

LOT 19
BILL OF QUANTITIES

LOT 19
GRAND SUMMARY

GRAND SUMMARY BILL OF QUANTITIES - LOT 19

CONTRACT: Road Rehabilitation and Construction of Lot 19

SERIAL NO.: 12.10-12.12

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROADS NAME: B2-BTB-1418-BR; BMC-0022; OMC-0002; BMC-OMC-BR, S11-SRP-0022; S12-SRP-0278

PROVINCE: Battambang; Banteay Meanchey; Otdar Meanchey, Siem Reap

Road/ Item	DESCRIPTION	TOTAL AMOUNT (USD)
1	B2-BTB-1418-BR	
2	BMC-0022	
3	OMC-0002	
4	BMC-OMC-BR	
5	ESHS - Bill C	
6	UXO Clearance - Bill D	
7	TOTAL (item 1 to 6)	
8	Contingency value 5% (of total in item 7 above)	
9	TOTAL CONTRACT VALUE (Item 7 and 8)	

CONDITONAL ITEMS

Roads that may be included in the Contract if the Budget allows

Road/ Item	DESCRIPTION	TOTAL AMOUNT (USD)
10	S11-SRP-0022	
11	ESHS - Bill C	
12	UXO Clearance - Bill D	
13	TOTAL (items 10 to 12)	
14	Contingency value 5% (of total in item 13 above)	
15	S11 CONDITIONAL CONTRACT VALUE (Items 13 and 14)	

16	S12-SRP-0278	
17	ESHS - Bill C	
18	UXO Clearance - Bill D	
19	TOTAL (items 16 to 18)	
20	Contingency value 5% (of total in item 19 above)	
21	S12 CONDITIONAL CONTRACT VALUE (Items 19 and 20)	

22	GRAND TOTAL CONTRACT VALUE (Items 9, 15 and 21)	
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LOT 19
BRIDGE
B2-BTB-1418-BR

SUMMARY BILL OF QUANTITIES

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

BRIDGE NAME: B2-BTB-1418-BR

PROVINCE: Battambang

DISTRICT: Rotonak Mondol

COMMUNE: Andaeuk Haeb

ROAD FROM TO: Serei Voan - Thvak

TOTAL BRIDGE LENGTH IN M.: 175.24

BILL No.	DESCRIPTION	AMOUNT (USD)
1	Road Construction	
2	Construction of Earthworks at Structures	
4	Bituminous Works	
5	Structures	
6	Drainage and Protection Measures	
TOTAL CARRIED TO BID FORM AND THE GRAND SUMMARY TABLE		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

BRIDGE NAME: B2-BTB-1418-BR

DISTRICT: Rotonak Mondol

COMMUNE: Andaeuk Haeb

ROAD FROM TO: Serei Voan - Thvak

TOTAL BRIDGE LENGTH IN M.: 175.24 (Added DBST 252.85m)

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
1.1	General				
1.1.8.1	Project signboards (as per design provided by the Engineer)	no.	1.00		
1.1.8.2	Marble signboards (as per design provided by the Engineer)	no.	2.00		
1.3	Setting out and site clearance				
1.3.1	Setting Out Horizontal and Vertical Alignment	m	427.85		
1.3.2.(a)	Clearing Site of Grass and Light Bush	m ²	2,528.50		
1.3.2.(b)	Felling of Trees with Trunk Girth >60cm	no.	20.00		
1.3.3	Grubbing and Removal of Stumps and Roots (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	45.00		
1.3.4	Removal of Topsoil to a Maximum Depth of 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	1,264.25		
1.3.5	Removal of Unsuitable Materials at Depths Exceeding 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ³	75.86		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

BRIDGE NAME: B2-BTB-1418-BR

DISTRICT: Rotonak Mondol

COMMUNE: Andaeuk Haeb

ROAD FROM TO: Serei Voan - Thvak

TOTAL BRIDGE LENGTH IN M.: 175.24 (Added DBST 252.85m)

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
1.3.6	Scarify, Adjust Moisture Content and Compact Existing Carriageway or Embankment	m ²	1,159.04		
1.4	Earthworks				
1.4.4	General Excavation	m ³	113.53		
1.4.5(a)	Excavate, Haul, Place, and Compact Embankment Fills - Borrow Fill	m ³	6,413.86		
1.5	Subgrade or Capping Layer				
1.5.4(a)	Subgrade Preparation	m ²	107.50		
1.6	Crushed Stone Sub-base				
1.6.4	Spread, Shape and Compact Crushed stone Sub-Base	m ³	503.92		
1.7	Crushed Aggregate Base Course				
1.7.1	Spread, Shape and Compact Base Course	m ³	272.49		
1.11	Erosion Control				
1.11.1	Grass Material	m ²	1,517.10		
1.11.3	Tree and Shrub planting	no.	87.00		
1.12	Traffic Signs				
1.12(1)	Posts Signs & Road Signs including foundation (Supply and install as per attach drawing)	no.	5.00		
1.12(2)	Road Signs (Additional sign)	m ²	0.98		
1.12.6(b)	Guide Post	no.	96.00		
TOTAL (carried forward to Summary)					

Notes: 1) Ramps (access to villages, paddy field etc.) as shown in the Drawings.

Quantities are included in items 1.5.4, 1.6.4, 1.7.1

2) All the payment Items are final rates included labors, equipment, transportation and completion products.

2. Bill of Quantities for Earthworks at Structures Construction

(Refer to Technical Specifications Part 2)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

BRIDGE NAME: B2-BTB-1418-BR

DISTRICT: Rotonak Mondol

COMMUNE: Andaeuk Haeb

ROAD FROM TO: Serei Voan - Thvak

TOTAL BRIDGE LENGTH IN M.: 175.24

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
2.1	Structural Excavation and Backfill				
2.1.1	Structural excavation of Common soil (included gravel, stone, Sand, Cobble)	m ³	3,997.40		
2.1.3	Structural backfill	m ³	3,303.10		
2.1.4	Bedding made of graded stone	m ³	92.20		
TOTAL (Carried to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

4. Bill of Quantities for Bituminous Works

(Refer to Technical Specifications Part 4)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

BRIDGE NAME: B2-BTB-1418-BR

DISTRICT: Rotonak Mondol

COMMUNE: Andaeuk Haeb

ROAD FROM TO: Serei Voan - Thvak

TOTAL BRIDGE LENGTH IN M.: 175.24 (Added DBST 252.85m)

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
4.1	Bituminous prime coat				
4.1(1)	Bituminous prime coat (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	1,795.24		
4.2	Bituminous surface treatment				
4.2(1)	Bituminous seal coat, 19mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	1,795.24		
4.2(2)	Bituminous seal coat, 12mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	1,289.54		
4.2(4)	Sealing aggregate, 19mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	34.11		
4.2(5)	Sealing aggregate, 12mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	15.47		
TOTAL (carried forward to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

5. Bill of Quantities for Structures

(Refer to Technical Specifications Part 5)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

