
Project: Preston Western Distributor Road / East West Link Road

Title: Cost Verification of the Current Scheme Estimate

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Contents

1.0	Introduction	1
2.0	Information Used and General Assumptions	2
3.0	Review of Preliminaries	4
4.0	Review of Structures	6
5.0	Review of Road works	15
6.0	Summary	21

APPENDICES

Appendix A : Review of Rates Schedule

Appendix B : Check of Quantities - Structures

Appendix C : Measurement Summaries – Road works

Appendix D : Earthworks Review (word and excel documents)

1.0 Introduction

Corderoy has been appointed by the Lancashire County Council (LCC) to provide a cost verification of the 'Current Scheme Estimate' (referred to hereinafter as 'the Estimate') provided by its ECI Contractor Costain Ltd. The current estimate is based upon environmental masterplan and structures general arrangement drawings, submitted as part of the planning application. An MX Genio file was also made available.

This report will:

1. Verify rates that support the Estimate (see **Appendix A**)
2. Verify quantities that support the Estimate (see **Appendices B & D**)
3. Attempt to assess where possible lump sum items (see **Appendix C**)
4. Assess the validity of the Estimate (see below)

2.0 Information Used and General

2.1 Information Used

The following information has been provided to Corderoy:

Bridge Drawings (PDFs):

Bartle Lane Bridge: CLM01-DEV-040-6613B1/01E
Bartle Underpass: CLM01-DEV-040-6617U1/01B
Beaconsall Bridge: CLM01-DEV-040-6614B1/01 Rev3
Darkinson Lane: CLM01-DEV-040-6610B1/01C
Earls Farm Cattle Creek: CLM01-DEV-040-6612B1/01D
Lea Viaduct: CLM01-DEV-040-6611B1/01 Rev1
Savick Brook (No ref shown on drawing)

Masterplan Drawings (PDFs):

CLM01-DEV-040-020 Sheet 1 of 14
CLM01-DEV-040-020 Sheet 2 of 14
CLM01-DEV-040-020 Sheet 3 of 14
CLM01-DEV-040-020 Sheet 4 of 14
CLM01-DEV-040-020 Sheet 5 of 14
CLM01-DEV-040-020 Sheet 6 of 14
CLM01-DEV-040-020 Sheet 7 of 14
CLM01-DEV-040-020 Sheet 8 of 14
CLM01-DEV-040-020 Sheet 9 of 14
CLM01-DEV-040-020 Sheet 10 of 14
CLM01-DEV-040-020 Sheet 11 of 14
CLM01-DEV-040-020 Sheet 12 of 14
CLM01-DEV-040-020 Sheet 13 of 14
CLM01-DEV-040-020 Sheet 14 of 14

Costain's Bill of Quantities/Cost Plan (Excel File)

2.2 Measurement

As far as possible, measurement has been undertaken using the Standard Method of Measurement for Highway Works (MMHW4) and standard highway design principles. The measurement is based on the above preliminary design information and limited or no information on the following:

- Construction programme
- Site constraints
- Ground conditions
- Temporary works information
- Detail drawings

2.3 Pricing

The Pricing (rates) are base dated to Q4/2016. The Costain price includes an inflation calculation that does not appear to have been carried forward in to the Estimate summary.

2.4 Assumptions

- Kerbs are required to both edges of the single carriageway road.
- Tie-in areas on Blackpool road are to the point where the horizontal alignment changes on the existing carriageway. This is academic in terms of an overall area measurement. The roundabout on Blackpool Road is included within the Preston Western Distributor Road measured area.
- Earthworks – Proper evaluation (spot checks) of the earthworks quantities cannot be undertaken without an earthworks schedule being provided, an example of which is included within **Appendix D**. See paragraph 5.4 below.

3.0 Review of Preliminaries

3.1 Preliminaries

The stated figure of 24m represents 18.91% of the total scheme value of 127m. Prima facie this appears reasonable, however, it should be noted that it would increase to 27.62% if all of the Preliminaries type items such as temporary works, scaffolding, method related charges and traffic management costs etc. were included. There is no build-up provided for the Preliminary items and no construction programme either. The Preliminaries comprise the following:

PRELIMINARIES	
Staff	£13,856,997
Labour	£1,412,667
Site Accommodation	£3,272,934
Plant/Transport	£2,992,336
Skips	£1,102,864
HSE	£836,593
IT/Set up	£178,861
Fees	£398,425
Total	£24,051,675

3.2 Staff

A breakdown is not provided. The 13.8m roughly equates to 11% of the total estimate value of 127m. We have not had sight of a programme but Costains have assumed (see inflation calculation) a construction duration of 4 years (Jan 18 – Dec 22). This would suggest therefore the that staff element per annum is circa. 3.45m. If we assume an all in staff cost of 100k the figures suggest that Costain will employ 35 staff members or full time equivalents (FTEs). This staffing level appears high. We would expect the following to be employed on this type of scheme:

- Project Director
- Commercial Manager
- Construction Manager
- 2 x Senior Engineers
- 2 x Junior Engineers
- 2 x senior quantity surveyors – bridges & road works
- 2 x quantity surveyors – bridges & road works
- 1 x safety manager (may be included elsewhere, see below)
- Stakeholder/Public Relations liaison person
- Third Party liaison
- 2 x Admin Support

The above is not an exhaustive list but is less than half of the number of staff that appear to have been included for within the Estimate.

3.3 Labour

It is presumed that this item is for general operatives not included for within the Direct Works rates or lump sum items. It is noted that traffic management (TM) vehicles and operatives are included within the relevant TM section of Road works.

3.4 Site Accommodation

We can't comment here without visibility of costs.

3.5 Plant/Transport

Presumably this item includes for craneage and haulage costs etc.

3.6 Skips

Presumably this item includes for general waste and the skips would be located within the site compound. If the contractor had two 'builders skips' permanently located within the compound both being emptied weekly this would cost somewhere in the region of 92k (208 weeks x 2 skips x £222 [local rate source JA Jacksons]). Roll on roll of skips are more expensive but conversely contain more waste.

3.7 HSE

Presumably this item is to comply with HSE requirements, PPE and/or including staff. Evaluation is difficult without seeing a breakdown.

3.8 IT/Set up

These costs seem reasonable and may include staffing.

3.9 Fees

We can't comment here without visibility of costs.

4.0 Review of Structures

4.1 Virtually all of the rates that are shown within the various BQs appear reasonable and/or sustainable (see **Appendix A**). Most BQs have a section of Method Related Charge items which are difficult to evaluate without visibility or knowledge of the construction methodology, temporary works (including design) and construction programme etc.

All major inconsistencies with quantities are tabled below. We have revised the BQs (see **Appendix B**) accordingly and applied the difference to Costains' rates to show the effect upon pricing. The variances are stated below.

The Structures items within the Estimate comprise the following:

STRUCTURES	
Savick Brook Viaduct	£17,733,979
Darkinson Lane Underpass	£732,245
Lea Viaduct	£11,150,987
Earls Farm Cattle Creek	£723,071
Bartle Lane	£2,081,375
Beaconsall	£3,574,728
Bartle Underpass	£712,000
Temporary Bridges	£424,768
Sheet Piling – Savick Brook	£252,164
Sheet Piling – Lea Viaduct	£210,039
STRUCTURES SUBTOTAL	£37,595,355

4.2 Savick Brook Viaduct

The BQ includes for 288 no piles whilst the GA drawing reveals 245 no piles. The abutment and pile cap concrete quantities appear to be under-measured. We have estimated quantities based upon a similar viaduct design.

The BQ includes 2.16m of method related charges which equates to 12.25% of the total. If the BQ is adjusted as per the GA drawing and assumption made above, it would result in a reduction of 728k to the current total value. The major differences are summarised in the table below.

Savick Brook Viaduct: Description	Unit	Costains Quantity	Corderoy Quantity	Variance	Comment
Set up/move to pile position b) Unrestricted H/room	no	288	245	-£12,255.00	Total number of piles as per drawing 245no 70 assumed as restricted head room thus balance 175
Bored and concreted length	m	8496	7219	-£479,762.01	Prorated to 245 no piles
a) Main cage reinforcement	t	1240.87	1054.36	-£233,134.45	Prorated to 245 no piles
Prepare 1200 dia pile heads	no	288.00	245.00	-£10,750.00	Not standard HMMHW item deemed to be included in pile rates
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 6 metres in depth	m3	6023.00	3568.00	-£29,460.00	Corderoy calculation
Disposal of acceptable material excluding Class 5A	m3	5420.70	2965.70	-£24,550.00	Based on Corderoy excavation calc and deposition
Imported acceptable material Class 6N in fill to structures	m3	2175.00	3215.00	£31,252.00	Org Measure seems low. Allowance of filling may only be to the existing G.L. if so had the 6N allowed in S600
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (South Abt pile cap)	m3	204.00	525.00	£42,341.79	Corderoy measure as GA assume 1.50m thick
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (pile cap)	m3	204.00	525.00	£42,341.79	Corderoy measure as GA assume 1.50m thick

Savick Brook Viaduct: Description	Unit	Costains Quantity	Corderoy Quantity	Variance	Comment
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (wing wall base slab)	m3	252.00	240.00	-£1,582.87	Corderoy measure as GA assume 1.50m thick
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (abutment all items)	m3	271.50	1030.00	£123,577.24	Abut conc qty very light estimated based on similar viaduct
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (wing wall +cope)	m3	151..75	432.00	£42,082.19	Wing wall conc qty very light
Formwork Class vertical more than 300 mm wide (wing wall) F1 & F3	m2	235.84	576.00	£40,661.11	Contractors qty seems low
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	t	214.26	544.33	£351,880.41	Using org r/f ratio of 198 kg/m3 which is reasonable
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 6 metres in depth	m3	2160.00	3420.00	£15,120.00	
Disposal of acceptable material excluding Class 5A	m3	1944.00	3204.00	£13,230.00	
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (pier pile cap)	m3	1632.00	2565.00	£123,068.19	Corderoy measure as GA assume 1.50m thick
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD3, XF2 (pier column)	m3	763.41	393.00	-£52,536.36	Corderoy measure as GA
Formwork Class F1 vertical more than 300 mm wide (pier base)	m2	468.00	705.00	£17,579.91	Corderoy measure as GA assume 1.50m thick
Curved patterned profile formwork Class F3 at any inclination (pier column)	m2	1526.81	785.40	-£89,842.32	Corderoy measure as GA
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	ton	454.11	560.44	£113,356.87	Using org r/f ratio of 189 kg/m3 which is reasonable
Bearing (Type not detailed)	no	40.00	35.00	-£5,449.30	As per GA
Installation of bearing (Type not detailed)	no	40.00	35.00	-£3,750.00	As per GA

Savick Brook Viaduct: Description	Unit	Costains Quantity	Corderoy Quantity	Variance	Comment
Piling Mats, geotextile/600mm 6F2 (Revised to 1000mm)	item	2.67	0.00	- £725,860.81	Is this not included in Pile mobilization?

4.3 Darkinson Lane Underpass

The BQ includes 79k of method related charges which equates to 11% of the total. If the BQ is adjusted as per the GA drawing it would result in a 24k increase to the current total value. The major differences are summarised in the table below.

Darkinson Lane Underpass: Description	Unit	Contractors Quantity	Corderoy Quantity	Value difference	Comment
1.0m high aluminium N2 vehicle parapet working width class W2 with stainless steel mesh infills straight or curved exceeding 50 metres radius	m	52.00	104.00	£2,623.62	both sides
Hot rolled asphalt 35/14, polymer modified bitumen binder course, 40mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	m2	504.15	781.00	£2,835.15	
Heavy duty macadam with AC 20 aggregate binder course 50mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	m2	504.15	781.00	£2,623.62	
Masterpave 14mm surface course PSV 60 surface course 35mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	m2	504.15	781.00	£2,526.66	
Precast concrete road works kerb laid straight or curved exceeding 12 metres radius	m	103.26	168.00	£5,567.98	OK

4.4 Lea Viaduct

There are some differences in quantities. However, when corrected they result in a 104k reduction to the current BQ total value.

The BQ includes 969k of method related charges which equates to 9% of the total. The major differences are summarised in the table below.

Lea Viaduct: Description	Unit	Costains Quantity	Corderoy Quantity	Value Difference	Comment
Imported acceptable material Class 6N in fill to structures	m3	8089.50	3215.00	-£146,478.73	qty seems high
Formwork Class F1 vertical more than 300 mm wide (ballast wall)	m2	336.00	144.00	-£22,694.71	Assuming 30m long 1.4 deep
Permanent formwork in accordance with BA36	m2	6058.00	5476.00	-£45,916.75	250 mm for girders deducted
Bearing (Type not detailed)	no	30.00	60.00	£90,340.11	2 bearing per girder
Installation of bearing (Type not detailed)	no	30.00	60.00	£21,000.00	2 bearing per girder

4.5 Earls Farm Cattle Creek

The BQ does not seem to represent the GA drawing for the following reasons:

- The BQ includes 115m of PCC units whilst the GA drawing reveals 15m.
- The excavation quantity seems high and should not exceed 300m3 (from EGL).
- Brick parapet and copings are not included within the BQ, but pedestrian parapet is measured.
- Brick cladding (approx. 20m2) is not included within the BQ.
- Formwork (small quantity) is not included within the BQ.

The BQ includes 95k of method related charges which equates to 13% of the total.

If the BQ is adjusted as per the GA drawing it would result in a reduction of 479k to the current total value. The major differences are summarised in the table below.

Earls Farm Cattle Creek: Description	Unit	Costains Quantity	Corderoy Quantity	Value Difference	Comment
150 mm diameter porous drain in 300 mm x 300 mm no fines concrete surround on minimum 150 mm ST2 concrete bed (Back of wall drainage)	m	230.00	40.00	-£8,877.51	
225 mm hollow blockwork drainage layer	m2	360.00	144.00	-£5,072.61	Allowed for underpass walls and wing walls
300 x 105 Concrete Dish Channel to underpass	m	115.00	28.00	-£3,961.16	0
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 3 metres in depth	m3	3240.00	300.00	-£37,044.00	Excavation qty high looking at the structure not more than 300 m3 could be expected from the EGL
Disposal of acceptable material excluding class 5A	m3	2916.00	300.00	-£27,468.00	0

Earls Farm Cattle Creek: Description	Unit	Costains Quantity	Corderoy Quantity	Value Difference	Comment
Imported acceptable material Class 6N in fill to structures	m3	3180.00	212.00	-£93,647.82	fill is high corrected assuming fill either side to 1:1 slope + behind wing walls
In situ concrete ST 2 in blinding 100 mm or less in thickness	m3	128.70	5.00	-£17,601.19	Concrete over measure
In situ concrete Grade S50R (screed to achieve fall)	m3	69.00	8.00	-£8,651.88	assuming avg 200 mm layer
Precast concrete underpass units	m	45.00	15.00	-£111,450.00	number of under pass units does not match GA
Precast concrete underpass units	m	70.00	0.00	-£154,166.25	number of under pass units does not match GA
Waterproofing with two coats of bitumen more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	m2	360.00	7.00	-£2,891.07	Waterproofing over measure
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	m2	90.00	42.00	-£724.75	Waterproofing over measure
Waterproofing with two coats of bitumen more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	m2	520.00	98.00	-£3,456.18	Waterproofing over measure
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	m2	162.00	0.00	-£2,446.04	Waterproofing over measure
Surface impregnation with Pavix CCC100 or similar approved to plain surfaces	m2	252.00	73.00	-£1,221.68	minimum exposed conc faces

4.6 Bartle Lane

The estimate appears to be based upon a different design from that shown on the GA drawing provided, for the following reasons:

- The abutment quantities and wing wall quantities are higher than those shown on the GA drawing.
- No quantities have been measured for the pier.
- The Deck span seems to be shorter and narrower than that shown on the GA drawing.
- The estimate includes 57k for wing wall cladding.

The BQ includes 412k of method related charges which equates to 20% of the BQ total.

If the BQ is adjusted as per the GA drawing it would result in a reduction of 486k to the current total value. The major differences are summarised in the table below.

Bartle Lane: Description	Unit	Costains Qty	Corderoy Qty	Value Difference	Comment
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 6 metres in depth	m3	4714	1148	-£42,792.00	Contractor's qty seems very high.
Disposal of acceptable material excluding Class 5A	m3	4243	677	-£35,660.00	
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (East abutment pile cap)	m3	105	90	-£1,978.59	15 x 4.5 x 1.2 m assumed for check
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (West abutment pile cap)	m3	105	90	-£1,978.59	9.50 x 3.5 x 1.2 m assumed for check
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (wing wall pile caps)	m3	306	160	-£19,258.26	
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (wing walls)	m3	643	72	-£77,356.33	Corrected assuming 11m long x 0.65 m thick 8-2 m (tapering) deep wing wall, 4no,
Formwork Class F1 vertical more than 300 mm wide (wing walls)	m2	1302	220	£108,041.02	Corrected assuming 11m long x 0.65 m thick 8-2 m

Bartle Lane: Description	Unit	Costains Qty	Corderoy Qty	Value Difference	Comment
					(tapering) deep wing wall, 4no,
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005 (abutments)	tonne	275	70	- £194,182.33	290 kg/m3 is high corrected @ 190kg/m3 applied to corrected concrete volume
Cladding to abutment face and wing walls	Item			-£57,000	Not on GA

4.7 Becconsall

The GA drawing reveals 8 number steel I beams whilst Costain have included for 7 no Pre Cast Concrete (PCC) W18 beams. We don't understand the item 'Change from single span to triple span' valued at 282k? The deck span is measured at 41.5m whilst the drawing shows 47m.

We have checked the quantities and re-priced using Costain's rates. For completeness and ease of pricing we have assumed that 7 PCC beams will be used. This would negate the use of bearings, hence why they are not allowed for within the BQ.

If the BQ is adjusted as per the GA drawing and above, it would result in an increase of 6k (282k not deducted) to the current total value. The major differences are summarised in the table below.

The BQ includes 823k of method related charges which equate to 23% of the BQ total.

Becconsall: Description	Unit	Costains Quantity	Corderoy Quantity	Value Difference	Comment
Formwork vertical more than 300mm wide to F1 class surface finish (Diaphragm)	m ²	236.18	179.00	-£8,112.69	Assumed for 23m long 1.8m deep diaphragm
Safety barrier; Performance class N2; Working width class W2; Designed to be impacted on one side only; Straight or curved exceeding 120m radius	m	83.00	172.00	£3,420.89	bridge span + approach *2 (86*2)
1.4m high aluminium parapet containment performance class N2 working width class W2 with mesh infill both sides straight or curved exceeding 50 metres	m	110.00	172.00	£12,369.00	bridge span + approach *2 (86*2)

Becconsall: Description	Unit	Costains Quantity	Corderoy Quantity	Value Difference	Comment
radius - Changed to 1.0m N2 barrier					
1.0m high galvanised tubular steel pedestrian guardrail	m	61.99	0.00	-£7,201.34	not shown
Precast concrete kerb to bridge deck laid straight or curved exceeding 12 metres radius	m	166.00	188.00	£2,679.60	Bridge span (47m) *4
Central reserve infill concrete Grade C40/50 aggregate size 10/20 exposure class X0, XF4 approximately 250mm thick	m2	114.13	118.00	£782.16	Bridge span (47m) *2.5m
Hot rolled asphalt 35/14, polymer modified bitumen binder course, 40mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	m2	605.90	686.00	£861.29	Bridge span (47m) *7.3*2
Heavy duty macadam with AC 20 aggregate binder course 50mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	m2	605.90	686.00	£797.03	Bridge span (47m) *7.3*2
Masterpave 14mm surface course PSV 60 surface course 35mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	m2	605.90	686.00	£767.57	Bridge span (47m) *7.3*2

4.8 Bartle Underpass

The BQ comprises 702k for the box culvert and a 10k allowance for brickwork. The adjustments made to the Earls Farm Cattle Creep Culvert suggest a reduction of cost here of 325-350k plus additional craneage costs.

4.9 Temporary Bridges

There are no details provided or breakdown to the sum included.

4.10 Sheet Piling – Savick Brook

The quantities and rates appear ok.

4.11 Sheet Piling – Lea Viaduct (Canal)

The quantities and rates appear ok.

5.0 Review of Road Works

5.1 Notwithstanding lump sum items which without the build-ups are difficult to evaluate the majority of rates within the various BQs appear reasonable and/or sustainable (see **Appendix A**). The Road works items within the Estimate comprise the following:

ROAD WORKS	
Traffic Management	£2,972,353
Site Clearance & Demolition	£238,289
Earthworks	£14,498,888
Road Markings	£421,349
Motorway Comms	£1,985,497
Accommodation Works	£483,904
Landscaping & Ecology	£1,942,265
Road works MRC	£3,028,870
Site Wide Access Roads	Incl. above
Temp Water Management	Incl. above
Fencing	£611,765
Safety Fencing	£953,342
Drainage	£6,875,984
Kerbing & Footways	£1,592,237
Pavements Including Sub-base	£12,248,403
Traffic Signals	£515,794
Road Signs and Road Lighting	£2,272,530
ROAD WORKS SUBTOTAL	£50,641,471

5.2 Traffic Management (TM)

The TM build-up consists of the following:

- An allowance of 13,140 hours (times TM Operatives) for work undertaken during the day
- An allowance of 10,920 hours (times TM Operatives) for work undertaken during the night
- Subcontract costs including varioguard and temporary road markings

The 13,104 hours is calculated by multiplying a 12 hour shift x 7 days per week (84 hours) x 52 (weeks) x 3 (years) = 13,104 hours.

The 10,920 hours is calculated as above but based upon 2.5 years. This item is annotated as “*needed at Northern Section for access to site and to start the bridges at the M55*” We assume that access to the site will be required from Blackpool Road (Southern Section). We can appreciate that a TSCO would be required for this element (plus the M55 Tie-in) of the TM works, but fail to see why there is a general allowance for the full duration elsewhere. Further, notwithstanding daily maintenance TM would only be required at these locations when the varioguard is installed and subsequently removed. Once installed work can be undertaken safely behind varioguard (day or night).

