

**BILL OF QUANTITIES****SECTION 1 PRELIMINARY AND GENERAL ITEMS****PART 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>Environmental Management</u></b>				
1	C1.2.1.1 PS.C1.2.1.1	Monitoring of compliance with and reporting on the EMP	months	20		
2	C1.2.1.2 PS.C1.2.1.2	Dedicated environmental officer	months	20		
		<b><u>Programming and Reporting</u></b>				
3	C1.2.2.3 PS.1.1 PS.C1.2.2.3	Submission of a Scheme 2 Initial Programme	Lump sum	1		
4	C1.2.2.4 PS.C1.2.2.3	Submission of a Scheme 2 Full Programme	Lump sum	1		
5	C1.2.2.5 PS.C1.2.2.5	Reviewing and updating a Scheme 2 programme every month	months	20		
		<b><u>Other Documentation</u></b>				
6	C1.2.2.6	Preparation and submission of all information and reports specified in the Contract Documentation, including reporting on local labour	months	20		
		<b><u>Stakeholder Management &amp; Liaison</u></b>				
7	C1.2.4 PS.C1.2.4	Stakeholder Management and Liaison	months	20		
		<b><u>Health and Safety</u></b>				
8	C1.2.5.1 PS.10	Health and safety plan	Lump sum	1		
9	C1.2.5.2 PS.10	Implementation of health and safety plan	months	20		
10	C1.2.6.1	Work adjacent to properties: Survey of adjacent properties	no	20		
		<b><u>Community Liaison Officer</u></b>				
11	PS.C1.2.10	Allow for 1 CLO's to be appointed	PC Sum	400000	1.00	400,000.00
12	PS.C1.2.10	Handling costs and profit in respect of PS.C1.2.10	%	400000		
		<b><u>Additional Security</u></b>				
13	PS.11	Provision of security on site to guard against any disruption of the works throughout the duration of the contract	months	20		
14		CIDB BUILD Assessment Fee	PC Sum	200000	1.00	200,000.00

Part Continued PART 0102 C1.2 GENERAL REQUIREMENTS AND PROVISIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
15		Handling Fee for above item	%	200000		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL ITEMS

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PART 0103 C1.3 CONTRACTOR'S SITE ESTABLISHMENT AND

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>The Contractor's General Obligations</u>				
1	C1.3.1.1 PS.C1.3.1	Fixed obligations	Lump sum	0		
2	C1.3.1.2	Value-related obligations	Lump sum	0		
3	C1.3.1.3 PS.C1.3.1	Time-related obligations	months	20		
4	C1.3.2 PS.C1.3.2	Contract sign boards (as per drawing)	no.	2		
5	PS.17	Submission of As-Built Data	sum	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL ITEMS

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PART 0104 C1.4 FACILITIES FOR THE ENGINEER

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Services at Site Offices, Laboratories and Site Accommodation</u>				
1	C1.4.5.1 PS.C1.4	Fixed costs	Lump sum	1		
2	C1.4.5.2 PS.C1.4	Running costs	months	20		
3	C1.4.8.2 PS.C1.4	Provision of security guards / watchmen and an armed response service on site	months	20		
4	PS.C1.4.10	Allowance for CCTV camera including remote viewing	sum	1		
5	PS.C1.4.10	Maintenance of for CCTV camera including remote viewing	months	20		
6	PS.C1.4.11	Allowance for Progress Photographs every month, digital and aerial	PC Sum	20000	1.00	20,000.00
7	PS.C1.4.11	Handling costs and profit in respect of item above	%	20000		
8	PS.C1.4.12	Allowance for the additional survey required by the Engineer	PC Sum	50000	1.00	50,000.00
9	PS.C1.4.12	Handling costs in respect of item above	%	50000		
10	PS.C1.4.13	Allowance for Laboratory Acceptance testing as required by the Engineer	PC Sum	150000	1.00	150,000.00
11	PS.C1.4.13	Handling costs in respect of item above	%	150000		

Part Continued PART 0104 C1.4 FACILITIES FOR THE ENGINEER

Item	Clause	Description	Unit	Quantity	Rate	Amount
12	C1.4.4.5	The provision of internet connectivity and WiFi data for Engineer's site staff	PC Sum	15000	1.00	15,000.00
13	C1.4.4.5	Handling costs in respect of item above	%	15000		
14	C1.4.4.7	The provision of stationery, paper, ink and other equipment.	PC Sum	5000	1.00	5,000.00
15	C1.4.4.7	Handling costs in respect of item above	%	5000		
16	PS.C1.4.14	Allowance for geotechnical investigations, testing, design and supervision	PC Sum	80000	1.00	80,000.00
17	PS.C1.4.14	Handling costs in respect of item above	%	80000		
<b><u>SITE ACCOMMODATION / ENGINEERS OFFICES</u></b>						
18	C1.4.1.1 PS.C1.4	Site accommodation:Offices and conference room	m2	106		
19	C1.4.1.6 PS.C1.4	Car ports	no	4		
20	C1.4.1.7 PS.C1.4	Ablution unit (equipped as specified)	no	2		
21	C1.4.1.9 PS.C1.4	Kitchen unit (equipped as specified)	no	1		
22	C1.4.2.9 PS.C1.4	White boards	m2	4		
23	C1.4.3.1 PS.C1.4	Office swivel chair	no	4		
24	C1.4.3.2 PS.C1.4	Office chair	no	10		
25	C1.4.3.5 PS.C1.4	Office desk with 3 drawers (at least one lockable drawer)	no	4		
26	C1.4.3.8 PS.C1.4	Conference table with chairs	no	1		
27	C1.4.3.10 PS.C1.4	Filing cabinet	no	4		
28	C1.4.3.24 PS.C1.4	Air-conditioning unit	no	5		
29	C1.4.3.27 PS.C1.4	Waste paper basket	no	6		
30	C1.4.3.29 PS.C1.4	A3 / A4 colour printer, copier, scanner	no	1		
31	C1.4.3.33 PS.C1.4	Digital thermometer	no	2		
32	C1.4.3.36 PS.C1.4	Measuring wheel	no	2		

Part Continued PART 0104 C1.4 FACILITIES FOR THE ENGINEER

Item	Clause	Description	Unit	Quantity	Rate	Amount
33	C1.4.3.37 PS.C1.4	First aid kit	no	1		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL ITEMS

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PART 0105 C1.5 ACCOMMODATION OF TRAFFIC

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.5.1.1 PS.1.3	Accommodation of pedestrian and non-motorised traffic	months	20		
2	C1.5.2 PS.1.3	Accommodation of vehicular traffic	months	20		
		<b><u>Temporary Traffic Control Facilities</u></b>				
3	C1.5.7.1(a)	Delineators including mounting bases and ballast: Single sided, reversible left or right (1200mm x 250mm)	no	75		
4	C1.5.7.1(b)	Delineators including mounting bases and ballast: Double sided, reversible left or right (1200mm x 250mm)	no	75		
5	C1.5.7.3	Flagmen	man-day	750		
6	C1.5.7.4	Traffic controllers	man-day	500		
7	PS.C1.5	Temporary barriers for accommodation of traffic, concrete New Jersey type, Contractor's own source	m	30		
8	PS.C1.5	Temporary barriers: Moving of barriers within the site.	m	30		
9	C1.5.7.5 (c )	(c) Illuminated road sign – R & TR series (900mm)	no	20		
10	C1.5.7.5(d)	(d) Illuminated road sign – TW series (900mm)	no	20		
11	C1.5.7.5(d)	(d) Illuminated road sign – TW series (TW407 / TW408)	no	20		
12	C1.5.7.9	Cleaning of traffic control facilities	months	20		
13	C1.5.8 PS.1.3.4	Traffic safety officer	months	20		
		<b><u>Traffic Safety Officer: Penalties</u></b>				
14	A1.5.3.7 PS.1.4	(a) Fixed Penalty per occurrence, R2000 per day	RateOnly	0		RATE ONLY
15	A1.5.3.7 PS.1.4	(b) Time-Related Penalty, R1000 per hour	RateOnly	0		RATE ONLY
		<b><u>Detour Road</u></b>				
16	C1.5.4 C5.1.1.2	Roadbed construction and compaction to 95 % of MDD	m3	120		

Part Continued PART 0105 C1.5 ACCOMMODATION OF TRAFFIC

Item	Clause	Description	Unit	Quantity	Rate	Amount
17	C1.5.4 C5.1.3.1(a)	Excavate material to spoil from roadbed construction, material obtained from: (a) Soft excavation	m3	550		
18	C1.5.4 C4.4.2.1(l)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G5, 150mm layers	m3	140		
19	C1.5.4 C5.3.2.1(k)	Construction of layers: Upper subbase (G5) layer compacted to 98 % of MDD	m3	140		
20	C1.5.4 C4.4.2.1(l)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G7, 150mm layers	m3	140		
21	C1.5.4 C5.3.2.1(b)	Construction of layers: Upper selected subgrade layer (G7) compacted to 95 % of MDD	m3	140		
22	C1.5.4 C4.4.2.1(l)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G9, 150mm layers	m3	1200		
23	C1.5.4 C5.3.2.1(b)	Construction of layers: Upper selected subgrade layer (G9) compacted to 95 % of MDD	m3	1200		
24	C1.5.4 C8.1.1.2	Prime coat: MC -30 cut-back bitumen. 0.8l/m2	l	800		
25	C1.5.4 C9.1.5.1 (e) PS.C9.1	New construction (paver laid) (a) Stone skeletal mix – continuously graded (SA-S10) (30mm layer)	m2	800		
26	C3.2.4.1	Supply and lay 3x1000mm diameter steel pipes for river crossing	m	60		