BRIDGE NAME: B2-BTB-1418-BR

DISTRICT: Rotonak Mondol

COMMUNE: Andaeuk Haeb

ROAD FROM TO: Serei Voan - Thvak

TOTAL BRIDGE LENGTH IN M.: 175.24

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
5.1	Concrete				
5.1.3	Concrete class B1 (30 Mpa - 19 mm)	m ³	1,455.30		
5.1.6	Concrete class E (50 mm), blinding concrete	m ³	46.10		
5.2	Reinforcement				
5.2.2	Grade 400 Deformed Reinforcing bar	tonne	179.00		
5.2.3	Wire Mesh Reinforcement	tonne	3.30		
5.3.2	Bored Piles				
5.3.2.1	Mobilization/demobilization of Equipment	L.S	1.00		
5.3.2.2	Reinforced Concrete Pile, Ø 800 mm (Bored pile L=16m in rock around 16m)	m	1,152.00		
5.3.2.4	Cutting off Pile Heads	no.	72.00		
5.3.2.5	Dynamic Load Test	no.	16.00		
5.3.2.6	Crosshole Sonic Logging Test (CSL) per pile shaft	no.	72.00		
5.4	Pre-Stressed Concrete				
5.4.2.11	Mortar for Keyways	m ³	82.00		
5.4.3.8	Grouting	bag	84.00		
5.4.5.1.a	PSC Deck Unit Type 1A (L=25m, B=600mm, H=890mm)	no.	36.00		
5.4.5.1.b	PSC Deck Unit Type 1B (L=25m, B=600mm, H=890mm)	no.	6.00		
5.4.5.1.c	PSC Deck Unit Type 2A (L=25m, B=600mm, H=890mm)	no.	48.00		
5.4.5.1.d	PSC Deck Unit Type 2B (L=25m, B=600mm, H=890mm)	no.	8.00		
5.4.5.3	Transverse Stressing Bars	no.	84.00		

5. Bill of Quantities for Structures

(Refer to Technical Specifications Part 5)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

BRIDGE NAME: B2-BTB-1418-BR

DISTRICT: Rotonak Mondol

COMMUNE: Andaeuk Haeb

ROAD FROM TO: Serei Voan - Thvak

TOTAL BRIDGE LENGTH IN M.: 175.24

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
5.8	Porous Backfill Material				
5.8.1	Porous Rock Backfill Material Type B	m ³	71.00		
5.9	Expansion Material				
5.9.1	Joint filler and sealant	m ²	64.00		
5.9.3	Expansion Joint	m	64.16		
5.9.4	Plain Elastomeric Bearing Strip (w=250mm, t=25mm)	m	124.88		
5.13	Survey				
5.13.1	Survey for Structures and Box Culverts	no.	1.00		
5.14	Guard Rails				
5.14(1)	Steel Guard Rail, Type I (as specified)	m	40.00		
TOTAL (Carried to Summary)					

Note: 1) All the payment items are final rates included labors, equipment, transportation and completion products.

6. Bill of Quantities for Drainage and Protection Measures

(Refer to Technical Specifications Part 6)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

BRIDGE NAME: B2-BTB-1418-BR

DISTRICT: Rotonak Mondol

COMMUNE: Andaeuk Haeb

ROAD FROM TO: Serei Voan - Thvak

TOTAL BRIDGE LENGTH IN M.: 175.24

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
6.6	Structure drainage				
6.6.1	Gully UPVC pipe DN80 with Galvanize Clip, L = 2000 mm	no.	154.00		
6.6.1	Gully UPVC pipe DN80, L = 800 mm	no.	18.00		
6.7	Gabions				
6.7.3	Geotextile Filter Polyfelt TS-50	m ²	4.50		
TOTAL (Carried to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

LOT 19
ROAD
BMC-0022

SUMMARY BILL OF QUANTITIES

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: BMC-0022

PROVINCE: Banteay Meanchey

DISTRICT: Phnum Srok

COMMUNE: Phnum Dei/Nam Tau

ROAD FROM TO: Trang – Thnong Khang Tbound

TOTAL ROAD LENGTH IN M.: 22,600

BILL No.	DESCRIPTION	AMOUNT (USD)
1	Road Construction	
2	Construction of Earthworks at Structures	
4	Bituminous Works	
5	Structures	
6	Drainage and Protection Measures	
TOTAL CARRIED TO BID FORM AND THE GRAND SUMMARY TABLE		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: BMC-0022

DISTRICT: Phnum Srok

COMMUNE: Phnum Dei/Nam Tau

ROAD FROM TO: Trang – Thnong Khang Tboung

TOTAL ROAD LENGTH IN M.: 22,600

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
1.1	General				
1.1.8.1	Project signboards (as per design provided by the Engineer)	no.	2.00		
1.1.8.2	Marble signboards (as per design provided by the Engineer)	no.	2.00		
1.1.13 (2)	Temporary works of detours for box culvert	no.	9.00		
1.3	Setting out and site clearance				
1.3.1	Setting Out Horizontal and Vertical Alignment	m	22,600.00		
1.3.2.(a)	Clearing Site of Grass and Light Bush	m ²	108,496.34		
1.3.2.(b)	Felling of Trees with Trunk Girth >60cm	no.	564.00		
1.3.3	Grubbing and Removal of Stumps and Roots (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	1,269.00		
1.3.4	Removal of Topsoil to a Maximum Depth of 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	19,400.00		
1.3.5	Removal of Unsuitable Materials at Depths Exceeding 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ³	3,390.00		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: BMC-0022

DISTRICT: Phnum Srok

COMMUNE: Phnum Dei/Nam Tau

ROAD FROM TO: Trang – Thnong Khang Tboung

TOTAL ROAD LENGTH IN M.: 22,600

1.3.6	Scarify, Adjust Moisture Content and Compact Existing Carriageway or Embankment	m ²	113,204.79		
1.4	Earthworks				
1.4.4	General Excavation	m ³	7,049.05		
1.4.5(a)	Excavate, Haul, Place, and Compact Embankment Fills - Borrow Fill	m ³	43,745.99		
1.6	Crushed Stone Sub-base				
1.6.4	Spread, Shape and Compact Crushed stone Sub-Base	m ³	16,048.19		
1.7	Crushed Aggregate Base Course				
1.7.1	Spread, Shape and Compact Base Course	m ³	30,411.60		
1.11	Erosion Control				
1.11.1	Grass Material	m ²	92,594.50		
1.11.3	Tree and Shrub planting	no.	2,601.00		
1.12	Traffic Signs				
1.12(1)	Posts Signs & Road Signs including foundation (Supply and install as per attach drawing)	no.	196.00		
1.12(2)	Road Signs (Additional sign)	m ²	13.23		
1.12.6(b)	Guide Post	no.	96.00		
1.12.6(c)	Drainage Marker Post	no.	252.00		
1.12.7	Flat-Topped Hump Marking	no.	10.00		
7.4	Thermoplastic Road Markings				
7.4.1	Thermoplastic Road Markings Yellow	m2	847.50		
TOTAL (carried forward to Summary)					

Notes: 1) Ramps (access to villages, paddy field etc.) as shown in the Drawings.

