

CONSTRUCTION OF DUAL CARRIAGEWAY ROAD



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20.1 Preamble



Preamble is to be as per the Standard Specifications for Road and Bridge Construction, Volume -3, November 2017.

Extension of time will be granted only if the additional amount exceeds the contract value on the basis of pro-rata.

Working Hours

- i) The Contractor shall prepare the Construction programme and calculate the unit rate of each item and the total financial offer based on 9 (nine) working hours during the day time.
- ii) The Contractor shall obtain the Engineer's approval to carry out any activities beyond the daily 9 (nine) working hours and / or during the night time and / or holidays.

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL NO. 1 PRELIMINARIES CONDITIONS OF CONTRACT The Contractor is deemed to have carefully studied and understood and taken into account the provisions and requirements of the General and Particular Conditions of Contract. The rates and prices stated in the Bill of Quantities shall include for all costs of compliance with the Conditions except for the costs of the items given in this Section 1 and for which a separate amount is stated herein. 1 GENERAL 1.4 Contractor's Site Facilities 1.4.3(i) Mobilization and demobilization of Contractor's site facilities 1.4.3(ii) Maintenance of Contractor's site facilities 1.5 Facilities for the Engineer 1.5.13(i)a Provision of Engineer's office (Type A1, 1 unit x 27) 1.5.13(ii)a Maintenance of Engineer's office (Type A1, 1 unit x 27) 1.5.13(i)b Provision of Engineer's office (Type A2, 1 unit x 24) 1.5.13(ii)b Maintenance of Engineer's office (Type A2, 1 unit x 24) 1.5.13(iii) Provision of surveying instruments for engineer (1 set for 24 months) 1.5.13(iv) Maintenance of surveying instruments for engineer (1 set for 24 months) 1.5.13(vii) Provision of site laboratory (1 set for 24 months) 1.5.13(viii) Maintenance of site laboratory (1 set for 24 months)	LS month	1 24				
		month	27				
		month	27				
		month	24		-	-	
		month	24		-	-	
		month	24		-	-	
		month	24		-	-	
		month	24		-	-	
		month	24		-	-	
				Carried to Summary of Bill # 1		-	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	1.7 Maintenance and Protection of Traffic						
1.7.6(i)	Maintenance and protection of traffic	month	24		-	-	
1.7.6(ii)	Supply and compacting of sub-base on diversions where ordered by the Engineer	cu.m.	10,800		2.836	30,623.400	
1.7.6(iii)	Supply and compacting of bituminous base course on diversions where ordered by the Engineer	cu.m.	2,700		-	-	
1.7.6(iv)	Bituminous prime coat	Kg	60,000		-	-	
	1.10 Management Procedures						
1.10.6(i)	Provision of 5 sets of photographs	month	24		-	-	
1.10.6(ii)	Provision of 2 sets of video recordings using aerial camera every 3 months	every 3 months/no	8		-	-	
	1.11 Submittals						
1.11.8(i)	Provision of As-built drawings, record drawings, record specifications and miscellaneous records as specified	LS	1		-	-	
	1.14 Contractor's Temporary Works and Services						
1.14.8(i)	Provision, erection, relocation, and maintenance of project signboard (aluminium)	nr	2		-	-	
1.14.8(ii)	Removal of project signboards	nr	2		-	-	
	1.15 Commemorative Plaque and Opening Ceremony						
1.15.4(iii)	Allow for all cost resulting from delay for VIP visiting required	hr	5		-	-	
	1.19 Site Facilities to be provided to the Client						
1.19.1	Provision of three (3) cars (4WD type vehicles) including fuel and all other maintenance as per Clients requirements and approval	month	27		-	-	
				Carried to Summary of Bill # 1		30,623.400	-
	<u>Summary of Bill No. 1</u>						
	Page - 1					-	-
	Page - 2					30,623.400	-
				Carried to Grand Summary		30,623.400	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL NO. 2 EARTHWORKS						
	2.1 Clearing and Grubbing						
2.1.5 (i)	Clearing and Grubbing	sq.m.	820,000		0.268	219,350.000	
2.1.5 (ii)	Removal and delivery or disposal of trees	nr	55		21.400	1,177.000	
	2.2 Removal of Structures and Obstructions						
2.2.5 (i)a	Removal of existing building block with RCC slab and area not exceed 20sq.m.	nr	5		-	-	
2.2.5 (ii)	Removal of reinforced concrete slab, box culvert, foundation, cut-off wall, etc., including excavation and back filling regardless the dimension	cu.m.	150		-	-	
2.2.5 (iii)	Removal of mass concrete masonry and block wall regardless the dimension	cu.m.	100		-	-	
2.2.5 (v)	Removal of curbs (different type)	lin.m.	500		-	-	
2.2.5 (vi)	Removal of Tiles - interlock (6mm or 8mm thickness)	sq.m.	500		-	-	
2.2.5 (vii)a	Removal of pipe culverts (one cell 750 to 1000mm dia. including excavation and back filling)	lin.m.	100		-	-	
2.2.5 (vii)b	Ditto but for 2 cells	lin.m.	100		-	-	
2.2.5 (vii)c	Ditto but for 3 cells	lin.m.	50		-	-	
				Carried to Summary of Bill # 2		220,527.000	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
2.2.5 (viii)	Removal of existing pavement (variable thickness)	cu.m.	6,500		-	-	
2.2.5 (x)	Removal of steel safety barrier including post and foundations and handover to the Employer	lin.m.	200		-	-	
2.2.5 (xii)a	Removal of sign boards including post and foundations (< 1 sq.m.) and handover to the Employer	nr	150		-	-	
2.2.5 (xii)b	Removal of sign boards including post and foundations (> 1 sq.m.) and handover to the Employer	nr	100		-	-	
2.2.5 (xiii)	Removal of Floodway marker posts and foundations (GI 150mm) and handover to the Employer	nr	40		-	-	
2.2.5(xviii)	Removal of drainage protection works (grouted rip-rap, reinforced concrete, gabion, loose rip-rap)	cu.m.	750		-	-	
2.2.5 (xxvi)	Removal of light poles including cabling and foundation; (10 - 12)m height	nr	25		-	-	
2.2.5 (xxvii)	Removal of flag poles including foundation (6m height)	nr	5		-	-	
2.2.5 (xxviii)	Removal of Debris Deflectors including foundation and handover to the Employer	nr	30		-	-	
	2.3 Roadway Excavation						
2.3.6 (i)	Unclassified excavation	cu.m.	450,000		2.354	1,059,300.000	
2.3.6 (ii)	Excavation of unstable material outside Right-of-Way	cu.m.	5,000		-	-	
2.3.6 (iv)	Excavate and stockpile suitable topsoil and recompact as directed	cu.m.	15,000		-	-	
				Carried to Summary of Bill # 2		1,059,300.000	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	2.4 Borrow Materials						
2.4.6 (i)	Borrow excavation	cu.m.	600,000		1.070	642,000.000	
	2.6 Sub-grade Construction						
2.6.6 (i)	Sub-grade preparation in cut	cu.m.	35,000		0.407	14,231.000	
	2.7 Excavation and Backfilling for Structures						
2.7.6 (i)	Unclassified structural excavation (Depth 0 to 2m)	cu.m.	20,000		3.959	79,180.000	
2.7.6 (ii)	Unclassified structural excavation (2m < Depth ≤ 4m)	cu.m.	2,000		7.704	15,408.000	
2.7.6 (iii)	Unclassified structural excavation (Depth > 4m)	cu.m.	100		8.560	856.000	
2.7.6 (iv)	Unclassified structural excavation (under water)	cu.m.	200		5.992	1,198.400	
	2.8 Earthwork for Pipe Trenches						
2.8.6.(i)	Trench excavation and backfilling (Depth 0 to 2m)	cu.m.	5,500		-	-	
2.8.6.(ii)	Trench excavation and backfilling (2m < Depth ≤ 3m)	cu.m.	500		-	-	
2.8.6.(iii)	Trench excavation and backfilling (3m < Depth ≤ 4m)	cu.m.	100		-	-	
2.8.6.(iv)	Trench excavation and backfilling (Depth > 4m)	cu.m.	50		-	-	
2.8.6.(v)	Trench excavation and backfilling (under water)	cu.m.	50		-	-	
				Carried to Summary of Bill # 2		752,873.400	-
	<u>Summary of Bill No. 2</u>						
	Page - 4					220,527.000	-
	Page - 5					1,059,300.000	-
	Page - 6					752,873.400	-
				Carried to Grand Summary		2,032,700.400	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL NO. 3 GRANULAR SUB-BASE, AGGREGATE BASE COURSE AND STABILIZED BASE COURSES.						
3.2.6 (ii)	3.2 Granular Sub-base Course Granular base course (Class B) variable thickness as shown on the drawings	cu.m.	170,000		2.836	482,035.000	
3.3.6 (ii)	3.3 Aggregate Base Course Aggregate base course (Class B) variable thickness as shown on the drawings	cu.m.	172,000		5.992	1,030,624.000	
				Carried to Grand Summary		1,512,659.000	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL NO. 4 BITUMINOUS PAVEMENT						
	4.1 Bituminous Prime Coat and Tack Coat						
4.2.8 (i)	Bituminous prime coat	kg	512,000		0.385	197,222.400	
4.2.8 (ii)	Bituminous tack coat	kg	340,000		0.342	116,416.000	
4.2.8 (iii)	Polymer modified tack coat	kg	16,000		-	-	
	4.4 Bituminous Base Course						
4.4.14 (i)	Bituminous base course (Class A) as shown on the drawings	cu.m.	46,000		-	-	
4.4.14 (ii)	Bituminous base course (Class B) as shown on the drawings	cu.m.	36,200		47.615	1,723,663.000	
	4.5 Bituminous Binder and Wearing Courses						
4.5.14 (iii)	Bituminous wearing course (Class B - thickness 50mm)	cu.m.	24,000		47.990	1,151,748.000	
4.5.14 (vi)	Polymer modified bituminous wearing course (Class B - thickness 50mm)	cu.m.	3,300		-	-	
	4.10 Bituminous Pavement Widening						
4.10.6 (ii)	Speed hump	nr.	5		-	-	
	4.12 Surface Rideability Measurement						
4.12.10 (i)	International Roughness Index (IRI) test for asphalt pavement (single lane) for wearing course only	lin.m.	72,000		-	-	
4.13.1	Road mesh reinforcement as described in the Special Specification	sq.m.	50,000		-	-	
				Carried to Grand Summary		3,189,049.400	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL NO. 5 CONCRETE AND CONCRETE STRUCTURES						
	5.1 Concrete Materials and Mixes						
5.1.7 (i)a	Concrete (Class 15) as blinding for all reinforced concrete	cu.m.	2,200		32.528	71,561.600	
5.1.7 (i)b	Concrete (Class 35) for box culvert, wing wall, cut-off wall, head wall, in-let & out-let structures and pipe culvert	cu.m.	17,100			1,134,414.000	
5.1.7 (i)c	Concrete (Class 25/20) for split duct	cu.m.	500		-	-	
5.1.7 (i)d	Concrete (Class 40/20) for bridge foundation (abutment and retaining walls)	cu.m.	1,500		-	-	
5.1.7 (i)e	Concrete (Class 40/20) for bridge, piers, abutments, approaching slab and retaining walls	cu.m.	1,600		-	-	
5.1.7 (i)f	Concrete (Class 50/20) for bridge, box girder and deck slab	cu.m.	3,000		-	-	
5.1.7 (i)g	Concrete (Class 50/20) for bridge diaphragm	cu.m.	400		-	-	
	5.2 Reinforcing Steel						
5.2.6 (ii)	High tensile steel bar reinforcement of any diameter for box culvert, cut-off wall, head wall in-let & out-let structures as shown on drawing	t.	1,300		324.210	421,473.000	
5.2.6 (iii)	High tensile steel bar reinforcement of any diameter for bridges as shown on drawing	t.	1,200		324.210	389,052.000	
