

**NATIONAL HIGHWAY AUTHORITY
MINISTRY OF COMMUNICATIONS
GOVERNMENT OF PAKISTAN
ISLAMABAD**

COMPOSITE SCHEDULE OF RATES

MARCH 2008

(PUNJAB)

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1. INTRODUCTION:

- a. The revision of CSR had become imperative because of substantial increase in the prices of certain basic input items such as fuel, steel, bitumen, labour, cement etc.

CSR is a very crucial and fundamental document for the preparation of tentative costs of any project and it is extensively used by NHA, Contractors and Consultants. It also facilitates the Engineers and decision makers, in taking lucid and speedy conclusions on the following matters:

- i. To prepare Project Cost Estimate and PC-1
 - ii. To Evaluate Tenders / Bids
 - iii. To decide on Claims and Variation Orders
 - iv. To Conduct Arbitration matters
- b. In order to prepare an authentic Composite Schedule of Rates and to keep it effective, the basic requirements are as under:
- i. Collection of first hand, prudent and legitimate information for inputs (Manpower, Material & Equipment) in the rate analysis
 - ii. Merging the above information in proper proportion according to Design Specifications and Constructional requirements to create the rate of a work item
 - iii. Updating the data inputs every year or from time to time, to revalidate the item rates

2. GENERAL METHODOLOGY:

- a. Composite Schedule of Rates was originally published in the year 1991 and subsequent revisions were carried out in 1995, 2000, 2005 and 2006. There are total of 91 Districts and are given numbers in Alphabetical order and their Province wise breakdown as under:

Province	No of Districts
Punjab	34
Sind	16
NWFP	21
Balochistan	20

Specifications and Methodology for Construction items have been adopted as given in General Specification of National Highway Authority (1998). Items of

work for construction have been given the same numbers as appearing in the General Specifications of National Highway Authority.

- b. These rates are based on the existing formulae and efficiency levels used in the preparation of CSR 2005 and 2006 with some modifications.
- c. The rates analysis of individual items of CSR 2008 consists of four basic inputs, which have been assigned the same code numbers as in the previous CSR.
 - i. Manpower code starting from 1001 onwards
 - ii. Material code starting from 2001 onwards
 - iii. Equipment code starting from 3001 onwards
 - iv. Overheads & Profits
- d. For the preparation of rates following documents have been referred:
 - i. General Specifications 1998
 - ii. NHA Composite Schedule of Rates 2005 & 2006 and its basic data
 - iii. Statistical Bulletins by Federal Bureau of Statistics
 - iv. Current Market rates study

Code list of Manpower, Material and equipment appear at the end of the chapter for the convenience of the users.

2.1 MANPOWER:

a. Allocation of Code Numbers:

Cost of manpower engaged on plant and Equipment have been included in rental charges of plant and Equipment and only site supervisory staff have been considered under the heading of Manpower. Code numbers are allocated accordingly to such manpower that is directly charged to the items of work. Manpower cost for top supervision, administration and other non-productive works of support services have been considered under overhead charges.

b. Formulation of Rates:

Manpower basic rates collected from districts have been first scrutinized, to eliminate irrational information and, following overheads are applied to include fringe benefits and other charges:

- i. Social security payment
- ii. E.O.I.B Payment

- iii. Education Cess Payment
- iv. Yearly leave salary (Earned, casual and sick)
- v. Bonus (Compulsory)
- vi. Provident fund (Contribution of Employer) or gratuity
- vii. Mess Expenses (Site Staff)
- viii. Entertainment Allowance (Provisional)
- ix. Group life Insurance
- x. Site Staff Accommodation

After including above overheads, manpower rates for each of the 91 district have been calculated and separate records developed for use by the Computer Program.

2.2 CONSTRUCTION MATERIAL:

a. Allocation of Code Numbers to Materials:

List of materials required for road construction has been first prepared from the construction items appearing in the General Specifications of National Highway Authority. After arranging the construction material list in order, code numbers have been allocated.

b. Formulation of Rates:

Considering the location of each district, Engineers decided the most appropriate source of construction materials for all the code numbers. The cost of material at source has been established from field data, and transportation rates calculated, to arrive at the landed cost of material at the district headquarters.

c. Cost of Material

In order to arrive at a "Material at sources" rate, following considerations have been made.

- i. Material royalty at quarry (actual or estimated)
- ii. Cost of Preparation of material
- iii. Unauthorized local charges in the province of Balochistan and Sind
- iv. Loading of material in truck / trailer etc

d. Cost of Transportation

Transportation charges have been taken as actual, where local transporters are available. However, in some districts where local transporters rates are not quoted, transportation charges graphs have been used.

In case of quarry materials, the source of materials for embankment, Sub-Base or Base Course can be more than one; however, the most appropriate source from the point of view of quality and economy has been used for preparing the Composite Schedule of Rates – 2008.

2.3 PLANT AND EQUIPMENT

a. Allocation of Code Numbers

The list of plant and equipment includes major equipment whereas small equipment, tools and attachments are ignored, as these have been charged under the item of overhead. After arranging the list in order, code numbers have been allocated starting from 3001 (onwards).

b. Power, Performance and Maintenance of Plant & Equipment

To arrive at the decision for choosing the right horse power, appropriate performance level and reasonable maintenance charges, the recommendation of well known suppliers have been considered. In order to decide the price level of any equipment, average cost has been used, which includes C&F price, plus duties and taxes etc.

c. Formulation of Rates of Plant and Equipment

The owning and operating costs are similar for all the districts, unlike manpower and materials where rates may differ for each district.

The owning and operating costs are developed by using a standard format. The duties and taxes have been calculated as per the latest Excise and Land Customs Tariff for calculating total cost of equipment.

Fuel consumption, working efficiency and maintenance costs have been fixed after consulting the recommendation of the manufacturers. Equipment economical life and tire life have been fixed after consulting several organizations using heavy and light equipment in the present indigenous conditions.

The owning and operating costs for 84 types of equipment is provided at the end of this chapter.

2.4 FORMULAE FOR CONSTRUCTION ITEMS

All the basic inputs have been updated in the individual rates analysis. These formulae have been created by appropriate quantitative inputs of the following items.

Manpower	Hour and Number
Material	Weight, Volume, Length and Unit
Plant Equipment	Hour and Number
Overheads & profit	15 percent and 10 percent respectively

Overheads include following items:-

- i. Cost of Manpower not charged to the items directly, such as, Project Office Staff, Security Staff, Lab. Staff, Survey Staff, Camp Staff, Account, Store and Admin. Staff
- ii. Expenses on Laboratory, Camp, Workshop, Office and allied equipments and fixtures
- iii. Small equipment, tools and attachments
- iv. Advance tax deductible at source

2.5 VARIABLES EFFECTING THE RATE ANALYSIS

Rate analysis in CSR have been prepared based on policy explained here above. However, there are certain factors required to be considered while deciding about more realistic rates in special situations.

2.6 Price Escalation

General and Special escalation has been considered as published by Government Agencies. However, care is to be exercised to consider Government Legislation, which may create condition of Special Escalation.

2.7 Double Taxation

In International tenders, a factor is to be considered which may handicap the contractors from such countries, whose governments have no agreement with the Government of Pakistan to avoid double taxation. Effect of this item will be equal to the limit of tax level in such a country.

2.8 Service Roads

No provision has been made in this rate analysis for road diversion cost or service road, which the contractor has to construct or maintain as a non-BOQ item.

2.9 Extra Overhead for Expatriate Staff

International tenders will require a factor to employ expatriate staff on the project. Effect of this will be equal to the actual expenses on such item.

2.10 Other Factors

Some of the items mentioned in above text included as overhead Cost in Estimates of CSR, may appear as a B.O.Q item in a tender, the cost of such items are to be adjusted from the total estimate of the project.

LIST OF MANPOWER CODES

Man power Code	Description
1001	SITE ENGINEER
1002	ASPHALT PLANT ENGINEER
1003	CONCRETE PLANT ENGINEER
1011	FOREMAN ASPHALT
1012	FOREMAN EARTHWORK
1013	FOREMAN CONCRETE
1014	GENERAL FOREMAN
1021	SUPERVISOR
1022	SURVEYOR
1023	ASSISTANT SURVEYOR
1031	MASON
1032	CARPENTER
1033	PAINTER
1034	STEEL BINDER/CUTTER
1040	HIGHLY SKILLED LABOUR
1041	HELPER
1042	WELDER
1051	LABOUR

Note:

Cost of following Manpower has been included elsewhere as under:

1. Senior Engineers and above included in overhead and profits
2. All indirect Manpower such as Clerk, Typist, Accountant, Lab staff, Workshop staff, Store staff, Security staff etc. is included under overhead.
3. All operators of Light and Heavy Duty Equipment and Plant Included in the hourly rate of the equipment

LIST OF MATERIAL CODES

Material Code	Description	Unit
2001	ROCK	CM
2002	SOIL CLASS-A1	CM
2004	SOIL CLASS-A2	CM
2008	SOIL CLASS-A3	CM
2009	SOIL CLASS-A4	CM
2010	SOIL CLASS-A5	CM
2014	CRUSHED AGGREGATE BASE A	CM
2015	CRUSHED AGGREGATE BASE B	CM
2016	CRUSHED AGGREGATE BASE B1	CM
2017	GRANULAR SUB-BASE A	CM
2018	GRANULAR SUB-BASE B	CM
2019	SAND CLASS C	CM
2021	COARSE SAND	CM
2022	FINE SAND	CM
2023	AGGREGATE 2"-1.1/2"	CM
2024	AGGREGATE 1.1/2"-3/4"	CM
2025	AGGREGATE 3/4"-3/8"	CM
2026	AGGREGATE 3/8"-EACH 4	CM
2027	AGGREGATE EACH4-EACH200	CM
2028	FILLER MATERIAL	CM
2029	BRICK CLASS A	EACH
2030	STONE RANDOM CLASS-A	CM
2031	STONE RANDOM CLASS-B	CM
2032	STONE RANDOM CLASS-C	CM
2033	STONE RANDOM CLASS-D	CM
2034	STONE DRESSED	CM
2035	HAND BROKEN STONE 2.1/2"-1/2"	CM
2041	ASPHALT GRADE 60/70	TON
2042	ASPHALT GRADE 80/100	TON
2043	ASPHALT M.C. 70	TON
2044	ASPHALT M.C. 250	TON
2045	ASPHALT M.C. 800	TON
2046	ASPHALT R.C. 70	TON
2047	ASPHALT R.C. 250	TON
2048	ASPHALT R.C. 800	TON
2049	ASPHALT S.S. 1	TON
2050	ASPHALT S.S. 1H	TON
2051	ASPHALT R.S. 1	TON
2052	ASPHALT R.S. 2	TON
2053	CEMENT TYPE-I (OPC)	BAG
2054	CEMENT TYPE-II (LOW S.R)	BAG
2057	CEMENT TYPE-V (HIGH S.R)	BAG
2058	ACCELERATOR	LIT
2059	RETARDER	LIT
2060	CURING COMPOUND	LIT
2061	STEEL GRADE. 40	TON
2062	STEEL GRADE. 60	TON

LIST OF MATERIAL CODES

Material Code	Description	Unit
2063	PRE-STRESSING STRAND, 3/8", 1/2"	TON
2064	STEEL WIRE MESH, 4" x 4"	KG
2065	WATER	1000 LIT
2067	STEEL WIRE FABRIC AASHTO M-55	TON
2068	STEEL EXPANSION JOINT	KG
2070	COLD STEEL WIRE AASHTO M-32	TON
2072	STRUCTURES SHAPES ASTM A-36	TON
2073	ELASTOMERIC BEARING PAD M-183	c.cm
2077	RCC PIPE CLASS-II 310 MM (AASHTO M-170)	M
2078	RCC PIPE CLASS-II 380 MM (AASHTO M-170)	M
2079	RCC PIPE CLASS-II 460 MM (AASHTO M-170)	M
2080	RCC PIPE CLASS-II 610 MM (AASHTO M-170)	M
2081	RCC PIPE CLASS-II 760 MM (AASHTO M-170)	M
2082	RCC PIPE CLASS-II 910 MM (AASHTO M-170)	M
2083	RCC PIPE CLASS-II 1070 MM (AASHTO M-170)	M
2084	RCC PIPE CLASS-II 1220 MM (AASHTO M-170)	M
2085	RCC PIPE CLASS-II 1520 MM (AASHTO M-170)	M
2091	CAT EYE SINGLE (RAISED PROFILE)	EACH
2092	CAT EYE DOUBLE (RAISED PROFILE)	EACH
2093	STEEL/METAL BEARING DEVICES	KG
2095	BITUMEN IMPREGNATED FIBRE BOARD	SM
2096	NEOPRENE RUBBER JOINT FELT	SM
2097	ASPHALT FELT (3-PLY)	SM
2098	PVC/NEOPRENE WATER STOPS (6")	M
2099	BENTONITE POWDER	KG
2100	JOINT SEALANT FILLER	KG
2101	TRAFFIC SIGN CAT 1	EACH
2102	TRAFFIC SIGN CAT 2	EACH
2103	TRAFFIC SIGN CAT 3 (A, B, C)	SM
2104	PAVEMENT MARKING NON-REFLECTING (CR)	LIT
2105	PAVEMENT MARKING REFLECTING (CR)	LIT
2108	TUNGSTEN CARBIDE BITS	SET
2109	RED OXIDE PAINT	LIT
2110	QUICK LIME	KG
2111	DIESEL	LIT
2112	SUPER	LIT
2113	REGULAR	LIT
2114	OILS (ALL TYPES)	LIT
2115	LUBRICANTS (GREASE)	KG
2116	FURNACE OIL	LIT
2117	BLASTING MATERIAL	KG
2118	ELECTRIC CHARGES COMMERCIAL	KWH
2119	MASTIC WATER PROOF PAINT	KG
2120	SYNTHETIC ENAMEL PAINT	LIT
2121	SHUTTERING (401) A	LS
2122	SHUTTERING (401) B	LS
2123	SHUTTERING (401) C	LS
2124	SHUTTERING (401) D	LS

LIST OF MATERIAL CODES

Material Code	Material Code	Material Code
2125	SHUTTERING (401) E	LS
2126	SHUTTERING (401) F	LS
2127	SHUTTERING (401) G	LS
2128	SHUTTERING (401) H	LS
2129	SHUTTERING (410)	LS
2131	G.M.S BARBED WIRE	KG
2133	ANGLE IRONS DIFFERENT SIZES	KG
2134	STEEL CHANNELS	KG
2135	SHEATHS (3/8", 1/2")	M
2136	LIVE ANCHORAGES (3/8" - 1/2")	EACH
2137	G.I. PIPE 3" DIA	M
2140	G.M.S SCREW, NUTS, BOLTS AND WASHERS	KG
2142	PLANTATION TREES	EACH
2143	MOBILIZATION OF PILING EQUIPMENT	LS
2144	RCC PIPE CLS-IV 310 MM (AASHTO M-170)	M
2145	RCC PIPE CLS-IV 380 MM (AASHTO M-170)	M
2146	RCC PIPE CLS-IV 460 MM (AASHTO M-170)	M
2147	RCC PIPE CLS-IV 610 MM (AASHTO M-170)	M
2148	RCC PIPE CLS-IV 760 MM (AASHTO M-170)	M
2149	RCC PIPE CLS-IV 910 MM (AASHTO M-170)	M
2150	RCC PIPE CLS-IV 1070 MM (AASHTO M-170)	M
2151	RCC PIPE CLS-IV 1220 MM (AASHTO M-170)	M
2152	RCC PIPE CLS-IV 1520 MM (AASHTO M-170)	M
2153	PAVEMENT MARKING NON REFLECTING (TP)	KG
2154	PAVEMENT MARKING REFLECTING (TP)	KG
2155	GALVANIZED FLAT STEEL FASTENERS & WASHERS	KG
2156	GALVANIZED U-BOLT CLAMP WITH 2 NUTS & TIE BOLTS	KG
2157	GALVANIZED SUPPORTING HOOKS CAST IN PRECAST POSTS	EACH
2158	GALVANIZED CHAIN LINK WIRE MESH FABRIC	SM
2159	GALVANIZED WIRE 3.76MM Ø TENSION, 3MM Ø STIRRUP	KG
2160	PRE-CAST CONCRETE TUFF KERB STONE(K-5)	EACH
2161	LIFTING DEVICE ANCHORS	EACH
2162	MS SHEET	KG
2163	FABRICATION	KG
2164	GALVANIZATION	KG

LIST OF EQUIPMENT CODES

Equipment Code	Description
3001	Bull - Dozer. 200 H.P
3002	Bull - Dozer. 120 H.P
3003	Bull - Dozer. 90 H.P
3004	Front End Loader 3.00 Cum
3005	Front End Loader 2.50 Cum
3006	Front End Loader 1.50 Cum
3007	Grader. 165 H.P.
3008	Grader. 140 H.P.
3011	Tandem Vibratory Roller 10-12 T
3012	Tandem Vibratory Roller 8 T
3013	Tandem Vibratory Roller. 6 T
3014	Tandem Vibratory Roller 1.50 T
3015	Combination Roller 18 T
3016	Combination Roller 10 - 12 T
3017	Combination Roller 8 T
3018	P.T.R. (9 - Wheeler) 21 T
3019	P.T.R. (9 - Wheeler) 18 T
3020	Static Tandem Roller 12 T
3021	Static Tandem Roller 8 T
3022	Tractor. 80 H.P.
3023	Tractor. 50 H.P.
3024	Water tank Bowser Type 12000 ltr.
3025	Water tank Tow Type 4000 ltr.
3031	Motor Scraper 400 HP
3032	Dumper. 18 T
3033	Dumper. 10 T
3034	Flat Body Truck. 8 T
3047	Excavator. (Track Type) 100 H.P.
3048	Power Broom
3051	Bitumen Dist. Tow Type 2000 Ltr
3052	Bitumen Sprayer (manual) 250 Ltr
3053	Aggregate Spreader. 4 M Wide
3054	Asphalt Plant 120 T
3055	Asphalt Plant 80 T
3056	Asphalt Plant 40 T
3057	Asphalt Plant 20 T
3058	Paver 4 M Wide
3059	Paver 2.5 M Wide
3061	Compressor. 300 CFM

LIST OF EQUIPMENT CODES

Equipment Code	Description
3062	Rock Driller
3071	Concrete Batching Plant 30 Cum / H
3072	Concrete Static Mixer. 1 Cuy
3073	Concrete Static Mixer. ¼ Cuy
3074	Concrete Transit Mixer 6 Cum
3075	Concrete Transit Mixer 4 Cum
3081	Trailer Low Bed 30 T
3082	Crane. 45 T
3083	Crane. 20 T
3084	Cold Milling Machine. 1 M Wide
3085	Road Marking Machine
3086	Pump 4 " Delivery (Diesel)
3087	Pug mill 40 Tons per Hour
3088	Chipping Spreader 3 M Wide
3089	Sand Blasting Machine
3120	Stressing Equipment
3121	Asphalt Cutter
3122	Concrete Cutter
3123	Electric Saw
3195	Truck (3 Axel)
3196	Tractor Trolley
3197	Trailer 30 T
3198	Welding Plant
3199	Generator Diesel (150KVA)
3200	Generator Diesel (250KVA)
3202	Rock Crushing and Screening (200T/H)
3205	Secondary Crusher
3206	Diesel Tanker
3208	Jack Hammer
3209	Piling Rig.
3210	Vibrator (Poker 1.5 ")
3211	Percussion Boring Rig (Diesel)
3212	Forgoing /Shape Machine
3214	Concrete Pump
3215	Plate Compactor
3217	Girder Launcher
3218	Tripod and Chain Pulley (20 Tons)
3219	Electric Generator (50KVA)
3220	Asphalt Recycling Machine
3221	Road Marking Machine (TP)

Quantities of Material for Bituminous Surface Treatments

Surface Treatment		Aggregate		Bituminous Material	
Type	Application	Size No.	Quantity Kg/ Sq.M	Quantity Litres/ Sq.M	Type
Single	Single	2	12.5	1.19	(a)
				1.63	(b)
Double	First	1	24	1.9	(a)
				2.14	(b)
	Second	3	12.5	1.19	(a)
				1.63	(b)
Triple	First	1	24	1.9	(a)
				2.14	(b)
	Second	2	12.5	1.19	(a)
1.63				(b)	
Third	3	6.5	0.68	0.68	(c)
Seal Coat / Pad Coat with Aggregate		4	4	0.5	(c)
Prime Coat	Over Sub grade, Sub base , WBM or Aggregate base			0.65 ~ 1.75	(b)
	Over Bridge, wearing surface. Concrete pavement			0.15 ~ 0.4	(b)
Tack Coat	Over Previously laid asphaltic layer			0.2 ~ 0.4	Cut-back
	Over Previously laid asphaltic layer			0.3 ~ 0.6	Emulsified asphalt
Asphaltic Base	Over prime or tack coated surface	As per NHA / Project Spec's		3% (Min.)	Grade 40/50, 60/70, 80/100
Asphaltic Wearing Coarse	Over tack coated surface	As per NHA / Project Spec's		3.5% (Min.)	Grade 40/50, 60/70, 80/100

Note:

- (i) Bituminous material types are (a) asphalt cement, (b) cut-back or emulsified and (c) asphalt cement, cut-back and emulsified

Portland Cement Concrete Requirements

Class of Concrete	Min. Cement Kg/ Cubic Meter	Max. Size of Coarse Aggregate (mm)	28 Days Compressive Strength (Min) (Cylinder)		Consistency (Range in Slump) Vibrated (mm)	Maximum Permissible Water - Cement Ratio
			(Kg/Sq. Cm)	(Psi)		
A ₁	300	20	210	3000	25 - 75	0.58
A ₂	350	25	245	3500	100 - 150	0.58
A ₃	400	38	280	4000	100 - 150	0.58
B	250	51	170	2450	25 - 75	0.65
C	275	38	210	3000	25 - 75	0.58
D ₁	450	25	350	5000	50 - 100	0.40
D ₂	500	25	425	6000	50 - 100	0.40
D ₃	550	25	500	7100	50 - 100	0.40
Y	400	13	210	3000	25 - 75	0.58
Lean Concrete	175	51	100	1420	-	-

Cement Bags per Unit Quantity

Sr. No	Description	Unit	Qty of Cement in Bag of 50 Kg
1	Burnt brickwork in Cement Mortar (1:6)	CM	2.10
2	Burnt brickwork in Cement Mortar (1:3)	CM	2.79
3	Pointing brickwork (flush) in Cement Mortar (1:3)	SM	0.018
4	Pointing brickwork (flush) in Cement Mortar (1:4)	SM	0.013
5	Pointing brickwork (flush) in Cement Mortar (1:6)	SM	0.009
7	Random rubble masonry in Cement Mortar (1:4)	CM	1.960
8	Pointing in Cement Mortar (1:3) flush to stone masonry	SM	0.063
9	Pointing in Cement Mortar (1:4) flush to stone masonry	SM	0.050
10	13 mm thick cement plaster (1:4)	SM	0.14
11	13 mm thick cement plaster (1:3)	SM	0.20
12	19 mm thick cement plaster (1:6)	SM	0.13
13	19 mm thick cement plaster (1:4)	SM	0.20

CONVERSION FACTORS

To Convert	Into	Multiply By
<u>Length</u>		
Inch	Millimetre	25.4
Millimetre	Inch	0.03937
Foot	Metre	0.30480
Metre	Foot	3.28084
Yard	Metre	0.91440
Metre	Yard	1.09361
Mile	Kilometre	1.60934
Kilometre	Mile	0.62137
<u>Mass. Weight</u>		
Pound	Kilogram	0.45359237
Kilogram	Pound	2.20462
Ounce	Gram	28.3495
Gram	Ounce	0.03527
Quintal	Kilogram	100
Grain	Milligram	64.7989
Hundred Weight	Kilogram	50.8023
Tonne	Hundred Weight	19.6841
Tonne	Kilogram	1000
Ton	Kilogram	1016.0469
Ton	Pound	2240
Ton	Tonne	1.0160469
Tonne	Ton	0.9842065
Seer	Kilogram	0.9331
Maund	Kilogram	37.324
Tola	Gram	11.664
<u>Capacity Volume</u>		
Pint (UK)	Litre	0.568261
Gallon (Imperial)	Litre	4.54609
Cubic foot	Litre	28.3168
Cubic metre	Litre	1000
Litre	Cubic foot	0.0353147
Fluid ounce	Millilitre	28.413
Litre	Gallon (Imperial)	0.219969
Cubic inch	Cubic millimetre	16387.1
Cubic foot	Cubic metre	0.0283168
Cubic metre	Cubic foot	35.3147
Cubic yard	Cubic metre	0.764555
Cubic metre	Cubic yard	1.30795
Acre foot	Hectare metre	0.12334

Weights & Standard Sizes of Sheets

Birmingham Gauge	Thickness in mm	Kg Per Sqm
28	0.40	3.15
26	0.50	3.90
24	0.63	4.95
22	0.80	6.30
20	1.00	7.85
18	1.25	9.80
16	1.60	12.75
14	2.00	15.70
12	2.50	19.60
10	3.15	24.75
8	4.00	31.40

To Convert	Into	Multiply
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Area

Square inch	Square millimetre	645.16
Square millimetre	Square inch	0.00155
Square foot	Square metre	0.0929
Square metre	Square foot	10.7639
Square yard	Square metre	0.836127
Square metre	Square yard	1.19599
Acre	Square metre	4046.8564
Acre	Hectare	0.40468564
Hectare	Acre	2.47105
Hectare	Square metre	10000
Square mile	Square kilometre	2.58999
Square kilometre	Square mile	0.386102
Square mile	Hectare	258.999
Hectare	Square mile	0.00386102

Mass Per Unit Area

Ton per square mile	Kilogram per square kilometre	392.298
Pound per square foot	Kilogram per square metre	4.88243
Kilogram per square metre	Pound per square foot	0.204816

Mass Per Unit Volume

Ton per cubic foot	Kilogram per cubic metre	16.0185
Pound per cubic foot	Grams per litre	16.0185
Kilogram per cubic metre	Pound per cubic foot	0.062428
Grams per litre	Pound per cubic foot	0.062428

The weight of Mild Steel and Ribbed Tor Steel bars

Dia in Millimetre	Sectional area in Square Centimetre	Weight in Kilogram Per Metre
6	0.283	0.222
8	0.502	0.395
10	0.785	0.617
12	1.131	0.888
16	2.011	1.578
18	2.545	2.000
22	3.801	2.980
25	4.909	3.854
28	6.157	4.830
32	8.042	6.313
35	10.179	7.990
40	12.566	9.864
50	19.635	15.410

PLANT AND EQUIPMENT OWNING OPERATING COST SUMMARY REPORT

Equipment Code	Description	T – Owning Cost	T- Operating Cost	T – Hourly O.W. & Operating Cost
3001	Bull-Dozer. 200 H.P	1,503.78	1,623.34	3,127.12
3002	Bull-Dozer. 120 H.P	973.02	803.44	1,776.46
3003	Bull-Dozer. 90 H.P	796.11	539.13	1,335.24
3004	Front End Loader. 3.00 Cu.M	1,457.39	1,277.32	2,734.71
3005	Front End Loader. 2.50 Cu.M	942.30	1,026.68	1,968.98
3006	Front End Loader. 1.50 Cu.M	854.12	851.87	1,705.99
3007	Grader. 165 H.P	1,210.40	1,132.26	2,342.66
3008	Grader. 140 H.P	857.12	901.06	1,758.18
3011	Tandem Vibratory Roller. 10-12 Ton	751.89	695.90	1,447.79
3012	Tandem Vibratory Roller. 8 Ton	692.91	610.45	1,303.36
3013	Tandem Vibratory Roller. 6 Ton	339.09	419.40	758.49
3014	Tandem Vibratory Roller. 1.5 Ton	240.30	230.28	470.58
3015	Combination Roller. 18 T	844.61	961.49	1,806.10
3016	Combination Roller 10 - 12 T	669.88	863.82	1,533.70
3017	Combination Roller 8 T	479.07	561.05	1,040.12
3018	P.T.R (9 - Wheeler) 21 T	405.57	764.32	1,169.89
3019	P.T.R (9 - Wheeler) 18 T	369.27	640.63	1,009.90
3020	Static Tandem Roller 12 T	140.07	386.48	526.55
3021	Static Tandem Roller 8T	117.93	385.18	503.11
3022	Tractor 80 H. P	62.95	467.94	530.89
3023	Tractor 50 H. P	37.56	300.25	337.81
3024	Water Tank Bowser Type 12000 Litre	240.49	492.28	732.77
3025	Water Tank Tow Type 4000 Litre	52.16	305.73	357.89
3031	Motor Scraper 400 H. P	1,449.78	4,110.34	5,560.12
3032	Dumper 18 T	288.03	874.63	1,162.66
3033	Dumper 10 T	230.44	566.81	797.25
3034	Flat Body Truck 8 T	177.69	413.23	590.92
3047	Excavator, (Track Type) 100 H. P	825.60	581.86	1,407.46
3048	Power Broom	92.93	415.39	508.32
3051	Bitumen Distributor Tow Type 2000 Litre	155.67	335.03	490.70
3052	Bitumen Sprayer (Manual) 250 Litre	11.93	46.84	58.77
3053	Aggregate Spreader 4 M Wide	729.78	413.32	1,143.10
3054	Asphalt Plant 120 T	7,983.72	6,932.45	14,916.17
3055	Asphalt Plant 80 T	5,655.13	5,903.54	11,558.67
3056	Asphalt Plant. 40 Ton	4,657.19	3,323.53	7,980.72

PLANT AND EQUIPMENT OWNING OPERATING COST SUMMARY REPORT

Equipment Code	Description	T – Owning Cost	T- Operating Cost	T – Hourly O.W. & Operating Cost
3057	Asphalt Plant. 20 Ton	3,326.57	2,571.04	5,897.61
3058	Paver 4 M Wide	729.78	879.40	1,609.18
3059	Paver 2.5 M Wide	501.27	785.80	1,287.07
3061	Compressor. 300 CFM	168.72	710.59	879.31
3062	Rock Driller	204.48	71.90	276.38
3071	Concrete Batching Plant. 30 CUM/H	554.97	1,983.13	2,538.10
3072	Concrete Static Mixer 1 Cu.Y	110.76	265.65	376.41
3073	Concrete Static Mixer 1/4 Cu.Y	25.56	179.33	204.89
3074	Concrete Transit Mixer 6 Cu.M	807.29	840.66	1,647.95
3075	Concrete Transit Mixer 4 Cu.M	754.19	598.20	1,352.39
3081	Trailer Low Bed 30 T.	506.66	802.23	1,308.89
3082	Crane. 45 T.	651.30	843.51	1,494.81
3083	Crane. 20 T.	564.69	689.73	1,254.42
3084	Cold Milling Machine. 1 M Width	1,765.58	1,051.01	2,816.59
3085	Road Marking Machine.	135.32	282.05	417.37
3086	Pump 4 " Delivery (Diesel)	43.50	209.79	253.29
3087	Pug mill 40 Tons per Hour.	746.27	1,876.95	2,623.22
3088	Chipping Spreader 3 Meter Wide	70.03	302.08	372.11
3089	Sand Blasting Machine	73.71	1,296.22	1,369.93
3120	Stressing Equipment	112.01	1,274.79	1,386.80
3121	Asphalt Cutter	47.14	257.60	304.74
3122	Concrete Cutter	47.14	257.60	304.74
3123	Electric Saw	21.30	634.60	655.90
3195	Truck (3-Axle)	248.42	542.58	791.00
3196	Tractor Trolley	94.15	362.67	456.82
3197	Trailer (30 Ton)	445.63	802.23	1,247.86
3198	Welding Plant	55.99	638.40	694.39
3199	Generator (Diesel) 150 KVA	214.62	1,063.31	1,277.93
3200	Generator (Diesel) 250 KVA	355.54	1,674.28	2,029.82
3202	Rock Crushing & Screening (200 T/H)	1,233.96	6,513.32	7,747.28
3205	Secondary Crusher	59.64	2,425.91	2,485.55
3206	Diesel Tanker	215.24	415.80	631.04
3208	Jack Hammer	33.60	241.85	275.45
3209	Pilling Rig	417.40	538.71	956.11

PLANT AND EQUIPMENT OWNING OPERATING COST SUMMARY REPORT

Equipment Code	Description	T – Owning Cost	T- Operating Cost	T – Hourly O.W. & Operating Cost
3210	Vibrator (Poker 1.5 ")	571.50	983.26	1,554.76
3211	Percussion Boring Rig	17.40	240.65	258.05
3212	Forgoing / Shape Machine	119.28	214.59	333.87
3214	Concrete Pump	67.20	1,215.29	1,282.49
3215	Plate Compactor	621.60	954.83	1,576.43
3217	Girder Launcher	43.50	243.35	286.85
3218	Tripod & Chain Pulley (20 Ton)	1,464.46	828.77	2,293.23
3219	Electric Generator 50 KVA	11.21	115.80	127.01
3220	Asphalt Recycling Machine	81.79	3,507.14	3,588.93
3221	Road Marking Machine (TP)	7,154.11	3,277.14	10,431.25

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

PUNJAB

Q. S. & Estimation Specialist

CSR - March 2008National Highway Authority
IslamabadQuantity Surveying &
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NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

ATTOCK
(02)

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Islamabad

Quantity Surveying &
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Rate Analysis Summary (Construction)

District: Attock

District Code: 02

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.67	8.97	-	2.41	12.05
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.61	150.86	1.06	39.63	198.17
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	19.15	391.92	2.39	103.36	516.82
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	76.62	1,567.67	9.55	413.46	2,067.30
103	STRIPPING	CM	2.25	81.82	-	21.02	105.09
104	COMPACTION OF NATURAL GROUND	SM	0.32	8.55	0.75	2.41	12.03
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.82	118.44	-	30.56	152.82
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	114.96	272.97	46.20	108.53	542.66
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	16.17	294.98	-	77.79	388.94
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.58	228.89	-	59.87	299.34
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.12	105.42	-	27.14	135.68
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	114.96	272.97	46.20	108.53	542.66
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	18.30	275.34	-	73.41	367.05
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.15	229.91	-	59.52	297.58
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.32	120.24	0.37	31.73	158.67
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	57.88	245.80	64.37	92.01	460.07
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	101.65	367.50	30.80	124.99	624.94
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	86.47	257.01	-	85.87	429.35
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	52.28	211.67	-	65.99	329.94
107d	GRANULAR BACK FILL	CM	31.32	119.94	319.28	117.63	588.17
107e	COMMON BACK FILL	CM	23.48	55.41	4.99	20.97	104.85
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.27	152.01	4.99	40.82	204.09
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	18.51	418.69	49.36	121.64	608.21
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	13.89	364.32	2.37	95.14	475.72
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	12.34	323.09	-	83.86	419.29
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.22	154.80	7.84	42.47	212.33

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Rate Analysis Summary (Construction)

District: Attock

District Code: 02

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.64	66.06	4.99	19.17	95.86
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	13.20	97.15	2.97	28.33	141.66
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.26	23.75	1.43	6.61	33.04
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.90	15.94	0.76	4.40	22.00
110	IMPROVED SUB-GRADE	CM	9.08	104.23	58.98	43.07	215.36
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.76	13.24	0.78	3.70	18.48
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.13	13.62	0.88	3.91	19.54
201	GRANULAR SUB-BASE	CM	7.33	224.59	388.53	155.11	775.56
202	AGGREGATE BASE	CM	8.53	287.87	646.30	235.67	1,178.36
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	67.66	1,311.60	5,189.81	1,642.27	8,211.33
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	69.91	1,311.60	5,596.78	1,744.57	8,722.86
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	74.83	1,369.89	5,180.88	1,656.40	8,282.00
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	74.83	1,365.01	5,720.39	1,790.06	8,950.28
204b	CEMENT STABILIZED BASE	CM	26.25	480.68	786.15	323.27	1,616.34
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	217.92	772.74	48,970.86	12,490.38	62,451.91
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	217.92	772.74	47,434.65	12,106.33	60,531.65
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	89.39	92.96	790.10	243.11	1,215.57
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	136.83	2,134.12	4,894.22	1,791.29	8,956.46
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	99.15	105.48	651.04	213.92	1,069.58
207a	DEEP PATCHING (0-15 cm)	SM	1.57	39.69	1.23	10.62	53.12
207b	DEEP PATCHING (16-30 cm)	SM	1.57	34.94	1.23	9.44	47.18
208	REINSTATEMENT OF ROAD SURFACE	SM	1.68	49.93	0.55	13.04	65.20
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.82	96.89	0.67	24.84	124.22
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.36	19.38	0.13	4.97	24.84
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	34.76	9.09	45.43
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.26	1.32	38.80	10.09	50.47

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Rate Analysis Summary (Construction)

District: Attock

District Code: 02

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	14.55	3.78	18.92
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	16.97	4.39	21.96
304a	SINGLE SURFACE TREATMENT	SM	0.70	6.52	68.31	18.88	94.40
304b	DOUBLE SURFACE TREATMENT	SM	1.02	12.21	131.86	36.27	181.36
304c	TRIPLE SURFACE TREATMENT	SM	1.71	17.13	150.32	42.29	211.46
304d	SEAL COAT	SM	0.65	3.54	48.36	13.14	65.68
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	63.25	1,294.58	6,152.44	1,877.57	9,387.83
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	63.25	1,251.29	6,656.00	1,992.63	9,963.17
307a	DENSE GRADED HOT BIT-MAC	CM	155.75	316.05	5,191.68	1,415.87	7,079.35
307b	OPEN GRADED HOT BIT-MAC	CM	155.75	316.05	5,067.27	1,384.77	6,923.84
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	26.19	543.36	1,762.12	582.92	2,914.59
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	23.05	560.93	41,195.44	10,444.85	52,224.27
309a	COLD MILLING, 0 - 30 mm	SM	0.86	22.13	7.55	7.64	38.18
309b	COLD MILLING, 0 - 50 mm	SM	1.44	36.88	12.58	12.73	63.63
309c	COLD MILLING, 0 - 70 mm	SM	2.15	55.33	18.87	19.09	95.44
401a1i	CONCRETE CLASS "A1" (Underground)	CM	481.98	923.86	3,164.39	1,142.56	5,712.80
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	481.98	923.86	3,416.64	1,205.62	6,028.11
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	481.98	923.86	3,921.13	1,331.74	6,658.72
401a2i	CONCRETE CLASS "A2" (Underground)	CM	481.98	923.86	3,442.64	1,212.12	6,060.61
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	481.98	923.86	3,694.89	1,275.18	6,375.92
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	481.98	923.86	4,199.38	1,401.31	7,006.54
401a3i	CONCRETE CLASS "A3" (Underground)	CM	481.98	923.86	3,720.89	1,281.68	6,408.42
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	481.98	923.86	3,973.14	1,344.75	6,723.73
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	481.98	923.86	4,477.63	1,470.87	7,354.35
401b	CONCRETE CLASS "B"	CM	621.17	672.22	2,569.51	965.72	4,828.61
401ci	CONCRETE CLASS "C" (Underground)	CM	476.67	419.49	2,799.77	923.98	4,619.91

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Rate Analysis Summary (Construction)

District: Attock

District Code: 02

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	476.67	419.49	2,907.35	950.88	4,754.39
401ciii	CONCRETE CLASS "C" (Elevated)	CM	476.67	419.49	3,122.52	1,004.67	5,023.35
401d	CONCRETE CLASS "D1"	CM	752.74	1,106.97	4,198.08	1,514.45	7,572.23
401e	CONCRETE CLASS "Y"	CM	1,057.59	419.49	3,727.01	1,301.02	6,505.11
401f	LEAN CONCRETE	CM	409.26	424.53	1,999.53	708.33	3,541.65
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,631.30	790.24	4,063.19	1,621.18	8,105.91
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,631.30	790.24	4,619.69	1,760.31	8,801.53
401gii	PRECAST CONCRETE CLASS "B"	CM	1,631.30	790.24	3,960.08	1,595.41	7,977.03
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,631.30	790.24	4,897.94	1,829.87	9,149.35
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,631.30	790.24	5,176.19	1,899.43	9,497.16
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,631.30	790.24	5,454.44	1,968.99	9,844.97
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,452.14	669.81	67,838.00	17,489.99	87,449.93
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,452.14	669.81	77,288.00	19,852.49	99,262.43
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,180.91	4,274.04	65,241.23	17,674.05	88,370.23
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,555.12	12,481.24	114,461.86	32,374.55	161,872.77
405b	LAUNCHING OF GIRDER	TON	60.01	486.64	-	136.66	683.31
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	107.84	-	271.72	94.89	474.45
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	107.84	-	271.27	94.78	473.89
406c	STEEL EXPANSION JOINTS	KG	8.77	21.04	104.44	33.56	167.82
406d	WATER STOPS 6" SIZE	M	88.22	-	410.38	124.65	623.25
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	38.91	-	2,878.62	729.38	3,646.91
406g	STEEL OR METAL BEARING DEVICES	KG	19.00	55.55	125.44	50.00	249.99
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	322.42	1,439.50	667.61	607.38	3,036.91
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	483.64	2,159.25	1,001.41	911.07	4,555.37
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	483.64	2,159.25	765.03	851.98	4,259.89

CSR - March 2008

National Highway Authority
Islamabad

Quantity Surveying &
Estimation Specialist

Rate Analysis Summary (Construction)

District: Attock

District Code: 02

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	806.06	3,598.75	942.29	1,336.77	6,683.87
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	690.91	4,253.63	1,129.03	1,518.39	7,591.97
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,209.09	6,025.34	1,226.26	2,115.17	10,575.86
407h	PILE LOAD TEST UP TO 120 TON	EACH	22,164.47	40,036.45	86,590.56	37,197.87	185,989.35
407i	PILE LOAD TEST UP TO 240 TON	EACH	41,415.47	40,036.45	173,181.12	63,658.26	318,291.30
407j	PILE LOAD TEST UP TO 360 TON	EACH	60,666.47	43,882.72	259,771.68	91,080.22	455,401.09
407k	CONFIRMATORY BORING (NX SIZE)	M	190.81	1,323.15	6.24	380.05	1,900.25
410	BRICK WORK	CM	310.70	236.06	2,550.83	774.40	3,871.99
411a	STONE MASONRY RANDOM DRY	CM	264.10	91.36	494.06	212.38	1,061.90
411b	STONE MASONRY RANDOM WITH MORTAR	CM	283.94	139.82	1,327.45	437.80	2,189.00
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	346.56	91.36	550.07	247.00	1,234.99
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	407.63	139.82	1,391.16	484.65	2,423.25
411g	ROLL POINTING	SM	66.35	9.69	36.90	28.24	141.18
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	552.70	221.29	1,304.97	519.74	2,598.70
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	214.85	366.20	555.44	284.12	1,420.61
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	209.82	480.94	717.25	352.00	1,760.02
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	203.94	791.50	966.05	490.37	2,451.86
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	214.57	972.63	1,445.01	658.05	3,290.26
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	246.84	949.38	2,081.05	819.32	4,096.59
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	305.47	1,171.86	3,213.77	1,172.77	5,863.86
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	395.31	1,313.30	4,028.43	1,434.26	7,171.30
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	465.85	1,594.72	5,134.10	1,798.67	8,993.33
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	552.00	1,860.51	7,933.89	2,586.60	12,932.99
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	214.85	423.57	573.14	302.89	1,514.44
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	209.82	480.94	671.31	340.52	1,702.60
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	199.13	791.50	918.23	477.22	2,386.08

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Rate Analysis Summary (Construction)

District: Attock

District Code: 02

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	214.57	972.63	1,480.63	666.96	3,334.78
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	246.84	949.38	2,863.43	1,014.91	5,074.57
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	305.47	1,171.86	3,950.30	1,356.91	6,784.53
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	395.31	1,313.30	5,340.65	1,762.32	8,811.58
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	465.85	1,594.72	7,242.90	2,325.87	11,629.33
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	552.00	1,860.51	10,188.84	3,150.34	15,751.68
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	83.44	103.49	323.89	127.71	638.53
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	700.92	511.20	2,827.14	1,009.82	5,049.08
507a	STEEL WIRE MESH FOR GABIONS	KG	4.96	-	131.13	34.02	170.12
507b	ROCK FILL IN GABIONS	CM	91.01	-	381.15	118.04	590.19
508a	BRICK PAVING (SINGLE COURSE)	SM	103.78	26.90	208.71	84.85	424.24
508b	BRICK PAVING (DOUBLE COURSE)	SM	186.24	26.90	414.52	156.91	784.57
509a	RIP RAP CLASS "A"	CM	448.91	-	407.88	214.20	1,070.98
509b	RIP RAP CLASS "B"	CM	433.65	-	404.61	209.57	1,047.83
509c	RIP RAP CLASS "C"	CM	436.71	-	407.88	211.15	1,055.73
509d	GROUTED RIP RAP CLASS "A"	CM	549.12	84.24	1,536.93	542.57	2,712.86
509e	GROUTED RIP RAP CLASS "B"	CM	529.69	67.39	1,416.74	503.46	2,517.28
509f	GROUTED RIP RAP CLASS "C"	CM	523.87	56.16	1,447.05	506.77	2,533.85
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	739.41	295.88	3,220.14	1,063.86	5,319.29
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	45.46	167.47	319.68	133.15	665.76
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	99.54	322.32	-	105.46	527.32
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	140.83	57.10	66.28	66.05	330.27
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	180.26	73.09	84.84	84.55	422.74
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	229.12	150.62	315.38	173.78	868.90
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	286.40	188.27	394.23	217.23	1,086.13
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	255.63	498.72	1,789.41	635.94	3,179.71

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District: Attock

District Code: 02

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	894.68	567.97	3,801.51	1,316.04	6,580.20
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	129.92	75.65	350.11	138.92	694.61
603	BRICK EDGING	M	8.21	-	33.12	10.33	51.67
604a	METAL GUARD RAIL	M	17.21	59.95	1,492.92	392.52	1,962.61
604b	METAL GUARD RAIL END PIECES	EACH	23.16	-	1,138.10	290.32	1,451.59
604d	STEEL POST OF METAL GUARD RAIL	EACH	78.14	805.79	3,566.86	1,112.70	5,563.49
605a	CONCRETE BEAM GUARD RAIL	M	70.62	25.40	575.49	167.88	839.40
605c	CONCRETE POST FOR GUARD RAIL	M	86.71	22.64	576.31	171.42	857.08
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	224.25	213.74	6,370.72	1,702.18	8,510.89
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	64.43	320.61	8,433.31	2,204.59	11,022.95
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	224.25	453.76	11,113.99	2,948.00	14,740.01
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	739.69	503.34	19,252.27	5,123.83	25,619.13
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	147.94	100.67	8,414.40	2,165.75	10,828.75
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	253.15	-	1,135.18	347.08	1,735.41
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	253.15	-	1,702.77	488.98	2,444.90
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.52	5.03	15.38	5.73	28.66
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.84	3.40	36.97	10.30	51.51
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.52	5.03	20.53	7.02	35.09
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.84	3.40	49.31	13.39	66.94
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	70.86	4.26	148.64	55.94	279.70
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	70.86	8.15	465.85	136.22	681.08
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.15	7.44	21.40	8.00	39.98
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.15	8.29	63.09	18.63	93.16
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.15	5.98	28.53	9.41	47.07
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.15	8.29	84.12	23.89	119.44
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	70.86	3.04	206.60	70.13	350.63

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District: Attock

District Code: 02

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	70.86	6.45	795.53	218.21	1,091.05
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	58.96	3.04	99.09	40.27	201.37
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	58.96	6.45	311.04	94.11	470.56
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	58.96	3.04	137.73	49.93	249.67
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	58.96	6.45	531.15	149.14	745.70
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.41	69.34	184.80	65.64	328.19
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.41	69.34	223.39	75.29	376.44
610b	RIGHT OF WAY MARKER	EACH	98.42	101.77	264.63	116.20	581.02
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	598.20	811.70	1,878.41	822.08	4,110.40
610d	TEN KILOMETRE POST	EACH	1,156.73	1,623.40	4,003.08	1,695.80	8,479.01
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	123.43	76.10	897.43	274.24	1,371.19

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

BAHAWAL NAGAR
(04)

Q. S. & Estimation Specialist

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National Highway Authority
Islamabad

Quantity Surveying &
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Rate Analysis Summary (Construction)

District: Bahawal Nagar

District Code: 04

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.60	8.97	-	2.39	11.97
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	5.97	150.86	1.06	39.47	197.36
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	17.22	391.92	2.39	102.88	514.40
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	68.87	1,567.67	9.55	411.52	2,057.61
103	STRIPPING	CM	2.03	81.82	-	20.96	104.80
104	COMPACTION OF NATURAL GROUND	SM	0.29	8.55	0.75	2.40	11.99
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.54	118.44	-	30.49	152.47
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	104.12	272.97	46.20	105.82	529.11
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	14.51	294.98	-	77.37	386.87
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.50	228.89	-	59.60	297.98
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.89	105.42	-	27.08	135.39
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	104.12	272.97	46.20	105.82	529.11
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	16.59	275.34	-	72.98	364.91
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.31	229.91	-	59.31	296.53
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.76	120.24	0.37	31.59	157.97
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	50.75	245.80	64.37	90.23	451.16
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	92.17	367.50	30.80	122.62	613.09
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	78.29	257.01	-	83.82	419.12
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	47.40	211.67	-	64.77	323.84
107d	GRANULAR BACK FILL	CM	28.32	119.94	373.83	130.52	652.61
107e	COMMON BACK FILL	CM	21.02	55.41	4.99	20.36	101.78
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.66	152.01	4.99	40.67	203.33
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	16.67	418.69	49.36	121.18	605.90
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	12.50	364.32	2.37	94.80	473.98
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	11.11	323.09	-	83.55	417.75
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.50	154.80	7.84	42.29	211.43

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Rate Analysis Summary (Construction)

District: Bahawal Nagar

District Code: 04

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.08	66.06	4.99	19.03	95.16
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	11.86	97.15	2.97	28.00	139.98
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.14	23.75	1.43	6.58	32.89
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.81	15.94	0.76	4.38	21.89
110	IMPROVED SUB-GRADE	CM	8.20	104.23	53.65	41.52	207.60
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.69	13.24	0.78	3.68	18.38
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.02	13.62	0.88	3.88	19.39
201	GRANULAR SUB-BASE	CM	6.62	224.59	591.74	205.74	1,028.68
202	AGGREGATE BASE	CM	7.79	287.87	1,041.11	334.19	1,670.95
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	60.80	1,311.60	5,842.14	1,803.63	9,018.17
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	62.89	1,311.60	6,227.95	1,900.61	9,503.05
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	67.24	1,369.89	5,833.77	1,817.72	9,088.62
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	67.24	1,365.01	6,352.48	1,946.18	9,730.90
204b	CEMENT STABILIZED BASE	CM	23.89	480.68	1,354.16	464.68	2,323.40
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	197.21	772.74	50,473.74	12,860.92	64,304.61
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	197.21	772.74	48,937.53	12,476.87	62,384.35
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	79.61	92.96	1,211.35	345.98	1,729.91
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	123.41	2,134.12	5,511.96	1,942.37	9,711.86
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	88.30	105.48	1,000.05	298.46	1,492.29
207a	DEEP PATCHING (0-15 cm)	SM	1.41	39.69	1.23	10.58	52.92
207b	DEEP PATCHING (16-30 cm)	SM	1.41	34.94	1.23	9.40	46.98
208	REINSTATEMENT OF ROAD SURFACE	SM	1.53	49.93	0.55	13.00	65.01
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.65	96.89	0.67	24.80	124.00
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.33	19.38	0.13	4.96	24.80
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.24	1.32	35.82	9.35	46.73
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.24	1.32	39.99	10.39	51.93

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	14.99	3.89	19.47
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	17.49	4.52	22.59
304a	SINGLE SURFACE TREATMENT	SM	0.64	6.52	72.82	19.99	99.97
304b	DOUBLE SURFACE TREATMENT	SM	0.93	12.21	142.65	38.95	194.74
304c	TRIPLE SURFACE TREATMENT	SM	1.56	17.13	162.92	45.40	227.01
304d	SEAL COAT	SM	0.59	3.54	51.12	13.81	69.07
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	57.01	1,294.58	6,832.29	2,045.97	10,229.85
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	57.01	1,251.29	7,381.97	2,172.57	10,862.84
307a	DENSE GRADED HOT BIT-MAC	CM	140.31	316.05	5,828.73	1,571.27	7,856.36
307b	OPEN GRADED HOT BIT-MAC	CM	140.31	316.05	5,678.71	1,533.77	7,668.83
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	23.65	543.36	1,877.93	611.23	3,056.17
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	20.91	560.93	42,742.96	10,831.20	54,156.00
309a	COLD MILLING, 0 - 30 mm	SM	0.79	22.13	7.55	7.62	38.08
309b	COLD MILLING, 0 - 50 mm	SM	1.31	36.88	12.58	12.69	63.47
309c	COLD MILLING, 0 - 70 mm	SM	1.97	55.33	18.87	19.04	95.21
401a1i	CONCRETE CLASS "A1" (Underground)	CM	420.51	923.86	3,656.31	1,250.17	6,250.86
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	420.51	923.86	3,908.56	1,313.23	6,566.17
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	420.51	923.86	4,413.06	1,439.36	7,196.79
401a2i	CONCRETE CLASS "A2" (Underground)	CM	420.51	923.86	3,934.56	1,319.73	6,598.67
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	420.51	923.86	4,186.81	1,382.80	6,913.98
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	420.51	923.86	4,691.31	1,508.92	7,544.60
401a3i	CONCRETE CLASS "A3" (Underground)	CM	420.51	923.86	4,212.81	1,389.30	6,946.48
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	420.51	923.86	4,465.06	1,452.36	7,261.79
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	420.51	923.86	4,969.56	1,578.48	7,892.41
401b	CONCRETE CLASS "B"	CM	554.92	672.22	3,050.09	1,069.30	5,346.52
401ci	CONCRETE CLASS "C" (Underground)	CM	418.33	419.49	3,356.80	1,048.66	5,243.28

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	418.33	419.49	3,464.39	1,075.55	5,377.76
401ciii	CONCRETE CLASS "C" (Elevated)	CM	418.33	419.49	3,679.55	1,129.34	5,646.72
401d	CONCRETE CLASS "D1"	CM	643.12	1,106.97	4,643.85	1,598.48	7,992.41
401e	CONCRETE CLASS "Y"	CM	899.14	419.49	4,190.22	1,377.21	6,886.06
401f	LEAN CONCRETE	CM	364.20	424.53	2,480.26	817.25	4,086.23
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,436.56	790.24	4,603.29	1,707.52	8,537.61
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,436.56	790.24	5,159.79	1,846.65	9,233.24
401gii	PRECAST CONCRETE CLASS "B"	CM	1,436.56	790.24	4,475.31	1,675.53	8,377.64
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,436.56	790.24	5,438.04	1,916.21	9,581.05
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,436.56	790.24	5,716.29	1,985.77	9,928.86
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,436.56	790.24	5,994.54	2,055.34	10,276.68
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,230.58	669.81	68,368.00	17,567.10	87,835.48
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,230.58	669.81	77,818.00	19,929.60	99,647.98
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	983.92	4,274.04	64,328.30	17,396.57	86,982.83
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,491.53	12,481.24	114,450.36	32,355.78	161,778.91
405b	LAUNCHING OF GIRDER	TON	58.94	486.64	-	136.40	681.98
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	92.28	-	270.46	90.69	453.43
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	92.28	-	270.91	90.80	454.00
406c	STEEL EXPANSION JOINTS	KG	7.27	21.04	103.20	32.88	164.39
406d	WATER STOPS 6" SIZE	M	75.24	-	408.65	120.97	604.86
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	36.09	-	2,888.78	731.22	3,656.08
406g	STEEL OR METAL BEARING DEVICES	KG	16.26	55.55	124.33	49.04	245.18
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	316.21	1,439.50	746.56	625.57	3,127.85
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	474.32	2,159.25	1,119.85	938.35	4,691.77
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	474.32	2,159.25	841.87	868.86	4,344.29

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	790.53	3,598.75	1,014.90	1,351.04	6,755.22
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	677.60	4,253.63	1,194.08	1,531.33	7,656.64
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,185.80	6,025.34	1,303.97	2,128.78	10,643.89
407h	PILE LOAD TEST UP TO 120 TON	EACH	19,751.61	40,036.45	84,642.24	36,107.58	180,537.88
407i	PILE LOAD TEST UP TO 240 TON	EACH	36,833.25	40,036.45	169,284.48	61,538.55	307,692.73
407j	PILE LOAD TEST UP TO 360 TON	EACH	53,914.89	43,882.72	253,926.72	87,931.08	439,655.42
407k	CONFIRMATORY BORING (NX SIZE)	M	180.48	1,323.15	6.24	377.47	1,887.33
410	BRICK WORK	CM	287.21	236.06	2,409.42	733.17	3,665.86
411a	STONE MASONRY RANDOM DRY	CM	241.47	91.36	654.69	246.88	1,234.40
411b	STONE MASONRY RANDOM WITH MORTAR	CM	260.44	139.82	1,598.80	499.77	2,498.83
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	317.38	91.36	722.87	282.90	1,414.52
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	374.31	139.82	1,647.01	540.28	2,701.41
411g	ROLL POINTING	SM	61.66	9.69	38.76	27.53	137.63
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	507.15	221.29	1,560.82	572.31	2,861.57
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	192.91	366.20	558.90	279.50	1,397.51
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	188.24	480.94	721.41	347.65	1,738.23
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	183.28	791.50	970.90	486.42	2,432.09
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	192.50	972.63	1,450.67	653.95	3,269.75
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	221.67	949.38	2,086.71	814.44	4,072.19
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	275.02	1,171.86	3,221.95	1,167.21	5,836.03
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	355.90	1,313.30	4,036.58	1,426.44	7,132.22
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	418.61	1,594.72	5,143.99	1,789.33	8,946.65
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	497.08	1,860.51	7,945.42	2,575.75	12,878.76
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	192.91	423.57	580.06	299.13	1,495.67
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	188.24	480.94	675.47	336.16	1,680.81
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	179.01	791.50	923.08	473.40	2,366.98

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	192.50	972.63	1,485.03	662.54	3,312.70
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	221.67	949.38	2,869.72	1,010.19	5,050.96
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	275.02	1,171.86	3,958.48	1,351.34	6,756.69
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	355.90	1,313.30	5,348.80	1,754.50	8,772.50
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	418.61	1,594.72	7,252.78	2,316.53	11,582.64
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	497.08	1,860.51	10,200.38	3,139.49	15,697.45
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	74.78	103.49	297.32	118.90	594.49
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	615.86	511.20	3,307.73	1,108.70	5,543.48
507a	STEEL WIRE MESH FOR GABIONS	KG	4.32	-	134.86	34.80	173.98
507b	ROCK FILL IN GABIONS	CM	81.21	-	597.28	169.62	848.11
508a	BRICK PAVING (SINGLE COURSE)	SM	95.05	26.90	181.61	75.89	379.46
508b	BRICK PAVING (DOUBLE COURSE)	SM	170.96	26.90	360.54	139.60	698.01
509a	RIP RAP CLASS "A"	CM	413.02	-	568.50	245.38	1,226.89
509b	RIP RAP CLASS "B"	CM	398.73	-	563.95	240.67	1,203.35
509c	RIP RAP CLASS "C"	CM	401.86	-	568.50	242.59	1,212.95
509d	GROUTED RIP RAP CLASS "A"	CM	504.96	84.24	1,766.76	588.99	2,944.96
509e	GROUTED RIP RAP CLASS "B"	CM	487.47	67.39	1,638.09	548.24	2,741.20
509f	GROUTED RIP RAP CLASS "C"	CM	482.14	56.16	1,672.27	552.64	2,763.21
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	668.31	295.88	3,675.02	1,159.80	5,799.02
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	40.56	167.47	373.75	145.44	727.22
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	94.58	322.32	-	104.22	521.12
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	128.73	57.10	92.38	69.55	347.77
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	164.78	73.09	118.25	89.03	445.15
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	210.32	150.62	357.63	179.64	898.22
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	262.90	188.27	447.04	224.55	1,122.77
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	222.99	498.72	2,045.50	691.80	3,459.02

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District: Bahawal Nagar

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	787.69	567.97	4,093.39	1,362.26	6,811.30
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	114.84	75.65	400.85	147.84	739.18
603	BRICK EDGING	M	7.45	-	28.70	9.04	45.20
604a	METAL GUARD RAIL	M	16.48	59.95	1,492.92	392.34	1,961.69
604b	METAL GUARD RAIL END PIECES	EACH	22.46	-	1,138.10	290.14	1,450.70
604d	STEEL POST OF METAL GUARD RAIL	EACH	74.46	805.79	3,566.86	1,111.78	5,558.89
605a	CONCRETE BEAM GUARD RAIL	M	62.51	25.40	597.39	171.32	856.62
605c	CONCRETE POST FOR GUARD RAIL	M	76.75	22.64	602.71	175.53	877.63
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	199.37	213.74	6,411.82	1,706.23	8,531.17
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	58.27	320.61	8,518.67	2,224.39	11,121.94
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	199.37	453.76	11,256.44	2,977.39	14,886.96
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	653.45	503.34	19,463.42	5,155.05	25,775.25
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	130.69	100.67	8,453.60	2,171.24	10,856.19
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	220.10	-	1,134.27	338.59	1,692.97
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	220.10	-	1,701.41	480.38	2,401.89
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.24	5.03	15.39	5.67	28.33
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.75	3.40	37.08	10.31	51.54
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.24	5.03	20.54	6.95	34.76
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.75	3.40	49.45	13.40	67.00
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	58.51	4.26	148.74	52.88	264.39
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	58.51	8.15	467.24	133.48	667.38
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.80	7.44	21.41	7.91	39.56
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.80	8.29	63.09	18.54	92.72
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.80	5.98	28.54	9.33	46.66
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.80	8.29	84.12	23.80	119.01
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	58.51	3.04	206.70	67.06	335.32

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District: Bahawal Nagar

District Code: 04

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	58.51	6.45	795.53	215.12	1,075.61
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	48.99	3.04	99.16	37.80	188.99
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	48.99	6.45	311.96	91.85	459.25
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	48.99	3.04	137.80	47.46	237.29
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	48.99	6.45	531.15	146.65	733.24
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	7.57	69.34	184.94	65.46	327.31
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	7.57	69.34	223.53	75.11	375.55
610b	RIGHT OF WAY MARKER	EACH	87.46	101.77	285.95	118.79	593.97
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	525.52	811.70	2,056.62	848.46	4,242.30
610d	TEN KILOMETRE POST	EACH	1,006.88	1,623.40	4,355.95	1,746.56	8,732.79
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	112.27	76.10	922.17	277.64	1,388.18

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

BAHAWALPUR
(05)

Q. S. & Estimation Specialist

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National Highway Authority
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Rate Analysis Summary (Construction)

District: Bahawalpur

District Code: 05

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.67	8.97	-	2.41	12.05
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.71	150.86	1.06	39.66	198.30
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	19.25	391.92	2.39	103.39	516.94
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	76.98	1,567.67	9.55	413.55	2,067.75
103	STRIPPING	CM	2.28	81.82	-	21.03	105.13
104	COMPACTION OF NATURAL GROUND	SM	0.33	8.55	0.75	2.41	12.04
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.17	118.44	-	30.65	153.26
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	119.95	272.97	46.20	109.78	548.90
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	16.52	294.98	-	77.88	389.39
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.83	228.89	-	59.93	299.65
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.41	105.42	-	27.21	136.04
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	119.95	272.97	46.20	109.78	548.90
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	19.14	275.34	-	73.62	368.10
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.34	229.91	-	59.56	297.81
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.67	120.24	0.37	31.82	159.11
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	56.88	245.80	64.37	91.76	458.81
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	106.35	367.50	30.80	126.16	630.81
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	90.19	257.01	-	86.80	434.00
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	54.69	211.67	-	66.59	332.95
107d	GRANULAR BACK FILL	CM	32.12	119.94	400.88	138.23	691.17
107e	COMMON BACK FILL	CM	23.31	55.41	4.99	20.93	104.64
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.49	152.01	4.99	40.87	204.37
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	18.96	418.69	49.36	121.75	608.77
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	14.22	364.32	2.37	95.23	476.13
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	12.64	323.09	-	83.93	419.66
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.41	154.80	7.84	42.51	212.57

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District: Bahawalpur

District Code: 05

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.80	66.06	4.99	19.21	96.06
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	13.42	97.15	2.97	28.39	141.93
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.30	23.75	1.43	6.62	33.10
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.93	15.94	0.76	4.41	22.04
110	IMPROVED SUB-GRADE	CM	9.34	104.23	55.62	42.30	211.49
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.78	13.24	0.78	3.70	18.50
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.15	13.62	0.88	3.91	19.56
201	GRANULAR SUB-BASE	CM	7.56	224.59	529.12	190.32	951.59
202	AGGREGATE BASE	CM	9.03	287.87	925.42	305.58	1,527.90
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	68.03	1,311.60	5,704.04	1,770.92	8,854.59
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	70.50	1,311.60	6,097.99	1,870.02	9,350.12
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	75.33	1,369.89	5,695.34	1,785.14	8,925.70
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	75.33	1,365.01	6,223.73	1,916.02	9,580.09
204b	CEMENT STABILIZED BASE	CM	27.50	480.68	1,178.94	421.78	2,108.90
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	225.21	772.74	50,837.34	12,958.82	64,794.12
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	225.21	772.74	49,301.13	12,574.77	62,873.86
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	87.69	92.96	1,050.05	307.68	1,538.38
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	139.28	2,134.12	5,348.90	1,905.57	9,527.87
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	97.22	105.48	936.69	284.85	1,424.24
207a	DEEP PATCHING (0-15 cm)	SM	1.61	39.69	1.23	10.63	53.17
207b	DEEP PATCHING (16-30 cm)	SM	1.61	34.94	1.23	9.45	47.23
208	REINSTATEMENT OF ROAD SURFACE	SM	1.77	49.93	0.55	13.06	65.31
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.89	96.89	0.67	24.86	124.30
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.38	19.38	0.13	4.97	24.86
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.28	1.32	36.08	9.42	47.10
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	40.28	10.47	52.33

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Rate Analysis Summary (Construction)