Quantities are included in items 1.5.4, 1.6.4, 1.7.1

2) All the payment Items are final rates included labors, equipment, transportation and completion products

2. Bill of Quantities for Earthworks at Structures Construction

(Refer to Technical Specifications Part 2)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: BMC-0022

DISTRICT: Phnum Srok

COMMUNE: Phnum Dei/Nam Tau

ROAD FROM TO: Trang – Thnong Khang Tboung

TOTAL ROAD LENGTH IN M.: 22,600

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
2.1	Structural Excavation and Backfill				
2.1.1	Structural excavation of Common soil	m ³	4,958.74		
2.1.3	Structural backfill	m ³	2,803.80		
2.2	Removal of Existing Structures				
2.2.1	Removal of existing structure	no.	8.00		
TOTAL (Carried to Summary)					

Notes: 1) All the payment items are final rates included labors, equipment, transportation and completion products

4. Bill of Quantities for Bituminous Works

(Refer to Technical Specifications Part 4)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: BMC-0022

DISTRICT: Phnum Srok

COMMUNE: Phnum Dei/Nam Tau

ROAD FROM TO: Trang – Thnong Khang Tboung

TOTAL ROAD LENGTH IN M.: 22,600

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
4.1	Bituminous prime coat				
4.1(1)	Bituminous prime coat (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	176,172.50		
4.2	Bituminous surface treatment				
4.2(1)	Bituminous seal coat, 19mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	176,172.50		
4.2(2)	Bituminous seal coat, 12mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	138,220.50		
4.2(4)	Sealing aggregate, 19mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	3,347.28		
4.2(5)	Sealing aggregate, 12mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	1,658.65		
TOTAL (carried forward to Summary)					

Notes: 1) All the payment items are final rates included labors, equipment, transportation and completion products

5. Bill of Quantities for Structures

(Refer to Technical Specifications Part 5)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: BMC-0022

DISTRICT: Phnum Srok

COMMUNE: Phnum Dei/Nam Tau

ROAD FROM TO: Trang – Thnong Khang Tboung

TOTAL ROAD LENGTH IN M.: 22,600

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
5.1	Concrete				
5.1.3	Concrete class B1 (30 Mpa - 19 mm)(structures)	m ³	1,523.90		
5.1.6	Concrete class E (50 mm), blinding concrete	m ³	157.00		
5.2	Reinforcement				
5.2.1	Grade 300 Plain Reinforcing Bar	tonne	0.70		
5.2.2	Grade 400 Deformed Reinforcing bar	tonne	205.75		
5.13	Survey				
5.13.1	Survey for Structures and Box Culverts	no.	9.00		
5.14	Guard Rails				
5.14(1)	Steel Guard Rail, Type I (as specified)	m	80.00		
TOTAL (Carried to Summary)					

Note: 1) All the payment items are final rates included labors, equipment, transportation and completion products

6. Bill of Quantities for Drainage and Protection Measures

(Refer to Technical Specifications Part 6)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: BMC-0022

DISTRICT: Phnum Srok

COMMUNE: Phnum Dei/Nam Tau

ROAD FROM TO: Trang – Thnong Khang Thboug

TOTAL ROAD LENGTH IN M.: 22,600

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
6.1	Reinforced Concrete Pipes				
6.1.1	Reinforced Concrete Pipe, 600mm dia	m	90.00		
6.1.3	Reinforced Concrete Pipe, 1000mm dia	m	72.00		
6.2	Rip Rap and Concrete Slope Protection				
6.2.1	Loose Riprap, Class A	m ³	14.22		
TOTAL (Carried to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products

LOT 19
ROAD
OMC-0002

SUMMARY BILL OF QUANTITIES

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: OMC-0002

PROVINCE: Otdar Meanchey

DISTRICT: Chong Kal

COMMUNE: Cheung Tien

ROAD FROM TO: Cheung Tien (NR68) - Ta Nouk

TOTAL ROAD LENGTH IN M.: 17,467 ,including the 100-meter length of the Bridge BMC-OMC

BILL No.	DESCRIPTION	AMOUNT (USD)
1	Road Construction	
2	Construction of Earthworks at Structures	
4	Bituminous Works	
5	Structures	
6	Drainage and Protection Measures	
TOTAL CARRIED TO BID FORM AND THE GRAND SUMMARY TABLE		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: OMC-0002

DISTRICT: Chong Kal

COMMUNE: Cheung Tien

ROAD FROM TO: Cheung Tien (NR68) - Ta Nouk

TOTAL ROAD LENGTH IN M.: 17,467

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
1.1	General				
1.1.8.1	Project signboards (as per design provided by the Engineer)	no.	2.00		
1.1.8.2	Marble signboards (as per design provided by the Engineer)	no.	2.00		
1.1.13 (2)	Temporary works of detours for box culvert	no.	15.00		
1.2	Preliminaries				
1.2.1	Setting Up Camp	L.S	1.00		
1.2.2	Removal of Camp	L.S	1.00		
1.2.3.(a)	Office for the Engineer (incl. equipment, facilities & equipment), (6 Unit)	month	144.00		
1.2.3.(b)	Vehicles for Engineer including (drivers for 4WD), operation & maintenance, (7 Units)	vehicle month	168.00		
1.2.3.(c)	Accommodation for the Engineer (incl. equipment, facilities & equipment), (5 Unit)	month	120.00		
1.2.4	Supply and maintain in good condition for the use by the Engineer a complete set of testing and control equipment, (4 Units)	month	96.00		
1.3	Setting out and site clearance				
1.3.1	Setting Out Horizontal and Vertical Alignment	m	17,467.00		
1.3.2.(a)	Clearing Site of Grass and Light Bush	m ²	97,930.71		
1.3.2.(b)	Felling of Trees with Trunk Girth >60cm	no.	898.00		
1.3.3	Grubbing and Removal of Stumps and Roots (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	2,020.50		
1.3.4	Removal of Topsoil to a Maximum Depth of 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	12,638.40		
1.3.5	Removal of Unsuitable Materials at Depths Exceeding 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ³	2,620.05		
1.3.6	Scarify, Adjust Moisture Content and Compact Existing Carriageway or Embankment	m ²	53,746.37		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: OMC-0002

DISTRICT: Chong Kal

COMMUNE: Cheung Tien

ROAD FROM TO: Cheung Tien (NR68) - Ta Nouk

TOTAL ROAD LENGTH IN M.: 17,467

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
1.4	Earthworks				
1.4.4	General Excavation	m ³	4,908.17		
1.4.5(a)	Excavate, Haul, Place, and Compact Embankment Fills - Borrow Fill	m ³	20,505.43		
1.5	Subgrade or Capping Layer				
1.5.4	Spread, Shape and Compact Subgrade/Capping Layer	m ³	5,601.43		
1.5.4(a)	Subgrade Preparation	m ²	29,286.28		
1.6	Crushed Stone Sub-base				
1.6.4	Spread, Shape and Compact Crushed stone Sub-Base	m ³	4,587.08		
1.7	Crushed Aggregate Base Course				
1.7.1	Spread, Shape and Compact Base Course	m ³	33,349.72		
1.11	Erosion Control				
1.11.1	Grass Material	m ²	68,717.40		
1.11.3	Tree and Shrub planting	no.	2,943.00		
1.12	Traffic Signs				
1.12(1)	Posts Signs & Road Signs including foundation (Supply and install as per attach drawing)	no.	105.00		
1.12(2)	Road Signs (Additional sign)	m ²	9.80		
1.12.6(b)	Guide Post	no.	107.00		
1.12.6(b1)	Re-paint the existing Guide Post	no.	208.00		
1.12.6(c)	Drainage Marker Post	no.	252.00		
1.12.7	Flat-Topped Hump Marking	no.	4.00		
7.4	Thermoplastic Road Marking				
7.4.1	Thermoplastic Road Marking Yellow	m ²	652.50		
TOTAL (carried forward to Summary)					

- Notes:**
- 1) Ramps (access to villages, paddy field etc.) as shown in the Drawings.
Quantities are included in items 1.5.4, 1.6.4, 1.7.1
 - 2) All the payment Items are final rates included labors, equipment, transportation and completion products.

