

**Name of Work :- Construction of Minor Bridges on various roads of
Santrampur Taluka under MMGSY 2024-25 (Tribal) Package No. 29 (Total
3 Roads) Dist. Mahisagar.**

SCHEDULE OF MATERIALS

Item No.	Particulars	Qty	Unit	Remarks
1	2	3	4	5
1	Cement	1689.00	M.T.	Contractor has to brought the cement from the open market at his own cost.
2	TMT Fe-550D Bar	277.00	M.T.	Contractor has to brought the TMT steel from the open market at his own cost.
3	Emulsion RS-1	0.30	M.T.	Contractor has to brought the bitumen emulsion from the open market at his own cost.
4	Emulsion SS-1	0.00	M.T.	Contractor has to brought the bitumen emulsion from the open market at his own cost.
5	Asphalt grade VG-30 (60/70)	2.00	M.T.	Contractor has to brought the Asphalt from the Koyali Refinery at his own cost.

Deputy Executive Engineer
Panchayat (R & B) Sub Division,
Santrampur

Executive Engineer
Panchayat (R & B) Division
Mahisagar

Name of Work :- Construction of Minor Bridges on various roads of Santrampur Taluka under MMGSY 2024-25 (Tribal) Package No. 29 (Total 3 Roads) Dist. Mahisagar.

TMT Fe-550D BAR CONSUMPTION STATEMENT

Item No.	Item of Work	Total Qty.	Unit
1	2	3	4
8	Providing and fixing I.S.I. mark T.M.T. bar Fe-550D reinforcement for R.C.C. work including binding, bending and placing in position complete upto floor two level.	8.575	M.T.
34	Providing and laying in position I.S.I. mark Fe-550D T.M.T. bar reinforcement including cutting, bending, hooking and tying complete as per detailed drawing for foundations.	81.457	M.T.
36	Providing and laying in position I.S.I. mark Fe-550D (T.M.T.) bar reinforcement including cutting, bending, hooking and tying complete as per detailed drawing for the following (A) Piers (B) Abutment & (C) R.C.C. return.	142.159	M.T.
39	Providing and placing in position I.S.I. mark Fe-550D T.M.T. bar reinforcement including cutting, bending, hooking and tying complete as per detailed drawing. (B) T-Beam and deck slab type of super structure (i) Solid slab.	44.712	M.T.
	Total	276.903	M.T.
	Say	277.00	/ M.T.

Deputy Executive Engineer
Panchayat (R & B) Sub Division
Santrampur

Executive Engineer
Panchayat (R & B) Division,
Mahisagar

**Name of Work :- Construction of Minor Bridges on various roads of Santrampur Taluka under MMGSY 2024-25
(Tribal) Package No. 29 (Total 3 Roads) Dist. Mahisagar.**

ASPHALT CONSUMPTION STATEMENT

Sr. No.	Item No.	Item	Qty	Unit	Asphalt VG-30 (60/70)	Bitumen Emulsion (RS1)
1	60	Providing, laying and rolling 25 mm thick open graded premixed bituminous carpet with B.T. aggregate as specified and using bitumen (VG-30) for mixing with aggregate at the rate of 3.36% i.e. 33.60 kg/M.T. of total mix including heating and mixing in drum mix plant and spreading the same with paver finisher and consolidation with vibratory roller as per MORTH specification including necessary firewood, oil, lubricants, labour charges etc. using contractor's own drum mix plant and equipment, tools etc. completed in accordance with the requirement of specification.	30.00	M.T.	$\frac{30.00 \times 3.36}{100} = 1.01 \text{ M.T.}$	---
2	61	Providing and laying seal coat with B.T. aggregate as specified using aggregate at the rate of 0.18 cum/10 Sqmt and bitumen grade (VG-30) for mixing with aggregate at the rate of 4.50% i.e. 45.00 kg/M.T. of total mix including heating and mixing in drum mix pant, spreading the same with paver finisher and consolidation with vibratory roller including necessary firewood, oil, lubricants, labour charges etc. using contractor's own drum mix plant and equipment, tools etc. complete in accordance with the requirement of specification.	18.00	M.T.	$\frac{18.00 \times 4.50}{100} = 0.81 \text{ M.T.}$	---
3	62	Providing and laying evenly tack coat using rapid setting emulsion (RS-1) materials at the rate of 4.00 Kg / 10 Sq.M. on road surface using emulsion pressure sprayer including the cost of all labour, materials, heating, machinery & equipment etc. complete.	564.00	Sq.m.	---	$\frac{4.00 \text{ Kg./ 10 Sq.m.} \times 564.00}{1000} = 0.23 \text{ M.T.}$
			Total		1.82	0.23
			Say		2.00	0.30