The shift costs included for the varioguard and temporary road markings are typical for the industry. However, Costain have allowed for one shift to install the varioguard and one shift to remove at both locations. This generates a cost of 6k but typically Varioguard suppliers charge £8.50 per metre to install and/or remove. Therefore the real cost of installation/removal could be in the region of 82k (4800m x £17/m).

5.3 Site Clearance & Demolition

There are no quantities within the Estimate so evaluation was difficult. Therefore we have undertaken a measure and extended quantities by typical rates. Our assessment is 112k higher than that included within for within the BQ.

5.4 Earthworks

We have reviewed the MX genio model and include a separate review (see **Appendix D**) the salient points to note are:

The earthworks items within the Estimate are generally are not in accordance with MMHW4.

For completeness, all quantities within the worksheet entitled ‘Earthworks 2’ have been reviewed, However, please ignore the ‘First Review’ as this Report pertains only to values carried forward to the summary (‘Second Review’).

From the information provided it is only possible to check the balance of top soil and ‘site won’ material quantities.

The removal or storage of 5,272 cubic metres of top soil has not been billed.

It appears that the removal or re-location of 24,195 cubic metres of acceptable material has not been billed.

5.5 Road Markings

Evaluation of the road markings BQ is difficult without seeing the build-ups to the sums claimed. The sum of 213k seems high for anti-skid surfacing. We have roughly calculated 5650m² which equates to £38/m². This rate is high but could be due to over measure.

5.6 Motorway Comms

The BQ item description refers to “Motorway Communications located by M55 Southbound On-slip”. There is no detail or build up to the sum included. The following annotation only is provided:

*SC/SM assessment assumed that MS3 equipment is free issue from HE
Retaining walls - 4 nr 2m high and 25m long. Not including cladding*

A duct crossing may be required across the M55 motorway which presumably would require thrust boring. This would be a costly item.

5.7 Accommodation Works

There is no breakdown to the 484k included.

5.8 Landscaping & Ecology

There are no quantities to support the lump sum of £1.7m within the landscaping BQ. However, the drawings are fairly detailed in terms of landscaping works. Therefore we have undertaken a detailed measure and extended quantities by typical rates (see **Appendix C**). Our assessment has resulted in a total value of 4.2m which is significantly more than that included for within the estimate.

5.9 Road works MRC

Four haul roads and bell mouths have been included for within the BQ. We would need visibility of the temporary works design and methodology in order to evaluate properly.

5.10 Site Wide Access Roads

Included within ‘Roadworks MRC’ above.

5.11 Temporary Water Management

Included within ‘Road works MRC’ above.

5.12 Fencing

There is no fencing shown on the GA drawings but presumably there will be a requirement, the extent of which is unknown. Therefore evaluation of the BQ items is difficult. There is an allowance of 158k for fencing to the East West Link Road. The stated length is 3,200m therefore this equates to £25/m for boundary fencing which seems ok.

5.13 Safety Fencing

Presumably the 8,250m of safety fencing (N2/W2) is an advised allowance/quantity. The rates (£101.29 + £16.46) for the concrete barrier are a bit on the high side. We would expect an all-in rate (including base) of circa £90/m here. Without detail on drawings evaluation is difficult but the overall allowance seems ok.

5.14 Drainage

In the absence of design for drainage (detail or otherwise) we make the following observations:

The GA drawings are fairly detailed in terms of landscaping items and show ponds and watercourses etc. However they don't include a drainage ditch.

The contractor has allowed 3300 m of ‘V’ channel to drain surface water on the East West Link Road. However, this is inconsistent with the road design and the kerbs and footway arrangement. There is no provision of central reserve in the single carriageway to accommodate ‘V’ Channel and layout of kerbs and footways prohibit ‘V’ Channel on verges. However, this has not been deducted from our assessment below as an alternative drainage design solution will be required

We don't have design information to verify culverts and headwalls etc.

The BQ includes for a carrier drain on either side of the East West Link Road. It may only require drainage on one side only.

The BQ includes for 15 number Interceptors which seems excessive.

The chambers priced seem to be based upon the HCD F22 detail.

We have tabled the salient items below. The variances suggest a reduction in value of 886k.

Description	Unit	Costains Quantity	Corderoy Quantity	Variance	Comment
375mm internal diameter carrier drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.71 metres with Type S bed and surround to HCD F1	m	4,200	3642	-£60,137	Adjusted for structures
450mm internal diameter carrier drain specified design group 5 in trench depth to invert not exceeding 2m, average depth to invert 1.77 metres with Type S bed and surround to HCD F1	m	4,200	3642	-£59,527	Adjusted for structures
Construction of drainage ditch; Type D4 to LCC 11063/520/020 as stated in drawings 11063/500/001 to 38; depth not exceeding 1.0m.	m	8,500	0	-£295,715	Ditch is not detailed on GA
375mm internal diameter carrier drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.71 metres with Type S bed and surround to HCD F1	m	6,600	3227	-£363,515	Adjusted for one verge and structures

Description	Unit	Costains Quantity	Corderoy Quantity	Variance	Comment
Chamber specified design group 1200 dia Manhole Type A Chamber to LCC FL14; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	m	66	33	-37,917	Chambers allowed below under SWC, we believe same chamber could be used for carrier drainage
Linear drainage channel systems; 1m wide surface water channel to dwg 2500316/Cos/S282 Rev A and detail to dwg named "Surface Water Channel - 1m wide" dated 2804/15; straight or curved exceeding 12m radius in central reservation	m	8,400	7284	-£68,913	Adjusted for structures

5.15 Kerbing and Footways

The Estimate includes 15,274m of kerbs (all). We have made assumptions on the location of kerbs and have arrived at a total of 20,926. Therefore the estimate could be £200k - £300k light.

We have undertaken a measure of edgings and arrived a higher figure of 16,804m as opposed to the 12,306m included within the Estimate. Therefore the Estimate could be £31k light.

We have undertaken a measure of footway areas and arrived a higher figure of 54,933m² as opposed to the 47,388m² included within the Estimate. Therefore the Estimate could be £160k light.

5.16 Pavements including sub-base

We have undertaken an overall measure of pavement areas shown on the GA drawings and reconciled with quantities included within the Estimate. The results are summarised below.

Pavement Areas	Unit	Costain Quantity	Corderoy Quantity	Variance	Comment
Preston Western Distributor Road	m ²	132,479	160,908	-£955,416	Corderoy quantity includes the bridge
East West Link Road	m ²	32,200			
Savick Brook	m ²	5,450			
Bartle Lane	m ²	204			

Pavement Areas	Unit	Costain Quantity	Corderoy Quantity	Variance	Comment
Lea Viaduct	m2	4,334			surfacing
Beaconsall	m2	606			
Tie-in to Motorway		3,980	4,329	£23,212	
Tie-in to Blackpool Road	m2	9,760	4150	-£373,121	
Totals	m2	189,013	169,387	-£1,305,325	

The Costains composite rate for surfacing (including sub-base) is £66.51/m2. If we assume that the over-measure pertains to full depth construction, the above difference suggests a reduction in value of £1.3m.

5.17 Traffic Signals

The sum of 516k included is difficult to evaluate without seeing the relevant build-up Blackpool Road would be a complex junction and all other junctions would be minor

5.18 Road Signs and Road Lighting

The BQ includes a sum of £1.8m for street lighting to either side of the East West Link Road. If we assume that the lighting columns will be steel and spaced every 40m we crudely estimate that this cost should be in the region of £600 – £700k. It is assumed therefore that the sum also includes for street lighting to the Preston Western Distributor Road. There is also an allowance of 427k for signs which without visibility of the build-up is difficult to evaluate.

6.0 Summary

On a general note the Estimate appears to be robust. We have discovered inconsistencies with quantities but most rates (Structures and Road Works) used appear ok.

The level (18.91%) of prelims included for within the estimate appears to be typical for this size of scheme.

Based upon the Bridge Design drawings provided and a check of quantities only, the Structures appear to be overpriced by some £2.1m. In addition, we recommend that Costain are asked to provide detailed build-ups of all Method Related Charge items for review.

An Earthworks schedule based upon the MX Genio file has not been provided. Therefore review of model and verification of quantities is limited within the time constraints of this report

The allowance for landscaping seems light and could be under-priced by £2.6m.

The allowances for drainage seem generous. An assessment of drainage items suggests that Costains may have included for drainage items that are not required. The omission of these items could reduce the Estimate by 886k.

A measure and reconciliation of pavement quantities suggests that pavements appear to be over-priced by £1.3m.

Kerbs, edgings and footways appear to be under-measured and therefore the estimate could somewhere between £400k and £500k light.

The above suggests an overall reduction of circa. £1.3m. However, bearing in mind some of the constraints on the review and design information made available this figure would need to be discussed with Costain to clarify variances and major lump sum allowances.

Appendix A

Review of Rates Schedule

Appendix B

Check of Quantities - Structures

Appendix C

Measurement Summaries – Road Works

Appendix D

Earthworks Review (word and excel documents)

RIDGE

PROPERTY & CONSTRUCTION CONSULTANTS

{Insert Client Logo}

VERIFICATION REPORT

Preston West Distributor Road

20 December 2017

1

Prepared for
Lanchashire City Council

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VERIFICATION REPORT

Preston West Distributor Road

VERSION CONTROL

Project No.

5,005,029

VERSION	DATE	DESCRIPTION	CREATED BY	REVIEWED BY
1	20.12.2017	1st Issue	KL	GS

CONTENTS

1. EXECUTIVE SUMMARY	1
3. VERIFICATION FINDINGS	3
3. INFORMATION USED	4
4. APPENDICIES	5

APPENDIX 1 - RIDGE REVIEW AND COMMENTS ON COSTAIN COST PLAN

APPENDIX 2 - RIDGE PRELIMINARIES ANALYSIS

APPENDIX 3 - RIDGE TRAFFIC MANAGEMENT ANALYSIS

APPENDIX 4 - EARTHWORKS ANALYSIS

Preston West Distributor Road

1. EXECUTIVE SUMMARY

Lancashire City Council as part of the City Deal, are planning to construct the Preston Western Distributor Road, which consists of approximately 4.3km of dual carriageway, 3.5km of single carriageway and a number of new structures which includes two large viaducts. Lancashire City Council have appointed a design team and Costain as contracting partner to deliver the scheme. This is an ongoing process which commenced in 2016. Over this time the design work has progressed and the costplan/ budget had been developed and evolved.

Ridge have been appointed to undertake a review of the cost plan provided by Costain, taking into account both rates and quantification, while also sense checking the cost plan against the available design information.

This report has been prepared to summarise the findings of this review.

It should be noted that a full independent cost estimate has not been produced. The exercise is based on a review of the key rates and quantities together with a sense check on the scope of work and a benchmark exercise against a number of similar projects undertaken for Highways England.

An inflation calculation has been included in the information provided by Costain. This calculation has not been carried forward into the construction costs. However, it is understood that the figure calculated by Costain has been used by LCC in the overall budget calculation. This error is largely as a consequence of not compounding interest annually, the correction of which has made a substantial difference. In formulating the Ridge calculation, we have also taken a view on the future inflation rate used. It is extremely difficult to accurately forecast future inflation rate changes at present time due to significant uncertainties in the economy surrounding 'Brexit', and as a consequence of this we have undertaken the exercise providing a high and low range for consideration.

Throughout the report a number of lump sum items have been included by Costain. While we feel these are acceptable allowances given the nature and size of the scheme, Ridge would advise a review of these items be undertaken as part of future cost verification exercises once the appropriate level of scheme development has been undertaken.

The table below is a comparison of the exercise undertaken, comparing the Costain cost plan with the verification exercise undertaken by Ridge. A detailed narrative of each heading is provided in section 2, Verification Findings, below.

VERIFICATION REPORT

Preston West Distributor Road

Report Section	Costain	Ridge	Difference
Preliminaries	24,051,675	24,051,675	
Savick Brook Viaduct	16,215,912	16,390,907	174,995
Darkinson Lane Underpass	737,768	732,923	(4,846)
Lea Viaduct	11,296,213	11,305,103	8,890
Earls Farm Cattle creep	638,890	648,170	9,280
Bartle Lane	1,900,064	1,985,524	85,460
Becconsall	3,650,870	3,751,549	100,679
Bartle Underpass	712,000	712,000	
Temporary bridges	424,768	424,768	
Sheet Piling - Lea Viaduct (Canal)	248,839	248,839	
Traffic Management	2,972,353	2,972,353	
Site clearance & Demolition	238,289	238,289	
Earthworks	14,498,888	13,248,592	(1,250,296)
Road Markings	421,349	421,349	
Motorway Comms	3,324,110	3,324,110	
Accommodation Works	483,904	483,904	
Landscaping & Ecology	2,705,186	2,745,096	39,910
Roadworks MRC	3,028,870	3,028,870	
Fencing	611,765	611,765	
Safety Fencing	953,342	859,969	(93,373)
Drainage	6,875,984	7,172,956	296,972
Kerbing and Footways	1,592,237	1,708,159	115,922
Pavements including sub-base	12,248,403	10,526,532	(1,721,871)
Traffic Signals	515,794	515,794	
Road Signs and Road Lighting	1,847,530	1,847,530	
Management Fee	8,594,137	8,431,339	(162,798)
TOTAL	<u>120,789,140</u>	<u>118,388,065</u>	<u>(2,401,075)</u>

The table below summarises the inflation calculation that needs to be taken into consideration in the overall scheme budget. The calculations are provided in Appendix 1 of this document.

Inflation Allowance	Costain	Ridge Low (3%)	Ridge High (5%)
	5,865,324	14,832,174	25,483,859

2. VERIFICATION FINDINGS

Introduction

Ridge have undertaken a measurement exercise of both the GA's and structures plans provided and also commissioned an independent review of the 3D Earthwork Model information provided in order to generate our own quantities for use in this verification exercise.

We have also undertaken a rates comparison exercise, comparing rates against our own benchmark data

Set out below is a narrative of the findings that Ridge made during the analysis. The quantum and rate comparison exercise is included in Appendix 1 attached.

1. Savick Brook

- 1.1-** The works to Savick Brook all appear to be measured and quantified correctly. In regards to rates; despite the majority being in line with expected current market prices a number of items did vary between Ridge and Costain. In particular formwork prices appeared high while rates for excavation of class 5A material appeared low. There are also some rates which require clarification as large sums are itemised and Ridge were not supplied with a back up to this. Furthermore across the structures there were a number of items which are priced differently, and an understanding of why like for like items are varying in cost is required; in particular rebar and parapet costs, for identical specifications, appear to be priced at different levels.

It appears that no allowance has been made for pavements in the structures. Costain have stated that these costs have been deleted in this version of the cost plan, and that they are now included within the overall pavement measure. The Ridge verification of the pavement measure below does not support this and so we have made allowance here.

2. Bartle Lane

- 2.1-** As with Savick Brook, the measure appears to be accurate, however the same discrepancies with low rates for excavation of class 5A and high rates for formwork are evident. Furthermore across the structures there were a number of items which are priced differently, and an understanding of why like for like items are varying in cost is required; in particular rebar and parapet costs, for identical specifications appear to be priced at different levels.

It appears that no allowance has been made for pavements in the structures. Costain have stated that these costs have been deleted in this version of the cost plan, and that they are now included within the overall pavement measure. The Ridge verification of the pavement measure below does not support this and so we have made allowance here.

Preston West Distributor Road

3. Darkinson Lane

- 3.1-** As with Savick Brook, the measure appears to be accurate, however the same discrepancies with low rates for excavation for class 5A and high rates for formwork. Furthermore across the structures there were a number of items which are priced differently, and an understanding of why like for like items are varying in cost is required; in particular rebar and parapet costs, for identical specifications appear to be priced at different levels. Within Darkinson Lane waterproofing costs also varying to the other structures.

It appears that no allowance has been made for pavements in the structures. Costain have stated that these costs have been deleted in this version of the cost plan, and that they are now included within the overall pavement measure. The Ridge verification of the pavement measure below does not support this and so we have made allowance here.

4. Lea Viaduct

- 4.1-** As with Savick Brook, the measure appears to be accurate, however the same discrepancies with low rates for excavation of class 5A and high rates for formwork. Furthermore across the structures there were a number of items which are priced differently, and an understanding of why like for like items are varying in cost is required; in particular rebar and parapet costs, for identical specifications appear to be priced at different levels. Lea viaduct also has a discrepancy between the structures in the rate included for waterproofing.

It appears that no allowance has been made for pavements in the structures. Costain have stated that these costs have been deleted in this version of the cost plan, and that they are now included within the overall pavement measure. The Ridge verification of the pavement measure below does not support this and so we have made allowance here.

5. Beconsall

- 5.1-** As with Savick Brook, the measure appears to be accurate, however the same discrepancies with low rates for excavation of class 5A and high rates for formwork. Furthermore across the structures there were a number of items which are priced differently, and an understanding of why like for like items are varying in cost is required; in particular rebar and parapet costs, for identical specifications appear to be priced at different levels. Beaconsall also has a discrepancy between the structures in the rate included for waterproofing and concrete to the central reservation.

It appears that no allowance has been made for pavements in the structures. Costain have stated that these costs have been deleted in this version of the cost plan, and that they are now included within the overall pavement measure. The Ridge verification of the pavement measure below does not support this and so we have made allowance here.

6. Earls Farm Cattle Creep

- 6.1-** As with Savick Brook, the measure appears to be accurate, however the same discrepancies with low rates for excavation of class 5A and high rates for formwork. Furthermore across the structures there were a number of items which are priced differently, and an understanding of why like for like items are varying in cost is required.

Earls Farm Cattle Creep also requires clarification on the build ups to a number of large rates for the concrete structures being used and the assumptions made based on the limited design information provided.

Preston West Distributor Road

7. Bartle Underpass

- 7.1-** Bartle underpass has been priced with 2 large lump sums which Ridge require a breakdown of to make a proper assessment of the feasibility to work to these prices.

8. Sheet Piling - Brook

- 8.1-** Sheet piling to the brook area was discontinued. Nothing to report as no cost impact.

9. Sheet Piling - Canal

- 9.1-** The measurement in this section appears reasonable, however some rates are itemised and ideally would require back up. The rates do not appear excessive so we are comfortable an appropriate allowance has been made.

10. Traffic Management

- 10.1** The Costain cost plan includes a sum of £2.9m for traffic management, which appears to have been built up from a resourced based analysis. Ridge have undertaken a benchmark appraisal against a number of similar schemes undertaken for Highways England and are happy that the overall sum included with the cost plan is reasonable at this stage of the scheme development.

11. Site Clearance

- 11.1-** Large lump sum items in this section require clarification in order to allow for full analysis, Ridge also found that the removal of kerbs to the M55 may be included in the tying in of new roads under pavements, Ridge therefore would seek clarification further before a full analysis could be undertaken.

12. Earthworks

- 12.1-** In preparing the highway design surface, channel lines of overpasses/bridge sections were clipped back to where we reasonably thought abutments would be.

There were also a number of minor issues with the model priced that were adjusted prior to undertaken the cut & fill calculation eg levels where the road/bridge crossings occur are jumbled and overlap, levels at the RAB islands had to be adjusted and some erroneous levels along the middle of the RAB's

Overall cut / fill quantities were calculated separately for the main Distributor Road, the East / West Link and for the attenuation Ponds. These quantities were used in the earthworks verification exercise included in Appendix 1 and a copy of the Cut / Fill output report is included in Appendix 4

13. Road Markings

- 13.1-** This section of the report requires clarification to be properly assessed. Rate discrepancies in other sections leads us to believe there could be over estimations, and without a build up to rates there is no proper way to quantify these works and analyse if what has been allowed for is appropriate.

Preston West Distributor Road

14. Motorway Comms

- 14.1-** Ridge are happy that the main allowance of £2,400,000 is sufficient for works of this size and nature, however to allow for a full analysis a back up to the estimate for gantry works is required.

15. Accommodation Works

- 15.1-** Not enough information has been provided for Ridge to verify this cost.

16. Landscape and Ecology

- 16.1-** The backup documentation provided to support the Landscaping sums schedules out the individual plant species and numbers required for the scheme. The schedule does not link this to any specific areas. Ridge have undertaken a measurement exercise from the GA drawings provided and although we feel that the overall cost is a fair reflection given the size of landscaping areas required, we can not fully verify until numbers etc are linked to specific areas of landscaping.

The costs also allow for provision of a 'Bat House'. Although not identified on the drawings, Ridge believe it reasonable to include for this given the size and nature of the scheme. Ridge have also added the cost of providing bird / bat boxes which are identified on the drawings but not allowed for in the cost plan.

17. Temporary Works & Water Management and Method Related Charges

- 17.1-** Ridge are satisfied that the allowance of £3.028m is appropriate for works of this size and nature.

18. Fencing

- 18.1-** Fencing costs have been allowed for as 3 separate lumpsum items. Without further breakdown of these lump sums we are not able to verify the costs.

19. Safety Fencing

- 19.1-** Ridge finds the rates to be acceptable, however a discrepancy in the measurement of some items requires clarification in order for a full evaluation to be completed. The key areas of difference were in the measurement of safety barriers, where Ridge found Costain to be approximately 1,633m less of barrier across all barrier types.

20. Drainage

- 20.1-** Drainage verification has shown that rate allowances by Costain are sufficient, and smaller allowances are in line with what would be expected. The Ridge measure has identified a number of areas where there are differences between the measured items.

21. Kerbs and Footways

- 21.1-** This section offers appropriate rates, however quantification differences between Ridge and Costain within the measure of kerbs to the East West link road mean that Ridge would cost this section of works at a higher rate than Costain.

Preston West Distributor Road

22. Pavements

- 22.1-** In regards to pavements, Ridge reviewed both rates and the measure provided by Costain and while rates appeared acceptable in the majority of items, a substantial difference of over 10,000m² less pavement was found. Subsequently this means that a number of items within other sections of the report equate to less than Costain had allowed for.