2. Bill of Quantities for Earthworks at Structures Construction

(Refer to Technical Specifications Part 2)

CONTRACT No.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: OMC-0002

DISTRICT: Chong Kal

COMMUNE: Cheung Tien

ROAD FROM TO: Cheung Tien (NR68) - Ta Nouk

TOTAL ROAD LENGTH IN M.: 17,467

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
2.1	Structural Excavation and Backfill				
2.1.1	Structural excavation of Common soil	m ³	9,314.63		
2.1.3	Structural backfill	m ³	4,962.31		
2.2	Removal of Existing Structures				
2.2.1	Removal of existing structure	no.	12.00		
TOTAL (Carried to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

4. Bill of Quantities for Bituminous Works

(Refer to Technical Specifications Part 4)

CONTRACT No.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: OMC-0002

DISTRICT: Chong Kal

COMMUNE: Cheung Tien

ROAD FROM TO: Cheung Tien (NR68) - Ta Nouk

TOTAL ROAD LENGTH IN M.: 17,467

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
4.1	Bituminous prime coat				
4.1(1)	Bituminous prime coat (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	127,893.70		
4.2	Bituminous surface treatment				
4.2(1)	Bituminous seal coat, 19mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	127,893.70		
4.2(2)	Bituminous seal coat, 12mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	95,687.70		
4.2(4)	Sealing aggregate, 19mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	2,429.98		
4.2(5)	Sealing aggregate, 12mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	1,148.25		
TOTAL (carried forward to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

5. Bill of Quantities for Structures

(Refer to Technical Specifications Part 5)

CONTRACT No.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: OMC-0002

DISTRICT: Chong Kal

COMMUNE: Cheung Tien

ROAD FROM TO: Cheung Tien (NR68) - Ta Nouk

TOTAL ROAD LENGTH IN M.: 17,467

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
5.1	Concrete				
5.1.3	Concrete class B1 (30 Mpa - 19 mm)	m ³	19,878.50		
5.1.6	Concrete class E (50 mm), blinding concrete	m ³	235.90		
5.2	Reinforcement				
5.2.1	Grade 300 Plain Reinforcing Bar	tonne	1.29		
5.2.2	Grade 400 Deformed Reinforcing bar	tonne	236.01		
5.6	Railing				
5.6.1	Steel Pipe Railings Ø100, 5mm thk. (including Mortar, Grout, painting)	m	258.00		
5.9	Expansion Material				
5.9.2.5	Epoxy Resin for rebar anchor holes Product: Sika AnchorFix-2, or equivalent Unit: Number of anchor holes Rate shall include the drilling of holes	no.	940.00		
5.13	Survey				
5.13.1	Survey for Structures and Box Culverts	no.	15.00		
5.14	Guard Rails				
5.14(1)	Steel Guard Rail, Type I (as specified)	m	40.00		
TOTAL (Carried to Summary)					

Note: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

6. Bill of Quantities for Drainage and Protection Measures

(Refer to Technical Specifications Part 6)

CONTRACT No.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: OMC-0002

DISTRICT: Chong Kal

COMMUNE: Cheung Tien

ROAD FROM TO: Cheung Tien (NR68) - Ta Nouk

TOTAL ROAD LENGTH IN M.: 17,467

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
6.1	Reinforced Concrete Pipes				
6.1.1	Reinforced Concrete Pipe, 600mm dia	m	90.00		
6.1.3	Reinforced Concrete Pipe, 1000mm dia	m	204.00		
TOTAL (Carried to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

LOT 19
BRIDGE
BMC-OMC-BR

SUMMARY BILL OF QUANTITIES

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

DISTRICT: Phnum Srok/ Chong Kal

COMMUNE: Nam Tau/ Cheung Tien

ROAD FROM TO: Thnong Tboung - Ta Nouk

TOTAL BRIDGE LENGTH IN M.: 100.15

STRUCTURE REFERENCE No. : BMC-OMC-BR-E-00-D-0200-0222

DESCRIPTION OF STRUCTURE: New PT Bridge (S=4, L=25m, W=8m)

BILL No.	DESCRIPTION	AMOUNT (USD)
1	Road Construction	
2	Construction of Earthworks at Structures	
4	Bituminous Works	Nil
5	Structures	
6	Drainage and Protection Measures	
TOTAL CARRIED TO BID FORM AND THE GRAND SUMMARY TABLE		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

DISTRICT: Phnum Srok/ Chong Kal

COMMUNE: Nam Tau/ Cheung Tien

ROAD FROM TO: Thnong Tboung - Ta Nouk

TOTAL BRIDGE LENGTH IN M.: 100.15

STRUCTURE REFERENCE No. : BMC-OMC-BR-E-00-D-0200-0222

DESCRIPTION OF STRUCTURE: New PT Bridge (S=4, L=25m, W=8m)

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
1.1	General				
1.1.8.2	Marble signboards (as per design provided by the Engineer)	no.	2.00		
TOTAL (carried forward to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

2. Bill of Quantities for Earthworks at Structures Construction

(Refer to Technical Specifications Part 2)

CONTRACT NO: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

DISTRICT: Phnum Srok/ Chong Kal

COMMUNE: Nam Tau/ Cheung Tien

ROAD FROM TO: Thnong Tboung - Ta Nouk

TOTAL BRIDGE LENGTH IN M.: 100.15

STRUCTURE REFERENCE No. : BMC-OMC-BR-E-00-D-0200-0222

DESCRIPTION OF STRUCTURE: New PT Bridge (S=4, L=25m, W=8m)

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
2.1	Structural Excavation and Backfill				
2.1.1	Structural excavation of Common soil	m ³	3,264.00		
2.1.3	Structural backfill	m ³	2,784.40		
2.1.4	Bedding made of grade stone or sand	m ³	70.80		
TOTAL (carried forward to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

5. Bill of Quantities for Structures

(Refer to Technical Specifications Part 5)

CONTRACT NO: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

DISTRICT: Phnum Srok/ Chong Kal

COMMUNE: Nam Tau/ Cheung Tien

ROAD FROM TO: Thnong Tboung - Ta Nouk

TOTAL BRIDGE LENGTH IN M.: 100.15

STRUCTURE REFERENCE No. : BMC-OMC-BR-E-00-D-0200-0222

DESCRIPTION OF STRUCTURE: New PT Bridge (S=4, L=25m, W=8m)

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
5.1	Concrete				
5.1.3	Concrete class B1 (30 Mpa - 19 mm) (for structures)	m ³	879.90		
5.1.6	Concrete class E (50 mm), blinding concrete	m ³	35.40		
5.2	Reinforcement				
5.2.2	Grade 400 Deformed reinforcing bar	ton	100.34		
5.2.3	Wire Mesh Reinforcement	ton	1.95		
5.3.2	Bored Piles				
5.3.2.1	Mobilization/demobilization of Equipment	L.S.	1.00		
5.3.2.2	Reinforced Concrete Pile, Ø 800 mm (Bored pile L=20m in soil around 8m, rock around 12m)	m	1,160.00		
5.3.2.4	Cutting off Pile Heads	no.	58.00		
5.3.2.5	Dynamic Load Test	no.	10.00		
5.3.2.6	Crosshole Sonic Logging Test (CSL) per pile shaft	no.	58.00		
5.4	Pre-Stressed Concrete				
5.4.2.11	Mortar for Keyways	m ³	47.00		
5.4.3.8	Grouting	bag	48.00		
5.4.5.1.a	PSC Deck Unit Type 1A (L=25m, B=600mm, H=890mm)	no.	24.00		
5.4.5.1.b	PSC Deck Unit Type 1B (L=25m, B=600mm, H=890mm)	no.	4.00		
5.4.5.1.c	PSC Deck Unit Type 2A (L=25m, B=600mm, H=890mm)	no.	24.00		
5.4.5.1.d	PSC Deck Unit Type 2B (L=25m, B=600mm, H=890mm)	no.	4.00		
5.4.5.3	Transverse Stressing Bars	no.	48.00		

