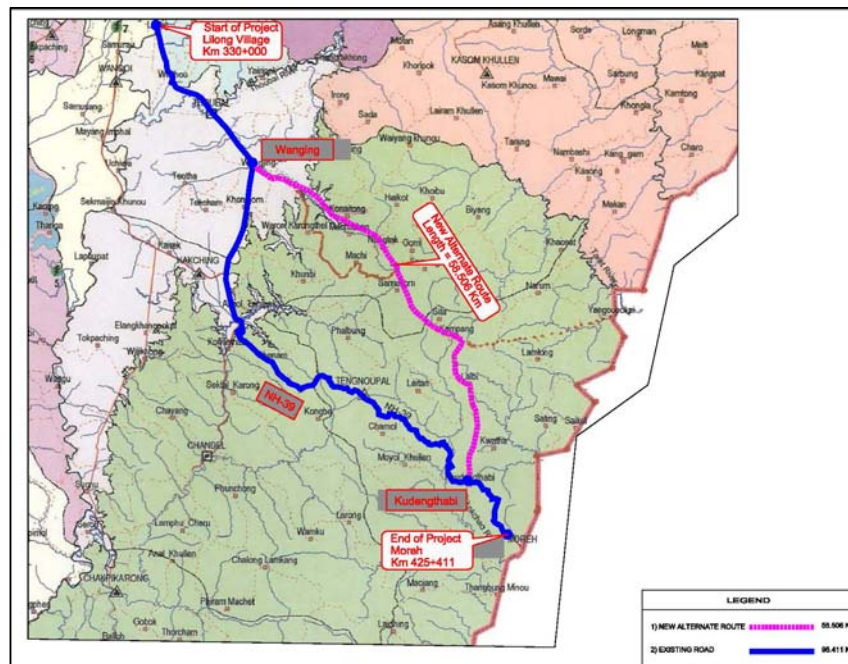
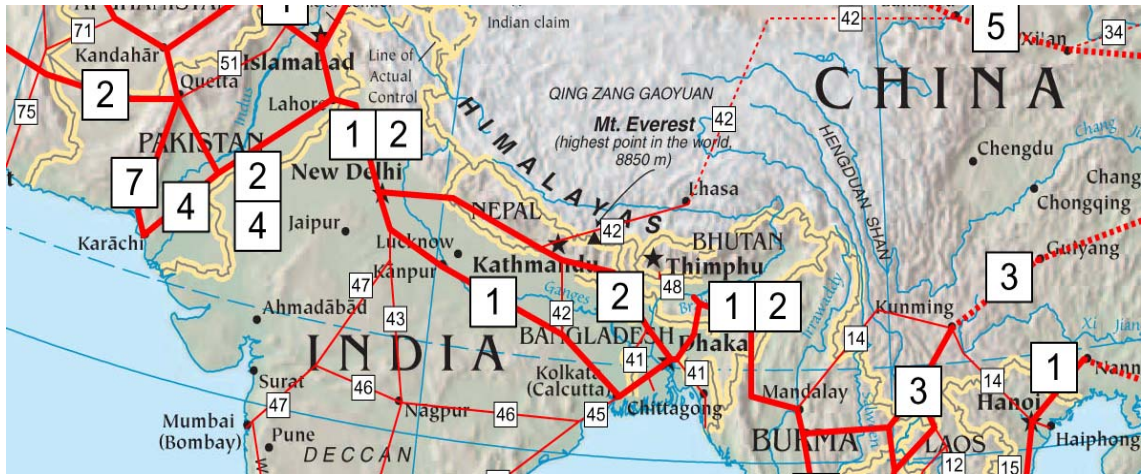


INDO MYANMAR ROAD SECTION FROM IMPHAL TO MOREH ON NH-39



Funded by:
Asian Development Bank

Implementation Agency:
MORT&H / PWD Govt of Manipur

Detailed Project Report Volume - V Rate Analysis



April, 2015

SHELADIA Associates Inc. USA

Volume-V _RATE ANALYSIS**Rate Analysis & Price Escalation Charges:**

Unit rates are applied to the quantities to get the direct cost of construction. The rates and inputs for analysis of unit rates have been based on the Manipur Schedule of Rates for National Highways works (PWD) 2013. 10% Escalation charges are considered on SOR rates. This is been considered due to recent increase in POL and Materials. The Unit rate for major items considered in Bill of Quantities is as follows:

S. No.	Items	Unit	Rates_SOR 2013	Rates_2015 after 10% Escalation
1	C&G	Hec.	64,735.00	71,208.50
2	Excavation			
a	Soils	Cum	73.62	73.62
b	Ordinary Rock	Cum	171.30	171.30
c	Hard Rock (not requiring blasting)	Cum	244.79	244.79
d	Hard Rock (requiring blasting)	Cum	319.50	319.50
3	Embankment	Cum	402.37	442.61
4	Subgrade	Cum	231.80	254.98
5	Reuse Embankment	Cum	106.44	117.08
6	L&R supporting Sub Grade	Cum	59.06	64.97
7	GSB	Cum	444.49	488.94
8	WMM	Cum	2,602.15	2,862.37
9	PC	Sqm	124.83	137.31
10	TC (Granular Surface)	Sqm	19.98	21.98
11	TC (Bituminous Surface)	Sqm	18.21	20.03
12	BM	Cum	10,671.08	11,738.19
13	DBM	Cum	12,696.82	13,966.50
14	BC	Cum	13,630.92	14,994.01
15	DLC	Cum	5,004.74	5,505.21
16	PQC	Cum	9,129.46	10,042.41
17	Turfing	Sqm	38.57	42.43
18	Unlined Drain			
a	Soils	Rm	63.87	70.26
b	Ordinary Rock	Rm	121.29	133.42
c	Hard Rock	Rm		-
19	Footpath/Separator	Sqm	1,030.50	1,133.55
20	Mastic Asphlat	Sqm	1,163.59	1,279.95
21	Tree Cutting			
a	Girth above 300mm to 600mm	Nr.	196.37	216.01
b	Girth above 600mm to 900mm	Nr.	388.51	427.36
c	Girth above 900mm to 1800mm	Nr.	981.86	1,080.05
d	Girth above 1800 mm	Nr.	1,635.53	1,799.08
22	Dismantling			
a	Plain cement concrete	Cum	1,629.21	1,792.13
b	Reinforced concrete/prestressed concrete	Cum	3,660.25	4,026.28
c	Stone / brick structures	Cum	1,130.75	1,243.83
d	Guide Rails/Fencing/Kerb/Gutters/Pipes	Lm	52.15	57.37

S. No.	Items	Unit	Rates_SOR 2013	Rates_2015 after 10% Escalation
e	Km stone/5 km stone/Hectometer stone/Utility Services	Nr	166.85	183.54
23	Scarifying	Sqm	26.21	28.83
24	Stone Pitching	Cum	1,822.37	2,004.61
25	Filter Media below Pitching	Cum	1,792.74	1,972.01
26	Dry boulder apron	Cum	1,533.82	1,687.20
27	Metal Beam Crash Barrier	Rmt	2,577.74	2,835.51
28	Utility Duct	Rmt	2,355.47	2,591.02
29	Road Marking	Sqm	1,750.18	1,925.20
30	200-metre stone	Nr.	1,100.82	1,210.90
31	Kilometre stone	Nr.	1,906.17	2,096.79
32	5th km. stone	Nr.	3,392.44	3,731.68
33	Boundary Stone	Nr.	1,178.76	1,296.64
34	1' Kerb	Rmt	443.56	487.92
35	CTSB (with 2% cement by weight)	Cum	777.49	855.24
36	CTB (with 4% cement by weight)	Cum	3,101.58	3,411.74
37	Rock Fill Embankment	Cum	57.65	63.42
38	Gabions	Cum	1,867.63	2,054.39
39	Surface Dressing	Sqm	95.24	104.76
	Structures			
A	Foundation			
1	Excavation			
a	Ordinary Soil	Cum	302.50	332.75
b	Ordinary Rock	Cum	487.61	536.37
c	Hard Rock (Blasting prohibited)	Cum	1,967.95	2,164.75
2	Sand filling in foundation trenches	Cum	1,917.54	2,109.29
3	M15 PCC	Cum	6,386.34	7,024.97
4	M20 PCC	Cum	6,983.86	7,682.25
5	M25 RCC	Cum	7,599.07	8,358.98
6	M30 RCC	Cum	7,935.99	8,729.59
7	M35 RCC	Cum	8,598.40	9,458.24
B	Sub Structure			
8	M30 RCC	Cum	8,067.28	8,874.01
9	M35 RCC	Cum	8,740.52	9,614.57
10	M40 RCC	Cum	9,015.07	9,916.58
C	Super Structure			
11	M30 RCC	Cum	9,924.76	10,917.24
12	M40 RCC	Cum	10,930.01	12,023.01
13	M45 PSC	Cum	15,097.19	16,606.91
14	HYSD Foundation	MT	89,864.94	98,851.43
15	HYSD Sub Structure	MT	89,864.94	98,851.43
16	HYSD Super Structure	MT	90,348.94	99,383.83
17	HT Steel	MT	165,837.89	182,421.68
18	M15 PCC Approach Slab	Cum	6,239.69	6,863.66
19	M30 RCC Approach Slab	Cum	15,064.62	16,571.08
20	POT Cum PTFE Bearings	Nr	84,145.00	92,559.50
21	Drainage Spout	Nr	1,482.08	1,630.29
22	Expansion Joint	Rmt	41,863.77	46,050.15

S. No.	Items	Unit	Rates_SOR 2013	Rates_2015 after 10% Escalation
23	Wearing Course	Sqm	1,679.14	1,847.05
24	Crash Barrier M 40	Rmt	6,724.01	7,396.41
25	Railing M 30	Rmt	2,276.20	2,503.82
26	Pile M 35	Rmt	16,206.23	17,826.85
27	Pile M 40	Rmt	17,016.54	18,718.20
28	Pile M 45	Rmt	17,867.37	19,654.11
29	Pile Cap M 35	Cum	9,098.40	10,008.24
30	Pile Cap M 40	Cum	9,368.48	10,305.33
31	Pile Cap M 45	Cum	9,836.90	10,820.59
32	NH 4 Pipe 900mm Dia.	Rmt	7,566.99	8,323.69
33	NH 4 Pipe 1000mm Dia.	Rmt	8,841.57	9,725.73
34	NH 4 Pipe 1200mm Dia.	Rmt	10,609.88	11,670.87
35	Weep Holes	Nr.	439.67	483.64
36	Stone Masonry	Cum	4,569.69	5,026.66