Despite Costain assuring Ridge that works to pavements in structures are included in this section, the substantial difference in quantities lead to a requirement for a more detailed back up to the quantities included for this to be appropriately validated.

23. Traffic Signals

- 23.1-** The cost plan includes large lump sums for numerous items, Ridge will require a more detailed breakdown of the allowances to make a further assessment.

24. Traffic Signs and Road Markings

- 24.1-** Similar to the traffic signal works, Ridge require a breakdown of rates that make up the items in this section.

25. Inflation Calculation

- 25.1** Inflation costs have been calculated based on a cashflow of the works cost with. Ridge have identified that the formulas used in the calculation contain an error, and the assumed annual cost increase is not compounded year on year, which results in a much smaller figure.

The Costain calculation also did not make any allowance for inflation on the Management Fee or the Statutory Utility Costs.

Ridge have corrected this formula error and included for the omitted items. We have provided 2 scenarios for consideration & discussion, compounding the yearly increase at both 3% as a lower range and 5% as an upper range.

These calculations are included in Appendix 1.

5. SCHEDULE OF INFORMATION USED

The following documentation was used by Ridge to formulate the preceding report, along with the cost plan from Costain;

CLM01-DEV-040-020;

- *Sheet 1 of 14*
- *Sheet 2 of 14*
- *Sheet 3 of 14*
- *Sheet 4 of 14*
- *Sheet 5 of 14*
- *Sheet 6 of 14*
- *Sheet 7 of 14*
- *Sheet 8 of 14*
- *Sheet 9 of 14*
- *Sheet 10 of 14*
- *Sheet 11 of 14*
- *Sheet 12 of 14*
- *Sheet 13 of 14*
- *Sheet 14 of 14*

Structures Drawings

- 6614/B2237802/P/004
- CLM01/LCC/DR/6613/0001/BLB GA/W/01/INF
- CLM01/LCC/DR/6610/0001/DLU GA/W/01/INF
- CLM01 JAC DR 6611 1200
- CLM01/LCC/DR/6612/0001/EFCC GA/W/01/INF
- CLM01/LCC/DR/6617/0001/BU GA/W/01/INF
- CLM01/LCC/DR/33822/0001/BHRW GA/W/01/INF

3D Earthworks Model

- 09619-3dT Preston REV B
- CLM01-LCC-3D-0120-0001-W01-INF (3D PWD EWLR GENIO)
- PWD EWLR Design 3D
- triangulation

VERIFICATION REPORT

Preston West Distributor Road

6. APPENDICES

APPENDIX 1 - RIDGE REVIEW AND COMMENTS ON COSTAIN
COSTPLAN

PRESTON WESTERN DISTRIBUTOR ROAD

Inflation Calculation - Low

Fixed Price Allowance - July 19 Start													Comments					
INDIRECT WORKS	Total Target Cost Submission excl Inflation & Fee	Total Inflation Allowance	Jan-16 to Dec-16		Jan-17 to Dec-17		Jan-18 to Dec-18		Jan-19 to Dec-19		Jan-20 to Dec-20		Jan-21 to Dec-21		Jan-22 to Dec-22		Jan-23 to Dec-23	
			Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total
PRELIMINARIES				3.00%		3.00%		3.00%		3.00%		3.00%		3.00%		3.00%		
Staff	13,856,997	1,676,488	0	0.03	0	0.06	42,195	0.09	449,721	0.13	608,711	0.16	441,412	0.19	134,449			1,676,488
Labour	1,412,667	170,911	0	0.03	0	0.06	4,302	0.09	45,847	0.13	62,056	0.16	45,000	0.19	13,707			170,911
Site Accom	3,272,934	395,976	0	0.03	0	0.06	9,966	0.09	106,221	0.13	143,774	0.16	104,259	0.19	31,756			395,976
Plant/Transport	2,992,336	362,029	0	0.03	0	0.06	9,112	0.09	97,115	0.13	131,448	0.16	95,320	0.19	29,033			362,029
Ins/Bonds dddct from total	1,051,648	127,234	0	0.03	0	0.06	3,202	0.09	34,131	0.13	46,197	0.16	33,500	0.19	10,204			127,234
Skips	1,102,864	133,430	0	0.03	0	0.06	3,358	0.09	35,793	0.13	48,447	0.16	35,132	0.19	10,701			133,430
HSE	636,593	101,215	0	0.03	0	0.06	2,547	0.09	27,151	0.13	36,750	0.16	26,650	0.19	8,117			101,215
IT/Soft up	178,961	21,639	0	0.03	0	0.06	545	0.09	5,805	0.13	7,857	0.16	5,698	0.19	1,735			21,639
Fees	398,425	48,203	0	0.03	0	0.06	1,213	0.09	12,931	0.13	17,502	0.16	12,692	0.19	3,866			48,203
Carried to Target Submission Total	24,051,675	3,037,125	0		0	76,440		814,715		1,102,741		799,662		243,568		0		3,037,125

DIRECT WORKS	Total Target Cost Submission excl Inflation & Fee	Total Inflation Allowance	Jan-16 to Dec-16		Jan-17 to Dec-17		Jan-18 to Dec-18		Jan-19 to Dec-19		Jan-20 to Dec-20		Jan-21 to Dec-21		Jan-22 to Dec-22		Jan-23 to Dec-23	
			Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total
ROADWORKS GENERAL				3.00%		3.00%		3.00%		3.00%		3.00%		3.00%		3.00%		
Structures	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
TIM	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Site clearance & demolition	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Earthworks	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Road Markings	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Motorway Comms	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Accommodation Works	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Landscaping & Ecology	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Roadworks M/R/C	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Fencing	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Safety Fencing	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Drainage	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Kerbings and Footings	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Pavements including sub base	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Traffic Signals	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Road Signs and Lighting	0	0	0	0.03	0	0.06	0	0.09	0	0.13	0	0.16	0	0.19	0			0
Sub total	94,336,391	11,413,285	0	0.03	0	0.06	287,254	0.09	3,061,636	0.13	4,144,017	0.16	3,005,068	0.19	915,310			
State Fee	6,268,691	381,763	0	0.03	0	0.06	381,763	0.09	0	0.13	0	0.16	0	0.19	0			
RISK & OPPORTUNITY			0.0%		3.0%		5.0%		5.0%		5.0%		5.0%		5.0%			0
Carried to Target Submission Total	100,605,082	11,795,049	0		0	669,018		3,061,636		4,144,017		3,005,069		915,310		0		0

TOTAL INFLATION	
Total Target Cost Submission excl Inflation & Fee	
TOTAL	
Indirect Works	3,037,125
Direct Works	11,795,049
Carried to Target Submission Total	14,832,174

Previous reported inflation	5,717,227
Change	9,114,946.91

PRESTON WESTERN DISTRIBUTOR ROAD

Inflation Calculation - High

Fixed Price Allowance - July 19 Start											Comments							
INDIRECT WORKS	Total Target Cost Submission excl Inflation & Fee	Total Inflation Allowance	Jan-16 to Dec-16		Jan-17 to Dec-17		Jan-18 to Dec-18		Jan-19 to Dec-19		Jan-20 to Dec-20		Jan-21 to Dec-21		Jan-22 to Dec-22		Jan-23 to Dec-23	
			Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total
PRELIMINARIES			5.00%		5.00%		5.00%		5.00%		5.00%		5.00%		5.00%		5.00%	
Staff	13,856,997	2,882,006	0	0.05	0	0.10	71,017	0.16	764,473	0.22	1,045,194	0.28	765,687	0.34	235,635			2,882,006
Labour	1,412,667	293,809	0	0.05	0	0.10	7,240	0.16	77,935	0.22	106,553	0.28	78,059	0.34	24,022			293,809
Site Accom	3,272,334	880,711	0	0.05	0	0.10	16,774	0.16	180,564	0.22	248,868	0.28	180,850	0.34	55,856			880,711
Fuel/Transport	2,995,336	622,352	0	0.05	0	0.10	15,336	0.16	165,983	0.22	225,703	0.28	165,345	0.34	50,884			622,352
Ins/Bonds dddt from total	1,051,648	218,724	0	0.05	0	0.10	5,390	0.16	58,018	0.22	79,323	0.28	58,110	0.34	17,883			218,724
Skips	1,102,864	229,376	0	0.05	0	0.10	5,652	0.16	60,844	0.22	83,186	0.28	60,940	0.34	18,754			229,376
HSE	836,593	179,996	0	0.05	0	0.10	4,288	0.16	46,154	0.22	63,102	0.28	46,227	0.34	14,226			179,996
IT/Set up	178,861	37,200	0	0.05	0	0.10	917	0.16	9,888	0.22	13,491	0.28	9,883	0.34	3,041			37,200
Fees	398,425	82,865	0	0.05	0	0.10	2,042	0.16	21,981	0.22	30,052	0.28	22,015	0.34	6,775			82,865
Carried to Target Submission Total	24,051,675	5,221,040	0	0	0	128,655	1,384,819	1,893,473	1,387,117	426,677	0	0	0	0	0	0	0	5,221,040

DIRECT WORKS	Total Target Cost Submission excl Inflation & Fee	Total Inflation Allowance	Jan-16 to Dec-16		Jan-17 to Dec-17		Jan-18 to Dec-18		Jan-19 to Dec-19		Jan-20 to Dec-20		Jan-21 to Dec-21		Jan-22 to Dec-22		Jan-23 to Dec-23	
			Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total	Inflation %	Yr Total
ROADWORKS GENERAL			3.00%		3.00%		3.00%		3.00%		3.00%		3.00%		3.00%		3.00%	
Structures	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
TM	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Site clearance & demolition	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Earthworks	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Road Markings	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Motorway Corners	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Accommodation Works	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Landscaping & Ecology	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Roadworks MRC	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Fencing	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Safety Fencing	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Drainage	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Kerbings and Footings	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Pavements including sub base	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Traffic Signals	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Road Signs and Lighting	0	0	0	0.05	0	0.10	0	0.16	0	0.22	0	0.28	0	0.34	0			0
Sub total	94,536,391	19,620,274	0	0.05	0	0.10	483,474	0.16	5,204,421	0.22	7,115,529	0.28	5,212,681	0.34	1,604,170			19,620,274
Stats/Fee	6,266,691	642,541	0	0.05	0	0.10	642,541	0.16	0	0.22	0	0.28	0	0.34	0			642,541
RISK & OPPORTUNITY			0.0%		0	3.0%		5.0%		5.0%		5.0%		5.0%		5.0%		0
Carried to Target Submission Total	100,605,082	20,262,819	0	0	0	1,126,015	5,204,421	7,115,529	5,212,682	1,604,171	0	0	0	0	0	0	0	20,262,819

TOTAL INFLATION	
Total Target Cost Submission excl Inflation & Fee	
TOTAL	
Indirect Works	5,221,040
Direct Works	20,262,819
Carried to Target Submission Total	25,483,859

Previous reported inflation	5,717,227
Change	19,766,631.90

Project Name:		Report Title:				Date:	
PRESTON WESTERN DISTRIBUTOR ROAD & EAST WEST LINK ROAD		PROJECT CONSTRUCTION COST ESTIMATE				28-Sep-17	
Section	Length						
PWDR Mainline	4200 m						
Cottam Link Road	1000 m						
Lea Lane	800 m						
Bartle Lane (including the bridge)	400 m						
East West Link Road	3300 m						
Cost Code	Description	Estimated End Cost	%age of Direct Works	%age of Total	EWLR Component Included (£)	M55 Junction 2	Comments
Structures							
6609B1	Savick Brook Viaduct	£ 16,215,911.70	45.3%	12.8%			
6610B1	Darkinson Lane Underpass	£ 737,768.34	2.1%	0.6%			
6611B1	Lea Viaduct	£ 11,296,212.75	31.5%	8.9%			
6612B1	Earls Farm Cattle creep	£ 638,890.15	1.8%	0.5%			
6613B1	Bartle Lane	£ 1,900,064.05	5.3%	1.5%			Accommodation Works
6614B1	Beaconsall	£ 3,650,870.40	10.2%	2.9%		£ 3,650,870.40	
TBC	Bartle Underpass	£ 712,000.00	2.0%	0.6%			
TBC	Temporary bridges	£ 424,767.54	1.2%	0.3%			
TBC	Sheet Piling - Savick Brook	£ -					Accommodation Works
TBC	Sheet Piling - Lea Viaduct (Canal)	£ 248,838.82	0.7%	0.2%			Accommodation Works
Structures Sub-total		£ 35,825,323.77	100%	28%	£ -	£ 3,650,870.40	35,825,324
Roadworks							
100	Traffic Management	£ 2,972,352.80	5.7%	2.3%		£ 1,629,377.52	
200	Site clearance & Demolition	£ 238,289.05	0.5%	0.2%	£ 24,657.81	£ 145,822.26	
600	Earthworks	£ 14,498,887.98	27.7%	11.4%	£ 788,819.40	£ 5,811,584.16	
1200	Road Markings	£ 421,349.19	0.8%	0.3%			
1500	Motorway Comms	£ 3,324,110.00	6.4%	2.6%		£ 3,324,110.00	
2700	Accommodation Works	£ 483,903.76	0.9%	0.4%		£ 48,390.38	
3000	Landscaping & Ecology	£ 2,705,185.91	5.2%	2.1%			
Access roads, water management, temporary barriers, haul routes, 4 nr							
100	Roadworks MRC	£ 3,028,869.96	5.8%	2.4%	£ 363,539.59	£ 538,543.94	
100	Site Wide Access Roads						Temporary Roads
100	Temp Water Management						Included in RMR
300	Fencing	£ 611,765.13	1.2%	0.5%			Included in RMR
400	Safety Fencing	£ 953,342.48	1.8%	0.8%			Accommodation Works
500	Drainage	£ 6,875,983.53	13.1%	5.4%			
1100	Kerbing and Footways	£ 1,592,237.48	3.0%	1.3%			
700	Pavements including sub-base	£ 12,248,402.88	23.4%	9.6%			
1400	Traffic Signals	£ 515,794.34	1.0%	0.4%			
1200	Road Signs and Road Lighting	£ 1,847,529.85	3.5%	1.5%			
Roadworks Sub-total		£ 52,318,004.34	100%	41.2%	£ 1,177,016.79	£ 11,497,828.26	51,140,988
4000	Statutory Undertakers Civils Work						
Statutory Undertakers		£ -	0	0			0
Preliminaries							
	Preliminary Costs (See separate Build-Up)	£ 24,051,674.77	100%	18.9%	£ 541,099.10	£ 5,285,790.80	
Preliminaries Sub-total		£ 24,051,674.77	100.0%	18.9%	£ 541,099.10	£ 5,285,790.80	23,510,576
Risk and Opportunity							
	Construction Risk						
Risk and Opportunity		£ -	0	0			0
Direct Fee		£ 8,594,137.22			£ 131,607.68	£ 1,565,281.89	8,462,530
	7.66%						
Statutory Undertakers Work (Zero Fee LCC Expenditure)		£ 6,268,691.16	100.0%	4.9%	£ 884,911.32	£ 3,484,000.00	5,383,780
Project Construction Cost Estimate		£ 127,057,831.26			£ 2,734,634.89	£ 25,483,771.35	124,323,196

July 2017 Estimate	
Totals	Variance
15,218,978	996,933
792,704	-54,935
11,069,735	226,478
524,665	114,225
1,900,064	0
3,556,378	94,493
712,000	0
424,768	0
0	0
248,839	0
£ 34,448,130.00	1,377,194
2,972,353	0
238,289	0
14,498,888	0
421,349	0
1,985,497	1,338,613
483,904	0
1,942,265	762,921
3,028,870	0
0	0
0	0
611,765	0
953,342	0
6,875,984	0
1,592,237	0
12,248,403	0
515,794	0
1,847,530	0
£ 50,216,471.02	2,101,533
0	0
24,051,675	0
£ 24,051,674.77	0
0	0
0	0
8,327,667	266,470
6,268,691	0
123,312,634	3,745,198

1,223,411

Less EWLR 124,323,196.36

Becon (single span) £ -
Savick 7 to 6 span £ -
Retaining walls £ 425,000.00

£ 127,482,831.26

Revised less EWLR £ 124,748,196.36

110,186,532.75 14,136,663.61

- -
- -
425,000.00 -

£ 123,737,633.68 £ 3,745,197.58

£ 110,611,532.75 £ 14,136,663.61

PRESTON WEST DISTRIBUTOR ROAD
Savick Brook

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Imported acceptable material Class 6N in fill to structures	2175.00	m3	30	65,359						
Imported acceptable material Class 6N in fill above structural concrete foundations	inc above	m3								
Imported acceptable material Class 1 in fill beneath structural concrete foundations	inc above	m3								
Compaction of Fill										
Compaction of acceptable material in fill to structures	inc above	m3								
Compaction of acceptable material in fill above structural concrete foundations	inc above	m3								
Compaction of acceptable material in fill beneath structures										
inc above	m3									
Structural Concrete										
In Situ Concrete										
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (South Abt pile cap)	204.00	m3	132	26,909						
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (pile cap)	204.00	m3	132	26,909						
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (wingwall base slab)	252.00	m3	132	33,240						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (abutment wall)	158.72	m3	142	22,512						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (ballast wall)	93.00	m3	156	14,506						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (bearing plinth)	0.51	m3	177	90						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (bearing wall)	15.50	m3	156	2,418						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (masking wall)	3.00	m3	156	468						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (wingwall)	135.30	m3	142	19,190						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD3, XF4 (wingwall cope)	16.45	m3	177	2,915						
In situ concrete ST 2 aggregate size 10/20 exposure Class X0, AC-1 in blinding 75 mm or less in thickness	50.40	m3	142	7,171						
Surface Finish of Concrete-Formwork										
Formwork Class F2 horizontal more than 300 mm wide (ballast wall overhang)	18.60	m2	140	2,610		18.60	95	1,767	-843	Rate appears high, please clarify
Formwork Class F1 vertical more than 300 mm wide (abutment wall)	299.92	m2	100	29,937						
Formwork Class F1 vertical more than 300 mm wide (ballast wall)	310.00	m2	118	36,642		310.00	100	30,944	-5,698	Rate appears high, please clarify
Formwork Class F1 vertical more than 300 mm wide (pile cap)	114.00	m2	74	8,456						
Formwork Class F1 vertical more than 300 mm wide (South abt base slab)	108.40	m2	74	8,041						
Formwork Class F1 vertical more than 300 mm wide (wingwall base slab)	150.00	m2	74	11,127						
Formwork Class F1 vertical more than 300 mm wide (wingwall)	168.64	m2	100	16,833						
Formwork Class F2 vertical more than 300 mm wide (bearing wall)	62.00	m2	118	7,328		62.00	110	6,820	-508	Rate appears high, please clarify
Formwork Class F2 vertical more than 300 mm wide (masking wall)	30.00	m2	118	3,546		30.00	110	3,300	-246	Rate appears high, please clarify
Formwork Class F3 vertical more than 300 mm wide (wingwall cope)	67.20	m2	146	9,814		67.20	125	8,400	-1,414	Rate appears high, please clarify
Formwork Class F1 300 mm wide or less at any inclination (ballast wall)	12.40	m2	173	2,147		12.40	145	1,798	-349	Rate appears high, please clarify
Formwork Class F4 300 mm wide or less at any inclination (bearing plinth)	2.56	m2	173	443		2.56	145	371	-72	Rate appears high, please clarify
Formwork Class F4 300 mm wide or less at any inclination (wingwall cope)	9.40	m2	173	1,627		9.40	145	1,363	-264	Rate appears high, please clarify
Steel Reinforcement for Structures										
Steel bar reinforcement nominal size 16 mm and under Grade B-500B or B-500C to BS4449:2005	0.00	t								
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	214.26	t	1,066	228,419						
Bridge Expansion Joints and Sealing of Gaps										
Sealing of Gaps										
Hydrophilic sealant	1.00	Item	500	500						

PRESTON WEST DISTRIBUTOR ROAD
Savick Brook

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Polyurethane joint sealant	1.00	Item	500	500						
Closed cell polythene joint sealant	1.00	Item	100	100						
Joint filler board 20 mm thick	1.00	Item	50	50						
SUBSTRUCTURE - INTERMEDIATE SUPPORTS										
Earthworks										
Excavation										
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 6 metres in depth	2160.00	m3	12	25,920		2160.00	23	49,680	23,760	Rate appears low, please clarify
Excavation in Hard Material										
Deposition of Fill										
Deposition of acceptable material in fill above structural concrete foundations	216.00	m3	16	3,456						
Disposal of Material										
Disposal of acceptable material excluding Class 5A	1944.00	m3	11	20,412						
Compaction of Fill										
Compaction of acceptable material in fill above structural concrete foundations	inc above	m3								
Scour Protection										
Structural Concrete										
In Situ Concrete										
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (pier pile cap)	1275.00	m3	132	168,180						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD3, XF2 (bearing plinth)	12.10	m3	177	2,144						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD3, XF2 (pier column)	470.00	m3	142	66,662						
In situ concrete ST 2 aggregate size 10/20 exposure Class X0, AC-1 in blinding 75 mm or less in thickness	94.50	m3	142	13,446						
Surface Finish of Concrete-Formwork										
Formwork Class F1 vertical more than 300 mm wide (pier base)	390.00	m2	74	28,929						
Formwork Class F1 vertical more than 300 mm wide (pier wall)	0.00	m2								
Formwork Class F3 300 mm wide or less at any inclination (bearing plinth)	55.00	m2	173	9,522						
Surface Finish of Concrete-Patterned Profile Formwork										
Curved patterned profile formwork Class F3 at any inclination (pier column)	940.33	m2	121	113,946						
Steel Reinforcement for Structures										
Steel bar reinforcement nominal size 16 mm and under Grade B-500B or B-500C to BS4449:2005	0.00	ton								
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	332.12	ton	1,066	354,067						
Mesh A393		m2								
Provision of Crosshead beams spanning pier columns including In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD3, XF2, Formwork Class F4 more than 300 mm wide and Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005 based on 7 weeks hire of rapidshore formwork	0.00	m3								
SUPERSTRUCTURE										
Drainage and Service Ducts										
Drainage and Service Ducts in Structures (including Reinforced Earth Structures and Anchored Earth Structures)										
Drainage of superstructure		item								
100 mm diameter spare service duct laid in verge	1112.00	m	30	33,360						
Structural Concrete										
In Situ Concrete										
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1 (deck slab)	1918.20	m3	145	278,842						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1 (diaphragm)	104.88	m3	145	15,246						
Precast Concrete										
Precast concrete parapet coping Type 1 in accordance with Drawing No. B1082600/6552/0042	93.50	no	892	83,371		93.50	892	83,371		Rate discrepancy, this rate differs from other structures with the same 0 item, please clarify