5. Bill of Quantities for Structures

(Refer to Technical Specifications Part 5)

CONTRACT NO: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

DISTRICT: Phnum Srok/ Chong Kal

COMMUNE: Nam Tau/ Cheung Tien

ROAD FROM TO: Thnong Tboung - Ta Nouk

TOTAL BRIDGE LENGTH IN M.: 100.15

STRUCTURE REFERENCE No. : BMC-OMC-BR-E-00-D-0200-0222

DESCRIPTION OF STRUCTURE: New PT Bridge (S=4, L=25m, W=8m)

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
5.8	Porous Backfill Material				
5.8.1	Porous Rock Backfill Material Type B	m ³	78.00		
5.9	Expansion Material				
5.9.1	Joint filler and sealant	m ²	40.00		
5.9.3	Expansion Joint (for bridge)	m	40.10		
5.9.4	Plain Elastomeric Bearing Strip (w=250mm, t=25mm)	m	71.36		
5.13	Survey				
5.13.1	Survey for Structure	no.	1.00		
TOTAL (carried forward to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

6. Bill of Quantities for Drainage and Protection Measures

(Refer to Technical Specifications Part 6)

CONTRACT NO: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

DISTRICT: Phnum Srok/ Chong Kal

COMMUNE: Nam Tau/ Cheung Tien

ROAD FROM TO: Thnong Tboung - Ta Nouk

TOTAL BRIDGE LENGTH IN M.: 100.15

STRUCTURE REFERENCE No. : BMC-OMC-BR-E-00-D-0200-0222

DESCRIPTION OF STRUCTURE: New PT Bridge (S=4, L=25m, W=8m)

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
6.6	Structure drainage				
6.6.1	Gully UPVC pipe DN80 with Galvanize Clip, L = 2000 mm	no.	88.00		
6.6.1	Gully UPVC pipe DN80, L = 800 mm	no.	18.00		
6.7	Gabions				
6.7.2.7	Geotextile Filter	m ²	4.50		
TOTAL (carried forward to Summary)					

Notes: 1) All the payment items are final rates included labors, equipment, transportation and completion products.

LOT 19

Battembang, Banteay Meanchey, Otdar Meanchey

BILL C

Bill of Quantities for ESHS Cost Schedule (Bill C)
(Environmental, Social, and Health Safeguards - ESHS)

CONTRACT: Road Rehabilitation and Construction of Lot 19

SERIAL NO.: 12.10

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROADS NAME: B2-BTB-1418-BR; BMC-0022; OMC-0002; BMC-OMC-BR

PROVINCE: Battambang; Banteay Meanchey; Odar Meanchey

ITEM No	DESCRIPTION	ESHS SPECIFICATIONS CLAUSE No	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
ESHS 1	Resources allocated to ESHS management	Clause 4	L.S	1.00		
ESHS 2	Drafting and updating the ESHS documentation, reporting, inspections	Clauses 1, 2, 3, 5, 6, 7, 9	L.S	1.00		
ESHS 3	Implementation of the Health and Safety Plan: Meetings, health care centre, medical check ups, emergencies and evacuations, safety protective equipment, hygiene	Clauses 1, 9, 21 to 25, 27 to 35, 37, 38	L.S	1.00		
ESHS 4	Accommodation, drinking water, meals and transportation of staff. (The Bidder shall detail the financial conditions of the supply of accommodation, meals and transport to its staff)	Clauses 36, 40, 41				
ESHS 4.1	Accommodation	-	L.S	1.00		
ESHS 4.2	Meals	-	L.S	1.00		
ESHS 4.3	Transport	-	L.S	1.00		
ESHS 5	Training and local recruitment management costs	Clauses 8, 39	L.S	1.00		
ESHS 6	Protection of adjacent areas, biodiversity, prevention of erosion and wastewater management	Clauses 10, 11, 12, 17, 18	L.S	1.00		
ESHS 7	Traffic, noise and atmospheric emissions management, land take	Clauses 13, 14, 42, 43, 44	L.S	1.00		
ESHS 8	Waste and hazardous products management	Clauses 15, 26	L.S	1.00		
ESHS 9	Vegetation clearing and site rehabilitation. (The Contractor will be responsible for deliberate or accidental damage to private community assets or livelihood access that has not already been donated to, or compensated by, the Project)	Clauses 16, 19, 20	L.S	1.00		
ESHS 10	Biodiversity and Water Quality Survey and Report for each Bridge site (2 Bridge Sites) (Baseline and every 3 months)	As indicated in ESMP	Report	18.00		
TOTAL for Bill ESHS (carried forward to Summary)						

Notes: 1) The cost of items No. ESHS 2 and ESHS 3 should exclude all or part of the costs of those tasks.
2) The cost of items No. ESHS 4 for "Site Mobilization" should exclude all or part of the costs of those tasks.
3) The cost of items No. ESHS 5 should exclude all or part of the costs associated to those tasks.
4) The cost of items No. ESHS 9 for "Site Mobilization" should exclude all or part of the costs associated to those tasks.
5) **ESHS costs are deemed to cover operations on all Sites (as defined in Clause 1.3 of ESHS Specifications).**
Interim payment certificates shall include the portion of each ESHS cost amounting to the percentage of the actual progress achieved in executing the ESHS measures in compliance with the ESHS Specifications and approved by the Engineer.

LOT 19

Battembang, Banteay Meanchey, Otdar Meanchey

BILL D

Bill of Quantities for UXO Clearance (Bill D)

CONTRACT: Road Rehabilitation and Construction of Lot 19

SERIAL NO.: 12.10

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROADS NAME: B2-BTB-1418-BR; BMC-0022; OMC-0002; BMC-OMC-BR

PROVINCE: Battambang; Banteay Meanchey; Otdar Meanchey

ITEM No	DESCRIPTION	SPECIFICATIONS CLAUSE No	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
	Following approval of the Report (concerning existing UXO Clearance Cerificates and recommendations)					
UXO 1	Land Mine and UXO clearance, normal	Clause 1.3.7	Hectare	74.00		
UXO 2	Land Mine and UXO clearance, intense	Clause 1.3.7	Hectare	10.00		
UXO 3	UXO awareness training for contractor's staff and villagers (per event)	Clause 1.3.7	Event	3.00		
TOTAL for Bill UXO Clearance(carried forward to Summary)						

Notes: 1) Specification of UXO Clearance-Bill D refers to item 1.3.7. The Contractor shall perform before the start of works.