TOTAL CARRIED TO SECTION 1 SUMMARY: PRELIMINARY AND GENERAL ITEMS

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**SECTION 2 SITE CLEARANCE****PART 0106 C1.6 CLEARING AND GRUBBING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>Clearing</u></b>				
1	C1.6.1.1	Clearing with machines and some hand labour where necessary	ha	2		
2	C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	ha	0.05		
		<b><u>Grubbing</u></b>				
3	C1.6.2.1	Grubbing with machines and some hand labour where necessary	ha	2		
4	C1.6.2.2	Grubbing with hand labour when labour enhancement work is specified or it is not practical to use a machine	ha	0.05		
		<b><u>Removal and Grubbing of Large Trees and Tree Stumps</u></b>				
5	C1.6.3.1	Girth equal to or exceeding 1,0 m up to and including 2,0 m	no	30		
6	C1.6.3.2	Girth exceeding 2,0 m up to and including 3,0 m	no	20		
7	C1.6.3.3	Girth exceeding 3,0 m	no	10		
		<b><u>Removal</u></b>				
8	C1.6.4.1 PS.C1.6.4.1	Removal of structures: Demolition of brickwork of Manholes and inlets. Depth 0.0m to 1.0m	m3	60		
9	C1.6.4.1 PS.C1.6.4.1	Removal of Stormwater manholes and inlet; covers and frames. Spoil at tip, including haulage.	no	20		
10	C1.6.4.1 PS.C1.6.4.1	Removal of Stormwater Pipes, Diameter 300mm-600mm. Spoil at tip, including haulage.	m	70		
11	C13.3.1.1(a)	Cast in situ concrete: Strength concrete (class C): Seal Pipe ends (a) Concrete 15/26	m3	20		

TOTAL CARRIED TO SECTION 2 SUMMARY: SITE CLEARANCE

R

**SECTION 3 SERVICES****PART 0201 C2.1 GEN REQMENTS AND TRENCHING SERVICE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>LOCATION, IDENTIFICATION, PROTECTION AND RELOCATION OF SERVICES</u></b>				
1	C2.1.1.1 PS.C2.1.1.1	Contractor's obligation	Lump sum	1		
		<b><u>Relocation of Services by Others:</u></b>				
		<b><u>Water</u></b>				
2	C2.1.1.2 PS.3	Permanent services relocation or protection work by others: Water	PC Sum	1800000	1.00	1,800,000.00
3	C2.1.1.3 PS.3	Handling costs and profit in respect of item C2.1.1.2 above	%	1800000		
		<b><u>Sewer</u></b>				
4	C2.1.1.2 PS.4	Permanent services relocation or protection work by others: Sewer	PC Sum	500000	1.00	500,000.00
5	C2.1.1.3 PS.4	Handling costs and profit in respect of item C2.1.1.2 above	%	500000		
		<b><u>Electricity</u></b>				
6	C2.1.1.2 PS.6	Permanent services relocation or protection work by others: Electricity	PC Sum	2500000	1.00	2,500,000.00
7	C2.1.1.3 PS.6	Handling costs and profit in respect of item C2.1.1.2 above	%	2500000		
		<b><u>Telecoms</u></b>				
8	C2.1.1.2 PS.6	Permanent services relocation or protection work by others: Telecoms	PC Sum	500000	1.00	500,000.00
9	C2.1.1.3 PS.6	Handling costs and profit in respect of item C2.1.1.2 above	%	500000		
		<b><u>Proving By Hand</u></b>				
10	C2.1.2.5 PS.2.2	Using hand excavation to locate, expose and verify services Depth of 0.0m to 1.5m. (Prov)	m3	250		
11	C2.1.2.5 PS.2.2	Using hand excavation to locate, expose and verify services Depth of 1.5m to 2.0m (Prov)	m3	50		
		<b><u>Earthworks for services and ducts</u></b>				
12	C2.1.6.1(a) PS.C2.1.6	Trench excavation (in soft material): Trenches up to 1,0 m wide (a) Up to 1,0 m deep	m3	250		

Part Continued PART 0201 C2.1 GEN REQMENTS AND TRENCHING SERVICE

Item	Clause	Description	Unit	Quantity	Rate	Amount
13	C2.1.6.1(b) PS.C2.1.6	Trench excavation (in soft material): Trenches up to 1,0 m wide (b) Over 1,0 m and up to 2,0 m deep (Provisional)	m3	50		
14	C2.1.6.2(a) PS.C2.1.6	Trenches over 1,0 m and up to 2,0 m wide: (a) Up to 1,0 m deep	m3	250		
15	C2.1.6.2(b) PS.C2.1.6	Trenches over 1,0 m and up to 2,0 m wide: (b) Over 1,0 m and up to 2,0 m deep	m3	20		
16	C2.1.7.1	Extra over item for excavating in hard material irrespective of depth	m3	50		
17	C2.1.11.1(a) PS.C2.1.6	Backfilling of trenches: Backfill compacted to 93 % (100 % for sand) of MDD (areas subject to traffic loads) using material: (a) From the excavated trench material	m3	435		
18	C2.1.11.1(d) PS.C2.1.6	Backfilling of trenches: Backfill compacted to 93 % (100 % for sand) of MDD (areas subject to traffic loads) using material: (d) From sources provided by the Contractor	m3	435		
		<b><u>Dealing with water for services</u></b>				
19	C2.1.19.1	Dealing with surface water	Lump sum	10000		
20	C2.1.19.2	Dealing with subsurface water	Lump sum	10000		

TOTAL CARRIED TO SECTION 3 SUMMARY: SERVICES

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PART 0202 C2.2 DRY SERVICES

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>Supply, Lay and accessories</u></b>				
1	C2.2.1.1(a) PS.C2.2.1.1	U-PVC, type N450, with push fit couplings. (a) 110 mm diameter	m	150		
2	C2.2.1.1(b) PS.C2.2.1.1	U-PVC, type N450, with push fit couplings. (b) 160 mm diameter	m	230		
3	C2.2.6.1	Duct accessories: Duct markers (230 x 250 x 50)	no	28		
4	C2.2.6.3	Duct accessories: Draw wires	m	400		
5	C2.2.6.4	Duct accessories: End caps or plugs (U-PVC for 110mm dia)	no	30		

Part Continued PART**0202 C2.2 DRY SERVICES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
6	C2.2.6.4	Duct accessories: End caps or plugs (U-PVC for 160mm dia)	no	44		
7	C2.2.7.2(a)	Manholes (Standard Manhole): (a) 1.0 m and up to 1.5 m deep	no	8		
8	C2.2.7.4 PS.C2.2.7.4	Cable duct headwalls (230mm brickwork). Drawing: 38581	m2	12		
9	C2.2.5.2	Concrete encasement of ducts Concrete Class 20/26.	m3	30		

TOTAL CARRIED TO SECTION 3 SUMMARY: SERVICES

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PART**0204 C2.4 ENERGY AND OTHER SERVICES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.6.2	Street lighting	PC Sum	1800000	1.00	1,800,000.00
2	PS.6.2	Handling costs and profit in respect of Street lighting	%	1800000		

TOTAL CARRIED TO SECTION 3 SUMMARY: SERVICES

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PART**023A C2.3A WET SERVICES - SEWERS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C2.3.1.1(a)	Supply, lay, joint and test sewers:UPVC UG , class 16, collar joint and the class of bedding etc.: (a) 160mm dia(Provisional)	m	100		
2	C2.3.3.1(a)	Bedding for sewers (Class B and C) and fill blanket compacted to 93 % of MDD (100 % for sand):Bedding using selected granular material:(a) From the excavated trench material (Provisional)	m3	30		
3	C2.3.5.1(a)	Manholes, inspection chambers and cleaning eyes for sewers manholes 1000dia ring manhole as per standard drawing 38574.)(a pipe size 160mm and depth: 1.5m to 2.0m (Provisional)	no	5		
4	C2.3.8.4(a)	Connecting sewers to existing manholes: At start and end of line (Provisional)	no	5		

TOTAL CARRIED TO SECTION 3 SUMMARY: SERVICES

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**SECTION 4 DRAINAGE****PART 0301 C3.1 DRAINS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C3.1.1.1(a)	<b><u>Excavation for open drains / V drains</u></b>  Excavation for open drains: Excavating all material situated within the following depth ranges below the surface level using conventional methods: (a) 0 m to 1,5 m	m3	110		
2	C3.1.4.1(a)	<b><u>Excavation for subsoil drains</u></b>  Excavation for subsoil drains: Excavation and disposal of material for subsoil drainage systems: in all material situated within the following depth ranges below the surface:(a) 0 m to 1,5 m	m3	100		
3	C3.1.7.2	<b><u>Subsoil drains</u></b>  Crushed stone obtained from commercial sources (13.2mm stone chips)	m3	100		
4	C3.1.8.2	Natural sand from commercial sources (Clean coarse sand)	m3	60		
5	C3.1.9.1	Pipes in subsoil drainage systems: U-PVC pipes and fittings, normal duty, complete with couplings (110mm, slotted)	m	380		
6	C3.1.11 PS.C12.11	Geotextiles (Drainage grade, A3.)	m2	720		
7	C3.1.14.3	PVC Caps for subsoil drain pipes for subsoil drain pipes	no	10		
8	C3.1.22	Test flushing of subsoil drain pipe systems	no	10		

TOTAL CARRIED TO SECTION 4 SUMMARY: DRAINAGE

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**PART 0302 C3.2 CULVERTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C3.2.1.1(a) PS.C2.1.6	<b><u>Excavation:</u></b> <b><u>Pipes</u></b>  Excavation for culvert structures for pipes: in all material situated within the following depth ranges below the surface level: (a) 0 m to 1,5 m	m3	600		