District: Bahawalpur

District Code: 05

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	15.10	3.92	19.62
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.62	4.55	22.77
304a	SINGLE SURFACE TREATMENT	SM	0.74	6.52	72.55	19.95	99.76
304b	DOUBLE SURFACE TREATMENT	SM	1.07	12.21	141.29	38.64	193.22
304c	TRIPLE SURFACE TREATMENT	SM	1.80	17.13	161.28	45.06	225.28
304d	SEAL COAT	SM	0.69	3.54	51.14	13.84	69.22
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	64.19	1,294.58	6,704.47	2,015.81	10,079.05
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	64.19	1,251.29	7,252.10	2,141.89	10,709.47
307a	DENSE GRADED HOT BIT-MAC	CM	157.47	316.05	5,719.77	1,548.32	7,741.61
307b	OPEN GRADED HOT BIT-MAC	CM	157.47	316.05	5,560.08	1,508.40	7,541.99
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	26.65	543.36	1,855.90	606.48	3,032.39
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	23.78	560.93	43,117.36	10,925.52	54,627.58
309a	COLD MILLING, 0 - 30 mm	SM	0.91	22.13	7.55	7.65	38.23
309b	COLD MILLING, 0 - 50 mm	SM	1.51	36.88	12.58	12.74	63.72
309c	COLD MILLING, 0 - 70 mm	SM	2.27	55.33	18.87	19.12	95.58
401a1i	CONCRETE CLASS "A1" (Underground)	CM	467.07	923.86	3,528.12	1,229.76	6,148.82
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	467.07	923.86	3,780.37	1,292.83	6,464.13
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	467.07	923.86	4,284.87	1,418.95	7,094.74
401a2i	CONCRETE CLASS "A2" (Underground)	CM	467.07	923.86	3,806.37	1,299.33	6,496.63
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	467.07	923.86	4,058.62	1,362.39	6,811.94
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	467.07	923.86	4,563.12	1,488.51	7,442.56
401a3i	CONCRETE CLASS "A3" (Underground)	CM	467.07	923.86	4,084.62	1,368.89	6,844.44
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	467.07	923.86	4,336.87	1,431.95	7,159.75
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	467.07	923.86	4,841.37	1,558.07	7,790.37
401b	CONCRETE CLASS "B"	CM	622.08	672.22	2,902.69	1,049.25	5,246.23
401ci	CONCRETE CLASS "C" (Underground)	CM	462.12	419.49	3,191.86	1,018.37	5,091.83

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	462.12	419.49	3,299.44	1,045.26	5,226.31
401ciii	CONCRETE CLASS "C" (Elevated)	CM	462.12	419.49	3,514.61	1,099.05	5,495.27
401d	CONCRETE CLASS "D1"	CM	708.57	1,106.97	4,524.69	1,585.06	7,925.29
401e	CONCRETE CLASS "Y"	CM	985.99	419.49	4,075.92	1,370.35	6,851.75
401f	LEAN CONCRETE	CM	402.11	424.53	2,332.58	789.81	3,949.03
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,581.02	790.24	4,464.21	1,708.87	8,544.35
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,581.02	790.24	5,020.71	1,847.99	9,239.97
401gii	PRECAST CONCRETE CLASS "B"	CM	1,581.02	790.24	4,314.96	1,671.56	8,357.78
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,581.02	790.24	5,298.96	1,917.56	9,587.78
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,581.02	790.24	5,577.21	1,987.12	9,935.60
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,581.02	790.24	5,855.46	2,056.68	10,283.41
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,363.57	669.81	67,838.00	17,467.84	87,339.22
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,363.57	669.81	77,288.00	19,830.34	99,151.72
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,118.77	4,274.04	65,197.08	17,647.48	88,237.38
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,631.08	12,481.24	114,443.90	32,389.06	161,945.28
405b	LAUNCHING OF GIRDER	TON	61.39	486.64	-	137.01	685.03
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	102.11	-	264.54	91.66	458.31
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	102.11	-	275.10	94.30	471.51
406c	STEEL EXPANSION JOINTS	KG	8.27	21.04	104.26	33.39	166.97
406d	WATER STOPS 6" SIZE	M	82.81	-	406.93	122.43	612.17
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	40.08	-	2,917.87	739.49	3,697.44
406g	STEEL OR METAL BEARING DEVICES	KG	18.96	55.55	125.32	49.96	249.79
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	327.26	1,439.50	668.51	608.82	3,044.08
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	490.89	2,159.25	1,002.76	913.22	4,566.12
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	490.89	2,159.25	766.38	854.13	4,270.64

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District: Bahawalpur

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	818.15	3,598.75	944.54	1,340.36	6,701.80
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	701.27	4,253.63	1,132.89	1,521.95	7,609.74
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,227.22	6,025.34	1,229.63	2,120.55	10,602.74
407h	PILE LOAD TEST UP TO 120 TON	EACH	21,792.67	40,036.45	90,488.96	38,079.52	190,397.60
407i	PILE LOAD TEST UP TO 240 TON	EACH	40,422.67	40,036.45	180,977.92	65,359.26	326,796.30
407j	PILE LOAD TEST UP TO 360 TON	EACH	59,052.67	43,882.72	271,466.88	93,600.57	468,002.84
407k	CONFIRMATORY BORING (NX SIZE)	M	189.31	1,323.15	6.24	379.67	1,898.37
410	BRICK WORK	CM	314.69	236.06	2,398.79	737.38	3,686.92
411a	STONE MASONRY RANDOM DRY	CM	265.16	91.36	751.18	276.93	1,384.63
411b	STONE MASONRY RANDOM WITH MORTAR	CM	285.86	139.82	1,682.00	526.92	2,634.60
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	347.96	91.36	827.76	316.77	1,583.85
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	410.06	139.82	1,741.92	572.95	2,864.75
411g	ROLL POINTING	SM	67.35	9.69	38.53	28.89	144.46
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	554.96	221.29	1,655.74	608.00	3,039.98
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	212.59	366.20	558.48	284.32	1,421.60
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	207.07	480.94	720.91	352.23	1,761.14
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	203.10	791.50	970.32	491.23	2,456.14
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	212.86	972.63	1,449.99	658.87	3,294.35
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	245.79	949.38	2,086.03	820.30	4,101.50
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	305.75	1,171.86	3,220.96	1,174.64	5,873.21
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	395.67	1,313.30	4,035.60	1,436.14	7,180.71
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	465.67	1,594.72	5,142.80	1,800.80	9,003.99
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	552.77	1,860.51	7,944.04	2,589.33	12,946.65
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	212.59	423.57	579.23	303.85	1,519.24
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	207.07	480.94	674.97	340.74	1,703.72
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	198.44	791.50	922.50	478.11	2,390.54

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	212.86	972.63	1,484.51	667.50	3,337.49
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	245.79	949.38	2,868.97	1,016.03	5,080.17
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	305.75	1,171.86	3,957.49	1,358.78	6,793.88
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	395.67	1,313.30	5,347.82	1,764.20	8,820.99
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	465.67	1,594.72	7,251.60	2,328.00	11,639.98
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	552.77	1,860.51	10,198.99	3,153.07	15,765.34
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	83.31	103.49	377.05	140.96	704.82
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	686.97	511.20	3,160.33	1,089.62	5,448.12
507a	STEEL WIRE MESH FOR GABIONS	KG	4.83	-	133.95	34.69	173.47
507b	ROCK FILL IN GABIONS	CM	89.74	-	550.55	160.07	800.37
508a	BRICK PAVING (SINGLE COURSE)	SM	104.28	26.90	184.94	79.03	395.15
508b	BRICK PAVING (DOUBLE COURSE)	SM	187.08	26.90	366.52	145.13	725.63
509a	RIP RAP CLASS "A"	CM	452.88	-	664.99	279.47	1,397.33
509b	RIP RAP CLASS "B"	CM	436.82	-	659.67	274.12	1,370.61
509c	RIP RAP CLASS "C"	CM	439.92	-	664.99	276.23	1,381.13
509d	GROUTED RIP RAP CLASS "A"	CM	553.79	84.24	1,854.94	623.24	3,116.21
509e	GROUTED RIP RAP CLASS "B"	CM	534.11	67.39	1,726.37	581.97	2,909.84
509f	GROUTED RIP RAP CLASS "C"	CM	527.89	56.16	1,761.01	586.27	2,931.33
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	735.05	295.88	3,535.42	1,141.59	5,707.94
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	44.88	167.47	401.18	153.38	766.90
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	98.98	322.32	-	105.32	526.62
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	141.52	57.10	108.06	76.67	383.35
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	181.15	73.09	138.32	98.14	490.69
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	230.83	150.62	373.59	188.76	943.79
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	288.53	188.27	466.98	235.95	1,179.73
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	247.70	498.72	1,978.55	681.24	3,406.21

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District: Bahawalpur

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	866.99	567.97	4,010.04	1,361.25	6,806.25
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	126.50	75.65	387.30	147.36	736.82
603	BRICK EDGING	M	8.22	-	28.70	9.23	46.15
604a	METAL GUARD RAIL	M	17.68	59.95	1,492.92	392.64	1,963.19
604b	METAL GUARD RAIL END PIECES	EACH	23.08	-	1,138.10	290.30	1,451.48
604d	STEEL POST OF METAL GUARD RAIL	EACH	81.16	805.79	3,566.86	1,113.45	5,567.26
605a	CONCRETE BEAM GUARD RAIL	M	68.51	25.40	590.02	170.98	854.91
605c	CONCRETE POST FOR GUARD RAIL	M	84.12	22.64	594.05	175.20	876.00
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	221.20	213.74	6,399.41	1,708.59	8,542.93
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	63.57	320.61	8,496.94	2,220.28	11,101.41
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	221.20	453.76	11,220.39	2,973.84	14,869.19
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	718.20	503.34	19,414.10	5,158.91	25,794.55
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	143.64	100.67	8,449.44	2,173.44	10,867.18
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	248.51	-	1,135.99	346.12	1,730.62
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	248.51	-	1,703.98	488.12	2,440.61
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.49	5.03	15.40	5.73	28.65
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.83	3.40	37.18	10.35	51.77
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.49	5.03	20.56	7.02	35.09
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.83	3.40	49.59	13.46	67.28
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	64.01	4.26	148.85	54.28	271.40
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	64.01	8.15	468.56	135.18	675.91
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.11	7.44	21.42	7.99	39.96
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.11	8.29	63.09	18.62	93.11
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.11	5.98	28.56	9.41	47.06
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.11	8.29	84.12	23.88	119.40
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	64.01	3.04	206.81	68.47	342.33

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Quantity Surveying &
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Rate Analysis Summary (Construction)

District: Bahawalpur

District Code: 05

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	64.01	6.45	795.53	216.50	1,082.48
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	53.66	3.04	99.23	38.98	194.92
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	53.66	6.45	312.85	93.24	466.20
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	53.66	3.04	137.87	48.64	243.22
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	53.66	6.45	531.15	147.82	739.08
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.26	69.34	184.93	65.63	328.16
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.26	69.34	223.52	75.28	376.40
610b	RIGHT OF WAY MARKER	EACH	95.95	101.77	280.09	119.45	597.27
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	576.28	811.70	2,006.38	848.59	4,242.96
610d	TEN KILOMETRE POST	EACH	1,104.27	1,623.40	4,255.83	1,745.88	8,729.38
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	121.56	76.10	914.91	278.14	1,390.70

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

BHAKAR
(07)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Bhakkar

District Code: 07

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.62	8.97	-	2.40	11.99
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.12	150.86	1.06	39.51	197.56
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	17.72	391.92	2.39	103.01	515.03
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	70.89	1,567.67	9.55	412.03	2,060.14
103	STRIPPING	CM	2.09	81.82	-	20.98	104.89
104	COMPACTION OF NATURAL GROUND	SM	0.30	8.55	0.75	2.40	12.00
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.54	118.44	-	30.50	152.48
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	106.77	272.97	46.20	106.48	532.42
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	15.03	294.98	-	77.50	387.52
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.85	228.89	-	59.68	298.42
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.90	105.42	-	27.08	135.40
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	106.77	272.97	46.20	106.48	532.42
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	16.99	275.34	-	73.08	365.41
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.58	229.91	-	59.37	296.86
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.88	120.24	0.37	31.63	158.13
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	55.06	245.80	64.37	91.31	456.54
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	94.39	367.50	30.80	123.17	615.86
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	80.29	257.01	-	84.32	421.62
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	48.54	211.67	-	65.05	325.26
107d	GRANULAR BACK FILL	CM	29.00	119.94	325.89	118.71	593.54
107e	COMMON BACK FILL	CM	21.71	55.41	4.99	20.53	102.64
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.83	152.01	4.99	40.71	203.55
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	17.20	418.69	49.36	121.31	606.57
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	12.90	364.32	2.37	94.90	474.49
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	11.47	323.09	-	83.64	418.19
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.71	154.80	7.84	42.34	211.69

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.25	66.06	4.99	19.07	95.37
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	12.27	97.15	2.97	28.10	140.49
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.17	23.75	1.43	6.59	32.93
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.84	15.94	0.76	4.38	21.92
110	IMPROVED SUB-GRADE	CM	8.43	104.23	57.01	42.42	212.09
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.71	13.24	0.78	3.68	18.41
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.05	13.62	0.88	3.89	19.44
201	GRANULAR SUB-BASE	CM	6.81	224.59	442.39	168.45	842.23
202	AGGREGATE BASE	CM	7.91	287.87	774.84	267.65	1,338.27
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	62.66	1,311.60	5,331.26	1,676.38	8,381.90
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	64.75	1,311.60	5,762.48	1,784.71	8,923.53
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	69.35	1,369.89	5,322.34	1,690.39	8,451.97
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	69.35	1,365.01	5,887.74	1,830.52	9,152.61
204b	CEMENT STABILIZED BASE	CM	24.33	480.68	819.78	331.20	1,655.98
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	202.76	772.74	50,046.51	12,755.50	63,777.52
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	202.76	772.74	48,510.30	12,371.45	61,857.26
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	82.71	92.96	886.40	265.52	1,327.59
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	126.89	2,134.12	5,062.56	1,830.89	9,154.45
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	91.70	105.48	696.87	223.51	1,117.56
207a	DEEP PATCHING (0-15 cm)	SM	1.46	39.69	1.23	10.60	52.99
207b	DEEP PATCHING (16-30 cm)	SM	1.46	34.94	1.23	9.41	47.05
208	REINSTATEMENT OF ROAD SURFACE	SM	1.56	49.93	0.55	13.01	65.04
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.70	96.89	0.67	24.81	124.07
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.34	19.38	0.13	4.96	24.81
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.25	1.32	35.52	9.27	46.36
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.24	1.32	39.65	10.30	51.51

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	14.87	3.86	19.31
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	17.34	4.48	22.41
304a	SINGLE SURFACE TREATMENT	SM	0.65	6.52	70.29	19.36	96.81
304b	DOUBLE SURFACE TREATMENT	SM	0.94	12.21	136.30	37.36	186.81
304c	TRIPLE SURFACE TREATMENT	SM	1.59	17.13	155.40	43.53	217.64
304d	SEAL COAT	SM	0.60	3.54	49.36	13.38	66.89
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	58.60	1,294.58	6,325.87	1,919.76	9,598.81
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	58.60	1,251.29	6,839.98	2,037.47	10,187.33
307a	DENSE GRADED HOT BIT-MAC	CM	144.15	316.05	5,339.56	1,449.94	7,249.69
307b	OPEN GRADED HOT BIT-MAC	CM	144.15	316.05	5,237.36	1,424.39	7,121.94
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	24.25	543.36	1,805.99	593.40	2,967.00
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	21.35	560.93	42,303.04	10,721.33	53,606.64
309a	COLD MILLING, 0 - 30 mm	SM	0.80	22.13	7.55	7.62	38.10
309b	COLD MILLING, 0 - 50 mm	SM	1.33	36.88	12.58	12.70	63.50
309c	COLD MILLING, 0 - 70 mm	SM	2.00	55.33	18.87	19.05	95.25
401a1i	CONCRETE CLASS "A1" (Underground)	CM	467.71	923.86	3,086.69	1,119.56	5,597.82
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	467.71	923.86	3,338.94	1,182.63	5,913.13
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	467.71	923.86	3,843.43	1,308.75	6,543.75
401a2i	CONCRETE CLASS "A2" (Underground)	CM	467.71	923.86	3,364.94	1,189.13	5,945.64
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	467.71	923.86	3,617.19	1,252.19	6,260.95
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	467.71	923.86	4,121.68	1,378.31	6,891.56
401a3i	CONCRETE CLASS "A3" (Underground)	CM	467.71	923.86	3,643.19	1,258.69	6,293.45
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	467.71	923.86	3,895.44	1,321.75	6,608.76
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	467.71	923.86	4,399.93	1,447.88	7,239.38
401b	CONCRETE CLASS "B"	CM	590.87	672.22	2,537.05	950.03	4,750.17
401ci	CONCRETE CLASS "C" (Underground)	CM	460.88	419.49	2,761.55	910.48	4,552.40

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401cii	CONCRETE CLASS "C" (On ground)	CM	460.88	419.49	2,869.13	937.38	4,686.88
401ciii	CONCRETE CLASS "C" (Elevated)	CM	460.88	419.49	3,084.30	991.17	4,955.84
401d	CONCRETE CLASS "D1"	CM	737.65	1,106.97	4,134.77	1,494.85	7,474.24
401e	CONCRETE CLASS "Y"	CM	1,037.56	419.49	3,640.30	1,274.34	6,371.68
401f	LEAN CONCRETE	CM	386.41	424.53	1,967.04	694.50	3,472.48
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,574.11	790.24	3,974.30	1,584.66	7,923.32
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,574.11	790.24	4,530.80	1,723.79	8,618.94
401gii	PRECAST CONCRETE CLASS "B"	CM	1,574.11	790.24	3,935.64	1,575.00	7,874.99
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,574.11	790.24	4,809.05	1,793.35	8,966.76
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,574.11	790.24	5,087.30	1,862.91	9,314.57
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,574.11	790.24	5,365.55	1,932.48	9,662.38
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,422.31	669.81	68,898.00	17,747.53	88,737.64
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,422.31	669.81	78,348.00	20,110.03	100,550.14
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,147.55	4,274.04	66,175.23	17,899.21	89,496.04
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,811.70	12,481.24	114,446.16	32,434.77	162,173.87
405b	LAUNCHING OF GIRDER	TON	67.29	486.64	-	138.48	692.41
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	104.14	-	264.13	92.07	460.33
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	104.14	-	272.76	94.22	471.12
406c	STEEL EXPANSION JOINTS	KG	8.49	21.04	105.85	33.85	169.23
406d	WATER STOPS 6" SIZE	M	85.53	-	407.99	123.38	616.90
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	37.96	-	2,900.76	734.68	3,673.40
406g	STEEL OR METAL BEARING DEVICES	KG	17.78	55.55	126.71	50.01	250.05
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	364.70	1,439.50	661.79	616.50	3,082.49
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	547.05	2,159.25	992.69	924.75	4,623.73
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	547.05	2,159.25	756.30	865.65	4,328.25

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	911.74	3,598.75	927.75	1,359.56	6,797.80
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	781.50	4,253.63	1,104.10	1,534.81	7,674.04
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,367.62	6,025.34	1,204.45	2,149.35	10,746.75
407h	PILE LOAD TEST UP TO 120 TON	EACH	20,491.14	40,036.45	84,642.24	36,292.46	181,462.28
407i	PILE LOAD TEST UP TO 240 TON	EACH	38,276.58	40,036.45	169,284.48	61,899.38	309,496.88
407j	PILE LOAD TEST UP TO 360 TON	EACH	56,062.02	43,882.72	253,926.72	88,467.86	442,339.32
407k	CONFIRMATORY BORING (NX SIZE)	M	201.20	1,323.15	6.24	382.65	1,913.23
410	BRICK WORK	CM	303.07	236.06	2,309.96	712.27	3,561.36
411a	STONE MASONRY RANDOM DRY	CM	254.52	91.36	591.50	234.35	1,171.74
411b	STONE MASONRY RANDOM WITH MORTAR	CM	274.83	139.82	1,336.30	437.74	2,188.68
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	334.67	91.36	655.32	270.34	1,351.69
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	395.05	139.82	1,429.96	491.21	2,456.03
411g	ROLL POINTING	SM	65.26	9.69	35.42	27.59	137.97
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	535.02	221.29	1,343.78	525.02	2,625.10
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	200.72	366.20	552.67	279.90	1,399.49
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	196.06	480.94	713.93	347.73	1,738.66
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	190.84	791.50	962.18	486.13	2,430.65
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	200.44	972.63	1,440.48	653.39	3,266.94
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	230.32	949.38	2,076.52	814.05	4,070.27
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	285.48	1,171.86	3,207.22	1,166.14	5,830.70
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	369.44	1,313.30	4,021.92	1,426.16	7,130.82
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	434.10	1,594.72	5,126.19	1,788.75	8,943.76
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	515.96	1,860.51	7,924.66	2,575.28	12,876.41
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	200.72	423.57	567.60	297.97	1,489.87
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	196.06	480.94	667.99	336.25	1,681.24
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	186.40	791.50	914.36	473.06	2,365.31

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	200.44	972.63	1,477.11	662.54	3,312.72
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	230.32	949.38	2,858.40	1,009.52	5,047.62
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	285.48	1,171.86	3,943.75	1,350.27	6,751.36
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	369.44	1,313.30	5,334.14	1,754.22	8,771.10
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	434.10	1,594.72	7,234.99	2,315.95	11,579.75
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	515.96	1,860.51	10,179.61	3,139.02	15,695.09
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	77.28	103.49	297.32	119.52	597.61
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	671.12	511.20	2,794.69	994.25	4,971.25
507a	STEEL WIRE MESH FOR GABIONS	KG	4.76	-	132.93	34.42	172.11
507b	ROCK FILL IN GABIONS	CM	84.23	-	479.97	141.05	705.25
508a	BRICK PAVING (SINGLE COURSE)	SM	99.93	26.90	188.39	78.81	394.03
508b	BRICK PAVING (DOUBLE COURSE)	SM	180.07	26.90	374.10	145.27	726.34
509a	RIP RAP CLASS "A"	CM	434.79	-	505.31	235.03	1,175.13
509b	RIP RAP CLASS "B"	CM	419.85	-	501.27	230.28	1,151.40
509c	RIP RAP CLASS "C"	CM	423.43	-	505.31	232.19	1,160.93
509d	GROUTED RIP RAP CLASS "A"	CM	531.37	84.24	1,579.00	548.65	2,743.26
509e	GROUTED RIP RAP CLASS "B"	CM	513.36	67.39	1,463.79	511.14	2,555.68
509f	GROUTED RIP RAP CLASS "C"	CM	507.94	56.16	1,492.82	514.23	2,571.15
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	708.02	295.88	3,189.71	1,048.40	5,242.02
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	42.12	167.47	326.08	133.92	669.58
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	105.23	322.32	-	106.89	534.43
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	135.29	57.10	82.11	68.63	343.13
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	173.17	73.09	105.11	87.84	439.20
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	221.47	150.62	317.62	172.43	862.14
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	276.84	188.27	397.03	215.53	1,077.67
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	248.00	498.72	1,748.70	623.85	3,119.27

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	864.09	567.97	3,777.34	1,302.35	6,511.74
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	125.22	75.65	343.06	135.98	679.91
603	BRICK EDGING	M	7.80	-	29.86	9.42	47.08
604a	METAL GUARD RAIL	M	18.10	59.95	1,492.92	392.74	1,963.72
604b	METAL GUARD RAIL END PIECES	EACH	25.54	-	1,138.10	290.91	1,454.56
604d	STEEL POST OF METAL GUARD RAIL	EACH	80.63	805.79	3,566.86	1,113.32	5,566.60
605a	CONCRETE BEAM GUARD RAIL	M	67.11	25.40	577.08	167.40	836.99
605c	CONCRETE POST FOR GUARD RAIL	M	82.39	22.64	577.59	170.66	853.29
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	212.86	213.74	6,380.98	1,701.90	8,509.48
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	61.78	320.61	8,429.87	2,203.07	11,015.33
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	212.86	453.76	11,105.81	2,943.11	14,715.53
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	695.85	503.34	19,240.40	5,109.90	25,549.48
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	139.17	100.67	8,412.51	2,163.09	10,815.43
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	244.25	-	1,135.33	344.89	1,724.47
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	244.25	-	1,702.99	486.81	2,434.05
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.34	5.03	15.40	5.69	28.46
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.78	3.40	37.14	10.33	51.66
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.34	5.03	20.55	6.98	34.90
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.78	3.40	49.54	13.43	67.15
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	70.66	4.26	148.81	55.93	279.66
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	70.66	8.15	468.03	136.71	683.57
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.93	7.44	21.42	7.94	39.72
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.93	8.29	63.09	18.58	92.88
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.93	5.98	28.55	9.36	46.82
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.93	8.29	84.12	23.83	119.17
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	70.66	3.04	206.77	70.12	350.59

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Quantity Surveying &
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Rate Analysis Summary (Construction)

District: Bhakkar

District Code: 07

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	70.66	6.45	795.53	218.16	1,090.80
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	58.48	3.04	99.20	40.18	200.91
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	58.48	6.45	312.49	94.36	471.78
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	58.48	3.04	137.84	49.84	249.21
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	58.48	6.45	531.15	149.02	745.10
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.09	69.34	184.69	65.53	327.65
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.09	69.34	223.28	75.18	375.89
610b	RIGHT OF WAY MARKER	EACH	92.30	101.77	262.33	114.10	570.50
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	574.90	811.70	1,861.89	812.12	4,060.61
610d	TEN KILOMETRE POST	EACH	1,109.18	1,623.40	3,974.56	1,676.79	8,383.93
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	122.34	76.10	895.32	273.44	1,367.20

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

CHAKWAL
(09)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Chakwal

District Code: 09

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.95	8.97	-	2.48	12.40
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	9.08	150.86	1.06	40.25	201.26
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	26.87	391.92	2.39	105.29	526.47
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	107.48	1,567.67	9.55	421.17	2,105.87
103	STRIPPING	CM	2.97	81.82	-	21.20	105.98
104	COMPACTION OF NATURAL GROUND	SM	0.42	8.55	0.75	2.43	12.15
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.44	118.44	-	30.72	153.60
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	142.98	272.97	46.20	115.54	577.68
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	20.54	294.98	-	78.88	394.41
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	13.22	228.89	-	60.53	302.64
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.63	105.42	-	27.26	136.32
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	142.98	272.97	46.20	115.54	577.68
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	22.71	275.34	-	74.51	372.57
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	10.27	229.91	-	60.05	300.23
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	7.48	120.24	0.37	32.02	160.12
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	77.90	245.80	64.37	97.02	485.09
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	126.19	367.50	30.80	131.12	655.62
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	107.83	257.01	-	91.21	456.05
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	64.90	211.67	-	69.14	345.71
107d	GRANULAR BACK FILL	CM	41.97	119.94	352.79	128.68	643.38
107e	COMMON BACK FILL	CM	33.69	55.41	4.99	23.52	117.62
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	7.74	152.01	4.99	41.19	205.93
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	23.74	418.69	49.36	122.95	614.74
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	17.80	364.32	2.37	96.12	480.61
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	15.82	323.09	-	84.73	423.64
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	9.17	154.80	7.84	42.95	214.76

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District: Chakwal

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	7.02	66.06	4.99	19.52	97.58
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	17.18	97.15	2.97	29.32	146.62
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.58	23.75	1.43	6.69	33.45
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	1.12	15.94	0.76	4.45	22.27
110	IMPROVED SUB-GRADE	CM	11.69	104.23	58.04	43.49	217.46
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.99	13.24	0.78	3.75	18.76
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.44	13.62	0.88	3.98	19.92
201	GRANULAR SUB-BASE	CM	9.23	224.59	367.57	150.35	751.74
202	AGGREGATE BASE	CM	10.58	287.87	747.30	261.44	1,307.18
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	93.85	1,311.60	5,305.67	1,677.78	8,388.90
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	96.42	1,311.60	5,713.98	1,780.50	8,902.51
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	102.61	1,369.89	5,296.96	1,692.36	8,461.82
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	102.61	1,365.01	5,837.50	1,826.28	9,131.39
204b	CEMENT STABILIZED BASE	CM	33.44	480.68	890.34	351.11	1,755.57
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	271.82	772.74	49,098.12	12,535.67	62,678.36
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	271.82	772.74	47,561.91	12,151.62	60,758.10
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	129.68	92.96	898.44	280.27	1,401.35
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	182.99	2,134.12	5,025.75	1,835.71	9,178.57
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	144.60	105.48	629.06	219.78	1,098.92
207a	DEEP PATCHING (0-15 cm)	SM	1.97	39.69	1.23	10.72	53.62
207b	DEEP PATCHING (16-30 cm)	SM	1.97	34.94	1.23	9.54	47.68
208	REINSTATEMENT OF ROAD SURFACE	SM	2.12	49.93	0.55	13.15	65.74
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	2.13	96.89	0.67	24.92	124.60
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.43	19.38	0.13	4.98	24.92
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.34	1.32	34.85	9.13	45.63
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.32	1.32	38.90	10.14	50.68

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.13	0.49	14.58	3.80	19.01
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.13	0.49	17.01	4.41	22.04
304a	SINGLE SURFACE TREATMENT	SM	0.87	6.52	69.02	19.10	95.50
304b	DOUBLE SURFACE TREATMENT	SM	1.26	12.21	133.83	36.82	184.12
304c	TRIPLE SURFACE TREATMENT	SM	2.10	17.13	152.61	42.96	214.81
304d	SEAL COAT	SM	0.80	3.54	48.66	13.25	66.25
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	85.89	1,294.58	6,272.95	1,913.35	9,566.77
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	85.89	1,251.29	6,781.49	2,029.67	10,148.33
307a	DENSE GRADED HOT BIT-MAC	CM	215.83	316.05	5,296.64	1,457.13	7,285.64
307b	OPEN GRADED HOT BIT-MAC	CM	215.83	316.05	5,180.52	1,428.10	7,140.49
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	35.84	543.36	1,785.74	591.23	2,956.17
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	30.63	560.93	41,326.48	10,479.51	52,397.54
309a	COLD MILLING, 0 - 30 mm	SM	1.10	22.13	7.55	7.69	38.47
309b	COLD MILLING, 0 - 50 mm	SM	1.83	36.88	12.58	12.82	64.12
309c	COLD MILLING, 0 - 70 mm	SM	2.74	55.33	18.87	19.24	96.18
401a1i	CONCRETE CLASS "A1" (Underground)	CM	681.05	923.86	3,217.00	1,205.48	6,027.39
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	681.05	923.86	3,469.25	1,268.54	6,342.70
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	681.05	923.86	3,973.74	1,394.66	6,973.32
401a2i	CONCRETE CLASS "A2" (Underground)	CM	681.05	923.86	3,495.25	1,275.04	6,375.20
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	681.05	923.86	3,747.50	1,338.10	6,690.51
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	681.05	923.86	4,251.99	1,464.23	7,321.13
401a3i	CONCRETE CLASS "A3" (Underground)	CM	681.05	923.86	3,773.50	1,344.60	6,723.02
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	681.05	923.86	4,025.75	1,407.67	7,038.33
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	681.05	923.86	4,530.24	1,533.79	7,668.94
401b	CONCRETE CLASS "B"	CM	854.95	672.22	2,640.87	1,042.01	5,210.04
401ci	CONCRETE CLASS "C" (Underground)	CM	687.77	419.49	2,880.12	996.84	4,984.22

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District: Chakwal

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	687.77	419.49	2,987.71	1,023.74	5,118.70
401ciii	CONCRETE CLASS "C" (Elevated)	CM	687.77	419.49	3,202.87	1,077.53	5,387.66
401d	CONCRETE CLASS "D1"	CM	1,092.65	1,106.97	4,248.83	1,612.11	8,060.56
401e	CONCRETE CLASS "Y"	CM	1,557.13	419.49	3,770.39	1,436.75	7,183.76
401f	LEAN CONCRETE	CM	590.52	424.53	2,070.95	771.50	3,857.50
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	2,393.97	790.24	4,119.30	1,825.88	9,129.39
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	2,393.97	790.24	4,675.80	1,965.00	9,825.01
401gii	PRECAST CONCRETE CLASS "B"	CM	2,393.97	790.24	4,040.33	1,806.13	9,030.67
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	2,393.97	790.24	4,954.05	2,034.56	10,172.82
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	2,393.97	790.24	5,232.30	2,104.13	10,520.64
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	2,393.97	790.24	5,510.55	2,173.69	10,868.45
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	2,091.43	669.81	68,368.00	17,782.31	88,911.55
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	2,091.43	669.81	77,818.00	20,144.81	100,724.05
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,701.13	4,274.04	65,562.75	17,884.48	89,422.40
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,369.09	12,481.24	114,461.81	32,578.03	162,890.17
405b	LAUNCHING OF GIRDER	TON	80.41	486.64	-	141.76	708.81
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	155.82	-	262.87	104.67	523.36
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	155.82	-	270.59	106.60	533.01
406c	STEEL EXPANSION JOINTS	KG	12.86	21.04	105.02	34.73	173.65
406d	WATER STOPS 6" SIZE	M	129.37	-	410.21	134.90	674.48
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.24
406f	ASPHALT FELT (3 PLY)	SM	55.64	-	2,885.93	735.39	3,676.97
406g	STEEL OR METAL BEARING DEVICES	KG	26.42	55.55	125.94	51.98	259.89
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	440.00	1,439.50	665.04	636.13	3,180.67
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	660.00	2,159.25	997.56	954.20	4,771.01
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	660.00	2,159.25	761.18	895.11	4,475.53

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Rate Analysis Summary (Construction)

District: Chakwal

District Code: 09

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,100.00	3,598.75	935.87	1,408.65	7,043.27
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	942.85	4,253.63	1,118.03	1,578.63	7,893.15
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,649.99	6,025.34	1,216.63	2,222.99	11,114.96
407h	PILE LOAD TEST UP TO 120 TON	EACH	32,276.59	40,036.45	88,540.64	40,213.42	201,067.09
407i	PILE LOAD TEST UP TO 240 TON	EACH	61,223.47	40,036.45	177,081.28	69,585.30	347,926.49
407j	PILE LOAD TEST UP TO 360 TON	EACH	90,170.35	43,882.72	265,621.92	99,918.75	499,593.73
407k	CONFIRMATORY BORING (NX SIZE)	M	271.95	1,323.15	6.24	400.34	2,001.68
410	BRICK WORK	CM	460.98	236.06	2,370.20	766.81	3,834.04
411a	STONE MASONRY RANDOM DRY	CM	382.19	91.36	398.86	218.10	1,090.51
411b	STONE MASONRY RANDOM WITH MORTAR	CM	412.18	139.82	1,218.96	442.74	2,213.69
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	506.50	91.36	447.27	261.28	1,306.41
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	598.64	139.82	1,278.39	504.21	2,521.06
411g	ROLL POINTING	SM	99.73	9.69	36.68	36.52	182.62
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	817.27	221.29	1,192.20	557.69	2,788.45
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	312.03	366.20	555.02	308.31	1,541.57
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	306.29	480.94	716.76	376.00	1,879.98
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	289.29	791.50	965.47	511.57	2,557.83
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	306.85	972.63	1,444.33	680.95	3,404.76
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	350.75	949.38	2,080.37	845.12	4,225.62
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	431.60	1,171.86	3,212.78	1,204.06	6,020.31
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	558.54	1,313.30	4,027.46	1,474.82	7,374.12
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	656.80	1,594.72	5,132.92	1,846.11	9,230.55
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	779.20	1,860.51	7,932.51	2,643.05	13,215.27
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	312.03	423.57	572.31	326.98	1,634.89
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	306.29	480.94	670.82	364.51	1,822.56
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	282.06	791.50	917.65	497.80	2,489.00

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	306.85	972.63	1,480.10	689.90	3,449.48
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	350.75	949.38	2,862.68	1,040.70	5,203.51
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	431.60	1,171.86	3,949.31	1,388.19	6,940.97
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	558.54	1,313.30	5,339.68	1,802.88	9,014.39
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	656.80	1,594.72	7,241.71	2,373.31	11,866.54
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	779.20	1,860.51	10,187.46	3,206.79	16,033.95
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	116.81	103.49	350.48	142.69	713.47
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	980.82	511.20	2,898.50	1,097.63	5,488.15
507a	STEEL WIRE MESH FOR GABIONS	KG	6.95	-	132.03	34.75	173.73
507b	ROCK FILL IN GABIONS	CM	130.59	-	458.79	147.35	736.73
508a	BRICK PAVING (SINGLE COURSE)	SM	153.05	26.90	190.61	92.64	463.21
508b	BRICK PAVING (DOUBLE COURSE)	SM	277.36	26.90	378.09	170.59	852.95
509a	RIP RAP CLASS "A"	CM	664.69	-	312.68	244.34	1,221.70
509b	RIP RAP CLASS "B"	CM	644.06	-	310.17	238.56	1,192.80
509c	RIP RAP CLASS "C"	CM	650.31	-	312.68	240.75	1,203.73
509d	GROUTED RIP RAP CLASS "A"	CM	813.14	84.24	1,433.42	582.70	2,913.51
509e	GROUTED RIP RAP CLASS "B"	CM	786.82	67.39	1,314.86	542.27	2,711.35
509f	GROUTED RIP RAP CLASS "C"	CM	780.00	56.16	1,344.10	545.06	2,725.32
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	1,083.20	295.88	3,287.80	1,166.72	5,833.59
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	64.44	167.47	353.18	146.27	731.36
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	142.49	322.32	-	116.20	581.01
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	204.98	57.10	50.81	78.22	391.12
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	262.38	73.09	65.04	100.13	500.63
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	336.09	150.62	301.05	196.94	984.70
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	420.12	188.27	376.31	246.17	1,230.87
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	361.18	498.72	1,816.50	669.10	3,345.50

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District: Chakwal

District Code: 09

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,312.58	567.97	3,841.71	1,430.56	7,152.82
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	189.99	75.65	356.11	155.44	777.20
603	BRICK EDGING	M	11.79	-	29.86	10.41	52.06
604a	METAL GUARD RAIL	M	23.12	59.95	1,492.92	394.00	1,969.99
604b	METAL GUARD RAIL END PIECES	EACH	33.04	-	1,138.10	292.79	1,463.93
604d	STEEL POST OF METAL GUARD RAIL	EACH	102.44	805.79	3,566.86	1,118.77	5,593.86
605a	CONCRETE BEAM GUARD RAIL	M	104.85	25.40	579.89	177.54	887.68
605c	CONCRETE POST FOR GUARD RAIL	M	128.74	22.64	581.36	183.18	915.92
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	318.69	213.74	6,380.96	1,728.35	8,641.75
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	92.81	320.61	8,445.94	2,214.84	11,074.21
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	318.69	453.76	11,134.22	2,976.67	14,883.35
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	1,084.80	503.34	19,281.60	5,217.43	26,087.17
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	216.96	100.67	8,419.04	2,184.17	10,920.83
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	345.19	-	1,134.82	370.00	1,850.00
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	345.19	-	1,702.22	511.85	2,559.26
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.39	5.03	15.40	5.95	29.77
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	1.13	3.40	37.11	10.41	52.06
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.39	5.03	20.55	7.24	36.21
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	1.13	3.40	49.50	13.51	67.55
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	105.10	4.26	148.78	64.53	322.67
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	105.10	8.15	467.70	145.24	726.19
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	4.24	7.44	21.41	8.27	41.36
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	4.24	8.29	63.09	18.90	94.52
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	4.24	5.98	28.55	9.69	48.46
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	4.24	8.29	84.12	24.16	120.81
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	105.10	3.04	206.74	78.72	393.60

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	105.10	6.45	795.53	226.77	1,133.84
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	87.10	3.04	99.19	47.33	236.67
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	87.10	6.45	312.27	101.46	507.28
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	87.10	3.04	137.83	56.99	284.97
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	87.10	6.45	531.15	156.18	780.88
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	11.61	69.34	184.79	66.44	332.18
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	11.61	69.34	223.38	76.08	380.42
610b	RIGHT OF WAY MARKER	EACH	145.32	101.77	267.33	128.61	643.03
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	882.51	811.70	1,902.23	899.11	4,495.55
610d	TEN KILOMETRE POST	EACH	1,705.04	1,623.40	4,051.80	1,845.06	9,225.30
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	175.72	76.10	900.88	288.17	1,440.87

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

DERA GHAZI KHAN
(11)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Dera Ghazi Khan

District Code: 11

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.66	8.97	-	2.41	12.04
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.62	150.86	1.06	39.64	198.19
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	19.05	391.92	2.39	103.34	516.69
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	76.18	1,567.67	9.55	413.35	2,066.75
103	STRIPPING	CM	2.35	81.82	-	21.04	105.20
104	COMPACTION OF NATURAL GROUND	SM	0.33	8.55	0.75	2.41	12.04
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.98	118.44	-	30.60	153.02
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	113.84	272.97	46.20	108.25	541.26
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	15.66	294.98	-	77.66	388.31
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.27	228.89	-	59.79	298.96
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.26	105.42	-	27.17	135.84
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	113.84	272.97	46.20	108.25	541.26
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	18.05	275.34	-	73.35	366.74
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.91	229.91	-	59.46	297.28
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.56	120.24	0.37	31.80	158.98
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	56.16	245.80	64.37	91.58	457.92
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	100.30	367.50	30.80	124.65	623.25
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	84.74	257.01	-	85.44	427.19
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	51.58	211.67	-	65.81	329.06
107d	GRANULAR BACK FILL	CM	30.96	119.94	253.92	101.21	506.03
107e	COMMON BACK FILL	CM	23.31	55.41	4.99	20.93	104.64
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.18	152.01	4.99	40.80	203.98
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	18.31	418.69	49.36	121.59	607.96
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	13.73	364.32	2.37	95.11	475.53
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	12.21	323.09	-	83.82	419.12
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.10	154.80	7.84	42.44	212.18

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.64	66.06	4.99	19.17	95.85
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	13.16	97.15	2.97	28.32	141.60
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.25	23.75	1.43	6.61	33.04
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.92	15.94	0.76	4.41	22.03
110	IMPROVED SUB-GRADE	CM	8.96	104.23	58.03	42.81	214.04
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.79	13.24	0.78	3.70	18.51
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.15	13.62	0.88	3.91	19.56
201	GRANULAR SUB-BASE	CM	7.18	224.59	364.02	148.95	744.74
202	AGGREGATE BASE	CM	8.14	287.87	609.56	226.39	1,131.96
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	65.02	1,311.60	5,312.99	1,672.40	8,362.01
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	66.97	1,311.60	5,738.96	1,779.38	8,896.91
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	72.07	1,369.89	5,303.61	1,686.39	8,431.97
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	72.07	1,365.01	5,865.82	1,825.73	9,128.63
204b	CEMENT STABILIZED BASE	CM	25.11	480.68	751.43	314.30	1,571.52
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	223.53	772.74	50,840.37	12,959.16	64,795.80
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	223.53	772.74	49,304.16	12,575.11	62,875.54
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	87.51	92.96	754.00	233.62	1,168.09
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	131.89	2,134.12	4,979.86	1,811.47	9,057.34
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	96.30	105.48	558.68	190.12	950.58
207a	DEEP PATCHING (0-15 cm)	SM	1.60	39.69	1.23	10.63	53.16
207b	DEEP PATCHING (16-30 cm)	SM	1.60	34.94	1.23	9.44	47.22
208	REINSTATEMENT OF ROAD SURFACE	SM	1.65	49.93	0.55	13.03	65.16
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	2.01	96.89	0.67	24.89	124.46
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.40	19.38	0.13	4.98	24.89
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	36.08	9.42	47.09
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.26	1.32	40.28	10.46	52.32

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District: Dera Ghazi Khan

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	15.10	3.92	19.62
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.62	4.55	22.76
304a	SINGLE SURFACE TREATMENT	SM	0.69	6.52	70.91	19.53	97.65
304b	DOUBLE SURFACE TREATMENT	SM	1.00	12.21	136.72	37.48	187.42
304c	TRIPLE SURFACE TREATMENT	SM	1.69	17.13	155.86	43.67	218.36
304d	SEAL COAT	SM	0.64	3.54	50.15	13.58	67.92
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	60.48	1,294.58	6,320.31	1,918.84	9,594.21
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	60.48	1,251.29	6,845.27	2,039.26	10,196.30
307a	DENSE GRADED HOT BIT-MAC	CM	148.78	316.05	5,357.35	1,455.54	7,277.72
307b	OPEN GRADED HOT BIT-MAC	CM	148.78	316.05	5,220.71	1,421.39	7,106.93
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	24.79	543.36	1,799.68	591.96	2,959.78
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	23.78	560.93	43,120.48	10,926.30	54,631.48
309a	COLD MILLING, 0 - 30 mm	SM	0.84	22.13	7.55	7.63	38.15
309b	COLD MILLING, 0 - 50 mm	SM	1.40	36.88	12.58	12.72	63.59
309c	COLD MILLING, 0 - 70 mm	SM	2.11	55.33	18.87	19.08	95.38
401a1i	CONCRETE CLASS "A1" (Underground)	CM	452.44	923.86	3,019.89	1,099.05	5,495.25
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	452.44	923.86	3,272.14	1,162.11	5,810.56
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	452.44	923.86	3,776.64	1,288.24	6,441.18
401a2i	CONCRETE CLASS "A2" (Underground)	CM	452.44	923.86	3,298.14	1,168.61	5,843.06
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	452.44	923.86	3,550.39	1,231.67	6,158.37
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	452.44	923.86	4,054.89	1,357.80	6,788.99
401a3i	CONCRETE CLASS "A3" (Underground)	CM	452.44	923.86	3,576.39	1,238.18	6,190.88
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	452.44	923.86	3,828.64	1,301.24	6,506.18
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	452.44	923.86	4,333.14	1,427.36	7,136.80
401b	CONCRETE CLASS "B"	CM	602.45	672.22	2,407.42	920.52	4,602.61
401ci	CONCRETE CLASS "C" (Underground)	CM	455.29	419.49	2,642.40	879.29	4,396.47

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401cii	CONCRETE CLASS "C" (On ground)	CM	455.29	419.49	2,749.98	906.19	4,530.95
401ciii	CONCRETE CLASS "C" (Elevated)	CM	455.29	419.49	2,965.15	959.98	4,799.91
401d	CONCRETE CLASS "D1"	CM	695.83	1,106.97	4,066.16	1,467.24	7,336.20
401e	CONCRETE CLASS "Y"	CM	980.60	419.49	3,597.32	1,249.35	6,246.76
401f	LEAN CONCRETE	CM	401.91	424.53	1,837.32	665.94	3,329.71
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,564.78	790.24	3,906.32	1,565.33	7,826.67
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,564.78	790.24	4,462.82	1,704.46	8,522.30
401gii	PRECAST CONCRETE CLASS "B"	CM	1,564.78	790.24	3,795.18	1,537.55	7,687.75
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,564.78	790.24	4,741.07	1,774.02	8,870.11
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,564.78	790.24	5,019.32	1,843.58	9,217.92
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,564.78	790.24	5,297.57	1,913.15	9,565.73
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,337.15	669.81	68,898.00	17,726.24	88,631.20
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,337.15	669.81	78,348.00	20,088.74	100,443.70
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,072.68	4,274.04	64,622.29	17,492.25	87,461.27
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,354.71	12,481.24	114,437.92	32,318.47	161,592.33
405b	LAUNCHING OF GIRDER	TON	55.38	486.64	-	135.51	677.53
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	99.39	-	271.97	92.84	464.20
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	99.39	-	271.68	92.77	463.84
406c	STEEL EXPANSION JOINTS	KG	8.08	21.04	103.85	33.24	166.22
406d	WATER STOPS 6" SIZE	M	82.83	-	406.91	122.43	612.17
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	38.86	-	2,870.33	727.30	3,636.48
406g	STEEL OR METAL BEARING DEVICES	KG	17.97	55.55	124.95	49.62	248.10
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	306.22	1,439.50	866.91	653.16	3,265.79
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	459.33	2,159.25	1,300.37	979.74	4,898.68
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	459.33	2,159.25	980.80	899.84	4,499.22

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	765.55	3,598.75	1,190.99	1,388.82	6,944.11
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	656.18	4,253.63	1,436.54	1,586.59	7,932.95
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,148.32	6,025.34	1,536.93	2,177.65	10,888.23
407h	PILE LOAD TEST UP TO 120 TON	EACH	21,498.06	40,036.45	78,795.52	35,082.51	175,412.53
407i	PILE LOAD TEST UP TO 240 TON	EACH	40,128.06	40,036.45	157,591.04	59,438.89	297,194.43
407j	PILE LOAD TEST UP TO 360 TON	EACH	58,758.06	43,882.72	236,386.56	84,756.83	423,784.17
407k	CONFIRMATORY BORING (NX SIZE)	M	181.34	1,323.15	6.24	377.68	1,888.41
410	BRICK WORK	CM	315.60	236.06	2,235.79	696.86	3,484.30
411a	STONE MASONRY RANDOM DRY	CM	269.67	91.36	375.23	184.06	920.32
411b	STONE MASONRY RANDOM WITH MORTAR	CM	290.37	139.82	1,102.31	383.12	1,915.62
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	352.47	91.36	421.73	216.39	1,081.95
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	414.57	139.82	1,183.09	434.37	2,171.84
411g	ROLL POINTING	SM	67.35	9.69	35.12	28.04	140.20
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	559.47	221.29	1,096.90	469.41	2,347.07
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	213.72	366.20	552.12	283.01	1,415.05
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	208.19	480.94	713.27	350.60	1,753.00
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	202.90	791.50	961.40	488.95	2,444.74
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	212.68	972.63	1,439.57	656.22	3,281.10
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	242.58	949.38	2,075.61	816.89	4,084.47
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	298.40	1,171.86	3,205.91	1,169.04	5,845.22
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	386.17	1,313.30	4,020.62	1,430.02	7,150.11
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	454.13	1,594.72	5,124.61	1,793.37	8,966.83
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	539.31	1,860.51	7,922.82	2,580.66	12,903.29
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	213.72	423.57	566.50	300.95	1,504.73
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	208.19	480.94	667.33	339.12	1,695.58
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	198.24	791.50	913.58	475.83	2,379.14

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	212.68	972.63	1,476.40	665.43	3,327.13
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	242.58	949.38	2,857.39	1,012.34	5,061.69
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	298.40	1,171.86	3,942.44	1,353.18	6,765.88
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	386.17	1,313.30	5,332.84	1,758.08	8,790.38
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	454.13	1,594.72	7,233.41	2,320.56	11,602.82
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	539.31	1,860.51	10,177.77	3,144.39	15,721.97
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	84.06	103.49	217.60	101.29	506.44
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	669.59	511.20	2,665.06	961.46	4,807.32
507a	STEEL WIRE MESH FOR GABIONS	KG	4.69	-	134.68	34.84	174.21
507b	ROCK FILL IN GABIONS	CM	90.50	-	458.79	137.32	686.61
508a	BRICK PAVING (SINGLE COURSE)	SM	104.07	26.90	178.29	77.32	386.58
508b	BRICK PAVING (DOUBLE COURSE)	SM	186.87	26.90	354.56	142.08	710.41
509a	RIP RAP CLASS "A"	CM	452.34	-	289.04	185.34	926.72
509b	RIP RAP CLASS "B"	CM	436.39	-	286.73	180.78	903.90
509c	RIP RAP CLASS "C"	CM	439.56	-	289.04	182.15	910.75
509d	GROUTED RIP RAP CLASS "A"	CM	551.59	84.24	1,351.65	496.87	2,484.35
509e	GROUTED RIP RAP CLASS "B"	CM	532.35	67.39	1,239.33	459.77	2,298.84
509f	GROUTED RIP RAP CLASS "C"	CM	526.43	56.16	1,266.21	462.20	2,310.99
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	728.23	295.88	3,066.96	1,022.77	5,113.84
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	44.55	167.47	253.98	116.50	582.51
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	98.00	322.32	-	105.08	525.40
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	142.93	57.10	46.97	61.75	308.75
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	182.95	73.09	60.12	79.04	395.20
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	232.63	150.62	282.52	166.44	832.20
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	290.79	188.27	353.15	208.05	1,040.25
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	239.95	498.72	1,714.19	613.22	3,066.08

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	857.95	567.97	3,741.99	1,291.98	6,459.89
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	125.19	75.65	334.35	133.80	669.00
603	BRICK EDGING	M	8.33	-	28.70	9.26	46.29
604a	METAL GUARD RAIL	M	16.86	59.95	1,492.92	392.43	1,962.16
604b	METAL GUARD RAIL END PIECES	EACH	22.78	-	1,138.10	290.22	1,451.10
604d	STEEL POST OF METAL GUARD RAIL	EACH	78.05	805.79	3,566.86	1,112.67	5,563.37
605a	CONCRETE BEAM GUARD RAIL	M	68.51	25.40	574.88	167.20	835.99
605c	CONCRETE POST FOR GUARD RAIL	M	84.12	22.64	574.95	170.43	852.13
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	216.16	213.74	6,368.86	1,699.69	8,498.44
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	65.83	320.61	8,407.81	2,198.56	10,992.82
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	216.16	453.76	11,069.25	2,934.79	14,673.95
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	710.63	503.34	19,187.25	5,100.31	25,501.53
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	142.13	100.67	8,403.91	2,161.68	10,808.38
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	248.51	-	1,135.94	346.11	1,730.56
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	248.51	-	1,703.91	488.10	2,440.52
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.60	5.03	15.41	5.76	28.80
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.87	3.40	37.18	10.36	51.82
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.60	5.03	20.56	7.05	35.24
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.87	3.40	49.59	13.47	67.33
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	64.24	4.26	148.91	54.35	271.76
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	64.24	8.15	468.56	135.24	676.20
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.25	7.44	21.42	8.03	40.13
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.25	8.29	63.09	18.66	93.29
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.25	5.98	28.56	9.45	47.24
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.25	8.29	84.12	23.91	119.57
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	64.24	3.04	206.81	68.52	342.61

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	64.24	6.45	795.53	216.55	1,082.77
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	53.89	3.04	99.28	39.05	195.26
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	53.89	6.45	312.85	93.30	466.48
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	53.89	3.04	137.87	48.70	243.51
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	53.89	6.45	531.15	147.87	739.36
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.82	69.34	184.67	65.71	328.54
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.82	69.34	223.26	75.36	376.78
610b	RIGHT OF WAY MARKER	EACH	96.14	101.77	260.03	114.49	572.43
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	578.54	811.70	1,842.56	808.20	4,040.99
610d	TEN KILOMETRE POST	EACH	1,108.78	1,623.40	3,936.90	1,667.27	8,336.35
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	122.00	76.10	890.28	272.09	1,360.46

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

FAISALABAD

(16)

Q. S. & Estimation Specialist

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District: Faisalabad

District Code: 16

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.74	8.97	-	2.43	12.14
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.12	150.86	1.06	39.76	198.81
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	21.00	391.92	2.39	103.83	519.13
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	83.99	1,567.67	9.55	415.30	2,076.52
103	STRIPPING	CM	2.40	81.82	-	21.05	105.27
104	COMPACTION OF NATURAL GROUND	SM	0.34	8.55	0.75	2.41	12.05
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.60	118.44	-	30.51	152.54
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	114.83	272.97	46.20	108.50	542.49
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	16.58	294.98	-	77.89	389.46
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.79	228.89	-	59.92	299.60
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.94	105.42	-	27.09	135.45
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	114.83	272.97	46.20	108.50	542.49
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	18.21	275.34	-	73.39	366.94
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.33	229.91	-	59.56	297.80
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.21	120.24	0.37	31.71	158.54
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	63.19	245.80	64.37	93.34	466.70
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	101.19	367.50	30.80	124.87	624.36
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	86.40	257.01	-	85.85	429.27
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	52.04	211.67	-	65.93	329.63
107d	GRANULAR BACK FILL	CM	33.01	119.94	352.86	126.45	632.26
107e	COMMON BACK FILL	CM	26.23	55.41	4.99	21.66	108.29
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.32	152.01	4.99	40.83	204.16
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	19.13	418.69	49.36	121.80	608.98
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	14.35	364.32	2.37	95.26	476.30
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	12.75	323.09	-	83.96	419.80
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.43	154.80	7.84	42.52	212.59

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.74	66.06	4.99	19.20	95.98
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	13.86	97.15	2.97	28.50	142.48
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.28	23.75	1.43	6.61	33.07
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.91	15.94	0.76	4.40	22.02
110	IMPROVED SUB-GRADE	CM	9.39	104.23	58.04	42.92	214.58
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.80	13.24	0.78	3.71	18.53
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.18	13.62	0.88	3.92	19.60
201	GRANULAR SUB-BASE	CM	7.48	224.59	439.72	167.95	839.74
202	AGGREGATE BASE	CM	8.43	287.87	747.30	260.90	1,304.48
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	73.82	1,311.60	5,380.19	1,691.40	8,457.01
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	75.91	1,311.60	5,782.60	1,792.53	8,962.63
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	81.20	1,369.89	5,371.30	1,705.60	8,527.98
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	81.20	1,365.01	5,907.20	1,838.35	9,191.76
204b	CEMENT STABILIZED BASE	CM	26.51	480.68	923.72	357.73	1,788.63
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	222.97	772.74	49,767.75	12,690.87	63,454.33
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	222.97	772.74	48,231.54	12,306.81	61,534.07
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	101.21	92.96	874.38	267.14	1,335.69
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	145.65	2,134.12	5,056.97	1,834.19	9,170.93
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	112.46	105.48	689.69	226.91	1,134.53
207a	DEEP PATCHING (0-15 cm)	SM	1.61	39.69	1.23	10.63	53.17
207b	DEEP PATCHING (16-30 cm)	SM	1.61	34.94	1.23	9.45	47.23
208	REINSTATEMENT OF ROAD SURFACE	SM	1.68	49.93	0.55	13.04	65.19
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.82	96.89	0.67	24.84	124.21
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.36	19.38	0.13	4.97	24.84
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	35.32	9.23	46.14
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.26	1.32	39.43	10.25	51.26

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	14.78	3.84	19.22
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.25	4.46	22.30
304a	SINGLE SURFACE TREATMENT	SM	0.70	6.52	69.98	19.30	96.49
304b	DOUBLE SURFACE TREATMENT	SM	1.01	12.21	135.49	37.18	185.89
304c	TRIPLE SURFACE TREATMENT	SM	1.70	17.13	154.53	43.34	216.71
304d	SEAL COAT	SM	0.64	3.54	49.49	13.42	67.09
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	67.89	1,294.58	6,358.93	1,930.35	9,651.74
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	67.89	1,251.29	6,880.05	2,049.80	10,249.02
307a	DENSE GRADED HOT BIT-MAC	CM	169.03	316.05	5,391.06	1,469.03	7,345.17
307b	OPEN GRADED HOT BIT-MAC	CM	169.03	316.05	5,250.85	1,433.98	7,169.92
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	28.13	543.36	1,797.08	592.14	2,960.71
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	24.17	560.93	42,016.00	10,650.27	53,251.37
309a	COLD MILLING, 0 - 30 mm	SM	0.87	22.13	7.55	7.64	38.19
309b	COLD MILLING, 0 - 50 mm	SM	1.45	36.88	12.58	12.73	63.65
309c	COLD MILLING, 0 - 70 mm	SM	2.18	55.33	18.87	19.10	95.48
401a1i	CONCRETE CLASS "A1" (Underground)	CM	548.58	923.86	3,271.57	1,186.00	5,930.02
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	548.58	923.86	3,523.82	1,249.07	6,245.33
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	548.58	923.86	4,028.31	1,375.19	6,875.95
401a2i	CONCRETE CLASS "A2" (Underground)	CM	548.58	923.86	3,549.82	1,255.57	6,277.83
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	548.58	923.86	3,802.07	1,318.63	6,593.14
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	548.58	923.86	4,306.56	1,444.75	7,223.76
401a3i	CONCRETE CLASS "A3" (Underground)	CM	548.58	923.86	3,828.07	1,325.13	6,625.65
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	548.58	923.86	4,080.32	1,388.19	6,940.96
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	548.58	923.86	4,584.81	1,514.32	7,571.58
401b	CONCRETE CLASS "B"	CM	687.28	672.22	2,659.75	1,004.81	5,024.05
401ci	CONCRETE CLASS "C" (Underground)	CM	552.37	419.49	2,913.29	971.29	4,856.43

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401cii	CONCRETE CLASS "C" (On ground)	CM	552.37	419.49	3,020.87	998.18	4,990.91
401ciii	CONCRETE CLASS "C" (Elevated)	CM	552.37	419.49	3,236.04	1,051.97	5,259.87
401d	CONCRETE CLASS "D1"	CM	875.99	1,106.97	4,293.27	1,569.06	7,845.30
401e	CONCRETE CLASS "Y"	CM	1,246.47	419.49	3,833.13	1,374.77	6,873.86
401f	LEAN CONCRETE	CM	468.17	424.53	2,090.15	745.71	3,728.57
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,911.08	790.24	4,182.31	1,720.91	8,604.54
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,911.08	790.24	4,738.81	1,860.03	9,300.16
401gii	PRECAST CONCRETE CLASS "B"	CM	1,911.08	790.24	4,056.77	1,689.52	8,447.62
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,911.08	790.24	5,017.06	1,929.60	9,647.98
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,911.08	790.24	5,295.31	1,999.16	9,995.79
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,911.08	790.24	5,573.56	2,068.72	10,343.60
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,667.39	669.81	67,838.00	17,543.80	87,719.00
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,667.39	669.81	77,288.00	19,906.30	99,531.50
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,357.47	4,274.04	64,490.57	17,530.52	87,652.61
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,649.27	12,481.24	114,451.31	32,395.45	161,977.26
405b	LAUNCHING OF GIRDER	TON	63.10	486.64	-	137.43	687.17
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	123.06	-	267.58	97.66	488.31
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	123.06	-	263.15	96.55	482.77
406c	STEEL EXPANSION JOINTS	KG	10.22	21.04	103.68	33.74	168.68
406d	WATER STOPS 6" SIZE	M	102.36	-	408.45	127.70	638.51
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	45.92	-	2,893.58	734.88	3,674.38
406g	STEEL OR METAL BEARING DEVICES	KG	20.87	55.55	124.72	50.28	251.42
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	345.11	1,439.50	665.62	612.56	3,062.79
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	517.66	2,159.25	998.44	918.84	4,594.18
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	517.66	2,159.25	762.05	859.74	4,298.70

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	862.77	3,598.75	937.33	1,349.71	6,748.56
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	739.51	4,253.63	1,120.53	1,528.42	7,642.10
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,294.15	6,025.34	1,218.82	2,134.58	10,672.88
407h	PILE LOAD TEST UP TO 120 TON	EACH	25,025.97	40,036.45	88,540.60	38,400.76	192,003.78
407i	PILE LOAD TEST UP TO 240 TON	EACH	47,381.97	40,036.45	177,081.20	66,124.91	330,624.53
407j	PILE LOAD TEST UP TO 360 TON	EACH	69,737.97	43,882.72	265,621.80	94,810.62	474,053.12
407k	CONFIRMATORY BORING (NX SIZE)	M	211.22	1,323.15	6.24	385.15	1,925.76
410	BRICK WORK	CM	379.38	236.06	2,450.01	766.36	3,831.80
411a	STONE MASONRY RANDOM DRY	CM	314.29	91.36	488.98	223.66	1,118.28
411b	STONE MASONRY RANDOM WITH MORTAR	CM	340.16	139.82	1,340.08	455.01	2,275.07
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	415.72	91.36	543.89	262.74	1,313.72
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	492.31	139.82	1,398.27	507.60	2,537.99
411g	ROLL POINTING	SM	82.49	9.69	37.20	32.34	161.72
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	669.29	221.29	1,312.08	550.66	2,753.32
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	246.01	366.20	555.99	292.05	1,460.26
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	241.35	480.94	717.92	360.05	1,800.26
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	229.85	791.50	966.83	497.04	2,485.22
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	242.83	972.63	1,445.92	665.34	3,326.72
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	277.32	949.38	2,081.96	827.16	4,135.82
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	341.80	1,171.86	3,215.07	1,182.18	5,910.92
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	442.33	1,313.30	4,029.74	1,446.34	7,231.71
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	518.63	1,594.72	5,135.69	1,812.26	9,061.30
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	617.31	1,860.51	7,935.74	2,603.39	13,016.94
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	246.01	423.57	574.25	310.96	1,554.79
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	241.35	480.94	671.98	348.57	1,742.83
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	224.26	791.50	919.01	483.69	2,418.46

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	242.83	972.63	1,481.33	674.20	3,370.99
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	277.32	949.38	2,864.44	1,022.78	5,113.92
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	341.80	1,171.86	3,951.60	1,366.32	6,831.58
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	442.33	1,313.30	5,341.96	1,774.40	8,871.98
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	518.63	1,594.72	7,244.48	2,339.46	11,697.29
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	617.31	1,860.51	10,190.69	3,167.13	15,835.63
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	91.91	103.49	350.48	136.47	682.35
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	785.19	511.20	2,917.39	1,053.44	5,267.22
507a	STEEL WIRE MESH FOR GABIONS	KG	5.52	-	131.13	34.16	170.82
507b	ROCK FILL IN GABIONS	CM	102.25	-	458.79	140.26	701.30
508a	BRICK PAVING (SINGLE COURSE)	SM	124.41	26.90	196.82	87.03	435.17
508b	BRICK PAVING (DOUBLE COURSE)	SM	225.84	26.90	390.52	160.81	804.07
509a	RIP RAP CLASS "A"	CM	542.87	-	402.79	236.42	1,182.08
509b	RIP RAP CLASS "B"	CM	525.38	-	399.57	231.24	1,156.18
509c	RIP RAP CLASS "C"	CM	530.97	-	402.79	233.44	1,167.19
509d	GROUTED RIP RAP CLASS "A"	CM	663.27	84.24	1,542.91	572.61	2,863.04
509e	GROUTED RIP RAP CLASS "B"	CM	642.40	67.39	1,421.62	532.85	2,664.27
509f	GROUTED RIP RAP CLASS "C"	CM	636.76	56.16	1,452.30	536.31	2,681.53
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	871.46	295.88	3,305.60	1,118.23	5,591.17
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	50.81	167.47	353.25	142.88	714.41
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	110.97	322.32	-	108.32	541.61
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	167.12	57.10	65.45	72.42	362.09
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	213.91	73.09	83.78	92.69	463.47
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	275.18	150.62	320.27	186.52	932.58
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	343.98	188.27	400.33	233.15	1,165.73
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	290.85	498.72	1,845.08	658.66	3,293.31

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,048.55	567.97	3,863.45	1,369.99	6,849.96
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	151.92	75.65	360.94	147.13	735.64
603	BRICK EDGING	M	9.54	-	30.91	10.11	50.56
604a	METAL GUARD RAIL	M	18.21	59.95	1,492.92	392.77	1,963.85
604b	METAL GUARD RAIL END PIECES	EACH	25.75	-	1,138.10	290.96	1,454.82
604d	STEEL POST OF METAL GUARD RAIL	EACH	81.05	805.79	3,566.86	1,113.42	5,567.12
605a	CONCRETE BEAM GUARD RAIL	M	82.79	25.40	579.88	172.02	860.09
605c	CONCRETE POST FOR GUARD RAIL	M	101.66	22.64	581.66	176.49	882.45
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	253.87	213.74	6,373.78	1,710.35	8,551.73
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	76.71	320.61	8,442.09	2,209.85	11,049.27
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	253.87	453.76	11,129.09	2,959.18	14,795.90
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	851.39	503.34	19,268.54	5,155.82	25,779.08
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	170.28	100.67	8,410.00	2,170.24	10,851.18
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	276.15	-	1,132.89	352.26	1,761.30
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	276.15	-	1,699.33	493.87	2,469.35
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.76	5.03	15.38	5.79	28.96
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.92	3.40	36.99	10.33	51.64
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.76	5.03	20.53	7.08	35.39
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.92	3.40	49.33	13.41	67.07
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	84.15	4.26	148.65	59.27	296.33
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	84.15	8.15	466.11	139.61	698.03
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.45	7.44	21.40	8.07	40.36
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.45	8.29	63.09	18.71	93.53
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.45	5.98	28.53	9.49	47.45
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.45	8.29	84.12	23.96	119.82
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	84.15	3.04	206.61	73.45	367.26