PRESTON WEST DISTRIBUTOR ROAD
Savick Brook

COSTAIN					RAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
Precast concrete parapet coping Type 2 in accordance with Drawing No. B1082600/6552/0042	93.50	no	892	83,371		93.50	892	83,371		Rate discrepancy, this rate differs from other structures with the same 0 item, please clarify
Surface Finish of Concrete-Formwork										
Permanent formwork in accordance with BA36	7228.00	m2	79	570,251						
Formwork Class F2 horizontal more than 300 mm wide (diaphragm)	55.20	m2	120	6,604						
Formwork Class F3 horizontal more than 300 mm wide (deck cantilever)	722.80	m2	373	269,396						
Formwork Class F2 vertical more than 300 mm wide (diaphragm)	209.76	m2	142	29,761						
Steel Reinforcement for Structures										
Steel bar reinforcement nominal size 16 mm and under Grade B-500B or B-500C to BS4449:2005	82.18	ton	1,119	91,991						
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	578.16	ton	1,066	616,366						
Steelwork for Structures										
Fabrication of Steelwork										
Supply & fabrication of steel	1.00	item	3,247,180	3,247,180						Please provide breakdown of rate
Treatment & transport										
Erection of Steelwork	1.00	item	106,792	106,792						Please provide breakdown of rate
Permanent erection of superstructure	1.00	item	978,134	978,134						Please provide breakdown of rate
Bridge Bearings										
Bearings										
Bearing (Type not detailed)	40.00	no	1,090	43,594						
Installation of bearing (Type not detailed)	40.00	no	750	30,000						
Bridge Expansion Joints and Sealing of Gaps										
Bridge Deck Expansion Joints										
Type 5 expansion joint (BD33/94) 31m in length with +/- 40mm movement range	55.20	no	1,594	87,985						
Compressible joint sealant 20mm thick between precast copes	45.00	m2	20	900						
Deep grey polyurethane sealant 20mm x 15mm thick between precast copes	320.00	m	3	1,053						
Joint sealant tape between precast copes	110.00	m	3	281						
FINISHINGS										
Road Restraint Systems (Vehicle and Pedestrian)										
Safety Barriers										
1.4m high aluminium parapet containment performance class N2 working width class W2 with mesh infill both sides straight or curved exceeding 50 metres radius	302.50	m	194	58,646		302.50	275	83,188	24,542	Rate appears light, please clarify
1.0m high aluminium parapet containment performance class N2 working width class W2 with mesh infill both sides straight or curved exceeding 50 metres radius	302.50	m	200	60,349		302.50	205	62,013	1,664	Rate appears light, please clarify
Cast in parapet cluster @ 3m centres	186.00	no	85	15,810						
Concrete Safety Barrier										
Concrete safety barrier; Performance class H2; Working width class W2; Designed to be impacted on both sides; Straight or curved exceeding 120m radius	278.00	m	57	15,921						
Kerbs, Footways and Paved Areas										
Kerbs, Channels, Edgings, Combined Drainage and Kerb Blocks and Linear Drainage Channel Systems										
Precast concrete roadworks kerb laid straight or curved exceeding 12 metres radius	556.00	m	90	50,207						
Combined drainage and kerb laid straight or curved exceeding 12 metres radius	556.00	m	122	67,721						
Subsurface drainage channel	55.20	m	91	5,023						
SERIES 700 - PAVEMENTS										
Deck Construction										
Hot rolled asphalt 35/14, polymer modified bitumen binder course, 40mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	0.00	m2	11							
Heavy duty macadam with AC 20 aggregate binder course 50mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	0.00	m2	10			3491	10	34,737	34,727	Not included for in pavements

PRESTON WEST DISTRIBUTOR ROAD
Savick Brook

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Beam erection - Launching platforms (assume 50% saving)	1.00	nr	72,767	72,767						Please provide breakdown of rate
Earthworks for laydowns & access, cut/stockpile/fill/reinstale	1.00	item	8,343	8,343						
Temporary public Roads										
Temporary Footpaths	1.00	item	16,075	16,075						
Existing Services										
Service protection - In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (Service protection slabs 6m x 6m x 0.3m and 30m x 42m x 0.3m)	388.80	item	142	55,367						
Facilities										
Accommodation works generally	1	Item	83,904	83,904						Please provide breakdown of rate
Security (Visiting)	108.00	Wk	150	16,200						
Fencing/Hoardings										
Heras / Site Temporary Fencing	1.00	item	12,834	12,834						
Gates in Heras	1.00	item	950	950						
Site Pedestrian fencing	1.00	item	7,598	7,598						
Site Pedestrian/Traffic Segregation	1.00	item	16,621	16,621						
Orange Netting/Fencing	1.00	item	3,418	3,418						
Baulk timbers	1.00	item	5,733	5,733						
Pumping/Dewatering										
Ground Water	1.00	item	116,230	116,230						Please provide breakdown of rate
Temporary works backfill adjustments	1.00	item	-83,689	-83,689						Please provide breakdown of rate
Cofferdams										
Battered excavation (Extra over quant) Assume 1:1 batter plus 1.8m working room		item								
Sheets & Frames	5.00	Nr	65,191	325,956						Please provide breakdown of rate
Sheets & Frames		item								
Access for pile pre-auger rig	1.00	item	21,066	21,066						
Scaffolding										
Scaffolding - Abutment & 5n0 Piers	1.14	item	85,000	96,900						Please provide breakdown of rate
Scaffolding - Handrails/Edge Protection	1.14	item	5,000	5,700						
Fall arrest system	1.14	item	20,000	22,800						
Adaptions Alterations	1.14	item	5,000	5,700						
Falsework										
Temp timber platforms for erection of perm formwork	1.00	item	7,520	7,520						
Other Temporary Works										
Deck works craneage	0.00	item								
Allowance for insitu stringcourse	1.00	item	50,000	50,000						Please provide breakdown of rate
allowance for dewatering for piling until bases completed see jacobs email re 1.5 m above groundwater	1.00	item	250,000	250,000						Please provide breakdown of rate
To Collection				16,215,912					174,995	
				15,216,528						
				999,383						
										Ridge Total 16,390,907

PRESTON WEST DISTRIBUTOR ROAD
Bartle Lane

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
PILING										
Piling Plant										
Transport all necessary plant, labour & equipment to site for works piles and clear upon completion										
a) Main mob/demob (up to 1No rig)	1.00	Visit	25,000	25,000						
b) Tracked inter-site move per rig	1.00	Visit	5,000	5,000						
Transport all necessary plant, labour & equipment to site for works piles and clear upon completion - TEST PILES										
a) Main mob/demob (1No Rig)	1.00	Nr								
b) Low loader inter-site move per rig	0.00	Nr								
c) Tracked inter-site move per rig	0.00	Nr								
Set up/move to pile position	24.00	Nr	40	960						
Bored and concreted length a) 1050mm diameter (n.e.: 17.0m)										
a) 1050mm diameter (n.e.: 17.0m)	0.00	Lm	278							
Arising disposal	3.00	Wk	4,813	14,438						
Credit for pile length not constructed										
a) 1050mm diameter		Rate only	Lm							
Supply, fix and place TIED reinforcement										
a) Main cage reinforcement	34.27	tn	1,250	42,838						
b) Shear cage reinforcement	7.99	tn	1,250	9,988						
Integrity Tests: Sonic Echo										
a) Mobilisation per visit	3.00	Visit	100	300						
b) Test and report per pile	48.00	Nr	10	480						
Supply & fix debonding foam	1.00	item	1,250	1,250						
UKAS accredited site personnel										
a) Preliminary Piles	0.00	Nr								
b) Working Piles	0.00	Item								
Install & carry out test load to 2.5 x working load on preliminary test pile to max test load of upto 4800kN	0.00	Nr								
Carryout test load to 1.5 x working load to a max test load of upto 2880kN	2.00	Nr	12,055	24,110						
Prepare 1050 dia pile heads	24.00	no	350	8,400						
SUBSTRUCTURE - END SUPPORTS										
Drainage and Service Ducts										
Drainage and Service Ducts in Structures (including Reinforced Earth Structures and Anchored Earth Structures)										
150 mm diameter porous drain in 300 mm x 300 mm no fines concrete surround on minimum 150 mm ST2 concrete bed	37.70	m	99	3,750						
75 mm diameter weepholes 0.60 m in length	2.40	no	6	14						
75 mm diameter weepholes 1.6 m in length	2.00	no	9	17						
225 mm hollow blockwork drainage layer	1106.43	m2	25	27,344						
Allow for forming 150mm diameter drainage channel in bearing gallery floor	37.70	m	15	547						
Allow for connection to highway drainage system	2.00	no	1,500	3,000						
Earthworks										
Excavation										
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 6 metres in depth	4714.00	m3	12	56,568		4714.00	23	108,422	51,854	Rate appears low, please clarify
Deposition of Fill										
Deposition of acceptable material in fill above structural concrete foundations	471.40	m3	16	7,542						
Disposal of Material										
Disposal of acceptable material excluding Class 5A	4242.60	m3	10	42,426						
Imported Fill										
Imported acceptable material Class 6N in fill to structures	1887.00	m3	30	56,704						
Imported acceptable material Class 6N in fill above structural concrete foundations	inc above	m3								
Imported acceptable material Class 1 in fill beneath structural concrete foundations	inc above	m3								
Structural Concrete										
In Situ Concrete										
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (East abutment pile cap)	105.00	m3	132	13,850						
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (West abutment pile cap)	105.00	m3	132	13,850						
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (wingwall pile caps)	306.00	m3	132	40,363						

PRESTON WEST DISTRIBUTOR ROAD
Bartle Lane

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Surface Finish of Concrete-Formwork										
Formwork Class F1 vertical more than 300 mm wide (pier bases)	0.00	m2								
Formwork Class F1 vertical more than 300 mm wide (pier wall) -N/A		m2								
Formwork Class F3 300 mm wide or less at any inclination (bearing plinths)	0.00	m2								
Surface Finish of Concrete-Patterned Profile Formwork										
Patterned profile formwork Class F3 at any inclination (pier columns)	0.00	m2								
Steel Reinforcement for Structures										
Steel bar reinforcement nominal size 16 mm and under Grade B-500B or B-500C to BS4449:2005	0.00	ton								
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	0.00	ton								
SUPERSTRUCTURE										
Drainage and Service Ducts										
Drainage and Service Ducts in Structures (including Reinforced Earth Structures and Anchored Earth Structures)										
Water Main protection slab	1.00	item	10,000	10,000						Please provide build up of rate
100 mm diameter spare service duct laid in verge	112.00	m	32	3,528						
Structural Concrete										
In Situ Concrete										
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1 (deck slab - inc stitch)	58.24	m3	145	8,466						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1 (diaphragms)	13.52	m3	145	1,965						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1 (Parapet Cope)	20.16	m3	145	2,931						
Surface Finish of Concrete-Formwork										
Permanent formwork in accordance with BA36	288.40	m2	79	22,753						
Formwork Class F2 horizontal more than 300 mm wide (diaphragm)	10.40	m2	120	1,244						
Formwork Class F3 horizontal more than 300 mm wide (deck cantilever) -paraslim	84.00	m2	373	31,308						
Formwork Class F2 vertical more than 300 mm wide (diaphragm)	67.60	m2	142	9,591						
Formwork Class F3 vertical more than 300 mm wide (Deck cope) -paraslim	68.64	m2	373	25,583						
Formwork Class F4 300 mm wide or less at any inclination (Deck cope) -paraslim	22.40	m2	373	8,349						
Steel Reinforcement for Structures										
Steel bar reinforcement nominal size 16 mm and under Grade B-500B or B-500C to BS4449:2005	0.00	ton								
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	17.11	ton	949	16,244		17.11	1,066	18,239	1,995	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Steelwork for Structures										
Fabrication of Steelwork										
Fabrication of permanent bracing comprising plated sections	0.00	item								
Fabrication of main members comprising plated sections	0.00	item								
Treatment & transport	0.00	item								
Erection of Steelwork										
Permanent erection of superstructure	0.00	item								
Supply and install precast concrete Y8 Beams										
Permanent erection of superstructure	1.00	item	147,444	147,444						Please provide rate build up
Bridge Bearings										
Bearings										
Bearing (Type not detailed)	24.00	no	984	23,620		24.00	984	23,620	0	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Installation of bearing (Type not detailed)	24.00	no	700	16,800						
Bridge Expansion Joints and Sealing of Gaps										
Bridge Deck Expansion Joints										
Type 5 expansion joint (BD33/94) 12.30m in length with +/- 40mm movement range	26.00	m	1,594	41,442						
FINISHINGS										
Road Restraint Systems (Vehicle and Pedestrian)										
Safety Barriers										

PRESTON WEST DISTRIBUTOR ROAD
Bartle Lane

COSTAIN					RAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
Temporary Haul/Access Roads, 8m wide/2x geotextile/300mm 6F2	1.00	item	6,015	6,015						
Hardstandings (general access), geotextile/150mm 6F2	1.00	item	2,291	2,291						
Piling Mats, geotextile/600mm 6F2	1.00	item	90,733	90,733					Please provide rate build up	
General construction crane mats, geotextile/400mm 6F2	1.00	item	23,599	23,599						
Earthworks for laydowns & access, cut/stockpile/fill/reinstate	1.00	item	541	541						
Beam erection requirements:-										
General laydown area, geotextile/150mm 6F2	1.00	item	12,378	12,378						
Beam erection crane mat (medium crane), geotextile/400mm 6F2	2.00	item	12,378	24,756						
Beam erection crane mat (large crane), geotextile/600mm 6F2		item								
Earthworks for laydowns & access, cut/stockpile/fill/reinstate	1.00	item	8,843	8,843						
Fencing/Hoardings										
Heras / Site Temporary Fencing	1.00	item	1,953	1,953						
Gates in Heras	1.00	item	759	759						
Site Pedestrian fencing	1.00	item	2,846	2,846						
Site Pedestrian/Traffic Segregation	1.00	item	949	949						
Orange Netting/Fencing	1.00	item	497	497						
Baulk timbers	1.00	item	1,374	1,374						
Pumping/Dewatering										
Surface Water	1.00	item	4,142	4,142						
Sumps	1.00	item	3,271	3,271						
Cofferdams										
Battered excavation (Extra over quant) Assume 1:1 batter plus 1.8m working room	1.00	item	3,890	3,890						
Sheets & Frames	2.00	item	65,191	130,382					Please provide rate build up	
Access for pile pre-auger rig	1.00	item	21,066	21,066						
Scaffolding										
Scaffolding - Abutments and Piers	1.00	item	19,936	19,936						
Scaffolding - Handrails/Edge Protection	1.00	item	5,000	5,000						
Fall arrest system	1.00	item	10,000	10,000						
Adaptions Alterations	1.00	item	5,000	5,000						
Other Temporary Works										
Deck works craneage	1.00	item	13,800	13,800						
Crane Utilisation	1.00	item	10,000	10,000						
Cladding										
Cladding to abutment face and wingwalls	410.00	item	140	57,400					Please provide rate build up	
To Collection				<u>1,900,064</u>						
				1,900,064						
				0						
								<u>85,460</u>		
								<u>Ridge Total</u>	<u>1,985,524</u>	

PRESTON WEST DISTRIBUTOR ROAD
Darkinson Lane

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Drainage and Service Ducts in Structures (including Reinforced Earth Structures and Anchored Earth Structures)										
Weepholes 75mm dia, 2.5m long	16.00	no	14	216						
Chamber specified design group 1500 dia manhole Type 4a chamber to HCD F6. Depth to invert exceeding 2m but not 3m with D400/M1 cover & frame with 675 x 675 clear opening to LCC FL 10	2.00	no	3,505	7,011						
900mm Culvert replacement replacement Type S	76.50	m	536	41,005						
300 x 105 Concrete Dish Channel to underpass	34.02	m	43	1,475						
Connection of dish channel to Culvert	1.00	item	1,500	1,500						
100mm dia ductwork (2 way per verge)	103.26	m	30	3,098						
Earthworks										
Excavation										
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 3 metres in depth	800.00	m3	12	9,600		800.00	23	18,400	8,800	Rate appears low, please clarify
Deposition of Fill										
Deposition of acceptable material in fill to structures	84.00	m3	16	1,344						
Disposal of Material										
Disposal of acceptable material excluding class 5A	756.00	m3	10	7,560						
Imported Fill										
Imported acceptable material Class 6M in fill to structures	1939.74	m3	30	58,289						
Imported acceptable material Class 6L in upper bedding layer	32.32	m3	30	971						
Imported acceptable material Class 6K in fill beneath structural foundations	162.62	m3	30	4,887						
Compaction of Fill										
Compaction of acceptable material in fill to structures	2023.74	m3								
Compaction of acceptable material in fill beneath structural concrete foundations	162.62	m3								
Compaction of acceptable material in upper bedding layer	32.32	m3								
Structural Concrete										
In Situ Concrete										
In situ concrete ST 2 in blinding 75 mm or less in thickness	69.69	m3	136	9,444						
In situ concrete Grade S40R (wingwall base slab)		m3	126							
In situ concrete Grade S50R (wingwall)		m3	135							
In situ concrete Grade S50 (Stringcourse)	27.10	m3	169	4,574						
In situ concrete Grade S50 (Cover Slab)	146.37	m3	138	20,283						
Surface Finish of Concrete-Formwork										
Formwork Class F1 vertical more than 300 mm wide (Wingwall base slab)	57.54	m2	71	4,065		57.54	100	5,744	1,679	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Formwork Class F1 vertical more than 300 mm wide (wingwall)	205.80	m2	95	19,564		205.80	100	20,543	979	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Formwork Class F1 inclined more than 300 mm wide (wingwall)	226.38	m2	200	45,276		226.38	135	30,561	-14,715	Rate appears high, please clarify
Formwork Class F3 vertical more than 300 mm wide (Stringcourse)	78.60	m2	150	11,766		78.60	125	9,825	-1,941	Rate appears high, please clarify
Formwork Class F3 300 mm wide or less at any inclination (Stringcourse)	2.71	m2	165	447		2.71	145	393	-54	Rate appears high, please clarify
Formwork Class F3 Horizontal more than 300 mm wide (Stringcourse soffit)	18.97	m2	355	6,735		18.97	190	3,605	-3,130	Rate appears high, please clarify
Formwork Class F1 300 mm wide or less at any inclination (Cover slab)	22.18	m2	136	3,018		22.18	125	2,773	-245	Rate appears high, please clarify
Steel Reinforcement for Structures										
Steel bar reinforcement nominal size 16 mm and under not exceeding 12 metres in length Grade B-500B or B-500C to BS4449:2005	58.56	t	1,066	62,429		58.56	1,119	65,551	3,122	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Steel bar reinforcement nominal size 20 mm and over not exceeding 12 metres in length Grade B-500B or B-500C to BS4449:2005	70.27	t	904	63,538		70.27	1,066	74,909	11,371	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Corrugated Steel Buried Structures										
Corrugated steel buried structures (multiplate), length 32m (bottom), dia. 5.84m	1.00	Nr	92,920	92,920						Rate build up required
Bridge Expansion Joints and Sealing of Gaps										
Sealing of Gaps										

PRESTON WEST DISTRIBUTOR ROAD
Darkinson Lane

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Allow for joint at wingwall and culvert interface (no details provided)	2.00	Nr	330	660						
Allow for joint at block expansion joints (no details provided)	4.00	Nr	235	940						
FINISHINGS										
Brickwork, Blockwork, Stonework										
Brickwork, 102.5mm thick with a battered face in facework to concrete	213.78	m2	198	42,326		213.78	112	23,943	-18,383	Rate appears high, please clarify
Brickwork, 102.5mm thick with a battered face in arches	12.60	m2	236	2,971		12.60	195	2,457	-514	Rate appears high, please clarify
Road Restraint Systems (Vehicle and Pedestrian)										
Pedestrian Parapets, Guardrails and Handrails										
1.0m high aluminium N2 vehicle parapet working width class W2 with stainless steel mesh infills straight or curved exceeding 50 metres radius	52.00	m	200	10,374						
Cast in parapet clusters	18.00	nr	85	1,530						
SERIES 700 - PAVEMENTS										
Deck Construction										
Hot rolled asphalt 35/14, polymer modified bitumen binder course, 40mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)		m2	10							
Heavy duty macadam with AC 20 aggregate binder course 50mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)		m2	9			440	9	4,170	4,170	Not included for in pavement areas
Masterpave 14mm surface course PSV 60 surface course 35mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)		m2	9			440	9	4,016	4,016	Not included for in pavement areas
Footways and Paved Areas										
Central reserve infill concrete Grade C40/50 aggregate size 10/20 exposure class X0, XF4 approximately 250mm thick	16.94	m3	113	1,916						
Verge infill concrete Grade C40/50 aggregate size 10/20 exposure class X0, XF4 approximately 220mm thick	41.14	m3	113	4,653						
Hardened verge construction to bridge deck comprising 20mm thin surface course (CL919) and 60mm binder (CL912); Surfaces sloping at 10° or less to the horizontal	187.02	m2	23	4,249						
Pavement 200mm thick in underpass base slab (no details)	156.49	m2	46	7,236						
Kerbs, Footways and Paved Areas										
Kerbs, Channels, Edgings, Combined Drainage and Kerb Blocks and Linear Drainage Channel Systems										
Precast concrete roadworks kerb laid straight or curved exceeding 12 metres radius	103.26	m	86	8,880						
Waterproofing for Structures										
Waterproofing										
Surface preparation (minimum visit applies)	1.00	item	1,000	1,000						
Waterproofing with two coats of bitumen more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	7.56	m2	8	59		7.56	8	59	0	Rate discrepancy, this rate differs from other structures with the same item, 0 please clarify
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	22.18	m2	14	319		22.18	14	319	0	Rate discrepancy, this rate differs from other structures with the same item, 0 please clarify
Waterproofing with two coats of bitumen more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	305.40	m2	8	2,382		305.40	8	2,382	0	Rate discrepancy, this rate differs from other structures with the same item, 0 please clarify
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	731.83	m2	14	10,524		731.83	14	10,524	0	Rate discrepancy, this rate differs from other structures with the same item, 0 please clarify
Waterproofing with 20mm of black asphalt protection layer under verges more than 300mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	187.02	m2	11	2,020						
Surface Impregnation of Concrete										
Surface impregnation with Pavix CCC100 or similar approved to plain surfaces	65.05	m2	7	423						
Method Related (CMP014)										
Temporary site Roads										
Access point off public highway site clear, signs, apron	1.00	item	5,042	5,042						
Parking & office (paved area) geotextile/150mm 6F2/50mm black	1.00	item								
Protection/markings of Overhead Cables, goalposts & signs	1.00	item	1,158	1,158						