M.T.

Deputy Executive Engineer
Panchayat (R & B) Sub Division,
Santrampur

Executive Engineer
Panchayat (R & B) Division,
Mahisagar

**Name of Work :- Construction of Minor Bridges on various roads of Santrampur Taluka
under MMGSY 2024-25 (Tribal) Package No. 29 (Total 3 Roads) Dist. Mahisagar.**

CEMENT CONSUMPTION STATEMENT

Qty	Unit	Item No.	Item of Work	Rate of cement in Kg.	Per	Qty. of Cement in Kg.
1	2	3	4	5	6	7
180.00	Cum	6	Providing and filling in foundation with ordinary cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 crushed stone aggregate 20mm nominal size) mix and providing necessary vertical pin headers including formwork, vibrating, ramming and curing complete.	220.00	Cum	39600.00
360.00	Cum	7	Providing and casting in situ ordinary cement concrete M-250 mix with Trimix C.C. Road laid as directed including vibrating, curing and filling in joints with bitumen complete.	380.00	Cum	136800.00
100.00	Rmt.	9	Supplying, fixing and joining reinforced concrete heavy duty non-pressure pipes carrying Indian Railway standard with collars for culverts carrying heavy traffic as per Indian Railway standard specification including setting and joining the pipes in C.M. 1:2 watering and laying (to level or slopes) of I.S. class NP-4 of 300mm internal diameter.	1.02	Rmt.	102.00
6.00	No.	10	Hazard Marker Sign :- Providing and fixing sign board made out of 2mm aluminium sheet size 90 x 30 cms. rectangle as per the design / drawing attached (IRC) pretreated with phosphating & acid etching, coated with one coat of epoxy primer and two coats of best quality epoxy paint reflectorised with retro reflective sheeting as per latest M.O.R.T.H. specification, 3.1m long (2 nos.) stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3mm & 50 x 50 x 5mm painted with best quality epoxy coatings in black and white bends. The details of symbol or inscription / numerals for each board shall be as per instruction of Engineer in charge. The fixing at site shall be in 1:2:4 C.C. block of size 45 x 45 x 60cms for each leg including excavation curing etc. complete under the supervision of Engineer in charge (A) Engineer Grade (VR).	57.60	No.	345.60
6.00	No.	11	Direction sign (Junction board) :- Providing and fixing sign boards made out of 2mm aluminium sheet size 244 x 122cms. rectangle as per the design of IRC-67-1977 pre treated with phosphating process & acid etching coated with one coat of epoxy primer and two coats of best quality epoxy paint reflectorised with retro reflective sheeting as per latest M.O.S.T. specifications, Letters and numerals should be as per IRC-30-1968, 3.1m long (2 Nos.) stand post and frame fabricated from suitable size iron angle of 50 x 50 x 5mm, 75 x 75 x 6mm as required, painted with best quality epoxy coatings in black and white bends. The details of symbol or inscription / numerals for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60cms. for each leg including excavation curing etc. complete under the supervision of engineer in charge. (A) Engineer grade. (VR)	57.60	No.	345.60