5.2.6 (iv)	Fabric wire mesh reinforcement of any size	t.	50		-	-	
	5.4 Prestressed Concrete Structures						
5.4.6 (ii)	Prestressing strand; 15.7mm dia. Grade 270 as shown on drawing	t.	110		-	-	
	5.10 Waterproofing for Structures						
5.10.6 (i)	Tar or bituminous paint for all structures under ground level or in contact with soil	sq.m.	20,000		-	-	
				Carried to Summary of Bill # 5		2,016,500.600	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
5.10.6 (ii)a	Water proofing membrane including protection board for bridge abutments footings, pier and pier footings and hanging back wall	sq.m.	2,500		7.811	19,527.500	
5.10.6 (ii)b	Water proofing membrane including protection board for deck slabs	sq.m.	3,500		7.811	27,338.500	
	5.12 Bridge Load Testing						
5.12.8 (i)	Bridge Loading Test	nr.	2		15,755.750	31,511.500	
	6 Structural Steel and Other Metal Work						
6.6(iii)	Metal Access door for box girder bridges	nr.	24		-	-	
	8 DRAINAGE						
	8.1 Pipe Culverts						
8.1.6 (ii)	Reinforced precast concrete pipe culvert (1000mm dia.)	lin.m.	50		-	-	
	8.2 Storm Sewers						
8.2.6 (i)a	Storm sewer UPVC pipe (600mm dia.)	lin.m.	1,650		-	-	
8.2.6 (i)b	Storm sewer UPVC pipe (300mm dia.)	lin.m.	300		-	-	
8.2.6 (i)c	Storm sewer UPVC pipe (200mm dia.)	lin.m.	500		-	-	
8.2.6 (i)d	Storm sewer UPVC pipe (150mm dia.)	lin.m.	300		-	-	
	8.3 Manholes and Inlets						
8.3.6 (i)a	Manhole (1200 x 1200)mm including two coats of bituminous paint	nr.	70		192.600	13,482.000	
8.3.6 (i)b	Manhole (1500 x 1500)mm including two coats of bituminous paint	nr.	2		246.100	492.200	
8.3.6 (i)c	Manhole (1200 x 1200)mm including two coats of bituminous paint at culverts	nr.	20		192.600	3,852.000	
				Carried to Summary of Bill # 5		96,203.700	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	8.4 Drainage Structures						
8.4.6 (i)	Gully grate and frame (600 x 600 x 900)mm reinforced concrete including two coats of water proofing	nr.	30		123.050	3,691.500	
8.4.6 (ii)a	Drainage pipe 100mm uPVC in structure	lin.m.	200		9.095	1,819.000	
8.4.6 (ii)b	Drainage pipe 200mm uPVC in structure	lin.m.	500		10.700	5,350.000	
8.4.6 (ii)c	75mm dia. uPVC perforated pipe wrapped in Geotextile	lin.m.	100		-	-	
8.4.6 (iii)	Permeable backfilling under Geotextile membrane	cu.m.	500		5.671	2,835.500	
8.4.6 (iv)	Granular backfill	cu.m.	4,000		-	-	
	10 PILING						
	10.1 Piling General						
10.1.6 (i)	Setting up at each 1000mm dia. Pile location	nr.	88		78.110	6,873.680	
10.1.6 (ii)	Piling - Cast in place, 1000mm dia. for all bridge foundation including reinforcement in piles (boring piles)	lin.m.	900		-	-	
10.1.6 (iii)	Expendable piles - Cast in place, 1000mm dia. including reinforcement in piles	lin.m.	100		-	-	
	10.2 Pile Testing						
10.2.6 (i)	Static load testing of 1000mm dia. expendable piles including all materials	nr.	2		-	-	
10.2.6 (ii)	Static load testing of 1000mm dia. working piles including all materials	nr.	2		-	-	
10.2.6 (iii)	Non-destructive Integrity Test as per specification	nr.	88		50.558	4,449.060	
				Carried to Summary of Bill # 5		25,018.740	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	11 BRIDGE ACCESSORIES						
	11.3 Pot Bearings						
11.3.6 (i)a	Pot Bearing - Free Type Service Load (V=7100kN max 3700kN min) Ultimate Load (v=10000kN max 4700kN min) for Abutement-1 (R)	nr.	2		-	-	
11.3.6 (i)b	Pot Bearing - Guided Type Service Load (V=1500kN max 800kN min) Ultimate Load (v=2000kN max 1000kN min) Horizontal 300kN transverse for Abut-1 (C)	nr.	2		-	-	
11.3.6 (i)c	Pot Bearing - Free Type Service Load (V=7100kN max 3700kN min) Ultimate Load (v=10000kN max 4700kN min) for Abutement-1 (L)	nr.	2		-	-	
11.3.6 (i)d	Pot Bearing - Guided Type Service Load (V=17000kN max 11000kN min) Ultimate Load (v=22300kN max 1500kN min) Horizontal 300kN transverse for Pier (R)	nr.	2		-	-	
11.3.6 (i)e	Pot Bearing - Fixed Type Service Load (V=5500kN max 3260kN min) Ultimate Load (v=6500kN max 4100kN min) Horizontal 2000kN transverse 1000kN longitudinal for Pier (C)	nr.	2		-	-	
11.3.6 (i)f	Pot Bearing - Guided Type Service Load (V=17000kN max 11000kN min) Ultimate Load (v=22300kN max 1500kN min) Horizontal 300kN transverse for Pier (L)	nr.	2		-	-	
11.3.6 (i)g	Pot Bearing - Free Type Service Load (V=7100kN max 3700kN min) Ultimate Load (v=10000kN max 4700kN min) for Abutement-2 (R)	nr.	2		-	-	
11.3.6 (i)h	Pot Bearing - Guided Type Service Load (V=1500kN max 800kN min) Ultimate Load (v=2000kN max 1000kN min) Horizontal 300kN transverse for Abutement-2 (C)	nr.	2		-	-	
11.3.6 (i)i	Pot Bearing - Free Type Service Load (V=7100kN max 3700kN min) Ultimate Load (V=10000kN max 4700kN min) for Abutement-2 (L)	nr.	2		-	-	
	11.5 Bridge Expansion Joints						
11.5.6 (i)	Expansion joint as shown on drawing (ST-105)	lin.m.	80		-	-	
	11.7 Bridge Parapets and Railings						
11.7.6 (i)	Concrete bridge parapet as shown on drawings	lin.m.	400		-	-	
11.7.6 (v)	Steel pedestrian railing as shown on drawings	lin.m.	400		-	-	
				Carried to Summary of Bill # 5		-	-
	<u>Summary of Bill No. 5</u>						
	Page 10					2,016,500.600	-
	Page 11					96,203.700	-
	Page 12					25,018.740	-
	Page 13					-	-
				Carried to Grand Summary		2,137,723.040	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL 6 INCIDENTAL CONSTRUCTION						
	9 SLOPE PROTECTION AND STABILIZATION						
	9.1 Riprap						
9.1.6 (i)a	Loose stone riprap (class A) variable thickness	cu.m.	1,000		-	-	
9.1.6 (i)b	Loose stone riprap (class B) variable thickness	cu.m.	1,000		-	-	
9.1.6 (ii)	Mortared stone riprap (class A) variable thickness	cu.m.	1,000		19.795	19,795.000	
	9.2 Gabions						
9.2.6 (i)a	Gabions (thickness 1.000m)	cu.m.	10,500		-	-	
9.2.6 (i)b	Gabions (thickness 0.500m)	cu.m.	1,000		-	-	
	9.4 Rock Bolts, Anchors and Sprayed Concrete						
9.4.6 (iii)	Sprayed concrete (shotcrete) with mesh reinforcement A 142 BS 4483 (120mm)	sq.m	4,700		-	-	
9.4.6.(vii)	Painting	sq.m	4,700		1.766	8,297.850	
	9.6 Reinforced Concrete Slope Protection						
9.6.6 (i)	Reinforced concrete slope protection as shown on drawings	cu.m.	13,000		-	-	
	9.9 Ditch Lining						
9.9.6 (ii)	Grouted stone class (A) ditch lining with thickness 200mm	sq.m.	12,000		-	-	
	9.10 Filter Layers and Membranes						
9.10.6 (iii)	Geotextile membrane	sq.m.	11,000		-	-	
9.10.6 (iv)	Geogrid	sq.m.	1,000		-	-	
				Carried to Summary of Bill # 6		28,092.850	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
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	12 SIDEWALKS, PAVED AREAS AND CURBS						
	12.1 Sidewalks, paved areas and curbs						
12.1.7 (i)	Precast concrete tile paving - inter lock with 60mm thickness	sq.m.	12,000		7.597	91,164.000	
12.1.7 (v) a	Precast concrete curb (non-mountable) Type A	lin.m.	10,000		7.276	72,760.000	
12.1.7 (v) b	Precast concrete curb (mountable) Type B	lin.m.	5,000		7.276	36,380.000	
12.1.7 (v) c	Precast concrete flush curb Type D	lin.m.	500		-	-	
12.1.7 (v) d	Precast concrete side walk edge curb Type E	lin.m.	1,500		-	-	
12.1.7 (vi) a	Cast in situ concrete curb (non-mountable)	lin.m.	50		-	-	
12.1.7 (vi) b	Cast in situ concrete curb (mountable)	lin.m.	50		-	-	
				Carried to Summary of Bill # 6		200,304.000	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	13 SAFETY BARRIERS AND FENCES						
	13.1 Roadside Barriers						
13.1.7(i)	W-beam guard-rails, standard section	lin.m.	28,300		17.120	484,496.000	
13.1.7(ii)	W-beam guard-rails, transition section	lin.m.	1,000		19.260	19,260.000	
13.1.7(iii)a	W-beam guard-rails, terminal (end anchorage for approach)	nr	100		-	-	
13.1.7(iii)b	W-beam guard-rails, terminal (end anchorage for departure)	nr	100		-	-	
13.1.7(iii)c	W-beam guard-rails connection with concrete barrier	nr	10		-	-	
13.1.7(iv)	W-beam guard-rails, posts	nr	15,000		25.680	385,200.000	
	13.2 Fences						
13.2.7 (i) a	Chain link fence (2m height)	lin.m.	200		-	-	
13.2.7 (i) b	Concrete block fences with RC column and height 2m	lin.m.	200		-	-	
13.2.7 (v)	Gate (steel structures)	sq.m.	10		-	-	
	14 TRAFFIC SIGNS AND ROAD MARKINGS						
14.1.7 (i) a	Highway sign, triangular (1500mm) for main road	nr	50		40.660	2,033.000	
14.1.7 (i) b	Highway sign, triangular (1200mm)	nr	20		32.100	642.000	
14.1.7 (ii) a	Highway sign, circular (1200 mm) for main road	nr	75		64.200	4,815.000	
14.1.7 (iii)a	Highway sign, rectangular - size (≤ 1.0 sq.m.)	sq.m.	100		-	-	
14.1.7 (iii)b	Highway sign, rectangular - size (> 1.0 sq.m.)	sq.m.	120		-	-	
14.1.7 (iv)	Highway sign, octagonal (900 mm)	nr	5		-	-	
				Carried to Summary of Bill # 6		896,446.000	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
14.1.7 (v) a	Sign post support assembly including foundation (GI 100 mm dia.) with marine grade coating	nr	150		-	-	
14.1.7 (v) b	Sign post support assembly including foundation (GI 150 mm dia.) with marine grade coating	nr	50		-	-	
14.1.7 (ix)	Delineator posts including foundations (for edge of carriageway) at 8m (plastic)	nr	100		-	-	
14.1.7 (x) a	Debris deflector including foundation GI 150m dia. 1m spacing at box culvert (≥ 3 cells) as per typical drawing # SWD-002	nr	260		-	-	
14.1.7 (x)b	Debris deflector including foundation GI 150m dia. 1m spacing at box culvert (≥ 3 cells) as per typical drawing # SWD-003 removable type	nr	18		-	-	
14.1.7 (xiv)	Kilometer post including foundation	nr	6		-	-	
	14.2. Road Markings						
14.2.6 (i)	Traffic lines Type-2 thermoplastic (width 120 mm)	sq.m.	12,600		3.531	44,490.600	
14.2.6 (iii)	Special road markings Type-2 thermoplastic (hand applied)	sq.m.	2,500		-	-	
14.2.6 (iv)	Curb painting	sq.m.	750		-	-	
	14.3 Road Studs						
14.3.6 (i)a	Reflecting road studs (one face white) as per special specification	nr	3,500		4.494	15,729.000	
14.3.6 (i)b	Reflecting road studs (two faces white) as per special specification	nr	200		4.494	898.800	
14.3.6 (i)c	Reflecting road studs (one face red) as per special specification	nr	2,000		4.494	8,988.000	
14.3.6 (i)d	Reflecting road studs (one face green) as per special specification	nr	1,000		4.494	4,494.000	
14.3.6 (i)e	Reflecting road studs (one face yellow) as per special specification	nr	3,500		4.494	15,729.000	
				Carried to Summary of Bill # 6		90,329.400	-
	<u>Summary of Bill No. 6</u>						
	Page 15					28,092.850	-
	Page 16					200,304.000	-
	Page 17					896,446.000	-
	Page 18					90,329.400	-
				Carried to Grand Summary		1,215,172.250	-