Part Continued **PART** 0302 C3.2 CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
2	C3.2.1.1(b) PS.C2.1.6	Excavation for culvert structures for pipes: in all material situated within the following depth ranges below the surface level: (b) Exceeding 1,5 m and up to 3,0 m	m3	30		
3	C3.2.1.4 PS.C2.1.6	Extra over sub-item C3.2.1.1 for excavation in hard or boulder material,irrespective of depth	m3	20		
		<b><u>Backfilling:</u></b> <b><u>Pipes</u></b>				
4	C3.2.2.1	Backfilling: Using the excavated material	m3	450		
5	C3.2.2.2(a)	Backfilling: Using imported selected material: (a) From commercial sources (Using granular material)	m3	50		
		<b><u>Concrete Pipes: Spigot and Socket Type</u></b>				
6	C3.2.3.2 PS.C3.2.3.2	Concrete pipe culverts, Spigot and Socket: On Class B bedding (375mm diameter concrete Class 100D)	m	240		
7	C3.2.3.2 PS.C3.2.3.2	Concrete pipe culverts, Spigot and Socket: On Class B bedding (600mm diameter concrete Class 100D)	m	100		
8	C3.2.3.2 PS.C3.2.3.2	Concrete pipe culverts, Spigot and Socket: On Class B bedding (750mm diameter concrete Class 100D)	m	120		
9	C3.2.3.2 PS.C3.2.3.2	Concrete pipe culverts, Spigot and Socket: On Class B bedding (900mm diameter concrete Class 100D)	m	45		
		<b><u>Excavation:</u></b> <b><u>Manholes, Inlets and Headwalls</u></b>				
10	C3.2.1.1(a) PS.C2.1.6	Excavation for culvert structures for Manholes Inlets and Headwalls: in all material situated within the following depth ranges below the surface level: (a) 0 m to 1,5 m	m3	140		
11	C3.2.1.1(b) PS.C2.1.6	Excavation for culvert structures for Manholes Inlets and Headwalls: in all material situated within the following depth ranges below the surface level: (b) Exceeding 1,5 m and up to 3,0 m	m3	170		
12	C3.2.1.1(b) PS.C2.1.6	Excavation for culvert structures for Manholes Inlets and Headwalls: in all material situated within the following depth ranges below the surface level: (b) Exceeding 3,0 m and up to 4,5 m	m3	70		

Part Continued PART 0302 C3.2 CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
13	C3.2.1.4 PS.C2.1.6	Extra over sub-item C3.2.1.1(b) for excavation in hard or boulder material,irrespective of depth	m3	30		
		<b><u>Backfilling:</u></b> <b><u>Manholes, Inlets and Headwalls</u></b>				
14	C3.2.2.1	Backfilling: Using the excavated material	m3	120		
15	C3.2.2.2(a)	Backfilling: Using imported selected material: (a) From commercial sources	m3	120		
		<b><u>Headwalls</u></b>				
16	C3.2.9 PS.C3.2.9	Inlets and outlets to culverts: Headwalls, Type A, for 750mm pipes	no	2		
17	C3.2.9 PS.C3.2.9	Inlets and outlets to culverts: Headwalls, Type A, for 900mm pipes	no	2		
18	C3.2.15.2 PS.C3.2.15.2	Inlet: Type S1, heavy duty concrete cover; Depth: Exceeding 0,0m and up to 1,5m	no	1		
19	C3.2.15.2 PS.C3.2.15.2	Manhole: Type A with Type S1, heavy duty concrete cover; Depth: Exceeding 2,5m and up to 3,0m	no	2		
20	C3.2.15.2 PS.C3.2.15.2	Manhole: Type B with Type S1, heavy duty concrete cover; Depth: Exceeding 3,0m and up to 3,5m	no	1		
21	C3.2.15.2 PS.C3.2.15.2	Manhole: Type B with Type S1, heavy duty concrete cover; Depth: Exceeding 3,5m and up to 4,0m.	no	1		
22	C3.2.15.2 C3.2.15.2 PS.C3.2.15.2	Inlet: Type S2, heavy duty concrete cover; Depth: Exceeding 0,0m and up to 1,5m	no	7		
23	C3.2.15.2 PS.C3.2.15.2	Inlet: Type S2, heavy duty concrete cover; Depth: Exceeding 1,5m and up to 2,0m	no	1		
24	C3.2.15.2 PS.C3.2.15.2	Inlet: Type D3, heavy duty concrete cover; Depth: Exceeding 2,5m and up to 3,0m	no	1		
25	C3.2.15.2 PS.C3.2.15.2	Inlet: Type V3, heavy duty concrete cover; Depth: Exceeding 0m and up to 1,5m	no	1		
26	C3.2.15.2 PS.C3.2.15.2	Inlet: Type V3, heavy duty concrete cover; Depth: Exceeding 2,5m and up to 3,0m	no	2		

Part Continued PART 0302 C3.2 CULVERTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>Compaction</u></b>				
27	C3.2.24.1	Compaction of bedding for inlets, outlets, manholes and catchpits: Preparation and compaction of in situ bedding material to 90 % of MDD (depth 150mm)	m3	240		
28	C1.7.2.2( c) PS.C1.7.2.2	Hauling material to spoil and off-loading it at a designated spoil area: (c) Boulders and hard material	m3	270		
29	C3.2.19.2	Accessories: Inlet Covers frames: Type S2, Heavy Duty Concrete.	no	8		
30	C3.2.19.2	Accessories: Inlet Covers frames: Type D3, Heavy Duty Concrete.	no	1		
31	C3.2.19.2	Accessories: Inlet Covers frames: Type V3, Heavy Duty Concrete.	no	3		
32	C3.2.19.3	Accessories: Manhole frames: Standard Manhole, Heay Duty Concrete.	no	5		

TOTAL CARRIED TO SECTION 4 SUMMARY: DRAINAGE

R

PART 0303 C3.3 CONCRETE KERBING AND CHANNELING

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>Kerb and Channel / Fillet for Roadway</u></b>				
1	C3.3.2.1, PS.C3.3.2.1	Prefabricated kerbing, cast in-situ channeling: Type A Barrier Kerb, fig. 6, with 300mm channel, Drawing 38577	m	550		
2	C3.3.2.1, PS.C3.3.2.1	Prefabricated kerbing, cast in-situ channeling: Type A Barrier Kerb, fig.6, with 300mm fillet, Drawing 38577	m	550		
3	C3.3.2.1, PS.C3.3.2.1	Prefabricated kerbing, cast in-situ channeling: Type F Mountable Kerb, fig. 6, with 150mm channel, Drawing 38577	m	650		
4	C3.3.2.2	Cast in situ kerbing-channeling	m3	10		
5	C3.3.3.1, PS.C3.3.2.1	Extra over items C3.3.1 and C3.3.2 for concrete kerbing and channeling on curves of radii more than or equal to 2,0 m but less than 25 m	m	280		

Part Continued PART 0303 C3.3 CONCRETE KERBING AND CHANNELING

Item	Clause	Description	Unit	Quantity	Rate	Amount
6	C3.3.4	Extra over item C3.3.2 for drop kerbs and channel / Fillet at pedestrian crossings and driveways (Drawing 38579)	m	95		
		<b><u>Sidewalk Edge Restraint</u></b>				
7	C3.3.2.1, PS.C3.3.2.1	Prefabricated kerbing (edge restraint, Figure 12 kerb including 100mm x 100mm haunching)	m	1050		
		<b><u>Scoops</u></b>				
8	C13.4.11	Cast in situ concrete for Pedestrian / Vehicular Scoop (Grade 20/13)	m <sup>3</sup>	30		
		<b><u>Open Drians</u></b>				
9	C3.3.6.2	Cast in situ concrete chutes (V Drain, as per drawing) Item to include formation, backfill and compaction, Concrete, reinforcement and formwork	m	420		

TOTAL CARRIED TO SECTION 4 SUMMARY: DRAINAGE

R

PART 1206 C12.6 MECH STABILISED FILL AND GABIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>HEADWALLS PROTECTION</u></b>				
		<b><u>Reno Mattress and Gabions for Headwalls</u></b>				
1	C12.6.14.1(a)	Foundation trench excavation: Excavating all material for gabions and reno mattress situated within the following depth ranges (a) 0 m to 1,5 m	m <sup>3</sup>	50		
2	C12.6.14.1(b)	Foundation trench excavation: Excavating all material for gabions and reno mattress situated within the following depth ranges (Provisional) (b) Exceeding 1,5 m and up to 3,0 m	m <sup>3</sup>	20		
3	C12.6.15	Surface preparation for bedding the reno mattress	m <sup>2</sup>	110		
4	C12.6.16.2	Reno mattress: PVC coated gabion boxes (1.0mx1.0mx0.3m)	m <sup>3</sup>	35		
5	C12.6.15	Surface preparation for bedding gabions	m <sup>2</sup>	450		
6	C12.6.17, PS.C12.6.17	Geotextile (Filtertation and separation for use with reno mattress, min Grade 7)	m <sup>2</sup>	100		

TOTAL CARRIED TO SECTION 4 SUMMARY: DRAINAGE

R

**SECTION 5 EARTHWORKS****PART 0107 C1.7 LOADING AND HAULING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.7.1.1	Loading:Loading from stockpile using machines and some hand labour where necessary	m3	17000		
2	C1.7.2.1(a)	Hauling:Hauling material for use in the Works and off-loading it on the site of the Works:(a) Soil, gravel, crushed stone and pavement layer material	m3 * km	1000		
3	C1.7.2.1(b)	(b) Boulders and hard material	m3 * km	1000		