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	84.15	6.45	795.53	221.53	1,107.66
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	69.66	3.04	99.10	42.95	214.76
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	69.66	6.45	311.21	96.83	484.16
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	69.66	3.04	137.74	52.61	263.06
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	69.66	6.45	531.15	151.82	759.08
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	9.89	69.34	208.01	71.81	359.05
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	9.89	69.34	247.70	81.73	408.66
610b	RIGHT OF WAY MARKER	EACH	113.97	101.77	269.30	121.26	606.30
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	703.50	811.70	1,916.77	857.99	4,289.96
610d	TEN KILOMETRE POST	EACH	1,351.79	1,623.40	4,079.44	1,763.66	8,818.29
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	141.09	76.10	902.37	279.89	1,399.45

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

GUJRANWALA
(17)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Gujranwala

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.78	8.97	-	2.44	12.19
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.50	150.86	1.06	39.86	199.28
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	22.05	391.92	2.39	104.09	520.44
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	88.20	1,567.67	9.55	416.36	2,081.78
103	STRIPPING	CM	2.52	81.82	-	21.08	105.41
104	COMPACTION OF NATURAL GROUND	SM	0.35	8.55	0.75	2.41	12.07
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.86	118.44	-	30.58	152.88
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	121.79	272.97	46.20	110.24	551.20
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	17.48	294.98	-	78.12	390.58
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	11.36	228.89	-	60.06	300.32
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.16	105.42	-	27.15	135.73
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	121.79	272.97	46.20	110.24	551.20
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	19.34	275.34	-	73.67	368.35
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.78	229.91	-	59.67	298.36
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.59	120.24	0.37	31.80	159.01
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	66.69	245.80	64.37	94.22	471.08
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	107.42	367.50	30.80	126.43	632.16
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	91.66	257.01	-	87.17	435.84
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	55.25	211.67	-	66.73	333.64
107d	GRANULAR BACK FILL	CM	34.85	119.94	337.88	123.17	615.84
107e	COMMON BACK FILL	CM	27.47	55.41	4.99	21.97	109.84
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.68	152.01	4.99	40.92	204.61
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	20.16	418.69	49.36	122.05	610.27
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	15.12	364.32	2.37	95.45	477.26
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	13.44	323.09	-	84.13	420.66
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.83	154.80	7.84	42.62	213.09

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.05	66.06	4.99	19.27	96.37
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	14.57	97.15	2.97	28.67	143.37
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.35	23.75	1.43	6.63	33.16
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.96	15.94	0.76	4.42	22.08
110	IMPROVED SUB-GRADE	CM	9.91	104.23	56.42	42.64	213.19
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.84	13.24	0.78	3.72	18.58
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.24	13.62	0.88	3.93	19.67
201	GRANULAR SUB-BASE	CM	7.90	224.59	370.10	150.65	753.24
202	AGGREGATE BASE	CM	8.98	287.87	843.70	285.14	1,425.68
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	77.49	1,311.60	5,562.54	1,737.91	8,689.53
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	79.75	1,311.60	5,945.77	1,834.28	9,171.39
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	85.23	1,369.89	5,554.10	1,752.30	8,761.52
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	85.23	1,365.01	6,069.14	1,879.84	9,399.22
204b	CEMENT STABILIZED BASE	CM	28.15	480.68	1,154.58	415.85	2,079.26
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	235.10	772.74	49,398.09	12,601.48	63,007.42
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	235.10	772.74	47,861.88	12,217.43	61,087.16
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	105.69	92.96	1,042.85	310.37	1,551.87
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	153.26	2,134.12	5,239.17	1,881.64	9,408.18
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	117.46	105.48	729.19	238.03	1,190.16
207a	DEEP PATCHING (0-15 cm)	SM	1.69	39.69	1.23	10.66	53.28
207b	DEEP PATCHING (16-30 cm)	SM	1.69	34.94	1.23	9.47	47.33
208	REINSTATEMENT OF ROAD SURFACE	SM	1.79	49.93	0.55	13.07	65.33
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.91	96.89	0.67	24.87	124.33
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.38	19.38	0.13	4.97	24.87
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.29	1.32	35.06	9.17	45.83
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.28	1.32	39.14	10.18	50.92

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	14.67	3.82	19.09
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.12	4.43	22.15
304a	SINGLE SURFACE TREATMENT	SM	0.74	6.52	70.35	19.40	97.01
304b	DOUBLE SURFACE TREATMENT	SM	1.08	12.21	137.01	37.57	187.87
304c	TRIPLE SURFACE TREATMENT	SM	1.81	17.13	156.38	43.83	219.15
304d	SEAL COAT	SM	0.68	3.54	49.64	13.47	67.33
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	71.41	1,294.58	6,529.42	1,973.85	9,869.27
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	71.41	1,251.29	7,057.84	2,095.14	10,475.68
307a	DENSE GRADED HOT BIT-MAC	CM	177.76	316.05	5,548.91	1,510.68	7,553.40
307b	OPEN GRADED HOT BIT-MAC	CM	177.76	316.05	5,401.54	1,473.84	7,369.18
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	29.63	543.36	1,820.33	598.33	2,991.64
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	25.54	560.93	41,635.36	10,555.46	52,777.28
309a	COLD MILLING, 0 - 30 mm	SM	0.93	22.13	7.55	7.65	38.26
309b	COLD MILLING, 0 - 50 mm	SM	1.54	36.88	12.58	12.75	63.76
309c	COLD MILLING, 0 - 70 mm	SM	2.32	55.33	18.87	19.13	95.65
401a1i	CONCRETE CLASS "A1" (Underground)	CM	577.61	923.86	3,368.78	1,217.56	6,087.82
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	577.61	923.86	3,621.03	1,280.63	6,403.13
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	577.61	923.86	4,125.52	1,406.75	7,033.74
401a2i	CONCRETE CLASS "A2" (Underground)	CM	577.61	923.86	3,647.03	1,287.13	6,435.63
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	577.61	923.86	3,899.28	1,350.19	6,750.94
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	577.61	923.86	4,403.77	1,476.31	7,381.56
401a3i	CONCRETE CLASS "A3" (Underground)	CM	577.61	923.86	3,925.28	1,356.69	6,783.44
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	577.61	923.86	4,177.53	1,419.75	7,098.75
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	577.61	923.86	4,682.02	1,545.87	7,729.37
401b	CONCRETE CLASS "B"	CM	721.29	672.22	2,741.23	1,033.68	5,168.42
401ci	CONCRETE CLASS "C" (Underground)	CM	578.60	419.49	3,032.70	1,007.70	5,038.48

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401cii	CONCRETE CLASS "C" (On ground)	CM	578.60	419.49	3,140.28	1,034.59	5,172.96
401ciii	CONCRETE CLASS "C" (Elevated)	CM	578.60	419.49	3,355.45	1,088.38	5,441.92
401d	CONCRETE CLASS "D1"	CM	925.58	1,106.97	4,381.07	1,603.40	8,017.02
401e	CONCRETE CLASS "Y"	CM	1,315.92	419.49	3,928.96	1,416.09	7,080.46
401f	LEAN CONCRETE	CM	488.57	424.53	2,171.69	771.20	3,855.99
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,996.55	790.24	4,290.28	1,769.27	8,846.34
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,996.55	790.24	4,846.78	1,908.39	9,541.97
401gii	PRECAST CONCRETE CLASS "B"	CM	1,996.55	790.24	4,152.11	1,734.73	8,673.63
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,996.55	790.24	5,125.03	1,977.96	9,889.78
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,996.55	790.24	5,403.28	2,047.52	10,237.59
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,996.55	790.24	5,681.53	2,117.08	10,585.41
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,774.51	669.81	67,838.00	17,570.58	87,852.89
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,774.51	669.81	77,288.00	19,933.08	99,665.39
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,447.57	4,274.04	63,813.27	17,383.72	86,918.61
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,050.24	12,481.24	114,453.51	32,496.25	162,481.23
405b	LAUNCHING OF GIRDER	TON	73.15	486.64	-	139.95	699.73
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	130.39	-	265.64	99.01	495.03
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	130.39	-	265.73	99.03	495.14
406c	STEEL EXPANSION JOINTS	KG	10.87	21.04	102.70	33.66	168.28
406d	WATER STOPS 6" SIZE	M	108.39	-	409.10	129.37	646.86
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	47.03	-	2,889.23	734.06	3,670.32
406g	STEEL OR METAL BEARING DEVICES	KG	22.16	55.55	123.86	50.39	251.97
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	400.68	1,439.50	658.96	624.78	3,123.92
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	601.01	2,159.25	988.44	937.17	4,685.87
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	601.01	2,159.25	752.05	878.08	4,390.39

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,001.69	3,598.75	920.66	1,380.28	6,901.38
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	858.59	4,253.63	1,091.96	1,551.05	7,755.23
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,502.53	6,025.34	1,193.82	2,180.42	10,902.12
407h	PILE LOAD TEST UP TO 120 TON	EACH	26,166.67	40,036.45	84,642.24	37,711.34	188,556.70
407i	PILE LOAD TEST UP TO 240 TON	EACH	49,458.31	40,036.45	169,284.48	64,694.81	323,474.05
407j	PILE LOAD TEST UP TO 360 TON	EACH	72,749.95	43,882.72	253,926.72	92,639.85	463,199.24
407k	CONFIRMATORY BORING (NX SIZE)	M	235.15	1,323.15	6.24	391.14	1,955.68
410	BRICK WORK	CM	387.00	236.06	2,529.57	788.16	3,940.78
411a	STONE MASONRY RANDOM DRY	CM	322.10	91.36	520.25	233.43	1,167.14
411b	STONE MASONRY RANDOM WITH MORTAR	CM	347.97	139.82	1,327.06	453.71	2,268.56
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	425.61	91.36	578.37	273.83	1,369.17
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	503.23	139.82	1,399.52	510.64	2,553.22
411g	ROLL POINTING	SM	83.81	9.69	36.46	32.49	162.45
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	684.38	221.29	1,313.33	554.75	2,773.75
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	255.90	366.20	554.61	294.18	1,470.88
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	250.87	480.94	716.26	362.02	1,810.09
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	239.28	791.50	964.89	498.92	2,494.59
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	252.82	972.63	1,443.65	667.27	3,336.37
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	289.17	949.38	2,079.69	829.56	4,147.80
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	356.52	1,171.86	3,211.80	1,185.05	5,925.23
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	461.37	1,313.30	4,026.48	1,450.29	7,251.44
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	541.76	1,594.72	5,131.73	1,817.05	9,085.26
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	643.91	1,860.51	7,931.12	2,608.88	13,044.42
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	255.90	423.57	571.48	312.74	1,563.68
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	250.87	480.94	670.32	350.53	1,752.66
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	233.46	791.50	917.07	485.51	2,427.53

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	252.82	972.63	1,479.57	676.26	3,381.28
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	289.17	949.38	2,861.92	1,025.12	5,125.59
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	356.52	1,171.86	3,948.33	1,369.18	6,845.89
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	461.37	1,313.30	5,338.70	1,778.34	8,891.72
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	541.76	1,594.72	7,240.52	2,344.25	11,721.25
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	643.91	1,860.51	10,186.07	3,172.62	15,863.11
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	96.31	103.49	297.32	124.28	621.41
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	827.17	511.20	2,998.87	1,084.31	5,421.55
507a	STEEL WIRE MESH FOR GABIONS	KG	5.86	-	131.13	34.25	171.24
507b	ROCK FILL IN GABIONS	CM	106.87	-	508.20	153.77	768.83
508a	BRICK PAVING (SINGLE COURSE)	SM	127.61	26.90	207.60	90.53	452.65
508b	BRICK PAVING (DOUBLE COURSE)	SM	231.12	26.90	412.52	167.64	838.18
509a	RIP RAP CLASS "A"	CM	555.50	-	434.06	247.39	1,236.96
509b	RIP RAP CLASS "B"	CM	537.56	-	430.59	242.04	1,210.19
509c	RIP RAP CLASS "C"	CM	542.85	-	434.06	244.23	1,221.14
509d	GROUTED RIP RAP CLASS "A"	CM	679.00	84.24	1,546.50	577.44	2,887.19
509e	GROUTED RIP RAP CLASS "B"	CM	657.06	67.39	1,427.84	538.07	2,690.37
509f	GROUTED RIP RAP CLASS "C"	CM	651.06	56.16	1,457.74	541.24	2,706.20
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	900.65	295.88	3,382.95	1,144.87	5,724.36
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	53.08	167.47	338.01	139.64	698.19
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	123.61	322.32	-	111.48	557.41
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	171.63	57.10	70.54	74.82	374.08
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	219.69	73.09	90.29	95.77	478.83
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	281.79	150.62	315.12	186.88	934.41
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	352.24	188.27	393.90	233.60	1,168.01
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	306.27	498.72	1,895.62	675.15	3,375.77

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,095.53	567.97	3,919.60	1,395.77	6,978.87
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	158.54	75.65	370.50	151.17	755.87
603	BRICK EDGING	M	9.85	-	33.12	10.74	53.71
604a	METAL GUARD RAIL	M	20.43	59.95	1,492.92	393.33	1,966.63
604b	METAL GUARD RAIL END PIECES	EACH	29.29	-	1,138.10	291.85	1,459.24
604d	STEEL POST OF METAL GUARD RAIL	EACH	90.39	805.79	3,566.86	1,115.76	5,578.79
605a	CONCRETE BEAM GUARD RAIL	M	86.31	25.40	584.05	173.94	869.71
605c	CONCRETE POST FOR GUARD RAIL	M	105.98	22.64	586.72	178.83	894.17
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	265.23	213.74	6,390.07	1,717.26	8,586.30
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	78.55	320.61	8,457.20	2,214.09	11,070.44
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	265.23	453.76	11,152.54	2,967.88	14,839.41
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	889.55	503.34	19,302.56	5,173.86	25,869.31
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	177.91	100.67	8,415.41	2,173.50	10,867.49
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	294.55	-	1,132.47	356.75	1,783.77
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	294.55	-	1,698.71	498.31	2,491.56
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.88	5.03	15.38	5.82	29.11
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.96	3.40	36.96	10.33	51.66
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.88	5.03	20.53	7.11	35.53
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.96	3.40	49.30	13.42	67.08
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	89.63	4.26	148.63	60.63	303.15
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	89.63	8.15	465.78	140.89	704.46
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.60	7.44	21.40	8.11	40.54
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.60	8.29	63.09	18.74	93.72
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.60	5.98	28.53	9.53	47.63
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.60	8.29	84.12	24.00	120.00
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	89.63	3.04	206.59	74.82	374.08

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	89.63	6.45	795.53	222.90	1,114.51
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	74.11	3.04	99.09	44.06	220.29
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	74.11	6.45	310.99	97.89	489.43
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	74.11	3.04	137.73	53.72	268.59
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	74.11	6.45	531.15	152.93	764.63
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	10.09	69.34	184.77	66.05	330.25
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	10.09	69.34	223.36	75.70	378.49
610b	RIGHT OF WAY MARKER	EACH	118.81	101.77	273.64	123.56	617.78
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	734.62	811.70	1,950.73	874.26	4,371.32
610d	TEN KILOMETRE POST	EACH	1,417.49	1,623.40	4,150.31	1,797.80	8,989.00
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	149.89	76.10	906.85	283.21	1,416.04

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

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GUJRAT
(18)

Q. S. & Estimation Specialist

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.79	8.97	-	2.44	12.20
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.67	150.86	1.06	39.90	199.49
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	22.43	391.92	2.39	104.18	520.92
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	89.73	1,567.67	9.55	416.74	2,083.69
103	STRIPPING	CM	2.56	81.82	-	21.09	105.47
104	COMPACTION OF NATURAL GROUND	SM	0.36	8.55	0.75	2.42	12.08
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.12	118.44	-	30.64	153.20
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	126.52	272.97	46.20	111.42	557.11
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	17.92	294.98	-	78.23	391.13
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	11.63	228.89	-	60.13	300.66
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.37	105.42	-	27.20	135.99
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	126.52	272.97	46.20	111.42	557.11
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	20.13	275.34	-	73.87	369.33
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	9.00	229.91	-	59.73	298.63
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.84	120.24	0.37	31.86	159.32
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	66.37	245.80	64.37	94.14	470.68
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	111.82	367.50	30.80	127.53	637.65
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	95.25	257.01	-	88.07	440.33
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	57.51	211.67	-	67.29	336.47
107d	GRANULAR BACK FILL	CM	35.86	119.94	341.42	124.31	621.53
107e	COMMON BACK FILL	CM	27.79	55.41	4.99	22.05	110.24
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.88	152.01	4.99	40.97	204.85
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	20.67	418.69	49.36	122.18	610.91
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	15.50	364.32	2.37	95.55	477.74
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	13.78	323.09	-	84.22	421.08
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	8.03	154.80	7.84	42.67	213.34

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.21	66.06	4.99	19.31	96.57
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	14.86	97.15	2.97	28.74	143.72
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.39	23.75	1.43	6.64	33.21
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.99	15.94	0.76	4.42	22.11
110	IMPROVED SUB-GRADE	CM	10.18	104.23	50.55	41.24	206.20
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.86	13.24	0.78	3.72	18.60
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.26	13.62	0.88	3.94	19.69
201	GRANULAR SUB-BASE	CM	8.12	224.59	441.83	168.64	843.18
202	AGGREGATE BASE	CM	9.42	287.87	692.20	247.37	1,236.86
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	78.78	1,311.60	5,488.28	1,719.66	8,598.31
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	81.19	1,311.60	5,873.19	1,816.49	9,082.46
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	86.61	1,369.89	5,479.77	1,734.07	8,670.33
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	86.61	1,365.01	5,996.41	1,862.00	9,310.02
204b	CEMENT STABILIZED BASE	CM	29.34	480.68	1,092.29	400.58	2,002.89
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	241.14	772.74	49,210.23	12,556.03	62,780.14
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	241.14	772.74	47,674.02	12,171.98	60,859.88
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	106.20	92.96	994.72	298.47	1,492.35
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	156.56	2,134.12	5,168.10	1,864.69	9,323.47
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	118.11	105.48	740.39	240.99	1,204.97
207a	DEEP PATCHING (0-15 cm)	SM	1.73	39.69	1.23	10.66	53.32
207b	DEEP PATCHING (16-30 cm)	SM	1.73	34.94	1.23	9.48	47.38
208	REINSTATEMENT OF ROAD SURFACE	SM	1.87	49.93	0.55	13.09	65.43
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.95	96.89	0.67	24.88	124.38
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.39	19.38	0.13	4.98	24.88
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.30	1.32	34.93	9.14	45.68
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.29	1.32	38.99	10.15	50.74

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	14.62	3.81	19.03
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	17.05	4.41	22.07
304a	SINGLE SURFACE TREATMENT	SM	0.77	6.52	69.81	19.28	96.38
304b	DOUBLE SURFACE TREATMENT	SM	1.12	12.21	135.73	37.27	186.33
304c	TRIPLE SURFACE TREATMENT	SM	1.88	17.13	154.89	43.48	217.39
304d	SEAL COAT	SM	0.72	3.54	49.32	13.39	66.97
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	72.92	1,294.58	6,451.17	1,954.67	9,773.33
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	72.92	1,251.29	6,974.30	2,074.63	10,373.14
307a	DENSE GRADED HOT BIT-MAC	CM	181.40	316.05	5,475.90	1,493.34	7,466.68
307b	OPEN GRADED HOT BIT-MAC	CM	181.40	316.05	5,330.80	1,457.06	7,285.31
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	30.33	543.36	1,806.71	595.10	2,975.50
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	26.34	560.93	41,441.92	10,507.30	52,536.48
309a	COLD MILLING, 0 - 30 mm	SM	0.97	22.13	7.55	7.66	38.31
309b	COLD MILLING, 0 - 50 mm	SM	1.61	36.88	12.58	12.77	63.85
309c	COLD MILLING, 0 - 70 mm	SM	2.41	55.33	18.87	19.15	95.77
401a1i	CONCRETE CLASS "A1" (Underground)	CM	566.28	923.86	3,369.60	1,214.93	6,074.67
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	566.28	923.86	3,621.85	1,278.00	6,389.98
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	566.28	923.86	4,126.34	1,404.12	7,020.60
401a2i	CONCRETE CLASS "A2" (Underground)	CM	566.28	923.86	3,647.85	1,284.50	6,422.49
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	566.28	923.86	3,900.10	1,347.56	6,737.80
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	566.28	923.86	4,404.59	1,473.68	7,368.42
401a3i	CONCRETE CLASS "A3" (Underground)	CM	566.28	923.86	3,926.10	1,354.06	6,770.30
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	566.28	923.86	4,178.35	1,417.12	7,085.61
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	566.28	923.86	4,682.84	1,543.25	7,716.23
401b	CONCRETE CLASS "B"	CM	720.40	672.22	2,746.53	1,034.79	5,173.93
401ci	CONCRETE CLASS "C" (Underground)	CM	565.72	419.49	3,026.76	1,002.99	5,014.97

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401cii	CONCRETE CLASS "C" (On ground)	CM	565.72	419.49	3,134.35	1,029.89	5,149.45
401ciii	CONCRETE CLASS "C" (Elevated)	CM	565.72	419.49	3,349.51	1,083.68	5,418.41
401d	CONCRETE CLASS "D1"	CM	896.44	1,106.97	4,381.65	1,596.26	7,981.32
401e	CONCRETE CLASS "Y"	CM	1,268.33	419.49	3,928.22	1,404.01	7,020.06
401f	LEAN CONCRETE	CM	485.22	424.53	2,176.95	771.67	3,858.37
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,951.66	790.24	4,290.72	1,758.16	8,790.78
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,951.66	790.24	4,847.22	1,897.28	9,486.40
401gii	PRECAST CONCRETE CLASS "B"	CM	1,951.66	790.24	4,153.49	1,723.85	8,619.24
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,951.66	790.24	5,125.47	1,966.84	9,834.21
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,951.66	790.24	5,403.72	2,036.41	10,182.03
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,951.66	790.24	5,681.97	2,105.97	10,529.84
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,725.05	669.81	67,838.00	17,558.21	87,791.07
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,725.05	669.81	77,288.00	19,920.71	99,603.57
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,407.21	4,274.04	64,443.87	17,531.28	87,656.41
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,143.37	12,481.24	119,961.71	33,896.58	169,482.89
405b	LAUNCHING OF GIRDER	TON	75.09	486.64	-	140.43	702.16
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	127.86	-	266.07	98.48	492.41
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	127.86	-	266.11	98.49	492.46
406c	STEEL EXPANSION JOINTS	KG	10.55	21.04	103.64	33.81	169.03
406d	WATER STOPS 6" SIZE	M	105.65	-	409.33	128.75	643.73
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	45.89	-	2,872.09	729.50	3,647.48
406g	STEEL OR METAL BEARING DEVICES	KG	22.22	55.55	124.70	50.62	253.09
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	408.95	1,439.50	653.02	625.37	3,126.84
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	613.42	2,159.25	979.54	938.05	4,690.26
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	613.42	2,159.25	743.15	878.96	4,394.78

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,022.37	3,598.75	905.83	1,381.74	6,908.69
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	876.32	4,253.63	1,066.53	1,549.12	7,745.61
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,533.56	6,025.34	1,171.57	2,182.62	10,913.09
407h	PILE LOAD TEST UP TO 120 TON	EACH	26,372.07	40,036.45	88,540.64	38,737.29	193,686.44
407i	PILE LOAD TEST UP TO 240 TON	EACH	49,663.71	40,036.45	177,081.28	66,695.36	333,476.79
407j	PILE LOAD TEST UP TO 360 TON	EACH	72,955.35	43,882.72	265,621.92	95,615.00	478,074.98
407k	CONFIRMATORY BORING (NX SIZE)	M	238.09	1,323.15	6.24	391.87	1,959.35
410	BRICK WORK	CM	374.08	236.06	2,557.96	792.03	3,960.13
411a	STONE MASONRY RANDOM DRY	CM	313.58	91.36	491.55	224.12	1,120.61
411b	STONE MASONRY RANDOM WITH MORTAR	CM	337.73	139.82	1,333.85	452.85	2,264.24
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	413.64	91.36	547.36	263.09	1,315.45
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	487.82	139.82	1,395.13	505.69	2,528.46
411g	ROLL POINTING	SM	80.43	9.69	37.05	31.79	158.97
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	663.78	221.29	1,308.94	548.50	2,742.52
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	255.63	366.20	555.72	294.39	1,471.94
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	250.25	480.94	717.59	362.19	1,810.97
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	239.50	791.50	966.44	499.36	2,496.80
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	253.02	972.63	1,445.47	667.78	3,338.89
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	290.29	949.38	2,081.51	830.29	4,151.47
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	358.30	1,171.86	3,214.42	1,186.15	5,930.73
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	463.68	1,313.30	4,029.09	1,451.52	7,257.58
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	545.79	1,594.72	5,134.90	1,818.85	9,094.26
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	647.17	1,860.51	7,934.82	2,610.62	13,053.12
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	255.63	423.57	573.70	313.23	1,566.13
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	250.25	480.94	671.65	350.71	1,753.55
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	233.68	791.50	918.62	485.95	2,429.75

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	253.02	972.63	1,480.98	676.66	3,383.29
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	290.29	949.38	2,863.94	1,025.90	5,129.51
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	358.30	1,171.86	3,950.95	1,370.28	6,851.39
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	463.68	1,313.30	5,341.31	1,779.57	8,897.86
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	545.79	1,594.72	7,243.69	2,346.05	11,730.25
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	647.17	1,860.51	10,189.77	3,174.36	15,871.81
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	97.52	103.49	350.48	137.87	689.37
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	819.46	511.20	3,004.17	1,083.71	5,418.54
507a	STEEL WIRE MESH FOR GABIONS	KG	5.82	-	132.86	34.67	173.35
507b	ROCK FILL IN GABIONS	CM	107.60	-	494.08	150.42	752.11
508a	BRICK PAVING (SINGLE COURSE)	SM	124.52	26.90	209.82	90.31	451.55
508b	BRICK PAVING (DOUBLE COURSE)	SM	224.58	26.90	416.51	167.00	834.99
509a	RIP RAP CLASS "A"	CM	539.86	-	405.36	236.31	1,181.53
509b	RIP RAP CLASS "B"	CM	522.29	-	402.12	231.10	1,155.51
509c	RIP RAP CLASS "C"	CM	526.67	-	405.36	233.01	1,165.04
509d	GROUTED RIP RAP CLASS "A"	CM	660.42	84.24	1,539.99	571.16	2,855.80
509e	GROUTED RIP RAP CLASS "B"	CM	638.05	67.39	1,419.25	531.17	2,655.86
509f	GROUTED RIP RAP CLASS "C"	CM	631.77	56.16	1,449.74	534.42	2,672.09
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	883.94	295.88	3,387.84	1,141.91	5,709.57
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	53.40	167.47	341.87	140.69	703.43
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	125.05	322.32	-	111.84	559.20
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	167.80	57.10	65.87	72.69	363.46
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	214.78	73.09	84.32	93.05	465.24
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	274.13	150.62	317.99	185.68	928.42
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	342.66	188.27	397.49	232.10	1,160.52
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	300.31	498.72	1,896.06	673.78	3,368.88

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,070.33	567.97	3,919.83	1,389.53	6,947.65
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	155.17	75.65	370.85	150.42	752.09
603	BRICK EDGING	M	9.71	-	33.12	10.71	53.54
604a	METAL GUARD RAIL	M	20.98	59.95	1,492.92	393.46	1,967.31
604b	METAL GUARD RAIL END PIECES	EACH	29.64	-	1,138.10	291.94	1,459.68
604d	STEEL POST OF METAL GUARD RAIL	EACH	93.38	805.79	3,566.86	1,116.51	5,582.53
605a	CONCRETE BEAM GUARD RAIL	M	85.01	25.40	583.93	173.59	867.93
605c	CONCRETE POST FOR GUARD RAIL	M	104.38	22.64	586.59	178.40	892.02
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	263.32	213.74	6,385.80	1,715.71	8,578.57
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	76.16	320.61	8,458.29	2,213.77	11,068.83
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	263.32	453.76	11,155.28	2,968.09	14,840.44
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	883.23	503.34	19,307.44	5,173.50	25,867.50
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	176.65	100.67	8,417.31	2,173.66	10,868.28
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	293.09	-	1,132.75	356.46	1,782.30
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	293.09	-	1,699.12	498.05	2,490.27
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.88	5.03	15.38	5.82	29.11
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.96	3.40	36.96	10.33	51.66
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.88	5.03	20.53	7.11	35.54
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.96	3.40	49.30	13.42	67.08
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	85.37	4.26	148.65	59.57	297.84
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	85.37	8.15	465.78	139.83	699.13
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.60	7.44	21.40	8.11	40.54
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.60	8.29	63.09	18.74	93.72
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.60	5.98	28.53	9.53	47.64
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.60	8.29	84.12	24.00	120.01
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	85.37	3.04	206.61	73.75	368.77

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	85.37	6.45	795.53	221.84	1,109.18
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	70.88	3.04	99.10	43.25	216.27
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	70.88	6.45	310.99	97.08	485.40
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	70.88	3.04	137.74	52.91	264.57
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	70.88	6.45	531.15	152.12	760.60
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	9.71	69.34	184.81	65.97	329.83
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	9.71	69.34	223.40	75.61	378.07
610b	RIGHT OF WAY MARKER	EACH	118.08	101.77	273.56	123.35	616.77
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	717.85	811.70	1,951.09	870.16	4,350.81
610d	TEN KILOMETRE POST	EACH	1,387.40	1,623.40	4,149.08	1,789.97	8,949.86
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	148.32	76.10	908.47	283.22	1,416.12

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

HAFIZABAD
(20-A)

Q. S. & Estimation Specialist

CSR - March 2008

National Highway Authority
Islamabad

Quantity Surveying &
Estimation Specialist

Rate Analysis Summary (Construction)

District: Hafizabad

District Code: 20-A

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.79	8.97	-	2.44	12.20
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.67	150.86	1.06	39.90	199.49
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	22.43	391.92	2.39	104.18	520.92
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	89.73	1,567.67	9.55	416.74	2,083.69
103	STRIPPING	CM	2.53	81.82	-	21.09	105.44
104	COMPACTION OF NATURAL GROUND	SM	0.36	8.55	0.75	2.41	12.07
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.12	118.44	-	30.64	153.20
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	126.72	272.97	46.20	111.47	557.36
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	17.88	294.98	-	78.22	391.08
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	11.56	228.89	-	60.11	300.56
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.37	105.42	-	27.20	135.99
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	126.72	272.97	46.20	111.47	557.36
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	20.18	275.34	-	73.88	369.40
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.96	229.91	-	59.72	298.59
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.75	120.24	0.37	31.84	159.21
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	64.24	245.80	64.37	93.60	468.02
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	112.09	367.50	30.80	127.60	637.99
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	95.50	257.01	-	88.13	440.64
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	57.65	211.67	-	67.33	336.65
107d	GRANULAR BACK FILL	CM	35.93	119.94	339.34	123.80	619.01
107e	COMMON BACK FILL	CM	27.79	55.41	4.99	22.05	110.24
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.83	152.01	4.99	40.96	204.79
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	20.58	418.69	49.36	122.16	610.80
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	15.44	364.32	2.37	95.53	477.66
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	13.72	323.09	-	84.20	421.01
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.98	154.80	7.84	42.66	213.28

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.16	66.06	4.99	19.30	96.51
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	14.75	97.15	2.97	28.72	143.59
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.39	23.75	1.43	6.64	33.20
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.98	15.94	0.76	4.42	22.10
110	IMPROVED SUB-GRADE	CM	10.14	104.23	51.27	41.41	207.06
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.85	13.24	0.78	3.72	18.59
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.24	13.62	0.88	3.93	19.67
201	GRANULAR SUB-BASE	CM	8.08	224.59	440.95	168.40	842.02
202	AGGREGATE BASE	CM	9.46	287.87	761.06	264.60	1,322.98
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	78.61	1,311.60	5,371.50	1,690.43	8,452.13
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	81.02	1,311.60	5,756.44	1,787.26	8,936.32
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	86.26	1,369.89	5,362.52	1,704.67	8,523.35
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	86.26	1,365.01	5,880.78	1,833.01	9,165.06
204b	CEMENT STABILIZED BASE	CM	29.45	480.68	947.86	364.50	1,822.49
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	238.18	772.74	49,610.19	12,655.28	63,276.40
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	238.18	772.74	48,073.98	12,271.23	61,356.14
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	106.00	92.96	826.21	256.29	1,281.47
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	155.85	2,134.12	5,008.11	1,824.52	9,122.59
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	118.05	105.48	639.56	215.77	1,078.86
207a	DEEP PATCHING (0-15 cm)	SM	1.72	39.69	1.23	10.66	53.30
207b	DEEP PATCHING (16-30 cm)	SM	1.72	34.94	1.23	9.47	47.36
208	REINSTATEMENT OF ROAD SURFACE	SM	1.88	49.93	0.55	13.09	65.44
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.91	96.89	0.67	24.86	124.32
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.38	19.38	0.13	4.97	24.86
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.30	1.32	35.21	9.21	46.03
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.29	1.32	39.30	10.23	51.14

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	14.74	3.84	19.18
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	17.19	4.45	22.25
304a	SINGLE SURFACE TREATMENT	SM	0.77	6.52	69.62	19.23	96.13
304b	DOUBLE SURFACE TREATMENT	SM	1.12	12.21	134.43	36.94	184.70
304c	TRIPLE SURFACE TREATMENT	SM	1.87	17.13	153.34	43.09	215.44
304d	SEAL COAT	SM	0.72	3.54	49.51	13.44	67.21
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	72.73	1,294.58	6,340.27	1,926.89	9,634.46
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	72.73	1,251.29	6,864.50	2,047.13	10,235.65
307a	DENSE GRADED HOT BIT-MAC	CM	181.40	316.05	5,389.27	1,471.68	7,358.38
307b	OPEN GRADED HOT BIT-MAC	CM	181.40	316.05	5,222.46	1,429.98	7,149.88
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	30.33	543.36	1,784.18	589.47	2,947.33
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	26.34	560.93	41,853.76	10,610.26	53,051.28
309a	COLD MILLING, 0 - 30 mm	SM	0.97	22.13	7.55	7.66	38.31
309b	COLD MILLING, 0 - 50 mm	SM	1.61	36.88	12.58	12.77	63.85
309c	COLD MILLING, 0 - 70 mm	SM	2.41	55.33	18.87	19.15	95.77
401a1i	CONCRETE CLASS "A1" (Underground)	CM	541.30	923.86	3,295.00	1,190.04	5,950.19
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	541.30	923.86	3,547.24	1,253.10	6,265.50
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	541.30	923.86	4,051.74	1,379.22	6,896.12
401a2i	CONCRETE CLASS "A2" (Underground)	CM	541.30	923.86	3,573.25	1,259.60	6,298.00
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	541.30	923.86	3,825.49	1,322.66	6,613.31
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	541.30	923.86	4,329.99	1,448.79	7,243.93
401a3i	CONCRETE CLASS "A3" (Underground)	CM	541.30	923.86	3,851.50	1,329.16	6,645.82
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	541.30	923.86	4,103.74	1,392.23	6,961.13
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	541.30	923.86	4,608.24	1,518.35	7,591.75
401b	CONCRETE CLASS "B"	CM	701.27	672.22	2,631.69	1,001.29	5,006.47
401ci	CONCRETE CLASS "C" (Underground)	CM	542.07	419.49	2,903.84	966.35	4,831.75

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401cii	CONCRETE CLASS "C" (On ground)	CM	542.07	419.49	3,011.42	993.25	4,966.23
401ciii	CONCRETE CLASS "C" (Elevated)	CM	542.07	419.49	3,226.59	1,047.04	5,235.19
401d	CONCRETE CLASS "D1"	CM	848.41	1,106.97	4,307.93	1,565.83	7,829.14
401e	CONCRETE CLASS "Y"	CM	1,197.61	419.49	3,871.10	1,372.05	6,860.25
401f	LEAN CONCRETE	CM	475.65	424.53	2,062.10	740.57	3,702.86
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,877.14	790.24	4,212.32	1,719.93	8,599.63
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,877.14	790.24	4,768.82	1,859.05	9,295.25
401gii	PRECAST CONCRETE CLASS "B"	CM	1,877.14	790.24	4,024.71	1,673.02	8,365.12
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,877.14	790.24	5,047.07	1,928.61	9,643.06
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,877.14	790.24	5,325.32	1,998.18	9,990.88
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,877.14	790.24	5,603.57	2,067.74	10,338.69
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,632.86	669.81	67,838.00	17,535.17	87,675.84
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,632.86	669.81	77,288.00	19,897.67	99,488.34
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,310.88	4,274.04	63,825.06	17,352.50	86,762.48
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,158.94	12,481.24	114,456.61	32,524.20	162,620.98
405b	LAUNCHING OF GIRDER	TON	75.39	486.64	-	140.51	702.54
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	123.12	-	266.58	97.42	487.12
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	123.12	-	266.61	97.43	487.16
406c	STEEL EXPANSION JOINTS	KG	9.81	21.04	102.68	33.38	166.92
406d	WATER STOPS 6" SIZE	M	101.04	-	409.34	127.60	637.98
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	43.76	-	2,902.95	736.68	3,683.38
406g	STEEL OR METAL BEARING DEVICES	KG	21.26	55.55	123.85	50.17	250.83
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	408.28	1,439.50	663.37	627.79	3,138.94
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	612.42	2,159.25	995.06	941.68	4,708.41
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	612.42	2,159.25	758.68	882.59	4,412.93

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,020.70	3,598.75	931.71	1,387.79	6,938.94
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	874.88	4,253.63	1,110.89	1,559.85	7,799.25
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,531.04	6,025.34	1,210.38	2,191.69	10,958.45
407h	PILE LOAD TEST UP TO 120 TON	EACH	26,413.57	40,036.45	86,591.44	38,260.36	191,301.82
407i	PILE LOAD TEST UP TO 240 TON	EACH	49,705.21	40,036.45	173,182.88	65,731.13	328,655.67
407j	PILE LOAD TEST UP TO 360 TON	EACH	72,996.85	43,882.72	259,774.32	94,163.47	470,817.36
407k	CONFIRMATORY BORING (NX SIZE)	M	238.95	1,323.15	6.24	392.09	1,960.43
410	BRICK WORK	CM	355.29	236.06	2,402.10	748.36	3,741.80
411a	STONE MASONRY RANDOM DRY	CM	300.28	91.36	500.48	223.03	1,115.15
411b	STONE MASONRY RANDOM WITH MORTAR	CM	322.13	139.82	1,360.44	455.60	2,277.98
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	395.73	91.36	557.01	261.03	1,305.13
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	465.30	139.82	1,418.03	505.79	2,528.94
411g	ROLL POINTING	SM	75.82	9.69	37.35	30.71	153.57
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	634.35	221.29	1,331.84	546.87	2,734.36
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	252.89	366.20	556.27	293.84	1,469.19
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	247.50	480.94	718.25	361.67	1,808.37
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	236.66	791.50	967.22	498.84	2,494.21
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	250.43	972.63	1,446.37	667.36	3,336.79
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	287.70	949.38	2,082.41	829.87	4,149.36
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	354.82	1,171.86	3,215.73	1,185.60	5,928.01
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	459.18	1,313.30	4,030.39	1,450.72	7,253.58
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	541.97	1,594.72	5,136.48	1,818.29	9,091.46
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	640.80	1,860.51	7,936.66	2,609.49	13,047.45
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	252.89	423.57	574.80	312.81	1,564.07
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	247.50	480.94	672.31	350.19	1,750.94
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	230.83	791.50	919.40	485.43	2,427.16

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	250.43	972.63	1,481.69	676.19	3,380.93
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	287.70	949.38	2,864.94	1,025.51	5,127.53
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	354.82	1,171.86	3,952.26	1,369.74	6,848.68
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	459.18	1,313.30	5,342.61	1,778.77	8,893.86
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	541.97	1,594.72	7,245.27	2,345.49	11,727.45
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	640.80	1,860.51	10,191.61	3,173.23	15,866.14
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	97.23	103.49	323.90	131.16	655.78
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	792.65	511.20	2,889.33	1,048.30	5,241.48
507a	STEEL WIRE MESH FOR GABIONS	KG	5.62	-	131.13	34.19	170.94
507b	ROCK FILL IN GABIONS	CM	107.31	-	501.14	152.11	760.56
508a	BRICK PAVING (SINGLE COURSE)	SM	119.73	26.90	189.50	84.03	420.17
508b	BRICK PAVING (DOUBLE COURSE)	SM	215.18	26.90	376.10	154.55	772.73
509a	RIP RAP CLASS "A"	CM	516.37	-	414.29	232.66	1,163.32
509b	RIP RAP CLASS "B"	CM	499.81	-	410.97	227.69	1,138.47
509c	RIP RAP CLASS "C"	CM	503.33	-	414.29	229.40	1,147.02
509d	GROUTED RIP RAP CLASS "A"	CM	632.32	84.24	1,574.09	572.66	2,863.31
509e	GROUTED RIP RAP CLASS "B"	CM	610.04	67.39	1,450.70	532.03	2,660.17
509f	GROUTED RIP RAP CLASS "C"	CM	603.82	56.16	1,480.28	535.07	2,675.33
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	855.17	295.88	3,278.98	1,107.51	5,537.54
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	53.13	167.47	339.62	140.06	700.28
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	125.05	322.32	-	111.84	559.20
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	161.48	57.10	67.32	71.48	357.38
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	206.70	73.09	86.17	91.49	457.45
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	262.35	150.62	321.81	183.70	918.48
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	327.94	188.27	402.27	229.62	1,148.10
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	287.14	498.72	1,857.24	660.77	3,303.87

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,028.50	567.97	3,879.06	1,368.88	6,844.41
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	149.37	75.65	362.05	146.77	733.84
603	BRICK EDGING	M	9.44	-	29.86	9.82	49.12
604a	METAL GUARD RAIL	M	20.98	59.95	1,492.92	393.46	1,967.31
604b	METAL GUARD RAIL END PIECES	EACH	29.64	-	1,138.10	291.94	1,459.68
604d	STEEL POST OF METAL GUARD RAIL	EACH	93.38	805.79	3,566.86	1,116.51	5,582.53
605a	CONCRETE BEAM GUARD RAIL	M	82.87	25.40	581.15	172.36	861.78
605c	CONCRETE POST FOR GUARD RAIL	M	101.75	22.64	583.24	176.91	884.55
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	257.50	213.74	6,368.52	1,709.94	8,549.71
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	72.97	320.61	8,436.11	2,207.42	11,037.11
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	257.50	453.76	11,119.61	2,957.72	14,788.59
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	869.90	503.34	19,253.99	5,156.81	25,784.03
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	173.98	100.67	8,406.68	2,170.33	10,851.66
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	281.57	-	1,132.77	353.58	1,767.92
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	281.57	-	1,699.15	495.18	2,475.90
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.84	5.03	15.38	5.81	29.06
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.95	3.40	36.98	10.33	51.66
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.84	5.03	20.53	7.10	35.49
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.95	3.40	49.32	13.42	67.08
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	79.29	4.26	148.65	58.05	290.24
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	79.29	8.15	465.98	138.36	691.78
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.54	7.44	21.40	8.09	40.47
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.54	8.29	63.09	18.73	93.65
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.54	5.98	28.53	9.51	47.57
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.54	8.29	84.12	23.99	119.94
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	79.29	3.04	206.61	72.23	361.17

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Rate Analysis Summary (Construction)

District: Hafizabad

District Code: 20-A

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	79.29	6.45	795.53	220.32	1,101.58
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	66.18	3.04	99.10	42.08	210.40
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	66.18	6.45	311.12	95.94	479.69
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	66.18	3.04	137.74	51.74	258.70
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	66.18	6.45	531.15	150.95	754.73
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	9.20	69.34	184.84	65.85	329.23
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	9.20	69.34	223.43	75.49	377.46
610b	RIGHT OF WAY MARKER	EACH	116.47	101.77	270.68	122.23	611.15
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	691.61	811.70	1,928.13	857.86	4,289.30
610d	TEN KILOMETRE POST	EACH	1,339.54	1,623.40	4,102.01	1,766.24	8,831.19
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	144.61	76.10	902.18	280.72	1,403.60

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

JHANG
(22)

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Rate Analysis Summary (Construction)

District: Jhang

District Code: 22

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.64	8.97	-	2.40	12.02
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.28	150.86	1.06	39.55	197.76
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	18.28	391.92	2.39	103.15	515.73
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	73.10	1,567.67	9.55	412.58	2,062.90
103	STRIPPING	CM	2.13	81.82	-	20.99	104.93
104	COMPACTION OF NATURAL GROUND	SM	0.30	8.55	0.75	2.40	12.00
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.54	118.44	-	30.50	152.48
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	107.13	272.97	46.20	106.57	532.87
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	15.08	294.98	-	77.52	387.58
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.87	228.89	-	59.69	298.46
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.90	105.42	-	27.08	135.40
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	107.13	272.97	46.20	106.57	532.87
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	17.05	275.34	-	73.10	365.49
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.59	229.91	-	59.38	296.88
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.88	120.24	0.37	31.62	158.12
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	55.88	245.80	64.37	91.51	457.57
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	94.72	367.50	30.80	123.25	616.27
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	80.58	257.01	-	84.40	421.99
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	48.71	211.67	-	65.10	325.48
107d	GRANULAR BACK FILL	CM	29.69	119.94	319.48	117.28	586.40
107e	COMMON BACK FILL	CM	22.55	55.41	4.99	20.74	103.69
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.84	152.01	4.99	40.71	203.56
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	17.35	418.69	49.36	121.35	606.76
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	13.02	364.32	2.37	94.93	474.63
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	11.57	323.09	-	83.66	418.32
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.76	154.80	7.84	42.35	211.75

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District: Jhang

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.26	66.06	4.99	19.08	95.38
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	12.42	97.15	2.97	28.14	140.68
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.18	23.75	1.43	6.59	32.94
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.84	15.94	0.76	4.39	21.93
110	IMPROVED SUB-GRADE	CM	8.50	104.23	55.62	42.09	210.44
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.72	13.24	0.78	3.68	18.42
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.06	13.62	0.88	3.89	19.45
201	GRANULAR SUB-BASE	CM	6.86	224.59	462.24	173.42	867.10
202	AGGREGATE BASE	CM	7.92	287.87	827.18	280.74	1,403.70
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	64.49	1,311.60	5,341.91	1,679.50	8,397.50
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	66.58	1,311.60	5,756.26	1,783.61	8,918.05
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	71.26	1,369.89	5,333.05	1,693.55	8,467.76
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	71.26	1,365.01	5,880.81	1,829.27	9,146.35
204b	CEMENT STABILIZED BASE	CM	24.50	480.68	876.43	345.40	1,727.01
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	205.89	772.74	49,692.00	12,667.66	63,338.29
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	205.89	772.74	48,155.79	12,283.61	61,418.03
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	85.90	92.96	883.99	265.71	1,328.56
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	129.58	2,134.12	5,049.57	1,828.32	9,141.59
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	95.36	105.48	730.36	232.80	1,164.00
207a	DEEP PATCHING (0-15 cm)	SM	1.46	39.69	1.23	10.60	52.99
207b	DEEP PATCHING (16-30 cm)	SM	1.46	34.94	1.23	9.41	47.05
208	REINSTATEMENT OF ROAD SURFACE	SM	1.56	49.93	0.55	13.01	65.05
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.70	96.89	0.67	24.81	124.07
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.34	19.38	0.13	4.96	24.81
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.25	1.32	35.27	9.21	46.05
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.24	1.32	39.37	10.23	51.17

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	14.76	3.84	19.18
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	17.22	4.45	22.26
304a	SINGLE SURFACE TREATMENT	SM	0.66	6.52	69.83	19.25	96.26
304b	DOUBLE SURFACE TREATMENT	SM	0.95	12.21	135.33	37.12	185.61
304c	TRIPLE SURFACE TREATMENT	SM	1.60	17.13	154.32	43.26	216.32
304d	SEAL COAT	SM	0.61	3.54	49.22	13.34	66.72
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	60.06	1,294.58	6,323.33	1,919.49	9,597.46
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	60.06	1,251.29	6,838.58	2,037.48	10,187.41
307a	DENSE GRADED HOT BIT-MAC	CM	147.71	316.05	5,346.74	1,452.62	7,263.12
307b	OPEN GRADED HOT BIT-MAC	CM	147.71	316.05	5,226.49	1,422.56	7,112.81
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	24.60	543.36	1,797.11	591.27	2,956.33
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	21.87	560.93	41,938.00	10,630.20	53,150.99
309a	COLD MILLING, 0 - 30 mm	SM	0.81	22.13	7.55	7.62	38.11
309b	COLD MILLING, 0 - 50 mm	SM	1.34	36.88	12.58	12.70	63.52
309c	COLD MILLING, 0 - 70 mm	SM	2.02	55.33	18.87	19.05	95.27
401a1i	CONCRETE CLASS "A1" (Underground)	CM	471.43	923.86	3,263.46	1,164.69	5,823.44
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	471.43	923.86	3,515.71	1,227.75	6,138.75
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	471.43	923.86	4,020.20	1,353.87	6,769.37
401a2i	CONCRETE CLASS "A2" (Underground)	CM	471.43	923.86	3,541.71	1,234.25	6,171.26
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	471.43	923.86	3,793.96	1,297.31	6,486.57
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	471.43	923.86	4,298.45	1,423.44	7,117.18
401a3i	CONCRETE CLASS "A3" (Underground)	CM	471.43	923.86	3,819.96	1,303.81	6,519.07
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	471.43	923.86	4,072.21	1,366.88	6,834.38
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	471.43	923.86	4,576.70	1,493.00	7,465.00
401b	CONCRETE CLASS "B"	CM	598.43	672.22	2,689.86	990.13	4,950.63
401ci	CONCRETE CLASS "C" (Underground)	CM	467.30	419.49	2,924.61	952.85	4,764.24

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	467.30	419.49	3,032.19	979.74	4,898.72
401ciii	CONCRETE CLASS "C" (Elevated)	CM	467.30	419.49	3,247.36	1,033.54	5,167.68
401d	CONCRETE CLASS "D1"	CM	744.49	1,106.97	4,290.44	1,535.47	7,677.37
401e	CONCRETE CLASS "Y"	CM	1,053.33	419.49	3,813.33	1,321.54	6,607.68
401f	LEAN CONCRETE	CM	396.16	424.53	2,120.11	735.20	3,675.99
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,606.04	790.24	4,170.08	1,641.59	8,207.96
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,606.04	790.24	4,726.58	1,780.72	8,903.58
401gii	PRECAST CONCRETE CLASS "B"	CM	1,606.04	790.24	4,087.89	1,621.04	8,105.22
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,606.04	790.24	5,004.83	1,850.28	9,251.39
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,606.04	790.24	5,283.08	1,919.84	9,599.21
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,606.04	790.24	5,561.33	1,989.40	9,947.02
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,434.08	669.81	68,368.00	17,617.97	88,089.86
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,434.08	669.81	77,818.00	19,980.47	99,902.36
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,154.26	4,274.04	64,255.02	17,420.83	87,104.15
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,607.66	12,481.24	114,447.27	32,384.04	161,920.20
405b	LAUNCHING OF GIRDER	TON	62.00	486.64	-	137.16	685.80
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	105.50	-	269.18	93.67	468.36
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	105.50	-	268.99	93.62	468.12
406c	STEEL EXPANSION JOINTS	KG	8.60	21.04	103.18	33.21	166.04
406d	WATER STOPS 6" SIZE	M	85.93	-	408.08	123.50	617.51
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	38.68	-	2,865.87	726.14	3,630.68
406g	STEEL OR METAL BEARING DEVICES	KG	18.11	55.55	124.23	49.47	247.36
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	335.51	1,439.50	661.21	609.06	3,045.28
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	503.27	2,159.25	991.81	913.58	4,567.91
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	503.27	2,159.25	755.43	854.49	4,272.43

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Rate Analysis Summary (Construction)

District: Jhang

District Code: 22

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	838.78	3,598.75	926.29	1,340.96	6,704.78
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	718.96	4,253.63	1,101.60	1,518.55	7,592.74
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,258.18	6,025.34	1,202.26	2,121.44	10,607.22
407h	PILE LOAD TEST UP TO 120 TON	EACH	21,299.97	40,036.45	82,693.04	36,007.37	180,036.83
407i	PILE LOAD TEST UP TO 240 TON	EACH	39,929.97	40,036.45	165,386.08	61,338.13	306,690.63
407j	PILE LOAD TEST UP TO 360 TON	EACH	58,559.97	43,882.72	248,079.12	87,630.45	438,152.27
407k	CONFIRMATORY BORING (NX SIZE)	M	193.38	1,323.15	6.24	380.69	1,903.46
410	BRICK WORK	CM	311.79	236.06	2,409.18	739.26	3,696.28
411a	STONE MASONRY RANDOM DRY	CM	260.98	91.36	485.49	209.46	1,047.29
411b	STONE MASONRY RANDOM WITH MORTAR	CM	281.68	139.82	1,354.30	443.95	2,219.75
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	343.78	91.36	540.83	243.99	1,219.96
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	405.88	139.82	1,408.48	488.54	2,442.72
411g	ROLL POINTING	SM	67.17	9.69	37.49	28.59	142.95
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	550.78	221.29	1,322.30	523.59	2,617.95
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	208.10	366.20	556.55	282.71	1,413.56
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	203.44	480.94	718.58	350.74	1,753.70
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	196.47	791.50	967.60	488.89	2,444.46
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	206.84	972.63	1,446.82	656.57	3,282.86
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	237.57	949.38	2,082.86	817.45	4,087.26
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	294.05	1,171.86	3,216.38	1,170.57	5,852.86
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	380.53	1,313.30	4,031.04	1,431.22	7,156.08
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	447.29	1,594.72	5,137.27	1,794.82	8,974.09
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	531.75	1,860.51	7,937.58	2,582.46	12,912.30
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	208.10	423.57	575.35	301.76	1,508.79
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	203.44	480.94	672.64	339.26	1,696.28
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	192.07	791.50	919.78	475.84	2,379.19

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	206.84	972.63	1,482.04	665.38	3,326.88
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	237.57	949.38	2,865.45	1,013.10	5,065.49
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	294.05	1,171.86	3,952.91	1,354.70	6,773.52
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	380.53	1,313.30	5,343.26	1,759.27	8,796.36
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	447.29	1,594.72	7,246.06	2,322.02	11,610.08
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	531.75	1,860.51	10,192.53	3,146.20	15,730.98
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	79.75	103.49	270.74	113.49	567.47
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	677.77	511.20	2,947.50	1,034.12	5,170.59
507a	STEEL WIRE MESH FOR GABIONS	KG	4.87	-	132.03	34.23	171.13
507b	ROCK FILL IN GABIONS	CM	87.33	-	458.79	136.53	682.65
508a	BRICK PAVING (SINGLE COURSE)	SM	103.03	26.90	187.29	79.31	396.53
508b	BRICK PAVING (DOUBLE COURSE)	SM	185.83	26.90	372.11	146.21	731.06
509a	RIP RAP CLASS "A"	CM	448.04	-	399.30	211.84	1,059.18
509b	RIP RAP CLASS "B"	CM	432.95	-	396.11	207.26	1,036.32
509c	RIP RAP CLASS "C"	CM	436.69	-	399.30	209.00	1,044.99
509d	GROUTED RIP RAP CLASS "A"	CM	547.74	84.24	1,550.50	545.62	2,728.10
509e	GROUTED RIP RAP CLASS "B"	CM	529.27	67.39	1,428.08	506.19	2,530.93
509f	GROUTED RIP RAP CLASS "C"	CM	523.86	56.16	1,459.15	509.79	2,548.96
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	724.32	295.88	3,334.04	1,088.56	5,442.81
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	43.51	167.47	319.53	132.63	663.14
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	101.46	322.32	-	105.94	529.72
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	139.14	57.10	64.89	65.28	326.41
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	178.10	73.09	83.05	83.56	417.80
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	227.78	150.62	319.05	174.36	871.80
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	284.72	188.27	398.82	217.95	1,089.76
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	249.99	498.72	1,840.91	647.41	3,237.03

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	881.37	567.97	3,868.12	1,329.36	6,646.82
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	127.79	75.65	360.76	141.05	705.25
603	BRICK EDGING	M	8.03	-	29.86	9.47	47.35
604a	METAL GUARD RAIL	M	17.33	59.95	1,492.92	392.55	1,962.75
604b	METAL GUARD RAIL END PIECES	EACH	24.07	-	1,138.10	290.54	1,452.72
604d	STEEL POST OF METAL GUARD RAIL	EACH	77.69	805.79	3,566.86	1,112.58	5,562.92
605a	CONCRETE BEAM GUARD RAIL	M	69.36	25.40	581.59	169.09	845.45
605c	CONCRETE POST FOR GUARD RAIL	M	85.17	22.64	583.45	172.81	864.07
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	218.05	213.74	6,377.00	1,702.20	8,510.99
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	62.68	320.61	8,450.54	2,208.46	11,042.29
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	218.05	453.76	11,143.23	2,953.76	14,768.79
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	720.37	503.34	19,292.29	5,129.00	25,645.00
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	144.07	100.67	8,417.80	2,165.63	10,828.17
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	248.55	-	1,133.80	345.59	1,727.94
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	248.55	-	1,700.70	487.31	2,436.57
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.38	5.03	15.39	5.70	28.50
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.79	3.40	37.06	10.31	51.57
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.38	5.03	20.54	6.99	34.94
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.79	3.40	49.43	13.41	67.03
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	72.00	4.26	148.72	56.25	281.23
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	72.00	8.15	466.97	136.78	683.91
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.98	7.44	21.41	7.96	39.78
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.98	8.29	63.09	18.59	92.95
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.98	5.98	28.54	9.38	46.88
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.98	8.29	84.12	23.85	119.23
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	72.00	3.04	206.68	70.43	352.16

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	72.00	6.45	795.53	218.49	1,092.47
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	59.58	3.04	99.15	40.44	202.21
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	59.58	6.45	311.79	94.45	472.27
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	59.58	3.04	137.79	50.10	250.51
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	59.58	6.45	531.15	149.29	746.47
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.10	69.34	184.85	65.57	327.86
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.10	69.34	223.44	75.22	376.10
610b	RIGHT OF WAY MARKER	EACH	95.62	101.77	269.19	116.65	583.23
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	593.18	811.70	1,918.70	830.90	4,154.48
610d	TEN KILOMETRE POST	EACH	1,144.96	1,623.40	4,082.20	1,712.64	8,563.20
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	122.09	76.10	903.28	275.37	1,376.83

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

JHELUM
(23)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Jhelum

District Code: 23

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.83	8.97	-	2.45	12.25
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	8.01	150.86	1.06	39.98	199.92
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	23.54	391.92	2.39	104.46	522.31
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	94.17	1,567.67	9.55	417.85	2,089.24
103	STRIPPING	CM	2.64	81.82	-	21.11	105.57
104	COMPACTION OF NATURAL GROUND	SM	0.37	8.55	0.75	2.42	12.09
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.14	118.44	-	30.64	153.22
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	129.87	272.97	46.20	112.26	561.30
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	18.49	294.98	-	78.37	391.84
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	11.94	228.89	-	60.21	301.04
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.39	105.42	-	27.20	136.01
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	129.87	272.97	46.20	112.26	561.30
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	20.65	275.34	-	74.00	369.99
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	9.26	229.91	-	59.79	298.97
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.88	120.24	0.37	31.87	159.37
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	66.66	245.80	64.37	94.21	471.04
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	114.74	367.50	30.80	128.26	641.31
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	97.89	257.01	-	88.72	443.62
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	59.01	211.67	-	67.67	338.35
107d	GRANULAR BACK FILL	CM	37.30	119.94	329.86	121.78	608.88
107e	COMMON BACK FILL	CM	29.32	55.41	4.99	22.43	112.15
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	7.02	152.01	4.99	41.01	205.04
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	21.31	418.69	49.36	122.34	611.71
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	15.98	364.32	2.37	95.67	478.34
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	14.21	323.09	-	84.32	421.61
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	8.25	154.80	7.84	42.72	213.62

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.35	66.06	4.99	19.35	96.75
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	15.34	97.15	2.97	28.87	144.33
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.43	23.75	1.43	6.65	33.26
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	1.01	15.94	0.76	4.43	22.14
110	IMPROVED SUB-GRADE	CM	10.49	104.23	58.04	43.19	215.96
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.88	13.24	0.78	3.73	18.63
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.29	13.62	0.88	3.95	19.73
201	GRANULAR SUB-BASE	CM	8.33	224.59	379.59	153.13	765.65
202	AGGREGATE BASE	CM	9.65	287.87	623.34	230.21	1,151.07
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	82.43	1,311.60	5,314.05	1,677.02	8,385.10
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	84.85	1,311.60	5,703.50	1,774.99	8,874.93
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	90.36	1,369.89	5,305.19	1,691.36	8,456.81
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	90.36	1,365.01	5,827.10	1,820.62	9,103.09
204b	CEMENT STABILIZED BASE	CM	30.22	480.68	918.43	357.33	1,786.65
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	245.76	772.74	49,146.60	12,541.28	62,706.39
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	245.76	772.74	47,610.39	12,157.22	60,786.12
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	112.35	92.96	838.27	260.89	1,304.47
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	162.39	2,134.12	4,980.80	1,819.33	9,096.63
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	125.14	105.48	552.79	195.85	979.26
207a	DEEP PATCHING (0-15 cm)	SM	1.78	39.69	1.23	10.68	53.38
207b	DEEP PATCHING (16-30 cm)	SM	1.78	34.94	1.23	9.49	47.44
208	REINSTATEMENT OF ROAD SURFACE	SM	1.92	49.93	0.55	13.10	65.50
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.96	96.89	0.67	24.88	124.39
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.39	19.38	0.13	4.98	24.88
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.30	1.32	34.88	9.13	45.63
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.29	1.32	38.94	10.14	50.69

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	14.60	3.80	19.01
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	17.03	4.41	22.05
304a	SINGLE SURFACE TREATMENT	SM	0.79	6.52	68.93	19.06	95.29
304b	DOUBLE SURFACE TREATMENT	SM	1.14	12.21	133.21	36.64	183.20
304c	TRIPLE SURFACE TREATMENT	SM	1.92	17.13	151.93	42.74	213.72
304d	SEAL COAT	SM	0.73	3.54	48.92	13.30	66.49
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	75.92	1,294.58	6,274.97	1,911.37	9,556.83
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	75.92	1,251.29	6,790.18	2,029.35	10,146.74
307a	DENSE GRADED HOT BIT-MAC	CM	189.83	316.05	5,318.51	1,456.10	7,280.49
307b	OPEN GRADED HOT BIT-MAC	CM	189.83	316.05	5,168.62	1,418.63	7,093.13
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	31.65	543.36	1,775.45	587.61	2,938.07
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	27.29	560.93	41,376.40	10,491.16	52,455.78
309a	COLD MILLING, 0 - 30 mm	SM	0.99	22.13	7.55	7.67	38.34
309b	COLD MILLING, 0 - 50 mm	SM	1.65	36.88	12.58	12.78	63.90
309c	COLD MILLING, 0 - 70 mm	SM	2.48	55.33	18.87	19.17	95.85
401a1i	CONCRETE CLASS "A1" (Underground)	CM	560.29	923.86	3,175.76	1,164.98	5,824.89
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	560.29	923.86	3,428.00	1,228.04	6,140.20
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	560.29	923.86	3,932.50	1,354.16	6,770.82
401a2i	CONCRETE CLASS "A2" (Underground)	CM	560.29	923.86	3,454.01	1,234.54	6,172.70
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	560.29	923.86	3,706.25	1,297.60	6,488.01
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	560.29	923.86	4,210.75	1,423.73	7,118.63
401a3i	CONCRETE CLASS "A3" (Underground)	CM	560.29	923.86	3,732.26	1,304.10	6,520.51
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	560.29	923.86	3,984.50	1,367.16	6,835.82
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	560.29	923.86	4,489.00	1,493.29	7,466.44
401b	CONCRETE CLASS "B"	CM	727.12	672.22	2,530.86	982.55	4,912.74
401ci	CONCRETE CLASS "C" (Underground)	CM	564.29	419.49	2,796.82	945.15	4,725.75

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401cii	CONCRETE CLASS "C" (On ground)	CM	564.29	419.49	2,904.40	972.05	4,860.23
401ciii	CONCRETE CLASS "C" (Elevated)	CM	564.29	419.49	3,119.57	1,025.84	5,129.19
401d	CONCRETE CLASS "D1"	CM	879.68	1,106.97	4,203.29	1,547.48	7,737.42
401e	CONCRETE CLASS "Y"	CM	1,245.45	419.49	3,753.76	1,354.68	6,773.38
401f	LEAN CONCRETE	CM	499.78	424.53	1,961.14	721.36	3,606.82
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,960.20	790.24	4,080.11	1,707.64	8,538.19
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,960.20	790.24	4,636.61	1,846.76	9,233.82
401gii	PRECAST CONCRETE CLASS "B"	CM	1,960.20	790.24	3,925.07	1,668.88	8,344.39
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,960.20	790.24	4,914.86	1,916.33	9,581.63
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,960.20	790.24	5,193.11	1,985.89	9,929.44
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,960.20	790.24	5,471.36	2,055.45	10,277.26
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,687.14	669.81	68,368.00	17,681.24	88,406.19
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,687.14	669.81	77,818.00	20,043.74	100,218.69
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,363.72	4,274.04	64,282.48	17,480.06	87,400.30
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,275.06	12,481.24	114,458.66	32,553.74	162,768.70
405b	LAUNCHING OF GIRDER	TON	78.45	486.64	-	141.27	706.36
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	128.05	-	267.85	98.97	494.87
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	128.05	-	267.75	98.95	494.74
406c	STEEL EXPANSION JOINTS	KG	10.28	21.04	103.24	33.64	168.19
406d	WATER STOPS 6" SIZE	M	105.31	-	409.68	128.75	643.74
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	45.20	-	2,875.18	730.09	3,650.47
406g	STEEL OR METAL BEARING DEVICES	KG	22.30	55.55	124.36	50.55	252.77
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	426.59	1,439.50	659.39	631.37	3,156.85
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	639.88	2,159.25	989.09	947.05	4,735.27
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	639.88	2,159.25	752.70	887.96	4,439.79

