC &amp; PLANT</b>						
		Power supplies for signalling alterations and stations	1	sum	5,000,000	5,000,000
		<b>Sub total</b>				<b>184,940,000</b>
		Land Purchase at Dalcross, Forres, Keith, Inveramsay, Kintore and dynamic loops (10m wide strip, unless otherwise noted)				5,000,000
		Service Diversions	1	sum	5,000,000	5,000,000
		Environmental Costs	1	sum	3,000,000	3,000,000
		Driver Training	1	sum	100,000	100,000
		TOC Compensation	1	sum	5,000,000	5,000,000
<b>Total GRIP 2 Estimate</b>						<b>203,100,000</b>
<b>notes</b>						
a	Costs excludes VAT					
b	Cost Base Date 4Q2010 (no escalation allowed to completion date)					
c	Unit costs are all-in rates i.e. include supply, delivery and construction, preliminaries, test and commissioning, design, project management, legal / planning fees, possession management.					
d	<i>Rules of the Route</i> possessions allowed for new P Way, Signalling & Telecoms					
e	New loops and new stations executed mostly in non-possession working					
f	Assumed all new materials (no serviceable)					
g	No mechanical lifts allowed at stations (DDA ramps only) except Dalcross					
h	Whilst DDA compliance is not included in the remit, an allowance has been included meantime					
i	No upgrade of line side fencing on existing P Way					
j	No work to drainage on existing P Way					
k	No allowance for removal of contaminated waste					
l	No OLE throughout project					
m	Excludes alterations to main interlockings at Inverness and Aberdeen					
n	No allowance for increasing or creating new car parking facilities at intermediate stations					
o	GRIP 1 to 8 estimate - Level 2- with cost accuracy +/- 40%					
p	Excludes optimism bias					
q	Excludes ground stabilisation due to mine workings.					
r	Assumed each new overbridge deck is average 60m2, and includes for minor road re-alignments					
s	Excludes any main service diversions to structures					