Qty	Unit	Item No.	Item of Work	Rate of cement in Kg.	Per	Qty. of Cement in Kg.
1	2	3	4	5	6	7
3.00	No.	12	Citizen's Information Board : Providing and fixing of typical information board as per instruction. Two M.S. plate of 1.6mm thick of 900mm x 750mm size fixed at top and bottom duly welded with M.S. angle with angles of 25 x 25 x 5mm thick M.S. plate shall be welded by two vertical M.S. flat and four horizontal M.S. flats 5mm thick to 75mm x 75mm of 12 SWG square tube posts duly embedded in cement concrete M-15 grade C.C. blocks of 600 mm x 600mm x 750mm below ground level. Painting new letters and figures of any shade with ready mixed synthetic enamel paint of superior quality in required shade and coloured, all sections of frame joints and steel tube will be painted with primer and two coats of epoxy paint as per drawing clause 1701 & Annexure 1700.1 (10.16).	28.80	No.	86.40
10.00	No.	15	Cautionary Warning Sign :- Providing and fixing sign board made out of 2mm aluminium sheet size 90 x 90 x 90 cms equilateral triangle as per the design of IRC-67-1977. Pre treated with phosphating process and acid etching coated with one coat of epoxy primer and two coats of best quality epoxy paint, reflectorized with retro reflective sheeting as per the latest M.O.R.T.H. specification, 3.1 Mt. long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm, 75 x 75 x 6 mm; painted with best quality epoxy coating in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60 cms for each leg, including excavation curing etc. complete under the supervision of Engineer-in-charge. (A) Engineer grade (VR).	28.80	No.	288.00
6.00	No.	16	Informatory Warning Sign :- Providing & fixing sign boards made out of 2mm aluminium sheet size 80 x 60 cms as per design of IRC 67-1977. Pre treated with phosphating process and acid etching coated with one coat of epoxy primer and two coats of best quality epoxy paint, reflectorized with retro reflective sheeting as per the latest M.O.R.T.H. specification, 3.1 mt. long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm, 75 x 75 x 6 mm; painted with best quality epoxy coating in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60 cms for each leg, including excavation curing etc. complete under the supervision of Engineer-in-charge. (A) Engineer grade (VR).	28.80	No.	172.80
80.00	Rmt.	17	Type - A, "W" : Metal Beam Crash Barrier (Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810)	5.00	Rmt.	400.00
65.00	Cum	20	Providing and filling in foundation with ordinary cement concrete M-100 mix and providing necessary vertical pin headers including formwork, vibrating, ramming and curing complete.	220.00	Cum	14300.00
1182.00	Cum	21	Providing and casting in situ ordinary cement concrete M-150 mix and providing necessary pin headers including shuttering, scaffolding, laying, vibrating, curing and finishing complete without V-groove (A) height 0.0 to 5.0 mt.	290.00	Cum	342780.00