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,066.47	3,598.75	921.75	1,396.74	6,983.70
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	914.11	4,253.63	1,093.82	1,565.39	7,826.95
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,599.70	6,025.34	1,195.45	2,205.12	11,025.60
407h	PILE LOAD TEST UP TO 120 TON	EACH	27,961.93	40,036.45	88,539.76	39,134.53	195,672.67
407i	PILE LOAD TEST UP TO 240 TON	EACH	52,801.93	40,036.45	177,079.52	67,479.47	337,397.37
407j	PILE LOAD TEST UP TO 360 TON	EACH	77,641.93	43,882.72	265,619.28	96,785.98	483,929.91
407k	CONFIRMATORY BORING (NX SIZE)	M	251.86	1,323.15	6.24	395.31	1,976.56
410	BRICK WORK	CM	370.78	236.06	2,331.23	734.52	3,672.58
411a	STONE MASONRY RANDOM DRY	CM	314.44	91.36	441.05	211.71	1,058.57
411b	STONE MASONRY RANDOM WITH MORTAR	CM	336.87	139.82	1,212.43	422.28	2,111.39
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	414.49	91.36	581.76	271.90	1,359.52
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	486.94	139.82	1,376.34	500.77	2,503.87
411g	ROLL POINTING	SM	79.05	9.69	35.86	31.15	155.75
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	664.62	221.29	1,290.15	544.01	2,720.07
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	267.03	366.20	553.50	296.68	1,483.42
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	261.65	480.94	714.93	364.38	1,821.90
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	248.89	791.50	963.34	500.93	2,504.66
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	263.90	972.63	1,441.84	669.59	3,347.96
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	302.73	949.38	2,077.88	832.50	4,162.49
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	372.46	1,171.86	3,209.19	1,188.38	5,941.88
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	482.01	1,313.30	4,023.88	1,454.80	7,273.98
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	569.28	1,594.72	5,128.57	1,823.14	9,115.70
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	672.49	1,860.51	7,927.43	2,615.11	13,075.53
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	267.03	423.57	569.26	314.97	1,574.83
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	261.65	480.94	668.99	352.90	1,764.48
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	242.68	791.50	915.52	487.42	2,437.12

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	263.90	972.63	1,478.16	678.67	3,393.36
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	302.73	949.38	2,859.91	1,028.01	5,140.03
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	372.46	1,171.86	3,945.72	1,372.51	6,862.55
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	482.01	1,313.30	5,336.10	1,782.85	8,914.25
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	569.28	1,594.72	7,237.36	2,350.34	11,751.70
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	672.49	1,860.51	10,182.38	3,178.84	15,894.22
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	102.26	103.49	350.47	139.06	695.28
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	822.75	511.20	2,788.50	1,030.61	5,153.06
507a	STEEL WIRE MESH FOR GABIONS	KG	5.82	-	132.03	34.46	172.31
507b	ROCK FILL IN GABIONS	CM	113.48	-	423.50	134.25	671.23
508a	BRICK PAVING (SINGLE COURSE)	SM	125.46	26.90	190.61	85.74	428.71
508b	BRICK PAVING (DOUBLE COURSE)	SM	225.51	26.90	378.09	157.62	788.12
509a	RIP RAP CLASS "A"	CM	540.03	-	354.86	223.72	1,118.62
509b	RIP RAP CLASS "B"	CM	523.11	-	352.02	218.78	1,093.91
509c	RIP RAP CLASS "C"	CM	526.77	-	354.86	220.41	1,102.04
509d	GROUTED RIP RAP CLASS "A"	CM	661.44	84.24	1,445.16	547.71	2,738.55
509e	GROUTED RIP RAP CLASS "B"	CM	638.17	67.39	1,329.43	508.75	2,543.75
509f	GROUTED RIP RAP CLASS "C"	CM	631.86	56.16	1,357.87	511.47	2,557.37
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	896.26	295.88	3,183.78	1,093.98	5,469.91
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	56.14	167.47	330.37	138.50	692.48
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	131.93	322.32	-	113.56	567.81
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	169.14	57.10	57.67	70.98	354.88
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	216.50	73.09	73.81	90.85	454.25
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	274.46	150.62	299.93	181.25	906.26
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	343.07	188.27	374.91	226.56	1,132.82
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	297.23	498.72	1,795.20	647.79	3,238.94

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,073.57	567.97	3,821.33	1,365.72	6,828.59
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	155.96	75.65	350.19	145.45	727.25
603	BRICK EDGING	M	9.91	-	29.86	9.94	49.71
604a	METAL GUARD RAIL	M	21.82	59.95	1,492.92	393.67	1,968.37
604b	METAL GUARD RAIL END PIECES	EACH	31.26	-	1,138.10	292.34	1,461.70
604d	STEEL POST OF METAL GUARD RAIL	EACH	96.60	805.79	3,566.86	1,117.31	5,586.56
605a	CONCRETE BEAM GUARD RAIL	M	87.28	25.40	578.88	172.89	864.45
605c	CONCRETE POST FOR GUARD RAIL	M	107.16	22.64	580.14	177.49	887.43
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	269.11	213.74	6,371.56	1,713.60	8,568.02
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	76.94	320.61	8,421.73	2,204.82	11,024.10
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	269.11	453.76	11,093.52	2,954.10	14,770.49
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	917.72	503.34	19,216.91	5,159.49	25,797.45
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	183.54	100.67	8,401.73	2,171.48	10,857.42
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	288.77	-	1,133.50	355.57	1,777.84
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	288.77	-	1,700.25	497.26	2,486.28
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.99	5.03	15.39	5.85	29.25
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	1.00	3.40	37.03	10.36	51.79
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.99	5.03	20.53	7.14	35.69
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	1.00	3.40	49.39	13.45	67.24
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	82.00	4.26	148.70	58.74	293.70
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	82.00	8.15	466.64	139.20	696.00
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.73	7.44	21.40	8.14	40.72
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.73	8.29	63.09	18.78	93.89
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.73	5.98	28.54	9.56	47.81
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.73	8.29	84.12	24.04	120.18
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	82.00	3.04	206.66	72.93	364.63

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	82.00	6.45	795.53	220.99	1,104.97
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	68.55	3.04	99.13	42.68	213.40
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	68.55	6.45	311.57	96.64	483.21
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	68.55	3.04	137.77	52.34	261.70
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	68.55	6.45	531.15	151.54	757.69
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	9.70	69.34	184.73	65.94	329.71
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	9.70	69.34	223.32	75.59	377.95
610b	RIGHT OF WAY MARKER	EACH	123.16	101.77	266.24	122.79	613.96
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	725.13	811.70	1,891.92	857.19	4,285.94
610d	TEN KILOMETRE POST	EACH	1,405.40	1,623.40	4,033.89	1,765.67	8,828.37
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	151.81	76.10	896.97	281.22	1,406.09

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

KASUR

(28)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Kasur

District Code: 28

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.75	8.97	-	2.43	12.15
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.19	150.86	1.06	39.78	198.89
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	21.21	391.92	2.39	103.88	519.40
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	84.85	1,567.67	9.55	415.52	2,077.58
103	STRIPPING	CM	2.39	81.82	-	21.05	105.25
104	COMPACTION OF NATURAL GROUND	SM	0.33	8.55	0.75	2.41	12.04
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.60	118.44	-	30.51	152.55
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	114.61	272.97	46.20	108.44	542.22
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	16.48	294.98	-	77.87	389.33
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.67	228.89	-	59.89	299.46
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.94	105.42	-	27.09	135.46
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	114.61	272.97	46.20	108.44	542.22
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	18.20	275.34	-	73.38	366.92
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.26	229.91	-	59.54	297.72
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.13	120.24	0.37	31.69	158.43
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	60.04	245.80	64.37	92.55	462.76
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	101.09	367.50	30.80	124.85	624.24
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	86.32	257.01	-	85.83	429.16
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	51.99	211.67	-	65.91	329.57
107d	GRANULAR BACK FILL	CM	33.27	119.94	399.61	138.21	691.03
107e	COMMON BACK FILL	CM	26.52	55.41	4.99	21.73	108.66
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.26	152.01	4.99	40.82	204.09
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	19.05	418.69	49.36	121.78	608.88
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	14.29	364.32	2.37	95.24	476.22
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	12.70	323.09	-	83.95	419.73
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.38	154.80	7.84	42.51	212.53

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.68	66.06	4.99	19.18	95.91
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	13.80	97.15	2.97	28.48	142.40
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.27	23.75	1.43	6.61	33.06
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.90	15.94	0.76	4.40	22.01
110	IMPROVED SUB-GRADE	CM	9.37	104.23	58.03	42.91	214.55
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.80	13.24	0.78	3.70	18.52
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.17	13.62	0.88	3.92	19.58
201	GRANULAR SUB-BASE	CM	7.44	224.59	506.76	184.70	923.49
202	AGGREGATE BASE	CM	8.46	287.87	1,008.97	326.32	1,631.62
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	74.35	1,311.60	5,661.27	1,761.81	8,809.03
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	76.44	1,311.60	6,057.21	1,861.31	9,306.57
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	81.56	1,369.89	5,652.93	1,776.10	8,880.48
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	81.56	1,365.01	6,181.24	1,906.95	9,534.76
204b	CEMENT STABILIZED BASE	CM	26.65	480.68	1,201.58	427.23	2,136.14
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	220.79	772.74	49,891.98	12,721.38	63,606.90
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	220.79	772.74	48,355.77	12,337.33	61,686.64
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	102.13	92.96	1,127.09	330.54	1,652.72
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	146.03	2,134.12	5,360.28	1,910.11	9,550.54
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	113.65	105.48	1,008.41	306.89	1,534.43
207a	DEEP PATCHING (0-15 cm)	SM	1.59	39.69	1.23	10.63	53.15
207b	DEEP PATCHING (16-30 cm)	SM	1.59	34.94	1.23	9.44	47.21
208	REINSTATEMENT OF ROAD SURFACE	SM	1.69	49.93	0.55	13.04	65.20
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.77	96.89	0.67	24.83	124.15
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.35	19.38	0.13	4.97	24.83
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	35.41	9.25	46.25
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.26	1.32	39.53	10.28	51.38

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	14.82	3.85	19.27
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.29	4.47	22.36
304a	SINGLE SURFACE TREATMENT	SM	0.70	6.52	71.44	19.66	98.32
304b	DOUBLE SURFACE TREATMENT	SM	1.01	12.21	139.62	38.21	191.06
304c	TRIPLE SURFACE TREATMENT	SM	1.70	17.13	159.38	44.55	222.77
304d	SEAL COAT	SM	0.64	3.54	50.14	13.58	67.91
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	68.27	1,294.58	6,643.95	2,001.70	10,008.49
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	68.27	1,251.29	7,177.83	2,124.35	10,621.74
307a	DENSE GRADED HOT BIT-MAC	CM	170.65	316.05	5,645.20	1,532.97	7,664.87
307b	OPEN GRADED HOT BIT-MAC	CM	170.65	316.05	5,513.63	1,500.08	7,500.40
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	28.38	543.36	1,848.08	604.96	3,024.78
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	24.35	560.93	42,143.92	10,682.30	53,411.50
309a	COLD MILLING, 0 - 30 mm	SM	0.88	22.13	7.55	7.64	38.20
309b	COLD MILLING, 0 - 50 mm	SM	1.46	36.88	12.58	12.73	63.66
309c	COLD MILLING, 0 - 70 mm	SM	2.19	55.33	18.87	19.10	95.49
401a1i	CONCRETE CLASS "A1" (Underground)	CM	510.78	923.86	3,512.56	1,236.80	6,184.00
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	510.78	923.86	3,764.81	1,299.86	6,499.31
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	510.78	923.86	4,269.30	1,425.99	7,129.93
401a2i	CONCRETE CLASS "A2" (Underground)	CM	510.78	923.86	3,790.81	1,306.36	6,531.81
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	510.78	923.86	4,043.06	1,369.42	6,847.12
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	510.78	923.86	4,547.55	1,495.55	7,477.74
401a3i	CONCRETE CLASS "A3" (Underground)	CM	510.78	923.86	4,069.06	1,375.93	6,879.63
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	510.78	923.86	4,321.31	1,438.99	7,194.94
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	510.78	923.86	4,825.80	1,565.11	7,825.55
401b	CONCRETE CLASS "B"	CM	664.80	672.22	2,931.47	1,067.12	5,335.61
401ci	CONCRETE CLASS "C" (Underground)	CM	520.78	419.49	3,211.41	1,037.92	5,189.61

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401cii	CONCRETE CLASS "C" (On ground)	CM	520.78	419.49	3,319.00	1,064.82	5,324.09
401ciii	CONCRETE CLASS "C" (Elevated)	CM	520.78	419.49	3,534.17	1,118.61	5,593.05
401d	CONCRETE CLASS "D1"	CM	797.23	1,106.97	4,516.27	1,605.12	8,025.59
401e	CONCRETE CLASS "Y"	CM	1,131.98	419.49	4,048.79	1,400.07	7,000.33
401f	LEAN CONCRETE	CM	459.81	424.53	2,361.96	811.58	4,057.88
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,817.40	790.24	4,443.87	1,762.88	8,814.39
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,817.40	790.24	5,000.37	1,902.00	9,510.02
401gii	PRECAST CONCRETE CLASS "B"	CM	1,817.40	790.24	4,349.27	1,739.23	8,696.13
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,817.40	790.24	5,278.62	1,971.57	9,857.83
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,817.40	790.24	5,556.87	2,041.13	10,205.64
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,817.40	790.24	5,835.12	2,110.69	10,553.45
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,504.55	669.81	67,838.00	17,503.09	87,515.45
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,504.55	669.81	77,288.00	19,865.59	99,327.95
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,227.20	4,274.04	63,792.80	17,323.51	86,617.56
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,909.46	12,481.24	114,455.51	32,461.55	162,307.76
405b	LAUNCHING OF GIRDER	TON	69.95	486.64	-	139.15	695.74
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	114.39	-	265.72	95.03	475.13
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	114.39	-	265.84	95.06	475.29
406c	STEEL EXPANSION JOINTS	KG	9.31	21.04	102.68	33.26	166.29
406d	WATER STOPS 6" SIZE	M	94.51	-	409.05	125.89	629.45
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	44.47	-	2,876.12	730.15	3,650.74
406g	STEEL OR METAL BEARING DEVICES	KG	20.16	55.55	123.85	49.89	249.45
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	382.35	1,439.50	581.05	600.72	3,003.62
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	573.52	2,159.25	871.58	901.09	4,505.43
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	573.52	2,159.25	676.79	852.39	4,261.94

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	955.87	3,598.75	850.68	1,351.32	6,756.62
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	819.31	4,253.63	1,031.41	1,526.09	7,630.45
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,433.80	6,025.34	1,120.05	2,144.80	10,723.98
407h	PILE LOAD TEST UP TO 120 TON	EACH	25,324.05	40,036.45	88,540.60	38,475.28	192,376.38
407i	PILE LOAD TEST UP TO 240 TON	EACH	47,978.13	40,036.45	177,081.20	66,273.95	331,369.73
407j	PILE LOAD TEST UP TO 360 TON	EACH	70,632.21	43,882.72	265,621.80	95,034.18	475,170.92
407k	CONFIRMATORY BORING (NX SIZE)	M	226.91	1,323.15	6.24	389.08	1,945.38
410	BRICK WORK	CM	368.11	236.06	2,667.53	817.92	4,089.62
411a	STONE MASONRY RANDOM DRY	CM	306.20	91.36	585.41	245.74	1,228.72
411b	STONE MASONRY RANDOM WITH MORTAR	CM	330.46	139.82	1,489.67	489.99	2,449.93
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	405.06	91.36	648.75	286.29	1,431.46
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	478.75	139.82	1,542.98	540.39	2,701.94
411g	ROLL POINTING	SM	79.66	9.69	38.09	31.86	159.30
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	652.22	221.29	1,456.80	582.58	2,912.88
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	246.46	366.20	557.65	292.58	1,462.90
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	241.80	480.94	719.91	360.66	1,803.31
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	229.39	791.50	969.15	497.51	2,487.55
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	242.86	972.63	1,448.63	666.03	3,330.15
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	277.65	949.38	2,084.67	827.93	4,139.63
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	341.85	1,171.86	3,219.00	1,183.18	5,915.89
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	442.39	1,313.30	4,033.65	1,447.33	7,236.67
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	519.86	1,594.72	5,140.43	1,813.75	9,068.76
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	617.28	1,860.51	7,941.27	2,604.76	13,023.82
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	246.46	423.57	577.57	311.90	1,559.50
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	241.80	480.94	673.97	349.18	1,745.89
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	223.72	791.50	921.33	484.14	2,420.69

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	242.86	972.63	1,483.45	674.73	3,373.67
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	277.65	949.38	2,867.46	1,023.62	5,118.11
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	341.85	1,171.86	3,955.53	1,367.31	6,836.55
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	442.39	1,313.30	5,345.87	1,775.39	8,876.94
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	519.86	1,594.72	7,249.22	2,340.95	11,704.75
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	617.28	1,860.51	10,196.22	3,168.50	15,842.51
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	92.51	103.49	350.48	136.62	683.11
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	746.19	511.20	3,189.11	1,111.62	5,558.12
507a	STEEL WIRE MESH FOR GABIONS	KG	5.19	-	134.28	34.87	174.33
507b	ROCK FILL IN GABIONS	CM	103.07	-	522.32	156.35	781.74
508a	BRICK PAVING (SINGLE COURSE)	SM	121.84	26.90	216.60	91.34	456.68
508b	BRICK PAVING (DOUBLE COURSE)	SM	220.70	26.90	430.07	169.42	847.09
509a	RIP RAP CLASS "A"	CM	529.62	-	499.23	257.21	1,286.06
509b	RIP RAP CLASS "B"	CM	512.86	-	495.23	252.02	1,260.11
509c	RIP RAP CLASS "C"	CM	517.85	-	499.23	254.27	1,271.35
509d	GROUTED RIP RAP CLASS "A"	CM	647.62	84.24	1,672.57	601.11	3,005.54
509e	GROUTED RIP RAP CLASS "B"	CM	626.66	67.39	1,547.05	560.28	2,801.39
509f	GROUTED RIP RAP CLASS "C"	CM	621.08	56.16	1,579.75	564.25	2,821.24
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	851.24	295.88	3,562.82	1,177.49	5,887.43
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	51.05	167.47	399.74	154.57	772.83
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	119.34	322.32	-	110.42	552.08
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	163.59	57.10	81.12	75.45	377.27
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	209.40	73.09	103.84	96.58	482.91
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	268.35	150.62	342.42	190.35	951.74
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	335.44	188.27	428.03	237.93	1,189.67
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	270.86	498.72	1,970.49	685.02	3,425.09

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	995.71	567.97	3,999.47	1,390.79	6,953.93
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	144.95	75.65	386.71	151.83	759.15
603	BRICK EDGING	M	9.40	-	34.27	10.92	54.59
604a	METAL GUARD RAIL	M	19.53	59.95	1,492.92	393.10	1,965.50
604b	METAL GUARD RAIL END PIECES	EACH	28.26	-	1,138.10	291.59	1,457.96
604d	STEEL POST OF METAL GUARD RAIL	EACH	86.07	805.79	3,566.86	1,114.68	5,573.40
605a	CONCRETE BEAM GUARD RAIL	M	80.70	25.40	589.20	173.82	869.12
605c	CONCRETE POST FOR GUARD RAIL	M	99.08	22.64	593.00	178.68	893.41
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	247.30	213.74	6,398.30	1,714.83	8,574.17
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	74.66	320.61	8,490.20	2,221.37	11,106.84
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	247.30	453.76	11,209.25	2,977.58	14,887.90
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	838.73	503.34	19,387.12	5,182.30	25,911.48
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	167.75	100.67	8,431.71	2,175.03	10,875.16
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	255.89	-	1,132.29	347.04	1,735.22
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	255.89	-	1,698.43	488.58	2,442.90
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.73	5.03	15.38	5.79	28.93
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.91	3.40	36.95	10.32	51.58
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.73	5.03	20.52	7.07	35.35
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.91	3.40	49.28	13.40	66.99
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	73.31	4.26	148.62	56.55	282.73
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	73.31	8.15	465.58	136.76	683.81
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.42	7.44	21.40	8.06	40.31
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.42	8.29	63.09	18.70	93.49
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.42	5.98	28.53	9.48	47.40
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.42	8.29	84.12	23.96	119.78
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	73.31	3.04	206.58	70.73	353.66

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	73.31	6.45	795.53	218.82	1,094.10
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	61.35	3.04	99.08	40.87	204.34
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	61.35	6.45	310.86	94.66	473.32
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	61.35	3.04	137.72	50.53	252.64
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	61.35	6.45	531.15	149.74	748.69
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	9.50	69.34	184.89	65.93	329.66
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	9.50	69.34	223.48	75.58	377.90
610b	RIGHT OF WAY MARKER	EACH	113.15	101.77	279.17	123.52	617.61
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	671.64	811.70	1,998.39	870.43	4,352.17
610d	TEN KILOMETRE POST	EACH	1,286.10	1,623.40	4,240.72	1,787.56	8,937.78
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	140.72	76.10	915.32	283.04	1,415.18

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

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KHANEWAL

(30)

Q. S. & Estimation Specialist

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District: Khanewal

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.96	8.97	-	2.48	12.41
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	9.05	150.86	1.06	40.24	201.21
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	26.94	391.92	2.39	105.31	526.56
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	107.77	1,567.67	9.55	421.25	2,106.24
103	STRIPPING	CM	2.98	81.82	-	21.20	106.00
104	COMPACTION OF NATURAL GROUND	SM	0.41	8.55	0.75	2.43	12.14
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.01	118.44	-	30.61	153.06
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	135.24	272.97	46.20	113.60	568.00
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	20.12	294.98	-	78.78	393.88
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	12.85	228.89	-	60.44	302.18
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.28	105.42	-	27.17	135.87
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	135.24	272.97	46.20	113.60	568.00
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	21.36	275.34	-	74.18	370.88
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	10.09	229.91	-	60.00	300.00
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	7.20	120.24	0.37	31.95	159.77
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	72.17	245.80	64.37	95.59	477.93
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	118.69	367.50	30.80	129.25	646.24
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	101.80	257.01	-	89.70	448.52
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	61.04	211.67	-	68.18	340.89
107d	GRANULAR BACK FILL	CM	40.51	119.94	329.18	122.41	612.04
107e	COMMON BACK FILL	CM	33.76	55.41	4.99	23.54	117.70
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	7.54	152.01	4.99	41.14	205.68
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	23.28	418.69	49.36	122.83	614.17
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	17.46	364.32	2.37	96.04	480.18
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	15.52	323.09	-	84.65	423.25
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	9.00	154.80	7.84	42.91	214.56

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.91	66.06	4.99	19.49	97.45
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	17.10	97.15	2.97	29.31	146.53
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.54	23.75	1.43	6.68	33.39
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	1.10	15.94	0.76	4.45	22.25
110	IMPROVED SUB-GRADE	CM	11.64	104.23	52.81	42.17	210.85
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.99	13.24	0.78	3.75	18.76
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.45	13.62	0.88	3.99	19.94
201	GRANULAR SUB-BASE	CM	9.00	224.59	496.46	182.51	912.56
202	AGGREGATE BASE	CM	10.12	287.87	879.51	294.37	1,471.87
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	93.95	1,311.60	5,538.81	1,736.09	8,680.46
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	96.21	1,311.60	5,929.91	1,834.43	9,172.14
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	102.35	1,369.89	5,529.93	1,750.54	8,752.72
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	102.35	1,365.01	6,055.21	1,880.64	9,403.22
204b	CEMENT STABILIZED BASE	CM	32.32	480.68	1,051.86	391.22	1,956.08
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	257.55	772.74	50,358.60	12,847.22	64,236.12
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	257.55	772.74	48,822.39	12,463.17	62,315.85
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	131.96	92.96	927.41	288.08	1,440.41
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	181.98	2,134.12	5,177.37	1,873.37	9,366.84
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	146.74	105.48	788.70	260.23	1,301.16
207a	DEEP PATCHING (0-15 cm)	SM	1.95	39.69	1.23	10.72	53.60
207b	DEEP PATCHING (16-30 cm)	SM	1.95	34.94	1.23	9.53	47.66
208	REINSTATEMENT OF ROAD SURFACE	SM	2.05	49.93	0.55	13.13	65.66
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	2.07	96.89	0.67	24.91	124.53
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.41	19.38	0.13	4.98	24.91
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.32	1.32	35.74	9.35	46.73
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.31	1.32	39.90	10.38	51.90

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.13	0.49	14.96	3.89	19.47
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.13	0.49	17.45	4.52	22.58
304a	SINGLE SURFACE TREATMENT	SM	0.81	6.52	71.24	19.64	98.21
304b	DOUBLE SURFACE TREATMENT	SM	1.19	12.21	138.12	37.88	189.39
304c	TRIPLE SURFACE TREATMENT	SM	1.99	17.13	157.60	44.18	220.91
304d	SEAL COAT	SM	0.74	3.54	50.43	13.68	68.40
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	85.39	1,294.58	6,526.24	1,976.55	9,882.75
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	85.39	1,251.29	7,062.84	2,099.88	10,499.39
307a	DENSE GRADED HOT BIT-MAC	CM	219.01	316.05	5,558.69	1,523.44	7,617.18
307b	OPEN GRADED HOT BIT-MAC	CM	219.01	316.05	5,395.13	1,482.55	7,412.73
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	37.38	543.36	1,821.64	600.59	3,002.97
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	29.47	560.93	42,624.40	10,803.70	54,018.50
309a	COLD MILLING, 0 - 30 mm	SM	1.06	22.13	7.55	7.69	38.43
309b	COLD MILLING, 0 - 50 mm	SM	1.77	36.88	12.58	12.81	64.05
309c	COLD MILLING, 0 - 70 mm	SM	2.66	55.33	18.87	19.21	96.07
401a1i	CONCRETE CLASS "A1" (Underground)	CM	615.24	923.86	3,414.23	1,238.33	6,191.67
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	615.24	923.86	3,666.48	1,301.40	6,506.98
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	615.24	923.86	4,170.97	1,427.52	7,137.60
401a2i	CONCRETE CLASS "A2" (Underground)	CM	615.24	923.86	3,692.48	1,307.90	6,539.48
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	615.24	923.86	3,944.73	1,370.96	6,854.79
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	615.24	923.86	4,449.22	1,497.08	7,485.41
401a3i	CONCRETE CLASS "A3" (Underground)	CM	615.24	923.86	3,970.73	1,377.46	6,887.29
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	615.24	923.86	4,222.98	1,440.52	7,202.60
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	615.24	923.86	4,727.47	1,566.64	7,833.22
401b	CONCRETE CLASS "B"	CM	800.84	672.22	2,771.29	1,061.09	5,305.44
401ci	CONCRETE CLASS "C" (Underground)	CM	629.75	419.49	3,049.27	1,024.63	5,123.14

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401cii	CONCRETE CLASS "C" (On ground)	CM	629.75	419.49	3,156.86	1,051.52	5,257.62
401ciii	CONCRETE CLASS "C" (Elevated)	CM	629.75	419.49	3,372.02	1,105.32	5,526.58
401d	CONCRETE CLASS "D1"	CM	967.28	1,106.97	4,418.45	1,623.17	8,115.87
401e	CONCRETE CLASS "Y"	CM	1,358.49	419.49	3,975.65	1,438.41	7,192.03
401f	LEAN CONCRETE	CM	575.34	424.53	2,201.39	800.32	4,001.59
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	2,179.77	790.24	4,341.12	1,827.78	9,138.91
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	2,179.77	790.24	4,897.62	1,966.91	9,834.53
401gii	PRECAST CONCRETE CLASS "B"	CM	2,179.77	790.24	4,173.24	1,785.81	8,929.06
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	2,179.77	790.24	5,175.87	2,036.47	10,182.35
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	2,179.77	790.24	5,454.12	2,106.03	10,530.16
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	2,179.77	790.24	5,732.37	2,175.59	10,877.97
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,833.94	669.81	68,368.00	17,717.94	88,589.68
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,833.94	669.81	77,818.00	20,080.44	100,402.18
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,488.83	4,274.04	64,365.60	17,532.12	87,660.58
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,166.05	12,481.24	114,444.12	32,522.85	162,614.26
405b	LAUNCHING OF GIRDER	TON	76.20	486.64	-	140.71	703.55
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	141.55	-	271.92	103.37	516.84
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	141.55	-	271.58	103.28	516.41
406c	STEEL EXPANSION JOINTS	KG	11.20	21.04	103.20	33.86	169.30
406d	WATER STOPS 6" SIZE	M	124.31	-	407.63	132.99	664.93
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.24
406f	ASPHALT FELT (3 PLY)	SM	45.57	-	2,882.39	731.99	3,659.95
406g	STEEL OR METAL BEARING DEVICES	KG	23.84	55.55	124.34	50.93	254.66
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	420.23	1,439.50	663.37	630.77	3,153.87
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	630.34	2,159.25	995.06	946.16	4,730.81
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	630.34	2,159.25	758.68	887.07	4,435.33

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,050.56	3,598.75	931.71	1,395.26	6,976.28
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	900.48	4,253.63	1,110.89	1,566.25	7,831.26
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,575.85	6,025.34	1,210.38	2,202.89	11,014.46
407h	PILE LOAD TEST UP TO 120 TON	EACH	32,533.99	40,036.45	82,699.20	38,817.41	194,087.05
407i	PILE LOAD TEST UP TO 240 TON	EACH	62,192.95	40,036.45	165,398.40	66,906.95	334,534.75
407j	PILE LOAD TEST UP TO 360 TON	EACH	91,851.91	43,882.72	248,097.60	95,958.06	479,790.29
407k	CONFIRMATORY BORING (NX SIZE)	M	268.12	1,323.15	6.24	399.38	1,996.88
410	BRICK WORK	CM	391.97	236.06	2,377.59	751.40	3,757.02
411a	STONE MASONRY RANDOM DRY	CM	344.79	91.36	556.60	248.19	1,240.94
411b	STONE MASONRY RANDOM WITH MORTAR	CM	365.67	139.82	1,460.93	491.60	2,458.02
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	452.46	91.36	617.62	290.36	1,451.80
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	527.19	139.82	1,511.91	544.73	2,723.64
411g	ROLL POINTING	SM	82.32	9.69	38.09	32.52	162.62
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	721.66	221.29	1,425.72	592.17	2,960.83
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	307.04	366.20	557.66	307.72	1,538.61
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	302.01	480.94	719.91	375.72	1,878.58
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	282.88	791.50	969.16	510.88	2,554.41
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	302.10	972.63	1,448.64	680.84	3,404.20
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	344.88	949.38	2,084.68	844.73	4,223.67
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	419.60	1,171.86	3,219.01	1,202.62	6,013.09
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	543.02	1,313.30	4,033.65	1,472.49	7,362.46
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	644.46	1,594.72	5,140.44	1,844.90	9,224.52
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	754.17	1,860.51	7,941.28	2,638.99	13,194.95
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	307.04	423.57	577.57	327.04	1,635.22
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	302.01	480.94	673.97	364.23	1,821.16
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	273.82	791.50	921.34	496.66	2,483.31

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	302.10	972.63	1,483.45	689.54	3,447.72
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	344.88	949.38	2,867.46	1,040.43	5,202.16
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	419.60	1,171.86	3,955.54	1,386.75	6,933.75
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	543.02	1,313.30	5,345.87	1,800.55	9,002.73
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	644.46	1,594.72	7,249.23	2,372.10	11,860.51
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	754.17	1,860.51	10,196.23	3,202.73	16,013.64
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	117.22	103.49	270.83	122.89	614.43
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	921.48	511.20	3,028.93	1,115.40	5,577.00
507a	STEEL WIRE MESH FOR GABIONS	KG	6.04	-	132.03	34.52	172.59
507b	ROCK FILL IN GABIONS	CM	132.49	-	494.08	156.64	783.22
508a	BRICK PAVING (SINGLE COURSE)	SM	136.54	26.90	180.51	85.99	429.95
508b	BRICK PAVING (DOUBLE COURSE)	SM	244.22	26.90	358.56	157.42	787.10
509a	RIP RAP CLASS "A"	CM	579.41	-	470.41	262.45	1,312.27
509b	RIP RAP CLASS "B"	CM	562.85	-	466.65	257.37	1,286.87
509c	RIP RAP CLASS "C"	CM	565.73	-	470.41	259.04	1,295.18
509d	GROUTED RIP RAP CLASS "A"	CM	710.62	84.24	1,657.94	613.20	3,066.00
509e	GROUTED RIP RAP CLASS "B"	CM	684.52	67.39	1,531.23	570.79	2,853.93
509f	GROUTED RIP RAP CLASS "C"	CM	678.11	56.16	1,562.29	574.14	2,870.70
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	1,016.69	295.88	3,410.57	1,180.78	5,903.92
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	65.66	167.47	329.18	140.58	702.88
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	141.19	322.32	-	115.88	579.39
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	185.10	57.10	76.44	79.66	398.30
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	236.92	73.09	97.85	101.96	509.82
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	296.70	150.62	336.21	195.88	979.40
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	370.87	188.27	420.26	244.85	1,224.25
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	326.39	498.72	1,919.50	686.15	3,430.77

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,191.45	567.97	3,957.06	1,429.12	7,145.59
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	173.23	75.65	374.74	155.91	779.53
603	BRICK EDGING	M	11.07	-	28.70	9.94	49.72
604a	METAL GUARD RAIL	M	22.15	59.95	1,492.92	393.76	1,968.78
604b	METAL GUARD RAIL END PIECES	EACH	32.57	-	1,138.10	292.67	1,463.34
604d	STEEL POST OF METAL GUARD RAIL	EACH	96.95	805.79	3,566.86	1,117.40	5,587.00
605a	CONCRETE BEAM GUARD RAIL	M	98.94	25.40	588.01	178.09	890.45
605c	CONCRETE POST FOR GUARD RAIL	M	121.48	22.64	591.32	183.86	919.30
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	293.74	213.74	6,383.61	1,722.77	8,613.87
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	91.47	320.61	8,467.83	2,219.98	11,099.90
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	293.74	453.76	11,172.30	2,979.95	14,899.75
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	1,042.61	503.34	19,338.21	5,221.04	26,105.19
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	208.52	100.67	8,429.75	2,184.74	10,923.68
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	287.28	-	1,134.63	355.48	1,777.39
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	287.28	-	1,701.95	497.31	2,486.54
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.54	5.03	15.33	5.97	29.87
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	1.18	3.40	37.10	10.42	52.11
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.54	5.03	20.46	7.26	36.28
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	1.18	3.40	49.49	13.52	67.59
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	83.34	4.26	148.14	58.93	294.67
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	83.34	8.15	467.57	139.77	698.83
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	4.42	7.44	21.41	8.32	41.59
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	4.42	8.29	63.09	18.95	94.75
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	4.42	5.98	28.55	9.74	48.68
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	4.42	8.29	84.12	24.21	121.04
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	83.34	3.04	206.73	73.28	366.38

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	83.34	6.45	795.53	221.33	1,106.64
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	70.81	3.04	98.76	43.15	215.76
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	70.81	6.45	312.18	97.36	486.80
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	70.81	3.04	137.82	52.92	264.58
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	70.81	6.45	531.15	152.10	760.51
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	11.81	69.34	184.89	66.51	332.55
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	11.81	69.34	223.48	76.16	380.80
610b	RIGHT OF WAY MARKER	EACH	143.35	101.77	276.04	130.29	651.46
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	791.98	811.70	1,975.08	894.69	4,473.45
610d	TEN KILOMETRE POST	EACH	1,542.19	1,623.40	4,194.11	1,839.93	9,199.63
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	168.67	76.10	909.01	288.45	1,442.23

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

KHUSHAB

(32)

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District: Khushab

District Code: 32

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.61	8.97	-	2.39	11.97
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	5.94	150.86	1.06	39.47	197.33
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	17.30	391.92	2.39	102.90	514.51
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	69.22	1,567.67	9.55	411.61	2,058.04
103	STRIPPING	CM	2.01	81.82	-	20.96	104.79
104	COMPACTION OF NATURAL GROUND	SM	0.28	8.55	0.75	2.40	11.98
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.29	118.44	-	30.43	152.16
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	100.90	272.97	46.20	105.02	525.08
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	14.31	294.98	-	77.32	386.61
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.33	228.89	-	59.56	297.78
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.69	105.42	-	27.03	135.14
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	100.90	272.97	46.20	105.02	525.08
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	16.04	275.34	-	72.85	364.23
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.20	229.91	-	59.28	296.39
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.50	120.24	0.37	31.53	157.65
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	51.26	245.80	64.37	90.36	451.79
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	89.14	367.50	30.80	121.86	609.30
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	75.92	257.01	-	83.23	416.16
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	45.84	211.67	-	64.38	321.89
107d	GRANULAR BACK FILL	CM	27.94	119.94	315.88	115.94	579.71
107e	COMMON BACK FILL	CM	21.34	55.41	4.99	20.44	102.18
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.51	152.01	4.99	40.63	203.14
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	16.41	418.69	49.36	121.12	605.58
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	12.30	364.32	2.37	94.75	473.74
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	10.94	323.09	-	83.51	417.53
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.39	154.80	7.84	42.26	211.29

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	4.97	66.06	4.99	19.00	95.02
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	11.75	97.15	2.97	27.97	139.84
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.11	23.75	1.43	6.57	32.86
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.79	15.94	0.76	4.37	21.87
110	IMPROVED SUB-GRADE	CM	8.04	104.23	58.03	42.58	212.89
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.68	13.24	0.78	3.68	18.38
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.00	13.62	0.88	3.88	19.38
201	GRANULAR SUB-BASE	CM	6.46	224.59	312.39	135.86	679.30
202	AGGREGATE BASE	CM	7.46	287.87	719.75	253.77	1,268.84
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	61.01	1,311.60	5,304.92	1,669.38	8,346.90
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	62.94	1,311.60	5,692.21	1,766.69	8,833.43
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	67.33	1,369.89	5,295.90	1,683.28	8,416.40
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	67.33	1,365.01	5,816.37	1,812.18	9,060.89
204b	CEMENT STABILIZED BASE	CM	23.11	480.68	892.01	348.95	1,744.75
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	192.13	772.74	49,416.27	12,595.29	62,976.43
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	192.13	772.74	47,880.06	12,211.23	61,056.17
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	81.63	92.96	788.16	240.69	1,203.44
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	122.33	2,134.12	4,949.17	1,801.40	9,007.01
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	90.61	105.48	699.36	223.86	1,119.32
207a	DEEP PATCHING (0-15 cm)	SM	1.39	39.69	1.23	10.58	52.89
207b	DEEP PATCHING (16-30 cm)	SM	1.39	34.94	1.23	9.39	46.95
208	REINSTATEMENT OF ROAD SURFACE	SM	1.48	49.93	0.55	12.99	64.94
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.59	96.89	0.67	24.79	123.93
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.32	19.38	0.13	4.96	24.79
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.23	1.32	35.07	9.16	45.78
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.23	1.32	39.15	10.17	50.87

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.09	0.49	14.68	3.81	19.07
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.09	0.49	17.12	4.43	22.13
304a	SINGLE SURFACE TREATMENT	SM	0.61	6.52	69.12	19.06	95.31
304b	DOUBLE SURFACE TREATMENT	SM	0.89	12.21	133.31	36.60	183.01
304c	TRIPLE SURFACE TREATMENT	SM	1.49	17.13	152.03	42.66	213.32
304d	SEAL COAT	SM	0.57	3.54	49.18	13.32	66.61
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	56.71	1,294.58	6,269.63	1,905.23	9,526.15
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	56.71	1,251.29	6,788.10	2,024.03	10,120.13
307a	DENSE GRADED HOT BIT-MAC	CM	140.23	316.05	5,321.62	1,444.47	7,222.37
307b	OPEN GRADED HOT BIT-MAC	CM	140.23	316.05	5,159.75	1,404.01	7,020.03
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	23.50	543.36	1,772.71	584.89	2,924.46
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	20.52	560.93	41,654.08	10,558.88	52,794.40
309a	COLD MILLING, 0 - 30 mm	SM	0.76	22.13	7.55	7.61	38.05
309b	COLD MILLING, 0 - 50 mm	SM	1.26	36.88	12.58	12.68	63.41
309c	COLD MILLING, 0 - 70 mm	SM	1.90	55.33	18.87	19.02	95.12
401a1i	CONCRETE CLASS "A1" (Underground)	CM	437.19	923.86	3,188.12	1,137.30	5,686.48
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	437.19	923.86	3,440.37	1,200.36	6,001.78
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	437.19	923.86	3,944.87	1,326.48	6,632.40
401a2i	CONCRETE CLASS "A2" (Underground)	CM	437.19	923.86	3,466.37	1,206.86	6,034.29
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	437.19	923.86	3,718.62	1,269.92	6,349.60
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	437.19	923.86	4,223.12	1,396.04	6,980.22
401a3i	CONCRETE CLASS "A3" (Underground)	CM	437.19	923.86	3,744.62	1,276.42	6,382.10
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	437.19	923.86	3,996.87	1,339.48	6,697.41
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	437.19	923.86	4,501.37	1,465.61	7,328.03
401b	CONCRETE CLASS "B"	CM	568.14	672.22	2,524.75	941.28	4,706.38
401ci	CONCRETE CLASS "C" (Underground)	CM	441.14	419.49	2,791.42	913.01	4,565.06

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401cii	CONCRETE CLASS "C" (On ground)	CM	441.14	419.49	2,899.00	939.91	4,699.54
401ciii	CONCRETE CLASS "C" (Elevated)	CM	441.14	419.49	3,114.17	993.70	4,968.50
401d	CONCRETE CLASS "D1"	CM	676.88	1,106.97	4,211.40	1,498.81	7,494.06
401e	CONCRETE CLASS "Y"	CM	954.91	419.49	3,771.19	1,286.40	6,431.99
401f	LEAN CONCRETE	CM	379.03	424.53	1,955.02	689.64	3,448.22
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,526.27	790.24	4,095.23	1,602.94	8,014.68
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,526.27	790.24	4,651.73	1,742.06	8,710.30
401gii	PRECAST CONCRETE CLASS "B"	CM	1,526.27	790.24	3,914.93	1,557.86	7,789.30
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,526.27	790.24	4,929.98	1,811.62	9,058.12
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,526.27	790.24	5,208.23	1,881.19	9,405.93
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,526.27	790.24	5,486.48	1,950.75	9,753.74
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,441.04	669.81	68,898.00	17,752.21	88,761.06
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,441.04	669.81	78,348.00	20,114.71	100,573.56
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,144.42	4,274.04	64,723.58	17,535.51	87,677.56
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,713.20	12,481.24	114,452.46	32,411.72	162,058.62
405b	LAUNCHING OF GIRDER	TON	65.22	486.64	-	137.96	689.82
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	95.89	-	268.53	91.10	455.52
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	95.89	-	268.37	91.07	455.33
406c	STEEL EXPANSION JOINTS	KG	8.46	21.04	103.90	33.35	166.75
406d	WATER STOPS 6" SIZE	M	78.59	-	409.00	121.90	609.48
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	39.46	-	2,903.99	735.86	3,679.30
406g	STEEL OR METAL BEARING DEVICES	KG	17.07	55.55	124.95	49.39	246.97
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	354.66	1,439.50	743.91	634.52	3,172.59
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	531.99	2,159.25	1,115.87	951.78	4,758.88
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	531.99	2,159.25	837.89	882.28	4,411.41

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	886.65	3,598.75	1,008.27	1,373.42	6,867.08
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	759.98	4,253.63	1,182.72	1,549.08	7,745.42
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,329.97	6,025.34	1,294.04	2,162.34	10,811.68
407h	PILE LOAD TEST UP TO 120 TON	EACH	20,233.34	40,036.45	84,642.24	36,228.01	181,140.03
407i	PILE LOAD TEST UP TO 240 TON	EACH	37,969.10	40,036.45	169,284.48	61,822.51	309,112.53
407j	PILE LOAD TEST UP TO 360 TON	EACH	55,704.86	43,882.72	253,926.72	88,378.57	441,892.87
407k	CONFIRMATORY BORING (NX SIZE)	M	197.76	1,323.15	6.24	381.79	1,908.93
410	BRICK WORK	CM	318.25	236.06	2,292.48	711.70	3,558.48
411a	STONE MASONRY RANDOM DRY	CM	262.03	91.36	459.90	203.32	1,016.61
411b	STONE MASONRY RANDOM WITH MORTAR	CM	284.45	139.82	1,257.85	420.53	2,102.65
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	346.29	91.36	513.19	237.71	1,188.56
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	410.85	139.82	1,327.70	469.59	2,347.95
411g	ROLL POINTING	SM	69.36	9.69	36.31	28.84	144.20
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	556.95	221.29	1,241.51	504.94	2,524.68
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	200.29	366.20	554.33	280.21	1,401.03
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	195.98	480.94	715.92	348.21	1,741.06
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	189.31	791.50	964.50	486.33	2,431.64
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	198.98	972.63	1,443.20	653.70	3,268.50
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	227.89	949.38	2,079.24	814.13	4,070.63
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	282.47	1,171.86	3,211.15	1,166.37	5,831.85
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	365.55	1,313.30	4,025.83	1,426.17	7,130.84
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	427.86	1,594.72	5,130.94	1,788.38	8,941.90
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	510.47	1,860.51	7,930.20	2,575.29	12,876.47
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	200.29	423.57	570.92	298.70	1,493.48
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	195.98	480.94	669.98	336.73	1,683.64
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	184.88	791.50	916.68	473.26	2,366.32

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	198.98	972.63	1,479.22	662.71	3,313.53
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	227.89	949.38	2,861.42	1,009.67	5,048.35
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	282.47	1,171.86	3,947.68	1,350.50	6,752.51
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	365.55	1,313.30	5,338.05	1,754.22	8,771.12
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	427.86	1,594.72	7,239.73	2,315.58	11,577.89
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	510.47	1,860.51	10,185.15	3,139.03	15,695.16
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	75.47	103.49	297.32	119.07	595.35
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	633.42	511.20	2,782.39	981.75	4,908.75
507a	STEEL WIRE MESH FOR GABIONS	KG	4.74	-	132.93	34.42	172.08
507b	ROCK FILL IN GABIONS	CM	82.86	-	458.79	135.41	677.07
508a	BRICK PAVING (SINGLE COURSE)	SM	103.39	26.90	181.61	77.98	389.89
508b	BRICK PAVING (DOUBLE COURSE)	SM	187.66	26.90	360.54	143.78	718.88
509a	RIP RAP CLASS "A"	CM	453.12	-	373.71	206.71	1,033.54
509b	RIP RAP CLASS "B"	CM	437.79	-	370.72	202.13	1,010.64
509c	RIP RAP CLASS "C"	CM	442.52	-	373.71	204.06	1,020.29
509d	GROUTED RIP RAP CLASS "A"	CM	553.28	84.24	1,480.62	529.54	2,647.68
509e	GROUTED RIP RAP CLASS "B"	CM	535.86	67.39	1,363.01	491.57	2,457.83
509f	GROUTED RIP RAP CLASS "C"	CM	530.81	56.16	1,392.22	494.80	2,473.99
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	715.42	295.88	3,177.47	1,047.19	5,235.97
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	41.31	167.47	316.12	131.22	656.12
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	103.56	322.32	-	106.47	532.34
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	139.08	57.10	60.73	64.23	321.14
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	178.02	73.09	77.73	82.21	411.06
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	229.67	150.62	305.15	171.36	856.79
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	287.09	188.27	381.43	214.20	1,070.98
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	231.78	498.72	1,801.66	633.04	3,165.21

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	840.60	567.97	3,840.22	1,312.20	6,560.98
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	121.93	75.65	350.86	137.11	685.56
603	BRICK EDGING	M	7.90	-	28.70	9.15	45.75
604a	METAL GUARD RAIL	M	17.52	59.95	1,492.92	392.60	1,962.99
604b	METAL GUARD RAIL END PIECES	EACH	25.13	-	1,138.10	290.81	1,454.04
604d	STEEL POST OF METAL GUARD RAIL	EACH	77.53	805.79	3,566.86	1,112.54	5,562.72
605a	CONCRETE BEAM GUARD RAIL	M	66.40	25.40	581.78	168.40	841.98
605c	CONCRETE POST FOR GUARD RAIL	M	81.53	22.64	583.40	171.89	859.46
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	207.66	213.74	6,366.87	1,697.07	8,485.34
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	63.15	320.61	8,419.54	2,200.82	11,004.12
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	207.66	453.76	11,091.92	2,938.34	14,691.68
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	681.00	503.34	19,214.94	5,099.82	25,499.09
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	136.20	100.67	8,401.85	2,159.68	10,798.39
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	241.86	-	1,133.66	343.88	1,719.40
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	241.86	-	1,700.49	485.59	2,427.93
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.27	5.03	15.39	5.67	28.36
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.76	3.40	37.04	10.30	51.49
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.27	5.03	20.54	6.96	34.79
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.76	3.40	49.40	13.39	66.95
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	62.32	4.26	148.71	53.82	269.11
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	62.32	8.15	466.71	134.30	671.48
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.84	7.44	21.40	7.92	39.60
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.84	8.29	63.09	18.55	92.77
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.84	5.98	28.54	9.34	46.69
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.84	8.29	84.12	23.81	119.05
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	62.32	3.04	206.67	68.01	340.03

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District: Khushab

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	62.32	6.45	795.53	216.07	1,080.37
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	51.97	3.04	99.14	38.54	192.69
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	51.97	6.45	311.61	92.51	462.54
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	51.97	3.04	137.78	48.20	240.99
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	51.97	6.45	531.15	147.39	736.96
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.18	69.34	184.76	65.57	327.85
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.18	69.34	223.35	75.22	376.09
610b	RIGHT OF WAY MARKER	EACH	91.25	101.77	267.43	115.11	575.56
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	557.57	811.70	1,904.54	818.45	4,092.26
610d	TEN KILOMETRE POST	EACH	1,059.94	1,623.40	4,057.81	1,685.29	8,426.44
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	120.31	76.10	897.39	273.45	1,367.25

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

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LAHORE

(37)

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Rate Analysis Summary (Construction)

District: Lahore

District Code: 37

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.88	8.97	-	2.46	12.32
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	8.52	150.86	1.06	40.11	200.56
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	25.04	391.92	2.39	104.84	524.18
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	100.17	1,567.67	9.55	419.35	2,096.73
103	STRIPPING	CM	2.82	81.82	-	21.16	105.80
104	COMPACTION OF NATURAL GROUND	SM	0.40	8.55	0.75	2.42	12.12
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.41	118.44	-	30.71	153.56
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	137.72	272.97	46.20	114.22	571.11
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	19.62	294.98	-	78.65	393.25
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	12.70	228.89	-	60.40	301.99
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.61	105.42	-	27.26	136.29
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	137.72	272.97	46.20	114.22	571.11
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	21.90	275.34	-	74.31	371.54
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	9.84	229.91	-	59.94	299.68
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	7.37	120.24	0.37	32.00	159.99
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	70.27	245.80	64.37	95.11	475.55
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	121.64	367.50	30.80	129.99	649.93
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	103.73	257.01	-	90.19	450.93
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	62.56	211.67	-	68.56	342.78
107d	GRANULAR BACK FILL	CM	39.63	119.94	425.38	146.24	731.18
107e	COMMON BACK FILL	CM	31.17	55.41	4.99	22.89	114.47
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	7.49	152.01	4.99	41.12	205.61
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	22.67	418.69	49.36	122.68	613.41
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	17.00	364.32	2.37	95.92	479.61
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	15.11	323.09	-	84.55	422.75
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	8.79	154.80	7.84	42.86	214.29

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.77	66.06	4.99	19.45	97.27
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	16.35	97.15	2.97	29.12	145.59
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.52	23.75	1.43	6.67	33.37
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	1.08	15.94	0.76	4.45	22.23
110	IMPROVED SUB-GRADE	CM	11.17	104.23	54.16	42.39	211.95
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.94	13.24	0.78	3.74	18.71
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.38	13.62	0.88	3.97	19.85
201	GRANULAR SUB-BASE	CM	8.88	224.59	593.13	206.65	1,033.25
202	AGGREGATE BASE	CM	10.23	287.87	975.91	318.50	1,592.52
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	87.77	1,311.60	5,719.54	1,779.73	8,898.63
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	90.34	1,311.60	6,097.03	1,874.74	9,373.71
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	96.29	1,369.89	5,711.20	1,794.35	8,971.73
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	96.29	1,365.01	6,220.91	1,920.55	9,602.76
204b	CEMENT STABILIZED BASE	CM	32.07	480.68	1,281.00	448.44	2,242.18
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	263.11	772.74	49,891.98	12,731.96	63,659.80
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	263.11	772.74	48,355.77	12,347.91	61,739.53
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	119.50	92.96	1,124.29	334.19	1,670.94
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	173.14	2,134.12	5,378.92	1,921.54	9,607.72
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	133.01	105.48	921.62	290.03	1,450.13
207a	DEEP PATCHING (0-15 cm)	SM	1.89	39.69	1.23	10.70	53.52
207b	DEEP PATCHING (16-30 cm)	SM	1.89	34.94	1.23	9.52	47.58
208	REINSTATEMENT OF ROAD SURFACE	SM	2.03	49.93	0.55	13.13	65.64
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	2.11	96.89	0.67	24.92	124.58
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.42	19.38	0.13	4.98	24.92
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.32	1.32	35.41	9.26	46.32
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.31	1.32	39.53	10.29	51.45

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.13	0.49	14.82	3.86	19.30
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.13	0.49	17.29	4.48	22.38
304a	SINGLE SURFACE TREATMENT	SM	0.84	6.52	71.56	19.73	98.65
304b	DOUBLE SURFACE TREATMENT	SM	1.22	12.21	139.74	38.29	191.47
304c	TRIPLE SURFACE TREATMENT	SM	2.05	17.13	159.56	44.69	223.43
304d	SEAL COAT	SM	0.78	3.54	50.43	13.69	68.44
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	80.87	1,294.58	6,695.36	2,017.70	10,088.51
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	80.87	1,251.29	7,236.19	2,142.09	10,710.44
307a	DENSE GRADED HOT BIT-MAC	CM	201.95	316.05	5,707.54	1,556.38	7,781.91
307b	OPEN GRADED HOT BIT-MAC	CM	201.95	316.05	5,549.45	1,516.86	7,584.30
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	33.67	543.36	1,848.08	606.28	3,031.39
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	29.05	560.93	42,143.92	10,683.47	53,417.37
309a	COLD MILLING, 0 - 30 mm	SM	1.06	22.13	7.55	7.68	38.42
309b	COLD MILLING, 0 - 50 mm	SM	1.76	36.88	12.58	12.81	64.03
309c	COLD MILLING, 0 - 70 mm	SM	2.64	55.33	18.87	19.21	96.05
401a1i	CONCRETE CLASS "A1" (Underground)	CM	591.82	923.86	3,530.47	1,261.54	6,307.70
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	591.82	923.86	3,782.72	1,324.60	6,623.01
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	591.82	923.86	4,287.22	1,450.72	7,253.62
401a2i	CONCRETE CLASS "A2" (Underground)	CM	591.82	923.86	3,808.72	1,331.10	6,655.51
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	591.82	923.86	4,060.97	1,394.16	6,970.82
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	591.82	923.86	4,565.47	1,520.29	7,601.44
401a3i	CONCRETE CLASS "A3" (Underground)	CM	591.82	923.86	4,086.97	1,400.66	7,003.32
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	591.82	923.86	4,339.22	1,463.73	7,318.63
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	591.82	923.86	4,843.72	1,589.85	7,949.25
401b	CONCRETE CLASS "B"	CM	778.94	672.22	2,897.88	1,087.26	5,436.30
401ci	CONCRETE CLASS "C" (Underground)	CM	602.19	419.49	3,204.98	1,056.66	5,283.32

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	602.19	419.49	3,312.56	1,083.56	5,417.80
401ciii	CONCRETE CLASS "C" (Elevated)	CM	602.19	419.49	3,527.73	1,137.35	5,686.76
401d	CONCRETE CLASS "D1"	CM	917.13	1,106.97	4,526.21	1,637.58	8,187.89
401e	CONCRETE CLASS "Y"	CM	1,298.43	419.49	4,082.02	1,449.98	7,249.92
401f	LEAN CONCRETE	CM	535.41	424.53	2,328.48	822.11	4,110.53
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	2,099.35	790.24	4,468.03	1,839.41	9,197.03
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	2,099.35	790.24	5,024.53	1,978.53	9,892.65
401gii	PRECAST CONCRETE CLASS "B"	CM	2,099.35	790.24	4,315.44	1,801.26	9,006.29
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	2,099.35	790.24	5,302.78	2,048.09	10,240.47
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	2,099.35	790.24	5,581.03	2,117.66	10,588.28
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	2,099.35	790.24	5,859.28	2,187.22	10,936.09
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,737.78	669.81	67,838.00	17,561.40	87,806.99
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,737.78	669.81	77,288.00	19,923.90	99,619.49
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,419.20	4,274.04	65,796.82	17,872.52	89,362.58
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,046.98	12,481.24	114,456.45	32,496.17	162,480.83
405b	LAUNCHING OF GIRDER	TON	72.03	486.64	-	139.67	698.34
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	132.61	-	264.06	99.17	495.84
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	132.61	-	264.32	99.23	496.16
406c	STEEL EXPANSION JOINTS	KG	10.74	21.04	105.89	34.42	172.09
406d	WATER STOPS 6" SIZE	M	109.14	-	408.81	129.49	647.43
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.24
406f	ASPHALT FELT (3 PLY)	SM	51.34	-	2,899.63	737.74	3,688.72
406g	STEEL OR METAL BEARING DEVICES	KG	23.72	55.55	126.65	51.48	257.41
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	390.30	1,439.50	583.13	603.23	3,016.16
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	585.45	2,159.25	874.70	904.85	4,524.25
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	585.45	2,159.25	679.91	856.15	4,280.76

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	975.74	3,598.75	855.89	1,357.60	6,787.98
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	836.35	4,253.63	1,040.34	1,532.58	7,662.91
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,463.62	6,025.34	1,127.86	2,154.20	10,771.02
407h	PILE LOAD TEST UP TO 120 TON	EACH	29,682.12	40,036.45	92,438.16	40,539.18	202,695.91
407i	PILE LOAD TEST UP TO 240 TON	EACH	56,078.76	40,036.45	184,876.32	70,247.88	351,239.41
407j	PILE LOAD TEST UP TO 360 TON	EACH	82,475.40	43,882.72	277,314.48	100,918.15	504,590.75
407k	CONFIRMATORY BORING (NX SIZE)	M	243.43	1,323.15	6.24	393.20	1,966.02
410	BRICK WORK	CM	421.95	236.06	2,816.32	868.58	4,342.91
411a	STONE MASONRY RANDOM DRY	CM	352.41	91.36	521.90	241.42	1,207.09
411b	STONE MASONRY RANDOM WITH MORTAR	CM	379.70	139.82	1,399.64	479.79	2,398.95
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	465.65	91.36	580.15	284.29	1,421.46
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	549.56	139.82	1,454.51	535.97	2,679.86
411g	ROLL POINTING	SM	90.93	9.69	37.64	34.57	172.83
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	748.76	221.29	1,368.32	584.59	2,922.96
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	287.55	366.20	556.83	302.64	1,513.22
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	281.81	480.94	718.92	370.42	1,852.09
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	268.17	791.50	967.99	506.91	2,534.57
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	283.79	972.63	1,447.28	675.92	3,379.61
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	325.11	949.38	2,083.32	839.45	4,197.25
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	400.70	1,171.86	3,217.04	1,197.40	5,987.00
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	518.55	1,313.30	4,031.70	1,465.89	7,329.43
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	610.17	1,594.72	5,138.06	1,835.74	9,178.69
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	723.61	1,860.51	7,938.51	2,630.66	13,153.28
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	287.55	423.57	575.91	321.76	1,608.79
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	281.81	480.94	672.98	358.93	1,794.66
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	261.57	791.50	920.17	493.31	2,466.55

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	283.79	972.63	1,482.39	684.70	3,423.51
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	325.11	949.38	2,865.95	1,035.11	5,175.55
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	400.70	1,171.86	3,953.57	1,381.53	6,907.66
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	518.55	1,313.30	5,343.92	1,793.94	8,969.70
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	610.17	1,594.72	7,246.86	2,362.94	11,814.68
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	723.61	1,860.51	10,193.46	3,194.39	15,971.97
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	108.90	103.49	403.63	154.01	770.03
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	870.40	511.20	3,155.52	1,134.28	5,671.40
507a	STEEL WIRE MESH FOR GABIONS	KG	6.07	-	133.49	34.89	174.45
507b	ROCK FILL IN GABIONS	CM	120.80	-	522.32	160.78	803.89
508a	BRICK PAVING (SINGLE COURSE)	SM	140.36	26.90	238.02	101.32	506.61
508b	BRICK PAVING (DOUBLE COURSE)	SM	253.60	26.90	472.48	188.25	941.23
509a	RIP RAP CLASS "A"	CM	608.82	-	435.71	261.13	1,305.67
509b	RIP RAP CLASS "B"	CM	589.39	-	432.23	255.40	1,277.02
509c	RIP RAP CLASS "C"	CM	594.62	-	435.71	257.58	1,287.92
509d	GROUTED RIP RAP CLASS "A"	CM	744.79	84.24	1,592.49	605.38	3,026.90
509e	GROUTED RIP RAP CLASS "B"	CM	719.99	67.39	1,469.20	564.15	2,820.74
509f	GROUTED RIP RAP CLASS "C"	CM	713.24	56.16	1,500.77	567.54	2,837.71
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	984.29	295.88	3,530.53	1,202.67	6,013.37
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	59.83	167.47	425.71	163.25	816.26
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	127.77	322.32	-	112.52	562.61
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	188.72	57.10	70.80	79.16	395.78
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	241.56	73.09	90.63	101.32	506.60
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	308.69	150.62	331.43	197.68	988.41
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	385.86	188.27	414.28	247.10	1,235.52
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	313.87	498.72	1,979.76	698.09	3,490.44

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,149.92	567.97	4,012.03	1,432.48	7,162.39
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	167.56	75.65	387.51	157.68	788.40
603	BRICK EDGING	M	10.90	-	37.54	12.11	60.55
604a	METAL GUARD RAIL	M	21.17	59.95	1,492.92	393.51	1,967.55
604b	METAL GUARD RAIL END PIECES	EACH	29.33	-	1,138.10	291.86	1,459.29
604d	STEEL POST OF METAL GUARD RAIL	EACH	95.01	805.79	3,566.86	1,116.92	5,584.58
605a	CONCRETE BEAM GUARD RAIL	M	93.47	25.40	590.35	177.31	886.53
605c	CONCRETE POST FOR GUARD RAIL	M	114.76	22.64	594.43	182.96	914.79
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	288.21	213.74	6,396.45	1,724.60	8,623.00
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	85.66	320.61	8,481.98	2,222.06	11,110.31
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	288.21	453.76	11,195.02	2,984.25	14,921.23
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	975.76	503.34	19,363.84	5,210.74	26,053.68
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	195.15	100.67	8,424.75	2,180.14	10,900.71
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	300.27	-	1,131.59	357.96	1,789.82
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	300.27	-	1,697.39	499.41	2,497.07
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.20	5.03	15.38	5.90	29.50
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	1.07	3.40	36.90	10.34	51.72
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.20	5.03	20.52	7.19	35.93
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	1.07	3.40	49.22	13.42	67.11
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	83.55	4.26	148.57	59.10	295.48
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	83.55	8.15	465.06	139.19	695.95
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	4.00	7.44	21.39	8.21	41.03
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	4.00	8.29	63.09	18.84	94.22
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	4.00	5.98	28.52	9.62	48.12
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	4.00	8.29	84.12	24.10	120.51
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	83.55	3.04	206.53	73.28	366.40

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	83.55	6.45	795.53	221.38	1,106.90
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	70.09	3.04	99.05	43.05	215.23
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	70.09	6.45	310.51	96.76	483.81
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	70.09	3.04	137.69	52.71	263.53
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	70.09	6.45	531.15	151.92	759.62
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	10.85	69.34	184.86	66.26	331.31
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	10.85	69.34	223.45	75.91	379.56
610b	RIGHT OF WAY MARKER	EACH	131.62	101.77	280.39	128.45	642.23
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	775.18	811.70	2,007.44	898.58	4,492.90
610d	TEN KILOMETRE POST	EACH	1,486.05	1,623.40	4,260.53	1,842.50	9,212.48
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	158.44	76.10	914.85	287.35	1,436.74

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

LEIAH
(40)

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Rate Analysis Summary (Construction)

District: Leiah

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.63	8.97	-	2.40	12.00
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.14	150.86	1.06	39.52	197.58
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	17.95	391.92	2.39	103.06	515.31
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	71.78	1,567.67	9.55	412.25	2,061.25
103	STRIPPING	CM	2.07	81.82	-	20.97	104.86
104	COMPACTION OF NATURAL GROUND	SM	0.29	8.55	0.75	2.40	11.99
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.30	118.44	-	30.43	152.17
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	102.64	272.97	46.20	105.45	527.26
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	14.64	294.98	-	77.41	387.03
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.54	228.89	-	59.61	298.03
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.70	105.42	-	27.03	135.15
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	102.64	272.97	46.20	105.45	527.26
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	16.31	275.34	-	72.91	364.56
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.36	229.91	-	59.32	296.59
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.57	120.24	0.37	31.55	157.73
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	51.31	245.80	64.37	90.37	451.85
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	90.61	367.50	30.80	122.23	611.14
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	77.24	257.01	-	83.56	417.82
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	46.60	211.67	-	64.57	322.83
107d	GRANULAR BACK FILL	CM	28.74	119.94	383.16	132.96	664.80
107e	COMMON BACK FILL	CM	22.23	55.41	4.99	20.66	103.29
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.61	152.01	4.99	40.65	203.27
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	16.80	418.69	49.36	121.21	606.07
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	12.60	364.32	2.37	94.82	474.11
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	11.20	323.09	-	83.57	417.86
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.53	154.80	7.84	42.29	211.47

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.08	66.06	4.99	19.03	95.15
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	12.07	97.15	2.97	28.05	140.24
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.13	23.75	1.43	6.58	32.88
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.81	15.94	0.76	4.38	21.89
110	IMPROVED SUB-GRADE	CM	8.24	104.23	58.03	42.63	213.13
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.70	13.24	0.78	3.68	18.40
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.03	13.62	0.88	3.88	19.41
201	GRANULAR SUB-BASE	CM	6.60	224.59	482.34	178.38	891.91
202	AGGREGATE BASE	CM	7.57	287.87	829.92	281.34	1,406.70
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	63.20	1,311.60	5,546.69	1,730.37	8,651.85
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	65.13	1,311.60	5,931.38	1,827.03	9,135.14
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	69.66	1,369.89	5,537.89	1,744.36	8,721.79
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	69.66	1,365.01	6,056.19	1,872.71	9,363.56
204b	CEMENT STABILIZED BASE	CM	23.56	480.68	1,085.28	397.38	1,986.90
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	196.15	772.74	50,110.14	12,769.76	63,848.80
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	196.15	772.74	48,573.93	12,385.71	61,928.54
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	85.26	92.96	944.24	280.61	1,403.07
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	126.02	2,134.12	5,183.67	1,860.95	9,304.76
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	94.69	105.48	719.01	229.80	1,148.98
207a	DEEP PATCHING (0-15 cm)	SM	1.42	39.69	1.23	10.59	52.93
207b	DEEP PATCHING (16-30 cm)	SM	1.42	34.94	1.23	9.40	46.99
208	REINSTATEMENT OF ROAD SURFACE	SM	1.50	49.93	0.55	12.99	64.97
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.62	96.89	0.67	24.79	123.96
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.32	19.38	0.13	4.96	24.79
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.24	1.32	35.57	9.28	46.41
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.23	1.32	39.70	10.31	51.56