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BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	<u>BILL No. 7 ROAD LIGHTING AND ELECTRICAL INSTALLATIONS</u>						
	15.1 General						
	The Contractor shall prepare design drawings and obtain the approval of the SEZAD with all other concerned authorities and the work shall be carried out in accordance with their satisfaction and approval. (Removal of existing street lighting materials should be done carefully and returned to SEZAD/ Local Municipality's lighting department stores)						
15.1.18 (i)	Power supply connection to the feeder pillars	nr.	4		-	-	
15.1.4	Provision of Spare Parts as per Special specification.	L.S.	1		-	-	
	15.2 Medium voltage Intake switching stations						
15.2.6(i)	Medium voltage Intake switching station 11KV (Existing)	nr.	2		-	-	
	15.3 Package Sub-stations						
15.3.6(i)	Package sub-station (oil transformers) 11kV/415V, 100KVA, 3-phase, 4-wire, solidly earthed neutral (Reference as shown on drawings)	nr.	4		-	-	
	15.6 Feeder Pillars						
15.6.6 (i)	Feeder Pillar 8 ways (415V/240V)	nr.	4		-	-	
	15.7 Electrical Cables						
	Single core, copper conductor, PVC insulated wires; Striped Green/Yellow for the earth conductor; unarmored; 450/750 V and related accessories						
15.7.6 (i)	70 mm ² for FP connection to earthing rods (0.5m per rod)	lin.m.	5		-	-	
15.7.6 (ii)	35 mm ² for connecting the end of lighting circuits to earthing rod (0.5m per rod)	lin.m.	15		-	-	
				Carried to Summary of Bill # 7		-	-