TOTAL CARRIED TO SECTION 5 SUMMARY: EARTHWORKS

R

**PART 0402 C4.2 CUT MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C4.2.1.1	Compiling and implementing M&U plans for the cuttings exceeding 5 000 m <sup>3</sup> up to 10 000 m <sup>3</sup>	no	1		
<b><u>EXCAVATION TO STOCKPILE OR FILL</u></b>						
2	C4.2.3.1 PS.C4.2	<b><u>Bulk Excavation</u></b> Excavating of materials in cuttings to fill for use in the works, material obtained from: Soft excavation	m3	500		
3	C4.2.3.3 PS.C4.2	Excavating of materials in cuttings to fill for use in the works, material obtained from: Boulder excavation class B	m3	300		
4	C4.2.3.4 PS.C4.2	Excavating of materials in cuttings to fill for use in the works, material obtained from: Hard excavation (other than by blasting)	m3	200		
5	C4.2.7.2	Removal of unsuitable stable cut material to spoil: In layer thicknesses exceeding 200 mm (Provisional)	m3	250		
<b><u>Excavation to Spoil</u></b>						
6	C4.2.9.1 PS.C4.2	Excavate material to spoil in sites designated by the Contractor, material obtained from: Soft excavation, overburden and unsuitable material	m3	300		
7	C4.2.9.3 PS.C4.2	Excavate material to spoil in sites designated by the Contractor, material obtained from: Boulder excavation class B	m3	50		

Part Continued PART 0402 C4.2 CUT MATERIALS

Item	Clause	Description	Unit	Quantity	Rate	Amount
8	C4.2.9.4 PS.C4.2	Excavate material to spoil in sites designated by the Contractor, material obtained from: Hard excavation (other than by blasting)  <u>Finishing of Banks (Cut only)</u>	m3	50		
9	C4.2.12.1(a)	Finishing the side slopes of Cuttings: (a) In soft material	m2	100		
10	C4.2.12.1(b)	Finishing the side slopes of Cuttings: (b) In boulder material class A and B	m2	20		

TOTAL CARRIED TO SECTION 5 SUMMARY: EARTHWORKS

R

PART 0403 C4.3 EXISTING ROAD MATERIALS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Saw-cut</u>				
1	C4.3.4.1(a)	Saw-cutting existing materials within the following average depth ranges: Asphalt: (a) Up to 50 mm	m	10		
2	C4.3.5.2	Providing large milling machine with a cutting width exceeding 1,2 m	no	1		

TOTAL CARRIED TO SECTION 5 SUMMARY: EARTHWORKS

R

PART 0404 C4.4 COMMERCIAL MATERIALS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C4.4.2.1(l)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material: Type G9	m3	18000		

TOTAL CARRIED TO SECTION 5 SUMMARY: EARTHWORKS

R

PART 0502 C5.2 FILL

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C5.2.1.1	Compiling and implementing M&U plans: For fills more than 5000 m3  <u>Fill Processing and Compaction only</u>	no	1		
2	C5.2.2.1(a)	Fill construction: Normal fill material (G9) in compacted layer thicknesses of 200 mm and less: (a) Compacted to 95 % of MDD	m3	5000		
3	C5.2.2.1(b)	Fill construction: Normal fill material (G9) in compacted layer thicknesses of 200 mm and less: (b) Compacted to 93 % of MDD	m3	35000		

Part Continued PART 0502 C5.2 FILL

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Finishing of Banks (Fill only)</u>				
4	C5.2.11.1	Finishing-off fill slopes	m2	13500		
		<u>Geosynthetics Reinforcement</u>				
5	PS.C12.11	Geosynthetic: Reinforcement and separation. Rockgird PC100 or Similar approved (Provisional)	m2	250		
6	PS.C12.11	Geosynthetic: Reinforcement. Bi-axial grid 50kN or Similar approved	m2	4150		
7	C5.2.2.5	Rock fill embankment toe	m3	100		

TOTAL CARRIED TO SECTION 5 SUMMARY: EARTHWORKS

R

**SECTION 6 LAYERWORKS****PART 0404 C4.4 COMMERCIAL MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>Import Layerworks (Material only)</u></b>				
1	C4.4.2.1(b)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G2	m3	550		
2	C4.4.2.1(f)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G5	m3	1000		
3	C4.4.2.1(g)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers: Pavement layer material:Type G7	m3	1000		
		<b><u>Import Sidewalk material</u></b>				
4	C4.4.2.1(e)	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers:(for sidewalk) Pavement layer material:Type G5	m3	210		

TOTAL CARRIED TO SECTION 6 SUMMARY: LAYERWORKS

R

**PART 0501 C5.1 ROADBED**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C5.1.1.2 PS.C5.1.1.2	Roadbed construction and compaction to 95 % of MDD	m3	6500		

TOTAL CARRIED TO SECTION 6 SUMMARY: LAYERWORKS

R

**PART 0503 C5.3 ROAD PAVEMENT LAYERS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C5.3.1	Compiling and implementing M&U plans for the construction of all the pavement layers.	no	1		
		<b><u>Processing and Compaction</u></b>				
2	C5.3.2.1(k)	Construction of layers: Upper subbase (G2) layer compacted to 98 % of MDD	m3	550		
3	C5.3.2.1(j)	Construction of layers: Lower subbase (G5) layer compacted to 95 % of MDD	m3	1000		
4	C5.3.2.1(b)	Construction of layers: Upper selected subgrade layer (G7) compacted to 95 % of MDD	m3	1000		

Part Continued PART 0503 C5.3 ROAD PAVEMENT LAYERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
5	C5.3.2.1(m)	<u>Sidewalk</u> Sidewalk selected layer (G5) compacted to 98 % of MDD	m3	210		

TOTAL CARRIED TO SECTION 6 SUMMARY: LAYERWORKS

R

PART 0901 C9.1 ASPHALT LAYERS

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<u>Submitting Asphalt Mix Designs</u>				
1	C9.1.1.2(a) PS.C9.1	Sand skeletal mixes: Continuously graded base or surfacing (SA-S14) - Mix Design	Lump sum	5000		
2	C9.1.1.2(a) PS.C9.1	Sand skeletal mixes: Continuously graded base or surfacing (SA-S10) - Mix Design	Lump sum	5000		
3	C9.1.1.2(a) PS.C9.1	Sand skeletal mixes: Continuously graded base or surfacing (SA-S7) - Mix Design	Lump sum	5000		
		<u>Bond Coat (Tack)</u>				
4	C9.1.3.1 PS.C9.1	Application of bond coat: Stable -grade 30 % net bitumen emulsion as specified. Applied with a calibrated distributor	l	5000		
		<u>Asphalt Laying</u>				
5	C9.1.5.1(e) PS.C9.1	New construction (paver laid) (a) Stone skeletal mix – continuously graded (SA-S14) (50mm layer)	m2	3100		
6	C9.1.5.1(e) PS.C9.1	New construction (paver laid) (a) Stone skeletal mix – continuously graded (SA-S10) (30mm layer)	m2	3000		
7	C8.1.1.2	Prime coat: MC -30 cut-back bitumen. 0.8l/m2	l	5000		
		<u>Sidewalk / Median Surface</u>				
8	C9.1.5.1 (e) PS.C9.1	New construction Sidewalks (a) Stone skeletal mix – continuously graded (SA-S7) (25mm layer)	m2	2100		
9	C8.1.1.2	Prime coat: MC -30 cut-back bitumen. 0.8l/m2	l	1700		
10	C8.1.3	Extra over item C8.1.1 for applying the prime coat accessible only to hand-held or light equipment.	l	200		

TOTAL CARRIED TO SECTION 6 SUMMARY: LAYERWORKS

R

**PART 1203 C12.3 GROUND IMPROVEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C12.3.19 PS.C12.3.20	Importing G5 quality material from approved sources, to be applied over dumprock layer.	t	1500		
2	C12.3.20 PS.C12.3.20	Importing dump rock for subgrade improvement, 300mm thick	m3	1250		
3	C12.3.20 PS.C12.3.20	Importing dump rock for rock toe, 1000mm thick	m3	100		
4	PS.C12.3.20	Supply and place minimum grade 5 geofabric to dumprock layer.	m2	4200		

TOTAL CARRIED TO SECTION 6 SUMMARY: LAYERWORKS

R

**SECTION 7 ANCILLARY ROAD WORKS****PART 1104 C11.4 ROAD RESTRAINT SYSTEMS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.4.1.1(c)	Erecting of guardrails at 3,81 m spacing: Complete galvanized system compliant to SANS 1350: (c) on CONCRETE post (Drawing 38580)	m	800		
2	C11.4.1.2(a)	Terminal sections for 3,81 guardrails comprising of: (a) End wings to SANS 1350	no	18		
3	C11.4.6.2	Reflective Plastic plates	no	400		
4	C11.4.4.1	Extra over C11.4.1 for horizontally curved guard rails factory bent to a radius of less than 45m	m	100		

TOTAL CARRIED TO SECTION 7 SUMMARY: ANCILLARY ROAD WORKS

R

**PART 1105 C11.5 FENCING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
<b><u>Wire Mesh Fence - Drawing 38583</u></b>						
1	C11.5.1.3	Diamond mesh	m2	300		
2	C11.5.1.9(a)(i)	Straining posts, stays and anchors: (a) Vertical (Concrete straining post)	no	70		
3	C11.5.4.1(d)	Dismantling existing fences: (d) Security fences	m	150		
4	C11.5.4.2	Dismantling existing gates	no	4		
5	C11.5.2	New gates (Vehicular)	no	4		
6	C11.5.2	New gates (Pedestrian)	no	1		
7	C11.5.10.1	Disposal of existing fencing materials: Security Fences	m	150		

TOTAL CARRIED TO SECTION 7 SUMMARY: ANCILLARY ROAD WORKS

R

**PART 1106 C11.6 ROAD SIGNS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.6.1.3(a)	Road signboards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class I retro-reflective material, where the sign board is constructed from: Preprinted galvanized steel plate: (a) Area 0 to 0,5 m2	m2	2		
2	C11.6.3.1	Road sign supports: Steel tubing (75m diameter), Galvanised	m	8		
3	C11.6.3.2	Road sign supports: Timber (100mm diameter)	m	4		