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	14.88	3.87	19.33
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	17.36	4.49	22.43
304a	SINGLE SURFACE TREATMENT	SM	0.62	6.52	70.98	19.53	97.64
304b	DOUBLE SURFACE TREATMENT	SM	0.90	12.21	137.68	37.70	188.49
304c	TRIPLE SURFACE TREATMENT	SM	1.52	17.13	157.12	43.94	219.71
304d	SEAL COAT	SM	0.57	3.54	50.28	13.60	67.99
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	58.54	1,294.58	6,527.01	1,970.03	9,850.15
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	58.54	1,251.29	7,062.75	2,093.14	10,465.72
307a	DENSE GRADED HOT BIT-MAC	CM	145.11	316.05	5,560.42	1,505.39	7,526.96
307b	OPEN GRADED HOT BIT-MAC	CM	145.11	316.05	5,393.74	1,463.72	7,318.62
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	24.26	543.36	1,818.94	596.64	2,983.21
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	21.07	560.93	42,368.56	10,737.64	53,688.19
309a	COLD MILLING, 0 - 30 mm	SM	0.77	22.13	7.55	7.61	38.07
309b	COLD MILLING, 0 - 50 mm	SM	1.29	36.88	12.58	12.69	63.44
309c	COLD MILLING, 0 - 70 mm	SM	1.93	55.33	18.87	19.03	95.17
401a1i	CONCRETE CLASS "A1" (Underground)	CM	423.32	923.86	3,333.95	1,170.28	5,851.42
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	423.32	923.86	3,586.20	1,233.35	6,166.73
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	423.32	923.86	4,090.70	1,359.47	6,797.35
401a2i	CONCRETE CLASS "A2" (Underground)	CM	423.32	923.86	3,612.20	1,239.85	6,199.23
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	423.32	923.86	3,864.45	1,302.91	6,514.54
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	423.32	923.86	4,368.95	1,429.03	7,145.16
401a3i	CONCRETE CLASS "A3" (Underground)	CM	423.32	923.86	3,890.45	1,309.41	6,547.04
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	423.32	923.86	4,142.70	1,372.47	6,862.35
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	423.32	923.86	4,647.20	1,498.59	7,492.97
401b	CONCRETE CLASS "B"	CM	561.18	672.22	2,674.30	976.92	4,884.62
401ci	CONCRETE CLASS "C" (Underground)	CM	427.95	419.49	2,965.31	953.19	4,765.95

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401cii	CONCRETE CLASS "C" (On ground)	CM	427.95	419.49	3,072.90	980.09	4,900.43
401ciii	CONCRETE CLASS "C" (Elevated)	CM	427.95	419.49	3,288.06	1,033.88	5,169.39
401d	CONCRETE CLASS "D1"	CM	650.99	1,106.97	4,344.97	1,525.73	7,628.66
401e	CONCRETE CLASS "Y"	CM	918.18	419.49	3,905.60	1,310.82	6,554.09
401f	LEAN CONCRETE	CM	381.46	424.53	2,104.25	727.56	3,637.79
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,483.37	790.24	4,254.54	1,632.04	8,160.19
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,483.37	790.24	4,811.04	1,771.16	8,855.81
401gii	PRECAST CONCRETE CLASS "B"	CM	1,483.37	790.24	4,077.86	1,587.87	7,939.33
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,483.37	790.24	5,089.29	1,840.73	9,203.63
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,483.37	790.24	5,367.54	1,910.29	9,551.44
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,483.37	790.24	5,645.79	1,979.85	9,899.25
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,183.99	669.81	68,898.00	17,687.95	88,439.75
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,183.99	669.81	78,348.00	20,050.45	100,252.25
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	971.13	4,274.04	64,856.73	17,525.48	87,627.38
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,415.12	12,481.24	114,448.10	32,336.11	161,680.57
405b	LAUNCHING OF GIRDER	TON	57.36	486.64	-	136.00	680.00
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	94.49	-	273.77	92.06	460.32
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	94.49	-	273.27	91.94	459.70
406c	STEEL EXPANSION JOINTS	KG	7.34	21.04	103.82	33.05	165.26
406d	WATER STOPS 6" SIZE	M	77.24	-	407.67	121.23	606.14
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	36.34	-	2,898.71	733.76	3,668.80
406g	STEEL OR METAL BEARING DEVICES	KG	16.90	55.55	124.90	49.34	246.70
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	309.85	1,439.50	663.74	603.27	3,016.37
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	464.78	2,159.25	995.61	904.91	4,524.55
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	464.78	2,159.25	759.23	845.81	4,229.07

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	774.64	3,598.75	932.62	1,326.50	6,632.51
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	663.97	4,253.63	1,112.46	1,507.52	7,537.58
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,161.95	6,025.34	1,211.76	2,099.76	10,498.81
407h	PILE LOAD TEST UP TO 120 TON	EACH	21,127.58	40,036.45	90,488.96	37,913.25	189,566.23
407i	PILE LOAD TEST UP TO 240 TON	EACH	39,757.58	40,036.45	180,977.92	65,192.99	325,964.93
407j	PILE LOAD TEST UP TO 360 TON	EACH	58,387.58	43,882.72	271,466.88	93,434.29	467,171.47
407k	CONFIRMATORY BORING (NX SIZE)	M	184.92	1,323.15	6.24	378.58	1,892.89
410	BRICK WORK	CM	295.55	236.06	2,306.66	709.57	3,547.83
411a	STONE MASONRY RANDOM DRY	CM	250.24	91.36	602.66	236.07	1,180.34
411b	STONE MASONRY RANDOM WITH MORTAR	CM	269.05	139.82	1,418.33	456.80	2,284.00
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	329.26	91.36	667.32	271.99	1,359.93
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	387.58	139.82	1,495.12	505.63	2,528.14
411g	ROLL POINTING	SM	63.32	9.69	36.60	27.40	137.02
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	526.81	221.29	1,408.93	539.26	2,696.28
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	204.46	366.20	554.89	281.39	1,406.93
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	200.15	480.94	716.59	349.42	1,747.10
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	192.32	791.50	965.28	487.27	2,436.37
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	203.07	972.63	1,444.10	654.95	3,274.75
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	232.88	949.38	2,080.14	815.60	4,078.00
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	287.17	1,171.86	3,212.46	1,167.87	5,839.37
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	371.64	1,313.30	4,027.13	1,428.02	7,140.08
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	437.84	1,594.72	5,132.52	1,791.27	8,956.35
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	518.72	1,860.51	7,932.04	2,577.82	12,889.09
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	204.46	423.57	572.03	300.02	1,500.08
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	200.15	480.94	670.65	337.94	1,689.68
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	187.66	791.50	917.46	474.15	2,370.77

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	203.07	972.63	1,479.92	663.90	3,319.52
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	232.88	949.38	2,862.43	1,011.17	5,055.85
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	287.17	1,171.86	3,948.99	1,352.01	6,760.03
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	371.64	1,313.30	5,339.35	1,756.07	8,780.36
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	437.84	1,594.72	7,241.31	2,318.47	11,592.34
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	518.72	1,860.51	10,187.00	3,141.56	15,707.78
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	78.34	103.49	377.05	139.72	698.60
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	624.81	511.20	2,931.94	1,016.99	5,084.93
507a	STEEL WIRE MESH FOR GABIONS	KG	4.24	-	132.62	34.21	171.07
507b	ROCK FILL IN GABIONS	CM	86.40	-	458.79	136.30	681.48
508a	BRICK PAVING (SINGLE COURSE)	SM	98.78	26.90	184.94	77.65	388.27
508b	BRICK PAVING (DOUBLE COURSE)	SM	177.80	26.90	366.52	142.81	714.03
509a	RIP RAP CLASS "A"	CM	427.23	-	516.48	235.93	1,179.64
509b	RIP RAP CLASS "B"	CM	413.28	-	512.34	231.41	1,157.03
509c	RIP RAP CLASS "C"	CM	416.52	-	516.48	233.25	1,166.24
509d	GROUTED RIP RAP CLASS "A"	CM	522.65	84.24	1,634.45	560.34	2,801.68
509e	GROUTED RIP RAP CLASS "B"	CM	504.66	67.39	1,514.55	521.65	2,608.26
509f	GROUTED RIP RAP CLASS "C"	CM	499.57	56.16	1,545.32	525.26	2,626.31
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	695.30	295.88	3,318.99	1,077.54	5,387.72
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	43.01	167.47	383.55	148.51	742.54
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	96.71	322.32	-	104.76	523.79
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	133.56	57.10	83.93	68.65	343.24
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	170.96	73.09	107.43	87.87	439.35
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	217.61	150.62	333.20	175.36	876.79
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	272.02	188.27	416.50	219.20	1,095.98
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	224.53	498.72	1,877.77	650.26	3,251.28

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	811.40	567.97	3,923.06	1,325.61	6,628.04
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	118.50	75.65	366.32	140.12	700.60
603	BRICK EDGING	M	7.77	-	28.70	9.12	45.59
604a	METAL GUARD RAIL	M	16.24	59.95	1,492.92	392.28	1,961.39
604b	METAL GUARD RAIL END PIECES	EACH	22.68	-	1,138.10	290.20	1,450.98
604d	STEEL POST OF METAL GUARD RAIL	EACH	72.63	805.79	3,566.86	1,111.32	5,556.59
605a	CONCRETE BEAM GUARD RAIL	M	65.78	25.40	587.56	169.69	848.43
605c	CONCRETE POST FOR GUARD RAIL	M	80.77	22.64	590.43	173.46	867.30
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	206.48	213.74	6,387.50	1,701.93	8,509.65
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	61.39	320.61	8,454.68	2,209.17	11,045.85
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	206.48	453.76	11,148.22	2,952.11	14,760.57
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	692.96	503.34	19,304.55	5,125.21	25,626.06
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	138.59	100.67	8,425.98	2,166.31	10,831.55
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	209.96	-	1,135.52	336.37	1,681.85
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	209.96	-	1,703.28	478.31	2,391.55
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.35	5.03	15.40	5.70	28.48
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.78	3.40	37.16	10.34	51.69
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.35	5.03	20.55	6.98	34.91
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.78	3.40	49.57	13.44	67.19
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	55.64	4.26	148.82	52.18	260.91
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	55.64	8.15	468.30	133.02	665.12
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.94	7.44	21.42	7.95	39.74
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.94	8.29	63.09	18.58	92.90
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.94	5.98	28.56	9.37	46.84
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.94	8.29	84.12	23.84	119.18
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	55.64	3.04	206.78	66.37	331.84

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	55.64	6.45	795.53	214.40	1,072.02
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	46.99	3.04	99.22	37.31	186.56
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	46.99	6.45	312.67	91.53	457.64
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	46.99	3.04	137.86	46.97	234.86
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	46.99	6.45	531.15	146.15	730.74
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	7.95	69.34	184.78	65.52	327.59
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	7.95	69.34	223.37	75.17	375.83
610b	RIGHT OF WAY MARKER	EACH	93.15	101.77	273.53	117.11	585.56
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	543.86	811.70	1,954.43	827.50	4,137.49
610d	TEN KILOMETRE POST	EACH	1,041.32	1,623.40	4,157.47	1,705.55	8,527.74
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	115.78	76.10	904.82	274.18	1,370.88

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

LODHERAN
(41-A)

Q. S. & Estimation Specialist

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National Highway Authority
Islamabad

Quantity Surveying &
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Rate Analysis Summary (Construction)

District: Lodheran

District Code: 41-A

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.64	8.97	-	2.40	12.01
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.40	150.86	1.06	39.58	197.91
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	18.37	391.92	2.39	103.17	515.85
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	73.50	1,567.67	9.55	412.68	2,063.40
103	STRIPPING	CM	2.20	81.82	-	21.00	105.02
104	COMPACTION OF NATURAL GROUND	SM	0.31	8.55	0.75	2.40	12.02
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.85	118.44	-	30.57	152.86
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	112.53	272.97	46.20	107.92	539.62
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	15.81	294.98	-	77.70	388.49
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.32	228.89	-	59.80	299.01
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.15	105.42	-	27.14	135.71
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	112.53	272.97	46.20	107.92	539.62
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	17.90	275.34	-	73.31	366.55
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.00	229.91	-	59.48	297.38
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.35	120.24	0.37	31.74	158.71
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	55.99	245.80	64.37	91.54	457.71
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	99.45	367.50	30.80	124.44	622.19
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	84.48	257.01	-	85.37	426.87
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	51.15	211.67	-	65.70	328.52
107d	GRANULAR BACK FILL	CM	30.04	119.94	344.21	123.55	617.73
107e	COMMON BACK FILL	CM	22.13	55.41	4.99	20.63	103.17
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.20	152.01	4.99	40.80	204.01
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	18.09	418.69	49.36	121.54	607.69
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	13.57	364.32	2.37	95.06	475.32
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	12.06	323.09	-	83.79	418.94
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.09	154.80	7.84	42.43	212.16

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.58	66.06	4.99	19.16	95.78
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	12.90	97.15	2.97	28.25	141.27
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.24	23.75	1.43	6.60	33.02
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.89	15.94	0.76	4.40	21.99
110	IMPROVED SUB-GRADE	CM	9.01	104.23	55.96	42.30	211.50
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.75	13.24	0.78	3.69	18.46
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.12	13.62	0.88	3.90	19.52
201	GRANULAR SUB-BASE	CM	7.20	224.59	490.26	180.51	902.56
202	AGGREGATE BASE	CM	8.55	287.87	875.84	293.06	1,465.32
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	64.94	1,311.60	5,658.97	1,758.88	8,794.39
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	67.19	1,311.60	6,045.95	1,856.19	9,280.93
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	71.80	1,369.89	5,650.21	1,772.98	8,864.88
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	71.80	1,365.01	6,171.43	1,902.06	9,510.30
204b	CEMENT STABILIZED BASE	CM	26.08	480.68	1,156.57	415.83	2,079.16
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	209.68	772.74	50,631.30	12,903.43	64,517.15
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	209.68	772.74	49,095.09	12,519.38	62,596.89
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	84.18	92.96	1,004.25	295.35	1,476.74
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	133.08	2,134.12	5,290.40	1,889.40	9,446.99
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	93.06	105.48	828.40	256.73	1,283.67
207a	DEEP PATCHING (0-15 cm)	SM	1.55	39.69	1.23	10.62	53.10
207b	DEEP PATCHING (16-30 cm)	SM	1.55	34.94	1.23	9.43	47.16
208	REINSTATEMENT OF ROAD SURFACE	SM	1.69	49.93	0.55	13.04	65.20
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.81	96.89	0.67	24.84	124.20
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.36	19.38	0.13	4.97	24.84
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.26	1.32	35.93	9.38	46.90
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.25	1.32	40.11	10.42	52.11

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	15.04	3.91	19.54
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.55	4.53	22.67
304a	SINGLE SURFACE TREATMENT	SM	0.69	6.52	72.07	19.82	99.09
304b	DOUBLE SURFACE TREATMENT	SM	1.00	12.21	140.09	38.32	191.62
304c	TRIPLE SURFACE TREATMENT	SM	1.69	17.13	159.90	44.68	223.40
304d	SEAL COAT	SM	0.64	3.54	50.94	13.78	68.90
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	61.18	1,294.58	6,651.68	2,001.86	10,009.29
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	61.18	1,251.29	7,196.84	2,127.33	10,636.63
307a	DENSE GRADED HOT BIT-MAC	CM	152.29	316.05	5,676.54	1,536.22	7,681.10
307b	OPEN GRADED HOT BIT-MAC	CM	152.29	316.05	5,507.78	1,494.03	7,470.15
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	26.45	543.36	1,842.77	603.14	3,015.72
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	22.20	560.93	42,905.20	10,872.08	54,360.41
309a	COLD MILLING, 0 - 30 mm	SM	0.86	22.13	7.55	7.63	38.17
309b	COLD MILLING, 0 - 50 mm	SM	1.43	36.88	12.58	12.72	63.62
309c	COLD MILLING, 0 - 70 mm	SM	2.15	55.33	18.87	19.09	95.44
401a1i	CONCRETE CLASS "A1" (Underground)	CM	484.85	923.86	3,471.76	1,220.12	6,100.60
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	484.85	923.86	3,724.01	1,283.18	6,415.91
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	484.85	923.86	4,228.51	1,409.30	7,046.52
401a2i	CONCRETE CLASS "A2" (Underground)	CM	484.85	923.86	3,750.01	1,289.68	6,448.41
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	484.85	923.86	4,002.26	1,352.74	6,763.72
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	484.85	923.86	4,506.76	1,478.87	7,394.34
401a3i	CONCRETE CLASS "A3" (Underground)	CM	484.85	923.86	4,028.26	1,359.24	6,796.22
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	484.85	923.86	4,280.51	1,422.31	7,111.53
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	484.85	923.86	4,785.01	1,548.43	7,742.15
401b	CONCRETE CLASS "B"	CM	621.90	672.22	2,822.89	1,029.25	5,146.27
401ci	CONCRETE CLASS "C" (Underground)	CM	478.92	419.49	3,117.19	1,003.90	5,019.49

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District Code: 41-A

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	478.92	419.49	3,224.77	1,030.79	5,153.97
401ciii	CONCRETE CLASS "C" (Elevated)	CM	478.92	419.49	3,439.94	1,084.59	5,422.93
401d	CONCRETE CLASS "D1"	CM	749.84	1,106.97	4,470.61	1,581.85	7,909.27
401e	CONCRETE CLASS "Y"	CM	1,035.77	419.49	4,030.81	1,371.52	6,857.59
401f	LEAN CONCRETE	CM	401.31	424.53	2,252.80	769.66	3,848.29
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,619.06	790.24	4,404.54	1,703.46	8,517.30
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,619.06	790.24	4,961.04	1,842.58	9,212.92
401gii	PRECAST CONCRETE CLASS "B"	CM	1,619.06	790.24	4,231.49	1,660.20	8,300.99
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,619.06	790.24	5,239.29	1,912.15	9,560.73
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,619.06	790.24	5,517.54	1,981.71	9,908.55
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,619.06	790.24	5,795.79	2,051.27	10,256.36
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,437.79	669.81	67,838.00	17,486.40	87,431.99
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,437.79	669.81	77,288.00	19,848.90	99,244.49
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,175.58	4,274.04	64,109.08	17,389.68	86,948.38
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,500.96	12,481.24	114,441.96	32,356.04	161,780.20
405b	LAUNCHING OF GIRDER	TON	58.68	486.64	-	136.33	681.65
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	105.00	-	275.30	95.08	475.38
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	105.00	-	262.86	91.97	459.83
406c	STEEL EXPANSION JOINTS	KG	8.54	21.04	102.62	33.05	165.25
406d	WATER STOPS 6" SIZE	M	90.11	-	407.03	124.29	621.43
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	39.96	-	2,834.98	718.74	3,593.68
406g	STEEL OR METAL BEARING DEVICES	KG	18.15	55.55	123.85	49.39	246.94
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	316.15	1,439.50	663.37	604.76	3,023.78
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	474.22	2,159.25	995.06	907.13	4,535.67
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	474.22	2,159.25	758.68	848.04	4,240.18

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	790.37	3,598.75	931.71	1,330.21	6,651.03
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	677.46	4,253.63	1,110.89	1,510.50	7,552.48
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,185.55	6,025.34	1,210.38	2,105.32	10,526.59
407h	PILE LOAD TEST UP TO 120 TON	EACH	20,759.83	40,036.45	84,643.12	36,359.85	181,799.25
407i	PILE LOAD TEST UP TO 240 TON	EACH	38,644.63	40,036.45	169,286.24	61,991.83	309,959.15
407j	PILE LOAD TEST UP TO 360 TON	EACH	56,529.43	43,882.72	253,929.36	88,585.38	442,926.89
407k	CONFIRMATORY BORING (NX SIZE)	M	182.11	1,323.15	6.24	377.87	1,889.37
410	BRICK WORK	CM	317.52	236.06	2,370.44	731.01	3,655.03
411a	STONE MASONRY RANDOM DRY	CM	267.07	91.36	698.01	264.11	1,320.56
411b	STONE MASONRY RANDOM WITH MORTAR	CM	288.89	139.82	1,593.41	505.53	2,527.64
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	350.45	91.36	771.73	303.38	1,516.92
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	413.94	139.82	1,659.32	553.27	2,766.35
411g	ROLL POINTING	SM	68.48	9.69	37.94	29.03	145.13
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	558.87	221.29	1,573.14	588.32	2,941.62
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	205.61	366.20	557.38	282.30	1,411.48
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	200.59	480.94	719.58	350.28	1,751.38
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	196.84	791.50	968.77	489.28	2,446.38
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	206.04	972.63	1,448.18	656.71	3,283.56
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	236.93	949.38	2,084.22	817.63	4,088.17
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	294.24	1,171.86	3,218.35	1,171.11	5,855.56
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	380.78	1,313.30	4,032.99	1,431.77	7,158.84
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	446.79	1,594.72	5,139.64	1,795.29	8,976.44
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	530.33	1,860.51	7,940.35	2,582.80	12,913.98
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	205.61	423.57	577.02	301.55	1,507.74
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	200.59	480.94	673.64	338.79	1,693.96
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	191.38	791.50	920.95	475.95	2,379.77

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	206.04	972.63	1,483.10	665.44	3,327.21
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	236.93	949.38	2,866.96	1,013.32	5,066.58
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	294.24	1,171.86	3,954.88	1,355.24	6,776.22
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	380.78	1,313.30	5,345.21	1,759.82	8,799.11
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	446.79	1,594.72	7,248.43	2,322.49	11,612.43
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	530.33	1,860.51	10,195.30	3,146.53	15,732.67
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	79.51	103.49	297.34	120.08	600.42
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	703.30	511.20	3,080.53	1,073.76	5,368.79
507a	STEEL WIRE MESH FOR GABIONS	KG	4.69	-	130.82	33.88	169.39
507b	ROCK FILL IN GABIONS	CM	86.06	-	536.43	155.62	778.12
508a	BRICK PAVING (SINGLE COURSE)	SM	104.00	26.90	181.62	78.13	390.65
508b	BRICK PAVING (DOUBLE COURSE)	SM	187.37	26.90	360.54	143.70	718.52
509a	RIP RAP CLASS "A"	CM	453.64	-	611.83	266.37	1,331.83
509b	RIP RAP CLASS "B"	CM	437.56	-	606.93	261.12	1,305.61
509c	RIP RAP CLASS "C"	CM	441.38	-	611.83	263.30	1,316.50
509d	GROUTED RIP RAP CLASS "A"	CM	554.00	84.24	1,779.63	604.47	3,022.34
509e	GROUTED RIP RAP CLASS "B"	CM	535.30	67.39	1,653.79	564.12	2,820.60
509f	GROUTED RIP RAP CLASS "C"	CM	529.45	56.16	1,687.18	568.20	2,840.99
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	748.91	295.88	3,459.43	1,126.06	5,630.28
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	43.27	167.47	344.29	138.76	693.79
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	95.32	322.32	-	104.41	522.05
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	141.24	57.10	99.42	74.44	372.21
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	180.79	73.09	127.26	95.28	476.42
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	231.59	150.62	356.94	184.79	923.93
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	289.48	188.27	446.17	230.98	1,154.91
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	257.01	498.72	1,949.58	676.33	3,381.64

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	888.61	567.97	3,979.01	1,358.90	6,794.49
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	129.15	75.65	380.64	146.36	731.81
603	BRICK EDGING	M	8.12	-	28.70	9.21	46.04
604a	METAL GUARD RAIL	M	16.77	59.95	1,492.92	392.41	1,962.06
604b	METAL GUARD RAIL END PIECES	EACH	22.32	-	1,138.10	290.11	1,450.53
604d	STEEL POST OF METAL GUARD RAIL	EACH	76.46	805.79	3,566.86	1,112.28	5,561.38
605a	CONCRETE BEAM GUARD RAIL	M	67.99	25.40	588.02	170.35	851.77
605c	CONCRETE POST FOR GUARD RAIL	M	83.48	22.64	591.61	174.43	872.16
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	215.95	213.74	6,394.64	1,706.08	8,530.41
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	66.92	320.61	8,482.25	2,217.45	11,087.23
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	215.95	453.76	11,195.35	2,966.26	14,831.32
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	698.09	503.34	19,376.31	5,144.44	25,722.18
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	139.62	100.67	8,441.60	2,170.47	10,852.36
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	241.03	-	1,135.90	344.23	1,721.16
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	241.03	-	1,703.85	486.22	2,431.10
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.46	5.03	15.40	5.72	28.61
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.82	3.40	37.18	10.35	51.76
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.46	5.03	20.56	7.01	35.05
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.82	3.40	49.59	13.45	67.27
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	66.61	4.26	148.85	54.93	274.66
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	66.61	8.15	468.56	135.83	679.17
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.07	7.44	21.42	7.98	39.91
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.07	8.29	63.09	18.61	93.06
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.07	5.98	28.56	9.40	47.02
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.07	8.29	84.12	23.87	119.35
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	66.61	3.04	206.81	69.12	345.58

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District: Lodheran

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	66.61	6.45	795.53	217.15	1,085.74
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	55.71	3.04	99.23	39.50	197.48
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	55.71	6.45	312.85	93.75	468.76
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	55.71	3.04	137.87	49.16	245.78
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	55.71	6.45	531.15	148.33	741.64
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.91	69.34	184.88	65.78	328.91
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.91	69.34	223.47	75.43	377.16
610b	RIGHT OF WAY MARKER	EACH	94.25	101.77	277.95	118.49	592.46
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	572.02	811.70	1,987.99	842.93	4,214.64
610d	TEN KILOMETRE POST	EACH	1,093.14	1,623.40	4,220.84	1,734.34	8,671.72
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	121.96	76.10	911.45	277.38	1,386.88

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

MIANWALI

(45)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Mianwali

District Code: 45

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.66	8.97	-	2.41	12.03
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.51	150.86	1.06	39.61	198.05
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	18.80	391.92	2.39	103.28	516.38
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	75.19	1,567.67	9.55	413.10	2,065.51
103	STRIPPING	CM	2.24	81.82	-	21.01	105.07
104	COMPACTION OF NATURAL GROUND	SM	0.32	8.55	0.75	2.41	12.03
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.89	118.44	-	30.58	152.91
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	111.12	272.97	46.20	107.57	537.86
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	15.20	294.98	-	77.55	387.73
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.94	228.89	-	59.71	298.54
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.18	105.42	-	27.15	135.75
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	111.12	272.97	46.20	107.57	537.86
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	17.69	275.34	-	73.26	366.29
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.65	229.91	-	59.39	296.95
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.27	120.24	0.37	31.72	158.61
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	56.97	245.80	64.37	91.78	458.92
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	98.27	367.50	30.80	124.14	620.71
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	83.13	257.01	-	85.03	425.17
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	50.54	211.67	-	65.55	327.76
107d	GRANULAR BACK FILL	CM	30.80	119.94	267.29	104.51	522.53
107e	COMMON BACK FILL	CM	23.13	55.41	4.99	20.88	104.41
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.98	152.01	4.99	40.75	203.73
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	17.78	418.69	49.36	121.46	607.29
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	13.34	364.32	2.37	95.01	475.03
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	11.85	323.09	-	83.73	418.67
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.90	154.80	7.84	42.39	211.93

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District: Mianwali

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.40	66.06	4.99	19.11	95.56
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	12.74	97.15	2.97	28.21	141.07
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.22	23.75	1.43	6.60	32.99
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.88	15.94	0.76	4.39	21.97
110	IMPROVED SUB-GRADE	CM	8.71	104.23	58.19	42.78	213.91
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.75	13.24	0.78	3.69	18.46
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.09	13.62	0.88	3.90	19.48
201	GRANULAR SUB-BASE	CM	6.99	224.59	398.96	157.63	788.17
202	AGGREGATE BASE	CM	8.10	287.87	705.97	250.48	1,252.42
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	64.84	1,311.60	5,309.77	1,671.55	8,357.76
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	66.93	1,311.60	5,696.79	1,768.83	8,844.15
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	71.63	1,369.89	5,300.70	1,685.55	8,427.77
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	71.63	1,365.01	5,821.20	1,814.46	9,072.29
204b	CEMENT STABILIZED BASE	CM	24.99	480.68	887.64	348.33	1,741.63
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	214.56	772.74	49,549.59	12,634.22	63,171.12
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	214.56	772.74	48,013.38	12,250.17	61,250.86
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	86.67	92.96	776.14	238.94	1,194.71
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	130.63	2,134.12	4,946.20	1,802.74	9,013.68
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	95.85	105.48	655.47	214.20	1,070.99
207a	DEEP PATCHING (0-15 cm)	SM	1.52	39.69	1.23	10.61	53.05
207b	DEEP PATCHING (16-30 cm)	SM	1.52	34.94	1.23	9.42	47.11
208	REINSTATEMENT OF ROAD SURFACE	SM	1.61	49.93	0.55	13.02	65.11
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.84	96.89	0.67	24.85	124.24
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.37	19.38	0.13	4.97	24.85
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.26	1.32	35.17	9.19	45.93
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.25	1.32	39.26	10.21	51.04

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	14.72	3.83	19.14
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	17.17	4.44	22.20
304a	SINGLE SURFACE TREATMENT	SM	0.68	6.52	69.28	19.12	95.58
304b	DOUBLE SURFACE TREATMENT	SM	0.98	12.21	133.52	36.68	183.39
304c	TRIPLE SURFACE TREATMENT	SM	1.65	17.13	152.28	42.77	213.83
304d	SEAL COAT	SM	0.63	3.54	49.32	13.37	66.87
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	60.40	1,294.58	6,276.98	1,907.99	9,539.95
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	60.40	1,251.29	6,797.35	2,027.26	10,136.30
307a	DENSE GRADED HOT BIT-MAC	CM	147.71	316.05	5,331.11	1,448.72	7,243.58
307b	OPEN GRADED HOT BIT-MAC	CM	147.71	316.05	5,165.19	1,407.24	7,036.18
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	24.71	543.36	1,773.59	585.41	2,927.07
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	23.31	560.93	41,791.36	10,593.90	52,969.50
309a	COLD MILLING, 0 - 30 mm	SM	0.83	22.13	7.55	7.63	38.14
309b	COLD MILLING, 0 - 50 mm	SM	1.39	36.88	12.58	12.71	63.57
309c	COLD MILLING, 0 - 70 mm	SM	2.08	55.33	18.87	19.07	95.35
401a1i	CONCRETE CLASS "A1" (Underground)	CM	474.10	923.86	3,175.33	1,143.32	5,716.61
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	474.10	923.86	3,427.58	1,206.38	6,031.92
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	474.10	923.86	3,932.07	1,332.51	6,662.54
401a2i	CONCRETE CLASS "A2" (Underground)	CM	474.10	923.86	3,453.58	1,212.88	6,064.42
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	474.10	923.86	3,705.83	1,275.95	6,379.73
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	474.10	923.86	4,210.32	1,402.07	7,010.35
401a3i	CONCRETE CLASS "A3" (Underground)	CM	474.10	923.86	3,731.83	1,282.45	6,412.24
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	474.10	923.86	3,984.08	1,345.51	6,727.54
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	474.10	923.86	4,488.57	1,471.63	7,358.16
401b	CONCRETE CLASS "B"	CM	607.77	672.22	2,504.07	946.01	4,730.06
401ci	CONCRETE CLASS "C" (Underground)	CM	470.52	419.49	2,772.85	915.71	4,578.57

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401cii	CONCRETE CLASS "C" (On ground)	CM	470.52	419.49	2,880.43	942.61	4,713.05
401ciii	CONCRETE CLASS "C" (Elevated)	CM	470.52	419.49	3,095.60	996.40	4,982.01
401d	CONCRETE CLASS "D1"	CM	747.15	1,106.97	4,199.02	1,513.29	7,566.43
401e	CONCRETE CLASS "Y"	CM	1,056.55	419.49	3,761.33	1,309.34	6,546.71
401f	LEAN CONCRETE	CM	401.55	424.53	1,934.16	690.06	3,450.30
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,616.70	790.24	4,081.75	1,622.17	8,110.87
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,616.70	790.24	4,638.25	1,761.30	8,806.50
401gii	PRECAST CONCRETE CLASS "B"	CM	1,616.70	790.24	3,893.50	1,575.11	7,875.55
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,616.70	790.24	4,916.50	1,830.86	9,154.31
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,616.70	790.24	5,194.75	1,900.42	9,502.12
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,616.70	790.24	5,473.00	1,969.99	9,849.93
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,388.66	669.81	68,368.00	17,606.62	88,033.09
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,388.66	669.81	77,818.00	19,969.12	99,845.59
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,120.21	4,274.04	66,365.26	17,939.88	89,699.40
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,481.33	12,481.24	114,446.32	32,352.22	161,761.11
405b	LAUNCHING OF GIRDER	TON	58.59	486.64	-	136.31	681.53
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	105.83	-	271.13	94.24	471.20
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	105.83	-	270.79	94.16	470.78
406c	STEEL EXPANSION JOINTS	KG	8.41	21.04	106.28	33.93	169.66
406d	WATER STOPS 6" SIZE	M	87.23	-	408.44	123.92	619.59
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	38.82	-	2,900.79	734.90	3,674.52
406g	STEEL OR METAL BEARING DEVICES	KG	18.31	55.55	127.51	50.34	251.71
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	320.28	1,439.50	752.20	627.99	3,139.97
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	480.42	2,159.25	1,128.30	941.99	4,709.96
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	480.42	2,159.25	850.32	872.50	4,362.48

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	800.70	3,598.75	1,028.98	1,357.11	6,785.54
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	686.32	4,253.63	1,218.22	1,539.54	7,697.72
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,201.06	6,025.34	1,325.10	2,137.87	10,689.36
407h	PILE LOAD TEST UP TO 120 TON	EACH	21,452.81	40,036.45	78,795.52	35,071.19	175,355.97
407i	PILE LOAD TEST UP TO 240 TON	EACH	40,082.81	40,036.45	157,591.04	59,427.57	297,137.87
407j	PILE LOAD TEST UP TO 360 TON	EACH	58,712.81	43,882.72	236,386.56	84,745.52	423,727.61
407k	CONFIRMATORY BORING (NX SIZE)	M	186.36	1,323.15	6.24	378.94	1,894.69
410	BRICK WORK	CM	313.87	236.06	2,345.40	723.83	3,619.16
411a	STONE MASONRY RANDOM DRY	CM	263.58	91.36	416.19	192.78	963.91
411b	STONE MASONRY RANDOM WITH MORTAR	CM	284.28	139.82	1,205.28	407.35	2,036.73
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	346.38	91.36	469.32	226.77	1,133.83
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	408.48	139.82	1,277.19	456.37	2,281.85
411g	ROLL POINTING	SM	67.30	9.69	36.16	28.29	141.44
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	553.38	221.29	1,191.00	491.42	2,457.08
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	211.36	366.20	554.06	282.90	1,414.52
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	206.04	480.94	715.59	350.64	1,753.22
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	199.37	791.50	964.11	488.75	2,443.73
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	209.47	972.63	1,442.75	656.21	3,281.06
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	240.20	949.38	2,078.79	817.09	4,085.46
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	296.82	1,171.86	3,210.49	1,169.79	5,848.97
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	384.12	1,313.30	4,025.18	1,430.65	7,153.24
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	451.64	1,594.72	5,130.15	1,794.13	8,970.64
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	536.83	1,860.51	7,929.28	2,581.65	12,908.27
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	211.36	423.57	570.37	301.32	1,506.62
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	206.04	480.94	669.65	339.16	1,695.79
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	194.97	791.50	916.29	475.69	2,378.45

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	209.47	972.63	1,478.87	665.24	3,326.21
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	240.20	949.38	2,860.92	1,012.62	5,063.12
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	296.82	1,171.86	3,947.02	1,353.93	6,769.63
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	384.12	1,313.30	5,337.40	1,758.70	8,793.52
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	451.64	1,594.72	7,238.94	2,321.33	11,606.63
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	536.83	1,860.51	10,184.23	3,145.39	15,726.96
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	82.35	103.49	217.60	100.86	504.29
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	687.11	511.20	2,761.71	990.00	4,950.02
507a	STEEL WIRE MESH FOR GABIONS	KG	4.84	-	132.03	34.22	171.10
507b	ROCK FILL IN GABIONS	CM	89.06	-	458.79	136.96	684.82
508a	BRICK PAVING (SINGLE COURSE)	SM	103.55	26.90	185.07	78.88	394.41
508b	BRICK PAVING (DOUBLE COURSE)	SM	186.35	26.90	368.12	145.35	726.73
509a	RIP RAP CLASS "A"	CM	450.64	-	330.00	195.16	975.80
509b	RIP RAP CLASS "B"	CM	435.03	-	327.36	190.60	952.99
509c	RIP RAP CLASS "C"	CM	438.43	-	330.00	192.11	960.54
509d	GROUTED RIP RAP CLASS "A"	CM	550.34	84.24	1,445.51	520.02	2,600.12
509e	GROUTED RIP RAP CLASS "B"	CM	531.35	67.39	1,327.41	481.54	2,407.69
509f	GROUTED RIP RAP CLASS "C"	CM	525.60	56.16	1,354.65	484.10	2,420.51
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	727.55	295.88	3,157.91	1,045.34	5,226.68
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	43.91	167.47	267.27	119.66	598.31
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	99.92	322.32	-	105.56	527.80
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	140.76	57.10	53.63	62.87	314.36
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	180.18	73.09	68.64	80.48	402.39
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	229.86	150.62	294.65	168.78	843.91
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	287.32	188.27	368.31	210.98	1,054.88
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	251.42	498.72	1,795.09	636.31	3,181.54

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	886.00	567.97	3,822.19	1,319.04	6,595.20
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	128.73	75.65	349.09	138.37	691.84
603	BRICK EDGING	M	8.16	-	29.86	9.50	47.52
604a	METAL GUARD RAIL	M	17.08	59.95	1,492.92	392.49	1,962.44
604b	METAL GUARD RAIL END PIECES	EACH	23.43	-	1,138.10	290.38	1,451.91
604d	STEEL POST OF METAL GUARD RAIL	EACH	78.35	805.79	3,566.86	1,112.75	5,563.75
605a	CONCRETE BEAM GUARD RAIL	M	69.73	25.40	578.97	168.53	842.63
605c	CONCRETE POST FOR GUARD RAIL	M	85.62	22.64	580.28	172.13	860.67
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	218.84	213.74	6,368.14	1,700.18	8,500.90
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	62.68	320.61	8,420.12	2,200.85	11,004.27
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	218.84	453.76	11,091.22	2,940.95	14,704.77
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	721.56	503.34	19,216.70	5,110.40	25,551.99
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	144.31	100.67	8,405.58	2,162.64	10,813.20
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	253.28	-	1,134.67	346.99	1,734.94
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	253.28	-	1,702.01	488.82	2,444.12
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.45	5.03	15.40	5.72	28.59
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.82	3.40	37.10	10.33	51.65
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.45	5.03	20.54	7.00	35.02
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.82	3.40	49.49	13.43	67.13
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	68.21	4.26	148.77	55.31	276.55
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	68.21	8.15	467.57	135.98	679.92
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.06	7.44	21.41	7.98	39.89
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.06	8.29	63.09	18.61	93.05
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.06	5.98	28.55	9.40	46.98
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.06	8.29	84.12	23.87	119.34
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	68.21	3.04	206.73	69.50	347.48

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	68.21	6.45	795.53	217.55	1,087.74
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	56.79	3.04	99.18	39.75	198.76
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	56.79	6.45	312.18	93.86	469.28
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	56.79	3.04	137.82	49.41	247.06
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	56.79	6.45	531.15	148.60	742.99
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.10	69.34	184.75	65.55	327.74
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.10	69.34	223.34	75.20	375.98
610b	RIGHT OF WAY MARKER	EACH	96.49	101.77	266.37	116.16	580.80
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	593.42	811.70	1,893.41	824.63	4,123.16
610d	TEN KILOMETRE POST	EACH	1,142.12	1,623.40	4,036.10	1,700.41	8,502.03
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	121.91	76.10	896.24	273.56	1,367.80

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

MULTAN
(46)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Multan

District Code: 46

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.69	8.97	-	2.41	12.07
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.75	150.86	1.06	39.67	198.34
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	19.60	391.92	2.39	103.48	517.38
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	78.40	1,567.67	9.55	413.90	2,069.52
103	STRIPPING	CM	2.30	81.82	-	21.03	105.14
104	COMPACTION OF NATURAL GROUND	SM	0.33	8.55	0.75	2.41	12.03
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.82	118.44	-	30.57	152.83
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	115.44	272.97	46.20	108.65	543.26
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	16.29	294.98	-	77.82	389.10
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.66	228.89	-	59.89	299.44
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.13	105.42	-	27.14	135.69
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	115.44	272.97	46.20	108.65	543.26
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	18.36	275.34	-	73.43	367.13
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.21	229.91	-	59.53	297.65
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.37	120.24	0.37	31.75	158.74
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	59.28	245.80	64.37	92.36	461.82
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	102.02	367.50	30.80	125.08	625.40
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	86.79	257.01	-	85.95	429.75
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	52.47	211.67	-	66.03	330.17
107d	GRANULAR BACK FILL	CM	31.81	119.94	354.82	126.64	633.21
107e	COMMON BACK FILL	CM	24.09	55.41	4.99	21.12	105.62
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.32	152.01	4.99	40.83	204.16
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	18.72	418.69	49.36	121.69	608.47
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	14.04	364.32	2.37	95.18	475.91
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	12.48	323.09	-	83.89	419.46
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.30	154.80	7.84	42.49	212.43

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.69	66.06	4.99	19.18	95.92
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	13.41	97.15	2.97	28.38	141.91
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.27	23.75	1.43	6.61	33.06
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.91	15.94	0.76	4.40	22.01
110	IMPROVED SUB-GRADE	CM	9.19	104.23	52.34	41.44	207.21
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.78	13.24	0.78	3.70	18.50
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.15	13.62	0.88	3.91	19.56
201	GRANULAR SUB-BASE	CM	7.40	224.59	443.84	168.96	844.79
202	AGGREGATE BASE	CM	8.57	287.87	761.06	264.37	1,321.87
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	69.20	1,311.60	5,511.81	1,723.15	8,615.76
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	71.45	1,311.60	5,903.22	1,821.57	9,107.83
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	76.48	1,369.89	5,502.80	1,737.29	8,686.46
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	76.48	1,365.01	6,028.86	1,867.59	9,337.94
204b	CEMENT STABILIZED BASE	CM	26.46	480.68	1,015.00	380.53	1,902.67
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	221.02	772.74	50,494.95	12,872.18	64,360.89
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	221.02	772.74	48,958.74	12,488.13	62,440.63
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	91.90	92.96	884.21	267.27	1,336.33
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	139.47	2,134.12	5,138.55	1,853.03	9,265.17
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	101.92	105.48	731.34	234.69	1,173.43
207a	DEEP PATCHING (0-15 cm)	SM	1.59	39.69	1.23	10.63	53.14
207b	DEEP PATCHING (16-30 cm)	SM	1.59	34.94	1.23	9.44	47.20
208	REINSTATEMENT OF ROAD SURFACE	SM	1.69	49.93	0.55	13.04	65.21
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.85	96.89	0.67	24.85	124.25
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.37	19.38	0.13	4.97	24.85
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	35.84	9.36	46.79
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.26	1.32	40.00	10.40	51.98

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	15.00	3.90	19.49
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.50	4.52	22.62
304a	SINGLE SURFACE TREATMENT	SM	0.71	6.52	71.24	19.62	98.08
304b	DOUBLE SURFACE TREATMENT	SM	1.03	12.21	137.88	37.78	188.90
304c	TRIPLE SURFACE TREATMENT	SM	1.72	17.13	157.32	44.04	220.22
304d	SEAL COAT	SM	0.65	3.54	50.52	13.68	68.39
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	64.53	1,294.58	6,501.57	1,965.17	9,825.84
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	64.53	1,251.29	7,038.90	2,088.68	10,443.40
307a	DENSE GRADED HOT BIT-MAC	CM	159.14	316.05	5,540.16	1,503.84	7,519.18
307b	OPEN GRADED HOT BIT-MAC	CM	159.14	316.05	5,370.76	1,461.49	7,307.43
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	26.72	543.36	1,816.64	596.68	2,983.41
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	23.43	560.93	42,764.80	10,837.29	54,186.45
309a	COLD MILLING, 0 - 30 mm	SM	0.87	22.13	7.55	7.64	38.19
309b	COLD MILLING, 0 - 50 mm	SM	1.45	36.88	12.58	12.73	63.65
309c	COLD MILLING, 0 - 70 mm	SM	2.18	55.33	18.87	19.09	95.47
401a1i	CONCRETE CLASS "A1" (Underground)	CM	495.73	923.86	3,329.12	1,187.18	5,935.89
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	495.73	923.86	3,581.37	1,250.24	6,251.20
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	495.73	923.86	4,085.86	1,376.36	6,881.82
401a2i	CONCRETE CLASS "A2" (Underground)	CM	495.73	923.86	3,607.37	1,256.74	6,283.70
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	495.73	923.86	3,859.62	1,319.80	6,599.01
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	495.73	923.86	4,364.11	1,445.93	7,229.63
401a3i	CONCRETE CLASS "A3" (Underground)	CM	495.73	923.86	3,885.62	1,326.30	6,631.52
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	495.73	923.86	4,137.87	1,389.37	6,946.83
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	495.73	923.86	4,642.36	1,515.49	7,577.44
401b	CONCRETE CLASS "B"	CM	635.75	672.22	2,669.71	994.42	4,972.09
401ci	CONCRETE CLASS "C" (Underground)	CM	491.53	419.49	2,949.75	965.19	4,825.96

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401cii	CONCRETE CLASS "C" (On ground)	CM	491.53	419.49	3,057.33	992.09	4,960.44
401ciii	CONCRETE CLASS "C" (Elevated)	CM	491.53	419.49	3,272.50	1,045.88	5,229.40
401d	CONCRETE CLASS "D1"	CM	777.69	1,106.97	4,339.78	1,556.11	7,780.55
401e	CONCRETE CLASS "Y"	CM	1,095.31	419.49	3,901.14	1,353.99	6,769.93
401f	LEAN CONCRETE	CM	421.05	424.53	2,099.73	736.33	3,681.64
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,683.43	790.24	4,249.22	1,680.72	8,403.62
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,683.43	790.24	4,805.72	1,819.85	9,099.24
401gii	PRECAST CONCRETE CLASS "B"	CM	1,683.43	790.24	4,068.18	1,635.46	8,177.32
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,683.43	790.24	5,083.97	1,889.41	9,447.05
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,683.43	790.24	5,362.22	1,958.97	9,794.87
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,683.43	790.24	5,640.47	2,028.54	10,142.68
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,499.06	669.81	67,838.00	17,501.72	87,508.58
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,499.06	669.81	77,288.00	19,864.22	99,321.08
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,224.60	4,274.04	63,953.39	17,363.01	86,815.05
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,701.86	12,481.24	114,445.03	32,407.03	162,035.16
405b	LAUNCHING OF GIRDER	TON	63.97	486.64	-	137.65	688.26
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	110.86	-	273.24	96.02	480.12
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	110.86	-	272.80	95.92	479.58
406c	STEEL EXPANSION JOINTS	KG	9.13	21.04	102.49	33.17	165.83
406d	WATER STOPS 6" SIZE	M	91.19	-	407.36	124.64	623.19
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	39.95	-	2,927.38	741.83	3,709.17
406g	STEEL OR METAL BEARING DEVICES	KG	19.54	55.55	123.75	49.71	248.55
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	346.09	1,439.50	658.02	610.90	3,054.52
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	519.13	2,159.25	987.04	916.35	4,581.77
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	519.13	2,159.25	750.65	857.26	4,286.29

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	865.22	3,598.75	918.33	1,345.58	6,727.88
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	741.62	4,253.63	1,087.96	1,520.80	7,604.02
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,297.83	6,025.34	1,190.32	2,128.37	10,641.87
407h	PILE LOAD TEST UP TO 120 TON	EACH	22,747.03	40,036.45	88,593.44	37,844.23	189,221.15
407i	PILE LOAD TEST UP TO 240 TON	EACH	42,619.03	40,036.45	177,186.88	64,960.59	324,802.95
407j	PILE LOAD TEST UP TO 360 TON	EACH	62,491.03	43,882.72	265,780.32	93,038.52	465,192.59
407k	CONFIRMATORY BORING (NX SIZE)	M	201.55	1,323.15	6.24	382.73	1,913.67
410	BRICK WORK	CM	321.95	236.06	2,335.05	723.26	3,616.32
411a	STONE MASONRY RANDOM DRY	CM	272.95	91.36	564.28	232.15	1,160.74
411b	STONE MASONRY RANDOM WITH MORTAR	CM	293.65	139.82	1,415.44	462.23	2,311.13
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	358.51	91.36	625.92	268.95	1,344.74
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	421.99	139.82	1,480.33	510.53	2,552.67
411g	ROLL POINTING	SM	68.90	9.69	37.20	28.95	144.74
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	572.41	221.29	1,394.15	546.96	2,734.80
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	221.16	366.20	555.99	285.84	1,429.19
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	216.13	480.94	717.92	353.75	1,768.74
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	209.18	791.50	966.83	491.88	2,459.38
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	220.27	972.63	1,445.92	659.70	3,298.52
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	253.17	949.38	2,081.96	821.13	4,105.63
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	312.98	1,171.86	3,215.08	1,174.98	5,874.89
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	405.03	1,313.30	4,029.74	1,437.02	7,185.08
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	477.03	1,594.72	5,135.69	1,801.86	9,009.30
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	565.51	1,860.51	7,935.74	2,590.44	12,952.19
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	221.16	423.57	574.25	304.74	1,523.72
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	216.13	480.94	671.98	342.26	1,711.32
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	204.21	791.50	919.01	478.68	2,393.39

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	220.27	972.63	1,481.34	668.56	3,342.79
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	253.17	949.38	2,864.44	1,016.75	5,083.73
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	312.98	1,171.86	3,951.61	1,359.11	6,795.56
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	405.03	1,313.30	5,341.96	1,765.07	8,825.36
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	477.03	1,594.72	7,244.48	2,329.06	11,645.29
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	565.51	1,860.51	10,190.69	3,154.18	15,770.88
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	85.47	103.49	351.20	135.04	675.20
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	719.31	511.20	2,927.35	1,039.46	5,197.31
507a	STEEL WIRE MESH FOR GABIONS	KG	5.10	-	134.59	34.92	174.60
507b	ROCK FILL IN GABIONS	CM	93.49	-	529.38	155.72	778.58
508a	BRICK PAVING (SINGLE COURSE)	SM	107.34	26.90	183.86	79.52	397.62
508b	BRICK PAVING (DOUBLE COURSE)	SM	192.90	26.90	364.58	146.10	730.48
509a	RIP RAP CLASS "A"	CM	464.69	-	478.09	235.69	1,178.47
509b	RIP RAP CLASS "B"	CM	449.03	-	474.26	230.82	1,154.12
509c	RIP RAP CLASS "C"	CM	452.39	-	478.09	232.62	1,163.10
509d	GROUTED RIP RAP CLASS "A"	CM	568.34	84.24	1,618.25	567.71	2,838.54
509e	GROUTED RIP RAP CLASS "B"	CM	548.51	67.39	1,496.35	528.06	2,640.32
509f	GROUTED RIP RAP CLASS "C"	CM	542.65	56.16	1,527.64	531.61	2,658.06
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	763.24	295.88	3,314.55	1,093.42	5,467.08
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	46.68	167.47	355.20	142.34	711.68
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	105.69	322.32	-	107.00	535.01
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	145.48	57.10	77.69	70.07	350.34
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	186.22	73.09	99.44	89.69	448.44
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	237.00	150.62	332.88	180.12	900.62
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	296.25	188.27	416.09	225.15	1,125.77
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	262.90	498.72	1,875.24	659.22	3,296.08

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	923.38	567.97	3,898.25	1,347.40	6,736.99
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	134.02	75.65	365.75	143.86	719.28
603	BRICK EDGING	M	8.46	-	28.70	9.29	46.46
604a	METAL GUARD RAIL	M	18.11	59.95	1,492.92	392.75	1,963.73
604b	METAL GUARD RAIL END PIECES	EACH	24.87	-	1,138.10	290.74	1,453.72
604d	STEEL POST OF METAL GUARD RAIL	EACH	81.56	805.79	3,566.86	1,113.55	5,567.76
605a	CONCRETE BEAM GUARD RAIL	M	72.97	25.40	582.50	170.22	851.10
605c	CONCRETE POST FOR GUARD RAIL	M	89.60	22.64	584.88	174.28	871.40
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	229.74	213.74	6,380.33	1,705.95	8,529.77
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	66.67	320.61	8,451.53	2,209.70	11,048.52
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	229.74	453.76	11,144.16	2,956.92	14,784.58
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	761.37	503.34	19,297.34	5,140.51	25,702.56
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	152.27	100.67	8,423.19	2,169.03	10,845.16
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	259.17	-	1,135.12	348.57	1,742.86
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	259.17	-	1,702.67	490.46	2,452.31
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.58	5.03	15.40	5.75	28.76
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.86	3.40	37.14	10.35	51.75
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.58	5.03	20.55	7.04	35.19
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.86	3.40	49.53	13.45	67.24
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	73.59	4.26	148.80	56.66	283.31
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	73.59	8.15	467.97	137.43	687.14
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.23	7.44	21.41	8.02	40.09
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.23	8.29	63.09	18.65	93.25
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.23	5.98	28.55	9.44	47.19
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.23	8.29	84.12	23.91	119.54
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	73.59	3.04	206.76	70.85	354.24

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Quantity Surveying &
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Rate Analysis Summary (Construction)

District: Multan

District Code: 46

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	73.59	6.45	795.53	218.89	1,094.45
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	61.17	3.04	99.20	40.85	204.26
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	61.17	6.45	312.45	95.02	475.08
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	61.17	3.04	137.84	50.51	252.56
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	61.17	6.45	531.15	149.69	748.46
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.70	69.34	184.83	65.72	328.59
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.70	69.34	223.42	75.36	376.82
610b	RIGHT OF WAY MARKER	EACH	101.52	101.77	272.09	118.84	594.22
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	618.57	811.70	1,939.20	842.37	4,211.83
610d	TEN KILOMETRE POST	EACH	1,195.73	1,623.40	4,124.99	1,736.03	8,680.15
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	128.47	76.10	903.99	277.14	1,385.71

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

MUZAFARGARH
(47)

Q. S. & Estimation Specialist

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National Highway Authority
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Quantity Surveying &
Estimation Specialist

Rate Analysis Summary (Construction)

District: Muzafargarh

District Code: 47

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.64	8.97	-	2.40	12.02
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.33	150.86	1.06	39.56	197.82
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	18.39	391.92	2.39	103.17	515.86
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	73.54	1,567.67	9.55	412.69	2,063.45
103	STRIPPING	CM	2.18	81.82	-	21.00	105.00
104	COMPACTION OF NATURAL GROUND	SM	0.31	8.55	0.75	2.40	12.01
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.60	118.44	-	30.51	152.55
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	109.26	272.97	46.20	107.11	535.54
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	15.49	294.98	-	77.62	388.10
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.18	228.89	-	59.77	298.84
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.95	105.42	-	27.09	135.46
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	109.26	272.97	46.20	107.11	535.54
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	17.36	275.34	-	73.18	365.88
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.82	229.91	-	59.43	297.16
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.09	120.24	0.37	31.68	158.38
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	56.35	245.80	64.37	91.63	458.15
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	96.47	367.50	30.80	123.69	618.46
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	82.09	257.01	-	84.77	423.87
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	49.61	211.67	-	65.32	326.60
107d	GRANULAR BACK FILL	CM	29.87	119.94	331.15	120.24	601.20
107e	COMMON BACK FILL	CM	22.59	55.41	4.99	20.75	103.74
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.02	152.01	4.99	40.76	203.79
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	17.78	418.69	49.36	121.46	607.29
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	13.33	364.32	2.37	95.00	475.02
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	11.85	323.09	-	83.73	418.67
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.94	154.80	7.84	42.40	211.98

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.43	66.06	4.99	19.12	95.60
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	12.74	97.15	2.97	28.22	141.08
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.21	23.75	1.43	6.60	32.98
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.87	15.94	0.76	4.39	21.96
110	IMPROVED SUB-GRADE	CM	8.71	104.23	56.71	42.41	212.06
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.74	13.24	0.78	3.69	18.45
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.10	13.62	0.88	3.90	19.50
201	GRANULAR SUB-BASE	CM	7.03	224.59	398.51	157.53	787.67
202	AGGREGATE BASE	CM	8.06	287.87	612.32	227.06	1,135.30
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	65.09	1,311.60	5,407.42	1,696.03	8,480.13
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	67.21	1,311.60	5,805.20	1,796.00	8,980.01
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	72.12	1,369.89	5,398.04	1,710.01	8,550.06
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	72.12	1,365.01	5,931.85	1,842.24	9,211.22
204b	CEMENT STABILIZED BASE	CM	24.88	480.68	877.97	345.88	1,729.42
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	210.80	772.74	50,855.52	12,959.77	64,798.83
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	210.80	772.74	49,319.31	12,575.71	62,878.56
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	86.37	92.96	754.52	233.46	1,167.31
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	131.68	2,134.12	5,012.67	1,819.62	9,098.08
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	95.64	105.48	610.06	202.79	1,013.97
207a	DEEP PATCHING (0-15 cm)	SM	1.52	39.69	1.23	10.61	53.05
207b	DEEP PATCHING (16-30 cm)	SM	1.52	34.94	1.23	9.42	47.11
208	REINSTATEMENT OF ROAD SURFACE	SM	1.59	49.93	0.55	13.02	65.08
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.78	96.89	0.67	24.83	124.17
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.36	19.38	0.13	4.97	24.83
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.26	1.32	36.09	9.42	47.09
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.25	1.32	40.29	10.46	52.32

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	15.11	3.92	19.62
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	17.62	4.55	22.77
304a	SINGLE SURFACE TREATMENT	SM	0.67	6.52	71.13	19.58	97.89
304b	DOUBLE SURFACE TREATMENT	SM	0.97	12.21	136.99	37.54	187.71
304c	TRIPLE SURFACE TREATMENT	SM	1.63	17.13	156.23	43.75	218.75
304d	SEAL COAT	SM	0.62	3.54	50.62	13.70	68.48
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	60.77	1,294.58	6,405.02	1,940.09	9,700.46
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	60.77	1,251.29	6,941.50	2,063.39	10,316.95
307a	DENSE GRADED HOT BIT-MAC	CM	149.34	316.05	5,458.64	1,481.01	7,405.03
307b	OPEN GRADED HOT BIT-MAC	CM	149.34	316.05	5,280.76	1,436.54	7,182.68
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	25.09	543.36	1,800.50	592.24	2,961.18
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	22.01	560.93	43,136.08	10,929.75	54,648.77
309a	COLD MILLING, 0 - 30 mm	SM	0.82	22.13	7.55	7.62	38.12
309b	COLD MILLING, 0 - 50 mm	SM	1.37	36.88	12.58	12.71	63.54
309c	COLD MILLING, 0 - 70 mm	SM	2.05	55.33	18.87	19.06	95.31
401a1i	CONCRETE CLASS "A1" (Underground)	CM	476.46	923.86	3,260.55	1,165.22	5,826.09
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	476.46	923.86	3,512.80	1,228.28	6,141.40
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	476.46	923.86	4,017.29	1,354.40	6,772.02
401a2i	CONCRETE CLASS "A2" (Underground)	CM	476.46	923.86	3,538.80	1,234.78	6,173.90
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	476.46	923.86	3,791.05	1,297.84	6,489.21
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	476.46	923.86	4,295.54	1,423.97	7,119.83
401a3i	CONCRETE CLASS "A3" (Underground)	CM	476.46	923.86	3,817.05	1,304.34	6,521.71
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	476.46	923.86	4,069.30	1,367.40	6,837.02
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	476.46	923.86	4,573.79	1,493.53	7,467.64
401b	CONCRETE CLASS "B"	CM	612.81	672.22	2,586.23	967.82	4,839.08
401ci	CONCRETE CLASS "C" (Underground)	CM	476.27	419.49	2,851.51	936.82	4,684.09

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	476.27	419.49	2,959.10	963.71	4,818.57
401ciii	CONCRETE CLASS "C" (Elevated)	CM	476.27	419.49	3,174.26	1,017.51	5,087.53
401d	CONCRETE CLASS "D1"	CM	741.93	1,106.97	4,274.88	1,530.95	7,654.73
401e	CONCRETE CLASS "Y"	CM	1,045.70	419.49	3,841.63	1,326.71	6,633.53
401f	LEAN CONCRETE	CM	403.82	424.53	2,016.21	711.14	3,555.71
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,634.47	790.24	4,175.25	1,649.99	8,249.94
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,634.47	790.24	4,731.75	1,789.11	8,945.57
401gii	PRECAST CONCRETE CLASS "B"	CM	1,634.47	790.24	3,974.03	1,599.68	7,998.42
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,634.47	790.24	5,010.00	1,858.68	9,293.38
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,634.47	790.24	5,288.25	1,928.24	9,641.19
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,634.47	790.24	5,566.50	1,997.80	9,989.01
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,411.46	669.81	68,368.00	17,612.32	88,061.59
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,411.46	669.81	77,818.00	19,974.82	99,874.09
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,139.22	4,274.04	64,441.48	17,463.69	87,318.43
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,426.19	12,481.24	114,443.96	32,337.85	161,689.23
405b	LAUNCHING OF GIRDER	TON	57.12	486.64	-	135.94	679.70
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	104.26	-	274.39	94.66	473.31
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	104.26	-	273.90	94.54	472.70
406c	STEEL EXPANSION JOINTS	KG	8.46	21.04	103.18	33.17	165.85
406d	WATER STOPS 6" SIZE	M	85.76	-	407.17	123.23	616.16
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	41.52	-	2,930.81	743.08	3,715.41
406g	STEEL OR METAL BEARING DEVICES	KG	18.02	55.55	124.34	49.48	247.39
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	307.73	1,439.50	685.61	608.21	3,041.04
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	461.59	2,159.25	1,028.41	912.31	4,561.56
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	461.59	2,159.25	792.03	853.22	4,266.08

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	769.31	3,598.75	987.29	1,338.84	6,694.19
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	659.41	4,253.63	1,206.17	1,529.80	7,649.02
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,153.97	6,025.34	1,293.76	2,118.27	10,591.33
407h	PILE LOAD TEST UP TO 120 TON	EACH	21,315.79	40,036.45	88,540.64	37,473.22	187,366.10
407i	PILE LOAD TEST UP TO 240 TON	EACH	39,920.95	40,036.45	177,081.28	64,259.67	321,298.35
407j	PILE LOAD TEST UP TO 360 TON	EACH	58,526.11	43,882.72	265,621.92	92,007.69	460,038.44
407k	CONFIRMATORY BORING (NX SIZE)	M	182.75	1,323.15	6.24	378.03	1,890.17
410	BRICK WORK	CM	334.35	236.06	2,349.18	729.90	3,649.48
411a	STONE MASONRY RANDOM DRY	CM	277.84	91.36	542.21	227.85	1,139.27
411b	STONE MASONRY RANDOM WITH MORTAR	CM	301.27	139.82	1,411.03	463.03	2,315.15
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	366.06	91.36	602.09	264.88	1,324.39
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	433.60	139.82	1,469.75	510.79	2,553.96
411g	ROLL POINTING	SM	72.63	9.69	37.49	29.95	149.77
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	586.60	221.29	1,383.56	547.86	2,739.31
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	211.75	366.20	556.55	283.62	1,418.12
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	207.01	480.94	718.58	351.63	1,758.17
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	201.07	791.50	967.60	490.04	2,450.21
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	210.98	972.63	1,446.82	657.61	3,288.04
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	241.87	949.38	2,082.86	818.53	4,092.64
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	299.84	1,171.86	3,216.38	1,172.02	5,860.11
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	388.03	1,313.30	4,031.04	1,433.09	7,165.46
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	454.44	1,594.72	5,137.27	1,796.61	8,983.03
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	541.96	1,860.51	7,937.58	2,585.01	12,925.06
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	211.75	423.57	575.35	302.67	1,513.34
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	207.01	480.94	672.64	340.15	1,700.74
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	196.42	791.50	919.78	476.92	2,384.62

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	210.98	972.63	1,482.04	666.41	3,332.06
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	241.87	949.38	2,865.45	1,014.17	5,070.87
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	299.84	1,171.86	3,952.91	1,356.15	6,780.77
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	388.03	1,313.30	5,343.26	1,761.15	8,805.74
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	454.44	1,594.72	7,246.06	2,323.81	11,619.03
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	541.96	1,860.51	10,192.53	3,148.75	15,743.74
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	80.46	103.49	350.48	133.61	668.04
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	687.13	511.20	2,843.87	1,010.55	5,052.75
507a	STEEL WIRE MESH FOR GABIONS	KG	4.79	-	132.03	34.21	171.03
507b	ROCK FILL IN GABIONS	CM	87.93	-	508.20	149.03	745.16
508a	BRICK PAVING (SINGLE COURSE)	SM	108.84	26.90	183.83	79.89	399.46
508b	BRICK PAVING (DOUBLE COURSE)	SM	197.06	26.90	364.53	147.12	735.61
509a	RIP RAP CLASS "A"	CM	476.28	-	456.03	233.08	1,165.38
509b	RIP RAP CLASS "B"	CM	459.86	-	452.38	228.06	1,140.30
509c	RIP RAP CLASS "C"	CM	464.55	-	456.03	230.14	1,150.72
509d	GROUTED RIP RAP CLASS "A"	CM	581.48	84.24	1,621.36	571.77	2,858.85
509e	GROUTED RIP RAP CLASS "B"	CM	562.78	67.39	1,497.07	531.81	2,659.05
509f	GROUTED RIP RAP CLASS "C"	CM	557.20	56.16	1,527.18	535.14	2,675.68
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	757.03	295.88	3,235.46	1,072.09	5,360.47
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	44.03	167.47	331.66	135.79	678.95
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	95.76	322.32	-	104.52	522.60
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	147.02	57.10	74.10	69.56	347.78
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	188.18	73.09	94.85	89.03	445.16
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	242.22	150.62	333.18	181.50	907.51
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	302.77	188.27	416.47	226.88	1,134.39
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	252.59	498.72	1,839.57	647.72	3,238.61