PRESTON WEST DISTRIBUTOR ROAD
Darkinson Lane

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
General construction requirements:-										
Hardstandings (general access), geotextile/150mm 6F2	1.00	item	2,740	2,740						
Beam erection requirements:-										
Temporary Haul/Access Roads, 2x geotextile/300mm 6F2	1.00	item	3,486	3,486						
Temporary public Roads										
Temporary Footpaths	1.00	item	2,179	2,179						
Fencing/Hoardings										
Heras / Site Temporary Fencing	1.00	item	5,591	5,591						
Gates in Heras	1.00	item	516	516						
Site Pedestrian fencing	1.00	item	1,086	1,086						
Orange Netting/Fencing	1.00	item	396	396						
Baulk timbers	1.00	item	432	432						
Pumping/Dewatering										
Surface Water	1.00	item	4,206	4,206						
Ground Water	1.00	item	11,075	11,075						
Sumps	1.00	item	10,110	10,110						
Flow Diversions	1.00	item	5,538	5,538						
Over pumping 900mm culvert for replacement works	1.00	item	2,000	2,000						
Silt \ Run-off Management										
Silt Buster	1.00	item	12,977	12,977						
Ponds/Ditches	1.00	item	1,114	1,114						
Concrete washout facility	1.00	item	2,168	2,168						
Cofferdams										
Battered excavation (Extra over quant) Assume 1:1 batter plus 1.8m working room		item								
Scaffolding										
Scaffolding - Wall	1.00	item	5,000	5,000						
Scaffolding - Handrails/Edge Protection	1.00	item	2,500	2,500						
Pumping station required due to lowering of alignment	1.00	item	75,000	75,000						Please provide build up of rate
				To Collection	737,768					
					54,935					
								-4,846		
								Ridge Total	732,923	

PRESTON WEST DISTRIBUTOR ROAD
Lea Viaduct

COSTAIN					RIDGE					
Description	Qty	Unit	Unit_Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
PILING										
Piling Plant										
Transport all necessary plant, labour & equipment to site for works piles and clear upon completion										
a) Main mob/demob (up to 2No rigs)	1.00	Visit	81,000	81,000						164 nr piles not 172, adjustment covers all piling -64,657 cost except mobilisation
b) Low loader inter-site move per rig	1.00	Visit	0	0						
Transport all necessary plant, labour & equipment to site for works piles and clear upon completion - TEST PILES										
a) Main mob/demob (1No Rig)	1.00	Nr	25,000	25,000						
b) Low loader inter-site move per rig	3.00	Nr	5,000	15,000						
c) Tracked inter-site move per rig	0.00	Nr		0						
Set up/move to pile position	172.00	Nr	40	6,880						
Bored and concreted length a) 900mm diameter (n.e.: 24.0m)										
a) 750mm diameter (n.e.: 25.0m)	1800.00	Lm	131	235,980						
a) 1050mm diameter (n.e.: 26.0m)	2546.00	Lm	215	548,281						
Arising disposal	5.50	Wk	2,625	14,438						
Credit for pile length not constructed										
a) 750mm diameter	Rate only	Lm		0						
a) 900mm diameter	Rate only	Lm		0						
Supply, fix and place TIED reinforcement										
a) Main cage reinforcement	204.34	tn	1,250	255,425						
b) Shear cage reinforcement	44.74	tn	1,250	55,925						
Integrity Tests: Sonic Echo										
a) Mobilisation per visit	3.00	Visit	100	300						
b) Test and report per pile	172.00	Nr	10	1,720						
Supply & fix debonding foam	1.00	item	8,000	8,000						
LUKAS accredited site personnel										
a) Preliminary Piles	1.00	Nr	0	0						
b) Working Piles	1.00	Item	0	0						
Install & carry out test load to 2.5 x working load on preliminary test pile to max test load of upto 4800kN										
Carryout test load to 1.5 x working load to a max test load of upto 2880kN	6.00	Nr	23,695	142,170						
Prepare 1050 dia pile heads	172.00	no	250	43,000						
SUBSTRUCTURE - END SUPPORTS										
Drainage and Service Ducts										
Drainage and Service Ducts in Structures (including Reinforced Earth Structures and Anchored Earth Structures)										
150 mm diameter porous drain in 300 mm x 300 mm no fines concrete surround on minimum 150 mm ST2 concrete bed	56.00	m	99	5,570						
75 mm diameter weepholes 0.60 m in length	4.00	no	6	24						
75 mm diameter weepholes 1.6 m in length	6.00	no	9	51						
225 mm hollow blockwork drainage layer	763.60	m2	25	18,871						
Allow for forming 150mm diameter drainage channel in bearing gallery floor	56.00	m	15	812						
Allow for connection to highway drainage system	2.00	no	1,500	3,000						
Earthworks										
Excavation										
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 6 metres in depth	7050.00	m3	12	84,600		7050.00	23	162,150	77,550	Rate appears low, please clarify
Deposition of Fill										
Deposition of acceptable material in fill above structural concrete foundations	705.00	m3	16	11,280						
Disposal of Material										
Disposal of acceptable material excluding Class 5A	6345.00	m3	10	63,450						
Imported Fill										
Imported acceptable material Class 6N in fill to structures	8089.50	m3	30	243,089						
Imported acceptable material Class 6N in fill above structural concrete foundations										
Imported acceptable material Class 1 in fill beneath structural concrete foundations	inc above	m3		0						
Compaction of Fill										
Compaction of acceptable material in fill to structures	inc above	m3		0						
Structural Concrete										
In Situ Concrete										

PRESTON WEST DISTRIBUTOR ROAD
Lea Viaduct

Description	COSTAIN				RAG	RIDGE				
	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (South Abt base slab)	310.80	m3	132	40,996						
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (North Abt base slab)	310.80	m3	132	40,996						
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (wingwall base slab - North & South)	483.00	m3	132	63,711						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (abutment wall South)	604.80	m3	142	85,781						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (abutment wall North)	378.00	m3	142	53,613						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (ballast wall)	92.40	m3	156	14,412						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (bearing plinth)	2.50	m3	177	443						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (bearing shelf)	75.60	m3	156	11,792						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (masking wall)	9.00	m3	156	1,404						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1, AC-1 (wingwall)	577.72	m3	142	81,940						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD3, XF4 (wingwall cope)	28.73	m3	177	5,091						
In situ concrete ST 2 aggregate size 10/20 exposure Class X0, AC-1 in blinding 75 mm or less in thickness	79.11	m3	142	11,257						
Surface Finish of Concrete-Formwork				0						
Formwork Class F2 horizontal more than 300 mm wide (ballast wall overhang)	16.80	m2	140	2,357		16.80	95	1,596	-761	Rate appears high, please clarify
Formwork Class F1 vertical more than 300 mm wide (South abutment wall)	491.20	m2	100	49,030						
Formwork Class F1 vertical more than 300 mm wide (North abutment wall)	307.00	m2	100	30,644						
Formwork Class F1 vertical more than 300 mm wide (ballast wall)	336.00	m2	118	39,716		336.00	100	33,540	-6,176	Rate appears high, please clarify
Formwork Class F1 vertical more than 300 mm wide (North abt base)	109.80	m2	74	8,145		109.80	100	10,960	2,816	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Formwork Class F1 vertical more than 300 mm wide (South abt base)	109.80	m2	74	8,145		109.80	100	10,960	2,816	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Formwork Class F1 vertical more than 300 mm wide (wingwall base slab)	180.00	m2	74	13,352		180.00	100	17,968	4,616	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Formwork Class F1 vertical more than 300 mm wide (wingwall)	937.68	m2	100	93,596						
Formwork Class F2 vertical more than 300 mm wide (bearing shelf)	100.80	m2	118	11,915		100.80	110	11,088	-827	Rate appears high, please clarify
Formwork Class F2 vertical more than 300 mm wide (masking wall)	63.60	m2	118	7,518		63.60	110	6,996	-522	Rate appears high, please clarify
Formwork Class F3 vertical more than 300 mm wide (wingwall cope)	90.09	m2	146	13,156		90.09	125	11,261	-1,895	Rate appears high, please clarify
Formwork Class F1 300 mm wide or less at any inclination (ballast wall)	11.20	m2	173	1,939		11.20	145	1,624	-315	Rate appears high, please clarify
Formwork Class F4 300 mm wide or less at any inclination (bearing plinth)	10.00	m2	173	1,731		10.00	145	1,450	-281	Rate appears high, please clarify
Formwork Class F4 300 mm wide or less at any inclination (wingwall cope)	13.60	m2	173	2,354		13.60	145	1,972	-382	Rate appears high, please clarify
Steel Reinforcement for Structures				0						
Steel bar reinforcement nominal size 16 mm and under Grade B-500B or B-500C to BS4449:2005	0.00	t		0						
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	558.02	t	1,066	594,891		558.02	1,066	594,891	0	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Bridge Expansion Joints and Sealing of Gaps				0						
Sealing of Gaps				0						
Hydrophilic sealant	1.00	Item	500	500						
Polyurethane joint sealant	1.00	Item	500	500						
Closed cell polythene joint sealant	1.00	Item	100	100						
Joint filler board 20 mm thick	1.00	Item	50	50						
SUBSTRUCTURE - INTERMEDIATE SUPPORTS				0						
Earthworks				0						
Excavation				0						
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 6 metres in depth	1645.00	m3	12	19,740		1645.00	23	37,835	18,095	Rate appears low, please clarify

PRESTON WEST DISTRIBUTOR ROAD
Lea Viaduct

COSTAIN					RAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
Deposition of				0						
Excavation in Hard Material				0						
Deposition of Fill				0						
Deposition of acceptable material in fill above structural concrete foundations	164.50	m3	16	2,632						
Disposal of Material				0						
Disposal of acceptable material excluding Class 5A	1480.50	m3	10	14,805						
Compaction of Fill				0						
Compaction of acceptable material in fill above structural concrete foundations	inc above	m3		0						
Structural Concrete				0						
In Situ Concrete				0						
In situ concrete Grade C32/40 aggregate size 10/20 exposure Class XC2, XD1, XF1, AC-1 (pier base)	710.40	m3	132	93,706						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD3, XF2 (bearing plinth)	5.00	m3	177	886						
Provision of Crosshead beams spanning pier columns including In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD3, XF2, Formwork Class F4 more than 300 mm wide and Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005 based on 7 weeks hire of rapidshore formwork	0.00	m3		0						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD3, XF2 (pier column)	404.47	m3	142	57,368						
In situ concrete ST 2 aggregate size 10/20 exposure Class X0, AC-1 in blinding 75 mm or less in thickness	56.88	m3	142	8,093						
Surface Finish of Concrete-Formwork				0						
Formwork Class F1 vertical more than 300 mm wide (pier base)	403.20	m2	74	29,908						
Formwork Class F3 300 mm wide or less at any inclination (bearing plinth)	20.00	m2	173	3,462		20.00	145	2,900	Rate appears high, please -562 clarify	
Surface Finish of Concrete-Patterned Profile Formwork				0						
Curved patterned profile formwork Class F3 at any inclination (pier column)	874.53	m2	121	105,973						
Steel Reinforcement for Structures				0						
Steel bar reinforcement nominal size 16 mm and under Grade B-500B or B-500C to BS4449:2005	0.00	ton		0						
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	222.41	ton	1,066	237,103		222.41	1,250	278,008	Rate discrepancy, this rate differs from other structures with the same item, please 40,905 clarify	
Mesh A393		m2		0						
SUPERSTRUCTURE				0						
Drainage and Service Ducts				0						
Drainage and Service Ducts in Structures (including Reinforced Earth Structures and Anchored Earth Structures)				0						
Drainage of superstructure		item		0						
100 mm diameter spare service duct laid in verge	932.00	m	32	29,358						
Structural Concrete				0						
In Situ Concrete				0						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1 (deck slab)	1607.70	m3	145	233,705						
In situ concrete Grade C40/50 aggregate size 10/20 exposure Class XC4, XD1, XF1 (diaphragm)	71.76	m3	145	10,431						
Precast Concrete				0						
Precast concrete parapet coping Type 1	78.50	no	966	75,792		78.50	892	69,996	Rate discrepancy, this rate differs from other structures with the same item, please -5,796 clarify	
Precast concrete parapet coping Type 2	78.50	no	966	75,792		78.50	892	69,996	Rate discrepancy, this rate differs from other structures with the same item, please -5,796 clarify	
Surface Finish of Concrete-Formwork				0						
Permanent formwork in accordance with BA36	6058.00	m2	79	477,944						
Formwork Class F2 horizontal more than 300 mm wide (diaphragm)	55.20	m2	120	6,604		55.20	105	5,796	Rate appears high, please -808 clarify	
Formwork Class F3 horizontal more than 300 mm wide (deck cantilever)	605.80	m2	373	225,789		605.80	190	115,102	Rate appears high, please -110,687 clarify	
Formwork Class F2 vertical more than 300 mm wide (diaphragm)	143.52	m2	142	20,363		143.52	120	17,222	Rate appears high, please -3,140 clarify	
Steel Reinforcement for Structures				0						
Steel bar reinforcement nominal size 16 mm and under Grade B-500B or B-500C to BS4449:2005	68.22	ton	1,119	76,368		68.22	1,119	76,368	Rate discrepancy, this rate differs from other structures with the same item, please 0 clarify	

PRESTON WEST DISTRIBUTOR ROAD
Lea Viaduct

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	457.11	ton	949	433,973		457.11	1,066	487,275	53,302	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Steelwork for Structures	0			0						
Fabrication of Steelwork	0			0						
Fabrication of permanent bracing comprising plated sections	1.00	item	2,816,534	2,816,534						Please provide rate build up
Fabrication of main members comprising plated sections	1.00	item		0						
Treatment & transport	1.00	item	74,984	74,984						Please provide rate build up
Erection of Steelwork	0			0						
Permanent erection of superstructure	1.00	item	1,008,540	1,008,540						Please provide rate build up
Bridge Bearings	0			0						
Bearings	0			0						
Bearing (Type not detailed)	30.00	no	3,011	90,340		30.00	948	28,445	-61,895	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Installation of bearing (Type not detailed)	30.00	no	700	21,000						Rate discrepancy, this rate differs from other structures with the same item, please clarify
Bridge Expansion Joints and Sealing of Gaps	0			0						
Bridge Deck Expansion Joints	0			0						
Type 5 expansion joint (BD33/94) 27.60m in length with +/- 40mm movement range	55.20	m	1,594	87,985						
Compressible joint sealant 20mm thick between precast copes	66.33	m2	20	1,327						
Deep grey polyurethane sealant 20mm x 15mm thick between precast copes	306.15	m	3	1,007						
Joint sealant tape between precast copes	110.00	m	3	281						
FINISHINGS	0			0						
Road Restraint Systems (Vehicle and Pedestrian)	0			0						
Safety Barriers	0			0						
1.8m high aluminium parapet containment performance class H4a type straight or curved not exceeding 50 metres radius	178.00	m	1,165	207,370						
1.4m high aluminium parapet containment performance class N2 working width class W2 with mesh infill both sides straight or curved exceeding 50 metres radius	178.00	m	194	34,509						
1.0m high aluminium parapet containment performance class N2 working width class W2 with mesh infill both sides straight or curved exceeding 50 metres radius	178.00	m	200	35,511						
Cast in parapet clusters @ 3.0m centres	0.00	no		0						
Concrete Safety Barrier	0			0						
Concrete safety barrier; Performance class H2; Working width class W2; Designed to be impacted on both sides; Straight or curved exceeding 120m radius	233.00	m	57	13,344						
Kerbs, Footways and Paved Areas	0			0						
Kerbs, Channels, Edgings, Combined Drainage and Kerb Blocks and Linear Drainage Channel Systems	0			0						
Precast concrete roadworks kerb laid straight or curved exceeding 12 metres radius	466.00	m	90	42,080						
Combined drainage and kerb blocks incorporating sub surface drainage laid straight or curved exceeding 12 metres radius	466.00	m	122	56,759		466.00	122	56,759	0	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Sub surface drainage laid straight or curved exceeding 12 metres radius	55.20	m	96	5,274		55.20	91	5,023	-251	Rate discrepancy, this rate differs from other structures with the same item, please clarify
SERIES 700 - PAVEMENTS	0			0						
Deck Construction	0			0						
Hot rolled asphalt 35/14, polymer modified bitumen binder course, 40mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	0.00	m2	11	0						
Heavy duty macadam with AC 20 aggregate binder course 50mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	0.00	m2	10	0		4021.00	10	40,011	40,011	
Masterpave 14mm surface course PSV 60 surface course 35mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	0.00	m2	10	0		4021.00	10	38,532	38,532	
Footways and Paved Areas	0			0						
Hardened verge construction to bridge deck comprising 20mm thin surface course (CL919) and 60mm binder (CL912); Surfaces sloping at 10° or less to the horizontal	1514.50	m2	24	36,131						
Verge infill concrete Grade C40/50 aggregate size 10/20 exposure class X0, XF4 approximately 300mm thick	350.67	m3	119	41,625						

PRESTON WEST DISTRIBUTOR ROAD
Lea Viaduct

COSTAIN					RAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
Central reserve infill concrete Grade C40/50 aggregate size 10/20 exposure class X0, XF4 approximately 250mm thick	145.63	m3	119	17,286						
Slabs/open blockwork sloping at more than 10 degrees to the horizontal	476.00	m2	100	47,481						
Bearing inspection platform (no details)	1.00	Item	1,000	1,000						
Steps				0						
Access steps cut into batter slopes with lockable access gate flight length approximately 10.50m	50.00	no	650	32,500		50.00	550	27,500	-5,000	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Steelwork for Structures				0						
Miscellaneous Metalwork				0						
Galvanised steel lockable access door 1.200 m wide 1.000 m high	2.00	nr	1,100	2,200						
Waterproofing for Structures				0						
Waterproofing				0						
Surface preparation prior to waterproofing - Grit Blasting	6974.50	m2	2	14,646						
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	6481.20	m2	15	97,860						
Waterproofing with two coats of bitumen more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	1047.36	m2	8	8,578						
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	493.30	m2	15	7,448						
Waterproofing with two coats of bitumen more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	955.00	m2	8	7,821						
Waterproofing with 20mm of black asphalt protection layer more than 300mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	1514.50	m2	11	17,174						
Abutment Sub-surface Drainage				0						
325 Channel drain 2000mm long and fittings	30.00	m	210	6,300						
Surface Impregnation of Concrete				0						
Surface impregnation to plain surfaces with Pavix 100 CCC or similar approved	1388.40	m2	7	9,476						
CMP05 Method Related				0						
Temporary site Roads				0						
Access point off public highway site clear, signs, apron	1.00	item	7,707	7,707						
Parking & office (paved area) geotextile/150mm 6F2/50mm black	1.00	item	19,556	19,556						
General construction requirements:-				0						
Temporary Haul/Access Roads, 8m wide/2x geotextile/300mm 6F2	1.00	item	88,903	88,903						Please provide breakdown of rate
Hardstandings (general access), geotextile/150mm 6F2	1.00	item	16,415	16,415						
Piling Mats, geotextile/600mm 6F2	1.00	item	272,198	272,198						
General construction crane mats, geotextile/400mm 6F2	1.00	item	23,599	23,599						
Earthworks for laydowns & access, cut/stockpile/fill/reinstate	1.00	item	15,177	15,177						
Beam erection requirements:-				0						
General laydown area, geotextile/150mm 6F2	1.00	item	130,395	130,395						Please provide breakdown of rate
Beam erection crane mat (medium crane), geotextile/400mm 6F2	3.00	item	63,173	189,520						Please provide breakdown of rate
Earthworks for laydowns & access, cut/stockpile/fill/reinstate	1.00	item	8,343	8,343						
Temporary public Roads				0						
Temporary Footpaths	1.00	item	16,075	16,075						
Existing Services				0						
Service protection		item		0						
Fencing/Hoardings				0						
Heras / Site Temporary Fencing	1.00	item	12,834	12,834						
Gates in Heras	1.00	item	950	950						
Site Pedestrian fencing	1.00	item	7,598	7,598						
Site Pedestrian/Traffic Segregation	1.00	item	16,621	16,621						
Orange Netting/Fencing	1.00	item	3,418	3,418						
Baulk timbers	1.00	item	5,733	5,733						
Pumping/Dewatering				0						