Part Continued PART**1106 C11.6 ROAD SIGNS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
4	C11.6.5.1	Excavation and backfilling for road sign supports: Excavating soft material and backfilling	m3	5		
5	C13.4.11	Cast in situ concrete for road sign footings as directed by the Engineer (Grade 20/19)	m3	5		

TOTAL CARRIED TO SECTION 7 SUMMARY: ANCILLARY ROAD WORKS

R

PART**1107 C11.7 ROAD MARKINGS AND ROAD STUDS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.7.1.4 PS.C11.7.1	<u>Lettering and Symbols</u>  White lettering and symbols	m2	20		
2	C11.7.1.7 PS.C11.7.1	<u>Transverse Lines and Painted Islands</u>  Transverse lines, painted island and arrestor bed markings (White)	m2	2		
3	C11.7.1.1 PS.C11.7.1	<u>Broken and Unbroken Lines</u>  Road marking, broken or unbroken (White, 100mm wide)	km	0.7		
4	C11.7.1.1 PS.C11.7.1	Road marking, broken or unbroken (White, 200mm wide)	km	0.1		
5	C11.7.7.1 PS.C11.7.2	<u>Road Studs</u>  Permanent road studs compliant to SANS 1442 Red/Red	no	20		
6	C11.7.9 PS.C11.7.1	<u>Other</u>  Re-establishing the painting unit during the defects notification period and at other instances on instruction of the Engineer	no	1		

TOTAL CARRIED TO SECTION 7 SUMMARY: ANCILLARY ROAD WORKS

R

PART**1108 C11.8 LANDSCAPING AND PLANTING PLANTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.8.3.3(b)	Preparing the areas for grassing: (b) Topsoil obtained from commercial sources by the Contractor	m3	1500		
2	C11.8.4.3(a)	Hydroseeding: (a) Providing an approved seed mixture for hydroseeding	kg	0		
3	C11.8.4.3(c)	(c) Hydroseeding	ha	1.3		

Part Continued PART 1108 C11.8 LANDSCAPING AND PLANTING PLANTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
4	C11.8.6	Watering the already planted grass, trees and shrubs during the growing season	kl	10		
5	C11.8.10	Unspecified work for landscaping	ProvSum	50000	0.01	500.00

TOTAL CARRIED TO SECTION 7 SUMMARY: ANCILLARY ROAD WORKS

R

PART 1109 C11.9 FINISHING ROAD AND ROAD RESERVE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C11.9.1.2	Single carriageway road	km	1.1		

TOTAL CARRIED TO SECTION 7 SUMMARY: ANCILLARY ROAD WORKS

R

**SECTION 8 RETAINING WALLS - Gabion and Mass Gravity****PART 1206 C12.6 MECH STABILISED FILL AND GABIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
		<b><u>Gabions</u></b>				
1	C12.6.14.1(a)	Foundation trench excavation: Excavating all material for gabions situated within the following depth ranges (a) 0 m to 1,5 m	m3	350		
2	C12.6.15	Surface preparation for bedding the gabions	m2	500		
3	C12.6.16.2	Gabions and mattresses: PVC coated gabion boxes (1.0mx1.0mx2.0m)	m3	900		
4	C12.6.17, PS.C12.6.17	Geotextile (Filteration and separation for use with gabions, min Grade 7)	m2	1500		
		<b><u>Segmented Block walls (Geolock or similar approved)</u></b>				
5	C12.6.2	Excavation for wall base foundation	m3	110		
6	C12.6.3	Concrete for wall base foundation (25/26)	m3	40		
7	C12.6.7	Metallic reinforcing mesh (Mesh Ref. 245)	m2	125		
8	C12.6.12.2	Facings (Geolock wall as per drawing for wall 2m-3m): For concrete block wall facing	m2	205		
9	C12.6.13	Drainage (50mm weepholes installed inclusive of all elements as per drawing)	no	55		
10	C12.6.11	Backfill (19mm stone chips)	m3	15		
11	C12.6.11	Backfill (Cement stabilised backfill as per drawing)	m3	90		
12	C12.6.11	Backfill (compacted to 95%MDD)	m3	25		
13	C12.6.17	Geotextile (Drainage A3)	m2	90		
14	C12.6.3	Concrete for wall Top blocks of wall (25/26)	m3	12		
15	C3.1.9.1	Pipes in subsoil drainage systems: U-PVC pipes and fittings, normal duty, complete with couplings (state size and whether or not perforated or slotted)	m	110		
16	C3.3.6.2	Precast concrete chutes (catchwater drain, minimum 300mm wide by 150mm deepm as per drawing) Item to include all materials, formation, backfill and installation.	m	110		

TOTAL CARRIED TO SECTION 8 SUMMARY: RETAINING WALLS - Gabion and Mass Gravity

R

**SECTION 9 RIVER COURSE WORK****PART 0402 C4.2 CUT MATERIALS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C4.2.1.2	Compiling and implementing M&U plans for the cuttings exceeding 10 000 m <sup>3</sup> up to 20 000 m <sup>3</sup>	no	1		
2	C4.2.3.1	Excavating of materials to fill in cuttings, material obtained from:Soft excavation	m <sup>3</sup>	4000		
3	C4.2.3.1	Excavating of materials to stockpile in cuttings, material obtained from:Soft excavation	m <sup>3</sup>	3000		
4	C4.2.9.2	Boulder excavation class A	m <sup>3</sup>	5000		
5	C4.2.9.4	Hard excavation (other than by blasting)	m <sup>3</sup>	4500		
6	C4.2.9.5	Hard excavation (by blasting)	m <sup>3</sup>	4500		

TOTAL CARRIED TO SECTION 9 SUMMARY: RIVER COURSE WORK

R

**SECTION 10 BRIDGE 2 - Chainage 1436 to 1496****PART 0106 C1.6 CLEARING AND GRUBBING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.6.1.1	Clearing:Clearing with machines and some hand labour where necessary	ha	0		
2	C1.6.2.1	Grubbing:Grubbing with machines and some hand labour where necessary	ha	0		
3	C1.6.3.1	Removal and grubbing of large trees and tree stumps:Girth equal to or exceeding 1,0 m up to and including 2,0 m	no	0		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

**PART 0107 C1.7 LOADING AND HAULING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.7.1.1	Loading>Loading from stockpile using machines and some hand labour where necessary	m3	0		
2	C1.7.2.1(a)	Hauling:Hauling material for use in the Works and off-loading it on the site of the Works:(a) Soil, gravel, crushed stone and pavement layer material	m3 * km	0		
3	C1.7.2.1(b)	(b) Boulders and hard material	m3 * km	0		
4	C1.7.2.2(a)	Hauling material to spoil and off-loading it at a designated spoil area:(a) Cleared and grubbed material (organic matter and all other unsuitable or waste material)	m3 * km	0		
5	C1.7.2.2(b)	(b) Soil and gravel material	m3 * km	0		
6	C1.7.2.2( c)	(c) Boulders and hard material	m3 * km	0		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

**PART 0303 C3.3 CONCRETE KERBING AND CHANNELING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C3.3.1.1	Prefabricated kerbing (Figure 6 kerb and 300mm wide fillet)	m	0		
2	C3.3.2.1	Prefabricated kerbing-channeling (Figure 6 kerb and 300mm wide channel)	m	0		
3	C3.3.12.3	High tensile strength Welded steel fabric: Ref.193	kg	0		
4	PS.C.13.2.1 / PS.C.20.1	Procure and Supply decorative concrete particles (CHRYSO® Lumin P+, or similar approved)	kg	0		

Part Continued PART 0303 C3.3 CONCRETE KERBING AND CHANNELING

Item	Clause	Description	Unit	Quantity	Rate	Amount
5	PS.C.13.2.1 / PS.C.20.1	Application of decorative concrete aggregates particles (Glow in the dark), CHRYSO® Lumin P+ or approved similar to fresh concrete. (Spray rate of between 200 to 400g/m2	m2	0		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART 1211 C12.11 GEOSYNTHETICS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C12.11.1	Reinforcement using Bi-axial grid 50kN (or similar approved)	m2	110		
2	C9.1.12	Asphalt reinforcing using 100kN Glassgrid or similar approved.	m2	370		
3	c12.11.2	Reinforcement using Rockgrid PC100 or similar approved	m2	250		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART 1301 C13.1 FOUNDATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.1.6.1	Access and drainage: Access	sum	1		
2	C13.1.6.2	Access and drainage: Drainage	sum	1		
3	C13.1.3.1.(a)	Excavation: Excavating soft material situated within the following successive depth ranges:(a) 0 m up to 1,5 m	m3	70		
4	C13.1.3.1.(b)	(b) > 1,5 m and < 3,0 m	m3	30		
5	C13.1.3.2 / PS.C.13.1.1	Extra over subitem C13.1.3.1 for excavation in hard material irrespective of depth	m3	60		
6	C13.1.7.1	Backfill to excavations utilising: Material from excavation	m3	30		
7	C13.1.7.2	Backfill to excavations utilising: Imported material	m3	120		
8	C13.1.7.3	Backfill to excavations utilising: Soil cement	m3	60		
9	C13.1.14.6	Foundation fill consisting of: Plum concrete (C25/30 - 20) using large and clean boulders from the river.	m3	70		
10	C13.1.14.3	Foundation fill consisting of: Compacted selected granular material	m3	250		
11	C13.1.14.5	Foundation fill consisting of: Concrete blinding (75mm, Class C25/30-20)	m3	18		
12	C13.1.16	Establishment on site for drilling of holes and grouting of rock fissures (50mm dia. Core drilling)	sum	1		