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	897.07	567.97	3,870.81	1,333.96	6,669.80
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	130.46	75.65	358.26	141.09	705.47
603	BRICK EDGING	M	8.38	-	28.70	9.27	46.36
604a	METAL GUARD RAIL	M	16.46	59.95	1,492.92	392.33	1,961.67
604b	METAL GUARD RAIL END PIECES	EACH	22.28	-	1,138.10	290.10	1,450.48
604d	STEEL POST OF METAL GUARD RAIL	EACH	74.56	805.79	3,566.86	1,111.80	5,559.01
605a	CONCRETE BEAM GUARD RAIL	M	70.10	25.40	582.16	169.42	847.08
605c	CONCRETE POST FOR GUARD RAIL	M	86.07	22.64	584.19	173.23	866.13
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	221.62	213.74	6,367.76	1,700.78	8,503.90
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	67.42	320.61	8,436.41	2,206.11	11,030.55
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	221.62	453.76	11,119.93	2,948.83	14,744.14
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	722.92	503.34	19,261.90	5,122.04	25,610.20
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	144.58	100.67	8,417.18	2,165.61	10,828.04
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	244.06	-	1,135.44	344.87	1,724.37
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	244.06	-	1,703.16	486.80	2,434.02
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.47	5.03	15.40	5.72	28.62
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.82	3.40	37.15	10.34	51.72
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.47	5.03	20.55	7.01	35.05
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.82	3.40	49.55	13.44	67.22
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	69.41	4.26	148.82	55.62	278.11
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	69.41	8.15	468.17	136.43	682.16
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.08	7.44	21.42	7.98	39.92
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.08	8.29	63.09	18.61	93.07
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.08	5.98	28.56	9.40	47.02
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.08	8.29	84.12	23.87	119.36
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	69.41	3.04	206.78	69.81	349.04

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	69.41	6.45	795.53	217.85	1,089.23
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	57.69	3.04	99.21	39.99	199.93
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	57.69	6.45	312.58	94.18	470.91
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	57.69	3.04	137.85	49.65	248.23
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	57.69	6.45	531.15	148.82	744.12
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.89	69.34	184.85	65.77	328.85
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.89	69.34	223.44	75.42	377.08
610b	RIGHT OF WAY MARKER	EACH	96.57	101.77	269.84	117.05	585.23
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	597.62	811.70	1,923.71	833.26	4,166.28
610d	TEN KILOMETRE POST	EACH	1,140.55	1,623.40	4,092.81	1,714.19	8,570.96
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	123.03	76.10	900.44	274.89	1,374.46

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

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MANDI BAHU UDIN
(47-A)

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Rate Analysis Summary (Construction)

District: Mandi baha udin

District Code: 47-A

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.74	8.97	-	2.43	12.14
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.36	150.86	1.06	39.82	199.11
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	21.26	391.92	2.39	103.89	519.45
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	85.02	1,567.67	9.55	415.56	2,077.80
103	STRIPPING	CM	2.47	81.82	-	21.07	105.36
104	COMPACTION OF NATURAL GROUND	SM	0.35	8.55	0.75	2.41	12.07
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.35	118.44	-	30.70	153.49
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	127.58	272.97	46.20	111.69	558.43
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	17.70	294.98	-	78.17	390.85
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	11.54	228.89	-	60.11	300.54
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.56	105.42	-	27.25	136.23
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	127.58	272.97	46.20	111.69	558.43
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	20.35	275.34	-	73.92	369.61
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.91	229.91	-	59.70	298.52
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	7.00	120.24	0.37	31.90	159.52
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	60.40	245.80	64.37	92.64	463.22
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	113.03	367.50	30.80	127.83	639.17
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	95.99	257.01	-	88.25	441.25
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	58.13	211.67	-	67.45	337.25
107d	GRANULAR BACK FILL	CM	34.93	119.94	331.26	121.53	607.67
107e	COMMON BACK FILL	CM	25.96	55.41	4.99	21.59	107.95
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.89	152.01	4.99	40.97	204.87
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	20.36	418.69	49.36	122.10	610.51
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	15.27	364.32	2.37	95.49	477.44
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	13.57	323.09	-	84.16	420.82
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.93	154.80	7.84	42.64	213.22

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.17	66.06	4.99	19.31	96.53
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	14.48	97.15	2.97	28.65	143.25
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.39	23.75	1.43	6.64	33.21
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.99	15.94	0.76	4.42	22.11
110	IMPROVED SUB-GRADE	CM	10.04	104.23	58.03	43.08	215.38
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.84	13.24	0.78	3.71	18.57
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.23	13.62	0.88	3.93	19.66
201	GRANULAR SUB-BASE	CM	8.08	224.59	490.42	180.77	903.86
202	AGGREGATE BASE	CM	9.60	287.87	802.39	274.96	1,374.82
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	74.87	1,311.60	5,499.49	1,721.49	8,607.45
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	77.44	1,311.60	5,880.65	1,817.42	9,087.12
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	82.61	1,369.89	5,490.94	1,735.86	8,679.29
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	82.61	1,365.01	6,004.05	1,862.92	9,314.58
204b	CEMENT STABILIZED BASE	CM	29.45	480.68	1,099.71	402.46	2,012.29
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	239.85	772.74	49,313.25	12,581.46	62,907.31
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	239.85	772.74	47,777.04	12,197.41	60,987.05
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	98.08	92.96	980.24	292.82	1,464.10
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	151.48	2,134.12	5,165.96	1,862.89	9,314.44
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	108.93	105.48	765.07	244.87	1,224.35
207a	DEEP PATCHING (0-15 cm)	SM	1.71	39.69	1.23	10.66	53.30
207b	DEEP PATCHING (16-30 cm)	SM	1.71	34.94	1.23	9.47	47.36
208	REINSTATEMENT OF ROAD SURFACE	SM	1.89	49.93	0.55	13.09	65.45
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.98	96.89	0.67	24.88	124.41
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.40	19.38	0.13	4.98	24.88
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.30	1.32	35.00	9.15	45.77
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.29	1.32	39.07	10.17	50.85

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	14.65	3.81	19.07
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	17.09	4.42	22.12
304a	SINGLE SURFACE TREATMENT	SM	0.78	6.52	69.94	19.31	96.55
304b	DOUBLE SURFACE TREATMENT	SM	1.14	12.21	135.88	37.31	186.54
304c	TRIPLE SURFACE TREATMENT	SM	1.91	17.13	155.07	43.53	217.64
304d	SEAL COAT	SM	0.73	3.54	49.47	13.44	67.18
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	70.14	1,294.58	6,462.62	1,956.84	9,784.18
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	70.14	1,251.29	6,987.99	2,077.36	10,386.78
307a	DENSE GRADED HOT BIT-MAC	CM	173.19	316.05	5,491.32	1,495.14	7,475.69
307b	OPEN GRADED HOT BIT-MAC	CM	173.19	316.05	5,338.32	1,456.89	7,284.44
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	29.19	543.36	1,806.87	594.85	2,974.27
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	25.79	560.93	41,548.00	10,533.68	52,668.40
309a	COLD MILLING, 0 - 30 mm	SM	0.97	22.13	7.55	7.66	38.31
309b	COLD MILLING, 0 - 50 mm	SM	1.62	36.88	12.58	12.77	63.86
309c	COLD MILLING, 0 - 70 mm	SM	2.43	55.33	18.87	19.16	95.78
401a1i	CONCRETE CLASS "A1" (Underground)	CM	495.19	923.86	3,332.94	1,188.00	5,939.98
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	495.19	923.86	3,585.19	1,251.06	6,255.29
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	495.19	923.86	4,089.68	1,377.18	6,885.91
401a2i	CONCRETE CLASS "A2" (Underground)	CM	495.19	923.86	3,611.19	1,257.56	6,287.80
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	495.19	923.86	3,863.44	1,320.62	6,603.11
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	495.19	923.86	4,367.93	1,446.75	7,233.73
401a3i	CONCRETE CLASS "A3" (Underground)	CM	495.19	923.86	3,889.44	1,327.12	6,635.61
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	495.19	923.86	4,141.69	1,390.18	6,950.92
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	495.19	923.86	4,646.18	1,516.31	7,581.54
401b	CONCRETE CLASS "B"	CM	668.79	672.22	2,692.21	1,008.30	5,041.51
401ci	CONCRETE CLASS "C" (Underground)	CM	496.44	419.49	2,979.84	973.94	4,869.72

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401cii	CONCRETE CLASS "C" (On ground)	CM	496.44	419.49	3,087.43	1,000.84	5,004.20
401ciii	CONCRETE CLASS "C" (Elevated)	CM	496.44	419.49	3,302.59	1,054.63	5,273.16
401d	CONCRETE CLASS "D1"	CM	746.74	1,106.97	4,346.39	1,550.03	7,750.13
401e	CONCRETE CLASS "Y"	CM	1,042.31	419.49	3,899.48	1,340.32	6,701.59
401f	LEAN CONCRETE	CM	442.19	424.53	2,122.51	747.31	3,736.53
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,713.81	790.24	4,252.09	1,689.03	8,445.17
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,713.81	790.24	4,808.59	1,828.16	9,140.79
401gii	PRECAST CONCRETE CLASS "B"	CM	1,713.81	790.24	4,098.25	1,650.58	8,252.88
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,713.81	790.24	5,086.84	1,897.72	9,488.61
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,713.81	790.24	5,365.09	1,967.28	9,836.42
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,713.81	790.24	5,643.34	2,036.85	10,184.23
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,425.16	669.81	68,368.00	17,615.74	88,078.72
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,425.16	669.81	77,818.00	19,978.24	99,891.22
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,169.11	4,274.04	64,282.59	17,431.43	87,157.17
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,073.06	12,481.24	114,450.36	32,501.16	162,505.82
405b	LAUNCHING OF GIRDER	TON	72.72	486.64	-	139.84	699.20
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	108.72	-	267.76	94.12	470.60
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	108.72	-	267.67	94.10	470.49
406c	STEEL EXPANSION JOINTS	KG	8.72	21.04	103.27	33.26	166.29
406d	WATER STOPS 6" SIZE	M	88.23	-	409.65	124.47	622.34
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	43.54	-	2,897.40	735.23	3,676.17
406g	STEEL OR METAL BEARING DEVICES	KG	20.34	55.55	124.37	50.07	250.33
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	390.68	1,439.50	665.29	623.87	3,119.33
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	586.02	2,159.25	997.94	935.80	4,679.00
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	586.02	2,159.25	761.55	876.70	4,383.52

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	976.69	3,598.75	936.50	1,377.98	6,889.92
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	837.16	4,253.63	1,119.10	1,552.48	7,762.38
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,465.04	6,025.34	1,217.57	2,176.99	10,884.93
407h	PILE LOAD TEST UP TO 120 TON	EACH	24,399.48	40,036.45	84,642.24	37,269.54	186,347.71
407i	PILE LOAD TEST UP TO 240 TON	EACH	45,513.48	40,036.45	169,284.48	63,708.60	318,543.01
407j	PILE LOAD TEST UP TO 360 TON	EACH	66,627.48	43,882.72	253,926.72	91,109.23	455,546.15
407k	CONFIRMATORY BORING (NX SIZE)	M	222.87	1,323.15	6.24	388.06	1,940.32
410	BRICK WORK	CM	346.30	236.06	2,359.57	735.48	3,677.41
411a	STONE MASONRY RANDOM DRY	CM	291.23	91.36	650.56	258.29	1,291.45
411b	STONE MASONRY RANDOM WITH MORTAR	CM	313.66	139.82	1,457.37	477.71	2,388.55
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	383.00	91.36	719.11	298.37	1,491.84
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	451.31	139.82	1,540.26	532.85	2,664.23
411g	ROLL POINTING	SM	74.15	9.69	36.46	30.07	150.37
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	612.43	221.29	1,454.07	571.95	2,859.73
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	236.79	366.20	554.61	289.40	1,447.00
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	231.05	480.94	716.26	357.06	1,785.31
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	224.34	791.50	964.89	495.18	2,475.90
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	235.93	972.63	1,443.65	663.05	3,315.26
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	271.92	949.38	2,079.69	825.25	4,126.24
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	337.29	1,171.86	3,211.80	1,180.24	5,901.20
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	436.50	1,313.30	4,026.48	1,444.07	7,220.34
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	514.01	1,594.72	5,131.73	1,810.12	9,050.58
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	609.57	1,860.51	7,931.12	2,600.30	13,001.49
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	236.79	423.57	571.48	307.96	1,539.80
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	231.05	480.94	670.32	345.58	1,727.88
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	219.06	791.50	917.07	481.91	2,409.53

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District: Mandi baha udin

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	235.93	972.63	1,479.57	672.03	3,360.17
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	271.92	949.38	2,861.92	1,020.80	5,104.02
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	337.29	1,171.86	3,948.33	1,364.37	6,821.86
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	436.50	1,313.30	5,338.70	1,772.12	8,860.62
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	514.01	1,594.72	7,240.52	2,337.31	11,686.57
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	609.57	1,860.51	10,186.07	3,164.04	15,820.18
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	92.00	103.49	297.32	123.20	616.01
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	734.84	511.20	2,949.85	1,048.97	5,244.85
507a	STEEL WIRE MESH FOR GABIONS	KG	5.13	-	131.72	34.21	171.06
507b	ROCK FILL IN GABIONS	CM	99.98	-	508.20	152.05	760.23
508a	BRICK PAVING (SINGLE COURSE)	SM	115.20	26.90	188.39	82.62	413.12
508b	BRICK PAVING (DOUBLE COURSE)	SM	206.97	26.90	374.10	151.99	759.97
509a	RIP RAP CLASS "A"	CM	499.59	-	564.38	265.99	1,329.95
509b	RIP RAP CLASS "B"	CM	482.47	-	559.86	260.58	1,302.91
509c	RIP RAP CLASS "C"	CM	486.01	-	564.38	262.60	1,312.98
509d	GROUTED RIP RAP CLASS "A"	CM	611.15	84.24	1,676.82	593.05	2,965.26
509e	GROUTED RIP RAP CLASS "B"	CM	589.66	67.39	1,557.11	553.54	2,767.70
509f	GROUTED RIP RAP CLASS "C"	CM	583.15	56.16	1,588.05	556.84	2,784.21
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	809.09	295.88	3,335.99	1,110.24	5,551.20
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	49.80	167.47	331.42	137.17	685.86
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	116.80	322.32	-	109.78	548.90
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	155.87	57.10	91.71	76.17	380.85
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	199.51	73.09	117.39	97.50	487.49
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	254.16	150.62	333.69	184.61	923.07
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	317.69	188.27	417.11	230.77	1,153.84
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	262.63	498.72	1,877.03	659.60	3,297.99

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	938.93	567.97	3,910.76	1,354.42	6,772.08
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	137.26	75.65	366.45	144.84	724.21
603	BRICK EDGING	M	9.05	-	29.86	9.73	48.64
604a	METAL GUARD RAIL	M	20.33	59.95	1,492.92	393.30	1,966.51
604b	METAL GUARD RAIL END PIECES	EACH	27.73	-	1,138.10	291.46	1,457.30
604d	STEEL POST OF METAL GUARD RAIL	EACH	91.83	805.79	3,566.86	1,116.12	5,580.59
605a	CONCRETE BEAM GUARD RAIL	M	75.60	25.40	585.05	171.51	857.57
605c	CONCRETE POST FOR GUARD RAIL	M	92.83	22.64	587.66	175.78	878.91
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	241.01	213.74	6,385.99	1,710.19	8,550.93
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	70.00	320.61	8,450.89	2,210.38	11,051.88
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	241.01	453.76	11,142.09	2,959.22	14,796.08
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	794.84	503.34	19,289.43	5,146.90	25,734.51
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	158.97	100.67	8,415.83	2,168.87	10,844.34
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	259.72	-	1,133.38	348.28	1,741.38
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	259.72	-	1,700.08	489.95	2,449.74
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.72	5.03	15.39	5.78	28.91
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.91	3.40	37.02	10.33	51.66
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.72	5.03	20.53	7.07	35.34
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.91	3.40	49.38	13.42	67.11
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	66.05	4.26	148.66	54.74	273.71
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	66.05	8.15	466.51	135.18	675.89
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.40	7.44	21.40	8.06	40.29
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.40	8.29	63.09	18.69	93.47
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.40	5.98	28.53	9.48	47.39
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.40	8.29	84.12	23.95	119.76
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	66.05	3.04	206.62	68.93	344.64

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	66.05	6.45	795.53	217.01	1,085.03
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	55.70	3.04	99.11	39.46	197.31
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	55.70	6.45	311.48	93.41	467.03
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	55.70	3.04	137.75	49.12	245.61
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	55.70	6.45	531.15	148.33	741.63
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.98	69.34	184.77	65.77	328.86
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.98	69.34	223.36	75.42	377.10
610b	RIGHT OF WAY MARKER	EACH	106.86	101.77	272.79	120.36	601.78
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	627.70	811.70	1,946.04	846.36	4,231.80
610d	TEN KILOMETRE POST	EACH	1,200.20	1,623.40	4,140.90	1,741.12	8,705.62
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	135.74	76.10	904.99	279.21	1,396.03

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

NAROWAL
(49-A)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Narowal

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.82	8.97	-	2.45	12.24
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.84	150.86	1.06	39.94	199.71
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	23.16	391.92	2.39	104.37	521.83
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	92.63	1,567.67	9.55	417.46	2,087.31
103	STRIPPING	CM	2.56	81.82	-	21.09	105.47
104	COMPACTION OF NATURAL GROUND	SM	0.36	8.55	0.75	2.41	12.07
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.74	118.44	-	30.54	152.72
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	120.26	272.97	46.20	109.86	549.29
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	17.50	294.98	-	78.12	390.61
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	11.33	228.89	-	60.05	300.27
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.06	105.42	-	27.12	135.60
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	120.26	272.97	46.20	109.86	549.29
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	19.06	275.34	-	73.60	368.00
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.77	229.91	-	59.67	298.35
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.40	120.24	0.37	31.75	158.77
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	62.44	245.80	64.37	93.15	465.77
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	105.90	367.50	30.80	126.05	630.25
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	90.57	257.01	-	86.90	434.48
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	54.46	211.67	-	66.53	332.66
107d	GRANULAR BACK FILL	CM	35.41	119.94	358.68	128.51	642.54
107e	COMMON BACK FILL	CM	28.74	55.41	4.99	22.29	111.43
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.61	152.01	4.99	40.90	204.52
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	20.25	418.69	49.36	122.08	610.38
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	15.19	364.32	2.37	95.47	477.34
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	13.50	323.09	-	84.15	420.73
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.84	154.80	7.84	42.62	213.10

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.02	66.06	4.99	19.27	96.33
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	14.74	97.15	2.97	28.72	143.58
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.35	23.75	1.43	6.63	33.15
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.96	15.94	0.76	4.41	22.07
110	IMPROVED SUB-GRADE	CM	10.12	104.23	58.03	43.10	215.48
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.85	13.24	0.78	3.72	18.59
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.25	13.62	0.88	3.94	19.68
201	GRANULAR SUB-BASE	CM	8.00	224.59	529.41	190.50	952.49
202	AGGREGATE BASE	CM	9.16	287.87	875.84	293.22	1,466.08
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	80.63	1,311.60	5,708.21	1,775.11	8,875.56
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	82.76	1,311.60	6,077.55	1,867.98	9,339.89
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	88.35	1,369.89	5,699.94	1,789.55	8,947.73
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	88.35	1,365.01	6,200.85	1,913.55	9,567.76
204b	CEMENT STABILIZED BASE	CM	28.90	480.68	1,302.76	453.09	2,265.43
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	233.89	772.74	49,570.80	12,644.36	63,221.79
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	233.89	772.74	48,034.59	12,260.31	61,301.53
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	111.29	92.96	1,124.31	332.14	1,660.70
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	157.41	2,134.12	5,362.25	1,913.44	9,567.22
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	124.09	105.48	801.46	257.76	1,288.79
207a	DEEP PATCHING (0-15 cm)	SM	1.69	39.69	1.23	10.65	53.27
207b	DEEP PATCHING (16-30 cm)	SM	1.69	34.94	1.23	9.47	47.33
208	REINSTATEMENT OF ROAD SURFACE	SM	1.85	49.93	0.55	13.08	65.40
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.87	96.89	0.67	24.85	124.27
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.37	19.38	0.13	4.97	24.85
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.28	1.32	35.18	9.20	45.98
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	39.27	10.22	51.08

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	14.72	3.83	19.16
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.18	4.44	22.22
304a	SINGLE SURFACE TREATMENT	SM	0.73	6.52	71.11	19.59	97.95
304b	DOUBLE SURFACE TREATMENT	SM	1.06	12.21	138.85	38.03	190.15
304c	TRIPLE SURFACE TREATMENT	SM	1.78	17.13	158.55	44.37	221.83
304d	SEAL COAT	SM	0.67	3.54	50.19	13.60	68.01
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	73.79	1,294.58	6,674.59	2,010.74	10,053.70
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	73.79	1,251.29	7,213.57	2,134.66	10,673.32
307a	DENSE GRADED HOT BIT-MAC	CM	184.80	316.05	5,690.96	1,547.95	7,739.75
307b	OPEN GRADED HOT BIT-MAC	CM	184.80	316.05	5,527.23	1,507.02	7,535.09
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	30.38	543.36	1,840.45	603.55	3,017.74
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	25.86	560.93	41,813.20	10,600.00	52,999.98
309a	COLD MILLING, 0 - 30 mm	SM	0.95	22.13	7.55	7.66	38.29
309b	COLD MILLING, 0 - 50 mm	SM	1.58	36.88	12.58	12.76	63.81
309c	COLD MILLING, 0 - 70 mm	SM	2.38	55.33	18.87	19.14	95.72
401a1i	CONCRETE CLASS "A1" (Underground)	CM	521.41	923.86	3,656.27	1,275.39	6,376.94
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	521.41	923.86	3,908.52	1,338.45	6,692.25
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	521.41	923.86	4,413.02	1,464.57	7,322.87
401a2i	CONCRETE CLASS "A2" (Underground)	CM	521.41	923.86	3,934.52	1,344.95	6,724.75
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	521.41	923.86	4,186.77	1,408.01	7,040.06
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	521.41	923.86	4,691.27	1,534.14	7,670.68
401a3i	CONCRETE CLASS "A3" (Underground)	CM	521.41	923.86	4,212.77	1,414.51	7,072.56
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	521.41	923.86	4,465.02	1,477.57	7,387.87
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	521.41	923.86	4,969.52	1,603.70	8,018.49
401b	CONCRETE CLASS "B"	CM	695.86	672.22	3,019.78	1,096.96	5,484.82
401ci	CONCRETE CLASS "C" (Underground)	CM	534.95	419.49	3,327.20	1,070.41	5,352.06

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401cii	CONCRETE CLASS "C" (On ground)	CM	534.95	419.49	3,434.79	1,097.31	5,486.54
401ciii	CONCRETE CLASS "C" (Elevated)	CM	534.95	419.49	3,649.95	1,151.10	5,755.50
401d	CONCRETE CLASS "D1"	CM	803.86	1,106.97	4,638.71	1,637.39	8,186.93
401e	CONCRETE CLASS "Y"	CM	1,141.93	419.49	4,200.36	1,440.45	7,202.23
401f	LEAN CONCRETE	CM	487.32	424.53	2,450.22	840.52	4,202.58
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,870.77	790.24	4,606.02	1,816.76	9,083.79
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,870.77	790.24	5,162.52	1,955.88	9,779.41
401gii	PRECAST CONCRETE CLASS "B"	CM	1,870.77	790.24	4,437.58	1,774.65	8,873.23
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,870.77	790.24	5,440.77	2,025.45	10,127.23
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,870.77	790.24	5,719.02	2,095.01	10,475.04
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,870.77	790.24	5,997.27	2,164.57	10,822.85
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,500.15	669.81	68,368.00	17,634.49	88,172.45
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,500.15	669.81	77,818.00	19,996.99	99,984.95
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,210.79	4,274.04	64,224.87	17,427.43	87,137.13
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,091.90	12,481.24	114,454.51	32,506.91	162,534.56
405b	LAUNCHING OF GIRDER	TON	74.66	486.64	-	140.32	701.62
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	116.88	-	265.93	95.70	478.52
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	116.88	-	266.01	95.72	478.61
406c	STEEL EXPANSION JOINTS	KG	9.26	21.04	103.35	33.41	167.06
406d	WATER STOPS 6" SIZE	M	96.43	-	409.17	126.40	632.01
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.24
406f	ASPHALT FELT (3 PLY)	SM	44.83	-	2,899.70	736.13	3,680.66
406g	STEEL OR METAL BEARING DEVICES	KG	20.63	55.55	124.44	50.16	250.78
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	410.17	1,439.50	653.46	625.78	3,128.91
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	615.26	2,159.25	980.19	938.67	4,693.36
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	615.26	2,159.25	743.80	879.58	4,397.88

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,025.43	3,598.75	906.91	1,382.77	6,913.86
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	878.94	4,253.63	1,068.39	1,550.24	7,751.20
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,538.14	6,025.34	1,173.20	2,184.17	10,920.84
407h	PILE LOAD TEST UP TO 120 TON	EACH	27,550.63	40,036.45	86,590.56	38,544.41	192,722.05
407i	PILE LOAD TEST UP TO 240 TON	EACH	52,390.63	40,036.45	173,181.12	66,402.05	332,010.25
407j	PILE LOAD TEST UP TO 360 TON	EACH	77,230.63	43,882.72	259,771.68	95,221.26	476,106.29
407k	CONFIRMATORY BORING (NX SIZE)	M	245.71	1,323.15	6.24	393.77	1,968.87
410	BRICK WORK	CM	375.95	236.06	2,494.22	776.56	3,882.79
411a	STONE MASONRY RANDOM DRY	CM	317.95	91.36	771.98	295.32	1,476.62
411b	STONE MASONRY RANDOM WITH MORTAR	CM	341.24	139.82	1,747.10	557.04	2,785.19
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	419.72	91.36	850.23	340.33	1,701.65
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	493.89	139.82	1,797.62	607.83	3,039.17
411g	ROLL POINTING	SM	80.64	9.69	39.28	32.40	162.00
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	674.15	221.29	1,711.43	651.72	3,258.59
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	265.11	366.20	559.87	297.79	1,488.97
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	260.37	480.94	722.57	365.97	1,829.86
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	245.61	791.50	972.25	502.34	2,511.69
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	260.91	972.63	1,783.00	754.13	3,770.67
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	298.10	949.38	2,311.65	889.78	4,448.90
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	365.45	1,171.86	3,693.77	1,307.77	6,538.84
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	472.94	1,313.30	4,038.86	1,456.27	7,281.36
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	557.65	1,594.72	5,146.76	1,824.78	9,123.90
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	659.64	1,860.51	7,948.65	2,617.20	13,086.00
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	265.11	423.57	582.00	317.67	1,588.35
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	260.37	480.94	676.63	354.49	1,772.43
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	239.39	791.50	924.43	488.83	2,444.15

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	260.91	972.63	1,486.27	679.95	3,399.76
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	298.10	949.38	2,871.49	1,029.74	5,148.70
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	365.45	1,171.86	3,960.77	1,374.52	6,872.59
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	472.94	1,313.30	5,351.08	1,784.33	8,921.64
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	557.65	1,594.72	7,255.55	2,351.98	11,759.90
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	659.64	1,860.51	10,203.61	3,180.94	15,904.68
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	99.97	103.49	323.89	131.84	659.19
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	772.22	511.20	3,277.42	1,140.21	5,701.05
507a	STEEL WIRE MESH FOR GABIONS	KG	5.31	-	131.72	34.26	171.29
507b	ROCK FILL IN GABIONS	CM	112.06	-	522.32	158.59	792.97
508a	BRICK PAVING (SINGLE COURSE)	SM	126.48	26.90	189.50	85.72	428.60
508b	BRICK PAVING (DOUBLE COURSE)	SM	228.25	26.90	376.10	157.81	789.06
509a	RIP RAP CLASS "A"	CM	545.59	-	685.79	307.85	1,539.23
509b	RIP RAP CLASS "B"	CM	528.93	-	680.30	302.31	1,511.54
509c	RIP RAP CLASS "C"	CM	533.35	-	685.79	304.78	1,523.92
509d	GROUTED RIP RAP CLASS "A"	CM	667.81	84.24	1,903.43	663.87	3,319.35
509e	GROUTED RIP RAP CLASS "B"	CM	645.34	67.39	1,771.81	621.13	3,105.67
509f	GROUTED RIP RAP CLASS "C"	CM	639.55	56.16	1,807.65	625.84	3,129.20
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	889.53	295.88	3,645.64	1,207.76	6,038.81
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	55.47	167.47	358.86	145.45	727.25
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	129.34	322.32	-	112.91	564.57
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	170.24	57.10	111.44	84.69	423.47
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	217.90	73.09	142.64	108.41	542.04
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	277.24	150.62	378.09	201.49	1,007.43
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	346.55	188.27	472.61	251.86	1,259.29
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	276.54	498.72	2,045.32	705.15	3,525.73

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,023.55	567.97	#N/A	#N/A	#N/A
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	149.47	75.65	400.22	156.34	781.68
603	BRICK EDGING	M	9.91	-	29.86	9.94	49.71
604a	METAL GUARD RAIL	M	21.83	59.95	2,213.24	573.75	2,868.77
604b	METAL GUARD RAIL END PIECES	EACH	30.61	-	1,633.70	416.08	2,080.39
604d	STEEL POST OF METAL GUARD RAIL	EACH	95.00	805.79	5,312.26	1,553.26	7,766.31
605a	CONCRETE BEAM GUARD RAIL	M	85.14	25.40	597.49	177.01	885.05
605c	CONCRETE POST FOR GUARD RAIL	M	104.54	22.64	602.87	182.51	912.57
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	259.24	213.74	6,398.68	1,717.92	8,589.58
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	78.70	320.61	8,505.86	2,226.29	11,131.47
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	259.24	453.76	11,236.64	2,987.41	14,937.05
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	895.32	503.34	19,428.82	5,206.87	26,034.35
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	179.06	100.67	8,440.80	2,180.13	10,900.67
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	256.87	-	1,132.51	347.34	1,736.72
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	256.87	-	1,698.77	488.91	2,444.54
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.97	5.03	15.38	5.84	29.22
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.99	3.40	36.97	10.34	51.70
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.97	5.03	20.53	7.13	35.65
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.99	3.40	49.31	13.42	67.12
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	71.71	4.26	148.64	56.15	280.76
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	71.71	8.15	465.85	136.43	682.14
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.71	7.44	21.40	8.14	40.68
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.71	8.29	63.09	18.77	93.86
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.71	5.98	28.53	9.55	47.77
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.71	8.29	84.12	24.03	120.15
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	71.71	3.04	206.60	70.34	351.68

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District: Narowal

District Code: 49-A

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	71.71	6.45	795.53	218.42	1,092.11
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	60.53	3.04	99.09	40.67	203.33
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	60.53	6.45	311.04	94.50	472.52
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	60.53	3.04	137.73	50.33	251.63
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	60.53	6.45	531.15	149.53	747.67
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	10.04	69.34	184.98	66.09	330.45
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	10.04	69.34	223.57	75.74	378.69
610b	RIGHT OF WAY MARKER	EACH	121.39	101.77	286.12	127.32	636.61
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	697.73	811.70	2,058.91	892.08	4,460.42
610d	TEN KILOMETRE POST	EACH	1,339.58	1,623.40	4,358.82	1,830.45	9,152.25
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	148.99	76.10	921.37	286.61	1,433.07

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

OKARA
(50)

Q. S. & Estimation Specialist

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National Highway Authority
Islamabad

Quantity Surveying &
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Rate Analysis Summary (Construction)

District: Okara

District Code: 50

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.63	8.97	-	2.40	12.00
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.14	150.86	1.06	39.52	197.58
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	17.95	391.92	2.39	103.06	515.31
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	71.78	1,567.67	9.55	412.25	2,061.25
103	STRIPPING	CM	2.09	81.82	-	20.98	104.88
104	COMPACTION OF NATURAL GROUND	SM	0.29	8.55	0.75	2.40	11.99
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.30	118.44	-	30.43	152.17
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	102.28	272.97	46.20	105.36	526.81
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	14.62	294.98	-	77.40	387.00
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.55	228.89	-	59.61	298.05
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.70	105.42	-	27.03	135.15
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	102.28	272.97	46.20	105.36	526.81
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	16.24	275.34	-	72.90	364.48
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.36	229.91	-	59.32	296.58
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.61	120.24	0.37	31.56	157.79
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	50.36	245.80	64.37	90.13	450.66
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	90.24	367.50	30.80	122.13	610.67
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	76.91	257.01	-	83.48	417.40
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	46.41	211.67	-	64.52	322.60
107d	GRANULAR BACK FILL	CM	28.68	119.94	364.58	128.30	641.50
107e	COMMON BACK FILL	CM	22.23	55.41	4.99	20.66	103.29
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.63	152.01	4.99	40.66	203.29
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	16.82	418.69	49.36	121.22	606.09
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	12.61	364.32	2.37	94.83	474.13
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	11.21	323.09	-	83.57	417.87
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.55	154.80	7.84	42.30	211.49

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.09	66.06	4.99	19.03	95.17
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	12.11	97.15	2.97	28.06	140.30
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.13	23.75	1.43	6.58	32.89
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.81	15.94	0.76	4.38	21.89
110	IMPROVED SUB-GRADE	CM	8.25	104.23	58.03	42.63	213.14
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.70	13.24	0.78	3.68	18.40
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.04	13.62	0.88	3.88	19.42
201	GRANULAR SUB-BASE	CM	6.62	224.59	533.52	191.18	955.91
202	AGGREGATE BASE	CM	7.54	287.87	986.94	320.58	1,602.92
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	63.28	1,311.60	5,551.63	1,731.63	8,658.14
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	65.21	1,311.60	5,967.52	1,836.08	9,180.41
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	69.83	1,369.89	5,543.20	1,745.73	8,728.64
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	69.83	1,365.01	6,091.83	1,881.67	9,408.33
204b	CEMENT STABILIZED BASE	CM	23.47	480.68	1,068.07	393.05	1,965.27
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	197.63	772.74	49,879.86	12,712.56	63,562.80
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	197.63	772.74	48,343.65	12,328.51	61,642.53
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	85.34	92.96	1,081.08	314.85	1,574.23
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	126.37	2,134.12	5,288.99	1,887.37	9,436.85
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	94.70	105.48	944.26	286.11	1,430.54
207a	DEEP PATCHING (0-15 cm)	SM	1.42	39.69	1.23	10.59	52.94
207b	DEEP PATCHING (16-30 cm)	SM	1.42	34.94	1.23	9.40	47.00
208	REINSTATEMENT OF ROAD SURFACE	SM	1.49	49.93	0.55	12.99	64.96
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.64	96.89	0.67	24.80	123.99
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.33	19.38	0.13	4.96	24.80
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.24	1.32	35.40	9.24	46.20
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.23	1.32	39.52	10.27	51.34

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	14.82	3.85	19.25
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	17.29	4.47	22.34
304a	SINGLE SURFACE TREATMENT	SM	0.62	6.52	71.08	19.55	97.77
304b	DOUBLE SURFACE TREATMENT	SM	0.91	12.21	138.81	37.98	189.91
304c	TRIPLE SURFACE TREATMENT	SM	1.52	17.13	158.39	44.26	221.31
304d	SEAL COAT	SM	0.57	3.54	49.73	13.46	67.31
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	58.63	1,294.58	6,539.84	1,973.26	9,866.31
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	58.63	1,251.29	7,063.23	2,093.29	10,466.44
307a	DENSE GRADED HOT BIT-MAC	CM	145.11	316.05	5,534.82	1,498.99	7,494.96
307b	OPEN GRADED HOT BIT-MAC	CM	145.11	316.05	5,430.15	1,472.83	7,364.13
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	24.26	543.36	1,839.56	601.80	3,008.98
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	21.07	560.93	42,131.44	10,678.36	53,391.79
309a	COLD MILLING, 0 - 30 mm	SM	0.77	22.13	7.55	7.61	38.07
309b	COLD MILLING, 0 - 50 mm	SM	1.29	36.88	12.58	12.69	63.44
309c	COLD MILLING, 0 - 70 mm	SM	1.93	55.33	18.87	19.03	95.17
401a1i	CONCRETE CLASS "A1" (Underground)	CM	404.41	923.86	3,489.63	1,204.47	6,022.37
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	404.41	923.86	3,741.87	1,267.54	6,337.68
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	404.41	923.86	4,246.37	1,393.66	6,968.30
401a2i	CONCRETE CLASS "A2" (Underground)	CM	404.41	923.86	3,767.88	1,274.04	6,370.18
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	404.41	923.86	4,020.12	1,337.10	6,685.49
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	404.41	923.86	4,524.62	1,463.22	7,316.11
401a3i	CONCRETE CLASS "A3" (Underground)	CM	404.41	923.86	4,046.13	1,343.60	6,718.00
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	404.41	923.86	4,298.37	1,406.66	7,033.30
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	404.41	923.86	4,802.87	1,532.78	7,663.92
401b	CONCRETE CLASS "B"	CM	548.03	672.22	2,962.47	1,045.68	5,228.40
401ci	CONCRETE CLASS "C" (Underground)	CM	410.46	419.49	3,205.38	1,008.83	5,044.16

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401cii	CONCRETE CLASS "C" (On ground)	CM	410.46	419.49	3,312.97	1,035.73	5,178.64
401ciii	CONCRETE CLASS "C" (Elevated)	CM	410.46	419.49	3,528.13	1,089.52	5,447.60
401d	CONCRETE CLASS "D1"	CM	613.35	1,106.97	4,500.71	1,555.26	7,776.29
401e	CONCRETE CLASS "Y"	CM	863.73	419.49	4,010.53	1,323.44	6,617.19
401f	LEAN CONCRETE	CM	374.97	424.53	2,392.87	798.09	3,990.46
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,423.28	790.24	4,414.13	1,656.91	8,284.56
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,423.28	790.24	4,970.63	1,796.04	8,980.19
401gii	PRECAST CONCRETE CLASS "B"	CM	1,423.28	790.24	4,376.73	1,647.56	8,237.81
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,423.28	790.24	5,248.88	1,865.60	9,328.00
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,423.28	790.24	5,527.13	1,935.16	9,675.81
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,423.28	790.24	5,805.38	2,004.73	10,023.63
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,159.33	669.81	68,368.00	17,549.29	87,746.43
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,159.33	669.81	77,818.00	19,911.79	99,558.93
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	949.18	4,274.04	64,278.69	17,375.48	86,877.39
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,514.39	12,481.24	114,448.26	32,360.97	161,804.87
405b	LAUNCHING OF GIRDER	TON	60.06	486.64	-	136.68	683.38
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	90.02	-	267.18	89.30	446.49
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	90.02	-	267.18	89.30	446.49
406c	STEEL EXPANSION JOINTS	KG	7.18	21.04	103.35	32.89	164.47
406d	WATER STOPS 6" SIZE	M	73.49	-	408.23	120.43	602.15
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	34.64	-	2,876.08	727.68	3,638.40
406g	STEEL OR METAL BEARING DEVICES	KG	16.67	55.55	124.44	49.17	245.83
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	325.28	1,439.50	667.04	607.96	3,039.78
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	487.92	2,159.25	1,000.56	911.93	4,559.67
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	487.92	2,159.25	764.18	852.84	4,264.19

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	813.21	3,598.75	940.87	1,338.21	6,691.04
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	697.03	4,253.63	1,126.60	1,519.32	7,596.59
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,219.81	6,025.34	1,224.13	2,117.32	10,586.60
407h	PILE LOAD TEST UP TO 120 TON	EACH	21,094.24	40,036.45	84,643.12	36,443.45	182,217.26
407i	PILE LOAD TEST UP TO 240 TON	EACH	39,724.24	40,036.45	169,286.24	62,261.73	311,308.66
407j	PILE LOAD TEST UP TO 360 TON	EACH	58,354.24	43,882.72	253,929.36	89,041.58	445,207.90
407k	CONFIRMATORY BORING (NX SIZE)	M	190.44	1,323.15	6.24	379.96	1,899.78
410	BRICK WORK	CM	283.25	236.06	2,420.05	734.84	3,674.19
411a	STONE MASONRY RANDOM DRY	CM	243.33	91.36	654.69	247.35	1,236.73
411b	STONE MASONRY RANDOM WITH MORTAR	CM	260.58	139.82	1,612.09	503.12	2,515.61
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	319.23	91.36	723.56	283.54	1,417.70
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	374.43	139.82	1,657.66	542.98	2,714.89
411g	ROLL POINTING	SM	60.20	9.69	38.98	27.22	136.09
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	508.98	221.29	1,571.47	575.44	2,877.18
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	203.12	366.20	559.31	282.16	1,410.80
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	198.81	480.94	721.90	350.41	1,752.07
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	190.93	791.50	971.48	488.48	2,442.38
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	201.80	972.63	1,451.35	656.44	3,282.22
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	231.61	949.38	2,087.39	817.10	4,085.48
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	285.07	1,171.86	3,222.93	1,169.96	5,849.82
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	368.92	1,313.30	4,037.55	1,429.94	7,149.71
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	435.65	1,594.72	5,145.18	1,793.89	8,969.43
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	514.87	1,860.51	7,946.81	2,580.55	12,902.73
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	203.12	423.57	580.89	301.90	1,509.48
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	198.81	480.94	675.96	338.93	1,694.65
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	186.27	791.50	923.66	475.36	2,376.78

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	201.80	972.63	1,485.56	665.00	3,324.99
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	231.61	949.38	2,870.48	1,012.87	5,064.34
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	285.07	1,171.86	3,959.46	1,354.10	6,770.49
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	368.92	1,313.30	5,349.77	1,758.00	8,789.99
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	435.65	1,594.72	7,253.97	2,321.08	11,605.42
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	514.87	1,860.51	10,201.76	3,144.28	15,721.41
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	78.49	103.49	297.34	119.83	599.14
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	605.07	511.20	3,220.11	1,084.09	5,420.47
507a	STEEL WIRE MESH FOR GABIONS	KG	4.18	-	135.51	34.92	174.62
507b	ROCK FILL IN GABIONS	CM	86.54	-	522.32	152.21	761.07
508a	BRICK PAVING (SINGLE COURSE)	SM	95.75	26.90	181.62	76.07	380.33
508b	BRICK PAVING (DOUBLE COURSE)	SM	171.65	26.90	360.54	139.77	698.87
509a	RIP RAP CLASS "A"	CM	411.86	-	568.50	245.09	1,225.45
509b	RIP RAP CLASS "B"	CM	398.49	-	563.95	240.61	1,203.05
509c	RIP RAP CLASS "C"	CM	401.07	-	568.50	242.39	1,211.97
509d	GROUTED RIP RAP CLASS "A"	CM	504.16	84.24	1,775.06	590.87	2,954.33
509e	GROUTED RIP RAP CLASS "B"	CM	486.13	67.39	1,645.54	549.76	2,748.82
509f	GROUTED RIP RAP CLASS "C"	CM	481.01	56.16	1,680.02	554.30	2,771.49
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	675.73	295.88	3,591.43	1,140.76	5,703.80
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	43.15	167.47	364.55	143.79	718.96
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	100.03	322.32	-	105.59	527.93
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	129.94	57.10	92.38	69.86	349.28
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	166.32	73.09	118.25	89.42	447.08
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	210.48	150.62	358.22	179.83	899.14
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	263.10	188.27	447.77	224.79	1,123.93
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	214.53	498.72	1,958.60	667.96	3,339.81

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	778.86	567.97	3,995.03	1,335.46	6,677.32
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	113.93	75.65	385.46	143.76	718.81
603	BRICK EDGING	M	7.64	-	28.70	9.08	45.42
604a	METAL GUARD RAIL	M	16.78	59.95	1,492.92	392.41	1,962.07
604b	METAL GUARD RAIL END PIECES	EACH	23.71	-	1,138.10	290.45	1,452.27
604d	STEEL POST OF METAL GUARD RAIL	EACH	74.70	805.79	3,566.86	1,111.84	5,559.18
605a	CONCRETE BEAM GUARD RAIL	M	64.30	25.40	590.08	169.95	849.73
605c	CONCRETE POST FOR GUARD RAIL	M	78.95	22.64	593.79	173.85	869.23
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	201.45	213.74	6,395.15	1,702.59	8,512.94
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	60.27	320.61	8,496.74	2,219.41	11,097.03
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	201.45	453.76	11,221.21	2,969.11	14,845.53
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	681.68	503.34	19,406.73	5,147.94	25,739.68
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	136.34	100.67	8,437.64	2,168.66	10,843.31
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	206.88	-	1,132.89	334.94	1,674.71
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	206.88	-	1,699.33	476.55	2,382.76
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.37	5.03	15.38	5.70	28.48
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.79	3.40	36.99	10.30	51.48
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.37	5.03	20.53	6.98	34.91
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.79	3.40	49.33	13.38	66.91
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	54.08	4.26	148.65	51.75	258.75
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	54.08	8.15	466.11	132.09	660.44
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.97	7.44	21.40	7.95	39.75
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.97	8.29	63.09	18.59	92.93
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.97	5.98	28.53	9.37	46.85
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.97	8.29	84.12	23.84	119.22
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	54.08	3.04	206.61	65.94	329.68

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	54.08	6.45	795.53	214.01	1,070.07
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	45.80	3.04	99.10	36.99	184.94
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	45.80	6.45	311.21	90.87	454.33
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	45.80	3.04	137.74	46.65	233.24
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	45.80	6.45	531.15	145.85	729.26
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	7.87	69.34	184.96	65.54	327.71
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	7.87	69.34	223.55	75.19	375.94
610b	RIGHT OF WAY MARKER	EACH	92.04	101.77	278.22	118.01	590.04
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	528.73	811.70	1,994.58	833.75	4,168.77
610d	TEN KILOMETRE POST	EACH	1,016.06	1,623.40	4,229.86	1,717.33	8,586.66
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	115.28	76.10	915.90	276.82	1,384.10

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

PAKPATTAN
(53-A)

Q. S. & Estimation Specialist

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National Highway Authority
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Quantity Surveying &
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Rate Analysis Summary (Construction)

District: Pakpattan

District Code: 53-A

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.59	8.97	-	2.39	11.95
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	5.80	150.86	1.06	39.43	197.15
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	16.84	391.92	2.39	102.79	513.93
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	67.34	1,567.67	9.55	411.14	2,055.70
103	STRIPPING	CM	1.98	81.82	-	20.95	104.74
104	COMPACTION OF NATURAL GROUND	SM	0.28	8.55	0.75	2.40	11.98
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.28	118.44	-	30.43	152.15
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	99.21	272.97	46.20	104.59	522.97
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	14.03	294.98	-	77.25	386.26
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.19	228.89	-	59.52	297.60
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.68	105.42	-	27.03	135.13
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	99.21	272.97	46.20	104.59	522.97
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	15.78	275.34	-	72.78	363.90
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.07	229.91	-	59.25	296.23
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.49	120.24	0.37	31.53	157.63
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	52.26	245.80	64.37	90.61	453.04
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	87.65	367.50	30.80	121.49	607.44
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	74.58	257.01	-	82.90	414.48
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	45.08	211.67	-	64.19	320.93
107d	GRANULAR BACK FILL	CM	27.31	119.94	391.24	134.62	673.11
107e	COMMON BACK FILL	CM	20.70	55.41	4.99	20.28	101.38
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.44	152.01	4.99	40.61	203.06
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	16.12	418.69	49.36	121.04	605.21
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	12.09	364.32	2.37	94.69	473.47
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	10.74	323.09	-	83.46	417.29
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.29	154.80	7.84	42.23	211.16

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	4.91	66.06	4.99	18.99	94.94
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	11.54	97.15	2.97	27.92	139.58
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.09	23.75	1.43	6.57	32.84
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.78	15.94	0.76	4.37	21.85
110	IMPROVED SUB-GRADE	CM	7.91	104.23	60.29	43.11	215.53
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.67	13.24	0.78	3.67	18.36
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	0.99	13.62	0.88	3.87	19.36
201	GRANULAR SUB-BASE	CM	6.37	224.59	613.22	211.04	1,055.22
202	AGGREGATE BASE	CM	7.35	287.87	1,128.34	355.89	1,779.44
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	59.47	1,311.60	5,686.42	1,764.37	8,821.86
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	61.40	1,311.60	6,106.43	1,869.86	9,349.29
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	65.77	1,369.89	5,678.13	1,778.45	8,892.24
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	65.77	1,365.01	6,231.12	1,915.47	9,577.37
204b	CEMENT STABILIZED BASE	CM	22.70	480.68	1,167.57	417.74	2,088.68
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	190.42	772.74	50,285.88	12,812.26	64,061.30
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	190.42	772.74	48,749.67	12,428.21	62,141.04
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	79.03	92.96	1,184.32	339.08	1,695.40
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	119.92	2,134.12	5,433.93	1,921.99	9,609.96
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	87.62	105.48	1,005.12	299.55	1,497.77
207a	DEEP PATCHING (0-15 cm)	SM	1.37	39.69	1.23	10.57	52.87
207b	DEEP PATCHING (16-30 cm)	SM	1.37	34.94	1.23	9.39	46.93
208	REINSTATEMENT OF ROAD SURFACE	SM	1.45	49.93	0.55	12.98	64.91
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.60	96.89	0.67	24.79	123.93
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.32	19.38	0.13	4.96	24.79
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.23	1.32	35.69	9.31	46.55
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.23	1.32	39.84	10.35	51.73

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.09	0.49	14.94	3.88	19.40
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.09	0.49	17.43	4.50	22.51
304a	SINGLE SURFACE TREATMENT	SM	0.61	6.52	72.19	19.83	99.13
304b	DOUBLE SURFACE TREATMENT	SM	0.88	12.21	141.51	38.65	193.25
304c	TRIPLE SURFACE TREATMENT	SM	1.48	17.13	161.51	45.03	225.16
304d	SEAL COAT	SM	0.56	3.54	50.30	13.60	68.00
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	55.46	1,294.58	6,685.87	2,008.98	10,044.88
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	55.46	1,251.29	7,217.40	2,131.04	10,655.19
307a	DENSE GRADED HOT BIT-MAC	CM	136.67	316.05	5,664.90	1,529.40	7,647.02
307b	OPEN GRADED HOT BIT-MAC	CM	136.67	316.05	5,566.75	1,504.87	7,524.33
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	22.95	543.36	1,868.89	608.80	3,043.99
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	20.11	560.93	42,549.52	10,782.64	53,913.20
309a	COLD MILLING, 0 - 30 mm	SM	0.75	22.13	7.55	7.61	38.04
309b	COLD MILLING, 0 - 50 mm	SM	1.25	36.88	12.58	12.68	63.39
309c	COLD MILLING, 0 - 70 mm	SM	1.87	55.33	18.87	19.02	95.09
401a1i	CONCRETE CLASS "A1" (Underground)	CM	453.66	923.86	3,554.96	1,233.12	6,165.60
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	453.66	923.86	3,807.20	1,296.18	6,480.91
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	453.66	923.86	4,311.70	1,422.31	7,111.53
401a2i	CONCRETE CLASS "A2" (Underground)	CM	453.66	923.86	3,833.21	1,302.68	6,513.41
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	453.66	923.86	4,085.45	1,365.74	6,828.72
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	453.66	923.86	4,589.95	1,491.87	7,459.34
401a3i	CONCRETE CLASS "A3" (Underground)	CM	453.66	923.86	4,111.46	1,372.25	6,861.23
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	453.66	923.86	4,363.70	1,435.31	7,176.54
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	453.66	923.86	4,868.20	1,561.43	7,807.16
401b	CONCRETE CLASS "B"	CM	573.26	672.22	3,046.70	1,073.04	5,365.21
401ci	CONCRETE CLASS "C" (Underground)	CM	453.35	419.49	3,297.32	1,042.54	5,212.70

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401cii	CONCRETE CLASS "C" (On ground)	CM	453.35	419.49	3,404.91	1,069.44	5,347.18
401ciii	CONCRETE CLASS "C" (Elevated)	CM	453.35	419.49	3,620.07	1,123.23	5,616.14
401d	CONCRETE CLASS "D1"	CM	714.04	1,106.97	4,562.91	1,595.98	7,979.91
401e	CONCRETE CLASS "Y"	CM	1,008.54	419.49	4,065.36	1,373.35	6,866.74
401f	LEAN CONCRETE	CM	376.48	424.53	2,476.94	819.49	4,097.44
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,557.68	790.24	4,484.06	1,707.99	8,539.97
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,557.68	790.24	5,040.56	1,847.12	9,235.59
401gii	PRECAST CONCRETE CLASS "B"	CM	1,557.68	790.24	4,469.73	1,704.41	8,522.06
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,557.68	790.24	5,318.81	1,916.68	9,583.41
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,557.68	790.24	5,597.06	1,986.24	9,931.22
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,557.68	790.24	5,875.31	2,055.81	10,279.03
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,359.89	669.81	68,368.00	17,599.43	87,997.13
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,359.89	669.81	77,818.00	19,961.93	99,809.63
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,109.63	4,274.04	64,254.05	17,409.43	87,047.15
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,398.27	12,481.24	114,448.26	32,331.94	161,659.71
405b	LAUNCHING OF GIRDER	TON	57.00	486.64	-	135.91	679.55
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	99.25	-	269.76	92.25	461.26
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	99.25	-	269.59	92.21	461.05
406c	STEEL EXPANSION JOINTS	KG	8.25	21.04	103.16	33.11	165.57
406d	WATER STOPS 6" SIZE	M	81.96	-	408.47	122.61	613.04
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	39.95	-	2,877.15	729.27	3,646.37
406g	STEEL OR METAL BEARING DEVICES	KG	17.14	55.55	124.29	49.25	246.23
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	309.49	1,439.50	677.52	606.63	3,033.14
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	464.24	2,159.25	1,016.29	909.94	4,549.71
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	464.24	2,159.25	779.90	850.85	4,254.23

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	773.73	3,598.75	967.08	1,334.89	6,674.45
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	663.19	4,253.63	1,171.53	1,522.09	7,610.45
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,160.59	6,025.34	1,263.45	2,112.34	10,561.72
407h	PILE LOAD TEST UP TO 120 TON	EACH	19,545.88	40,036.45	84,643.12	36,056.36	180,281.81
407i	PILE LOAD TEST UP TO 240 TON	EACH	36,627.52	40,036.45	169,286.24	61,487.55	307,437.76
407j	PILE LOAD TEST UP TO 360 TON	EACH	53,709.16	43,882.72	253,929.36	87,880.31	439,401.55
407k	CONFIRMATORY BORING (NX SIZE)	M	177.54	1,323.15	6.24	376.73	1,883.66
410	BRICK WORK	CM	321.83	236.06	2,480.05	759.48	3,797.41
411a	STONE MASONRY RANDOM DRY	CM	263.16	91.36	809.38	290.97	1,454.87
411b	STONE MASONRY RANDOM WITH MORTAR	CM	286.58	139.82	1,766.78	548.29	2,741.47
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	347.96	91.36	890.63	332.49	1,662.44
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	413.79	139.82	1,824.72	594.58	2,972.91
411g	ROLL POINTING	SM	70.48	9.69	38.98	29.79	148.94
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	559.97	221.29	1,738.54	629.95	3,149.75
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	195.78	366.20	559.31	280.32	1,401.62
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	191.47	480.94	721.90	348.58	1,742.90
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	185.56	791.50	971.48	487.13	2,435.67
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	194.57	972.63	1,451.35	654.64	3,273.19
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	222.82	949.38	2,087.39	814.90	4,074.49
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	276.74	1,171.86	3,222.93	1,167.88	5,839.41
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	358.13	1,313.30	4,037.55	1,427.25	7,136.23
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	418.15	1,594.72	5,145.18	1,789.51	8,947.55
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	500.24	1,860.51	7,946.81	2,576.89	12,884.44
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	195.78	423.57	580.89	300.06	1,500.30
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	191.47	480.94	675.96	337.09	1,685.47
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	181.29	791.50	923.66	474.11	2,370.55

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	194.57	972.63	1,485.56	663.19	3,315.95
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	222.82	949.38	2,870.48	1,010.67	5,053.35
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	276.74	1,171.86	3,959.46	1,352.01	6,760.07
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	358.13	1,313.30	5,349.77	1,755.30	8,776.51
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	418.15	1,594.72	7,253.97	2,316.71	11,583.54
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	500.24	1,860.51	10,201.76	3,140.63	15,703.13
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	73.49	103.49	297.34	118.58	592.89
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	646.86	511.20	3,304.34	1,115.60	5,577.99
507a	STEEL WIRE MESH FOR GABIONS	KG	4.53	-	132.03	34.14	170.70
507b	ROCK FILL IN GABIONS	CM	80.40	-	536.43	154.21	771.04
508a	BRICK PAVING (SINGLE COURSE)	SM	103.55	26.90	188.40	79.71	398.56
508b	BRICK PAVING (DOUBLE COURSE)	SM	188.36	26.90	374.10	147.34	736.70
509a	RIP RAP CLASS "A"	CM	455.78	-	723.19	294.74	1,473.71
509b	RIP RAP CLASS "B"	CM	440.06	-	717.40	289.37	1,446.83
509c	RIP RAP CLASS "C"	CM	445.20	-	723.19	292.10	1,460.48
509d	GROUTED RIP RAP CLASS "A"	CM	556.12	84.24	1,943.89	646.06	3,230.31
509e	GROUTED RIP RAP CLASS "B"	CM	539.07	67.39	1,811.70	604.54	3,022.71
509f	GROUTED RIP RAP CLASS "C"	CM	534.03	56.16	1,846.02	609.05	3,045.27
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	716.44	295.88	3,671.16	1,170.87	5,854.36
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	40.17	167.47	391.07	149.68	748.38
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	93.14	322.32	-	103.86	519.32
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	139.23	57.10	117.52	78.46	392.32
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	178.22	73.09	150.42	100.43	502.17
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	230.88	150.62	381.46	190.74	953.69
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	288.60	188.27	476.82	238.42	1,192.11
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	240.46	498.72	1,992.70	682.97	3,414.86

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	855.55	567.97	4,031.39	1,363.73	6,818.63
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	124.16	75.65	392.70	148.13	740.64
603	BRICK EDGING	M	7.85	-	29.86	9.43	47.13
604a	METAL GUARD RAIL	M	15.93	59.95	1,492.92	392.20	1,961.01
604b	METAL GUARD RAIL END PIECES	EACH	22.10	-	1,138.10	290.05	1,450.25
604d	STEEL POST OF METAL GUARD RAIL	EACH	71.47	805.79	3,566.86	1,111.03	5,555.15
605a	CONCRETE BEAM GUARD RAIL	M	65.97	25.40	592.57	170.98	854.92
605c	CONCRETE POST FOR GUARD RAIL	M	81.00	22.64	596.81	175.11	875.55
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	207.42	213.74	6,407.96	1,707.28	8,536.40
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	63.16	320.61	8,515.78	2,224.89	11,124.43
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	207.42	453.76	11,252.13	2,978.33	14,891.64
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	672.96	503.34	19,455.58	5,157.97	25,789.85
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	134.59	100.67	8,450.37	2,171.41	10,857.04
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	231.53	-	1,133.78	341.33	1,706.64
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	231.53	-	1,700.67	483.05	2,415.25
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.23	5.03	15.39	5.66	28.31
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.74	3.40	37.06	10.30	51.50
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.23	5.03	20.54	6.95	34.74
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.74	3.40	49.43	13.39	66.96
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	67.94	4.26	148.72	55.23	276.16
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	67.94	8.15	466.97	135.77	678.84
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.78	7.44	21.41	7.91	39.53
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.78	8.29	63.09	18.54	92.70
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.78	5.98	28.54	9.33	46.63
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.78	8.29	84.12	23.80	118.99
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	67.94	3.04	206.68	69.42	347.09

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	67.94	6.45	795.53	217.48	1,087.40
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	56.19	3.04	99.15	39.59	197.97
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	56.19	6.45	311.79	93.61	468.03
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	56.19	3.04	137.79	49.25	246.27
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	56.19	6.45	531.15	148.45	742.24
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.24	69.34	184.96	65.64	328.18
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.24	69.34	223.55	75.28	376.41
610b	RIGHT OF WAY MARKER	EACH	89.74	101.77	280.83	118.09	590.43
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	566.94	811.70	2,015.77	848.60	4,243.01
610d	TEN KILOMETRE POST	EACH	1,079.36	1,623.40	4,272.55	1,743.83	8,719.14
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	116.81	76.10	919.69	278.15	1,390.75

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

RAHIM YAR KHAN
(55)

Q. S. & Estimation Specialist

CSR - March 2008

National Highway Authority
Islamabad

Quantity Surveying &
Estimation Specialist

Rate Analysis Summary (Construction)

District: Rahim yar khan

District Code: 55

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.93	8.97	-	2.48	12.38
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	8.79	150.86	1.06	40.18	200.90
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	26.22	391.92	2.39	105.13	525.65
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	104.88	1,567.67	9.55	420.52	2,102.62
103	STRIPPING	CM	2.84	81.82	-	21.16	105.82
104	COMPACTION OF NATURAL GROUND	SM	0.40	8.55	0.75	2.42	12.12
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.00	118.44	-	30.61	153.05
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	132.33	272.97	46.20	112.87	564.37
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	19.20	294.98	-	78.55	392.73
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	12.29	228.89	-	60.30	301.48
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.28	105.42	-	27.17	135.87
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	132.33	272.97	46.20	112.87	564.37
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	21.00	275.34	-	74.08	370.42
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	9.57	229.91	-	59.87	299.36
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.83	120.24	0.37	31.86	159.31
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	66.86	245.80	64.37	94.26	471.30
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	116.66	367.50	30.80	128.74	643.70
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	99.86	257.01	-	89.22	446.09
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	60.00	211.67	-	67.92	339.58
107d	GRANULAR BACK FILL	CM	40.18	119.94	358.74	129.71	648.57
107e	COMMON BACK FILL	CM	33.15	55.41	4.99	23.39	116.94
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	7.17	152.01	4.99	41.04	205.22
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	22.33	418.69	49.36	122.60	612.98
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	16.75	364.32	2.37	95.86	479.29
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	14.89	323.09	-	84.49	422.46
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	8.60	154.80	7.84	42.81	214.05

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.53	66.06	4.99	19.39	96.97
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	16.29	97.15	2.97	29.10	145.52
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.48	23.75	1.43	6.66	33.31
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	1.04	15.94	0.76	4.43	22.17
110	IMPROVED SUB-GRADE	CM	11.03	104.23	54.14	42.35	211.75
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.94	13.24	0.78	3.74	18.70
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.35	13.62	0.88	3.96	19.81
201	GRANULAR SUB-BASE	CM	8.63	224.59	542.91	194.03	970.16
202	AGGREGATE BASE	CM	9.79	287.87	990.62	322.07	1,610.34
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	91.25	1,311.60	5,723.39	1,781.56	8,907.80
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	93.55	1,311.60	6,109.27	1,878.61	9,393.03
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	99.39	1,369.89	5,714.76	1,796.01	8,980.04
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	99.39	1,365.01	6,234.61	1,924.75	9,623.75
204b	CEMENT STABILIZED BASE	CM	31.31	480.68	1,220.23	433.06	2,165.28
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	254.04	772.74	50,652.51	12,919.82	64,599.12
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	254.04	772.74	49,116.30	12,535.77	62,678.85
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	128.13	92.96	1,064.30	321.35	1,606.74
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	175.58	2,134.12	5,361.46	1,917.79	9,588.95
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	143.06	105.48	847.02	273.89	1,369.45
207a	DEEP PATCHING (0-15 cm)	SM	1.83	39.69	1.23	10.69	53.45
207b	DEEP PATCHING (16-30 cm)	SM	1.83	34.94	1.23	9.50	47.51
208	REINSTATEMENT OF ROAD SURFACE	SM	1.97	49.93	0.55	13.11	65.56
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.94	96.89	0.67	24.87	124.37
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.39	19.38	0.13	4.97	24.87
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.31	1.32	35.95	9.40	46.98
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.30	1.32	40.13	10.44	52.19

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.13	0.49	15.05	3.91	19.57
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.13	0.49	17.55	4.54	22.71
304a	SINGLE SURFACE TREATMENT	SM	0.81	6.52	72.40	19.93	99.65
304b	DOUBLE SURFACE TREATMENT	SM	1.17	12.21	141.04	38.61	193.03
304c	TRIPLE SURFACE TREATMENT	SM	1.95	17.13	161.02	45.03	225.13
304d	SEAL COAT	SM	0.74	3.54	51.08	13.84	69.21
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	82.85	1,294.58	6,716.99	2,023.61	10,118.03
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	82.85	1,251.29	7,264.84	2,149.75	10,748.73
307a	DENSE GRADED HOT BIT-MAC	CM	209.65	316.05	5,734.20	1,564.97	7,824.87
307b	OPEN GRADED HOT BIT-MAC	CM	209.65	316.05	5,568.37	1,523.51	7,617.57
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	34.64	543.36	1,854.72	608.18	3,040.90
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	29.27	560.93	42,927.04	10,879.31	54,396.55
309a	COLD MILLING, 0 - 30 mm	SM	1.03	22.13	7.55	7.68	38.39
309b	COLD MILLING, 0 - 50 mm	SM	1.72	36.88	12.58	12.80	63.98
309c	COLD MILLING, 0 - 70 mm	SM	2.57	55.33	18.87	19.19	95.97
401a1i	CONCRETE CLASS "A1" (Underground)	CM	537.52	923.86	3,574.35	1,258.93	6,294.67
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	537.52	923.86	3,826.60	1,321.99	6,609.97
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	537.52	923.86	4,331.10	1,448.12	7,240.59
401a2i	CONCRETE CLASS "A2" (Underground)	CM	537.52	923.86	3,852.60	1,328.50	6,642.48
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	537.52	923.86	4,104.85	1,391.56	6,957.79
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	537.52	923.86	4,609.35	1,517.68	7,588.41
401a3i	CONCRETE CLASS "A3" (Underground)	CM	537.52	923.86	4,130.85	1,398.06	6,990.29
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	537.52	923.86	4,383.10	1,461.12	7,305.60
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	537.52	923.86	4,887.60	1,587.24	7,936.22
401b	CONCRETE CLASS "B"	CM	733.00	672.22	2,938.28	1,085.87	5,429.36
401ci	CONCRETE CLASS "C" (Underground)	CM	555.48	419.49	3,235.25	1,052.55	5,262.77