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BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
15.7.6 (iii)	Multi-core, copper conductor, XLPE insulated, PVC sheathed feeder cables; Steel wire armored; 0.6/1 kV laid in trenches						
b1	4 x 25 mm ² from road lighting FP to lighting circuits	lin.m.	7,500		-	-	
b2	4 x 35 mm ² from road lighting FP to lighting circuits	lin.m.	14,000		-	-	
b3	4 x 50 mm ² from road lighting FP to lighting circuits	lin.m.	7,700		-	-	
b4	3 x 4 mm ² from cut out box to lantern	LS	1		-	-	
b5	4 x 120 mm ² from transformers to the MDB/PSSs	lin.m.	45		-	-	
b6	4 x 95 mm ² from transformers to main road lighting FPs	lin.m.	150		-	-	
b7	4 x 70 mm ² from transformers to main road lighting FPs	lin.m.	150		-	-	
b8	1 x 70 mm ² earth cables for LV cables from transformers to the MDB/PSSs	lin.m.	45		-	-	
b9	1 x 16 mm ² earth cables for street lighting circuits	lin.m.	21,500		-	-	
b10	1 x 25 mm ² earth cables for street lighting circuits	lin.m.	7,700		-	-	
b11	1 x 50 mm ² earth cables for LV feeders	lin.m.	150		-	-	
b12	1 x 35 mm ² earth cables for LV feeders	lin.m.	150		-	-	
				Carried to Summary of Bill # 7		-	-

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BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
15.7.6(i)c	Supply and install 11 KV under ground cable (3C x 240) including caution tape, jointing, etc., as per the requirement of ME&W and concerned authorities	lin.m.	9,800		-	-	
	15.8 Road Lighting Masts, Columns and Luminaires complete with all accessories as per Specification						
15.8.15 (i)	18m lighting pole with 4x335W LED luminaire type P2 with concrete base	nr.	161		-	-	
15.8.15 (ii)	Decorative 10m lighting pole at bridge with 1x335W LED luminaire type P1 with concrete base	nr.	6		-	-	
15.8.15 (vi)	Pre-shipment testing of Lighting high mast P1	LS	1		-	-	
15.8.15 (vii)	Pre-shipment testing of Lighting column P2	LS	1		-	-	
	15.13 Emergency Roadside Telephone system						
15.13.6 (i)	Emergency Roadside Telephone system	LS	1		-	-	
	15.14 Public Lighting Management and Control System (PLMCS)						
15.14.6(i)	Smart street Lighting management system with all accessories and all related communication and control facilities (if applicable)	LS	1		-	-	
				Carried to Summary of Bill # 7		-	-