Part Continued PART**1301 C13.1 FOUNDATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
13	C13.1.17	Moving to and setting up equipment at each hole to be drilled for grouting	no	16		
14	C13.1.18	Drilling of holes for grouting (50mm core drilled 3m deep)	m	60		
15	C13.1.20.2	Supply and installation of dowel bars (Y32, 3.8m long)	kg	400		
16	C13.1.2.1 / PS.C.13.1.1	Provisional sum allowed for additional foundation investigations	PC Sum	100000	1.00	100,000.00
17	C13.1.2.2	Handling costs and profit in respect of item C13.1.2.1	%	100000		
18	C13.1.14.1	Foundation fill consisting of: Rock fill (Provisional)	m3	50		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART**1302 C13.2 FALSEWORK, FORMWORK AND CONCRETE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.2.2	Vertical formwork to provide F1 surface finish to abutment bases	m2	55		
2	C13.2.2	Vertical formwork to provide class F1 surface finish to pier bases	m2	75		
3	C13.2.2	Vertical formwork to provide class F1, surface finish to wingwall bases	m2	150		
4	C13.2.2	Vertical formwork to provide class F3 surface finish to exposed abutment wall face	m2	170		
5	C13.2.2	Vertical formwork to provide class F1 surface finish to concealed abutment wall face	m2	190		
6	C13.2.2	Vertical formwork to provide class F1 surface finish to concealed wingwall surfaces	m2	350		
7	C13.2.2	Vertical formwork to provide class F3 surface finish to exposed wingwall surfaces	m2	315		
8	C13.2.4	Inclined formwork to provide class F1 surface finish to concealed wingwall surfaces	m2	10		
9	C13.2.2	Vertical formwork to provide class F3 surface finish to wall piers (inclusive of bull nose/rounded edges)	m2	360		
10	C13.2.2	Vertical formwork to provide class F1 surface finish to approach slabs	m2	30		
11	C13.2.2	Vertical formwork to provide class F1 surface finish to hidden deck surfaces	m2	40		

Part Continued PART 1302 C13.2 FALSEWORK, FORMWORK AND CONCRETE

Item	Clause	Description	Unit	Quantity	Rate	Amount
12	C13.2.3	Horizontal formwork to provide class F3 surface finish to deck soffits	m2	130		
13	C13.2.4	Inclined formwork to provide class F3 surface finish to deck soffits	m2	185		
14	C13.2.3	Horizontal and curved formwork to provide class F3 finish to deck soffits	m2	365		
15	C13.2.2	Vertical formwork to provide class F3 surface finish to side faces of the deck	m2	210		
16	C13.2.10	Provision of designs and drawings of falsework and formwork by an ECSA registered Professional Engineer or Technologist	sum	1		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART 1303 C13.3 STEEL REINFORCEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.3.1.1(a)	Reinforcement for Pier base: (a) Mild-steel (R)	t	0.1		
2	C13.3.1.1(b)	Reinforcement for Pier bases: (b) High-yield-stress-steel bars (Y)	t	10		
3	C13.3.1.1(a)	Reinforcement for Abutment base: (a) Mild-steel bars (R)	t	0.2		
4	C13.3.1.1(b)	Reinforcement for Abutment base: (b) High-yield-stress-steel bars (Y)	t	13.5		
5	C13.3.1.1(a)	Reinforcement for Wall pier: (a) Mild-steel bars (R)	t	0.1		
6	C13.3.1.1(b)	Reinforcement for wall pier: (b) High-yield-stress-steel bars (Y)	t	17		
7	C13.3.1.1(a)	Reinforcement for Abutment wall and approach slab: (a) Mild-steel bars (R)	t	0.1		
8	C13.3.1.1(b)	Reinforcement for Abutment walls and approach slab: (b) High-yield-stress-steel bars (Y)	t	13.5		
9	C13.3.1.1(a)	Reinforcement for Wingwalls: (a) Mild-steel bars (R)	t	0.5		
10	C13.3.1.1(b)	Reinforcement for Wingwalls: (b) High-yield-stress-steel bars (Y)	t	57		
11	C13.3.1.1(a)	Reinforcement for Bridge deck: (a) Mild-steel bars (R)	t	2		
12	C13.3.1.1(b)	Reinforcement for Bridge deck: (b) High-yield-stress-steel bars (Y)	t	165		
13	C13.3.1.1(a)	Reinforcement for barrier base beams: (a) Mild-steel bars (R)	t	1		

Part Continued PART 1303 C13.3 STEEL REINFORCEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
14	C13.3.1.1(b)	Reinforcement for Barrier base beams: (b) High-yield-stress-steel bars (Y)	t	10		
15	C13.3.4	Extra-over item C13.3.1 etc. for galvanising of reinforcement	t	15		
16	C13.3.1.1(b)	Reinforcement for: (Approach slab): (b) High-yield-stress-steel bars (20, 500mm long @ 300 centresY)	t	0.1		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART 1304 C13.4 CONCRETE

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.4.1.2	Cast in situ durable concrete: Abutment bases (Class D32/40-20-XC4)	m3	90		
2	C13.4.1.2	Cast in situ concrete: Pier bases (Class D32/40-20-XC4)	m3	65		
3	C13.3.1.1(c )	Cast in situ concrete: Wingwall bases (class D32/40-20-XC4)	m3	260		
4	C13.4.1.2	Cast in situ concrete: Wingwalls (Class D32/40-20-XC4)	m3	125		
5	C13.4.1.2	Cast in situ concrete: Approach slab (Class D32/40-20-XC4)	m3	45		
6	C13.4.1.2	Cast in situ concrete Barrier base beam (Class D32/40-20-XC4)	m3	50		
7	C13.4.1.2	Cast in situ concrete: Deck (Class D32/40-20-XC4)	m3	810		
8	C13.4.1.2	Cast in situ concrete: Wall piers (Class D32/40-20-XC4)	m3	110		
9	C13.4.1.2	Cast in situ concrete: Abutment walls (Class D32/40-20-XC4)	m3	75		
10	C13.4.5.1	Curing and surface protection of cast in situ concrete, as and where specifically required: Foundations and Substructure (Tenderer to specify method of curing):	m2	1300		
11	C13.4.5.1	Curing and surface protection of cast in situ concrete, as and where specifically required: Deck (Tenderer to specify method of curing):	m2	800		
12	C13.4.1.1	Cast in situ concrete: Sidewalk C25/30-20	m3	27		
13	C13.4.13.1	Complete demolition and disposal of existing structural concrete elements or parts of existing structures: (Member Indicated)	m3	150		

Part Continued PART 1304 C13.4 CONCRETE

Item	Clause	Description	Unit	Quantity	Rate	Amount
14	PS.C.13.2.2	Cast insitu special mix concrete to sidewalks	m3	30		
15	C13.3.1.1(a)	Provisional cast insitu concrete for soft spots C12/15-20	m3	50		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART 1306 C13.6 BEARINGS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.6.3	Bearing strips (3 layer of three ply malthoid, lubricated roofing felt, or approved similar)	m2	20		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART 1307 C13.7 JOINTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.7.2.1	Filled joints: 20mm expanded polyethylene (rigid foam) between abutments and wingwalls (or approved simillar)	m2	100		
2	C13.7.2.1	Filled joints: 10mm expanded polyethylene (rigid foam) between wingwalls and sidewalk (or approved similar)	m2	210		
3	C13.7.4.1	Sealing joints with: Sealant (20mm Expansion joint between abutments and wingwalls, structural silicone (or simillar approved), including backing chord)	m	60		
4	C13.7.4.2	Sealing joints with: Seal (20mm expansion joint in abutments, flexible Polyolefin sealant tape with epoxy bonding i.e. Sikadur-Combiflex or approved similar)	m	30		
5	C13.7.4.1	Sealing joints with: Sealant (10mm expansion between wingwalls and sidewalk, structural silicone (or similar approved), including backing chord	m	115		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART 1308 C13.8 ANCILLARY STRUCTURAL ELEMENTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.8.1.1 / PS.C.13.3.1	Concrete barriers and parapets (refer to drawing No. 49493, sheet 8): Precast concrete Barrier concrete details	m	260		
2	C13.8.1.1 / PS.C.13.3.1	Extra Over item 1, above, for precast units supporting lighting masts attachments	no	12		

Part Continued PART 1308 C13.8 ANCILLARY STRUCTURAL ELEMENTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
3	C13.8.7.3	Numbers for structures: (refer to drawings No.49493, sheet 11) : Numbers formed in concrete	no	2		
4	C13.8.10.1(a)	Drainage pipes and weep holes: Drainage pipes: (a) 110mm diameter u-PVC bridge scuppers	m	16		
5	C13.8.10.2(a)	Drainage pipes and weep holes: Weep holes: (a) 50mm diameter u-PVC	m	200		
6	C13.8.15	Drainage strips (HDPE, 200 mm wide DN3 behind abutments)	m	200		
7	C13.8.16.1	Perforated drainage pipes: Size (65mm Netlon wrapped in Grade B synthetic fibre filter) and type of pipe wrapped in synthetic – filter fabric as specified (describe type, grade etc.)	m	120		
8	C13.8.6.1	Service ducts in structures: u-PVC 110mm diameter	m	300		
9	C13.8.6.1	Service ducts in structures: (u-PVC and 160mm diameter)	m	500		
10	C13.8.6.2	Joint in 110mm ducts at bridge deck expansion joints	no	12		
11	C13.8.6.2	Joint in 160mm ducts at bridge deck expansion joints	no	30		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART 1310 C13.10 PAINTING OF MINOR STRUCTURES

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.10.1.1	Provisional sum for Bridge anti-Graffiti/Architectural painting on precast barriers.	PR Sum	100000	1.00	100,000.00
2		Handling cost on item 1 above.	%	100000		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