Qty	Unit	Item No.	Item of Work	Rate of cement in Kg.	Per	Qty. of Cement in Kg.
1	2	3	4	5	6	7
140.00	No.	22	Providing and fixing Guard stone as per IRC type design including white washing etc. complete. (ii) Fixing in C.C. 1:5:10.	8.00	No.	1120.00
120.33	Cum	32	Providing and casting in situ ordinary cement concrete M-150 for R.C.C. raft and cut-off walls including necessary shuttering, laying, vibrating, ramming and curing complete.	290.00	Cum	34894.25
954.11	Cum	33	Providing and casting in situ controlled cement concrete M-300 for R.C.C. raft and cut-off walls including necessary shuttering, laying, vibrating, ramming and curing complete.	410.00	Cum	391183.05
734.69	Cum	35	Providing and casting in situ controlled cement concrete M-300 for R.C.C. return as per drawings including centering, shuttering, scaffolding wherever necessary laying, vibrating, curing and finishing complete. (A) Height from 5.0 mt. to 10.0 mt. (1) Piers & Caps (2) Abutment & caps (3) R.C.C. returns.	410.00	Cum	301222.90
289.80	Cum	38	Providing and casting in situ or precast controlled cement concrete M-350 for prestressed concrete work in super structure including centering, shuttering, curing, scaffolding, ramming, vibrating, finishing and launching or shifting complete (i) Solid slab.	425.00	Cum	123165.00
59.50	Cum	41	Providing and casting in situ controlled cement concrete M-40 for average 100mm thick wearing coat laid as directed including tamping, vibrating, finishing, curing and filling in joints with bitumen complete.	440.00	Cum	26181.76
139.20	Rmt.	42	Reinforced cement concrete crash barrier (Provision of an Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with M-40 grade concrete with T.M.T. Fe-550D reinforcement conforming to IRC:21 and dowel bars 25 mm dia., 450 mm long at expansion joints filled with pre-moulded asphalt filler board as per drawing having bottom size of 450mm, top 225mm and Ht. 1100mm all locations directed by the Engineer.	5.00	Rmt.	696.00
29.97	Cum	43	Providing and casting in situ controlled cement concrete M-150 for approach slab including form work, curing and finishing complete.	290.00	Cum	8691.30
59.94	Cum	44	Providing and casting in situ controlled cement concrete M-200 for approach slab including form work, curing and finishing complete.	360.00	Cum	21578.40
529.98	Cum	47	Providing panel wall for dry stone pitching in uncoursed rubble masonry with hard stone of approved quality in cement mortar 1:3 including curing etc. complete.	12.50	Cum	6624.76
149.22	Cum	49	Providing and casting in situ ordinary cement concrete M-150 mix and providing necessary pin headers including shuttering, scaffolding, laying, vibrating, curing and finishing complete.	290.00	Cum	43274.96
51.00	Cum	50	Providing and casting in situ ordinary cement concrete M-250 for R.C.C. raft and cut-off walls including necessary shuttering, laying, vibrating, ramming and curing complete.	380.00	Cum	19380.00
374.00	Cum	51	Providing and casting in situ controlled cement concrete M-250 for R.C.C. return as per drawings including centering, shuttering, scaffolding wherever necessary laying, vibrating, curing and finishing complete. (A) Height from 0.0 mt. to 5.0 mt. (1) Piers (2) Abutment (3) R.C.C. returns.	380.00	Cum	142120.00

Qty	Unit	Item No.	Item of Work	Rate of cement in Kg.	Per	Qty. of Cement in Kg.
1	2	3	4	5	6	7
9.00	Cum	52	Providing and casting in situ controlled cement concrete M-250 for R.C.C. works in pier cap, abutment cap and dirt wall including controlled cement concrete M-300 bed block or pedestal of required size below bearing as per detailed drawing, centering, shuttering, scaffolding wherever necessary laying, vibrating, curing and finishing complete.	380.00	Cum	3420.00
76.00	Cum	53	Providing and casting in situ controlled cement concrete M-250 for R.C.C. solid slab including centering, scaffolding, curing and finishing complete.	380.00	Cum	28880.00
36.00	Rmt.	57	Reinforced cement concrete crash barrier (Provision of an Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with M-400 grade concrete with TMT Corrosive Reinforcement Steel (CRS) conforming to IRC:21 and dowel bars 25 mm dia., 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular No. RW/NH - 33022/1/ 94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineer, all as specified).	5.00	Rmt.	180.00
45.00	Rmt.	59	Supplying and fixing reinforced concrete heavy duty non-pressure pipes with collars for culverts including setting and joining the pipes in C.M. 1:2 watering and laying (to level or slopes) of I.S. class NP-4 of 1200mm internal diameter.	5.10	Rmt.	229.50
				Total		1688062.28 Kg.
				i.e.		1688.06 MT
				Say		1689.00 MT

Deputy Executive Engineer
Panchayat (R & B) Sub Division,
Santrampur

Executive Engineer
Panchayat (R & B) Division
Mahisagar

**Name of Work :- Construction of Minor Bridges on various roads of Santrampur Taluka under MMGSY 2024-25 (Tribal) Package No. 29
(Total 3 Roads) Dist. Mahisagar.**

SCHEDULE FOR TESTING OF MATERIALS

For ensuring quality control and workmanship, various tests prescribed below for materials shall be taken at periodical intervals as stipulated below.