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BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
15.14.6 (ii)	RCM installation and all related communication and control facilities	LS	1		-	-	
	15.16 Earthing						
15.16.6(i)	Twin rod earthing installation for feeder pillars	nr.	4		-	-	
15.16.6(ii)	Rod earthing installation for high masts and other lighting circuits	nr.	24		-	-	
	15.18 Civil Works for Electrical and Telecommunication Installations						
15.18.6 (i)	Building for medium voltage intake switching station (Existing)	nr.	2		-	-	
15.18.6 (ii)	Concrete foundation for package Sub-station	nr.	4		-	-	
15.18.6 (vi)	Concrete base for Feeder Pillar	nr.	4		-	-	
15.18.6 (vii)	TRENCH for low voltage cable for:						
15.18.6 (vii) a	one cable	lin.m	2,850		-	-	
15.18.6 (vii) b	Two cables	lin.m	3,650		-	-	
15.18.6 (vii) c	Three cables	lin.m	5,400		-	-	
15.18.6 (viii)	TRENCH for directly buried medium voltage cable for:						
15.18.6 (viii) a	one cable	lin.m	9,500		-	-	
				Carried to Summary of Bill # 7		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
15.18.6 (x)	uPVC class 6 - 3 ways 110mm ϕ duct bank for fiber optic cables future installation	lin.m	11,000		-	-	
15.18.6 (xi)a	uPVC class 6 - 3 ways 150mm ϕ in concrete encasement class 25/20 for LV cables	lin.m	120		-	-	
15.18.6 (xi)b	uPVC class 6 - 3 ways 150mm ϕ in concrete encasement class 25/20 for street LTG LV cables	lin.m	65		-	-	
15.18.6 (xi)c	uPVC class 6 - 2 ways 150mm ϕ in concrete encasement class 25/20 for street LTG LV cables	lin.m	130		-	-	
15.18.6 (xi)d	uPVC class 6 - 2 ways 200mm ϕ in concrete encasement class 25/20 for 11KV cables	lin.m	25		-	-	
15.18.6 (xi)e	uPVC class 6 - 3 ways 110mm ϕ in concrete encasement class 25/20 for fiber optic cables future installation	lin.m	70		-	-	
15.18.6 (xii)a	Duct Marker for LV systems duct banks	nr.	32		-	-	
15.18.6 (xii)b	Duct Marker for LC duct banks	nr.	1,100		-	-	
15.18.6 (xiv)a	Cable marker for LV cables	nr.	171		-	-	
15.18.6 (xiv)b	Cable marker for MV cables	nr.	377		-	-	
15.18.6 (xvi)	Handhole 60x60x80cm	nr.	52		-	-	
				Carried to Summary of Bill # 7		-	-
	Summary of Bill No. 7						
	page 20					-	-
	page 21					-	-
	page 22					-	-
	page 23					-	-
	page 24					-	-
				Carried to Grand Summary		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL No. 8 LANDSCAPING AND IRRIGATION						
	16.1 Landscape (Note:) All work & Services disturbed should be restored to match the existing to the Engineer's approval at contractor's expense						
	PRELIMINARIES						
P1	Design and Construction of irrigation system from the Duqm STP to the project limit including all necessary items to complete the works as per Client's and concerned authorities requirement/approval including excavation, pipe installation, back filling, pumps, tanks etc., and all other items required to complete the works	LS	1		-	-	
A	Maintenance of Existing Services Under or Over the Site The Contractor Shall be Responsible for maintaining & Protecting all Existing Service	nr.	1		-	-	
	SUNDRIES						
B	Supply of irrigation water during the construction and maintenance period for all landscape works including transportation and all other requirement upto the satisfaction of Engineer	LS	1		-	-	
C	Allow for providing as built drawings, operations and maintenance manuals, manufacturer's literature, as specified.	nr.	1		-	-	
D	Allow for signage, labeling work	nr.	1		-	-	
	HARDSCAPE						
1	Road						
	Angular Chips Gravel Supply and spreading of angular chips gravel for a depth of 100mm thick laid on and including geotextile fabric						
A	Supply and laying of angular chips gravel of size 20-40mm sieve size colour Beige	sq.m.	8,042		-	-	
	Boulders Supply and laying Boulders of size 700mm-1500mm						
B	Boulders; 700-1500mm size, colour Beige	nr.	288		-	-	
				Carried to Summary of Bill # 8		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	Site Excavated material						
	Laying of 100-400mm dia site excavated rocks / pebbles.						
C	Boulders; 700-1500mm size, colour Beige	sq.m.	3,948		-	-	
	Coloured RCC Concrete Structures						
D	Concrete Structures; including excavation, RCC concrete structures with resin concrete, formwork, shuttering, concrete foundation etc.						
	1.0x1.0x2.5m high structure	nr.	54		-	-	
	0.5x1.5x2.0m high structure	nr.	54		-	-	
	0.5x0.5x2.5m high structure	nr.	36		-	-	
	0.5x1.0x2.5m high structure	nr.	45		-	-	
	1.0x1.5x2.0m high structure	nr.	27		-	-	
	1.5x2.0x1.0m high structure	nr.	9		-	-	
	1.0x2.5x1.0m high structure	nr.	36		-	-	
2	Industrial Area roundabout						
	Coloured Asphalt						
A	Concrete Asphalt; including excavation, Aggregate base, Subgrade fill, Sub-grade, Compaction etc. all as per road specification.	sq.m.	4,206		-	-	
				Carried to Summary of Bill # 8		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	Coloured Concrete						
B	Coloured Concrete paving including base compaction, setting out complete and concreting, jointing in accordance with the drawing and specification	sq.m.	1,668		-	-	
	Crazy paving						
C	Nizwa stone crazy cut paving; loosely laid Nizwa stone crazy paving including excavation, compaction etc. all as per standard details.	sq.m.	421		-	-	
	Wadi Pebbles						
D	Supply and laying of wadi pebbles of size 80-150 mm sieve size to be approved by Landscape Architect	sq.m.	50		-	-	
	Angular Chips Gravel						
	<u>Supply and spreading of angular chips gravel for a depth of 100mm thick laid on and including geotextile fabric</u>						
E	Supply and laying of angular chips gravel of size 20-40mm sieve size colour Beige	sq.m.	48		-	-	
	Artificial Lawn						
F	Supply and fixing of Artificial lawn as per specialists detail	sq.m.	92		-	-	
	Retaining walls						
	<u>Retaining wall; including excavation, RCC concrete walls with resin concrete, formwork, back fill, shuttering, concrete foundation etc. all as per specifications and drawings.</u>						
A	Retaining wall with an average height of 1.30m and 300mm width as per the drawings	lin.m.	83		-	-	
B	Retaining wall with an average height of 600mm and 300mm width as per the drawings	lin.m.	139		-	-	
C	Planter retaining wall with a height of 200mm and 200mm width as per the drawings (for date palm planter)	lin.m.	45		-	-	
				Carried to Summary of Bill # 8		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	Light Bollards						
D	Supply and fixing of light bollards of size 300x300x300mm including cable work with concealed conduits / ducts and connected to nearest DB point all as per the manufacturer's specification	nr.	95		-	-	
	Lantern lights						
E	Supply and installation of metallic laser cut lantern lights including cable work with concealed conduits / ducts and connected to nearest DB point all as per the manufacturer's specification	nr.	16		-	-	
	Flag Poles						
F	Supply and fixing of GI flag poles with proper concrete foundation etc. all as per manufacturer's details and specifications.	nr.	7		-	-	
	Art work						
G	Supply and install the Sculpture with a concrete base size of 9m x 4m; after the Client approval.	nr.	1		-	-	
	Coloured RCC Concrete Structures						
A	<u>Concrete Structures; including excavation, RCC concrete structures with resin concrete, formwork, shuttering, concrete foundation etc.</u>						
	1.0x1.0x2.5m high structure	nr.	12		-	-	
	0.5x1.5x2.0m high structure	nr.	7		-	-	
	0.5x0.5x2.5m high structure	nr.	16		-	-	
	0.5x1.0x2.5m high structure	nr.	31		-	-	
	1.0x1.5x2.0m high structure	nr.	5		-	-	
				Carried to Summary of Bill # 8		-	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	1.0x2.0x1.0m high structure	nr.	1		-	-	
	1.0x2.5x1.0m high structure	nr.	3		-	-	
	1.5x1.5x2.0m high structure	nr.	1		-	-	
	1.5x2.0x1.0m high structure	nr.	3		-	-	
	2.0x0.5x1.0m high structure	nr.	1		-	-	
	2.5x0.5x1.0m high structure	nr.	1		-	-	
	3.5x1.0x0.5m high structure	nr.	1		-	-	
3	Desert Zone area roundabout						
	Coloured Concrete						
B	Coloured Concrete including base compaction, setting out complete and concreting, jointing in accordance with the drawing and specification	sq.m.	191		-	-	
	Coloured Asphalt						
C	Coloured Asphalt; including excavation, Aggregate base, Subgrade fill, Sub-grade, Compaction etc. all as per road specification.	sq.m.	3,810		-	-	
	Interlock paving						
	<u>Supply and laying of interlock paving of 60mm thick including 50mm thick sand bedding & compacted subbase</u>						
D	Interlock paving of size 200x100mm colour grey	sq.m.	386		-	-	
				Carried to Summary of Bill # 8		-	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	Crazy paving						
A	Nizwa stone crazy cut paving; loosely laid Nizwa stone crazy paving including excavation, compaction etc. all as per standard details.	sq.m.	388		-	-	
	Wadi Pebbles						
B	Supply and laying of wadi pebbles of size 80-150 mm sieve size to be approved by Landscape Architect	sq.m.	324		-	-	
	Angular Chips Gravel						
	<u>Supply and spreading of angular chips gravel for a depth of 100mm thick laid on and including geotextile fabric</u>						
C	Supply and laying of angular chips gravel of size 20-40mm sieve size colour Beige	sq.m.	1,508		-	-	
	Road Kerb						
	<u>Kerbs including haunching all necessary formwork, excavation, disposal of and complete as per specification.</u>						
D	Supply and fixing of precast concrete kerb of size 150mm	lin.m.	178		-	-	
	Heel kerb						
	<u>Kerbs including haunching all necessary formwork, excavation, disposal of and complete as per specification.</u>						
E	Supply and fixing of precast concrete kerb of size 50mm	lin.m.	191		-	-	
	Retaining walls						
	<u>Retaining wall; including excavation, RCC concrete walls with resin concrete, formwork, back fill, shuttering, concrete foundation etc. all as per specifications and drawings.</u>						
F	Retaining wall with a height of 750mm and 250mm width as per the drawings	lin.m.	132		-	-	
G	Retaining wall with a height of 300mm and 300mm width as per the drawings	lin.m.	50		-	-	
				Carried to Summary of Bill # 8		-	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
H	Planter retaining wall with a height of 200mm and 200mm width as per the drawings (for date palm planter)	lin.m.	101		-	-	
	Light Bollards						
A	Supply and fixing of light bollards of size 300x300x300mm including cable work with concealed conduits / ducts and connected to nearest DB point all as per the manufacturer's specification	nr.	95		-	-	
	Flag Poles						
B	Supply and fixing of GI flag poles with proper concrete foundation etc all as per manufacturer's details and specifications.	nr.	7		-	-	
	Coloured RCC Concrete Structures						
C	<u>Round Concrete Structures; including excavation, RCC concrete structures with resin concrete, formwork, shuttering, concrete foundation etc.</u>						
	Dia 1.0 x 0.5m high structure	nr.	1		-	-	
	Dia 1.0 x 0.75m high structure	nr.	1		-	-	
	Dia 1.0 x 1.0m high structure	nr.	1		-	-	
	Dia 1.0 x 1.25m high structure	nr.	1		-	-	
	Dia 1.0 x 1.50m high structure	nr.	1		-	-	
	Dia 1.0 x 1.75m high structure	nr.	1		-	-	
	Dia 1.0 x 2.0m high structure	nr.	1		-	-	
	Dia 1.0 x 2.50m high structure	nr.	1		-	-	
				Carried to Summary of Bill # 8		-	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	<u>SOFT LANDSCAPE</u>						
	<u>Site Preparation</u>						
A	Site clearance, extra cutting & filling, leveling including the removal of top soil and disposal, Cutting of trees, removal of asphalt, concrete paving and Shrubs etc.	nr.	1		-	-	
	<u>Excavation</u>						
	Excavation as instructed by the Engineer						
B	Excavation of pits for Palms; 1.5 x 1.5 x 1.5m deep	cu.m.	1,070		-	-	
C	Excavation of pits for trees; 1.0 x 1.0 x 1.2m deep	cu.m.	1,344		-	-	
D	Excavation of beds for planting area; 500mm deep (average)	cu.m.	1,234		-	-	
	<u>Planting medium</u>						
	Planting medium; including planting soil, peat moss, compost , fertilizer etc. mechanically mixed, to receive specified plants.						
E	For Palms, Trees, Shrubs & Groundcovers	cu.m.	3,648		-	-	
	<u>Plants</u>						
	Trees, shrubs and the like planted in prepared ground as detailed: including tree stakes, tree ties and the like as per specifications and drawings and Height, clear trunk and Girth as per Plant Schedule						
F	P/Pd, Phoenix dactylifera	nr.	317		-	-	
G	T/Pc, Prosopis cineraria	nr.	1,120		-	-	
H	H/Dr, Duranta repens	nr	137		-	-	
				Carried to Summary of Bill # 8		-	-