PART 1407 C14.7 PROTECTIVE COATINGS AND TREATMENTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C14.7.2	Application of protective coatings and treatments (Cementitious crystalline waterproofing @ 0.8kg/m2)	m2	100		
2	C14.7.3	On site monitoring and supply of written product performance guarantee	sum	1		
3	C14.7.4	Trial sample panels	m2	6		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

**PART 2001 C20.1 TESTING MATERIALS AND JUDGEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C20.1.2.1(a)	Special tests requested by the Engineer: Employer's contribution to concrete durability tests:(a) Tests for water sorptivity	PC Sum	20000	1.00	20,000.00
2		Handling costs and profit in respect of item C20.1.2.1(a)	%	20000		
3	C20.1.2.1(b)	Special tests requested by the Engineer: Employer's contribution to concrete durability tests:(b) Tests for oxygen permeability	PC Sum	20000	1.00	20,000.00
4		Handling costs and profit in respect of item C20.1.2.1(b)	%	20000		

TOTAL CARRIED TO SECTION 10 SUMMARY: BRIDGE 2 - Chainage 1436 to 1496

R

**SECTION 11 BRIDGE 3 - Chainage 1653 to 1743****PART 0106 C1.6 CLEARING AND GRUBBING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.6.1.1	Clearing with machines and some hand labour where necessary	ha	0		
2	C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	ha	0		
3	C1.6.2.1	Grubbing with machines and some hand labour where necessary	ha	0		
4	C1.6.2.2	Grubbing with hand labour when labour enhancement work is specified or it is not practical to use a machine	ha	0		
5	C1.6.3.1	Girth equal to or exceeding 1,0 m up to and including 2,0 m	no	0		
6	C1.6.3.2	Girth exceeding 2,0 m up to and including 3,0 m	no	0		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

R

**PART 0107 C1.7 LOADING AND HAULING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C1.7.2.1(a)	Hauling material for use in the Works and off-loading it on the site of the Works: (a) Soil, gravel, crushed stone and pavement layer material	m3 * km	0		
2	C1.7.2.2(a) PS.C1.7.2.2	Hauling material to spoil in sites designated by the Contractor: (a) Cleared and grubbed material (organic matter and all other unsuitable or waste material)	m3	0		
3	C1.7.2.2(b) PS.C1.7.2.2	Hauling material to spoil in sites designated by the Contractor: (b) Soil and gravel material	m3	0		
4	C1.7.2.2(c) PS.C1.7.2.2	Hauling material to spoil in sites designated by the Contractor: (c) Boulders and hard material	m3	0		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

R

**PART 0303 C3.3 CONCRETE KERBING AND CHANNELING**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C3.3.2.1, PS.C3.3.2.1	Prefabricated kerbing, cast in-situ channeling: Type A Barrier Kerb, fig. 6, with 300mm channel.	m	0		
2	C3.3.2.1, PS.C3.3.2.1	Prefabricated kerbing, cast in-situ channeling: Type A Barrier Kerb, fig.6, with 300mm fillet.	m	0		

Part Continued PART 0303 C3.3 CONCRETE KERBING AND CHANNELING

Item	Clause	Description	Unit	Quantity	Rate	Amount
3	C3.3.12	High tensile welded steel fabric, Ref. 193 meshwire to footpath	kg	0		
4	PS.C.13.2.1/P S.C.20.1	Application of decorative concrete aggregate(Glow in the dark) particles, Cyryso Lumin P+ or similar approved on fresh concrete to sidewalk.	m2	0		
5	PS.C.13.2.1	Purchace and supply decorative concrete particles,Cyryso Lumin P+ or similar approved. Delivery notes will be provided to the Engineer for payment purposes	kg	0		
6	PS.C.13.2.1/P S.C.20.1	Exposed decorative aggregate concrete finish.	m2	0		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

R

PART 1206 C12.6 MECH STABILISED FILL AND GABIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C12.6.14.1(a)	Foundation trench excavation: Excavating all material for gabions situated within the following depth ranges (a) 0m to 1.5m	m3	25		
2	C12.6.15	Surface preparation for bedding the gabions	m2	50		
3	C12.6.16.2	Gabion box: PVC coated gabion boxes (1.0mx1.0mx2.0m)	m3	30		
4	C12.6.17	Geotextile (Filtration and separation, min Grade-7)	m2	100		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

R

PART 1211 C12.11 GEOSYNTHETICS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C12.11	Geosynthetic: Reinforcement using Bi-axial grid 100kN or similar approved.	m2	160		
2	C9.1.12	Geosynthetic:Glassgrid 100kN or similar approved	m2	550		
3	C12.11	Geosynthetic:Reinforcement and separation. Rockgrid PC100 or similar approved.	m2	250		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

R

PART 1301 C13.1 FOUNDATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.1.6.1	Access and drainage: Access	sum	1		
2	C13.1.6.2	Access and drainage: Drainage	sum	1		

Part Continued PART

## 1301 C13.1 FOUNDATIONS

Item	Clause	Description	Unit	Quantity	Rate	Amount
3	C13.1.3.1.(a)	Excavation: Excavating soft material situated within the following depth range: (a) 0 m up to 1,5 m	m3	100		
4	C13.1.3.1.(b)	Excavation: Excavating soft material situated within the following depth range: (b) > 1,5 m and < 3,0 m	m3	50		
5	C13.1.3.2	Extra over subitem C13.1.3.1 for excavation in hard material irrespective of depth, includes blasting when is required by Engineer.	m3	160		
6	C13.1.7.1	Backfill to excavations utilising: Material from excavation	m3	100		
7	C13.1.7.2	Backfill to excavations utilising: Imported material	m3	350		
8	C13.1.7.3	Backfill to excavations utilising: Soil cement	m3	30		
9	C13.1.14.1	Foundation fill consisting of: Rock fill	m3	40		
10	C13.1.14.6	Foundation fill consisting of: Plum concrete Class C25/30-20 using large river boulders from site to create natural rock formation for protection purposes and to be shaped & curved around pier bases as per Engineer's instruction.	m3	70		
11	C13.1.14.5	Foundation fill consisting of: Concrete blinding (75mm min. thickness, Class C25/30-20)	m3	120		
12	C13.1.14.3/PS .C.20.1.1	Foundation fill consisting of: Compacted select, free-draining, granular material (friction angle between 35 and 45 degrees).	m3	250		
13	C13.1.16	Establishment on site for drilling holes and grouting of rock fissures (50mm dia. Core drilling)	sum	1		
14	C13.1.17	Moving to and setting up equipment at each hole to be drilled for grouting	no	30		
15	C13.1.20.1	Dowel bars: Drilling and preparation of holes of 50 mm dia. and 3.0 m deep	m	150		
16	C13.1.20.2	Supply and installation of dowel bars (Hot dipped galvanised Y32, 3.8 m long together with cementitious grout)	kg	500		
17	C13.1.21	Foundation lining for approach slabs (3 layers of 250 micron Polyethylene)	m2	1030		
18	C13.1.2.1/ PS.C.13.1.1	Provisional sum allowed for additional foundation investigations	PC Sum	300000	1.00	300,000.00

Part Continued

PART**1301 C13.1 FOUNDATIONS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
19	C13.1.2.2	Handling costs and profit in respect of item C13.1.2.1	%	300000		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

**R**PART**1302 C13.2 FALSEWORK, FORMWORK AND CONCRETE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.2.2	Vertical formwork to provide F2 surface finish to exposed and hidden faces of abutment bases	m <sup>2</sup>	100		
2	C13.2.2	Vertical formwork to provide F2 surface finish to exposed faces of pier bases (Inclusive of bullnose/rounded edges)	m <sup>2</sup>	125		
3	C13.2.2	Vertical formwork to provide F3 surface finish to exposed faces of abutments.	m <sup>2</sup>	100		
4	C13.2.2	Vertical formwork to provide F1 surface finish to hidden faces of abutments.	m <sup>2</sup>	120		
5	C13.2.2	Vertical formwork to provide F1 surface finish to hidden faces of wingwalls.	m <sup>2</sup>	85		
6	C13.2.2	Vertical formwork to provide F3 surface finish to exposed faces of wingwalls.	m <sup>2</sup>	70		
7	C13.2.4	Inclined formwork to provide F1 surface finish to hidden faces of wingwalls	m <sup>2</sup>	15		
8	C13.2.2	Vertical formwork to provide F3 surface finish to exposed faces of piers, inclusive of bullnose/rounded edges.	m <sup>2</sup>	410		
9	C13.2.2	Vertical formwork to provide F1 surface finish to hidden faces of approach slab	m <sup>2</sup>	40		
10	C13.2.2	Vertical formwork to provide F2 surface finish to hidden faces of deck edges and vertical construction joints	m <sup>2</sup>	80		
11	C13.2.3	Horizontal formwork to provide F3 surface finish to soffit of deck (to remain in place for minimum 21 days after deck concrete is poured)	m <sup>2</sup>	192		
12	C13.2.4	Inclined formwork to provide F3 surface finish to soffit of deck (to remain in place for minimum 21 days after deck concrete is poured)	m <sup>2</sup>	275		
13	C13.2.3	Horizontal and curved formwork to provide F3 surface finish to soffit of deck (to remain in place for minimum 21 days after deck concrete is poured)	m <sup>2</sup>	545		
14	C13.2.2	Vertical formwork to provide F3 surface finish to soffit of deck (Inner/outer face) to remain in place for minimum 21 days after deck concrete is poured)	m <sup>2</sup>	240		

Part Continued PART 1302 C13.2 FALSEWORK, FORMWORK AND CONCRETE

Item	Clause	Description	Unit	Quantity	Rate	Amount
15	C13.2.10	Provision of designs and drawings of falsework and formwork by an ECSA registered Professional Engineer or Technologist or Geotechnical Engineer (description of member to which applicable)	sum	1		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