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401cii	CONCRETE CLASS "C" (On ground)	CM	555.48	419.49	3,342.83	1,079.45	5,397.25
401ciii	CONCRETE CLASS "C" (Elevated)	CM	555.48	419.49	3,558.00	1,133.24	5,666.21
401d	CONCRETE CLASS "D1"	CM	828.12	1,106.97	4,564.89	1,624.99	8,124.97
401e	CONCRETE CLASS "Y"	CM	1,178.79	419.49	4,122.51	1,430.20	7,150.99
401f	LEAN CONCRETE	CM	534.48	424.53	2,368.11	831.78	4,158.91
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,963.61	790.24	4,515.82	1,817.42	9,087.08
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,963.61	790.24	5,072.32	1,956.54	9,782.71
401gii	PRECAST CONCRETE CLASS "B"	CM	1,963.61	790.24	4,351.94	1,776.45	8,882.24
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,963.61	790.24	5,350.57	2,026.10	10,130.52
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,963.61	790.24	5,628.82	2,095.67	10,478.33
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,963.61	790.24	5,907.07	2,165.23	10,826.14
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,570.44	669.81	68,368.00	17,652.06	88,260.31
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,570.44	669.81	77,818.00	20,014.56	100,072.81
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,258.51	4,274.04	64,332.89	17,466.36	87,331.81
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,194.31	12,481.24	114,436.31	32,527.97	162,639.83
405b	LAUNCHING OF GIRDER	TON	76.79	486.64	-	140.86	704.28
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	126.09	-	276.37	100.62	503.08
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	126.09	-	275.69	100.45	502.23
406c	STEEL EXPANSION JOINTS	KG	9.72	21.04	102.87	33.41	167.05
406d	WATER STOPS 6" SIZE	M	103.76	-	406.07	127.46	637.29
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	42.27	-	2,836.68	719.74	3,598.68
406g	STEEL OR METAL BEARING DEVICES	KG	22.54	55.55	124.08	50.54	252.72
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	418.66	1,439.50	665.41	630.89	3,154.46
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	627.99	2,159.25	998.11	946.34	4,731.69
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	627.99	2,159.25	761.73	887.24	4,436.21

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,046.66	3,598.75	936.79	1,395.55	6,977.74
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	897.13	4,253.63	1,119.60	1,567.59	7,837.96
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,569.98	6,025.34	1,218.01	2,203.33	11,016.66
407h	PILE LOAD TEST UP TO 120 TON	EACH	31,883.49	40,036.45	83,862.58	38,945.63	194,728.14
407i	PILE LOAD TEST UP TO 240 TON	EACH	60,830.37	40,036.45	167,725.16	67,147.99	335,739.97
407j	PILE LOAD TEST UP TO 360 TON	EACH	89,777.25	43,882.72	251,587.74	96,311.93	481,559.63
407k	CONFIRMATORY BORING (NX SIZE)	M	266.05	1,323.15	6.24	398.86	1,994.30
410	BRICK WORK	CM	361.02	236.06	2,412.96	752.51	3,762.54
411a	STONE MASONRY RANDOM DRY	CM	316.52	91.36	666.20	268.52	1,342.61
411b	STONE MASONRY RANDOM WITH MORTAR	CM	334.32	139.82	1,614.75	522.22	2,611.10
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	416.44	91.36	735.98	310.95	1,554.74
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	484.20	139.82	1,663.44	571.86	2,859.32
411g	ROLL POINTING	SM	75.22	9.69	38.83	30.93	154.67
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	666.25	221.29	1,577.25	616.20	3,080.98
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	296.23	366.20	559.04	305.37	1,526.83
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	291.10	480.94	721.57	373.40	1,867.01
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	271.17	791.50	971.09	508.44	2,542.20
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	290.38	972.63	1,450.90	678.48	3,392.38
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	332.72	949.38	2,086.94	842.26	4,211.30
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	405.40	1,171.86	3,222.27	1,199.88	5,999.41
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	524.63	1,313.30	4,036.90	1,468.71	7,343.54
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	624.34	1,594.72	5,144.39	1,840.86	9,204.30
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	731.16	1,860.51	7,945.89	2,634.39	13,171.94
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	296.23	423.57	580.34	325.03	1,625.17
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	291.10	480.94	675.63	361.92	1,809.59
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	263.94	791.50	923.27	494.68	2,473.38

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	290.38	972.63	1,485.21	687.05	3,435.27
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	332.72	949.38	2,869.98	1,038.02	5,190.09
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	405.40	1,171.86	3,958.80	1,384.01	6,920.07
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	524.63	1,313.30	5,349.12	1,796.76	8,983.81
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	624.34	1,594.72	7,253.18	2,368.06	11,840.29
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	731.16	1,860.51	10,200.84	3,198.13	15,990.63
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	113.99	103.49	286.69	126.04	630.22
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	820.02	511.20	3,195.92	1,131.78	5,658.92
507a	STEEL WIRE MESH FOR GABIONS	KG	5.74	-	131.72	34.37	171.83
507b	ROCK FILL IN GABIONS	CM	128.59	-	553.02	170.40	852.02
508a	BRICK PAVING (SINGLE COURSE)	SM	127.61	26.90	181.17	83.92	419.60
508b	BRICK PAVING (DOUBLE COURSE)	SM	227.53	26.90	359.75	153.54	767.72
509a	RIP RAP CLASS "A"	CM	538.89	-	580.01	279.72	1,398.62
509b	RIP RAP CLASS "B"	CM	523.91	-	575.37	274.82	1,374.10
509c	RIP RAP CLASS "C"	CM	525.79	-	580.01	276.45	1,382.26
509d	GROUTED RIP RAP CLASS "A"	CM	662.09	84.24	1,795.18	635.38	3,176.89
509e	GROUTED RIP RAP CLASS "B"	CM	636.72	67.39	1,664.71	592.20	2,961.02
509f	GROUTED RIP RAP CLASS "C"	CM	630.52	56.16	1,697.68	596.09	2,980.45
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	923.81	295.88	3,568.52	1,197.05	5,985.27
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	63.21	167.47	358.68	147.34	736.69
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	140.05	322.32	-	115.59	577.96
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	172.27	57.10	94.25	80.91	404.53
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	220.50	73.09	120.64	103.56	517.79
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	274.71	150.62	359.96	196.32	981.60
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	343.39	188.27	449.94	245.40	1,227.00
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	285.34	498.72	2,003.03	696.77	3,483.86

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,071.78	567.97	4,047.90	1,421.91	7,109.56
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	156.55	75.65	391.57	155.94	779.71
603	BRICK EDGING	M	10.39	-	28.70	9.77	48.87
604a	METAL GUARD RAIL	M	22.19	59.95	1,492.92	393.76	1,968.82
604b	METAL GUARD RAIL END PIECES	EACH	32.43	-	1,138.10	292.63	1,463.17
604d	STEEL POST OF METAL GUARD RAIL	EACH	97.36	805.79	3,566.86	1,117.50	5,587.51
605a	CONCRETE BEAM GUARD RAIL	M	93.03	25.40	594.26	178.17	890.86
605c	CONCRETE POST FOR GUARD RAIL	M	114.23	22.64	598.92	183.95	919.74
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	279.13	213.74	6,401.89	1,723.69	8,618.45
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	79.49	320.61	8,504.36	2,226.12	11,130.58
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	279.13	453.76	11,233.01	2,991.47	14,957.37
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	1,001.06	503.34	19,434.10	5,234.63	26,173.13
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	200.21	100.67	8,454.73	2,188.90	10,944.51
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	272.02	-	1,136.37	352.10	1,760.49
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	272.02	-	1,704.56	494.15	2,470.73
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.28	5.03	15.41	5.93	29.64
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	1.09	3.40	37.24	10.43	52.16
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.28	5.03	20.56	7.22	36.08
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	1.09	3.40	49.66	13.54	67.70
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	72.79	4.26	148.90	56.49	282.44
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	72.79	8.15	469.23	137.54	687.71
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	4.10	7.44	21.42	8.24	41.19
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	4.10	8.29	63.09	18.87	94.34
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	4.10	5.98	28.57	9.66	48.30
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	4.10	8.29	84.12	24.13	120.63
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	72.79	3.04	206.86	70.67	353.37

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Rate Analysis Summary (Construction)

District: Rahim yar khan

District Code: 55

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	72.79	6.45	795.53	218.69	1,093.46
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	62.11	3.04	99.27	41.11	205.53
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	62.11	6.45	313.29	95.46	477.32
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	62.11	3.04	137.91	50.77	253.83
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	62.11	6.45	531.15	149.93	749.64
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	9.81	69.34	184.95	66.03	330.13
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	9.81	69.34	223.54	75.67	378.36
610b	RIGHT OF WAY MARKER	EACH	136.29	101.77	282.67	130.18	650.91
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	742.37	811.70	2,030.02	896.02	4,480.11
610d	TEN KILOMETRE POST	EACH	1,449.14	1,623.40	4,302.47	1,843.75	9,218.77
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	156.54	76.10	917.25	287.47	1,437.35

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

RAJAN PUR

(56)

Q. S. & Estimation Specialist

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Quantity Surveying &
Estimation Specialist

Rate Analysis Summary (Construction)

District: Rajan pur

District Code: 56

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.55	8.97	-	2.38	11.90
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	5.50	150.86	1.06	39.36	196.78
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	15.85	391.92	2.39	102.54	512.69
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	63.39	1,567.67	9.55	410.15	2,050.76
103	STRIPPING	CM	1.88	81.82	-	20.92	104.62
104	COMPACTION OF NATURAL GROUND	SM	0.27	8.55	0.75	2.39	11.96
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.29	118.44	-	30.43	152.16
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	96.75	272.97	46.20	103.98	519.89
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	13.50	294.98	-	77.12	385.61
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	8.86	228.89	-	59.44	297.19
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.69	105.42	-	27.03	135.14
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	96.75	272.97	46.20	103.98	519.89
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	15.41	275.34	-	72.69	363.44
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	6.81	229.91	-	59.18	295.90
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.39	120.24	0.37	31.50	157.51
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	46.84	245.80	64.37	89.25	446.26
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	85.62	367.50	30.80	120.98	604.90
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	72.71	257.01	-	82.43	412.16
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	44.03	211.67	-	63.93	319.63
107d	GRANULAR BACK FILL	CM	26.14	119.94	313.31	114.85	574.24
107e	COMMON BACK FILL	CM	19.32	55.41	4.99	19.93	99.65
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.28	152.01	4.99	40.57	202.86
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	15.49	418.69	49.36	120.89	604.43
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	11.62	364.32	2.37	94.58	472.88
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	10.33	323.09	-	83.35	416.76
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.05	154.80	7.84	42.17	210.87

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Rate Analysis Summary (Construction)

District: Rajan pur

District Code: 56

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	4.74	66.06	4.99	18.95	94.73
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	11.02	97.15	2.97	27.79	138.93
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.06	23.75	1.43	6.56	32.79
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.76	15.94	0.76	4.36	21.82
110	IMPROVED SUB-GRADE	CM	7.61	104.23	58.03	42.47	212.34
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.64	13.24	0.78	3.66	18.32
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	0.95	13.62	0.88	3.86	19.31
201	GRANULAR SUB-BASE	CM	6.16	224.59	575.85	201.65	1,008.25
202	AGGREGATE BASE	CM	7.22	287.87	788.61	270.92	1,354.62
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	56.45	1,311.60	5,567.86	1,733.98	8,669.88
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	58.39	1,311.60	5,962.92	1,833.23	9,166.14
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	62.50	1,369.89	5,558.83	1,747.81	8,739.03
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	62.50	1,365.01	6,089.14	1,879.16	9,395.80
204b	CEMENT STABILIZED BASE	CM	22.11	480.68	1,039.03	385.45	1,927.27
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	186.28	772.74	50,873.70	12,958.18	64,790.91
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	186.28	772.74	49,337.49	12,574.13	62,870.65
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	73.20	92.96	908.24	268.60	1,343.01
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	115.34	2,134.12	5,191.72	1,860.30	9,301.48
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	81.11	105.48	710.32	224.23	1,121.14
207a	DEEP PATCHING (0-15 cm)	SM	1.32	39.69	1.23	10.56	52.80
207b	DEEP PATCHING (16-30 cm)	SM	1.32	34.94	1.23	9.37	46.86
208	REINSTATEMENT OF ROAD SURFACE	SM	1.42	49.93	0.55	12.97	64.87
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.55	96.89	0.67	24.78	123.88
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.31	19.38	0.13	4.96	24.78
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.23	1.32	36.11	9.41	47.07
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.22	1.32	40.30	10.46	52.31

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.09	0.49	15.11	3.92	19.61
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.09	0.49	17.63	4.55	22.76
304a	SINGLE SURFACE TREATMENT	SM	0.62	6.52	71.92	19.76	98.82
304b	DOUBLE SURFACE TREATMENT	SM	0.89	12.21	139.33	38.11	190.54
304c	TRIPLE SURFACE TREATMENT	SM	1.50	17.13	158.98	44.41	222.03
304d	SEAL COAT	SM	0.57	3.54	50.94	13.76	68.82
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	53.03	1,294.58	6,567.04	1,978.66	9,893.32
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	53.03	1,251.29	7,109.79	2,103.53	10,517.64
307a	DENSE GRADED HOT BIT-MAC	CM	132.14	316.05	5,600.95	1,512.28	7,561.42
307b	OPEN GRADED HOT BIT-MAC	CM	132.14	316.05	5,431.36	1,469.89	7,349.44
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	22.06	543.36	1,830.22	598.91	2,994.55
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	19.31	560.93	43,154.80	10,933.76	54,668.79
309a	COLD MILLING, 0 - 30 mm	SM	0.74	22.13	7.55	7.60	38.02
309b	COLD MILLING, 0 - 50 mm	SM	1.23	36.88	12.58	12.67	63.37
309c	COLD MILLING, 0 - 70 mm	SM	1.84	55.33	18.87	19.01	95.05
401a1i	CONCRETE CLASS "A1" (Underground)	CM	383.30	923.86	3,335.27	1,160.61	5,803.04
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	383.30	923.86	3,587.51	1,223.67	6,118.35
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	383.30	923.86	4,092.01	1,349.79	6,748.97
401a2i	CONCRETE CLASS "A2" (Underground)	CM	383.30	923.86	3,613.52	1,230.17	6,150.85
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	383.30	923.86	3,865.76	1,293.23	6,466.16
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	383.30	923.86	4,370.26	1,419.36	7,096.78
401a3i	CONCRETE CLASS "A3" (Underground)	CM	383.30	923.86	3,891.77	1,299.73	6,498.66
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	383.30	923.86	4,144.01	1,362.79	6,813.97
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	383.30	923.86	4,648.51	1,488.92	7,444.59
401b	CONCRETE CLASS "B"	CM	509.48	672.22	2,678.40	965.03	4,825.13
401ci	CONCRETE CLASS "C" (Underground)	CM	381.36	419.49	2,961.20	940.51	4,702.57

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	381.36	419.49	3,068.79	967.41	4,837.05
401ciii	CONCRETE CLASS "C" (Elevated)	CM	381.36	419.49	3,283.95	1,021.20	5,106.01
401d	CONCRETE CLASS "D1"	CM	583.72	1,106.97	4,346.10	1,509.20	7,545.99
401e	CONCRETE CLASS "Y"	CM	815.66	419.49	3,905.53	1,285.17	6,425.85
401f	LEAN CONCRETE	CM	333.66	424.53	2,108.15	716.58	3,582.92
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,307.09	790.24	4,255.57	1,588.23	7,941.13
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,307.09	790.24	4,812.07	1,727.35	8,636.76
401gii	PRECAST CONCRETE CLASS "B"	CM	1,307.09	790.24	4,079.26	1,544.15	7,720.74
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,307.09	790.24	5,090.32	1,796.91	8,984.57
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,307.09	790.24	5,368.57	1,866.48	9,332.38
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,307.09	790.24	5,646.82	1,936.04	9,680.19
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,117.49	669.81	68,898.00	17,671.32	88,356.62
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,117.49	669.81	78,348.00	20,033.82	100,169.12
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	915.91	4,274.04	65,031.69	17,555.41	87,777.05
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,523.80	12,481.24	114,638.37	32,410.85	162,054.25
405b	LAUNCHING OF GIRDER	TON	60.26	486.64	-	136.72	683.62
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	84.04	-	277.71	90.44	452.19
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	84.04	-	276.95	90.25	451.23
406c	STEEL EXPANSION JOINTS	KG	6.81	21.04	103.92	32.94	164.72
406d	WATER STOPS 6" SIZE	M	68.39	-	406.62	118.75	593.77
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	32.83	-	2,838.46	717.82	3,589.11
406g	STEEL OR METAL BEARING DEVICES	KG	15.47	55.55	125.02	49.01	245.05
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	325.32	1,439.50	833.53	649.59	3,247.93
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	487.98	2,159.25	1,250.29	974.38	4,871.90
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	487.98	2,159.25	930.72	894.49	4,472.44

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Rate Analysis Summary (Construction)

District: Rajan pur

District Code: 56

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	813.30	3,598.75	1,107.53	1,379.90	6,899.48
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	697.12	4,253.63	1,293.47	1,561.06	7,805.28
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,219.95	6,025.34	1,411.74	2,164.26	10,821.28
407h	PILE LOAD TEST UP TO 120 TON	EACH	18,134.11	40,036.45	82,693.92	35,216.12	176,080.59
407i	PILE LOAD TEST UP TO 240 TON	EACH	33,783.31	40,036.45	165,387.84	59,801.90	299,009.49
407j	PILE LOAD TEST UP TO 360 TON	EACH	49,432.51	43,882.72	248,081.76	85,349.25	426,746.23
407k	CONFIRMATORY BORING (NX SIZE)	M	178.32	1,323.15	6.24	376.93	1,884.63
410	BRICK WORK	CM	260.78	236.06	2,387.92	721.19	3,605.95
411a	STONE MASONRY RANDOM DRY	CM	220.75	91.36	593.26	226.34	1,131.72
411b	STONE MASONRY RANDOM WITH MORTAR	CM	237.79	139.82	1,435.51	453.28	2,266.39
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	289.60	91.36	657.22	259.55	1,297.74
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	341.07	139.82	1,504.96	496.46	2,482.30
411g	ROLL POINTING	SM	55.81	9.69	37.05	25.64	128.19
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	461.73	221.29	1,418.77	525.45	2,627.24
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	176.97	366.20	555.72	274.72	1,373.61
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	172.63	480.94	717.59	342.79	1,713.94
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	168.55	791.50	966.44	481.62	2,408.11
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	176.94	972.63	1,445.46	648.76	3,243.79
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	203.83	949.38	2,081.50	808.68	4,043.39
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	252.83	1,171.86	3,214.42	1,159.78	5,798.89
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	327.19	1,313.30	4,029.09	1,417.39	7,086.97
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	385.13	1,594.72	5,134.89	1,778.69	8,893.43
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	456.99	1,860.51	7,934.81	2,563.08	12,815.39
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	176.97	423.57	573.69	293.56	1,467.79
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	172.63	480.94	671.65	331.30	1,656.52
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	164.64	791.50	918.62	468.69	2,343.44

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District: Rajan pur

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	176.94	972.63	1,480.98	657.64	3,288.19
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	203.83	949.38	2,863.94	1,004.29	5,021.44
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	252.83	1,171.86	3,950.95	1,343.91	6,719.55
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	327.19	1,313.30	5,341.31	1,745.45	8,727.24
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	385.13	1,594.72	7,243.69	2,305.88	11,529.42
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	456.99	1,860.51	10,189.76	3,126.82	15,634.08
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	68.94	103.49	270.76	110.80	553.99
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	563.99	511.20	2,936.04	1,002.81	5,014.04
507a	STEEL WIRE MESH FOR GABIONS	KG	3.95	-	132.62	34.14	170.71
507b	ROCK FILL IN GABIONS	CM	74.75	-	494.08	142.21	711.04
508a	BRICK PAVING (SINGLE COURSE)	SM	86.58	26.90	187.29	75.19	375.97
508b	BRICK PAVING (DOUBLE COURSE)	SM	155.44	26.90	372.11	138.61	693.06
509a	RIP RAP CLASS "A"	CM	375.54	-	507.08	220.65	1,103.27
509b	RIP RAP CLASS "B"	CM	362.47	-	503.02	216.37	1,081.86
509c	RIP RAP CLASS "C"	CM	365.12	-	507.08	218.05	1,090.24
509d	GROUTED RIP RAP CLASS "A"	CM	459.19	84.24	1,655.80	549.81	2,749.04
509e	GROUTED RIP RAP CLASS "B"	CM	443.02	67.39	1,532.83	510.81	2,554.05
509f	GROUTED RIP RAP CLASS "C"	CM	438.03	56.16	1,562.74	514.23	2,571.16
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	609.61	295.88	3,322.79	1,057.07	5,285.35
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	37.41	167.47	313.40	129.57	647.84
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	93.54	322.32	-	103.96	519.82
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	117.55	57.10	82.40	64.26	321.32
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	150.47	73.09	105.47	82.26	411.29
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	191.64	150.62	333.40	168.91	844.57
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	239.55	188.27	416.74	211.14	1,055.71
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	203.27	498.72	1,878.59	645.15	3,225.74

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	716.59	567.97	3,923.60	1,302.04	6,510.19
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	104.56	75.65	366.19	136.60	683.00
603	BRICK EDGING	M	6.83	-	29.86	9.17	45.86
604a	METAL GUARD RAIL	M	16.29	59.95	1,492.92	392.29	1,961.46
604b	METAL GUARD RAIL END PIECES	EACH	22.71	-	1,138.10	290.20	1,451.02
604d	STEEL POST OF METAL GUARD RAIL	EACH	72.92	805.79	3,566.86	1,111.39	5,556.96
605a	CONCRETE BEAM GUARD RAIL	M	57.00	25.40	587.49	167.48	837.38
605c	CONCRETE POST FOR GUARD RAIL	M	69.99	22.64	590.37	170.75	853.75
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	182.65	213.74	6,386.90	1,695.82	8,479.11
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	53.53	320.61	8,459.20	2,208.34	11,041.68
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	182.65	453.76	11,156.18	2,948.15	14,740.74
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	597.96	503.34	19,320.02	5,105.33	25,526.66
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	119.59	100.67	8,433.31	2,163.39	10,816.96
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	201.28	-	1,136.79	334.52	1,672.59
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	201.28	-	1,705.19	476.62	2,383.09
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.08	5.03	15.41	5.63	28.15
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.69	3.40	37.24	10.33	51.67
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.08	5.03	20.56	6.92	34.59
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.69	3.40	49.67	13.44	67.21
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	52.81	4.26	148.91	51.50	257.48
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	52.81	8.15	469.29	132.57	662.83
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.61	7.44	21.43	7.87	39.33
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.61	8.29	63.09	18.50	92.48
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.61	5.98	28.57	9.29	46.44
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.61	8.29	84.12	23.75	118.77
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	52.81	3.04	206.87	65.68	328.40

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	52.81	6.45	795.53	213.70	1,068.49
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	44.30	3.04	99.27	36.65	183.26
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	44.30	6.45	313.33	91.02	455.10
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	44.30	3.04	137.91	46.31	231.56
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	44.30	6.45	531.15	145.47	727.37
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	7.01	69.34	184.81	65.29	326.45
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	7.01	69.34	223.40	74.94	374.70
610b	RIGHT OF WAY MARKER	EACH	80.03	101.77	273.50	113.82	569.12
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	478.70	811.70	1,954.87	811.32	4,056.59
610d	TEN KILOMETRE POST	EACH	917.64	1,623.40	4,156.99	1,674.51	8,372.54
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	105.78	76.10	905.01	271.72	1,358.62

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

RAWALPINDI
(57)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Rawalpindi

District Code: 57

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.83	8.97	-	2.45	12.25
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	8.01	150.86	1.06	39.98	199.92
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	23.54	391.92	2.39	104.46	522.31
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	94.17	1,567.67	9.55	417.85	2,089.24
103	STRIPPING	CM	2.64	81.82	-	21.11	105.57
104	COMPACTION OF NATURAL GROUND	SM	0.37	8.55	0.75	2.42	12.09
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	4.14	118.44	-	30.64	153.22
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	129.01	272.97	46.20	112.04	560.22
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	18.35	294.98	-	78.33	391.67
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	11.86	228.89	-	60.19	300.94
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.39	105.42	-	27.20	136.01
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	129.01	272.97	46.20	112.04	560.22
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	20.52	275.34	-	73.96	369.82
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	9.19	229.91	-	59.78	298.88
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.88	120.24	0.37	31.87	159.37
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	70.11	245.80	64.37	95.07	475.35
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	113.98	367.50	30.80	128.07	640.35
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	97.20	257.01	-	88.55	442.76
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	58.62	211.67	-	67.57	337.86
107d	GRANULAR BACK FILL	CM	37.23	119.94	298.92	114.02	570.12
107e	COMMON BACK FILL	CM	29.32	55.41	4.99	22.43	112.15
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.99	152.01	4.99	41.00	205.00
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	21.22	418.69	49.36	122.32	611.59
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	15.91	364.32	2.37	95.65	478.25
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	14.14	323.09	-	84.31	421.54
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	8.22	154.80	7.84	42.72	213.58

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.32	66.06	4.99	19.34	96.71
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	15.30	97.15	2.97	28.86	144.28
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.42	23.75	1.43	6.65	33.25
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	1.01	15.94	0.76	4.43	22.14
110	IMPROVED SUB-GRADE	CM	10.46	104.23	58.03	43.18	215.91
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.88	13.24	0.78	3.73	18.63
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.29	13.62	0.88	3.95	19.73
201	GRANULAR SUB-BASE	CM	8.30	224.59	379.77	153.17	765.83
202	AGGREGATE BASE	CM	9.61	287.87	623.34	230.20	1,151.02
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	82.43	1,311.60	5,284.47	1,669.63	8,348.13
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	84.85	1,311.60	5,669.32	1,766.44	8,832.20
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	90.36	1,369.89	5,275.64	1,683.97	8,419.87
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	90.36	1,365.01	5,792.50	1,811.97	9,059.83
204b	CEMENT STABILIZED BASE	CM	30.11	480.68	913.23	356.00	1,780.02
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	245.76	772.74	48,876.93	12,473.86	62,369.30
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	245.76	772.74	47,340.72	12,089.81	60,449.04
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	112.30	92.96	824.19	257.36	1,286.81
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	162.39	2,134.12	4,950.46	1,811.74	9,058.71
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	125.06	105.48	518.31	187.21	936.06
207a	DEEP PATCHING (0-15 cm)	SM	1.77	39.69	1.23	10.67	53.37
207b	DEEP PATCHING (16-30 cm)	SM	1.77	34.94	1.23	9.48	47.42
208	REINSTATEMENT OF ROAD SURFACE	SM	1.91	49.93	0.55	13.10	65.48
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.96	96.89	0.67	24.88	124.39
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.39	19.38	0.13	4.98	24.88
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.30	1.32	34.69	9.08	45.39
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.29	1.32	38.72	10.08	50.42

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	14.52	3.78	18.91
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	16.94	4.39	21.93
304a	SINGLE SURFACE TREATMENT	SM	0.79	6.52	68.48	18.95	94.73
304b	DOUBLE SURFACE TREATMENT	SM	1.14	12.21	132.26	36.40	182.02
304c	TRIPLE SURFACE TREATMENT	SM	1.92	17.13	150.85	42.47	212.37
304d	SEAL COAT	SM	0.73	3.54	48.66	13.23	66.16
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	75.92	1,294.58	6,237.69	1,902.05	9,510.24
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	75.92	1,251.29	6,749.54	2,019.19	10,095.93
307a	DENSE GRADED HOT BIT-MAC	CM	189.83	316.05	5,284.91	1,447.70	7,238.49
307b	OPEN GRADED HOT BIT-MAC	CM	189.83	316.05	5,133.17	1,409.76	7,048.80
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	31.65	543.36	1,766.76	585.44	2,927.20
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	27.29	560.93	41,098.72	10,421.74	52,108.68
309a	COLD MILLING, 0 - 30 mm	SM	0.99	22.13	7.55	7.67	38.34
309b	COLD MILLING, 0 - 50 mm	SM	1.65	36.88	12.58	12.78	63.90
309c	COLD MILLING, 0 - 70 mm	SM	2.48	55.33	18.87	19.17	95.85
401a1i	CONCRETE CLASS "A1" (Underground)	CM	614.34	923.86	3,151.92	1,172.53	5,862.65
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	614.34	923.86	3,404.17	1,235.59	6,177.96
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	614.34	923.86	3,908.66	1,361.72	6,808.58
401a2i	CONCRETE CLASS "A2" (Underground)	CM	614.34	923.86	3,430.17	1,242.09	6,210.46
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	614.34	923.86	3,682.42	1,305.15	6,525.77
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	614.34	923.86	4,186.91	1,431.28	7,156.39
401a3i	CONCRETE CLASS "A3" (Underground)	CM	614.34	923.86	3,708.42	1,311.66	6,558.28
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	614.34	923.86	3,960.67	1,374.72	6,873.58
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	614.34	923.86	4,465.16	1,500.84	7,504.20
401b	CONCRETE CLASS "B"	CM	766.60	672.22	2,498.87	984.42	4,922.10
401ci	CONCRETE CLASS "C" (Underground)	CM	615.66	419.49	2,766.95	950.53	4,752.63

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401cii	CONCRETE CLASS "C" (On ground)	CM	615.66	419.49	2,874.54	977.42	4,887.11
401ciii	CONCRETE CLASS "C" (Elevated)	CM	615.66	419.49	3,089.70	1,031.21	5,156.06
401d	CONCRETE CLASS "D1"	CM	985.48	1,106.97	4,180.67	1,568.28	7,841.39
401e	CONCRETE CLASS "Y"	CM	1,400.32	419.49	3,733.90	1,388.43	6,942.13
401f	LEAN CONCRETE	CM	519.52	424.53	1,928.99	718.26	3,591.31
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	2,130.40	790.24	4,054.65	1,743.82	8,719.11
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	2,130.40	790.24	4,611.15	1,882.95	9,414.74
401gii	PRECAST CONCRETE CLASS "B"	CM	2,130.40	790.24	3,892.23	1,703.22	8,516.09
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	2,130.40	790.24	4,889.40	1,952.51	9,762.55
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	2,130.40	790.24	5,167.65	2,022.07	10,110.36
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	2,130.40	790.24	5,445.90	2,091.63	10,458.17
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,894.14	669.81	67,838.00	17,600.49	88,002.44
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,894.14	669.81	77,288.00	19,962.99	99,814.94
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,542.49	4,274.04	65,007.13	17,705.92	88,529.58
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,259.50	12,481.24	114,459.81	32,550.14	162,750.69
405b	LAUNCHING OF GIRDER	TON	78.14	486.64	-	141.20	705.98
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	139.16	-	269.89	102.26	511.32
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	139.16	-	269.59	102.19	510.94
406c	STEEL EXPANSION JOINTS	KG	11.58	21.04	104.25	34.22	171.09
406d	WATER STOPS 6" SIZE	M	115.66	-	410.07	131.43	657.16
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.24
406f	ASPHALT FELT (3 PLY)	SM	50.20	-	2,878.27	732.12	3,660.59
406g	STEEL OR METAL BEARING DEVICES	KG	23.60	55.55	125.24	51.10	255.49
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	427.82	1,439.50	663.37	632.67	3,163.37
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	641.73	2,159.25	995.06	949.01	4,745.05
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	641.73	2,159.25	758.68	889.91	4,449.57

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,069.56	3,598.75	931.71	1,400.00	7,000.01
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	916.76	4,253.63	1,110.89	1,570.32	7,851.60
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,604.33	6,025.34	1,210.38	2,210.01	11,050.07
407h	PILE LOAD TEST UP TO 120 TON	EACH	27,920.43	40,036.45	84,642.24	38,149.78	190,748.89
407i	PILE LOAD TEST UP TO 240 TON	EACH	52,760.43	40,036.45	169,284.48	65,520.34	327,601.69
407j	PILE LOAD TEST UP TO 360 TON	EACH	77,600.43	43,882.72	253,926.72	93,852.47	469,262.33
407k	CONFIRMATORY BORING (NX SIZE)	M	250.99	1,323.15	6.24	395.10	1,975.48
410	BRICK WORK	CM	412.18	236.06	2,777.05	856.32	4,281.61
411a	STONE MASONRY RANDOM DRY	CM	340.32	91.36	519.31	237.75	1,188.74
411b	STONE MASONRY RANDOM WITH MORTAR	CM	367.92	139.82	1,272.97	445.18	2,225.88
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	450.72	91.36	583.65	281.43	1,407.16
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	533.52	139.82	1,364.94	509.57	2,547.84
411g	ROLL POINTING	SM	89.40	9.69	35.57	33.66	168.32
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	726.72	221.29	1,278.75	556.69	2,783.45
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	272.21	366.20	552.95	297.84	1,489.20
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	266.83	480.94	714.26	365.51	1,827.54
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	253.72	791.50	962.56	501.95	2,509.73
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	268.29	972.63	1,440.93	670.46	3,352.31
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	307.12	949.38	2,076.97	833.37	4,166.84
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	379.05	1,171.86	3,207.88	1,189.70	5,948.48
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	490.53	1,313.30	4,022.57	1,456.60	7,283.00
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	575.93	1,594.72	5,126.99	1,824.41	9,122.04
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	684.56	1,860.51	7,925.59	2,617.66	13,088.32
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	272.21	423.57	568.16	315.98	1,579.92
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	266.83	480.94	668.32	354.02	1,770.11
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	247.51	791.50	914.74	488.44	2,442.18

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	268.29	972.63	1,477.46	679.59	3,397.97
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	307.12	949.38	2,858.90	1,028.85	5,144.25
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	379.05	1,171.86	3,944.41	1,373.83	6,869.14
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	490.53	1,313.30	5,334.79	1,784.66	8,923.28
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	575.93	1,594.72	7,235.78	2,351.61	11,758.03
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	684.56	1,860.51	10,180.54	3,181.40	15,907.01
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	102.26	103.49	297.32	125.77	628.84
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	879.48	511.20	2,756.50	1,036.80	5,183.98
507a	STEEL WIRE MESH FOR GABIONS	KG	6.26	-	131.13	34.35	171.74
507b	ROCK FILL IN GABIONS	CM	113.48	-	427.72	135.30	676.51
508a	BRICK PAVING (SINGLE COURSE)	SM	135.81	26.90	240.37	100.77	503.86
508b	BRICK PAVING (DOUBLE COURSE)	SM	246.21	26.90	478.06	187.79	938.97
509a	RIP RAP CLASS "A"	CM	591.78	-	433.13	256.23	1,281.14
509b	RIP RAP CLASS "B"	CM	572.79	-	429.66	250.61	1,253.06
509c	RIP RAP CLASS "C"	CM	578.52	-	433.13	252.91	1,264.56
509d	GROUTED RIP RAP CLASS "A"	CM	723.54	84.24	1,526.49	583.57	2,917.84
509e	GROUTED RIP RAP CLASS "B"	CM	700.27	67.39	1,409.86	544.38	2,721.91
509f	GROUTED RIP RAP CLASS "C"	CM	693.96	56.16	1,437.11	546.81	2,734.04
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	959.13	295.88	3,153.08	1,102.02	5,510.12
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	56.14	167.47	299.26	130.72	653.59
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	131.93	322.32	-	113.56	567.81
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	182.08	57.10	70.38	77.39	386.95
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	233.06	73.09	90.09	99.06	495.30
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	299.30	150.62	305.78	188.92	944.61
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	374.12	188.27	382.22	236.15	1,180.77
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	325.75	498.72	1,782.86	651.83	3,259.17

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,168.96	567.97	3,797.07	1,383.50	6,917.50
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	169.09	75.65	347.35	148.02	740.12
603	BRICK EDGING	M	10.43	-	38.69	12.28	61.39
604a	METAL GUARD RAIL	M	21.82	59.95	1,492.92	393.67	1,968.37
604b	METAL GUARD RAIL END PIECES	EACH	31.26	-	1,138.10	292.34	1,461.70
604d	STEEL POST OF METAL GUARD RAIL	EACH	96.60	805.79	3,566.86	1,117.31	5,586.56
605a	CONCRETE BEAM GUARD RAIL	M	92.08	25.40	575.65	173.28	866.42
605c	CONCRETE POST FOR GUARD RAIL	M	113.06	22.64	576.49	178.05	890.24
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	281.99	213.74	6,372.58	1,717.08	8,585.39
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	82.12	320.61	8,419.30	2,205.51	11,027.54
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	281.99	453.76	11,088.89	2,956.16	14,780.79
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	947.38	503.34	19,212.63	5,165.84	25,829.18
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	189.48	100.67	8,404.09	2,173.56	10,867.79
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	314.64	-	1,134.47	362.28	1,811.39
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	314.64	-	1,701.70	504.09	2,520.43
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.99	5.03	15.40	5.85	29.26
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	1.00	3.40	37.09	10.37	51.87
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.99	5.03	20.54	7.14	35.70
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	1.00	3.40	49.47	13.47	67.34
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	95.46	4.26	148.76	62.12	310.60
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	95.46	8.15	467.44	142.76	713.81
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.73	7.44	21.41	8.15	40.73
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.73	8.29	63.09	18.78	93.89
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.73	5.98	28.55	9.57	47.83
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.73	8.29	84.12	24.04	120.18
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	95.46	3.04	206.72	76.31	381.53

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	95.46	6.45	795.53	224.36	1,121.79
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	78.90	3.04	99.17	45.28	226.39
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	78.90	6.45	312.10	99.36	496.81
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	78.90	3.04	137.81	54.94	274.69
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	78.90	6.45	531.15	154.12	770.62
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	10.35	69.34	184.70	66.10	330.49
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	10.35	69.34	223.29	75.75	378.73
610b	RIGHT OF WAY MARKER	EACH	126.61	101.77	264.73	123.28	616.39
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	782.05	811.70	1,876.86	867.65	4,338.27
610d	TEN KILOMETRE POST	EACH	1,508.90	1,623.40	4,004.76	1,784.27	8,921.33
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	158.51	76.10	895.25	282.47	1,412.33

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

SAHIWAL
(58)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Sahiwal

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.63	8.97	-	2.40	12.00
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.14	150.86	1.06	39.52	197.58
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	17.95	391.92	2.39	103.06	515.31
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	71.78	1,567.67	9.55	412.25	2,061.25
103	STRIPPING	CM	2.09	81.82	-	20.98	104.88
104	COMPACTION OF NATURAL GROUND	SM	0.29	8.55	0.75	2.40	11.99
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.30	118.44	-	30.43	152.17
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	102.28	272.97	46.20	105.36	526.81
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	14.62	294.98	-	77.40	387.00
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.55	228.89	-	59.61	298.05
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.70	105.42	-	27.03	135.15
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	102.28	272.97	46.20	105.36	526.81
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	16.24	275.34	-	72.90	364.48
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.36	229.91	-	59.32	296.58
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.61	120.24	0.37	31.56	157.79
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	51.38	245.80	64.37	90.39	451.94
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	90.24	367.50	30.80	122.13	610.67
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	76.91	257.01	-	83.48	417.40
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	46.41	211.67	-	64.52	322.60
107d	GRANULAR BACK FILL	CM	28.68	119.94	391.75	135.09	675.47
107e	COMMON BACK FILL	CM	22.23	55.41	4.99	20.66	103.29
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.63	152.01	4.99	40.66	203.29
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	16.82	418.69	49.36	121.22	606.09
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	12.61	364.32	2.37	94.83	474.13
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	11.21	323.09	-	83.57	417.87
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.55	154.80	7.84	42.30	211.49

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.09	66.06	4.99	19.03	95.17
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	12.11	97.15	2.97	28.06	140.30
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.13	23.75	1.43	6.58	32.89
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.81	15.94	0.76	4.38	21.89
110	IMPROVED SUB-GRADE	CM	8.25	104.23	58.04	42.63	213.16
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.70	13.24	0.78	3.68	18.40
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.04	13.62	0.88	3.88	19.42
201	GRANULAR SUB-BASE	CM	6.62	224.59	541.21	193.11	965.53
202	AGGREGATE BASE	CM	7.54	287.87	967.66	315.76	1,578.82
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	63.28	1,311.60	5,568.14	1,735.75	8,678.77
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	65.21	1,311.60	5,980.77	1,839.39	9,196.97
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	69.83	1,369.89	5,559.47	1,749.80	8,748.99
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	69.83	1,365.01	6,105.36	1,885.05	9,425.24
204b	CEMENT STABILIZED BASE	CM	23.47	480.68	1,105.40	402.39	2,011.93
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	197.63	772.74	50,143.47	12,778.46	63,892.31
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	197.63	772.74	48,607.26	12,394.41	61,972.05
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	85.34	92.96	1,094.44	318.19	1,590.93
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	126.37	2,134.12	5,241.50	1,875.50	9,377.49
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	94.70	105.48	916.33	279.13	1,395.63
207a	DEEP PATCHING (0-15 cm)	SM	1.42	39.69	1.23	10.59	52.94
207b	DEEP PATCHING (16-30 cm)	SM	1.42	34.94	1.23	9.40	47.00
208	REINSTATEMENT OF ROAD SURFACE	SM	1.49	49.93	0.55	12.99	64.96
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.64	96.89	0.67	24.80	123.99
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.33	19.38	0.13	4.96	24.80
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.24	1.32	35.59	9.29	46.44
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.23	1.32	39.73	10.32	51.60

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	14.89	3.87	19.35
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	17.38	4.49	22.45
304a	SINGLE SURFACE TREATMENT	SM	0.62	6.52	71.24	19.59	97.97
304b	DOUBLE SURFACE TREATMENT	SM	0.91	12.21	138.58	37.92	189.62
304c	TRIPLE SURFACE TREATMENT	SM	1.52	17.13	158.14	44.20	221.00
304d	SEAL COAT	SM	0.57	3.54	50.24	13.59	67.95
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	58.63	1,294.58	6,575.62	1,982.21	9,911.03
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	58.63	1,251.29	7,124.54	2,108.61	10,543.07
307a	DENSE GRADED HOT BIT-MAC	CM	145.11	316.05	5,591.04	1,513.05	7,565.24
307b	OPEN GRADED HOT BIT-MAC	CM	145.11	316.05	5,445.37	1,476.63	7,383.16
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	24.26	543.36	1,831.18	599.70	2,998.50
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	21.07	560.93	42,402.88	10,746.22	53,731.09
309a	COLD MILLING, 0 - 30 mm	SM	0.77	22.13	7.55	7.61	38.07
309b	COLD MILLING, 0 - 50 mm	SM	1.29	36.88	12.58	12.69	63.44
309c	COLD MILLING, 0 - 70 mm	SM	1.93	55.33	18.87	19.03	95.17
401a1i	CONCRETE CLASS "A1" (Underground)	CM	421.43	923.86	3,511.96	1,214.31	6,071.57
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	421.43	923.86	3,764.21	1,277.38	6,386.88
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	421.43	923.86	4,268.71	1,403.50	7,017.50
401a2i	CONCRETE CLASS "A2" (Underground)	CM	421.43	923.86	3,790.21	1,283.88	6,419.39
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	421.43	923.86	4,042.46	1,346.94	6,734.70
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	421.43	923.86	4,546.96	1,473.06	7,365.32
401a3i	CONCRETE CLASS "A3" (Underground)	CM	421.43	923.86	4,068.46	1,353.44	6,767.20
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	421.43	923.86	4,320.71	1,416.50	7,082.51
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	421.43	923.86	4,825.21	1,542.63	7,713.13
401b	CONCRETE CLASS "B"	CM	561.23	672.22	2,899.59	1,033.26	5,166.30
401ci	CONCRETE CLASS "C" (Underground)	CM	427.06	419.49	3,186.29	1,008.21	5,041.06

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401cii	CONCRETE CLASS "C" (On ground)	CM	427.06	419.49	3,293.88	1,035.11	5,175.54
401ciii	CONCRETE CLASS "C" (Elevated)	CM	427.06	419.49	3,509.05	1,088.90	5,444.50
401d	CONCRETE CLASS "D1"	CM	645.70	1,106.97	4,522.82	1,568.87	7,844.36
401e	CONCRETE CLASS "Y"	CM	910.97	419.49	4,051.25	1,345.43	6,727.14
401f	LEAN CONCRETE	CM	381.68	424.53	2,329.91	784.03	3,920.15
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,479.49	790.24	4,443.10	1,678.21	8,391.04
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,479.49	790.24	4,999.60	1,817.33	9,086.66
401gii	PRECAST CONCRETE CLASS "B"	CM	1,479.49	790.24	4,310.26	1,645.00	8,224.99
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,479.49	790.24	5,277.85	1,886.89	9,434.47
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,479.49	790.24	5,556.10	1,956.46	9,782.29
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,479.49	790.24	5,834.35	2,026.02	10,130.10
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,220.61	669.81	68,368.00	17,564.60	87,823.02
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,220.61	669.81	77,818.00	19,927.10	99,635.52
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	998.20	4,274.04	64,257.82	17,382.52	86,912.58
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,514.39	12,481.24	114,450.26	32,361.47	161,807.36
405b	LAUNCHING OF GIRDER	TON	60.06	486.64	-	136.68	683.38
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	93.42	-	268.28	90.42	452.12
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	93.42	-	268.22	90.41	452.05
406c	STEEL EXPANSION JOINTS	KG	7.53	21.04	103.68	33.06	165.32
406d	WATER STOPS 6" SIZE	M	76.55	-	408.16	121.18	605.89
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	36.56	-	2,898.16	733.68	3,668.39
406g	STEEL OR METAL BEARING DEVICES	KG	16.98	55.55	124.77	49.32	246.62
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	325.79	1,439.50	660.56	606.46	3,032.31
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	488.69	2,159.25	990.84	909.69	4,548.47
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	488.69	2,159.25	754.45	850.60	4,252.99

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	814.48	3,598.75	924.66	1,334.47	6,672.37
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	698.13	4,253.63	1,098.82	1,512.64	7,563.22
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,221.72	6,025.34	1,199.82	2,111.72	10,558.60
407h	PILE LOAD TEST UP TO 120 TON	EACH	21,094.24	40,036.45	88,540.64	37,417.83	187,089.16
407i	PILE LOAD TEST UP TO 240 TON	EACH	39,724.24	40,036.45	177,081.28	64,210.49	321,052.46
407j	PILE LOAD TEST UP TO 360 TON	EACH	58,354.24	43,882.72	265,621.92	91,964.72	459,823.60
407k	CONFIRMATORY BORING (NX SIZE)	M	190.44	1,323.15	6.24	379.96	1,899.78
410	BRICK WORK	CM	298.60	236.06	2,412.96	736.90	3,684.52
411a	STONE MASONRY RANDOM DRY	CM	252.92	91.36	624.14	242.11	1,210.53
411b	STONE MASONRY RANDOM WITH MORTAR	CM	272.09	139.82	1,572.69	496.15	2,480.74
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	332.66	91.36	690.56	278.64	1,393.22
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	391.70	139.82	1,618.01	537.38	2,686.91
411g	ROLL POINTING	SM	64.04	9.69	38.83	28.14	140.70
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	532.00	221.29	1,531.82	571.28	2,856.39
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	205.04	366.20	559.04	282.57	1,412.85
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	200.73	480.94	721.57	350.81	1,754.06
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	192.85	791.50	971.09	488.86	2,444.29
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	203.54	972.63	1,450.90	656.77	3,283.84
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	233.36	949.38	2,086.94	817.42	4,087.09
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	287.69	1,171.86	3,222.27	1,170.46	5,852.28
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	372.30	1,313.30	4,036.90	1,430.63	7,153.13
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	438.39	1,594.72	5,144.39	1,794.37	8,971.87
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	519.66	1,860.51	7,945.89	2,581.51	12,907.57
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	205.04	423.57	580.34	302.24	1,511.18
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	200.73	480.94	675.63	339.33	1,696.63
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	188.19	791.50	923.27	475.74	2,378.69

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	203.54	972.63	1,485.21	665.34	3,326.72
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	233.36	949.38	2,869.98	1,013.18	5,065.89
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	287.69	1,171.86	3,958.80	1,354.59	6,772.94
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	372.30	1,313.30	5,349.12	1,758.68	8,793.40
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	438.39	1,594.72	7,253.18	2,321.57	11,607.86
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	519.66	1,860.51	10,200.84	3,145.25	15,726.26
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	78.49	103.49	350.48	133.11	665.57
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	622.95	511.20	3,157.23	1,072.84	5,364.22
507a	STEEL WIRE MESH FOR GABIONS	KG	4.31	-	132.03	34.09	170.43
507b	ROCK FILL IN GABIONS	CM	86.54	-	529.38	153.98	769.90
508a	BRICK PAVING (SINGLE COURSE)	SM	99.59	26.90	183.83	77.58	387.90
508b	BRICK PAVING (DOUBLE COURSE)	SM	179.32	26.90	364.53	142.69	713.44
509a	RIP RAP CLASS "A"	CM	431.04	-	537.95	242.25	1,211.24
509b	RIP RAP CLASS "B"	CM	416.90	-	533.65	237.64	1,188.19
509c	RIP RAP CLASS "C"	CM	420.26	-	537.95	239.55	1,197.76
509d	GROUTED RIP RAP CLASS "A"	CM	527.18	84.24	1,738.98	587.60	2,938.00
509e	GROUTED RIP RAP CLASS "B"	CM	509.15	67.39	1,610.27	546.70	2,733.51
509f	GROUTED RIP RAP CLASS "C"	CM	504.02	56.16	1,644.31	551.12	2,755.62
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	698.32	295.88	3,550.72	1,136.23	5,681.15
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	43.15	167.47	391.92	150.63	753.17
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	100.03	322.32	-	105.59	527.93
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	134.74	57.10	87.42	69.81	349.07
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	172.46	73.09	111.89	89.36	446.81
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	219.69	150.62	355.24	181.39	906.93
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	274.61	188.27	444.05	226.73	1,133.67
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	223.51	498.72	1,970.26	673.12	3,365.62

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	810.33	567.97	4,010.09	1,347.10	6,735.48
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	118.31	75.65	385.71	144.92	724.59
603	BRICK EDGING	M	7.83	-	28.70	9.13	45.66
604a	METAL GUARD RAIL	M	16.78	59.95	1,492.92	392.41	1,962.07
604b	METAL GUARD RAIL END PIECES	EACH	23.71	-	1,138.10	290.45	1,452.27
604d	STEEL POST OF METAL GUARD RAIL	EACH	74.70	805.79	3,566.86	1,111.84	5,559.18
605a	CONCRETE BEAM GUARD RAIL	M	65.88	25.40	591.97	170.82	854.08
605c	CONCRETE POST FOR GUARD RAIL	M	80.89	22.64	596.11	174.91	874.55
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	206.05	213.74	6,393.39	1,703.30	8,516.48
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	62.19	320.61	8,492.17	2,218.74	11,093.72
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	206.05	453.76	11,214.79	2,968.65	14,843.26
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	691.65	503.34	19,398.02	5,148.25	25,741.26
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	138.33	100.67	8,437.01	2,169.00	10,845.00
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	214.54	-	1,133.22	336.94	1,684.70
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	214.54	-	1,699.83	478.59	2,392.96
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.37	5.03	15.39	5.70	28.48
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.79	3.40	37.01	10.30	51.51
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.37	5.03	20.53	6.98	34.92
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.79	3.40	49.37	13.39	66.95
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	58.07	4.26	148.68	52.75	263.76
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	58.07	8.15	466.45	133.17	665.83
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.97	7.44	21.40	7.95	39.76
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.97	8.29	63.09	18.59	92.93
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.97	5.98	28.54	9.37	46.85
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.97	8.29	84.12	23.84	119.22
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	58.07	3.04	206.64	66.94	334.69

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	58.07	6.45	795.53	215.01	1,075.05
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	48.87	3.04	99.12	37.76	188.79
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	48.87	6.45	311.43	91.69	458.44
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	48.87	3.04	137.76	47.42	237.09
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	48.87	6.45	531.15	146.62	733.09
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.11	69.34	184.95	65.60	328.00
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.11	69.34	223.54	75.25	376.23
610b	RIGHT OF WAY MARKER	EACH	93.19	101.77	280.23	118.80	593.99
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	547.13	811.70	2,010.50	842.33	4,211.66
610d	TEN KILOMETRE POST	EACH	1,048.24	1,623.40	4,262.57	1,733.55	8,667.77
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	117.58	76.10	914.70	277.09	1,385.46

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

SARGODHA
(60)

Q. S. & Estimation Specialist

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District: Sargodha

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.72	8.97	-	2.42	12.11
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.02	150.86	1.06	39.74	198.68
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	20.49	391.92	2.39	103.70	518.49
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	81.96	1,567.67	9.55	414.80	2,073.98
103	STRIPPING	CM	2.35	81.82	-	21.04	105.21
104	COMPACTION OF NATURAL GROUND	SM	0.33	8.55	0.75	2.41	12.04
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.84	118.44	-	30.57	152.85
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	117.12	272.97	46.20	109.07	545.36
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	16.56	294.98	-	77.89	389.43
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.77	228.89	-	59.92	299.58
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.14	105.42	-	27.14	135.70
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	117.12	272.97	46.20	109.07	545.36
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	18.63	275.34	-	73.49	367.47
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.32	229.91	-	59.56	297.79
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.37	120.24	0.37	31.75	158.73
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	57.87	245.80	64.37	92.01	460.05
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	103.52	367.50	30.80	125.45	627.27
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	88.14	257.01	-	86.29	431.44
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	53.24	211.67	-	66.23	331.13
107d	GRANULAR BACK FILL	CM	32.91	119.94	310.69	115.89	579.43
107e	COMMON BACK FILL	CM	25.32	55.41	4.99	21.43	107.15
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.38	152.01	4.99	40.85	204.23
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	19.08	418.69	49.36	121.78	608.92
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	14.31	364.32	2.37	95.25	476.25
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	12.72	323.09	-	83.95	419.76
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.42	154.80	7.84	42.52	212.58

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.75	66.06	4.99	19.20	96.00
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	13.69	97.15	2.97	28.45	142.27
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.29	23.75	1.43	6.62	33.08
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.92	15.94	0.76	4.40	22.02
110	IMPROVED SUB-GRADE	CM	9.39	104.23	58.03	42.91	214.57
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.79	13.24	0.78	3.70	18.52
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.16	13.62	0.88	3.92	19.58
201	GRANULAR SUB-BASE	CM	7.51	224.59	402.66	158.69	793.45
202	AGGREGATE BASE	CM	8.72	287.87	692.20	247.20	1,235.98
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	72.06	1,311.60	5,292.28	1,668.98	8,344.92
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	74.31	1,311.60	5,686.16	1,768.02	8,840.08
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	79.33	1,369.89	5,283.15	1,683.09	8,415.47
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	79.33	1,365.01	5,810.88	1,813.80	9,069.02
204b	CEMENT STABILIZED BASE	CM	27.08	480.68	851.90	339.91	1,699.57
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	223.34	772.74	49,688.97	12,671.26	63,356.32
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	223.34	772.74	48,152.76	12,287.21	61,436.06
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	96.68	92.96	764.15	238.45	1,192.24
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	143.81	2,134.12	4,936.36	1,803.57	9,017.86
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	107.43	105.48	667.50	220.10	1,100.51
207a	DEEP PATCHING (0-15 cm)	SM	1.60	39.69	1.23	10.63	53.16
207b	DEEP PATCHING (16-30 cm)	SM	1.60	34.94	1.23	9.44	47.22
208	REINSTATEMENT OF ROAD SURFACE	SM	1.72	49.93	0.55	13.05	65.25
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.83	96.89	0.67	24.84	124.22
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.37	19.38	0.13	4.97	24.84
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	35.27	9.22	46.08
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	39.37	10.24	51.19

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	14.76	3.84	19.20
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.22	4.45	22.27
304a	SINGLE SURFACE TREATMENT	SM	0.72	6.52	69.39	19.16	95.78
304b	DOUBLE SURFACE TREATMENT	SM	1.04	12.21	133.71	36.74	183.70
304c	TRIPLE SURFACE TREATMENT	SM	1.75	17.13	152.48	42.84	214.19
304d	SEAL COAT	SM	0.66	3.54	49.35	13.39	66.95
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	66.85	1,294.58	6,264.57	1,906.50	9,532.50
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	66.85	1,251.29	6,783.99	2,025.53	10,127.67
307a	DENSE GRADED HOT BIT-MAC	CM	165.91	316.05	5,316.54	1,449.63	7,248.13
307b	OPEN GRADED HOT BIT-MAC	CM	165.91	316.05	5,156.98	1,409.73	7,048.67
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	27.78	543.36	1,774.61	586.44	2,932.18
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	24.20	560.93	41,934.88	10,630.00	53,150.00
309a	COLD MILLING, 0 - 30 mm	SM	0.89	22.13	7.55	7.64	38.21
309b	COLD MILLING, 0 - 50 mm	SM	1.49	36.88	12.58	12.74	63.69
309c	COLD MILLING, 0 - 70 mm	SM	2.23	55.33	18.87	19.11	95.54
401a1i	CONCRETE CLASS "A1" (Underground)	CM	479.60	923.86	3,172.58	1,144.01	5,720.05
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	479.60	923.86	3,424.83	1,207.07	6,035.36
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	479.60	923.86	3,929.32	1,333.20	6,665.98
401a2i	CONCRETE CLASS "A2" (Underground)	CM	479.60	923.86	3,450.83	1,213.57	6,067.87
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	479.60	923.86	3,703.08	1,276.64	6,383.18
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	479.60	923.86	4,207.57	1,402.76	7,013.79
401a3i	CONCRETE CLASS "A3" (Underground)	CM	479.60	923.86	3,729.08	1,283.14	6,415.68
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	479.60	923.86	3,981.33	1,346.20	6,730.99
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	479.60	923.86	4,485.82	1,472.32	7,361.61
401b	CONCRETE CLASS "B"	CM	640.80	672.22	2,516.21	957.31	4,786.54
401ci	CONCRETE CLASS "C" (Underground)	CM	486.23	419.49	2,774.98	920.17	4,600.87

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401cii	CONCRETE CLASS "C" (On ground)	CM	486.23	419.49	2,882.56	947.07	4,735.35
401ciii	CONCRETE CLASS "C" (Elevated)	CM	486.23	419.49	3,097.73	1,000.86	5,004.30
401d	CONCRETE CLASS "D1"	CM	732.28	1,106.97	4,197.86	1,509.28	7,546.38
401e	CONCRETE CLASS "Y"	CM	1,031.03	419.49	3,754.60	1,301.28	6,506.40
401f	LEAN CONCRETE	CM	434.00	424.53	1,946.53	701.27	3,506.34
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,688.61	790.24	4,077.64	1,639.12	8,195.61
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,688.61	790.24	4,634.14	1,778.25	8,891.24
401gii	PRECAST CONCRETE CLASS "B"	CM	1,688.61	790.24	3,904.32	1,595.79	7,978.97
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,688.61	790.24	4,912.39	1,847.81	9,239.05
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,688.61	790.24	5,190.64	1,917.37	9,586.86
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,688.61	790.24	5,468.89	1,986.93	9,934.67
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,386.08	669.81	68,368.00	17,605.97	88,029.86
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,386.08	669.81	77,818.00	19,968.47	99,842.36
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,134.22	4,274.04	64,260.42	17,417.17	87,085.86
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,886.91	12,481.24	114,452.46	32,455.15	162,275.77
405b	LAUNCHING OF GIRDER	TON	68.85	486.64	-	138.87	694.36
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	106.12	-	267.91	93.51	467.54
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	106.12	-	267.85	93.49	467.47
406c	STEEL EXPANSION JOINTS	KG	8.54	21.04	103.25	33.21	166.04
406d	WATER STOPS 6" SIZE	M	86.79	-	408.85	123.91	619.55
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	42.37	-	2,907.69	737.52	3,687.58
406g	STEEL OR METAL BEARING DEVICES	KG	19.40	55.55	124.36	49.83	249.14
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	372.77	1,439.50	658.71	617.74	3,088.72
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	559.16	2,159.25	988.06	926.62	4,633.09
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	559.16	2,159.25	751.68	867.52	4,337.60

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	931.93	3,598.75	920.04	1,362.68	6,813.40
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	798.80	4,253.63	1,090.89	1,535.83	7,679.15
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,397.90	6,025.34	1,192.88	2,154.03	10,770.15
407h	PILE LOAD TEST UP TO 120 TON	EACH	23,989.03	40,036.45	84,642.24	37,166.93	185,834.65
407i	PILE LOAD TEST UP TO 240 TON	EACH	45,103.03	40,036.45	169,284.48	63,605.99	318,029.95
407j	PILE LOAD TEST UP TO 360 TON	EACH	66,217.03	43,882.72	253,926.72	91,006.62	455,033.09
407k	CONFIRMATORY BORING (NX SIZE)	M	217.01	1,323.15	6.24	386.60	1,932.99
410	BRICK WORK	CM	344.00	236.06	2,359.57	734.91	3,674.54
411a	STONE MASONRY RANDOM DRY	CM	288.36	91.36	381.50	190.31	951.53
411b	STONE MASONRY RANDOM WITH MORTAR	CM	310.79	139.82	1,188.31	409.73	2,048.64
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	380.13	91.36	428.52	225.00	1,125.02
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	448.44	139.82	1,249.67	459.48	2,297.41
411g	ROLL POINTING	SM	74.01	9.69	36.46	30.04	150.19
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	609.56	221.29	1,163.48	498.58	2,492.91
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	233.20	366.20	554.61	288.50	1,442.52
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	228.18	480.94	716.26	356.34	1,781.72
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	219.12	791.50	964.89	493.88	2,469.39
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	231.19	972.63	1,443.65	661.87	3,309.34
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	265.35	949.38	2,079.69	823.60	4,118.02
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	327.82	1,171.86	3,211.80	1,177.87	5,889.36
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	424.24	1,313.30	4,026.48	1,441.00	7,205.02
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	499.13	1,594.72	5,131.73	1,806.39	9,031.97
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	592.21	1,860.51	7,931.12	2,595.96	12,979.79
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	233.20	423.57	571.48	307.06	1,535.32
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	228.18	480.94	670.32	344.86	1,724.30
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	213.84	791.50	917.07	480.60	2,403.01

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	231.19	972.63	1,479.57	670.85	3,354.24
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	265.35	949.38	2,861.92	1,019.16	5,095.81
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	327.82	1,171.86	3,948.33	1,362.00	6,810.02
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	424.24	1,313.30	5,338.70	1,769.06	8,845.30
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	499.13	1,594.72	7,240.52	2,333.59	11,667.97
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	592.21	1,860.51	10,186.07	3,159.70	15,798.48
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	89.13	103.49	297.32	122.49	612.43
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	708.98	511.20	2,773.85	998.51	4,992.53
507a	STEEL WIRE MESH FOR GABIONS	KG	4.92	-	132.03	34.24	171.19
507b	ROCK FILL IN GABIONS	CM	98.07	-	458.79	139.22	696.08
508a	BRICK PAVING (SINGLE COURSE)	SM	114.22	26.90	188.39	82.38	411.90
508b	BRICK PAVING (DOUBLE COURSE)	SM	205.99	26.90	374.10	151.75	758.75
509a	RIP RAP CLASS "A"	CM	495.71	-	295.31	197.76	988.78
509b	RIP RAP CLASS "B"	CM	479.37	-	292.95	193.08	965.40
509c	RIP RAP CLASS "C"	CM	483.42	-	295.31	194.68	973.42
509d	GROUTED RIP RAP CLASS "A"	CM	606.26	84.24	1,407.75	524.56	2,622.82
509e	GROUTED RIP RAP CLASS "B"	CM	585.75	67.39	1,290.20	485.84	2,429.18
509f	GROUTED RIP RAP CLASS "C"	CM	579.90	56.16	1,318.99	488.76	2,443.81
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	798.88	295.88	3,169.37	1,066.03	5,330.16
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	48.75	167.47	310.96	131.79	658.97
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	113.93	322.32	-	109.06	545.31
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	154.07	57.10	47.99	64.79	323.95
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	197.21	73.09	61.43	82.93	414.66
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	251.86	150.62	295.83	174.58	872.89
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	314.83	188.27	369.79	218.22	1,091.11
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	254.35	498.72	1,793.55	636.66	3,183.28

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	924.95	567.97	3,820.05	1,328.24	6,641.20
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	135.08	75.65	349.42	140.04	700.19
603	BRICK EDGING	M	8.91	-	29.86	9.69	48.46
604a	METAL GUARD RAIL	M	19.24	59.95	1,492.92	393.03	1,965.14
604b	METAL GUARD RAIL END PIECES	EACH	27.02	-	1,138.10	291.28	1,456.40
604d	STEEL POST OF METAL GUARD RAIL	EACH	85.85	805.79	3,566.86	1,114.62	5,573.12
605a	CONCRETE BEAM GUARD RAIL	M	75.01	25.40	578.71	169.78	848.90
605c	CONCRETE POST FOR GUARD RAIL	M	92.10	22.64	579.96	173.67	868.37
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	234.76	213.74	6,363.48	1,703.00	8,514.98
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	70.00	320.61	8,417.17	2,201.94	11,009.72
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	234.76	453.76	11,087.10	2,943.91	14,719.53
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	785.46	503.34	19,206.65	5,123.86	25,619.32
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	157.09	100.67	8,398.93	2,164.17	10,820.86
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	245.37	-	1,133.28	344.66	1,723.32
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	245.37	-	1,699.92	486.32	2,431.62
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.65	5.03	15.39	5.76	28.82
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.88	3.40	37.02	10.33	51.63
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.65	5.03	20.53	7.05	35.26
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.88	3.40	49.38	13.42	67.08
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	65.48	4.26	148.69	54.61	273.03
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	65.48	8.15	466.51	135.04	675.18
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.31	7.44	21.40	8.04	40.18
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.31	8.29	63.09	18.67	93.36
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.31	5.98	28.54	9.46	47.28
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.31	8.29	84.12	23.93	119.64
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	65.48	3.04	206.65	68.79	343.96

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	65.48	6.45	795.53	216.86	1,084.31
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	55.13	3.04	99.12	39.32	196.62
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	55.13	6.45	311.48	93.26	466.32
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	55.13	3.04	137.76	48.98	244.92
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	55.13	6.45	531.15	148.18	740.91
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.98	69.34	184.77	65.77	328.86
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.98	69.34	223.36	75.42	377.10
610b	RIGHT OF WAY MARKER	EACH	105.90	101.77	266.12	118.45	592.24
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	621.96	811.70	1,891.89	831.39	4,156.94
610d	TEN KILOMETRE POST	EACH	1,188.72	1,623.40	4,031.91	1,711.01	8,555.04
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	133.20	76.10	896.50	276.45	1,382.25

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

SHEIKHUPURA
(61)

Q. S. & Estimation Specialist

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.75	8.97	-	2.43	12.15
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.19	150.86	1.06	39.78	198.89
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	21.21	391.92	2.39	103.88	519.40
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	84.85	1,567.67	9.55	415.52	2,077.58
103	STRIPPING	CM	2.36	81.82	-	21.04	105.22
104	COMPACTION OF NATURAL GROUND	SM	0.33	8.55	0.75	2.41	12.04
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.60	118.44	-	30.51	152.55
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	113.95	272.97	46.20	108.28	541.39
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	16.31	294.98	-	77.82	389.11
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	10.52	228.89	-	59.85	299.27
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.94	105.42	-	27.09	135.46
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	113.95	272.97	46.20	108.28	541.39
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	18.11	275.34	-	73.36	366.81
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	8.16	229.91	-	59.52	297.59
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.04	120.24	0.37	31.66	158.32
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	58.12	245.80	64.37	92.07	460.37
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	100.60	367.50	30.80	124.73	623.63
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	85.87	257.01	-	85.72	428.61
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	51.74	211.67	-	65.85	329.26
107d	GRANULAR BACK FILL	CM	33.27	119.94	354.40	126.90	634.51
107e	COMMON BACK FILL	CM	26.52	55.41	4.99	21.73	108.66
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.18	152.01	4.99	40.80	203.99
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	18.88	418.69	49.36	121.73	608.66
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	14.16	364.32	2.37	95.21	476.06
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	12.58	323.09	-	83.92	419.59
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	7.30	154.80	7.84	42.49	212.43