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Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
I	H/Lf, Leucophyllum frutescens	nr	180		-	-	
J	SU/Aa, Agave americana	nr	2,168		-	-	
K	SU/Ao, Adenium Obesum	nr	1,955		-	-	
L	SU/Av, Aloe vera	nr	2,870		-	-	
M	SU/Yf, Yucca filamentosa	nr	1,555		-	-	
N	GC/SP, Sesuvium portulacastrum		1,008		-	-	
O	Allow for 1 year maintenance of all soft landscaped areas from the date of practical completion.	months	12		-	-	
	<u>IRRIGATION</u>						
	<u>Excavation and Back filling</u>						
	<u>Trench excavation including back filling with selected excavated material, sand bedding and surround, disposal of surplus and clear off the area.</u>						
A	6" Irrigation Mainline 1.0 Meter deep	m	8,471		-	-	
B	800mm deep (3")	m	4,482		-	-	
C	600mm deep (1", 1 1/2" & 2")	m	45,671		-	-	
D	Sleeves 6" Upvc class C	m	564		-	-	
				Carried to Summary of Bill # 8		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
E	Sleeves 4" Up class C	m	163		-	-	
F	Sleeves 3" Up class C	m	33		-	-	
G	Sleeves 2" Up class C HP uPVC Pipe Supply and installation of uPVC pipes with fittings and other accessories.	m	417		-	-	
H	6" uPVC pipe, class E	m	8,471		-	-	
J	3" uPVC pipe, class E	m	4,482		-	-	
K	2" uPVC pipe, class E	m	9,879		-	-	
L	1.5" uPVC pipe, class E	m	1,420		-	-	
M	1" uPVC pipe, class E Valve box for Solenoid Valve and Gate Valves Valve box for solenoid valve and gate valve including fittings, pipe piece, tags, block work, gravel mulch, wire connector, adaptors, all necessary earth works Valves Supply and installation of Brass solenoid valves including, valve box and other necessary fittings complete.	m	34,372		-	-	
A	3" Brass Solenoid valve including PRV	nr.	6		-	-	
				Carried to Summary of Bill # 8		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	<u>Supply and installation of Isolation valve including valve box and other necessary fittings complete and wall chamber to Engineer approval</u>						
B	6" Isolation valve	nr.	5		-	-	
	<u>Supply and installation of Air Release valve including other necessary fittings complete.</u>						
C	2" Air Release valve	nr.	2		-	-	
	<u>Supply and installation of Flush valves including Valve box and other necessary fittings complete.</u>						
D	2" Flush valve	nr.	2		-	-	
E	1" Flush valve	nr.	4		-	-	
	Quick Coupling Valves						
	<u>Supply installation of Quick coupling valves including key, hose elbow, giga coupler, hose end, valve box, and other necessary fittings. To be provided on the main line every 100 meters on planting areas)</u>						
F	2" QCV	nr.	8		-	-	
G	1" QCV	nr.	1		-	-	
	Pull Boxes						
H	Pull Boxes in planted area	nr.	282		-	-	
	Filter						
	<u>Supply installation of stainless steel Screen Filter and other necessary fittings.</u>						
I	4" Screen filters self cleaning	nr.	2		-	-	
				Carried to Summary of Bill # 8		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
A	Drip Lines <u>13mm diameter Low Density Polythene tubing Line including in line PC emitters (0.6GPH at every 500mm)accessories , States, take off, Fittings and connection from laterals as Specified</u> Dripper line	m	18,908				
	<u>13mm diameter low density Polythene tubing line including in line P.C emitters (Flow 0.9GPH)all accessories stakes, take off, fittings and connection from laterals as specified</u> <u>Supply and installation of PC emitters and all other necessary fittings and connections complete.</u>				-	-	
B	24 LPH Emitters	nr.	4,970		-	-	
C	4 LPH Emitters	nr.	9,196		-	-	
	Irrigation Common and Individual Cables						
D	Supply and installation of irrigation common cable (12 AWG)	lin.m.	8,490		-	-	
E	Supply and installation of irrigation individual cables to valves (14 AWG)	lin.m.	15,010		-	-	
	Irrigation Controller <u>Supply and installation of irrigation controller with all necessary connections complete.</u>						
F	Irrigation Controller 8 station decoder system compatible with central control systems	nr.	2		-	-	
	Pump						
G	Supply and installation of irrigation booster pumps, 2 Nos. (120 GPM @ 60MH) & (120gpm@30MH) Preset Vessel, NRV and other G1 fittings accessories complete.	nr.	2		-	-	
				Carried to Summary of Bill # 8		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
H(i)	Installation of Underground Irrigation tank of capacity 312 cu.m. capacity as per drawing LCS-020(rev-1) & LCS-024	nr.	1		-	-	
H(ii)	Installation of Underground Irrigation tank of capacity 154 cu.m. capacity as per drawing LCS-020(rev-1) & LCS-025	nr.	1		-	-	
I	Allow for construction of underground pump room complete as per DM standard.	nr.	2		-	-	
J	Electrical and mechanical works for pump station complete as per DM standard and specification	nr.	1		-	-	
K	Control panel for irrigation pump station as per DM standard Specification.	nr.	1		-	-	
L	Connection of power supply from DWEA source or main DB in park to main control panel	nr.	1		-	-	
M	Tenderer to insert any other items not listed in above but required to complete, contained in the tender specifications, drawings and documents in connection with irrigation works	nr.	1		-	-	
	Existing Manholes						
N	Allow for modification to the existing chambers of authorities which become located with in the proposed landscaped area by raising or lowering to the finished level, including all works to the approval of the concerned authority and to the satisfaction of the Engineer.	nr.	1		-	-	
	MAINTENANCE						
O	Allow for maintenance of all the landscaping and irrigation systems, sprinklers, dripping devices, controllers, etc. for 1 year after practical completion of works.	nr.	1		-	-	
				Carried to Summary of Bill # 8		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	<u>Summary of Bill No. 8</u>						
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				Carried to Grand Summary		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL NO. 9 PUMPING STATIONS AND UTILITIES						
	18.1 Locating and Protecting Existing Utilities						
18.1.6 (i) a	100mm dia UPVC split pipes as ducts	lin.m.	500		-	-	
18.1.6 (i) b	200mm dia UPVC split pipes as ducts	lin.m.	600		-	-	
18.1.6 (i) c	300mm dia UPVC split pipes as ducts	lin.m.	200		-	-	
18.1.6 (i) d	Reinforced concrete box culvert for water line as per typical drawing including reinforcement, diversion if any, etc., to the satisfaction of concerned authorities	lin.m.	200		-	-	
	18.2 Removing and disposing off or relocating existing utilities						
18.2.6 (i)a	Carefully disconnect and remove existing electrical OH line 33kV and any other accessories and dispose-off to the location as directed by the Engineer.	m	6,500		-	-	
18.2.6 (i)b	Carefully disconnect and remove existing electrical UG line 33kV and any other accessories and dispose-off to the location as directed by the Engineer.	m	200		-	-	
18.2.6 (i)c	Carefully disconnect and remove existing electrical UG line 11kV and any other accessories and dispose-off to the location as directed by the Engineer.	m	300		-	-	
18.2.6 (i)d	Carefully disconnect and remove existing FOC UG cable and any other accessories and dispose-off to the location as directed by the Engineer.	m	4,500		-	-	
18.2.6 (ii)a	Carefully remove and relocate existing electrical UG line 33kV and any other related accessories to the location as shown on drawing and as per request and approval of concerned authorities including all related work with materials to complete the work to the Engineer's satisfaction.	m	200		-	-	
18.2.6 (ii)b	Carefully remove and relocate existing electrical UG line 11kV and any other related accessories to the location as shown on drawing and as per request and approved of concerned authorities including all related work with materials to complete the work to the Engineer's satisfaction.	m	300		-	-	
18.2.6 (ii)c	Carefully remove and relocate existing FOC UG cable and any other related accessories to the location as shown on drawing and as per request and approval of concerned authorities including all related work with materials to complete the work to the Engineer's satisfaction.	m	4,500		-	-	
				Carried to Summary of Bill # 9		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
18.2.6 (iii)a	Supply and installation of electrical UG line 33kV as shown on drawing; complete work including excavation, backfilling, cable covering tile, warning tape, joints, connecting to the existing supply, H pole, testing and all necessities to complete the works as per request and approval of concerned authorities	m	7,000		-	-	
18.2.6 (iii)b	Supply and installation of electrical UG line 11kV as shown on drawing; complete work including excavation, backfilling, cable covering tile, warning tape, joints, connecting to the existing supply, H pole, testing and all necessities to complete the works as per request and approval of concerned authorities	m	1,000		-	-	
18.2.6 (iii)c	Supply and installation of FOC UG cable as shown on drawing; complete work including excavation, backfilling, cable covering tile, warning tape, joints, connecting to the existing supply, manhole, testing and all necessities to complete the works as per request and approval of concerned authorities	m	6,000		-	-	
18.2.6 (iii)d	Supply and installation of 12 cores single mode fiber optical cable at median including excavation, UPVC duct, back fill, cable covering tile, warning tape, manhole, testing and all necessities to complete the work as per requirement and approval of Engineer	lin.m	11,000		-	-	
	18.3 Future Utility Crossing Ducts						
18.3.6 (i)a	Service duct UPVC pipe class-6 200mm ϕ 4 way for electrical duct	lin.m	1,500		-	-	
18.3.6 (i)b	Service duct UPVC pipe class-6 150mm ϕ 1 way	lin.m	200		-	-	
18.3.6 (i)c	Service duct UPVC pipe 400mm ϕ 1 way for water duct	lin.m	1,500		-	-	
18.3.6 (i)d	Service duct UPVC pipe class-6 100mm ϕ 4 way for Telephone line duct	lin.m	1,500		-	-	
18.3.6 (i)e	Service duct UPVC pipe class-6 100mm ϕ 2 way	lin.m	200		-	-	
18.3.6 (i)f	Service duct UPVC pipe class-6 200mm ϕ 2 way	lin.m	1,000		-	-	
				Carried to Summary of Bill # 9		-	-
	Summary of Bill No. 9 Page 40 Page 41					-	-
				Carried to Grand Summary		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL NO. 10 DAY WORKS 1 GENERAL Day work will be administered strictly in accordance with the Conditions of Contract. The Contractor will be paid for day work carried out on the instruction of the Engineer during the course of the Contract, while other operations are in progress, at the rates inserted in this Day work Schedule. The rates inserted by the Contractor against each item in the Labour and Contractor's Equipment Sections of this Day work Schedule shall be deemed to cover and include for all overhead and profit allowances. The percentage addition inserted by the Contractor in the Materials Section of this Day work Schedule shall be deemed to cover and include for all associated ancillary costs, and other required allowances on Materials used in day work. The rates inserted in the Day work Schedules shall be based on the same costs computations, which the Contractor has used in determining the unit rates and prices inserted in the Bill of Quantities. Only time actually engaged in day work operations, as verified by the Engineer, will be allowed for payment purposes. In the event of labour or Contractor's Equipment having to be brought to the site especially for the item of day work, then a reasonable allowance may be made for travelling time, but the allowance for travelling time shall be agreed in advance of commencement of the day work item.						
				Carried to Summary of Bill # 10		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	2 Rates for Labour Labour rates shall include for: the costs of wages and employment, including the extra cost of public holidays, other holidays with pay, medical costs, bonuses, sick leave, termination, indemnity pay, any special inducements for working in project location, and the like; use of hand tools and of all ordinary non-mechanical plant, staging, scaffolding, tarpaulins, use of electrical light and water for the works, etc.; the cost of all supervisory staff, including engineers, foremen, clerks, store men, etc.; and appropriate allowances for overheads and profit. Unless specifically authorized in writing by the Engineer, non-productive overtime or special rates for overtime will not be allowed. 3 Rates for Contractor's Equipment Contractor's Equipment rates shall include for: the cost of depreciation, maintaining and keeping in proper working order including provision of spare parts; attendance in starting up and shutting down; re-fuelling and all fuel, power, oils, grease and cleaning materials; provision of tools including replacement and/or sharpening of tools; all other ancillary and consumable items etc.; and appropriate allowances for overheads and profit. Idle time in maintenance will not be allowed. Operators and attendants shall be paid for at the applicable rates included in the Labour Section.						
				Carried to Summary of Bill # 10			