LOT 19
CONDITIONAL ROADS

LOT 19

ROAD

S11-SRP-0022

SUMMARY BILL OF QUANTITIES

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19
ROAD NAME: S11-SRP-0022
PROVINCE: Siem Reap
DISTRICT: Angkor Chum/ Kralanh
COMMUNE: Char Chhuk/ Krouch Kor
ROAD FROM TO: Thnal - Khnar Tboung
TOTAL ROAD LENGTH IN M.: 5,761

BILL No.	DESCRIPTION	AMOUNT (USD)
1	Road Construction	
2	Construction of Earthworks at Structures	
4	Bituminous Works	
5	Structures	
6	Drainage and Protection Measures	
TOTAL CARRIED TO BID FORM AND THE GRAND SUMMARY TABLE		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: S11-SRP-0022

DISTRICT: Angkor Chum/ Kralanh

COMMUNE: Char Chhuk/ Krouch Kor

ROAD FROM TO: Thnal - Khnar Tboung

TOTAL ROAD LENGTH IN M.: 5,761

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
1.1	General				
1.1.8.1	Project signboards (as per design provided by the Engineer)	no.	2.00		
1.1.8.2	Marble signboards (as per design provided by the Engineer)	no.	2.00		
1.1.13 (2)	Temporary works of detours for box culvert	no.	6.00		
1.2	Preliminaries				
1.2.1	Setting Up Camp	L.S	1.00		
1.2.2	Removal of Camp	L.S	1.00		
1.3	Setting out and site clearance				
1.3.1	Setting Out Horizontal and Vertical Alignment	m	5,761.00		
1.3.2.(a)	Clearing Site of Grass and Light Bush	m ²	50,752.64		
1.3.2.(b)	Felling of Trees with Trunk Girth >60cm	no.	656.00		
1.3.3	Grubbing and Removal of Stumps and Roots (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	1,476.00		
1.3.4	Removal of Topsoil to a Maximum Depth of 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	23,044.00		
1.3.5	Removal of Unsuitable Materials at Depths Exceeding 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ³	1,152.20		
1.3.6	Scarify, Adjust Moisture Content and Compact Existing Carriageway or Embankment	m ²	32,183.45		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: S11-SRP-0022

DISTRICT: Angkor Chum/ Kralanh

COMMUNE: Char Chhuk/ Krouch Kor

ROAD FROM TO: Thnal - Khnar Tboung

TOTAL ROAD LENGTH IN M.: 5,761

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
1.4	Earthworks				
1.4.4	General Excavation	m ³	2,045.07		
1.4.5(a)	Excavate, Haul, Place, and Compact Embankment Fills - Borrow Fill	m ³	27,818.23		
1.5	Subgrade or Capping Layer				
1.5.4	Spread, Shape and Compact Subgrade/Capping Layer	m ³	10,495.96		
1.5.4(a)	Subgrade Preparation	m ²	1,762.31		
1.6	Crushed Stone Sub-base				
1.6.4	Spread, Shape and Compact Crushed stone Sub-Base	m ³	8,427.84		
1.7	Crushed Aggregate Base Course				
1.7.1	Spread, Shape and Compact Base Course	m ³	8,755.78		
1.11	Erosion Control				
1.11.1	Grass Material	m ²	23,192.50		
1.11.3	Tree and Shrub planting	no.	1,013.00		
1.12	Traffic Signs				
1.12(1)	Posts Signs & Road Signs including foundation (Supply and install as per attach drawing)	no.	24.00		
1.12.6(c)	Drainage Marker Post	no.	-		
7.4	Thermoplastic Road Marking				
7.4.1	Thermoplastic Road Marking Yellow	m ²	217.50		
TOTAL (carried forward to Summary)					

- Notes:**
- 1) Ramps (access to villages, paddy field etc.) as shown in the Drawings.
Quantities are included in items 1.5.4, 1.6.4, 1.7.1
 - 2) All the payment Items are final rates included labors, equipment, transportation and completion products.

2. Bill of Quantities for Earthworks at Structures Construction

(Refer to Technical Specifications Part 2)

CONTRACT No.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: S11-SRP-0022

DISTRICT: Angkor Chum/ Kralanh

COMMUNE: Char Chhuk/ Krouch Kor

ROAD FROM TO: Thnal - Khnar Tboung

TOTAL ROAD LENGTH IN M.: 5,761

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
2.1	Structural Excavation and Backfill				
2.1.1	Structural excavation of Common soil	m ³	3,071.78		
2.1.3	Structural backfill	m ³	1,359.30		
2.2	Removal of Existing Structures				
2.2.1	Removal of existing structure	no.	10.00		
TOTAL (Carried to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

4. Bill of Quantities for Bituminous Works

(Refer to Technical Specifications Part 4)

CONTRACT No.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: S11-SRP-0022

DISTRICT: Angkor Chum/ Kralanh

COMMUNE: Char Chhuk/ Krouch Kor

ROAD FROM TO: Thnal - Khnar Tboung

TOTAL ROAD LENGTH IN M.: 5,761

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
4.1	Bituminous prime coat				
4.1(1)	Bituminous prime coat (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	42,095.60		
4.2	Bituminous surface treatment				
4.2(1)	Bituminous seal coat, 19mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	42,095.60		
4.2(2)	Bituminous seal coat, 12mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	31,221.60		
4.2(4)	Sealing aggregate, 19mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	799.82		
4.2(5)	Sealing aggregate, 12mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	374.66		
TOTAL (carried forward to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

5. Bill of Quantities for Structures

(Refer to Technical Specifications Part 5)

CONTRACT No.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: S11-SRP-0022

DISTRICT: Angkor Chum/ Kralanh

COMMUNE: Char Chhuk/ Krouch Kor

ROAD FROM TO: Thnal - Khnar Tboung

TOTAL ROAD LENGTH IN M.: 5,761

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
5.1	Concrete				
5.1.3	Concrete class B1 (30 Mpa - 19 mm)	m ³	976.10		
5.1.6	Concrete class E (50 mm), blinding concrete	m ³	103.10		
5.2	Reinforcement				
5.2.1	Grade 300 Plain Reinforcing Bar	tonne	0.539		
5.2.2	Grade 400 Deformed Reinforcing bar	tonne	117.486		
5.9	Expansion Material				
5.9.2.5	Epoxy Resin for rebar anchor holes Product: Sika AnchorFix-2, or equivalent Unit: Number of anchor holes Rate shall include the drilling of holes	no.	5,172.00		
5.13	Survey				
5.13.1	Survey for Structures and Box Culverts	no.	6.00		
TOTAL (Carried to Summary)					

Note: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

6. Bill of Quantities for Drainage and Protection Measures

(Refer to Technical Specifications Part 6)

CONTRACT No.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROAD NAME: S11-SRP-0022

DISTRICT: Angkor Chum/ Kralanh

COMMUNE: Char Chhuk/ Krouch Kor

ROAD FROM TO: Thnal - Khnar Tboung

TOTAL ROAD LENGTH IN M.: 5,761

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
6.1	Reinforced Concrete Pipes				
6.1.1	Reinforced Concrete Pipe, 600mm dia	m	63.00		
6.1.3	Reinforced Concrete Pipe, 1000mm dia	m	48.00		
TOTAL (Carried to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products.