The material should be tested in GERI or Private laboratory approved by Govt. of Gujarat. Bill for testing charges should be paid Govt.

Item No. as per Schedule 'B'	Brief Description of materials to be tested.	Qty. of Materials	Unit	Prescription of test which shall be carried out	Frequency @ which test shall be carried out	Total Nos of test to be taken	
1	2	3	4	5	6	7	
1	B.T. metal 53 to 9.5 mm	211.00	Cum	*Gradation test	1 to 100 - cum. 1 test	3	
					*Impact Value		100 to 500 - cum. 3 test
					*Flakiness Index of		500 to 1500 - cum. 5 test
2	B.T. metal 9.5 to 2.36 mm	84.40	Cum	*Gradation test	1 to 100 - cum. 1 test	1	
					*Impact Value		100 to 500 - cum. 3 test
					*Flakiness Index of		500 to 1500 - cum. 5 test
							1500 to 5000 - cum. 7 test
3	B.T. metal 53mm to 22.4mm	324.28	Cum	*Gradation test	1 to 100 - cum. 1 test	3	
					*Impact Value		100 to 500 - cum. 3 test
					*Flakiness Index of		500 to 1500 - cum. 5 test
							1500 to 5000 - cum. 7 test
4	B.T. chips 25 to 40 mm	0.00	Cum	*Gradation test	1 to 100 - cum. 1 test	0	
					*Impact Value		100 to 500 - cum. 3 test
					*Flakiness Index of		500 to 1500 - cum. 5 test
							1500 to 5000 - cum. 7 test
5	B.T. metal 63mm to 45mm	0.00	Cum	*Gradation test	1 to 100 - cum. 1 test	0	
					*Impact Value		100 to 500 - cum. 3 test
					*Flakiness Index of		500 to 1500 - cum. 5 test
							1500 to 5000 - cum. 7 test
6	B.T. metal 13.2mm	0.00	Cum	*Gradation test	1 to 100 - cum. 1 test	0	
					*Impact Value		100 to 500 - cum. 3 test
					*Flakiness Index of		500 to 1500 - cum. 5 test
							1500 to 5000 - cum. 7 test
7	B.T. chips 10mm to 20mm	2657.00	Cum	*Gradation test	1 to 100 - cum. 1 test	7	
					*Impact Value		100 to 500 - cum. 3 test
					*Flakiness Index of		500 to 1500 - cum. 5 test
							1500 to 5000 - cum. 7 test

Item No. as per Schedule 'B'	Brief Description of materials to be tested.	Qty. of Materials	Unit	Prescription of test which shall be carried out	Frequency @ which test shall be carried out	Total Nos of test to be taken
1	2	3	4	5	6	7
8	B.T. chips 6mm to 10mm	0.00	Cum	*Gradation test	1 to 100 - cum. 1 test	0
				*Impact Value	100 to 500 - cum. 3 test	
				*Flakiness Index of	500 to 1500 - cum. 5 test	
					1500 to 5000 - cum. 7 test	
9	B.T. chips 11.2mm	64.32	Cum	*Gradation test	1 to 100 - cum. 1 test	1
				*Impact Value	100 to 500 - cum. 3 test	
				*Flakiness Index of	500 to 1500 - cum. 5 test	
					1500 to 5000 - cum. 7 test	
10	B.T. Kapchi 12mm	13.20	Cum	*Gradation test	1 to 100 - cum. 1 test	1
				*Impact Value	100 to 500 - cum. 3 test	
				*Flakiness Index of	500 to 1500 - cum. 5 test	
					1500 to 5000 - cum. 7 test	
11	B.T. Grit 6mm	18.48	Cum	*Gradation test	1 to 100 - cum. 1 test	1
				*Impact Value	100 to 500 - cum. 3 test	
				*Flakiness Index of	500 to 1500 - cum. 5 test	
					1500 to 5000 - cum. 7 test	
7	Supplying of Quarry spall	37.12	Cum	*Gradation,CBR	One test per work	One test per work
8	Supplying of Sand	2045.00	Cum	*Silt Content,F.M	One test per work	"
9	Stonedust	148.04	Cum	*Gradation	One test per work	"
10	Selected Soil for Embankment	0.00	Cum	P.I ,CBR,MDB		-
11	Natural GSB	422.00	Cum	*Gradation,P.I,CBR		"
12	Asphalt (VG-30)	2.00	M.T.	Viscosity Test	Tanker test in Geri Lab. Only	1
				as per I.S. 1206	Up to 10 1	
					11 to 20 2	
					20 to 50 3	
					Above 50 one per Tanker	
				Ductility Test	As per I.S. 1208	
				Specification Gravity test	As per I.S. 1202	
				Softening point test	As per I.S. 1204	
				Quality of binder test	3 test per 2 tankers on plant site.	
13	Tack Coat	564.00	Sqmt	*Binder Temperature for application	Irregular close in intervals	
				*Rate of spread of Binder.	2 test per Day.	
14	Carpet & Seal Coat. Mix			Grading	One Test on Individual	