PRESTON WEST DISTRIBUTOR ROAD
Beaconsall

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Steel bar reinforcement nominal size 20 mm and over Grade B-500B or B-500C to BS4449:2005	71.83	t	1,066	76,572		71.83	1,066	76,572		Rate discrepancy, this rate differs from other structures with the same 0 item, please clarify
SERIES 400 ROAD RESTRAINT SYSTEMS										
Safety Barrier										
Safety barrier; Performance class N2; Working width class W2; Designed to be impacted on one side only; Straight or curved exceeding 120m radius	83.00	m	38	3,190						
Road Restraint Systems (Vehicle and Pedestrian)										
Pedestrian Parapets, Guardrails and Handrails										
1.4m high aluminium parapet containment performance class N2 working width class W2 with mesh infill both sides straight or curved exceeding 50 metres radius - Changed to 1.0m N2 barrier	110.00	m	200	21,945		110.00	194	21,326		Rate discrepancy, this rate differs from other structures with the same -619 item, please clarify
1.0m high galvanised tubular steel pedestrian guardrail	61.99	m	116	7,201						
Kerbs, Footways and Paved Areas										
Kerbs, Channels, Edgings, Combined Drainage and Kerb Blocks and Linear Drainage Channel Systems										
Precast concrete kerb to bridge deck laid straight or curved exceeding 12 metres radius	166.00	m	122	20,219						
SERIES 700 - PAVEMENTS										
Footways and Paved Areas										
Grasscrete or similar paved area		m2								
Paving slabs sloping at more than 10 degrees to the horizontal	61.99	m2	29	1,787						
Central reserve infill concrete Grade C40/50 aggregate size 10/20 exposure class X0, XF4 approximately 250mm thick	114.13	m2	202	23,036		114.13	119	13,547		Rate discrepancy, this rate differs from other structures with the same -9,489 item, please clarify
Verge infill concrete Grade C40/50 aggregate size 10/20 exposure class X0, XF4 approximately 300mm thick	182.60	m2	119	21,681						
Other Bridge Deck Construction										
Hot rolled asphalt 35/14, polymer modified bitumen binder course, 40mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	0.00	m2	11							
Heavy duty macadam with AC 20 aggregate binder course 50mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	0.00	m2	10			5418.00	10	53,909		not included for in 53,909 pavements
Masterpave 14mm surface course PSV 60 surface course 35mm thick in carriageway, hardshoulder and hardstrip (Pavement Type 5)	0.00	m2	10			5418.00	10	51,904		not included for in 51,904 pavements
Footways and Paved Areas										
Hardened verge construction to bridge deck comprising 20mm thin surface course (CL919) and 60mm binder (CL912); Surfaces sloping at 10° or less to the horizontal	182.60	m2	24	4,356						
Waterproofing for Structures										
Waterproofing										
Surface preparation	954.50	m2	2	2,004						
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	937.90	m2	15	14,161						
Waterproofing with two coats of bitumen more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	180.80	m2	8	1,481						
Waterproofing with two coats of bitumen more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	1512.31	m2	8	12,386						
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	16.60	m2	15	251						
Waterproofing with 20mm of black asphalt protection layer under verges more than 300mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	207.50	m2	11	2,353						
Surface Impregnation of Concrete										
Surface impregnation to plain surfaces with Pavix 100 CCC or similar approved	980.78	m2	8	7,724						
CMP 004 Method Related										
General construction requirements:-										
Temporary Haul/Access Roads, 8m wide/2x geotextile/300mm 6F2	1.00	item	59,260	59,260						Please provide a breakdown of the rate

PRESTON WEST DISTRIBUTOR ROAD
Beaconsall

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Hardstandings (general access), geotextile/150mm 6F2	1.00	item	24,791	24,791						Please provide a breakdown of the rate
General construction crane mats, geotextile/400mm 6F2	1.00	item	36,262	36,262						Please provide a breakdown of the rate
Piling Mats, geotextile/600mm 6F2	1.00	item	90,733	90,733						Please provide a breakdown of the rate
Earthworks for laydowns & access, cut/stockpile/fill/reinstale		item								
Beam erection requirements:-										
Temporary Haul/Access Roads, 2x geotextile/300mm 6F2	1.00	item	30,502	30,502						Please provide a breakdown of the rate
General laydown area, geotextile/150mm 6F2	1.00	item	18,519	18,519						
Beam erection crane mat (medium crane), geotextile/400mm 6F2	2.00	item	11,785	23,570						Please provide a breakdown of the rate
Beam erection crane mat (large crane), geotextile/600mm 6F2	1.00	item	13,413	13,413						
Fencing/Hoardings										
Heras / Site Temporary Fencing	1.00	item	4,445	4,445						
Gates in Heras	1.00	item	547	547						
Site Pedestrian fencing		item								
Site Pedestrian/Traffic Segregation	1.00	item	2,650	2,650						
Orange Netting/Fencing	1.00	item	840	840						
Other	1.00	item	5,000	5,000						
Pumping/Dewatering										
Surface Water	1.00	item	28,175	28,175						Please provide a breakdown of the rate
Silt \ Run-off Management										
Concrete washout facility	1.00	item	4,595	4,595						
Cofferdams										
Sheets & Frames	2.00	item	65,191	130,382						Please provide a breakdown of the rate
Scaffolding										
Scaffolding - Wall	1.00	item	20,000	20,000						
Scaffolding - Handrails/Edge Protection	1.00	item	1,040	1,040						
Fall arrest system	1.00	item	9,250	9,250						
Adaptions / Alterations	1.00	item	5,000	5,000						
Crane Utilisation	1.00	item	32,428	32,428						Please provide a breakdown of the rate
Change from triple concrete span to single steel span	1.00	item	282,000	282,000						Please provide a breakdown of the rate
To Collection				3,650,870					100,679	
				3,556,378						
				94,493						
									3,751,549	

PRESTON WEST DISTRIBUTOR ROAD
Eaels Farm Cattle Creep

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	BAG	QTY	RATE	TOTAL	Difference	COMMENT
MAIN CONSTRUCTION										
Drainage and Service Ducts										
Drainage and Service Ducts in Structures (including Reinforced Earth Structures and Anchored Earth Structures)										
150 mm diameter porous drain in 300 mm x 300 mm no fines concrete surround on minimum 150 mm ST2 concrete bed (Back of wall drainage)	230.00	m	47	10,746						
225 mm hollow blockwork drainage layer	360.00	m2	23	8,454						
Weepholes 75mm dia, 2.5m long	60.00	no	15	902						
Chamber specified design group 1500 dia manhole Type 4a chamber to HCD F6. Depth to invert exceeding 2m but not 3m with D400/M1 cover & frame with 675 x 675 clear opening to LCC FL 10	2.00	no	4,198	8,395						
100mm internal diameter carrier drain specified design group 10 in trench depth to invert not exceeding 2m average depth to invert 1.13m with Type S bed and surround to HCD F1	115.00	m	38	4,336						
Rodding eye specified design group LCC FL 13 in carriageway with 225x225 rodding eye cover & frame	1.00	no	154	154						
900mm Culvert replacement Type S		m		0						
300 x 105 Concrete Dish Channel to underpass	115.00	m	46	5,236						
Connection of dish channel to Culvert	1.00	Item	1,575	1,575						
100mm dia ductwork (2 way per verge)		m		0						
Earthworks										
Excavation										
Excavation of acceptable material excluding Class 5A in structural foundations 0 to 3 metres in depth	3240.00	m3	13	40,824		3240.00	23	74,520	33,696	Rate appears low, please clarify
Deposition of Fill				0						
Deposition of acceptable material in fill to structures	324.00	m3	17	5,443						
Disposal of Material				0						
Disposal of acceptable material excluding class 5A	2916.00	m3	11	30,618						
Imported Fill				0						
Imported acceptable material Class 6N in fill to structures	3180.00	m3	32	100,337						
Compaction of Fill				0						
Compaction of acceptable material in fill to structures	inc above	m3		0						
Structural Concrete										
In Situ Concrete										
In situ concrete ST 2 in blinding 100 mm or less in thickness	127.80	m3	142	18,185						
In situ concrete Grade S50R (screed to achieve fall)	69.00	m3	142	9,787						
In situ concrete Grade S50 (stitch)	15.00	m3	142	2,128						
Precast Concrete										
Precast concrete underpass units	18.00	m	3,715	66,870						
Precast concrete underpass units	0.00	m	2,202	0						
Steel Reinforcement for Structures										
Steel bar reinforcement nominal size 16 mm and under not exceeding 12 metres in length Grade B-500B or B-500C to BS4449:2005	1.50	t	1,119	1,679		1.50	1,119	1,679	0	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Steel bar reinforcement nominal size 20 mm and over not exceeding 12 metres in length Grade B-500B or B-500C to BS4449:2005	1.80	t	949	1,709		1.80	1,066	1,919	210	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Bridge Expansion Joints and Sealing of Gaps										
Sealing of Gaps										
Sealing of joints / gaps	1.00	Item	5,000	5,000						
FINISHINGS										
Pedestrian Parapets, Guardrails and Handrails										
1.0m high galvanised tubular steel pedestrian guardrail	140.00	m	263	36,750		140.00	117	16,332	-20,418	Rate discrepancy, this rate differs from other structures with the same item, please clarify
Waterproofing for Structures										
Waterproofing										
Surface preparation (minimum visit applies)	1.00	Item	1,000	1,000						

PRESTON WEST DISTRIBUTOR ROAD
Eaels Farm Cattle Creep

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	BAG	QTY	RATE	TOTAL	Difference	COMMENT
Waterproofing with two coats of bitumen more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	360.00	m2	8	2,948						
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	90.00	m2	15	1,359						
Waterproofing with two coats of bitumen more than 300 mm wide at any inclination more than 30 degrees up to and including 90 degrees to the horizontal	520.00	m2	8	4,259						
Waterproofing with bridge deck spray applied waterproofing system more than 300 mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	162.00	m2	15	2,446						
Waterproofing with 20mm of black asphalt protection layer under verges more than 300mm wide horizontal or at any inclination up to and including 30 degrees to the horizontal	28.80	m2	11	327						
Surface Impregnation of Concrete				0						
Surface impregnation with Pavix CCC100 or similar approved to plain surfaces	252.00	m2	7	1,720						
Method Related (CMP014)				0						
Temporary site Roads				0						
Access point off public highway site clear, signs, apron	1.00	item	5,042	5,042						
Parking & office (paved area) geotextile/150mm 6F2/50mm black		item		0						
Protection/marking of Overhead Cables, goalposts & signs	0.00	item		0						
General construction requirements:-				0						
Hardstandings (general access), geotextile/150mm 6F2	1.00	item	2,740	2,740						
Beam erection requirements:-				0						
Temporary Haul/Access Roads, 2x geotextile/300mm 6F2	1.00	item	5,188	5,188						
Beam erection crane mat (large crane), geotextile/600mm 6F2	2.00	item	4,853	9,706						
Temporary public Roads				0						
Temporary Footpaths	1.00	item	2,179	2,179						
Fencing/Hoardings				0						
Heras / Site Temporary Fencing	1.00	item	5,591	5,591						
Gates in Heras	1.00	item	516	516						
Site Pedestrian fencing	1.00	item	1,086	1,086						
Orange Netting/Fencing	1.00	item	396	396						
Baulk timbers	1.00	item	432	432						
Pumping/Dewatering				0						
Surface Water	1.00	item	4,206	4,206						
Ground Water	1.00	item	11,075	11,075						
Sumps	1.00	item	10,110	10,110						
Flow Diversions	1.00	item	5,538	5,538						
Over pumping 900mm culvert for replacement works	1.00	item	2,000	2,000						
Silt \ Run-off Management				0						
Silt Buster	1.00	item	12,977	12,977						
Ponds/Ditches	1.00	item	1,114	1,114						
Concrete washout facility	1.00	item	2,168	2,168						
Cofferdams				0						
Battered excavation (Extra over quant) Assume 1:1 batter plus 1.8m working room	1.00	item	3,224	3,224						
Brickwork	1.00	item	15,000	15,000						
Concrete to wingwalls	60.00	item	132	7,915						
Formwork to wingwalls	200.00	item	146	29,208		200.00	125	25,000	-4,208	Rate appears high, please clarify
Steel to wingwalls	13.20	item	1,066	14,071		13.20	1,066	14,071	0	Rate discrepancy, this rate differs from other structures with the same item, please clarify (presumed re-bar)
Drainage blanket to structure and vibro columns - 6B/Gabion Stone	400.00	t	35	14,000						
Vibro stone columns 600dia, 13m deep approx 100 no	1300.00	m	77	100,225						

PRESTON WEST DISTRIBUTOR ROAD
Bartle Underpass

COSTAIN				
Description	Qty	Unit	Unit Cost	Amount
MAIN CONSTRUCTION				
Box Culvert 5.4mx4.8x32	1.00	Item	702,000	702,000
Brickwork	1.00	item	10,000	10,000
To Collection				712,000

RIDGE					
RAG	QTY	RATE	TOTAL	Difference	COMMENT
					Please provide assumptions that have been made

PRESTON WEST DISTRIBUTOR ROAD
Sheet Piling - Canal

COSTAIN						RIDGE				
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
MAIN CONSTRUCTION										
Sheet Piling										
Mob / De-mob plant & equipment for 'Conventional' Pile Installation		Item	2.00	5,650	11,300					
Supply & Installation of 10.0m long sheet piles to form 2No. lines of 40.0m long permanent piling		m	100.00	1,655	165,500					
Flame cutting sheet piles to level following installation		Item	1.00	2,000	2,000					
Supply and installation of steel channel capping beam		m	100.00	285	28,500					
ST2 Infill		m3	28.80	150	4,333					
Platform		Item	1.00	37,206	37,206					Please provide build up of rate
To Collection					248,839					
					248,839					
					0					

PRESTON WEST DISTRIBUTOR ROAD

Traffic Management

<u>COSTAIN</u>				
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Traffic Management				
Labour				
TSCO 12hr cover - days	13104	hr	17	227,223
TSCO/Fman 12hr cover - nights	10920	hr	17	189,353
TM operative - Foreman - days	13104	hr	17	227,223
TM operative - Foreman - nights		hr	17	0
TM operative - Days	13104	hr	16	204,029
TM operative - Nights	10920	hr	16	171,990
TM operative - Days	13104	hr	16	206,388
TM operative - Nights	10920	hr		0
TM operative - Days	13104	hr	16	206,388
TM operative - Days	13104	hr	16	206,388
				1,638,983
Plant				
Van up to 1.10 tonnes - 14 (21)	156	weeks	595	92,820
Van up to 1.10 tonnes - 14 (21)	156	weeks	595	92,820
Van up to 1.10 tonnes - 14 (21)	156	weeks	595	92,820
Van up to 1.10 tonnes - 14 (21)	156	weeks	595	92,820
Traffic warning cone - 1 mtr 37 (42)	5000	nr	6	27,500
Traffic sleeve	5000	nr	1	6,250
Lamps - Conelamp and Sequential Taper lamp	1000	nr	51	50,540
Batteries	35000	nr	1	35,000
Traffic lights 4 sets	104	week	600	62,400
Lodge x 10 men	10920	shift	25	273,000
Lodge x 10 men- weekends	936	shift	25	23,400
				849,370

Subcontract				
Temp Road markings	1	Item	60,000	60,000
Temp signs	1	Item	25,000	25,000
Verroguard £/lm based on; barrier cost of £0.13 per day plus installation and removal cost with an estimated hire of 730 days - Motorway Junction both sides	3200	lm	120	384,000
verro guard £/lm based on; barrier cost of £0.13 per day plus installation and removal cost with an estimated hire of 730 days - Blackpool Road both sides	1600	lm		0
Allowance for visits to alter the barrier	10	nr	1,500	15,000
				484,000

To Collection 2,972,353

EWL 0

M55 1,629,378

PRESTON WEST DISTRIBUTOR ROAD
Site Clearance

COSTAIN					RAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
Preston Western Distributor										
Site Clearance										
General site clearance (vegetation)	1	item	90,477	90,477						
Retention on site of 10% of felled timber	1	item	32,812	32,812						
Demolition of Footway on M55	1	item	115,000	115,000					Is this included in pavements or separate measure, please clarify	
To Collection				238,289						
EWLR				24,658						
M55				145,822						

PRESTON WEST DISTRIBUTOR ROAD
Earthworks

COSTAIN					Comment	Costain				Ridge					
Description	Qty	Unit	Unit Cost	Amount		Qty	Unit	Unit Cost	Amount	QTY	UNIT	RATE	Total	Difference	Comment
Preston Western Distributor															
SERIES 600 EARTHWORKS															
Excavate acceptable material Class 5A and move to stockpile	183,478.00	m3			Total Topsoil (total)	183,478.00	m3	5	911,886	139,000.00	m3	5	690,830	-221,056	based on 300mm rate seems high, but dstance of stockpiles will be a factor
Excavate acceptable material Class 5A and move to stockpile	144,772.00	m3	5	719,575	N/S Excavation	244,500.00	m3	5	1,215,165	183,571.00	m3	5	912,348	-302,817	What is excavate for embankment void?
Excavate acceptable material Class 5A and move to stockpile - EWL	38,706.00	m3			N/S Fill from cut	52,965.00		0	0	30,000.00				0	cost included in excavation rate
					N/S fill from stockpile	117,769.00		5	585,312	60,569.00		5	301,028	-284,284	
					N/S Imported Fill	250,826.00		33	8,357,522	250,826.00		33	8,357,522	0	
Excavate acceptable material (** May need modification**)	234,517.00	m3		0		421,560.00	m3			341,395.00	m3				
Excavate acceptable material - to stockpile	154,652.00	m3	5	768,682	Lime stabilisation	52,965.00		8	448,084	52,965.00		8	448,084	0	what area / depth is this based on?
Excavate acceptable material - to stockpile - EWL		m3			Resoiling	56,797.00		5	279,441	56,797.00		5	279,441	0	
Excavate acceptable material - to fill locations	52,965.00	m3	5	263,257	Completion of formation	165,775.37		1	215,508	183,571.00	m2	1	238,642	23,134	
Excavate acceptable material - to fill locations - EWL	26,900.00	m3			Surplus topsoil re-location	121,409.00		5	597,332						
Imported acceptable material Class 6F2 in fill to structural embankment	250,826.00	m3	33	8,357,028											
Excavate acceptable material - from stockpile for embankment 'Void'	117,769.00	m3		0	E/W Excavation	26,900.00		5	133,693	29769	m3	5	147,952	14,259	
Excavate acceptable material - from stockpile for embankment 'Void' - from acceptable	117,769.00	m3	5	585,312	E/W Fill from cut	12,863.00		0	0	14483		0	0	0	cost included in excavation rate
Excavate acceptable material - from stockpile for embankment 'Void' - from topsoil Class 5A	-	m3	5	0	E/W fill from stockpile	10,000.00		5	49,700	10000		5	49,700	0	
Excavate acceptable material - Surplus placed on site	36,883.00	m3	5	183,309	E/W Imported Fill	0		0	0	0		0	0	0	
Resoiling 150 thick	0			0	Lime stabilisation	26,900.00		8	227,574	26,900.00		8	227,574	0	what area / depth is this based on?
Resoiling 300 - 450 thick	0			0	Resoiling	5,272.00		5	26,202	5,272.00		5	26,202	0	
Resoiling 300 - 450 thick	56,797.00	m3	5	279,441	Completion of formation	32,000.00		1	39,040	104525		1	127,521	88,481	quant seems light - 2d area is 104525 m2
Resoiling balance of soils - storage areas					Surplus topsoil re-location	0			0						
Surplus of topsoil - placed on site	121,409.00	m3	5	597,332											
Geotextiles to topsoil areas	28,398.50	m2	1	17,323											
De-stumping	2.00	nr	15,390	30,780	Attenuation Ponds										
Completion of formation in acceptable material	165,775.37	m2	1	215,442	Strip Topsoil	18,044.00		5	89,679	10750		5	53,428	-36,251	rate seems high, but dstance of stockpiles will be a factor
Lime stabilisation	52,965.00	m3	8	447,999	Excavation	74,378.00		5	369,659	57000		5	283,290	-86,369	
Starter layer 6B					resoiling	18,044.00		5	89,679	10750		5	53,428	-36,251	
6B starter layer	-	m3	33	0	completion of formation	38,500.00		1	50,050	20513		1	26,667	-23,383	

PRESTON WEST DISTRIBUTOR ROAD
Road Markings

COSTAIN						RIDGE				
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Roadmarkings										
Retroreflective thermoplastic road markings generally throughout		1 item	156,787	156,787						Please provide breakdown as dependant on quantities in other areas
Road Studs										
Retroreflective uni-directional road studs generally		1 item	29,162	29,162						Please provide breakdown as dependant on quantities in other areas
High friction surfacing										
Epoxy resin based yellow coloured anti skid surface treatment		1 item	213,466	213,466						Please provide breakdown as dependant on quantities in other areas
Cycle Way - Red Thermoplastic coloured surfacing such as 'Textureflex' provided in all cycle areas		1 item	21,935	21,935						Please provide a rate and quantity build up
				To Collection						
				421,349						

PRESTON WEST DISTRIBUTOR ROAD

Accomodation

<u>COSTAIN</u>				
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Preston Western Distibutor				
Accommodation works generally	0	Item	83,904	0
Accommodation works general - 1.5% of contract value	0	item	1,751,669	0
This was changed to allow for the works within summary page that LCC see as accomodation works hence LCC originalestimate of 1.5% or 1.7m				
	1	item	483,904	483,904
				To Collection
				<u>483,904</u>

PRESTON WEST DISTRIBUTOR ROAD
Landscape and Ecology

COSTAIN					BAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
Preston Western Distributor										
Landscaping works including maintenance	1	Item	1,729,579	1,729,579					Translocated hedgerow too high, not referenced which plants in Costain costs are for TH so cant make appropriate adjustment. Please specify	
Ashlea quotation based upon LCC scope	1	item	670,421	670,421					Please provide a copy of the aforementioned quote	
Amp Barrier	2779	lm	31	86,510						
Amp/Newt Fencing	5000	lm	11	54,600					Did not identify newt barrier only amphibian, please identify reference too this.	
Mowing of existing land for Land Take (3 times per year)										
45708 m2 x 3 year construction build	411372	m2	0	31,676						
Mowing of existing land for Land Take (3 times per year)										
5mx2x4.5krmx 3 year construction build	405000	m2	0	32,400						
Bat House	1	1	100,000	100,000					Reasonable allowance but where has this specification come from?	
									Bird/ Bat box allowance as identified from LCC drawings, estimated 1nr box per 10 mature trees planted	
						307	130		39,910	
									<u>39,910</u>	
										<u>2,745,096</u>
										To Collection <u>2,705,166</u>