LOT 19
ROAD
S11-SRP-0022
BILL C

Bill of Quantities for ESHS Cost Schedule (Bill C)
(Environmental, Social, and Health Safeguards - ESHS)

CONTRACT: Road Rehabilitation and Construction of Lot 19

SERIAL NO.: 12.11

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROADS NAME: S11-SRP-0002

PROVINCE: Siem Reap

ITEM No	DESCRIPTION	ESHS SPECIFICATIONS CLAUSE No	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
ESHS 1	Resources allocated to ESHS management	Clause 4	L.S	1.00		
ESHS 2	Drafting and updating the ESHS documentation, reporting, inspections	Clauses 1, 2, 3, 5, 6, 7, 9	L.S	1.00		
ESHS 3	Implementation of the Health and Safety Plan: Meetings, health care centre, medical check ups, emergencies and evacuations, safety protective equipment, hygiene	Clauses 1, 9, 21 to 25, 27 to 35, 37, 38	L.S	1.00		
ESHS 4	Accommodation, drinking water, meals and transportation of staff. (The Bidder shall detail the financial conditions of the supply of accommodation, meals and transport to its staff)	Clauses 36, 40, 41				
ESHS 4.1	Accommodation	-	L.S	1.00		
ESHS 4.2	Meals	-	L.S	1.00		
ESHS 4.3	Transport	-	L.S	1.00		
ESHS 5	Training and local recruitment management costs	Clauses 8, 39	L.S	1.00		
ESHS 6	Protection of adjacent areas, biodiversity, prevention of erosion and wastewater management	Clauses 10, 11, 12, 17, 18	L.S	1.00		
ESHS 7	Traffic, noise and atmospheric emissions management, land take	Clauses 13, 14, 42, 43, 44	L.S	1.00		
ESHS 8	Waste and hazardous products management	Clauses 15, 26	L.S	1.00		
ESHS 9	Vegetation clearing and site rehabilitation. (The Contractor will be responsible for deliberate or accidental damage to private community assets or livelihood access that has not already been donated to, or compensated by, the Project)	Clauses 16, 19, 20	L.S	1.00		
TOTAL for Bill ESHS (carried forward to Summary)						

- Notes:** 1) The cost of items No. ESHS 2 and ESHS 3 should exclude all or part of the costs of those tasks.
2) The cost of items No. ESHS 4 for "Site Mobilization" should exclude all or part of the costs of those tasks.
3) The cost of items No. ESHS 5 should exclude all or part of the costs associated to those tasks.
4) The cost of items No. ESHS 9 for "Site Mobilization" should exclude all or part of the costs associated to those tasks.
5) ESHS costs are deemed to cover operations on all Sites (as defined in Clause 1.3 of ESHS Specifications).
Interim payment certificates shall include the portion of each ESHS cost amounting to the percentage of the actual progress achieved in executing the ESHS measures in compliance with the ESHS Specifications and approved by the Engineer.

LOT 19

ROAD

S11-SRP-0022

BILL D

Bill of Quantities for UXO Clearance (Bill D)

CONTRACT: Road Rehabilitation and Construction of Lot 19
SERIAL NO.: 12.11
CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19
ROADS NAME: S11-SRP-0002
PROVINCE: Siem Reap

ITEM No	DESCRIPTION	SPECIFICATIONS CLAUSE No	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
	Following approval of the Report (concerning existing UXO Clearance Certificates and recommendations)					
UXO 1	Land Mine and UXO clearance, normal	Clause 1.3.7	Hectare	10.85		
UXO 2	Land Mine and UXO clearance, intense	Clause 1.3.7	Hectare	1.50		
UXO 3	UXO awareness training for contractor's staff and villagers (per event)	Clause 1.3.7	Event	1.00		
TOTAL for Bill UXO Clearance(carried forward to Summary)						

Notes: 1) Specification of UXO Clearance-Bill D refers to item 1.3.7. The Contractor shall perform before the start of works.

LOT 19
ROAD
S12-SRP-0278

SUMMARY BILL OF QUANTITIES

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: S12-SRP-0278

PROVINCE: Siem Reap

DISTRICT: Varin

COMMUNE: Lvea Krang/Svay Sa

ROAD FROM TO: Otey – Bay Dut

TOTAL ROAD LENGTH IN M.: 13,336

BILL No.	DESCRIPTION	AMOUNT (USD)
1	Road Construction	
2	Construction of Earthworks at Structures	
4	Bituminous Works	
5	Structures	
6	Drainage and Protection Measures	
TOTAL CARRIED TO BID FORM AND THE GRAND SUMMARY TABLE		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: S12-SRP-0278

DISTRICT: Varin

COMMUNE: Lvea Krang/Svay Sa

ROAD FROM TO: Otey – Bay Dut

TOTAL ROAD LENGTH IN M.: 13,336

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
1.1	General				
1.1.8.1	Project signboards (as per design provided by the Engineer)	no.	2.00		
1.1.8.2	Marble signboards (as per design provided by the Engineer)	no.	2.00		
1.1.13 (2)	Temporary works of detours for box culvert	no.	12.00		
1.3	Setting out and site clearance				
1.3.1	Setting Out Horizontal and Vertical Alignment	m	13,336.00		
1.3.2.(a)	Clearing Site of Grass and Light Bush	m ²	77,051.38		
1.3.2.(b)	Felling of Trees with Trunk Girth >60cm	no.	68.00		
1.3.3	Grubbing and Removal of Stumps and Roots (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	153.00		
1.3.4	Removal of Topsoil to a Maximum Depth of 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ²	53,344.00		
1.3.5	Removal of Unsuitable Materials at Depths Exceeding 150mm (include the backfilling of lost volume with Borrow Fill or Common Fill)	m ³	2,667.20		

1. Bill of Quantities for Road Construction

(Refer to Technical Specifications Part 1)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: S12-SRP-0278

DISTRICT: Varin

COMMUNE: Lvea Krang/Svay Sa

ROAD FROM TO: Otey – Bay Dut

TOTAL ROAD LENGTH IN M.: 13,336

1.3.6	Scarify, Adjust Moisture Content and Compact Existing Carriageway or Embankment	m ²	62,718.21		
1.4	Earthworks				
1.4.4	General Excavation	m ³	10,554.70		
1.4.5(a)	Excavate, Haul, Place, and Compact Embankment Fills - Borrow Fill	m ³	29,443.85		
1.5	Subgrade or Capping Layer				
1.5.4	Spread, Shape and Compact Subgrade/Capping Layer	m ³	24,697.00		
1.5.4(a)	Subgrade Preparation	m ²	9,093.80		
1.6	Crushed Stone Sub-base				
1.6.4	Spread, Shape and Compact Crushed stone Sub-Base	m ³	25,233.62		
1.7	Crushed Aggregate Base Course				
1.7.1	Spread, Shape and Compact Base Course	m ³	20,144.28		
1.11	Erosion Control				
1.11.1	Grass Material	m ²	53,575.00		
1.11.3	Tree and Shrub planting	no.	2,428.00		
1.12	Traffic Signs				
1.12(1)	Posts Signs & Road Signs including foundation (Supply and install as per attach drawing)	no.	82.00		
1.12(2)	Road Signs (Additional sign)	m ²	21.07		
1.12.6(c)	Drainage Marker Post	no.	-		
7.4	Thermoplastic Road Marking				
7.4.1	Thermoplastic Road Marking Yellow	m ²	502.50		
TOTAL (carried forward to Summary)					

Notes: 1) Ramps (access to villages, paddy field etc.) as shown in the Drawings.