Item No. as per Schedule 'B'	Brief Description of materials to be tested.	Qty. of Materials	Unit	Prescription of test which shall be carried out	Frequency @ which test shall be carried out	Total Nos of test to be taken
1	2	3	4	5	6	7
				Temperature of binder in Boiler aggregates in the dryer and mix at the time of laying and rolling. (Binder content vide 45/MD. 2172)	Constituents and mixed aggregates from the dryer for each 100 tonnes of mix subject to minimum of Two tests per plant per day. One Test for each 100 tones of mix subjects to minimum of two per Day.	
				Rate of Spreaded mix materials.	Regular control through checks on layer thickness.	
15	Cement (OPC)	1689.00	M.T.	*Consistency, Soundness	1 test @ 50.0 M.T. 100 T 2 tests,	8
				*Setting time, Fineness Test	200 T 3 tests, 300 T 4 tests, 500 T 5 tests,	
				*Compressive Strength.	800 T 6 tests, 1300 T 7 tests & 8 testd for large consingment.	
16	Steel (TMT)	277.00	M.T.	*Tensile, (TMT)	As per Manual of Quality Control	7
				Yield	1 test/40 tonnes / per category	
				*Elongation		
				Size		
17	C.C.Cube Test 1:2:4			*Compressive Strength.	1 to 5 cmt - 1 No	
	M-200	59.94			6 to 15 cmt - 2 No	5
	M-150	1481.52			16 to 20 cmt - 3 No	33
	M-100	245.00			20 to 50 cmt - 4 No	8
	M-300	1688.80			51 to above - 4 +1 additional sample for each 50 cu.mt. Or part there of.	37
	M-350	289.80				9
	M-400	59.50				5
	M-250	510.00				14
18	Retro Reflective Sheeting for the signage	19.00	Nos.	as per Test schedule attached GR SOR/1018/715/Part file/C-1 Dtd.4/6/19		
19	Road studs / Cat Eyes	26.00	Nos.	as per Test schedule attached GR SOR/1018/715/Part file/C-1 Dtd.4/6/19		
20	Hot Applied Thermoplast Road Marking	81.00	Sqmt	as per Test schedule attached GR SOR/1018/715/Part file/C-1 Dtd.4/6/19		

Note (1):- In case of excess in quantity. Further more test shall be carried out as per required frequency.

Note (2):- Apart from above listed materials for carrying out various tests during Road / Structure Construction works, if any other than above mentioned material/s are to be used during road / structure construction work then it must be tested as per prevailing criteria of Govt. of Gujarat (R & B Deptt.) and necessary tests should be carried out as per prevailing norms.

Signature of Contractor.

Deputy Executive Engineer
Panchayat (R & B) Sub Division
Santrampur

Executive Engineer
Panchayat (R & B) Division
Mahisagar