PRESTON WEST DISTRIBUTOR ROAD
RWR & WTM

<u>COSTAIN</u>				
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Preston Western Distributor				
Road works method related & Water Management				
MAAS		m	181	0
Seperator with hoarding - Red & White	3216	m	108	347,553
Heras	6730	m	7	48,052
Other materials	1	item	40,850	40,850
Temporary Access M55 North				
Haul Road 600lm				
Excavate acceptable material Class 5A outside the earthworks outline	1215	m3	5	6,039
Excavate acceptable Class 2C material in cutting and other excavation	1080	m3	5	5,368
Imported acceptable material Class 6F2 in fill	351	m3	32	11,197
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	1215	m3	30	36,669
Heavy duty macadam with AC 32 aggregate base 150mm thick in carriageway, hardshoulder and hardstrip		m2	32	0
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip	2700	m2		0
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip	2700	m2		0
Tack coat	2700	m2	1	1,350
White lining 1 visit	1	Visit	1,500	1,500
Removal of temporary road	1	Item		0
protection slab electricity and gas	1	nr	10,000	10,000
wheel wash	1	nr	24,960	24,960
Bell mouth				
Excavate acceptable material Class 5A outside the earthworks outline	393.75	m3	5	1,957
Excavate acceptable Class 2C material in cutting and other excavation	350	m3	5	1,740
Imported acceptable material Class 6F2 in fill to structures	113.75	m3	27	3,023
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	393.75	m3	25	9,915
Heavy duty macadam with AC 32 aggregate base 150mm thick in carriageway, hardshoulder and hardstrip	1900	m2	32	61,731
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip	875	m2		0
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip	875	m2		0
Tack coat	875	m2	1	438
White lining 1 visit	1	Visit		0

PRESTON WEST DISTRIBUTOR ROAD
RWR & WTM

<u>COSTAIN</u>				
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Removal of temporary road	1	Item		0
Temporary Access M55 South				
Haul road 700lm				
Excavate acceptable material Class 5A outside the earthworks outline	1417.5	m3	5	7,045
Excavate acceptable Class 2C material in cutting and other excavation	1260	m3	5	6,262
Imported acceptable material Class 6F2 in fill to structures	409.5	m3	27	10,885
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	1417.5	m3	25	35,693
Heavy duty macadam with AC 32 aggregate base 130mm thick in carriageway, hardshoulder and hardstrip	1900	m2	32	61,731
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip	3150	m2		0
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip	3150	m2		0
Tack coat	3150	m2	1	1,575
White lining 1 visit	1	Visit	1,500	1,500
Removal of temporary road	1	Item		0
protection slab 1 culvert and 1 stream wheel was	1	nr	10,000	10,000
	1	nr	24,960	24,960
Bell Mouth				
Excavate acceptable material Class 5A outside the earthworks outline	393.75	m3	5	1,957
Excavate acceptable Class 2C material in cutting and other excavation	157.5	m3	5	783
Imported acceptable material Class 6F2 in fill to structures	51.19	m3	27	1,361
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	177.19	m3	25	4,462
Heavy duty macadam with AC 32 aggregate base 150mm thick in carriageway, hardshoulder and hardstrip		m2	32	0
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip	875	m2		0
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip	875	m2	10	8,601
Tack coat	875	m2	1	438
White lining 1 visit	1	Visit	1,500	1,500
Removal of temporary road	1	Item		0
				0
Temporary Access to site office				
Excavate acceptable material Class 5A outside the earthworks outline	393.75	m3	5	1,957
Excavate acceptable Class 2C material in cutting and other excavation	350	m3	5	1,740

PRESTON WEST DISTRIBUTOR ROAD
RWR & WTM

<u>COSTAIN</u>				
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Imported acceptable material Class 6F2 in fill to structures	113.75	m3	27	3,023
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	393.75	m3	25	9,915
Heavy duty macadam with AC 32 aggregate base 130mm thick in carriageway, hardshoulder and hardstrip	2400	m2	32	77,976
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip	2400	m2		0
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip	2400	m2		0
Tack coat	2400	m2	1	1,200
White lining 1 visit	1	Visit	1,500	1,500
Removal of temporary road	1	Item		
Temporary Access from Blackpool Road North				
Haul Road to Railway crossing Darkinson Lane				
Excavate acceptable material Class 5A outside the earthworks outline	1890	m3	5	9,393
Excavate acceptable Class 2C material in cutting and other excavation	1680	m3	5	8,350
Imported acceptable material Class 6F2 in fill to structures	1260	m3	27	33,491
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	1890	m3	25	47,590
Heavy duty macadam with AC 32 aggregate base 130mm thick in carriageway, hardshoulder and hardstrip		m2	32	0
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip		m2	11	0
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip		m2	10	0
Tack coat		m2	1	0
White lining 1 visit		Visit	1,500	0
Removal of temporary road	1	Item		0
Bell Mouth				
Excavate acceptable material Class 5A outside the earthworks outline	393.75	m3	5	1,957
Excavate acceptable Class 2C material in cutting and other excavation	350	m3	5	1,740
Imported acceptable material Class 6F2 in fill to structures	113.75	m3	27	3,023
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	393.75	m3	25	9,915
Heavy duty macadam with AC 32 aggregate base 150mm thick in carriageway, hardshoulder and hardstrip	1250	m2	32	40,613
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip	875	m2		0
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip	875	m2	10	8,601

PRESTON WEST DISTRIBUTOR ROAD
RWR & WTM

<u>COSTAIN</u>				
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Tack coat	875	m2	1	438
White lining 1 visit	1	Visit	1,500	1,500
Removal of temporary road	1	Item		0
<hr/>				
Haul Road - Rail South				
Excavate acceptable material Class 5A outside the earthworks outline	1620	m3	5	8,051
Excavate acceptable Class 2C material in cutting and other excavation	1440	m3	5	7,157
Imported acceptable material Class 6F2 in fill to structures	468	m3	27	12,439
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	1620	m3	25	40,792
<hr/>				
Bell mouth access				
Excavate acceptable Class 2C material in cutting and other excavation - cut and haul to temporary stock pile/ permanent home	393.75	m3	5	1,957
Excavate acceptable Class 2C material from stock pile to final placement	350	m3	5	1,740
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	393.75	m3	25	9,915
Remove all of the above	1	Item		0
Re-soil area	393.75	m3	5	1,957
<hr/>				
Haul Road South of Canal				
Excavate acceptable material Class 5A outside the earthworks outline	1620	m3	5	8,051
Excavate acceptable Class 2C material in cutting and other excavation	1440	m3	5	7,157
Imported acceptable material Class 6F2 in fill to structures	468	m3	27	12,439
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	1620	m3	25	40,792
<hr/>				
Bell mouth access				
Excavate acceptable Class 2C material in cutting and other excavation - cut and haul to temporary stock pile/ permanent home	393.75	m3	5	1,957
Excavate acceptable Class 2C material from stock pile to final placement	350	m3	5	1,740
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	393.75	m3	25	9,915
Remove all of the above	1	Item		0
Re-soil area	393.75	m3	5	1,957
<hr/>				
Haul Road North of Canal				
Excavate acceptable material Class 5A outside the earthworks outline	1890	m3	5	9,393
Excavate acceptable Class 2C material in cutting and other excavation	1680	m3	5	8,350
Imported acceptable material Class 6F2 in fill to structures	546	m3	27	14,513

PRESTON WEST DISTRIBUTOR ROAD
RWR & WTM

<u>COSTAIN</u>				
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	1890	m3	25	47,590
Heavy duty macadam with AC 32 aggregate base 130mm thick in carriageway, hardshoulder and hardstrip	4200	m2	32	136,458
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip	4200	m2		0
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip	4200	m2	10	41,286
Tack coat	4200	m2	1	2,100
White lining 1 visit	1	Visit	1,500	1,500
Removal of temporary road	1	Item		0
protection slab 1 culvert and 1 stream	1	nr	10,000	10,000
wheel wash	1	nr	24,960	24,960
Bell Mouth				
Excavate acceptable material Class 5A outside the earthworks outline	393.75	m3	5	1,957
Excavate acceptable Class 2C material in cutting and other excavation	157.5	m3	5	783
Imported acceptable material Class 6F2 in fill to structures	51.19	m3	27	1,361
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	177.19	m3	25	4,462
Heavy duty macadam with AC 32 aggregate base 150mm thick in carriageway, hardshoulder and hardstrip	875	m2	32	28,429
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip	875	m2		0
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip	875	m2	10	8,601
Tack coat	875	m2	1	438
White lining 1 visit	1	Visit	1,500	1,500
Removal of temporary road	1	Item		0
Darkinson Lane Plant Crossing				
protection slab 1 culvert and 1 stream	1	nr	10,000	10,000
temp traffic lights		Item	15,600	0
				0
Cottam Link				
protection slab 1 culvert and 1 stream	1	nr	10,000	10,000
temp traffic lights	1	Item	15,600	15,600
protection slab 1 culvert and 1 stream	1	nr	10,000	10,000
temp traffic lights		Item	15,600	0
Cottam link roundabout main line to Bartle roundabout				
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	1822.5	m3	25	45,891
sub base top up required during duration of works including re-dressing	911.25	m3	25	22,945

PRESTON WEST DISTRIBUTOR ROAD
RWR & WTM

<u>COSTAIN</u>				
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
Bartle Roundabout to Bartle lane				
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	4860	m3		0
sub base top up required during duration of works including re-dressing	2430	m3	25	61,187
Bartle Lane Plant Crossing				
protection slab 1 culvert and 1 stream	1	nr	10,000	10,000
temp traffic lights		Item	15,600	0
Haul Road Bartle Lane to M55 Access				
Excavate acceptable material Class 5A outside the earthworks outline	2700	m3	5	13,419
Excavate acceptable Class 2C material in cutting and other excavation	2400	m3	5	11,928
Imported acceptable material Class 6F2 in fill to structures	780	m3	27	20,732
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	2700	m3	25	67,986
sub base top up required during duration of works including re-dressing	1350	m3	25	33,993
Re-soil area	2700	m3	3	7,668
East West Link				
Bell Mouth				
Excavate acceptable material Class 5A outside the earthworks outline	180	m3	5	895
Excavate acceptable Class 2C material in cutting and other excavation	160	m3	5	795
Imported acceptable material Class 6F2 in fill to structures	52	m3	27	1,382
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	180	m3	25	4,532
Heavy duty macadam with AC 32 aggregate base 150mm thick in carriageway, hardshoulder and hardstrip	400	m2	32	12,996
Heavy duty macadam with AC 20 aggregate binder course 70mm thick in carriageway, hardshoulder and hardstrip	400	m2	11	4,244
14mm surface course PSV 60 surface course 50mm thick in carriageway, hardshoulder and hardstrip	400	m2	10	3,932
Tack coat	400	m2	1	200
White lining 1 visit	1	Visit	1,500	1,500
Removal of temporary road		Item	10,000	0
Haul Road - entire length of East West Link				
Excavate acceptable material Class 5A outside the earthworks outline	4455	m3		0
Excavate acceptable Class 2C material in cutting and other excavation	4590	m3		0
Imported acceptable material Class 6F2 in fill to structures	1491.75	m3		0
Sub Base Type 1 (CL803); Thickness 450mm; In carriageway	5163.75	m3	25	130,023
Re-soil area	4455	m3		0

PRESTON WEST DISTRIBUTOR ROAD
RWR & WTM

<u>COSTAIN</u>				
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Amount</u>
East West Link Plant Crossing at roundabouts x 2				
protection slab 1 culvert and 1 stream	1	nr	10,000	10,000
temp traffic lights		Item	15,600	0
protection slab 1 culvert and 1 stream	1	nr	10,000	10,000
temp traffic lights		Item	15,600	0
Wheel Wash Attendance				
2 men Plus van 2 years 3 days per week		Item	56,160	0
Removal of Old Footbridge over M55				
			25,000	0
Removal of kerbs/tie ins Blackpool Road				
			25,000	0
Water Management				
				0
Ganger	104	week	880	91,520
Operative	104	week	880	91,520
Operative	104	week	880	91,520
Operative	104	week	880	91,520
Materials / equipment	1	lte	250,000	250,000
Temporary Roads				
Blackpool Road Temporary Road				
In Exc, capping, sub-base, Surfacing, road markings, Kerbs, removal, Filter drain to 1 side & re-topsoil.	1	item	160,084	160,084
Darkinson Lane				
In Exc, capping, sub-base, Surfacing, removal, & re-topsoil.	1	Item	37,746	37,746
Tom Benson way				
In Exc, capping, sub-base, Surfacing, removal, & re-topsoil.	1	Item	18,647	18,647
Saddle Roundabout temp link				
In Exc, capping, sub-base, Surfacing, removal, & re-topsoil.	1	Item	7,484	7,484
Sidgreaves Lane temp link				
In Exc, capping, sub-base, Surfacing, removal, & re-topsoil.	1	Item	12,847	12,847
Kerb removal				
Kerb removal - various locations - Cottom, Blackpool Road, Tabley & Tom Benson Way	3360	lm	12	39,682
Narrow widening details				
	162.7	m3	105	17,097
GS6 - Goal Posts required - with Temp fencing				
	1	item	30,650	30,650

To Collection **3,028,870**

PRESTON WEST DISTRIBUTOR ROAD

Fencing

COSTAIN					RAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
Preston Western Distributor										
Fencing and gates throughout the main line	1	Item	362,710	362,710					Not identified in master plan please provide breakdown and reasoning	
Temporay fencing required throughout the project	1	Item	91,164	91,164					Not identified in master plan to require a breakdown	
East West Link										
Fencing to the East to West Link road	1	Item	157,891	157,891					Not identified in master plan to require a breakdown	
				To Collection						
				<u>611,765</u>						

PRESTON WEST DISTRIBUTOR ROAD
Safety Fencing

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Preston Western Distributor										
Safety Barrier										
Safety barrier; Performance class N2; Working width class W2; Designed to be impacted on one side only; Straight or curved exceeding 120m radius		m	31	0						
Safety barrier; Performance class N2; Working width class W2; Designed to be impacted on one side only; Straight or curved exceeding 120m radius	8250	m	31	256,823		7107.75	31	221,264	-35,558	
Concrete Safety Barrier										
Concrete safety barrier; Performance class H2; Working width class W2; Designed to be impacted on both sides; Straight or curved exceeding 120m radius	3650	m	101	369,709		3159	101	319,975	-49,733	
Pavement; Concrete slab; for CSB base; 0.742m wide by 100mm thick ST2 concrete; in carriageway, hardshoulder and hardstrip	3650	m	16	60,079		3159	16	51,997	-8,082	
Transitions										
Transition from parapet performance class N2 and working width W2 to safety barrier performance class N2 and working width W2	34	no	1,097	37,313		34	1,097	37,313	0	
Transition from parapet performance class N2 and working width W2 to safety barrier performance class N2 and working width W3	20	no	1,098	21,969		20	1,098	21,969	0	
Terminals										
Leading Terminal (LT); Lateral displacement zone class D1	28	no	6,064	169,800		28	6,064	169,800	0	
Leading Terminal (LT); Lateral displacement zone class D1	16	no	2,353	37,651		16	2,353	37,651	0	
				To Collection	953,342					-93,373
						Ridge Total	859,969			

PRESTON WEST DISTRIBUTOR ROAD
Drainage

COSTAIN					RAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
Preston Western Distributor										
375mm internal diameter carrier drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.71 metres with Type S bed and surround to HCD F1	4200	m	108	452,642		5111	108	550,823	98,180	Rate higher than 450 diameter?
450mm internal diameter carrier drain specified design group 5 in trench depth to invert not exceeding 2m, average depth to invert 1.77 metres with Type S bed and surround to HCD F1	4200	m	107	448,056		5111	107	545,241	97,185	
Rodding eye specified design group LCC FL13 in central reservation with 225x225 rodding eye cover and frame Product HB031 Saint-Gobain or equivalent.	20	nr	149	2,977		20	149	2,977	0	
225mm internal diameter filter drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.29 metres with Type H bed and surround to HCD F2	1244.01	m	79	98,824		1244.01	79	98,824	0	
Chamber specified design group 1200 dia Manhole Type A Chamber to LCC FL14; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	18	nr	1,149	20,683		18	1,149	20,683	0	
Envirokerb trapped outfall unit (plastic gully pot with insitu concrete surround) with Envirokerb gully over and frame.	21	nr	245	5,141		21	245	5,141	0	
225mm internal diameter carrier drain specified design group 5 in trench depth to invert not exceeding 2m, average depth to invert 1.41 metres with Type S bed and surround to HCD F1	140	m	60	8,420		140	60	8,420	0	
225mm internal diameter filter drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.29 metres with Type H bed and surround to HCD F2	8400	m	79	667,296		10222	79	812,036	144,740	
Chamber specified design group 1200 dia Manhole Type A Chamber to LCC FL14; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	84	nr	1,149	96,519		102	1,149	117,201	20,683	
100mm internal diameter narrow filter drain specified design group 5 in trench depth to invert not exceeding 2m, average depth to invert 1 metres in verges, with Type 9 bed and surround to HCD F18	8400	m	24	200,491		10222	24	243,979	43,487	
Construction of drainage ditch; Type D4 to LCC 11063/520/020 as stated in drawings 11063/500/001 to 38; depth not exceeding 1.0m.	8500	m	35	295,715		10222	35	355,623	59,908	
CULVERTS PWD										
600mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.		m	323	0		129	323	41,650	41,650	why removed?
750mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.59 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in existing road	103	m	616	63,443		146	616	89,929	26,486	
1200mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	46	m	646	29,704		33	646	21,309	-8,395	No inclusion for mamal shelf please clarify
1400mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	27	m	753	20,341		47	753	35,408	15,067	Assumed this is watercourse diversion if so where is watercourse diversion to Cottam Way recorded? what has been allowed for this extra 41m?
675mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.59 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in existing road	25	m	554	13,859		25	554	13,859	0	
675mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	40	m	363	14,529		84	363	30,511	15,982	
1050mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	60	m	565	33,901		75	565	42,376	8,475	
825mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	35	m	444	15,538		64	444	28,412	12,874	
825mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	30	m	444	13,318		74	444	32,852	19,533	
825mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	40	m	444	17,758		74	444	32,852	15,094	

PRESTON WEST DISTRIBUTOR ROAD
Drainage

COSTAIN					RAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
675mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	20	m	363	7,264		98	363	35,596	28,332	
1000mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	65	m	538	34,977						Please identify location
DRY TUNNELS PWD										
1500mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	48	m	807	38,744		32	807	25,829	-12,915	
900mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	52	m	484	25,184		39	484	18,888	-6,296	
900mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	86	m	484	41,650		84	484	40,681	-969	
East-West Link										
375mm internal diameter carrier drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.71 metres with Type S bed and surround to HCD F1	6600	m	108	711,295		6726	108	724,874	13,579	Rate higher than 450 diameter?
225mm internal diameter carrier drain specified design group 5 in trench depth to invert not exceeding 2m, average depth to invert 1.41 metres with Type S bed and surround to HCD F1	0	m	60	0						
Rodding eye specified design group LCC FL13 in central reservation with 225x225 rodding eye cover and frame Product HB031 Saint-Gobain or equivalent.	10	nr	149	1,488		10	149	1,488	0	
225mm internal diameter filter drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.29 metres with Type H bed and surround to HCD F2	160	m	79	12,710		110	79	8,738	-3,972	1nr roundabout in drg number 9 not 2
Chamber specified design group 1200 dia Manhole Type A Chamber to LCC FL14; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	4	nr	1,149	4,596		1	1,149	1,149	-3,447	1nr roundabout in drg number 9 not 2
Envirotek trapped outfall unit (plastic gully pot with insitu concrete surround) with Envirotek gully over and frame.	6	nr	245	1,469		3	245	734	-734	1nr roundabout in drg number 9 not 2
225mm internal diameter carrier drain specified design group 5 in trench depth to invert not exceeding 2m, average depth to invert 1.41 metres with Type S bed and surround to HCD F1	40	m	60	2,406		20	60	1,203	-1,203	1nr roundabout in drg number 9 not 2
225mm internal diameter filter drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.29 metres with Type H bed and surround to HCD F2	6600	m	79	524,304		6726	79	534,313	10,009	
Chamber specified design group 1200 dia Manhole Type A Chamber to LCC FL14; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	66	nr	1,149	75,836		67	1,149	76,985	1,149	
100mm internal diameter narrow filter drain specified design group 5 in trench depth to invert not exceeding 2m, average depth to invert 1 metres in verges, with Type 9 bed and surround to HCD F18	6600	m	24	157,529		6726	24	160,536	3,007	
Construction of drainage ditch; Type D4 to LCC 11063/520/020 as stated in drawings 11063/500/001 to 38; depth not exceeding 1.0m.	3300	m	35	114,807						
CULVERTS EWLR										
750mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	21	m	404	8,475		25	404	10,090	1,614	
1050mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	23	m	565	12,995		26	565	14,690	1,695	
750mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	50	m	404	20,179		65	404	26,233	6,054	
750mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	22	m	404	8,879		30	404	12,107	3,229	Please identify location - could be the below
750mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	25	m	404	10,090		0				Please identify location - could be the above
750mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.59 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in existing road	20	m	616	12,319		36	616	22,174		