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.60	66.06	4.99	19.16	95.81
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	13.66	97.15	2.97	28.44	142.22
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.26	23.75	1.43	6.61	33.05
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.89	15.94	0.76	4.40	21.99
110	IMPROVED SUB-GRADE	CM	9.31	104.23	55.09	42.16	210.79
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.79	13.24	0.78	3.70	18.51
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.15	13.62	0.88	3.91	19.55
201	GRANULAR SUB-BASE	CM	7.36	224.59	521.99	188.48	942.42
202	AGGREGATE BASE	CM	8.46	287.87	839.11	283.86	1,419.30
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	74.19	1,311.60	5,467.25	1,713.26	8,566.29
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	76.28	1,311.60	5,858.46	1,811.58	9,057.92
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	81.22	1,369.89	5,458.50	1,727.40	8,637.02
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	81.22	1,365.01	5,982.72	1,857.24	9,286.18
204b	CEMENT STABILIZED BASE	CM	26.65	480.68	1,026.84	383.54	1,917.71
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	217.84	772.74	49,713.21	12,675.95	63,379.75
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	217.84	772.74	48,177.00	12,291.90	61,459.49
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	101.88	92.96	932.22	281.77	1,408.83
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	145.33	2,134.12	5,132.22	1,852.92	9,264.58
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	113.51	105.48	782.40	250.35	1,251.74
207a	DEEP PATCHING (0-15 cm)	SM	1.57	39.69	1.23	10.62	53.12
207b	DEEP PATCHING (16-30 cm)	SM	1.57	34.94	1.23	9.44	47.18
208	REINSTATEMENT OF ROAD SURFACE	SM	1.69	49.93	0.55	13.04	65.20
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.72	96.89	0.67	24.82	124.09
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.34	19.38	0.13	4.96	24.82
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.27	1.32	35.28	9.22	46.09
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.26	1.32	39.39	10.24	51.21

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	14.77	3.84	19.20
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.11	0.49	17.23	4.46	22.28
304a	SINGLE SURFACE TREATMENT	SM	0.70	6.52	70.26	19.37	96.84
304b	DOUBLE SURFACE TREATMENT	SM	1.01	12.21	136.29	37.38	186.88
304c	TRIPLE SURFACE TREATMENT	SM	1.69	17.13	155.49	43.58	217.90
304d	SEAL COAT	SM	0.64	3.54	49.69	13.47	67.35
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	68.08	1,294.58	6,441.44	1,951.02	9,755.12
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	68.08	1,251.29	6,967.65	2,071.75	10,358.77
307a	DENSE GRADED HOT BIT-MAC	CM	170.65	316.05	5,471.68	1,489.59	7,447.97
307b	OPEN GRADED HOT BIT-MAC	CM	170.65	316.05	5,321.57	1,452.07	7,260.33
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	28.38	543.36	1,807.22	594.74	2,973.71
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	24.35	560.93	41,959.84	10,636.28	53,181.40
309a	COLD MILLING, 0 - 30 mm	SM	0.88	22.13	7.55	7.64	38.20
309b	COLD MILLING, 0 - 50 mm	SM	1.46	36.88	12.58	12.73	63.66
309c	COLD MILLING, 0 - 70 mm	SM	2.19	55.33	18.87	19.10	95.49
401a1i	CONCRETE CLASS "A1" (Underground)	CM	487.60	923.86	3,316.28	1,181.94	5,909.68
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	487.60	923.86	3,568.53	1,245.00	6,224.99
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	487.60	923.86	4,073.02	1,371.12	6,855.61
401a2i	CONCRETE CLASS "A2" (Underground)	CM	487.60	923.86	3,594.53	1,251.50	6,257.49
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	487.60	923.86	3,846.78	1,314.56	6,572.80
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	487.60	923.86	4,351.27	1,440.68	7,203.42
401a3i	CONCRETE CLASS "A3" (Underground)	CM	487.60	923.86	3,872.78	1,321.06	6,605.31
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	487.60	923.86	4,125.03	1,384.12	6,920.62
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	487.60	923.86	4,629.52	1,510.25	7,551.23
401b	CONCRETE CLASS "B"	CM	645.92	672.22	2,686.10	1,001.06	5,005.31
401ci	CONCRETE CLASS "C" (Underground)	CM	498.47	419.49	2,959.65	969.40	4,847.02

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401cii	CONCRETE CLASS "C" (On ground)	CM	498.47	419.49	3,067.23	996.30	4,981.50
401ciii	CONCRETE CLASS "C" (Elevated)	CM	498.47	419.49	3,282.40	1,050.09	5,250.46
401d	CONCRETE CLASS "D1"	CM	754.18	1,106.97	4,331.79	1,548.24	7,741.18
401e	CONCRETE CLASS "Y"	CM	1,068.94	419.49	3,881.05	1,342.37	6,711.85
401f	LEAN CONCRETE	CM	450.25	424.53	2,117.11	747.97	3,739.87
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,745.33	790.24	4,233.04	1,692.15	8,460.76
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,745.33	790.24	4,789.54	1,831.28	9,156.39
401gii	PRECAST CONCRETE CLASS "B"	CM	1,745.33	790.24	4,087.86	1,655.86	8,279.29
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,745.33	790.24	5,067.79	1,900.84	9,504.20
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,745.33	790.24	5,346.04	1,970.40	9,852.01
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,745.33	790.24	5,624.29	2,039.97	10,199.83
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,425.07	669.81	67,838.00	17,483.22	87,416.09
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,425.07	669.81	77,288.00	19,845.72	99,228.59
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,136.34	4,274.04	63,775.21	17,296.40	86,482.00
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,909.46	12,481.24	114,453.46	32,461.04	162,305.20
405b	LAUNCHING OF GIRDER	TON	69.95	486.64	-	139.15	695.74
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	109.97	-	265.01	93.74	468.72
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	109.97	-	265.18	93.79	468.94
406c	STEEL EXPANSION JOINTS	KG	8.60	21.04	102.70	33.09	165.43
406d	WATER STOPS 6" SIZE	M	90.54	-	408.88	124.85	624.27
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	42.05	-	2,871.24	728.32	3,641.61
406g	STEEL OR METAL BEARING DEVICES	KG	19.08	55.55	123.86	49.62	248.11
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	380.55	1,439.50	672.02	623.02	3,115.09
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	570.82	2,159.25	1,008.04	934.53	4,672.63
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	570.82	2,159.25	771.65	875.43	4,377.15

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	951.37	3,598.75	953.33	1,375.86	6,879.31
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	815.46	4,253.63	1,147.96	1,554.26	7,771.32
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,427.05	6,025.34	1,242.82	2,173.80	10,869.02
407h	PILE LOAD TEST UP TO 120 TON	EACH	25,324.05	40,036.45	86,590.56	37,987.77	189,938.83
407i	PILE LOAD TEST UP TO 240 TON	EACH	47,978.13	40,036.45	173,181.12	65,298.93	326,494.63
407j	PILE LOAD TEST UP TO 360 TON	EACH	70,632.21	43,882.72	259,771.68	93,571.65	467,858.27
407k	CONFIRMATORY BORING (NX SIZE)	M	226.91	1,323.15	6.24	389.08	1,945.38
410	BRICK WORK	CM	348.37	236.06	2,550.83	783.81	3,919.07
411a	STONE MASONRY RANDOM DRY	CM	292.31	91.36	584.38	242.01	1,210.06
411b	STONE MASONRY RANDOM WITH MORTAR	CM	314.14	139.82	1,417.76	467.93	2,339.65
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	386.32	91.36	647.61	281.32	1,406.62
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	455.16	139.82	1,488.70	520.92	2,604.60
411g	ROLL POINTING	SM	74.81	9.69	36.90	30.35	151.75
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	621.36	221.29	1,402.51	561.29	2,806.44
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	243.60	366.20	555.44	291.31	1,456.55
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	238.93	480.94	717.25	359.28	1,796.41
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	226.08	791.50	966.05	495.91	2,479.54
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	239.85	972.63	1,445.01	664.37	3,321.86
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	274.65	949.38	2,081.05	826.27	4,131.34
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	337.74	1,171.86	3,213.77	1,180.84	5,904.21
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	437.07	1,313.30	4,028.43	1,444.70	7,223.51
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	515.13	1,594.72	5,134.10	1,810.99	9,054.95
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	609.75	1,860.51	7,933.89	2,601.04	13,005.18
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	243.60	423.57	573.14	310.08	1,550.38
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	238.93	480.94	671.31	347.80	1,738.98
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	220.42	791.50	918.23	482.54	2,412.68

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	239.85	972.63	1,480.63	673.28	3,366.38
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	274.65	949.38	2,863.43	1,021.86	5,109.32
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	337.74	1,171.86	3,950.30	1,364.97	6,824.87
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	437.07	1,313.30	5,340.65	1,772.76	8,863.78
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	515.13	1,594.72	7,242.90	2,338.19	11,690.94
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	609.75	1,860.51	10,188.84	3,164.77	15,823.86
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	92.22	103.49	323.89	129.90	649.50
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	721.17	511.20	2,943.74	1,044.03	5,220.14
507a	STEEL WIRE MESH FOR GABIONS	KG	5.02	-	130.82	33.96	169.80
507b	ROCK FILL IN GABIONS	CM	102.78	-	494.08	149.22	746.08
508a	BRICK PAVING (SINGLE COURSE)	SM	116.81	26.90	208.71	88.11	440.53
508b	BRICK PAVING (DOUBLE COURSE)	SM	210.83	26.90	414.52	163.06	815.31
509a	RIP RAP CLASS "A"	CM	504.94	-	498.19	250.78	1,253.91
509b	RIP RAP CLASS "B"	CM	489.23	-	494.20	245.86	1,229.29
509c	RIP RAP CLASS "C"	CM	493.32	-	498.19	247.88	1,239.38
509d	GROUTED RIP RAP CLASS "A"	CM	618.09	84.24	1,627.24	582.39	2,911.96
509e	GROUTED RIP RAP CLASS "B"	CM	597.22	67.39	1,506.33	542.74	2,713.68
509f	GROUTED RIP RAP CLASS "C"	CM	591.70	56.16	1,537.37	546.31	2,731.53
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	821.60	295.88	3,330.14	1,111.91	5,559.54
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	50.79	167.47	354.60	143.21	716.07
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	119.34	322.32	-	110.42	552.08
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	156.98	57.10	80.96	73.76	368.80
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	200.93	73.09	103.62	94.41	472.06
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	256.01	150.62	330.15	184.19	920.97
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	320.01	188.27	412.69	230.24	1,151.21
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	258.63	498.72	1,868.27	656.40	3,282.02

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	955.36	567.97	3,889.83	1,353.29	6,766.46
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	139.30	75.65	365.08	145.01	725.05
603	BRICK EDGING	M	9.12	-	33.12	10.56	52.80
604a	METAL GUARD RAIL	M	19.53	59.95	1,492.92	393.10	1,965.50
604b	METAL GUARD RAIL END PIECES	EACH	28.26	-	1,138.10	291.59	1,457.96
604d	STEEL POST OF METAL GUARD RAIL	EACH	86.07	805.79	3,566.86	1,114.68	5,573.40
605a	CONCRETE BEAM GUARD RAIL	M	78.67	25.40	581.86	171.48	857.42
605c	CONCRETE POST FOR GUARD RAIL	M	96.60	22.64	584.07	175.83	879.14
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	240.83	213.74	6,377.83	1,708.10	8,540.50
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	71.35	320.61	8,444.53	2,209.12	11,045.61
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	240.83	453.76	11,132.66	2,956.81	14,784.06
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	825.04	503.34	19,271.62	5,150.00	25,750.00
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	165.01	100.67	8,407.89	2,168.39	10,841.95
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	245.95	-	1,132.07	344.50	1,722.52
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	245.95	-	1,698.10	486.01	2,430.07
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.69	5.03	15.38	5.77	28.87
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.90	3.40	36.94	10.31	51.54
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.69	5.03	20.52	7.06	35.30
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.90	3.40	49.26	13.39	66.95
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	68.05	4.26	148.60	55.23	276.15
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	68.05	8.15	465.45	135.41	677.07
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.36	7.44	21.39	8.05	40.24
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.36	8.29	63.09	18.69	93.43
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.36	5.98	28.53	9.47	47.33
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.36	8.29	84.12	23.94	119.71
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	68.05	3.04	206.56	69.41	347.07

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District: Sheikhpura

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	68.05	6.45	795.53	217.51	1,087.53
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	57.29	3.04	99.07	39.85	199.25
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	57.29	6.45	310.77	93.63	468.13
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	57.29	3.04	137.71	49.51	247.55
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	57.29	6.45	531.15	148.72	743.61
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.97	69.34	184.80	65.78	328.89
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.97	69.34	223.39	75.43	377.13
610b	RIGHT OF WAY MARKER	EACH	111.60	101.77	271.37	121.19	605.93
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	647.15	811.70	1,933.10	847.99	4,239.93
610d	TEN KILOMETRE POST	EACH	1,242.84	1,623.40	4,113.30	1,744.89	8,724.43
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	137.02	76.10	904.14	279.31	1,396.57

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

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District: Sialkot

District Code: 63

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.82	8.97	-	2.45	12.24
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	7.84	150.86	1.06	39.94	199.71
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	23.16	391.92	2.39	104.37	521.83
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	92.64	1,567.67	9.55	417.47	2,087.33
103	STRIPPING	CM	2.61	81.82	-	21.11	105.53
104	COMPACTION OF NATURAL GROUND	SM	0.37	8.55	0.75	2.42	12.08
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.88	118.44	-	30.58	152.90
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	124.52	272.97	46.20	110.92	554.61
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	17.98	294.98	-	78.24	391.20
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	11.65	228.89	-	60.14	300.68
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	3.17	105.42	-	27.15	135.74
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	124.52	272.97	46.20	110.92	554.61
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	19.76	275.34	-	73.77	368.87
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	9.02	229.91	-	59.73	298.66
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.66	120.24	0.37	31.82	159.10
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	64.91	245.80	64.37	93.77	468.85
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	109.77	367.50	30.80	127.02	635.09
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	93.77	257.01	-	87.69	438.47
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	56.45	211.67	-	67.03	335.15
107d	GRANULAR BACK FILL	CM	36.22	119.94	343.84	125.00	625.01
107e	COMMON BACK FILL	CM	29.00	55.41	4.99	22.35	111.75
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	6.82	152.01	4.99	40.96	204.79
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	20.78	418.69	49.36	122.21	611.04
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	15.58	364.32	2.37	95.57	477.84
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	13.85	323.09	-	84.23	421.17
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	8.05	154.80	7.84	42.67	213.37

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	6.20	66.06	4.99	19.31	96.56
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	15.07	97.15	2.97	28.80	143.99
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.39	23.75	1.43	6.64	33.20
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.99	15.94	0.76	4.42	22.11
110	IMPROVED SUB-GRADE	CM	10.22	104.23	58.03	43.12	215.60
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.87	13.24	0.78	3.72	18.61
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.28	13.62	0.88	3.94	19.72
201	GRANULAR SUB-BASE	CM	8.11	224.59	541.73	193.61	968.03
202	AGGREGATE BASE	CM	9.17	287.87	875.84	293.22	1,466.09
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	81.22	1,311.60	5,628.15	1,755.24	8,776.21
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	83.47	1,311.60	6,015.38	1,852.61	9,263.05
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	89.11	1,369.89	5,619.91	1,769.73	8,848.65
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	89.11	1,365.01	6,138.53	1,898.16	9,490.81
204b	CEMENT STABILIZED BASE	CM	28.92	480.68	1,214.74	431.08	2,155.42
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	240.84	772.74	49,382.94	12,599.13	62,995.65
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	240.84	772.74	47,846.73	12,215.08	61,075.39
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	111.88	92.96	1,124.34	332.29	1,661.47
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	159.35	2,134.12	5,328.99	1,905.61	9,528.07
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	124.47	105.48	907.48	284.36	1,421.78
207a	DEEP PATCHING (0-15 cm)	SM	1.74	39.69	1.23	10.67	53.33
207b	DEEP PATCHING (16-30 cm)	SM	1.74	34.94	1.23	9.48	47.39
208	REINSTATEMENT OF ROAD SURFACE	SM	1.83	49.93	0.55	13.08	65.38
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.93	96.89	0.67	24.87	124.36
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.39	19.38	0.13	4.97	24.87
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.29	1.32	35.05	9.17	45.83
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.28	1.32	39.12	10.18	50.91

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	14.67	3.82	19.09
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.12	0.49	17.11	4.43	22.15
304a	SINGLE SURFACE TREATMENT	SM	0.76	6.52	70.70	19.49	97.47
304b	DOUBLE SURFACE TREATMENT	SM	1.10	12.21	138.18	37.87	189.36
304c	TRIPLE SURFACE TREATMENT	SM	1.84	17.13	157.74	44.18	220.89
304d	SEAL COAT	SM	0.70	3.54	49.69	13.48	67.41
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	74.49	1,294.58	6,596.81	1,991.47	9,957.35
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	74.49	1,251.29	7,125.35	2,112.78	10,563.91
307a	DENSE GRADED HOT BIT-MAC	CM	186.20	316.05	5,601.95	1,526.05	7,630.25
307b	OPEN GRADED HOT BIT-MAC	CM	186.20	316.05	5,468.41	1,492.66	7,463.32
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	30.94	543.36	1,835.99	602.57	3,012.86
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	26.50	560.93	41,619.76	10,551.80	52,758.98
309a	COLD MILLING, 0 - 30 mm	SM	0.95	22.13	7.55	7.66	38.29
309b	COLD MILLING, 0 - 50 mm	SM	1.59	36.88	12.58	12.76	63.82
309c	COLD MILLING, 0 - 70 mm	SM	2.38	55.33	18.87	19.14	95.72
401a1i	CONCRETE CLASS "A1" (Underground)	CM	546.59	923.86	3,591.82	1,265.57	6,327.84
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	546.59	923.86	3,844.07	1,328.63	6,643.15
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	546.59	923.86	4,348.56	1,454.75	7,273.77
401a2i	CONCRETE CLASS "A2" (Underground)	CM	546.59	923.86	3,870.07	1,335.13	6,675.65
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	546.59	923.86	4,122.32	1,398.19	6,990.96
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	546.59	923.86	4,626.81	1,524.32	7,621.58
401a3i	CONCRETE CLASS "A3" (Underground)	CM	546.59	923.86	4,148.32	1,404.69	7,023.47
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	546.59	923.86	4,400.57	1,467.76	7,338.78
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	546.59	923.86	4,905.06	1,593.88	7,969.40
401b	CONCRETE CLASS "B"	CM	718.40	672.22	3,008.73	1,099.84	5,499.18
401ci	CONCRETE CLASS "C" (Underground)	CM	559.91	419.49	3,288.27	1,066.92	5,334.58

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	559.91	419.49	3,395.85	1,093.81	5,469.06
401ciii	CONCRETE CLASS "C" (Elevated)	CM	559.91	419.49	3,611.02	1,147.60	5,738.02
401d	CONCRETE CLASS "D1"	CM	849.29	1,106.97	4,586.81	1,635.77	8,178.84
401e	CONCRETE CLASS "Y"	CM	1,207.14	419.49	4,123.44	1,437.52	7,187.59
401f	LEAN CONCRETE	CM	499.77	424.53	2,439.63	840.98	4,204.91
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,956.79	790.24	4,530.85	1,819.47	9,097.35
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,956.79	790.24	5,087.35	1,958.60	9,792.98
401gii	PRECAST CONCRETE CLASS "B"	CM	1,956.79	790.24	4,426.56	1,793.40	8,966.99
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,956.79	790.24	5,365.60	2,028.16	10,140.79
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,956.79	790.24	5,643.85	2,097.72	10,488.60
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,956.79	790.24	5,922.10	2,167.28	10,836.42
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,598.60	669.81	68,368.00	17,659.10	88,295.51
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,598.60	669.81	77,818.00	20,021.60	100,108.01
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,304.24	4,274.04	64,793.28	17,592.89	87,964.46
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	3,166.36	12,481.24	114,455.61	32,525.80	162,629.02
405b	LAUNCHING OF GIRDER	TON	76.21	486.64	-	140.71	703.56
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	122.52	-	266.33	97.21	486.06
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	122.52	-	266.36	97.22	486.10
406c	STEEL EXPANSION JOINTS	KG	9.92	21.04	103.89	33.71	168.57
406d	WATER STOPS 6" SIZE	M	101.15	-	409.35	127.62	638.12
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.24
406f	ASPHALT FELT (3 PLY)	SM	47.89	-	2,858.31	726.55	3,632.74
406g	STEEL OR METAL BEARING DEVICES	KG	21.75	55.55	124.93	50.56	252.79
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	416.56	1,439.50	660.46	629.13	3,145.65
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	624.85	2,159.25	990.69	943.70	4,718.48
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	624.85	2,159.25	754.30	884.60	4,423.00

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	1,041.41	3,598.75	924.41	1,391.14	6,955.72
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	892.64	4,253.63	1,098.39	1,561.16	7,805.82
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,562.12	6,025.34	1,199.45	2,196.72	10,983.62
407h	PILE LOAD TEST UP TO 120 TON	EACH	27,715.03	40,036.45	84,643.12	38,098.65	190,493.25
407i	PILE LOAD TEST UP TO 240 TON	EACH	52,555.03	40,036.45	169,286.24	65,469.43	327,347.15
407j	PILE LOAD TEST UP TO 360 TON	EACH	77,395.03	43,882.72	253,929.36	93,801.78	469,008.89
407k	CONFIRMATORY BORING (NX SIZE)	M	248.06	1,323.15	6.24	394.36	1,971.81
410	BRICK WORK	CM	397.63	236.06	2,657.14	822.71	4,113.53
411a	STONE MASONRY RANDOM DRY	CM	332.25	91.36	622.84	261.61	1,308.07
411b	STONE MASONRY RANDOM WITH MORTAR	CM	358.13	139.82	1,589.11	521.76	2,608.81
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	439.20	91.36	689.17	304.93	1,524.66
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	518.55	139.82	1,629.91	572.07	2,860.35
411g	ROLL POINTING	SM	85.87	9.69	39.13	33.67	168.37
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	706.58	221.29	1,543.72	617.90	3,089.49
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	269.19	366.20	559.59	298.75	1,493.73
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	264.17	480.94	722.24	366.84	1,834.18
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	250.38	791.50	971.87	503.44	2,517.18
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	265.26	972.63	1,451.81	672.42	3,362.11
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	303.17	949.38	2,087.85	835.10	4,175.50
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	372.86	1,171.86	3,223.58	1,192.08	5,960.38
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	482.53	1,313.30	4,038.21	1,458.51	7,292.54
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	567.45	1,594.72	5,145.97	1,827.03	9,135.17
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	673.23	1,860.51	7,947.73	2,620.37	13,101.83
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	269.19	423.57	581.44	318.55	1,592.76
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	264.17	480.94	676.30	355.35	1,776.75
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	244.17	791.50	924.05	489.93	2,449.64

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	265.26	972.63	1,485.91	680.95	3,404.75
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	303.17	949.38	2,870.98	1,030.88	5,154.42
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	372.86	1,171.86	3,960.11	1,376.21	6,881.04
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	482.53	1,313.30	5,350.43	1,786.56	8,932.82
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	567.45	1,594.72	7,254.76	2,354.23	11,771.16
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	673.23	1,860.51	10,202.68	3,184.10	15,920.52
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	101.16	103.49	297.34	125.50	627.48
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	803.59	511.20	3,266.37	1,145.29	5,726.45
507a	STEEL WIRE MESH FOR GABIONS	KG	5.57	-	135.51	35.27	176.35
507b	ROCK FILL IN GABIONS	CM	112.86	-	528.43	160.32	801.61
508a	BRICK PAVING (SINGLE COURSE)	SM	132.07	26.90	207.61	91.64	458.22
508b	BRICK PAVING (DOUBLE COURSE)	SM	239.02	26.90	412.52	169.61	848.06
509a	RIP RAP CLASS "A"	CM	573.09	-	536.65	277.44	1,387.18
509b	RIP RAP CLASS "B"	CM	555.08	-	532.36	271.86	1,359.29
509c	RIP RAP CLASS "C"	CM	560.31	-	536.65	274.24	1,371.20
509d	GROUTED RIP RAP CLASS "A"	CM	700.90	84.24	1,748.75	633.47	3,167.37
509e	GROUTED RIP RAP CLASS "B"	CM	678.02	67.39	1,618.90	591.08	2,955.40
509f	GROUTED RIP RAP CLASS "C"	CM	671.97	56.16	1,653.35	595.37	2,976.84
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	922.54	295.88	3,635.21	1,213.41	6,067.05
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	55.92	167.47	343.93	141.83	709.15
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	130.49	322.32	-	113.20	566.01
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	177.49	57.10	87.21	80.45	402.25
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	227.19	73.09	111.62	102.98	514.88
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	290.67	150.62	353.78	198.77	993.83
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	363.34	188.27	442.22	248.46	1,242.29
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	289.87	498.72	2,011.77	700.09	3,500.47

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District: Sialkot

District Code: 63

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	1,071.65	567.97	4,055.72	1,423.83	7,119.17
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	156.19	75.65	394.74	156.65	783.23
603	BRICK EDGING	M	10.23	-	33.12	10.84	54.19
604a	METAL GUARD RAIL	M	21.27	59.95	1,492.92	393.54	1,967.68
604b	METAL GUARD RAIL END PIECES	EACH	30.90	-	1,138.10	292.25	1,461.25
604d	STEEL POST OF METAL GUARD RAIL	EACH	93.61	805.79	3,566.86	1,116.56	5,582.82
605a	CONCRETE BEAM GUARD RAIL	M	87.51	25.40	594.55	176.87	884.34
605c	CONCRETE POST FOR GUARD RAIL	M	107.45	22.64	599.26	182.34	911.70
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	268.02	213.74	6,399.30	1,720.27	8,601.34
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	81.39	320.61	8,504.87	2,226.72	11,133.60
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	268.02	453.76	11,234.71	2,989.12	14,945.62
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	912.63	503.34	19,426.62	5,210.65	26,053.25
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	182.53	100.67	8,441.20	2,181.10	10,905.49
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	272.97	-	1,132.76	351.43	1,757.17
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	272.97	-	1,699.14	493.03	2,465.14
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.00	5.03	15.38	5.85	29.27
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	1.00	3.40	36.99	10.35	51.74
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.00	5.03	20.53	7.14	35.70
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	1.00	3.40	49.33	13.43	67.17
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	77.33	4.26	148.65	57.56	287.81
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	77.33	8.15	466.11	137.90	689.50
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.75	7.44	21.40	8.15	40.73
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.75	8.29	63.09	18.78	93.91
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.75	5.98	28.53	9.57	47.83
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.75	8.29	84.12	24.04	120.20
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	77.33	3.04	206.61	71.75	358.73

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District: Sialkot

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	77.33	6.45	795.53	219.83	1,099.13
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	64.91	3.04	99.10	41.76	208.82
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	64.91	6.45	311.21	95.64	478.22
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	64.91	3.04	137.74	51.42	257.12
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	64.91	6.45	531.15	150.63	753.14
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	10.39	69.34	184.97	66.18	330.88
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	10.39	69.34	223.56	75.82	379.11
610b	RIGHT OF WAY MARKER	EACH	123.34	101.77	282.98	127.02	635.11
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	724.98	811.70	2,033.30	892.50	4,462.48
610d	TEN KILOMETRE POST	EACH	1,387.86	1,623.40	4,307.57	1,829.71	9,148.54
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	153.01	76.10	919.55	287.16	1,435.82

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

TOBA TEK SINGH
(69)

Q. S. & Estimation Specialist

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Quantity Surveying &
Estimation Specialist

Rate Analysis Summary (Construction)

District: Toba Tek singh

District Code: 69

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.66	8.97	-	2.41	12.04
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	6.43	150.86	1.06	39.59	197.94
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	18.73	391.92	2.39	103.26	516.29
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	74.90	1,567.67	9.55	413.03	2,065.15
103	STRIPPING	CM	2.15	81.82	-	20.99	104.96
104	COMPACTION OF NATURAL GROUND	SM	0.31	8.55	0.75	2.40	12.01
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.56	118.44	-	30.50	152.50
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	107.83	272.97	46.20	106.75	533.75
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	15.19	294.98	-	77.54	387.72
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	9.88	228.89	-	59.69	298.47
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.91	105.42	-	27.08	135.42
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	107.83	272.97	46.20	106.75	533.75
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	17.16	275.34	-	73.13	365.63
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	7.63	229.91	-	59.39	296.93
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.87	120.24	0.37	31.62	158.11
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	55.48	245.80	64.37	91.41	457.06
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	95.35	367.50	30.80	123.41	617.07
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	81.15	257.01	-	84.54	422.70
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	49.04	211.67	-	65.18	325.88
107d	GRANULAR BACK FILL	CM	30.19	119.94	365.16	128.82	644.11
107e	COMMON BACK FILL	CM	23.09	55.41	4.99	20.87	104.37
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.86	152.01	4.99	40.72	203.58
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	17.50	418.69	49.36	121.39	606.94
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	13.13	364.32	2.37	94.95	474.77
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	11.67	323.09	-	83.69	418.44
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	6.81	154.80	7.84	42.36	211.81

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District: Toba Tek singh

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.28	66.06	4.99	19.08	95.40
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	12.54	97.15	2.97	28.17	140.83
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.18	23.75	1.43	6.59	32.95
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.84	15.94	0.76	4.39	21.93
110	IMPROVED SUB-GRADE	CM	8.62	104.23	54.22	41.77	208.84
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.72	13.24	0.78	3.69	18.43
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	1.06	13.62	0.88	3.89	19.45
201	GRANULAR SUB-BASE	CM	6.90	224.59	461.41	173.23	866.13
202	AGGREGATE BASE	CM	8.04	287.87	816.16	278.02	1,390.08
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	65.85	1,311.60	5,517.78	1,723.81	8,619.03
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	67.94	1,311.60	5,906.09	1,821.41	9,107.04
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	72.51	1,369.89	5,509.06	1,737.86	8,689.32
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	72.51	1,365.01	6,030.50	1,867.01	9,335.03
204b	CEMENT STABILIZED BASE	CM	24.93	480.68	1,069.66	393.82	1,969.09
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	205.00	772.74	49,864.71	12,710.61	63,553.06
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	205.00	772.74	48,328.50	12,326.56	61,632.80
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	88.02	92.96	956.24	284.30	1,421.52
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	131.68	2,134.12	5,174.37	1,860.04	9,300.21
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	97.81	105.48	792.14	248.86	1,244.29
207a	DEEP PATCHING (0-15 cm)	SM	1.47	39.69	1.23	10.60	53.00
207b	DEEP PATCHING (16-30 cm)	SM	1.47	34.94	1.23	9.41	47.05
208	REINSTATEMENT OF ROAD SURFACE	SM	1.59	49.93	0.55	13.02	65.08
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.68	96.89	0.67	24.81	124.04
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.34	19.38	0.13	4.96	24.81
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.25	1.32	35.39	9.24	46.20
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.24	1.32	39.51	10.27	51.34

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Rate Analysis Summary (Construction)

District: Toba Tek singh

District Code: 69

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	14.81	3.85	19.25
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.10	0.49	17.28	4.47	22.34
304a	SINGLE SURFACE TREATMENT	SM	0.66	6.52	70.63	19.45	97.26
304b	DOUBLE SURFACE TREATMENT	SM	0.96	12.21	137.11	37.57	187.84
304c	TRIPLE SURFACE TREATMENT	SM	1.61	17.13	156.45	43.80	218.99
304d	SEAL COAT	SM	0.61	3.54	49.95	13.53	67.64
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	61.19	1,294.58	6,494.44	1,962.55	9,812.76
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	61.19	1,251.29	7,025.07	2,084.39	10,421.93
307a	DENSE GRADED HOT BIT-MAC	CM	151.77	316.05	5,523.43	1,497.81	7,489.04
307b	OPEN GRADED HOT BIT-MAC	CM	151.77	316.05	5,368.00	1,458.95	7,294.76
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	25.44	543.36	1,815.40	596.05	2,980.24
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	22.21	560.93	42,115.84	10,674.74	53,373.72
309a	COLD MILLING, 0 - 30 mm	SM	0.82	22.13	7.55	7.63	38.13
309b	COLD MILLING, 0 - 50 mm	SM	1.37	36.88	12.58	12.71	63.54
309c	COLD MILLING, 0 - 70 mm	SM	2.05	55.33	18.87	19.06	95.32
401a1i	CONCRETE CLASS "A1" (Underground)	CM	472.12	923.86	3,446.41	1,210.60	6,053.00
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	472.12	923.86	3,698.66	1,273.66	6,368.31
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	472.12	923.86	4,203.16	1,399.79	6,998.93
401a2i	CONCRETE CLASS "A2" (Underground)	CM	472.12	923.86	3,724.66	1,280.16	6,400.81
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	472.12	923.86	3,976.91	1,343.22	6,716.12
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	472.12	923.86	4,481.41	1,469.35	7,346.74
401a3i	CONCRETE CLASS "A3" (Underground)	CM	472.12	923.86	4,002.91	1,349.72	6,748.62
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	472.12	923.86	4,255.16	1,412.79	7,063.93
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	472.12	923.86	4,759.66	1,538.91	7,694.55
401b	CONCRETE CLASS "B"	CM	605.24	672.22	2,816.78	1,023.56	5,117.80
401ci	CONCRETE CLASS "C" (Underground)	CM	471.02	419.49	3,092.45	995.74	4,978.70

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District: Toba Tek singh

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
401cii	CONCRETE CLASS "C" (On ground)	CM	471.02	419.49	3,200.03	1,022.64	5,113.18
401ciii	CONCRETE CLASS "C" (Elevated)	CM	471.02	419.49	3,415.20	1,076.43	5,382.14
401d	CONCRETE CLASS "D1"	CM	740.44	1,106.97	4,449.16	1,574.14	7,870.71
401e	CONCRETE CLASS "Y"	CM	1,043.90	419.49	4,001.59	1,366.25	6,831.23
401f	LEAN CONCRETE	CM	404.11	424.53	2,247.39	769.01	3,845.04
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,623.45	790.24	4,375.27	1,697.24	8,486.19
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,623.45	790.24	4,931.77	1,836.36	9,181.82
401gii	PRECAST CONCRETE CLASS "B"	CM	1,623.45	790.24	4,221.09	1,658.69	8,293.47
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,623.45	790.24	5,210.02	1,905.93	9,529.63
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,623.45	790.24	5,488.27	1,975.49	9,877.44
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,623.45	790.24	5,766.52	2,045.05	10,225.25
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,420.47	669.81	68,368.00	17,614.57	88,072.84
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,420.47	669.81	77,818.00	19,977.07	99,885.34
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	1,144.29	4,274.04	64,493.59	17,477.98	87,389.91
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,409.56	12,481.24	114,450.26	32,335.26	161,676.31
405b	LAUNCHING OF GIRDER	TON	56.79	486.64	-	135.86	679.28
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	105.43	-	271.09	94.13	470.65
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	105.43	-	270.78	94.05	470.26
406c	STEEL EXPANSION JOINTS	KG	8.52	21.04	103.43	33.25	166.24
406d	WATER STOPS 6" SIZE	M	86.84	-	408.19	123.76	618.78
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.02	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	39.25	-	2,876.95	729.05	3,645.25
406g	STEEL OR METAL BEARING DEVICES	KG	18.15	55.55	124.54	49.56	247.80
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	306.36	1,439.50	665.17	602.76	3,013.79
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	459.53	2,159.25	997.76	904.14	4,520.68
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	459.53	2,159.25	761.38	845.04	4,225.20

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Rate Analysis Summary (Construction)

District: Toba Tek singh

District Code: 69

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	765.89	3,598.75	936.21	1,325.21	6,626.06
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	656.48	4,253.63	1,118.60	1,507.18	7,535.89
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	1,148.83	6,025.34	1,217.13	2,097.83	10,489.13
407h	PILE LOAD TEST UP TO 120 TON	EACH	21,854.73	40,036.45	88,540.64	37,607.96	188,039.78
407i	PILE LOAD TEST UP TO 240 TON	EACH	41,039.49	40,036.45	177,081.28	64,539.31	322,696.53
407j	PILE LOAD TEST UP TO 360 TON	EACH	60,224.25	43,882.72	265,621.92	92,432.22	462,161.12
407k	CONFIRMATORY BORING (NX SIZE)	M	184.69	1,323.15	6.24	378.52	1,892.59
410	BRICK WORK	CM	317.55	236.06	2,391.70	736.33	3,681.64
411a	STONE MASONRY RANDOM DRY	CM	265.19	91.36	505.45	215.50	1,077.51
411b	STONE MASONRY RANDOM WITH MORTAR	CM	286.16	139.82	1,427.42	463.35	2,316.74
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	349.75	91.36	562.37	250.87	1,254.36
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	412.99	139.82	1,469.90	505.68	2,528.38
411g	ROLL POINTING	SM	68.44	9.69	38.38	29.13	145.64
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	561.14	221.29	1,383.71	541.54	2,707.68
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	212.95	366.20	558.21	284.34	1,421.69
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	208.28	480.94	720.58	352.45	1,762.25
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	200.34	791.50	969.93	490.44	2,452.21
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	211.20	972.63	1,449.54	658.34	3,291.71
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	242.49	949.38	2,085.58	819.36	4,096.81
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	299.93	1,171.86	3,220.31	1,173.02	5,865.12
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	388.14	1,313.30	4,034.95	1,434.10	7,170.48
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	456.34	1,594.72	5,142.01	1,798.27	8,991.34
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	541.87	1,860.51	7,943.12	2,586.37	12,931.86
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	212.95	423.57	578.68	303.80	1,518.99
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	208.28	480.94	674.64	340.96	1,704.82
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	195.55	791.50	922.11	477.29	2,386.44

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	211.20	972.63	1,484.15	666.99	3,334.97
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	242.49	949.38	2,868.47	1,015.08	5,075.41
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	299.93	1,171.86	3,956.84	1,357.16	6,785.78
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	388.14	1,313.30	5,347.17	1,762.15	8,810.76
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	456.34	1,594.72	7,250.81	2,325.47	11,627.33
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	541.87	1,860.51	10,198.07	3,150.11	15,750.55
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	81.36	103.49	350.48	133.83	669.17
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	683.52	511.20	3,074.42	1,067.28	5,336.42
507a	STEEL WIRE MESH FOR GABIONS	KG	4.83	-	132.03	34.22	171.08
507b	ROCK FILL IN GABIONS	CM	89.35	-	547.26	159.15	795.76
508a	BRICK PAVING (SINGLE COURSE)	SM	105.08	26.90	183.83	78.95	394.77
508b	BRICK PAVING (DOUBLE COURSE)	SM	189.64	26.90	364.53	145.27	726.34
509a	RIP RAP CLASS "A"	CM	456.78	-	419.26	219.01	1,095.06
509b	RIP RAP CLASS "B"	CM	441.60	-	415.91	214.38	1,071.88
509c	RIP RAP CLASS "C"	CM	445.45	-	419.26	216.18	1,080.89
509d	GROUTED RIP RAP CLASS "A"	CM	558.55	84.24	1,603.68	561.62	2,808.09
509e	GROUTED RIP RAP CLASS "B"	CM	539.78	67.39	1,477.65	521.21	2,606.03
509f	GROUTED RIP RAP CLASS "C"	CM	534.37	56.16	1,510.12	525.16	2,625.82
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	741.73	295.88	3,453.59	1,122.80	5,614.00
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	44.42	167.47	365.48	144.34	721.70
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	96.82	322.32	-	104.78	523.92
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	141.66	57.10	68.13	66.72	333.62
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	181.33	73.09	87.21	85.41	427.03
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	231.92	150.62	333.50	179.01	895.05
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	289.90	188.27	416.88	223.76	1,118.81
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	250.36	498.72	1,936.23	671.33	3,356.64

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	890.43	567.97	3,974.82	1,358.30	6,791.51
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	129.28	75.65	378.66	145.90	729.49
603	BRICK EDGING	M	8.17	-	28.70	9.22	46.09
604a	METAL GUARD RAIL	M	16.47	59.95	1,492.92	392.34	1,961.68
604b	METAL GUARD RAIL END PIECES	EACH	22.43	-	1,138.10	290.13	1,450.67
604d	STEEL POST OF METAL GUARD RAIL	EACH	74.40	805.79	3,566.86	1,111.76	5,558.81
605a	CONCRETE BEAM GUARD RAIL	M	70.48	25.40	589.16	171.26	856.31
605c	CONCRETE POST FOR GUARD RAIL	M	86.54	22.64	592.71	175.47	877.37
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	220.11	213.74	6,386.28	1,705.03	8,525.16
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	64.12	320.61	8,475.61	2,215.08	11,075.42
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	220.11	453.76	11,185.51	2,964.85	14,824.23
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	731.67	503.34	19,357.70	5,148.18	25,740.89
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	146.33	100.67	8,433.26	2,170.06	10,850.32
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	244.41	-	1,134.51	344.73	1,723.66
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	244.41	-	1,701.77	486.55	2,432.73
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.41	5.03	15.40	5.71	28.54
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.80	3.40	37.09	10.33	51.63
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.41	5.03	20.54	6.99	34.97
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.80	3.40	49.47	13.42	67.10
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	69.68	4.26	148.76	55.68	278.38
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	69.68	8.15	467.44	136.32	681.59
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	3.01	7.44	21.41	7.96	39.82
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	3.01	8.29	63.09	18.60	92.99
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	3.01	5.98	28.55	9.38	46.92
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	3.01	8.29	84.12	23.86	119.28
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	69.68	3.04	206.72	69.86	349.30

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CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	69.68	6.45	795.53	217.91	1,089.57
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	57.94	3.04	99.17	40.04	200.20
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	57.94	6.45	312.10	94.12	470.61
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	57.94	3.04	137.81	49.70	248.50
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	57.94	6.45	531.15	148.89	744.43
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	8.21	69.34	208.12	71.42	357.09
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	8.21	69.34	247.81	81.34	406.71
610b	RIGHT OF WAY MARKER	EACH	97.84	101.77	277.26	119.22	596.10
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	595.43	811.70	1,985.53	848.17	4,240.83
610d	TEN KILOMETRE POST	EACH	1,146.14	1,623.40	4,214.12	1,745.92	8,729.59
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	120.99	76.10	910.99	277.02	1,385.10

NATIONAL HIGHWAY AUTHORITY

COMPOSITE SCHEDULE OF RATES

March - 2008

VEHARI
(71)

Q. S. & Estimation Specialist

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Rate Analysis Summary (Construction)

District: Vehari

District Code: 71

CODE	DESCRIPTION	UNIT	MANPOWER	EQUIPMENT	MATERIAL	OH-PROFIT	RATE
101	CLEARING AND GRUBBING	SM	0.51	8.97	-	2.37	11.86
102a	REMOVAL OF TREES 150 - 300 mm GIRTH	EACH	5.18	150.86	1.06	39.28	196.38
102b	REMOVAL OF TREES 301 - 600 mm GIRTH	EACH	14.83	391.92	2.39	102.28	511.42
102c	REMOVAL OF TREES 601 mm OR OVER GIRTH	EACH	59.32	1,567.67	9.55	409.13	2,045.67
103	STRIPPING	CM	1.82	81.82	-	20.91	104.55
104	COMPACTION OF NATURAL GROUND	SM	0.26	8.55	0.75	2.39	11.95
106a	EXCAVATE UNSUITABLE COMMON MATERIAL	CM	3.25	118.44	-	30.42	152.11
106bi	EXCAVATE UNSUITABLE HARD ROCK MATERIAL	CM	94.61	272.97	46.20	103.44	517.22
106bii	EXCAVATE UNSUITABLE MEDIUM ROCK MATERIAL	CM	13.21	294.98	-	77.05	385.25
106biii	EXCAVATE UNSUITABLE SOFT ROCK MATERIAL	CM	8.75	228.89	-	59.41	297.05
106c	EXCAVATE SURPLUS COMMON MATERIAL	CM	2.66	105.42	-	27.02	135.10
106di	EXCAVATE SURPLUS HARD ROCK MATERIAL	CM	94.61	272.97	46.20	103.44	517.22
106dii	EXCAVATE SURPLUS MEDIUM ROCK MATERIAL	CM	15.06	275.34	-	72.60	363.00
106diii	EXCAVATE SURPLUS SOFT ROCK MATERIAL	CM	6.70	229.91	-	59.15	295.76
107a	STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	5.39	120.24	0.37	31.50	157.52
107b	STRUCTURAL EXCAVATION IN COMMON MATERIAL BELOW WATER LEVEL	CM	46.84	245.80	64.37	89.25	446.26
107ci	STRUCTURAL EXCAVATION IN HARD ROCK MATERIAL	CM	83.66	367.50	30.80	120.49	602.45
107cii	STRUCTURAL EXCAVATION IN MEDIUM ROCK MATERIAL	CM	70.99	257.01	-	82.00	410.00
107ciii	STRUCTURAL EXCAVATION IN SOFT ROCK MATERIAL	CM	43.03	211.67	-	63.67	318.37
107d	GRANULAR BACK FILL	CM	24.82	119.94	348.52	123.32	616.60
107e	COMMON BACK FILL	CM	17.93	55.41	4.99	19.58	97.92
108a	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN COMMON MATERIAL	CM	5.22	152.01	4.99	40.56	202.78
108bi	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN HARD ROCK MATERIAL	CM	15.10	418.69	49.36	120.79	603.94
108bii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN MEDIUM ROCK MATERIAL	CM	11.32	364.32	2.37	94.50	472.51
108biii	FORMATION OF EMBANKMENT FROM ROADWAY EXCAVATION IN SOFT ROCK MATERIAL	CM	10.06	323.09	-	83.29	416.44
108c	FORMATION OF EMBANKMENT FROM BORROW EXCAVATION IN COMMON MATERIAL	CM	5.92	154.80	7.84	42.14	210.71

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108d	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN COMMON MATERIAL	CM	4.68	66.06	4.99	18.93	94.66
108e	FORMATION OF EMBANKMENT FROM STRUCTURAL EXCAVATION IN ANY TYPE OF ROCK MATERIAL	CM	10.72	97.15	2.97	27.71	138.55
109a	SUB GRADE PREPARATION IN EARTH CUT	SM	1.04	23.75	1.43	6.55	32.77
109bi	SUB GRADE PREPARATION IN EXISTING ROAD WITHOUT ANY FILL	SM	0.75	15.94	0.76	4.36	21.81
110	IMPROVED SUB-GRADE	CM	7.38	104.23	54.62	41.56	207.80
114a	DRESSING OF BERM WITHOUT EXTRA MATERIAL	SM	0.62	13.24	0.78	3.66	18.31
114b	DRESSING OF BERM WITH EXTRA BORROW MATERIAL	SM	0.94	13.62	0.88	3.86	19.29
201	GRANULAR SUB-BASE	CM	6.03	224.59	538.15	192.19	960.97
202	AGGREGATE BASE	CM	7.01	287.87	991.53	321.60	1,608.00
203a	ASPHALTIC BASE COURSE PLANT MIX (CLASS "A")	CM	52.83	1,311.60	5,681.48	1,761.48	8,807.39
203b	ASPHALTIC BASE COURSE PLANT MIX (CLASS "B")	CM	54.76	1,311.60	6,065.95	1,858.08	9,290.39
203c	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "A")	CM	58.92	1,369.89	5,672.85	1,775.42	8,877.08
203d	ASPHALTIC LEVELLING COURSE PLANT MIX (CLASS "B")	CM	58.92	1,365.01	6,190.95	1,903.72	9,518.60
204b	CEMENT STABILIZED BASE	CM	21.32	480.68	1,197.29	424.82	2,124.11
204d	LIQUID ASPHALT FOR CURING SEAL, TYPE MC-250	TON	181.53	772.74	50,416.17	12,842.61	64,213.06
204e	EMULSIFIED ASPHALT FOR CURING SEAL, TYPE SS-1	TON	181.53	772.74	48,879.96	12,458.56	62,292.80
205a	GRADED CRUSHED AGGREGATE CRACK-RELIEF LAYER	CM	67.97	92.96	1,045.08	301.50	1,507.51
205b	ASPHALTIC OPEN-GRADED PLANT MIX CRACK-RELIEF LAYER	CM	109.27	2,134.12	5,322.57	1,891.49	9,457.45
206b	WATER BOUND MACADAM BASE WITH COARSE AGGREGATE CLASS B	CM	75.03	105.48	956.17	284.17	1,420.84
207a	DEEP PATCHING (0-15 cm)	SM	1.30	39.69	1.23	10.56	52.78
207b	DEEP PATCHING (16-30 cm)	SM	1.30	34.94	1.23	9.37	46.84
208	REINSTATEMENT OF ROAD SURFACE	SM	1.37	49.93	0.55	12.96	64.81
209a	BREAKING OF EXISTING ROAD PAVEMENT STRUCTURE	CM	1.58	96.89	0.67	24.78	123.92
209b	SCARIFICATION OF EXISTING ROAD PAVEMENT	SM	0.32	19.38	0.13	4.96	24.78
302a	CUT-BACK ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.22	1.32	35.78	9.33	46.65
302b	EMULSIFIED ASPHALT FOR BITUMINOUS PRIME COAT	SM	0.21	1.32	39.94	10.37	51.85

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303a	CUT-BACK ASPHALT FOR BITUMINOUS TACK COAT	SM	0.09	0.49	14.98	3.89	19.44
303b	EMULSIFIED ASPHALT FOR BITUMINOUS TACK COAT	SM	0.09	0.49	17.47	4.51	22.56
304a	SINGLE SURFACE TREATMENT	SM	0.58	6.52	71.95	19.76	98.80
304b	DOUBLE SURFACE TREATMENT	SM	0.84	12.21	140.07	38.28	191.41
304c	TRIPLE SURFACE TREATMENT	SM	1.42	17.13	159.90	44.61	223.07
304d	SEAL COAT	SM	0.54	3.54	50.80	13.72	68.60
305a	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "A")	CM	50.00	1,294.58	6,669.44	2,003.50	10,017.52
305b	ASPHALTIC CONCRETE FOR WEARING COURSE (CLASS "B")	CM	50.00	1,251.29	7,213.43	2,128.68	10,643.39
307a	DENSE GRADED HOT BIT-MAC	CM	121.43	316.05	5,689.64	1,531.78	7,658.90
307b	OPEN GRADED HOT BIT-MAC	CM	121.43	316.05	5,524.86	1,490.58	7,452.92
308a	RECYCLING OF ASPHALT CONCRETE (0 - 60 mm THICK)	CM	20.57	543.36	1,845.44	602.34	3,011.71
308b	BITUMEN BINDER GRADE (40 - 50, 60 - 70, 80 - 100)	TON	18.39	560.93	42,683.68	10,815.75	54,078.74
309a	COLD MILLING, 0 - 30 mm	SM	0.70	22.13	7.55	7.60	37.98
309b	COLD MILLING, 0 - 50 mm	SM	1.17	36.88	12.58	12.66	63.30
309c	COLD MILLING, 0 - 70 mm	SM	1.76	55.33	18.87	18.99	94.95
401a1i	CONCRETE CLASS "A1" (Underground)	CM	381.04	923.86	3,477.48	1,195.60	5,977.99
401a1ii	CONCRETE CLASS "A1" (On ground)	CM	381.04	923.86	3,729.73	1,258.66	6,293.30
401a1iii	CONCRETE CLASS "A1" (Elevated)	CM	381.04	923.86	4,234.23	1,384.78	6,923.92
401a2i	CONCRETE CLASS "A2" (Underground)	CM	381.04	923.86	3,755.73	1,265.16	6,325.80
401a2ii	CONCRETE CLASS "A2" (On ground)	CM	381.04	923.86	4,007.98	1,328.22	6,641.11
401a2iii	CONCRETE CLASS "A2" (Elevated)	CM	381.04	923.86	4,512.48	1,454.35	7,271.73
401a3i	CONCRETE CLASS "A3" (Underground)	CM	381.04	923.86	4,033.98	1,334.72	6,673.61
401a3ii	CONCRETE CLASS "A3" (On ground)	CM	381.04	923.86	4,286.23	1,397.78	6,988.92
401a3iii	CONCRETE CLASS "A3" (Elevated)	CM	381.04	923.86	4,790.73	1,523.91	7,619.54
401b	CONCRETE CLASS "B"	CM	493.57	672.22	2,833.81	999.90	4,999.50
401ci	CONCRETE CLASS "C" (Underground)	CM	371.91	419.49	3,132.78	981.05	4,905.23

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401cii	CONCRETE CLASS "C" (On ground)	CM	371.91	419.49	3,240.37	1,007.94	5,039.71
401ciii	CONCRETE CLASS "C" (Elevated)	CM	371.91	419.49	3,455.54	1,061.73	5,308.67
401d	CONCRETE CLASS "D1"	CM	589.11	1,106.97	4,476.77	1,543.21	7,716.05
401e	CONCRETE CLASS "Y"	CM	822.09	419.49	4,034.88	1,319.11	6,595.57
401f	LEAN CONCRETE	CM	315.32	424.53	2,264.36	751.05	3,755.27
401gi(1)	PRECAST CONCRETE CLASS "A-1"	CM	1,256.01	790.24	4,410.50	1,614.19	8,070.94
401gi(3)	PRECAST CONCRETE CLASS "A-3"	CM	1,256.01	790.24	4,967.00	1,753.31	8,766.57
401gii	PRECAST CONCRETE CLASS "B"	CM	1,256.01	790.24	4,245.56	1,572.95	7,864.76
401giii(1)	PRECAST CONCRETE CLASS "D1"	CM	1,256.01	790.24	5,245.25	1,822.88	9,114.38
401giii(2)	PRECAST CONCRETE CLASS "D2"	CM	1,256.01	790.24	5,523.50	1,892.44	9,462.19
401giii(3)	PRECAST CONCRETE CLASS "D3"	CM	1,256.01	790.24	5,801.75	1,962.00	9,810.00
404a	REINFORCEMENT AS PER AASHTO M. 31 GRADE 40	TON	1,141.30	669.81	67,838.00	17,412.28	87,061.39
404b	REINFORCEMENT AS PER AASHTO M. 31 GRADE 60	TON	1,141.30	669.81	77,288.00	19,774.78	98,873.89
404h	REINFORCEMENT (STRUCTURAL SHAPES) AS PER ASTM-A-36	TON	934.75	4,274.04	63,955.09	17,290.97	86,454.86
405a	PRE-STRESSING WIRE STRAND 3/8" - 1/2" DIA COMPLETE IN ALL RESPECT	TON	2,009.83	12,481.24	114,445.17	32,234.06	161,170.29
405b	LAUNCHING OF GIRDER	TON	46.77	486.64	-	133.35	666.77
406a	PREMOULDED JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	83.65	-	272.76	89.10	445.51
406b	NEOPRENE RUBBER JOINT FILLER 12 mm THICK WITH BITUMASTIC JOINT SEAL	SM	83.65	-	272.37	89.00	445.02
406c	STEEL EXPANSION JOINTS	KG	6.88	21.04	102.51	32.61	163.04
406d	WATER STOPS 6" SIZE	M	68.24	-	408.08	119.08	595.40
406e	ELASTOMERIC BEARING PADS (ACCORDING TO SIZE AND THICKNESS)	ccm	0.01	-	1.77	0.45	2.23
406f	ASPHALT FELT (3 PLY)	SM	30.50	-	2,886.11	729.15	3,645.76
406g	STEEL OR METAL BEARING DEVICES	KG	15.08	55.55	123.75	48.60	242.98
407d1	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN NORMAL SOIL	M	249.66	1,439.50	657.77	586.73	2,933.66
407d2	CAST IN PLACE CONCRETE PILES UP TO 0.76 M DIA (BORING ONLY) IN GRAVEL STRATA	M	374.49	2,159.25	986.66	880.10	4,400.50
407d3	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN NORMAL SOIL	M	374.49	2,159.25	750.28	821.00	4,105.01

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407d4	CAST IN PLACE CONCRETE PILES 0.80 - 1.4 M DIA (BORING ONLY) IN GRAVEL STRATA	M	624.14	3,598.75	917.71	1,285.15	6,425.75
407d5	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN NORMAL SOIL	M	534.98	4,253.63	1,086.89	1,468.88	7,344.38
407d6	CAST IN PLACE CONCRETE PILES 1.5 -2.0 M DIA (BORING ONLY) IN GRAVEL SOIL	M	936.21	6,025.34	1,189.38	2,037.73	10,188.67
407h	PILE LOAD TEST UP TO 120 TON	EACH	16,747.24	40,036.45	82,693.04	34,869.18	174,345.91
407i	PILE LOAD TEST UP TO 240 TON	EACH	31,030.24	40,036.45	165,386.08	59,113.19	295,565.96
407j	PILE LOAD TEST UP TO 360 TON	EACH	45,313.24	43,882.72	248,079.12	84,318.77	421,593.85
407k	CONFIRMATORY BORING (NX SIZE)	M	144.30	1,323.15	6.24	368.42	1,842.10
410	BRICK WORK	CM	239.60	236.06	2,126.27	650.48	3,252.41
411a	STONE MASONRY RANDOM DRY	CM	206.21	91.36	736.54	258.53	1,292.63
411b	STONE MASONRY RANDOM WITH MORTAR	CM	221.73	139.82	1,614.22	493.94	2,469.71
411c	STONE MASONRY DRESSED UNCOURSED DRY	CM	269.00	91.36	811.96	293.08	1,465.40
411d	STONE MASONRY DRESSED UNCOURSED WITH MORTAR	CM	315.92	139.82	1,686.27	535.50	2,677.50
411g	ROLL POINTING	SM	50.96	9.69	37.64	24.57	122.86
412a	STONE MASONRY DRESSED COURSED WITH MORTAR	CM	425.97	221.29	1,600.08	561.83	2,809.17
501a	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 310 mm	M	164.08	366.20	556.82	271.78	1,358.88
501b	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 380 mm	M	159.78	480.94	718.91	339.91	1,699.54
501c	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 460 mm	M	158.05	791.50	967.99	479.38	2,396.92
501d	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 610 mm	M	165.32	972.63	1,447.28	646.31	3,231.53
501e	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 760 mm	M	190.74	949.38	2,083.32	805.86	4,029.30
501f	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 910 mm	M	236.83	1,171.86	3,217.04	1,156.43	5,782.16
501g	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1070 mm	M	306.49	1,313.30	4,031.69	1,412.87	7,064.35
501h	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1220 mm	M	361.08	1,594.72	5,138.06	1,773.46	8,867.32
501i	R.C.C PIPE CULVERT AASHTO M 170 CLASS II DIA 1520 mm	M	428.24	1,860.51	7,938.50	2,556.81	12,784.06
501j	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 310 mm	M	164.08	423.57	575.91	290.89	1,454.45
501k	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 380 mm	M	159.78	480.94	672.97	328.42	1,642.12
501l	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 460 mm	M	154.48	791.50	920.17	466.54	2,332.68

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501m	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 610 mm	M	165.32	972.63	1,482.39	655.08	3,275.42
501n	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 760 mm	M	190.74	949.38	2,865.95	1,001.52	5,007.59
501o	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 910 mm	M	236.83	1,171.86	3,953.57	1,340.57	6,702.83
501p	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1070 mm	M	306.49	1,313.30	5,343.91	1,740.92	8,704.62
501q	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1220 mm	M	361.08	1,594.72	7,246.85	2,300.66	11,503.31
501r	R.C.C PIPE CULVERT AASHTO M 170 CLASS IV DIA 1520 mm	M	428.24	1,860.51	10,193.45	3,120.55	15,602.75
502a	GRANULAR MATERIAL IN BED TO CONCRETE PIPE CULVERT	CM	64.88	103.49	270.74	109.78	548.89
502b	CONCRETE CLASS "B" IN BEDDING AND ENCASEMENT OF CONCRETE PIPE CULVERT	CM	553.74	511.20	3,091.45	1,039.10	5,195.49
507a	STEEL WIRE MESH FOR GABIONS	KG	3.92	-	134.59	34.63	173.13
507b	ROCK FILL IN GABIONS	CM	69.72	-	539.58	152.33	761.63
508a	BRICK PAVING (SINGLE COURSE)	SM	79.79	26.90	154.52	65.30	326.51
508b	BRICK PAVING (DOUBLE COURSE)	SM	142.58	26.90	306.57	119.01	595.06
509a	RIP RAP CLASS "A"	CM	345.22	-	650.35	248.89	1,244.47
509b	RIP RAP CLASS "B"	CM	332.76	-	645.15	244.48	1,222.38
509c	RIP RAP CLASS "C"	CM	334.80	-	650.35	246.29	1,231.44
509d	GROUTED RIP RAP CLASS "A"	CM	422.00	84.24	1,807.09	578.33	2,891.65
509e	GROUTED RIP RAP CLASS "B"	CM	406.60	67.39	1,682.09	539.02	2,695.09
509f	GROUTED RIP RAP CLASS "C"	CM	401.62	56.16	1,715.37	543.29	2,716.44
509g	REINFORCED CONCRETE SLOPE PROTECTION (WITHOUT REINFORCEMENT)	CM	568.64	295.88	3,469.84	1,083.59	5,417.95
509h	FILTER LAYER OF GRANULAR MATERIAL	CM	35.17	167.47	348.41	137.76	688.81
510	DISMANTLING OF STRUCTURE AND OBSTRUCTIONS	CM	75.42	322.32	-	99.43	497.16
511a1	DRY STONE PITCHING (15-20 cm Thick)	SM	109.17	57.10	105.68	67.99	339.95
511a2	DRY STONE PITCHING (21-25 cm Thick)	SM	139.74	73.09	135.27	87.03	435.13
511b1	GROUTED STONE PITCHING (15-20 cm Thick)	SM	177.28	150.62	358.25	171.54	857.69
511b2	GROUTED STONE PITCHING (21-25 cm Thick)	SM	221.60	188.27	447.82	214.42	1,072.11
601ai	CONCRETE KERB IN PLACE NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	202.07	498.72	1,952.47	663.32	3,316.58

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601di	PRECAST REINFORCED CONCRETE KERB NEW JERSY BARRIER FOR MEDIAN (DOUBLE FACE)	M	689.37	567.97	3,982.12	1,309.86	6,549.31
601dii	PRECAST KERB IN CONCRETE CLASS A-1 OF SIZE 450 X 150 MM INCLUDING CONCRETE BEDDING & HAUNCHING	M	100.22	75.65	381.30	139.29	696.47
603	BRICK EDGING	M	6.39	-	24.29	7.67	38.34
604a	METAL GUARD RAIL	M	13.53	59.95	1,492.92	391.60	1,958.01
604b	METAL GUARD RAIL END PIECES	EACH	17.53	-	1,138.10	288.91	1,444.54
604d	STEEL POST OF METAL GUARD RAIL	EACH	62.33	805.79	3,566.86	1,108.75	5,543.73
605a	CONCRETE BEAM GUARD RAIL	M	53.62	25.40	588.28	166.83	834.13
605c	CONCRETE POST FOR GUARD RAIL	M	65.84	22.64	591.91	170.10	850.49
607a	TRAFFIC ROAD SIGN CATEGORY 1	EACH	174.24	213.74	6,396.52	1,696.13	8,480.63
607b	TRAFFIC ROAD SIGN CATEGORY 2	EACH	50.57	320.61	8,481.48	2,213.17	11,065.83
607c	TRAFFIC ROAD SIGN CATEGORY 3 (a)	EACH	174.24	453.76	11,193.74	2,955.44	14,777.19
607d	TRAFFIC ROAD SIGN CATEGORY 3 (b)	EACH	562.21	503.34	19,371.28	5,109.21	25,546.03
607e	TRAFFIC ROAD SIGN CATEGORY 3 (c)	SM	112.44	100.67	8,437.45	2,162.64	10,813.20
607f	ADDITIONAL PANEL SIZE 60 X 30 cm	EACH	203.43	-	1,134.96	334.60	1,672.98
607g	ADDITIONAL PANEL SIZE 90 X 30 cm	EACH	203.43	-	1,702.44	476.47	2,382.33
608b1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.02	5.03	15.40	5.61	28.06
608b2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	0.67	3.40	37.12	10.30	51.50
608c1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.02	5.03	20.55	6.90	34.50
608c2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	0.67	3.40	49.51	13.40	66.98
608d1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	55.33	4.26	148.79	52.09	260.47
608d2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	55.33	8.15	467.77	132.81	664.07
608h1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 15 cm WIDTH	M	2.53	7.44	21.41	7.84	39.22
608h2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 15 cm WIDTH	M	2.53	8.29	63.09	18.48	92.38
608i1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR LINES OF 20 cm WIDTH	M	2.53	5.98	28.55	9.26	46.32
608i2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR LINES OF 20 cm WIDTH	M	2.53	8.29	84.12	23.73	118.67
608j1	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR 4.0 M ARROWS	EACH	55.33	3.04	206.75	66.28	331.40

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608j2	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR 4.0 M ARROWS	EACH	55.33	6.45	795.53	214.33	1,071.63
608n1	PAVEMENT MARKING IN NON-REFLECTIVE CR PAINT FOR STOP	EACH	46.02	3.04	99.19	37.06	185.31
608n2	PAVEMENT MARKING IN NON-REFLECTIVE TP PAINT FOR STOP	EACH	46.02	6.45	312.32	91.20	455.98
608n3	PAVEMENT MARKING IN REFLECTIVE CR PAINT FOR STOP	EACH	46.02	3.04	137.83	46.72	233.61
608n4	PAVEMENT MARKING IN REFLECTIVE TP PAINT FOR STOP	EACH	46.02	6.45	531.15	145.90	729.52
609c	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - SINGLE)	EACH	6.83	69.34	184.86	65.26	326.29
609d	REFLECTORIZED PAVEMENT STUD (RAISED PROFILE TYPE - DOUBLE)	EACH	6.83	69.34	223.45	74.91	374.53
610b	RIGHT OF WAY MARKER	EACH	74.49	101.77	278.20	113.62	568.08
610c	KILOMETRE POST (0.610 X 0.114 X 1.5 M)	EACH	459.28	811.70	1,989.55	815.13	4,075.66
610d	TEN KILOMETRE POST	EACH	887.51	1,623.40	4,224.84	1,683.94	8,419.69
611a	CHAIN LINK WIRE FABRIC FENCING 1500 MM LENGTH WITH PRECAST PRESTRESSED R.C.C. POST	LM	96.02	76.10	911.88	271.00	1,355.00