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	4 DAYWORK SCHEDULE						
	4.1 LABOUR						
	ALL PROVISIONAL (all inclusive, hourly rates)						
4.1.1	Driver; heavy duty	h	50		-	-	
4.1.2	Driver; light duty	h	50		-	-	
4.1.3	Equipment operator; heavy duty	h	50		-	-	
4.1.4	Equipment operator; light duty	h	50		-	-	
4.1.5	Labour -unskilled	h	100		-	-	
4.1.6	Labour -skilled	h	100		-	-	
4.1.7	Concreter / Mason	h	50		-	-	
4.1.8	Carpenter	h	50		-	-	
4.1.9	Steel Fixer	h	100		-	-	
4.1.10	Light duty driver	h	50		-	-	
4.1.11	Heavy Duty Driver	h	50		-	-	
4.1.12	Light Plant Operator	h	50		-	-	
				Carried to Summary of Bill # 10		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
4.1.13	Heavy Plant Operator	h	50		-	-	
4.1.14	Banksman / greaser	h	50		-	-	
4.1.15	Fitter	h	50		-	-	
4.1.16	Electrician	h	50		-	-	
4.1.17	Painter	h	50		-	-	
4.1.18	Mason	h	50		-	-	
4.1.19	Jointer	h	50		-	-	
4.1.20	Plumber	h	50		-	-	
4.1.21	Welder	h	50		-	-	
	4.2 CONTRACTOR'S EQUIPMENT						
	ALL PROVISIONAL (all inclusive, hourly rates)						
4.2.1	Bobcat	h	50		-	-	
4.2.2	Back Hoe Excavator	h	50		-	-	
				Carried to Summary of Bill # 10		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
4.2.3	CAT 966	h	50		-	-	
4.2.4	Crane Operator	h	50		-	-	
4.2.5	Compressor; 500 - 6000 liter capacity with tools, including two pneumatic breakers	h	50		-	-	
4.2.6	Motor Grader, Caterpillar 12 or equivalent	h	50		-	-	
4.2.7	Bulldozer, Caterpillar D8	h	50		-	-	
4.2.8	Bulldozer, Caterpillar D9	h	50		-	-	
4.2.9	Front End Wheeled Loader, 1.5 to 3 m ³	h	50		-	-	
4.2.10	Smooth Wheeled Loader 3 tonne	h	50		-	-	
4.2.11	Smooth Wheeled Loader 5 to 7 tonne	h	50		-	-	
4.2.12	Roller, Pneumatic Tyred, 7 -14 tonne	h	50		-	-	
4.2.13	Dump truck from 5 to 10 tonnes	h	50		-	-	
4.2.14	Dump truck over 10 tonnes	h	50		-	-	
4.2.15	Dumper up to 1 cu.m.	h	50		-	-	
				Carried to Summary of Bill # 10		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
4.2.16	Excavator up to 1 cu.m.	h	50		-	-	
4.2.17	Crawler Excavator, 3/8 m³ and 3/4 m³ capacity	h	50		-	-	
4.2.18	Generator up to 150 KW/Hr.	h	50		-	-	
4.2.19	Portable Generator Set, including all accessories, minimum 50 KVA capacity	h	50		-	-	
4.2.20	Pick-up truck up to 2 tonnes	h	50		-	-	
4.2.21	Plate compactor	h	50		-	-	
4.2.22	Vibratory roller up to 3 tonnes	h	50		-	-	
4.2.23	Water Tanker, Lorry mounted	h	50		-	-	
4.2.24	Water pump 3 inch	h	50		-	-	
	4.3 MATERIALS						
	ALL PROVISIONAL						
	Note: Payment for Materials shall be based upon submission by Contractor of relevant Suppliers' original copy invoices, approved and agreed to by the Engineer						
4.3.1	Provisional Sum for agreed net cost of Materials (based on Suppliers' invoices) used in day work						
4.3.2	Percentage Addition to be added to agreed net cost of Materials used in day work, to cover all associated and ancillary costs, and Overheads and Profit						
				Carried to Summary of Bill # 10		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
1	Aggregates for granular sub-base course	cu m	400		-	-	
2	Aggregates for aggregate base course	cu m	200		-	-	
3	Aggregates for bituminous base course	cu m	200		-	-	
4	Fine aggregates for concrete	cu m	100		-	-	
5	Coarse aggregates for concrete	cu m	100		-	-	
6	Stone for drainage, masonry and slope	cu m	200		-	-	
7	Asphalt cement, grade 60 -70 on site	ton	10		-	-	
8	Cutback asphalt, MC 70 and RC 70 on site.	ton	10		-	-	
9	Portland cement on site	ton	10		-	-	
10	Deformed billet steel bars, AASHTO cu.m.1grade 60	ton	5		-	-	
11	Deformed billet steel bars, AASHTO cu.m.1grade 40	ton	2		-	-	
12	Welded steel wire fabric reinforcement of any size	ton	1		-	-	
13	Traffic signs	nr	5		-	-	
14	Highway signs	sq m	5		-	-	
15	Highway sign supports - 1 post 100mm dia.	nr	10		-	-	
16	Highway sign supports - 1 post 150mm dia.	nr	6		-	-	
17	Beam type-2 class A guardrail	lin.m.	100		-	-	
18	End anchorages for beam type-2 class A guardrails	nr	8		-	-	
19	Water depth gauges	nr	2		-	-	
20	Wire mesh gabions, on site	ton	1		-	-	
				Carried to Summary of Bill # 10		-	-
	<u>Summary of Bill No. 10</u>						
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				Carried to Grand Summary		-	-