PRESTON WEST DISTRIBUTOR ROAD
Drainage

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
DRY TUNNELS EWL										
1000mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	30	m	538	16,143		27	538	14,529	-1,614	
1000mm internal diameter precast concrete culvert in trench depth to invert exceeding 2m but not exceeding 4m, average depth to invert 3.42 metres with Type B bed and surround to dwg B1082600/501/013. Excavation in farmland.	45	m	538	24,215		46	538	24,753	538	
Petrol Interceptors										
Interceptor/Pond Number										
1	1	nr	8,811	8,811		1	8,811	8,811	0	
2	1	nr	13,482	13,482		1	13,482	13,482	0	
3	1	nr	4,730	4,730		1	4,730	4,730	0	
4	1	nr	11,995	11,995		1	11,995	11,995	0	
5	1	nr	11,995	11,995		1	11,995	11,995	0	
6	1	nr	5,680	5,680		1	5,680	5,680	0	
7	1	nr	8,811	8,811		1	8,811	8,811	0	
8	1	nr	7,942	7,942		1	7,942	7,942	0	
9	1	nr	5,081	5,081		1	5,081	5,081	0	
10	1	nr	5,081	5,081		1	5,081	5,081	0	
11	1	nr	4,854	4,854		1	4,854	4,854	0	
EWLR 1	1	nr	8,811	8,811		1	8,811	8,811	0	
EWLR 2	1	nr	5,081	5,081		1	5,081	5,081	0	
EWLR 3	1	nr	7,202	7,202		1	7,202	7,202	0	
EWLR 4	1	nr	8,811	8,811		1	8,811	8,811	0	
Surface Water Channel										
Preston Western Distributor										
SERIES 1100: KERBS, FOOTWAYS & PAVED AREAS										
Kerbs, Channels, Edgings, Combined Drainage and Kerb Blocks and Linear Drainage Channel Systems										
Linear drainage channel systems; 1m wide surface water channel to dwg 2500316/Cos/S282 Rev A and detail to dwg named "Surface Water Channel - 1m wide" dated 2804/15; straight or curved exceeding 12m radius in central reservation	8400	m	62	518,700		7220	62	445,835	-72,865	
Manholes and gratings for SWC										
Supply and installation of 2no KD19V chamaber gratas as per detail 2500316/Cos/S282 Rev A; along length of surface water channel; including making good of surface water channel	84	nr	1,985	166,735		72	1,985	142,916	-23,819	
Chamber specified design group 1200 dia Manhole Type 7A Chamber (surface water channel inline outlet) to LCC 11063/SD/520/016; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	84	nr	1,922	161,424		72	1,922	138,364	-23,061	
Programme sequencing visits	8	nr	2,500	20,000						Can you clarify what this item represents?
East-West Link										
SERIES 1100: KERBS, FOOTWAYS & PAVED AREAS										
Kerbs, Channels, Edgings, Combined Drainage and Kerb Blocks and Linear Drainage Channel Systems										
Linear drainage channel systems; 1m wide surface water channel to dwg 2500316/Cos/S282 Rev A and detail to dwg named "Surface Water Channel - 1m wide" dated 2804/15; straight or curved exceeding 12m radius in central reservation	3300	m	62	203,775		3336	62	205,998	2,223	
Manholes and gratings for SWC										
Supply and installation of 2no KD19V chamaber gratas as per detail 2500316/Cos/S282 Rev A; along length of surface water channel; including making good of surface water channel	33	nr	1,985	65,503		33	1,985	65,503	0	
Chamber specified design group 1200 dia Manhole Type 7A Chamber (surface water channel inline outlet) to LCC 11063/SD/520/016; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	33	nr	1,922	63,417		33	1,922	63,417	0	
Supply and installation of 1no KD19V chamaber gratas as per detail 2500316/Cos/S282 Rev A; along length of surface water channel; including making good of surface water channel		nr	1,000	0						
Programme sequencing visits	3	nr	2,500	7,500						Can you clarify what this item represents?
Headwalls - excluding Pond Headwalls										
Headwall in reinforced concrete, pipe exceeding 100mm but not exceeding 300mm internal diameter (Precast concrete headwall units)	65	nr	690	44,838		65	690	44,838	0	
Gabion mattresses; 300mm thick 6l stone fill installed at 10 degree or less to the horizontal inlet/outlet.	260	m3	172	44,765		260	172	44,765	0	
Headwalls - for Filter Drains										
Headwall in reinforced concrete, pipe exceeding 100mm but not exceeding 300mm internal diameter (Precast concrete headwall units)	25	nr	690	17,246		25	690	17,246	0	
Gabion mattresses; 300mm thick 6l stone fill installed at 10 degree or less to the horizontal inlet/outlet.	100	m3	172	17,217		100	172	17,217	0	
Preston Western Distributor										
Attenuation Ponds										
Excavation of acceptable material in new watercourses	0	led in Earthworks		Not priced						
Lining of watercourses; (rawmat high density bentonite type 2 pond liner or similar approved) to pond bed and side face.	38500	m2	9	341,880						Assumed depth 2.5m throughout
Attenuation pond sub-soil lining works		m2	6	0		18,769.00	9	166,669	-175,211	

PRESTON WEST DISTRIBUTOR ROAD
Drainage

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Headwall in reinforced concrete, pipe exceeding 100mm but not exceeding 300mm internal diameter (Precast concrete headwall units)	7	nr	690	26,213		7	690	4,829	-21,384	
Gabion mattresses; 300mm thick 6l stone fill installed at 10 degree or less to the horizontal in pond inlet/outlet.	112	m3	172	19,283		112.00	172	19,283	0	
450mm internal diameter carrier drain specified design group 9 in trench depth to invert exceeding 2m but not 4m, average depth to invert 3.11 metres with Type S bed and surround to HCD F1	140	m	123	17,165		140.00	123	17,165	0	
Chamber (for Hydrobrake) specified design group 1800 dia Type 3c to HCD F5; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675mm clear opening to LCC FL10 with 35.6 l/s - 800mm hydrobrake	7	nr	4,183	29,281		7.00	4,183	29,281	0	
1.2m high post and wire fencing to HCD H13; with mesh type B8/80/30 with two strands of barbed wire (BS1722-2 Type SW120). (Type 1)		m	14	0						
Connection to existing 2100mm manhole; different diameters, depth to invert not exceeding 2m	7	nr	1,272	8,905		7	1,272	8,905	0	
Preston Western Distributor										
Outfalls from/to ponds										
375mm internal diameter carrier drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.71 metres with Type S bed and surround to HCD F1	623	m	108	67,142		623	108	67,142	0	Rate higher than 450 diameter?
Chamber specified design group 1200 dia Manhole Type A Chamber to LCC FL14; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	7	nr	1,149	8,043		7	1,149	8,043	0	
Preston Western Distributor										
Surface water retention tank system 1; Excavation, installation and backfilling of two parallel runs of 1400mm diameter pipes (4.4m wide by 6.5m long) depth to invert exceeding 2m but not exceeding 3m, average depth to invert 2.50 metres including two number 1200mm diameter inlet shafts and a flow regulator. Backfill detail to drawing 11063/500/101 C1	4	nr	86,350	345,399		4	86,350	345,399	0	
East-West Link										
Attenuation Ponds										
Excavation of acceptable material in new watercourses	Included in Earthworks		Not priced							
Lining of watercourses; (rawmat high density bentonite type 2 pond liner or similar approved) to pond bed and side face.	5500	m2	9	48,840		4,156.00	9	36,905	-11,935	Assumed depth 2.5m throughout
Attenuation pond sub-soil lining works		m2	6	0						
Headwall in reinforced concrete, pipe exceeding 100mm but not exceeding 300mm internal diameter (Precast concrete headwall units)	3	nr	690	26,213		3	690	2,069	-24,144	
Gabion mattresses; 300mm thick 6l stone fill installed at 10 degree or less to the horizontal in pond inlet/outlet.	48	m3	172	8,264		48.00	172	8,264	0	
450mm internal diameter carrier drain specified design group 9 in trench depth to invert exceeding 2m but not 4m, average depth to invert 3.11 metres with Type S bed and surround to HCD F1	60	m	123	7,357		45.00	123	5,517	-1,839	Assumed 15m
Chamber (for Hydrobrake) specified design group 1800 dia Type 3c to HCD F5; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675mm clear opening to LCC FL10 with 35.6 l/s - 800mm hydrobrake	3	nr	4,183	12,549		3.00	4,183	12,549	0	
1.2m high post and wire fencing to HCD H13; with mesh type B8/80/30 with two strands of barbed wire (BS1722-2 Type SW120). (Type 1)		m	14	0						
Connection to existing 2100mm manhole; different diameters, depth to invert not exceeding 2m	3	nr	1,272	3,816		3	1,272	3,816	0	
Sandy Lane										
Chamber specified design group 1200 dia Manhole Type A Chamber to LCC FL14; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	4	nr	1,149	4,596		4	1,149	4,596	0	
300mm internal diameter carrier drain specified design group 5 in trench depth to invert not exceeding 2m, average depth to invert 1.1 metres with Type Z bed and surround to HCD F1 Inc saw cutting, subbase, Surfacing, Type z surround TM inc main allowances	300	m	216	64,841		300	216	64,841	0	
East-West Link										
Outfalls from/to ponds										
375mm internal diameter carrier drain specified design group 2 in trench depth to invert not exceeding 2m, average depth to invert 1.71 metres with Type S bed and surround to HCD F1	380	m	108	40,953		380	108	40,953	0	Rate higher than 450 diameter?
Chamber specified design group 1200 dia Manhole Type A Chamber to LCC FL14; depth to invert exceeding 1m but not exceeding 2m with D400/M1 cover and frame with 675 x 675 clear opening to LCC FL10.	4	nr	1,149	4,596		4	1,149	4,596	0	
Herringbone embankment drainage yetto be confirmed	0	item		119,000						

To Collection 6,875,984

296,972

Ridge total 7,172,956

PRESTON WEST DISTRIBUTOR ROAD
Kerbs and Footway

COSTAIN					RIDGE					
Description	Qty	Unit	Unit Cost	Amount	RAG	QTY	RATE	TOTAL	Difference	COMMENT
Kerbing										
Preston Western Distributor										
SERIES 1100 KERBS, FOOTWAYS & PAVED AREAS										
Kerbs, Channels, Edgings, Combined Drainage and Kerb Blocks and Linear Drainage Channel Systems										
305 x 100 x 12.5° (HB); Straight or curved exceeding 12 metres radius	5000	m	26	127,700		4408.9	26	112,604	-15,096	
385 x 100 x 45° (Splayed) combined kerb drain; Straight or curved exceeding 12 metres radius	1244.01	m	76	94,968		1096.9	76	83,741	-11,227	
Rodding Access Unit for the combined kerb drains	18	No.	83	1,500		18.0	83	1,500	0	
Gully Top Cover and Base for the combined kerb drains	49.76	No.	200	9,939		49.8	200	9,939	0	
50 x 150 precast concrete footway edging to special detail BL2; Straight or curved exceeding 12 metres radius	5706.35	m	7	39,146		5031.8	7	34,518	-4,628	
East-West Link										
SERIES 1100 KERBS, FOOTWAYS & PAVED AREAS										
Kerbs, Channels, Edgings, Combined Drainage and Kerb Blocks and Linear Drainage Channel Systems										
305 x 100 x 12.5° (HB); Straight or curved exceeding 12 metres radius	6600	m	26	168,564		11109.3	26	283,733	115,169	
385 x 100 x 45° (Splayed) combined kerb drain; Straight or curved exceeding 12 metres radius	160	m	76	12,214		269.3	76	20,560	8,345	
Rodding Access Unit for the combined kerb drains	10	No.	83	834		10.0	83	834	0	
Gully Top Cover and Base for the combined kerb drains	6.4	No.	200	1,278		6.4	200	1,278	0	
50 x 150 precast concrete footway edging to special detail BL2; Straight or curved exceeding 12 metres radius	6600	m	7	45,276		11109.3	7	76,210	30,934	
Preston Western Distributor										
Footways										
Subbase										
Sub Base Type 1; thickness 100mm;	2290.5	m3	41	92,948		2205.7	41	89,507	-3,441	
Footway comprising 20mm surface course (CL909), 60mm binder (CL912); surfaces sloping at 10 degrees or less to the horizontal	22905	m2	21	475,279		22057	21	457,683	-17,596	
400 x 400 buff blister tactile paving to 50mm thickness; Surfaces sloping at 10° or less to the horizontal	800	m2	36	28,416		1102.85	36	39,173	10,757	
East-West Link										
Footways										
Subbase										
Sub Base Type 1; thickness 100mm; In footway construction design Type 6	1992	m3	41	80,835		2002.9	41	81,278	442	
Footway comprising 20mm surface course (CL909), 60mm binder (CL912); surfaces sloping at 10 degrees or less to the horizontal	19920	m2	21	413,340		20029	21	415,602	2,262	
400 x 400 buff blister tactile paving to 50mm thickness; Surfaces sloping at 10° or less to the horizontal	0	m2	36	0		0.0	36	0	0	
				To Collection	1,592,237					115,922
						Ridge Total	1,708,159			

PRESTON WEST DISTRIBUTOR ROAD
Traffic Signals

COSTAIN					RAG	RIDGE				
Description	Qty	Unit	Unit Cost	Amount		QTY	RATE	TOTAL	Difference	COMMENT
Preston Western Distributor										
Traffic Signals including ducting works and all associated electrical connections		Item	274,794	0					Breakdown required as complex junction	
Traffic Signals including ducting works and all associated electrical connections	1	item	515,794	515,794						
				To Collection						
				<u>515,794</u>						

VERIFICATION REPORT

Preston West Distributor Road

6. APPENDICES

APPENDIX 2 - RIDGE PRELIMINARIES ANALYSIS

PWDR COST VERIFICATION EXERCISE: November 2017

Preliminaries Analysis

Project	Duration (Weeks)	Road Length	New Build Structures				Road type				Road Rate	Phase 1 Cost	ECI Phase 2- Supervision	Traffic Management	Total (excluding ECI)	% Prelims on Total	% prelims on net works	ECI	% ECI of works Total
			Bridges	Culverts	Retaining Walls	Cantrils													
1	103	7.7					D	2	A	R	New Construction	1,168,319	646,387	-	37,156,565	26%	34%	1,814,706	5%
2	67	5					D	2	A	R	New Construction	-	2,189,173	-	14,213,567	14%	16%	2,189,173	15%
3	104	3.8					D	2	A	R	New Construction	435,000	435,000	-	14,042,000	13%	15%	870,000	6%
4	105	11.5					D	2	A	R	New Construction	4,003,052	2,844,338	-	59,700,038	24%	31%	6,847,390	11%
5	105	1.8					D	2	A	R	New Construction	1,344,742	678,557	-	11,994,191	40%	68%	2,023,299	17%
6	87	7.64					D	2	A	R	Major Maintenance	1,307,027	733,981	-	37,842,646	31%	46%	2,041,008	5%
7	77	5					D	2	A	R	New Construction	3,635,266	150,315	-	28,497,915	32%	46%	3,785,581	13%
8	138	10.7	9.00	5.00	-	-	D	2	A	R	New Construction	-	2,564,637	-	24,770,646	30%	43%	2,564,637	10%
9	157	24	24.00	3.00	-	-	D	2	A	R	Major Maintenance	-	-	636,691	91,659,595	33%	50%	-	0%
10	104	3	4.00	-	-	-	D	2	A	R	New Construction	1,687,316	-	-	14,041,297	5%	5%	1,687,316	12%
11	69	3.0578					D	2	A	R	Major Maintenance	-	-	13,083,176	52,867,476	7%	7%	-	0%
12	112	6.4	7.00	-	2.00	-	D	2	A	R	New Construction	-	-	1,342,960	27,696,484	22%	29%	-	0%
13	131	7.66	9.00	5.00	-	-	D	2	A	R	New Construction	2,414,355	3,632,378	187,598	27,340,717	8%	8%	6,046,733	22%
14	78	2.4	2.00	-	-	-	D	2	A	R	New Construction	-	-	1,593	5,557,899	37%	58%	-	0%
15	84	5.63	4.00	7.00	-	-	D	2	A	R	New Construction	-	2,994,566	401,125	12,992,822	12%	13%	2,994,566	23%
16	41	4.5	14.00	4.00	8.00	-	D	2	A	R	New Construction	2,592,264	5,478,318	420,599	43,645,646	16%	19%	8,070,581	18%
17	74	2.3	3.00	-	-	-	D	2	A	R	Major Maintenance	935,152	-	-	10,447,946	14%	16%	935,152	9%
18	83	6.577	6.00	1.00	1.00	-	D	2	A	R	New Construction	-	-	-	29,837,092	13%	15%	-	0%
19	255	4.359	3.00				D	2	A	R	New Construction	-	-	-	12,570,282	31%	44%	-	0%
20	96	3.4815	4.00				D	2	A	R	New Construction	2,319,067	-	-	19,092,552	12%	14%	2,319,067	12%
21	95	3					D	2	A	R	New Construction	-	-	2,728,912	45,359,998	24%	31%	-	0%
22	103	6.4	4.00	-	-	-	D	2	A	R	General Widening	-	-	-	8,986,718	36%	55%	-	0%
23	98	9.9	7.00	1.00	-	-	D	2	A	R	Major Maintenance	1,125,940	-	-	30,544,421	37%	58%	1,125,940	4%
24	103	2.6					D	2	A	R	New Construction	-	-	137,546	8,511,598	20%	24%	-	0%
25	99	8.1					D	2	A	R	New Construction	-	-	-	18,577,312	11%	12%	-	0%
26	113	5.3					D	2	A	R	New Construction	-	-	-	44,265,571	14%	16%	-	0%
27	94	12.2					D	2	A	R	New Construction	-	-	-	25,914,477	18%	22%	-	0%
28	110	10.2					D	2	A	R	New Construction	-	-	-	28,850,044	10%	12%	-	0%
29	135	24					D	2	A	R	New Construction	-	-	-	140,144,756	9%	10%	-	0%
30	121	9.2					D	2	A	R	New Construction	-	-	-	24,829,898	7%	8%	-	0%
31	110	9					D	2	A	R	New Construction	-	-	-	23,164,947	10%	12%	-	0%
32	144	4.68					D	2	A	R	New Construction	-	-	-	24,338,469	18%	21%	-	0%
33	117	13.5					D	2	A	R	New Construction	-	-	-	110,784,192	36%	57%	-	0%
34	111	8.5					D	2	A	R	New Construction	-	-	-	49,090,498	15%	18%	-	0%
35	112	3.2					D	2	A	R	New Construction	-	-	-	39,053,296	21%	27%	-	0%
36	148	12.5					D	2	A	R	New Construction	-	-	-	62,052,000	14%	16%	-	0%
37	145	11.8					D	2	M	R	New Construction	-	-	-	107,705,434	19%	23%	-	0%
38	176	14.5					D	2	M	R	New Construction	-	-	-	109,042,814	5%	6%	-	0%
39	148	9.817	6.00	-	-	-	S	2	A	R	New Construction	-	8,446,038	227,193	35,403,335	5%	5%	8,446,038	24%
40	78	3.1	2.00	-	-	-	S	2	A	R	New Construction	-	-	1,372	4,787,930	37%	58%	-	0%
41	80	3.8624					S	2	A	R	New Construction	290,000	-	-	9,179,991	11%	13%	290,000	3%
42	135	18.5					S	2	A	R	New Construction	-	-	-	32,997,443	11%	12%	-	0%
43	104	4.75					S	2	A	R	New Construction	-	-	-	5,129,956	9%	10%	-	0%

Average	19%	26%
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VERIFICATION REPORT

Preston West Distributor Road

6. APPENDICES

APPENDIX 3 - RIDGE TRAFFIC MANAGEMENT ANALYSIS

PWDR COST VERIFICATION EXERCISE: November 2017

Preliminaries Analysis

Project	Duration (Weeks)	Road Length	New Build Structures				Road type				Road Rate
			Bridges	Culverts	Retaining Walls	Gantries					
9	157	24	24.00	3.00	-	-	D	2	A	R	Major Maintenance
11	69	3.0578					D	2	A	R	Major Maintenance
12	112	6.4	7.00	-	2.00	-	D	2	A	R	New Construction
13	131	7.66	9.00	5.00	-	-	D	2	A	R	New Construction
15	84	5.63	4.00	7.00	-	-	D	2	A	R	New Construction
16	41	4.5	14.00	4.00	8.00	-	D	2	A	R	New Construction
21	95	3					D	2	A	R	New Construction
24	103	2.6					D	2	A	R	New Construction
39	148	9.817	6.00	-	-	-	S	2	A	R	New Construction

Phase 1 Cost	ECI Phase 2- Supervision
-	-
-	-
-	-
2,414,355	3,632,378
-	2,994,566
2,592,264	5,478,318
-	-
-	-
-	-
-	8,446,038

Traffic Management
636,691
13,083,176
1,342,960
187,598
401,125
420,599
2,728,912
137,546
227,193

Total (excluding ECI)	% TM on Total	% TM on net works
91,659,595	1%	1%
52,867,476	25%	33%
27,696,484	5%	5%
27,340,717	1%	1%
12,992,822	3%	3%
43,645,646	1%	1%
45,359,998	6%	6%
8,511,598	2%	2%
35,403,335	1%	1%

Average	3.61%	7%
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VERIFICATION REPORT

Preston West Distributor Road

6. APPENDICES

APPENDIX 4 - EARTHWORKS ANALYSIS

Cut/Fill Report

Generated: 2017-12-01 10:13:22

By user: apresley

Drawing: N:\ST\ST16565 - Highways Scheme 3D Model\03 - Design\Civil 3D\Design Models\Surfaces\N:\ST\ST16565 - Highways Scheme 3D Model\03 - Design\Civil 3D\Design Models\Surfaces\Highway Box -Cut Fill.dwg

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
N-S Cut-Fill	full	1.000	1.000	183571.483	180296.728	341395.210	161098.482<Fill>
E-W Cut-Fill	full	1.000	1.000	104525.660	29769.463	24482.489	5286.974<Cut>

Totals					
		2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
Total		288097.144	210066.190	365877.699	155811.509<Fill>

* Value adjusted by cut or fill factor other than 1.0