Quantities are included in items 1.5.4, 1.6.4, 1.7.1

2) All the payment items are final rates included labors, equipment, transportation and completion products

2. Bill of Quantities for Earthworks at Structures Construction

(Refer to Technical Specifications Part 2)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: S12-SRP-0278

DISTRICT: Varin

COMMUNE: Lvea Krang/Svay Sa

ROAD FROM TO: Otey – Bay Dut

TOTAL ROAD LENGTH IN M.: 13,336

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
2.1	Structural Excavation and Backfill				
2.1.1	Structural excavation of Common soil	m ³	3,748.50		
2.1.3	Structural backfill	m ³	1,784.90		
TOTAL (Carried to Summary)					

Notes: 1) All the payment items are final rates included labors, equipment, transportation and completion products

4. Bill of Quantities for Bituminous Works

(Refer to Technical Specifications Part 4)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: S12-SRP-0278

DISTRICT: Varin

COMMUNE: Lvea Krang/Svay Sa

ROAD FROM TO: Otey – Bay Dut

TOTAL ROAD LENGTH IN M.: 13,336

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
4.1	Bituminous prime coat				
4.1(1)	Bituminous prime coat (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	96,790.60		
4.2	Bituminous surface treatment				
4.2(1)	Bituminous seal coat, 19mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	96,790.60		
4.2(2)	Bituminous seal coat, 12mm (including cost of bitumen, hauling, providing, spreading, rolling aggregate, workers & all others)	m ²	98,198.60		
4.2(4)	Sealing aggregate, 19mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	1,839.02		
4.2(5)	Sealing aggregate, 12mm (including cost of aggregate, hauling, providing, spreading, rolling aggregate, workers & all others)	m ³	1,178.38		
TOTAL (carried forward to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products

5. Bill of Quantities for Structures

(Refer to Technical Specifications Part 5)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: S12-SRP-0278

DISTRICT: Varin

COMMUNE: Lvea Krang/Svay Sa

ROAD FROM TO: Otey – Bay Dut

TOTAL ROAD LENGTH IN M.: 13,336

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
5.1	Concrete				
5.1.3	Concrete class B1 (30 Mpa - 19 mm)	m ³	903.10		
5.1.6	Concrete class E (50 mm), blinding concrete	m ³	104.40		
5.2	Reinforcement				
5.2.1	Grade 300 Plain Reinforcing Bar	tonne	0.65		
5.2.2	Grade 400 Deformed Reinforcing bar	tonne	94.04		
5.13	Survey				
5.13.1	Survey for Structures and Box Culverts	no.	12.00		
TOTAL (Carried to Summary)					

Note: 1) All the payment items are final rates included labors, equipment, transportation and completion products

6. Bill of Quantities for Drainage and Protection Measures

(Refer to Technical Specifications Part 6)

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-Lot 19

ROAD NAME: S12-SRP-0278

DISTRICT: Varin

COMMUNE: Lvea Krang/Svay Sa

ROAD FROM TO: Otey – Bay Dut

TOTAL ROAD LENGTH IN M.: 13,336

ITEM No	DESCRIPTION	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
6.1	Reinforced Concrete Pipes				
6.1.1	Reinforced Concrete Pipe, 600mm dia	m	90.00		
6.1.3	Reinforced Concrete Pipe, 1000mm dia	m	40.00		
TOTAL (Carried to Summary)					

Notes: 1) All the payment Items are final rates included labors, equipment, transportation and completion products

LOT 19

ROAD

S12-SRP-0278

BILL C

Bill of Quantities for ESHS Cost Schedule (Bill C)
(Environmental, Social, and Health Safeguards - ESHS)

CONTRACT: Road Rehabilitation and Construction of Lot 19

SERIAL NO.: 12.10

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROADS NAME: B2-BTB-1418-BR; BMC-0022; OMC-0002; BMC-OMC-BR

PROVINCE: Battambang; Banteay Meanchey; Otdar Meanchey

ITEM No	DESCRIPTION	ESHS SPECIFICATIONS CLAUSE No	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
ESHS 1	Resources allocated to ESHS management	Clause 4	L.S	1.00		
ESHS 2	Drafting and updating the ESHS documentation, reporting, inspections	Clauses 1, 2, 3, 5, 6, 7, 9	L.S	1.00		
ESHS 3	Implementation of the Health and Safety Plan: Meetings, health care centre, medical check ups, emergencies and evacuations, safety protective equipment, hygiene	Clauses 1, 9, 21 to 25, 27 to 35, 37, 38	L.S	1.00		
ESHS 4	Accommodation, drinking water, meals and transportation of staff. (The Bidder shall detail the financial conditions of the supply of accommodation, meals and transport to its staff)	Clauses 36, 40, 41				
ESHS 4.1	Accommodation	-	L.S	1.00		
ESHS 4.2	Meals	-	L.S	1.00		
ESHS 4.3	Transport	-	L.S	1.00		
ESHS 5	Training and local recruitment management costs	Clauses 8, 39	L.S	1.00		
ESHS 6	Protection of adjacent areas, biodiversity, prevention of erosion and wastewater management	Clauses 10, 11, 12, 17, 18	L.S	1.00		
ESHS 7	Traffic, noise and atmospheric emissions management, land take	Clauses 13, 14, 42, 43, 44	L.S	1.00		
ESHS 8	Waste and hazardous products management	Clauses 15, 26	L.S	1.00		
ESHS 9	Vegetation clearing and site rehabilitation. (The Contractor will be responsible for deliberate or accidental damage to private community assets or livelihood access that has not already been donated to, or compensated by, the Project)	Clauses 16, 19, 20	L.S	1.00		
ESHS 10	Biodiversity and Water Quality Survey and Report for each Bridge site (2 Bridge Sites) (Baseline and every 3 months)	As indicated in ESMP	Report	18.00		
ESHS 11	Payment of Temporary Disturbance Allowance to businesses at Sangke River bridge site before the beginning of the Works. Amounts to be paid to each business shall be determined by Instruction of the Engineer.	-	LS	1.00	15,000.00	
TOTAL for Bill ESHS (carried forward to Summary)						

- Notes:** 1) The cost of items No. ESHS 2 and ESHS 3 should exclude all or part of the costs of those tasks.
2) The cost of items No. ESHS 4 for "Site Mobilization" should exclude all or part of the costs of those tasks.
3) The cost of items No. ESHS 5 should exclude all or part of the costs associated to those tasks.
4) The cost of items No. ESHS 9 for "Site Mobilization" should exclude all or part of the costs associated to those tasks.
5) **ESHS costs are deemed to cover operations on all Sites (as defined in Clause 1.3 of ESHS Specifications).**
Interim payment certificates shall include the portion of each ESHS cost amounting to the percentage of the actual progress achieved in executing the ESHS measures in compliance with the ESHS Specifications and approved by the Engineer.

LOT 19
ROAD
S12-SRP-0278
BILL D

Bill of Quantities for UXO Clearance (Bill D)

CONTRACT: Road Rehabilitation and Construction of Lot 19

SERIAL NO.: 12.12

CONTRACT NO.: RID4CAM-W-SRP-BTB-BMC-OMC-LOT 19

ROADS NAME: S12-SRP-0278

PROVINCE: Siem Reap

ITEM No	DESCRIPTION	SPECIFICATIONS CLAUSE No	UNIT	QTY	RATE (US\$)	AMOUNT (US\$)
	Following approval of the Report (concerning existing UXO Clearance Certificates and recommendations)					
UXO 1	Land Mine and UXO clearance, normal	Clause 1.3.7	Hectare	25.15		
UXO 2	Land Mine and UXO clearance, intense	Clause 1.3.7	Hectare	3.50		
UXO 3	UXO awareness training for contractor's staff and villagers (per event)	Clause 1.3.7	Event	1.00		
TOTAL for Bill UXO Clearance(carried forward to Summary)						

Notes: 1) Specification of UXO Clearance-Bill D refers to item 1.3.7. The Contractor shall perform before the start of works.