**CONSTRUCTION OF DUAL CARRIAGEWAY ROAD
BILL OF QUANTITIES**



Item	Description	Unit	Quantity	Unit Rate (R.O.) in		Amount	
				Words	Figures	R.O.	Bz
	BILL NO. 11 PROVISIONAL SUM						
11.1	Design and construction of weighing station including all required plant, equipment, facilities and its installation with power supply as per requirement and approval of the Client, ROP and all other concerned authorities (OPTIONAL)	PS				1,000,000.000	
11.2	Supply and installation for any additional utilities as per requirement and approval of the Client and concerned authorities	PS				100,000.000	
11.3	Omani Training Programme for two Omani Engineers as per Special Specification	PS				60,000.000	
				Carried to Grand Summary		1,160,000.000	
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CONSTRUCTION OF DUAL CARRIAGEWAY ROAD FOR NR 32, PHASE-2 AT DUQM



GRAND SUMMARY

<u>Bill No.</u>		<u>Amount (R.O.)</u>
1	Preliminaries	30,623.400
2	Earthworks	2,032,700.400
3	Granular Sub-base, Aggregate Base Course and Stabilized Base Courses	1,512,659.000
4	Bituminous Pavement	3,189,049.400
5	Concrete and Concrete Structures	2,137,723.040
6	Incidental Construction	1,215,172.250
7	Road Lighting and Electrical Installation	-
8	Landscape and Irrigation	-
9	Pumping Stations and Utilities	-
10	Day works	-
11	Provisional Sum	1,160,000.000
	Sub-total	11,277,927.490

Contingencies (10% of Sub-total excluding
provisional sum and Bill Nos. 1 and 10)

1011792.749

Total Tender Value

12,289,720.239

Carried to Form of Tender

R.O.