R

PART 1303 C13.3 STEEL REINFORCEMENT

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.3.1.1(a)	Reinforcement for: Pier Bases: (a) Mild-steel bars (R)	t	1		
2	C13.3.1.1(b)	Reinforcement for: Pier Bases: (b) High-yield-stress-steel bars (Y)	t	20		
3	C13.3.1.1(a)	Reinforcement for: Piers: (a) Mild-steel bars (R)	t	0.5		
4	C13.3.1.1(b)	Reinforcement for: Piers: (b) High-yield-stress-steel bars (Y)	t	20		
5	C13.3.1.1(a)	Reinforcement for: Abutment Bases: (a) Mild-steel bars (R)	t	0.5		
6	C13.3.1.1(b)	Reinforcement for: Abutment Bases: (b) High-yield-stress-steel bars (Y)	t	18		
7	C13.3.1.1(a)	Reinforcement for: Abutments and Approach Slabs: (a) Mild-steel bars (R)	t	0.3		
8	C13.3.1.1(b)	Reinforcement for: Abutments and Approach Slabs: (b) High-yield-stress-steel bars (Y)	t	9		
9	C13.3.1.1(a)	Reinforcement for: Wingwalls: (a) Mild-steel bars	t	0.5		
10	C13.3.1.1(b)	Reinforcement for: Wingwalls: (b) High-yield-stress-steel bars (Y)	t	10		
11	C13.3.1.1(a)	Reinforcement for: Deck: (a) Mild-steel bars (R)	t	1		
12	C13.3.1.1(b)	Reinforcement for: Deck: (b) High-yield-stress-steel bars (Y)	t	140		
13	C13.3.1.1(a)	Reinforcement for: Barriers, Barrier kerbs: (a) Mild-steel bars	t	0.3		
14	C13.3.1.1(b)	Reinforcement for: Barriers, Barrier kerbs: (b) High-yield-stress-steel bars (Y)	t	10		
15	C13.3.4	Extra-over item C13.3.1.1. for galvanising of reinforcement	t	20		
16	C13.3.1.1(b)	Reinforcement for: Supply and install Y20 dowels, 500mm long at 300mm c/c and top 200mm to be wrapped with denso tape	kg	100		

**PART 1303 C13.3 STEEL REINFORCEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
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TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

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**PART 1304 C13.4 CONCRETE**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.4.1.2(a), A13.4.5.5	Cast in situ concrete: Durable concrete (class-D): Water-tight concrete (class D) with integral permeability reducing technology: (a) Abutment Bases D32/40-20-XC4	m3	85		
2	C13.4.1.2(a), A13.4.5.5	(c) Pier Bases D32/40-20-XC4, Water-tight Concrete	m3	100		
3	C13.4.1.2(a), A13.4.5.5	(d) Wingwalls D32/40-20-XC4, Water-tight Concrete	m3	30		
4	C13.4.1.2(a), A13.4.5.5	(e) Approach Slabs D32/40-20-XC4	m3	50		
5	C13.4.1.2(a)	(f) Barrier kerbing forming integral part of the barrier connection to the deck, D32/40-20-XC4	m3	35		
6	C13.4.1.2(a), A13.4.5.5	(g) Deck D32/40-20-XC4, Water-tight Concrete	m3	645		
7	C13.4.1.2(a), A13.4.5.5	(a) Piers D32/40-20-XC4, Water-tight Concrete	m3	145		
8	C13.4.1.2(a), A13.4.5.5	(b) Abutment Walls D32/40-20-XC4, Water-tight Concrete	m3	25		
9	C13.4.5.1	Curing and surface protection of cast in situ concrete, as and where specifically required: Abutments, piers and deck soffit and sides by retaining formwork in place for 14 days and using an approved curing compound applied in accordance with the manufacturer's instructions	m2	2350		
10	C13.4.5.1	Curing and surface protection of cast in situ concrete, as and where specifically required: Deck top surface by using an approved curing compound applied in accordance with manufacturer's instructions and covering it with clean, non-marking sand or absorbent mats made from a moisture-retaining material, and keeping the covering constantly wet for 14 days.	m2	1200		
11	C13.4.1.1	Cast in-situ concrete: Strength concrete Class C: Sidewalk slabs C25/30-20, to be cast in 3m long panels or as directed by Engineer.	m3	45		

Part Continued PART 1304 C13.4 CONCRETE

Item	Clause	Description	Unit	Quantity	Rate	Amount
12	PS.C13.2.2	Extra over sub-item above, C13.4.1.1 for special cast in-situ concrete incorporating additional stone sizes in the mix design for exposed aggregate finish on sidewalk.	m3	15		
13	C13.4.13.1	Complete demolition and disposal of existing structural concrete elements on existing causeway after completion of the project	m3	250		
14	C13.4.1.1(a)	Cast in-situ concrete-Strength concrete (class-C): Mass concrete in foundation soft spots, C12/15-20	m3	30		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

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PART 1306 C13.6 BEARINGS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.6.3	Bearing strips below approach slab (3 layers of 3 ply lubricated roofing felt or malthoid)	m2	20		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

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PART 1307 C13.7 JOINTS

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.7.2.1	Filled joints: Rigid foam of expanded polyethylene (or similar approved) for 20 mm joint between abutment and wingwalls	m2	250		
2	C13.7.2.1	Filled joints: Rigid foam of expanded polyethylene (or similar approved) for 10 mm joint in wingwalls and sidewalk slabs	m2	100		
3	C13.7.4.1	Sealing joints with: Sealant (structural silicone including backing chord for 20 mm joint between abutments and wingwalls)	m	65		
4	C13.7.4.1	Sealing joints with: Seal (flexible Polyolefin sealant tape with epoxy bonding, Sikadur-Combiflex or similar approved, for 20 mm joint in abutment)	m	30		
5	C13.7.4.1	Sealing joints with: Sealant (structural silicone including backing chord for 10 mm joint in wingwalls) and sidewalk slabs	m	200		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

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**PART 1308 C13.8 ANCILLARY STRUCTURAL ELEMENTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	PS.C13.13.3.1	Pre-cast concrete bridge barriers (refer to Drawing 49494 Sheet 10): Barriers, Durable concrete, Class-D (D32/40-13-XC4)	m	220		
2	PS.C13.13.3.1	Special Pre-cast concrete bridge barrier panels to accommodate light mast attachment. (refer to Drawing 49494 Sheet 11): Barriers	no	6		
3	C13.8.2, C13.9.2.2	Barrier panel with light mast attachment detail including anchor bolts (refer to Drawing 49494 Sheet 11)	no	3		
4	C13.8.6.1	Supply and lay uPVC service duct, 160 mm diameter	m	450		
5	C13.8.6.1	Supply and lay uPVC service duct, 110 mm diameter	m	700		
6	C13.8.6.2	Supply and fix 160mm dia. Coupler, 160mm diameter to join in ducts at bridge expansion joints	no	16		
7	C13.8.6.2	Supply and fix 110mm dia. Coupler, 110mm diameter to join in ducts at bridge expansion joints	no	32		
8	C13.8.7.3	Numbers for structures: Numbers formed in concrete.(refer to Drawing 49494 Sheet 14)	no	2		
9	C13.8.10.1(b)	Drainage pipes and weep holes: Drainage pipes: (b) 110 mm diameter scuppers in deck, including fittings as shown on Drawing 49494 Sheet 09)	no	40		
10	C13.8.10.2(b)	Drainage pipes and weep holes: Weep holes: (b) 50 mm diameter in abutments and wingwalls	m	40		
11	C13.8.15	Drainage strips: HDPE 200 mm wide DN3 behind abutments	m	70		
12	C13.8.16.1	Perforated drainage pipes: 65 mm diameter wrapped in Grade B synthetic fibre filter fabric	m	35		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

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**PART 1310 C13.10 PAINTING OF MINOR STRUCTURES**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C13.10.1	Provisional sum for bridge Anti-Graffiti/ Architectural painting on concrete barriers/ parapets	PR Sum	200000	1.00	200,000.00
2		Handling costs on item above	%	200000		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

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**PART 1407 C14.7 PROTECTIVE COATINGS AND TREATMENTS**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C14.7.1	Cleaning and preparation of concrete surface (high pressure water jetting with a final F3 finish)	m2	200		
2	C14.7.2	Application of protective coatings and treatments (Sealers and Poreblockers: Cementitious Crystalline Waterproofing 0.8kg/m <sup>2</sup> )	m2	100		
3	C14.7.3	On site monitoring and supply of written product performance guarantee	sum	1		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

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**PART 2001 C20.1 TESTING MATERIALS AND JUDGEMENT**

Item	Clause	Description	Unit	Quantity	Rate	Amount
1	C20.1.2.1(a)	Special tests requested by the Engineer: Employer's contribution to concrete durability tests:(a) Tests for water sorptivity	PC Sum	50000	1.00	50,000.00
2		Handling costs and profit in respect of item C20.1.2.1(a)	%	50000		
3	C20.1.2.1(b)	Special tests requested by the Engineer: Employer's contribution to concrete durability tests:(b) Tests for oxygen permeability	PC Sum	50000	1.00	50,000.00
4		Handling costs and profit in respect of item C20.1.2.1(b)	%	50000		
5	C20.1.2.1(c)	Special tests requested by the Engineer: Employer's contribution to concrete durability tests:(c)Tests for chloride conductivity	PC Sum	50000	1.00	50,000.00
6		Handling costs and profit in respect of item C20.1.2.1 (c)	%	50000		

TOTAL CARRIED TO SECTION 11 SUMMARY: BRIDGE 3 - Chainage 1653 to 1743

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