

## WATER SECURITY & PUBLIC HEALTH ENGINEERING DEPARTMENT GOVERNMENT OF SIKKIM. GANGTOK

**Detail Project Report** 

#### "EXTENSION OF SEWERAGE SCHEME FOR JORETHANG TOWN AND ITS SURROUNDING AREAS IN SOUTH SIKKIM." (PHASE II)

ESTIMATED COST :- '38,93,56,398/-

JULY 2018'



## WATER SECURITY & PUBLIC HEALTH ENGINEERING DEPARTMENT GOVERNMENT OF SIKKIM

## TECHNICAL REPORT

Name of Work: "Extension of sewerage scheme for Jorethang town and its surrounding areas in

Estimated Cost: '38,93,56,398/- (Rupees thirty eight crores ninety three lakhs fifty six thousand three hundred and ninety eight)only.

### Background:

State Government is working hard and reluctantly on providing every town in the State with sewerage facility. Jorethang town is one of the towns having given a priority after State capital Gangtok for the same. The project prepared by WS&PHE Department on setting up of sewerage system was sanctioned by the State Level Steering Committee of Urban Development Scheme for Small and Medium Towns (UIDSSMT) of the Central Government on 30th November 2007 amounting to `480 lakhs.

Reportedly, the time difference between the formulation of DPR and actual sanction laid to hike in the cost of Ductile Iron pipes which were to be used as the main sewer line. Since it has been 11 long years after the sanction of the mentioned scheme, there has been a rapid growth in th population of Jorethang town and its surrounding areas. Presently, the work which seems to be in th construction stage for a very long period of time (2009) due to land issues both for laterals as well as for the Sewerage treatment Plant (STP), was limited to providing a main sewer line along the Circular Road, i/e covering only around 20% of th current town

The civil works was tendered at a cost of ` 121.15 lakhs and awarded to one of the State Government contractors Shri Dilip Agarwal on 23r<sup>d</sup> February 2009. The actual date of completion was on 2<sup>nd</sup> March 2011 but due to land issues and public interferences in MajhiGaon areas, the laying of laterals could not be taken up till date. Also the land earmarked for setting up of STP could not be procured and for these reasons, the project seems to have been inordinately delayed.

#### Proposal:

As per the vision of State Government, it becomes inevitable that the mentioned town be provided with an efficient sewerage system. After detailed field survey / data collections on present number of households and population of Jorethang town, this Phase II DPR has been framed which incorporates a new site finalised for STP at Chirbirey Taar (Government land), which clearly solves the restrictions on land issues from the public holdings.



The DPR totals to `3893.56 lakhs which provides providing / fitting and laying of DI piped(k9) 250MM dia for the main sewer lines for a total length of 7000 meters, sub-mainlines of 200mm dia DI pipes for 12000 meters and 150mm DI pipes for a length of 3500 meters respectively.

The DPR also provides for setting up of STP based on the Moving Bed Bio Reactor (MBBR) technology and construction of RCC cover for protecting the sewer lines from any damages at a landslide prone zone named 16th Mile. Other items like provisions for repairs of road surfaces, tiled pedestrians, cc footpaths constructed by UD&HD Department have been included in the DPR. Rates:SOR 2012 and prevailing approved rates of WS&PHED for supply of DI pipes /

fittings.

Time: 24 months.

Land: Existing available.

Mode of execution:

Through E-Tender.

Submitted for seeking administrative approval and financial sanction please.

Divisional Er Engineer PHE Department South Division Govt. of Sikkim

South Sil



## GOVERNMENT OF SIKKIM WATER SECURITY & PUBLIC HEALTH ENGINEERING DEPARTMENT

# "EXYENSION OF SEWERAGE SCHEME FOR JORETHANG TOWN AND ITS SURROUNDING AREAS

## IN SOUTH SIKKIM." (PHASE II)

	"GENERAL ABSTRACT"	
10.	PARTICULARS	
1	Supply of sewer pipes (DI K9) and other accessories.	AMOUNT
2	Construction of sewer lines / chambers and setting up of STP (2.50Mld) with allied structures.	INR 106,737,107.00
3	Construction of RCC cover for providing as for a set	INR 153,882,467.00
	16th mile slip zone.	INR 22,355,406.00
*	Provision for cost escalation over SOR 2012 @45% on Sl no. 1&2 only	INR 282,974,980.00
	(i/c 7.5% annually for 6 years considering year 2019 as the execution year).	INR 79,307,043.00
*	Provision for land compensation for setting up of STP at Chirbirey.	INR 20,000,000.00
*	Provision for 0.5% for detailed topographical survey and investigations on Sub-total.	INR 1,414,875.00
*	Provision for 1% Labour CESS on Sub- total.	INR 2,829,750.00
*	Provision for 1% Contingency on Sub- total.	INR 2,829,750.00
	Total=	INR 389,356,398.00

Rupees (Thirty eight crores ninety three lakhs fifty six thousand three hundred and ninety eight) Only.

Junior Engineer. WS&PHE Department. Jorethang, Sub-division Government of Sikkim.

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4 Divisional Enginee W Drivisional Engineer

Namobi Dizisippepartment Government of Sikkum South Division Govt, of Sikkim

## SUPPLY OF DI PIPES AND NECESSARY OTHER ACCESSORIES FOR THE WORK "EXTENSION OF SEWERAGE SCHEME FOR JORETHANG TOWN AND ITS SUPPONNENCE

1	Particulars	Quanti		Ra		-	S IN SOUT
1)	D I Pipes (K-9) Under Excise Duty Paid Category (Blue or Red Epoxy) 250 mm dia Main:-	7000	mtrs				Amount
			11115	4773.75	/mtr	INR	33416250.00
2)	D I Pipes (K-9) Under Excise Duty Paid Category (Blue or Red Epoxy) 200mm dia Sub- Main:-	12000	mtrs	3561.55	/mtr	INR	42738600.00
3)	D 1 Pipes (K-9) Under Excise Duty Paid Category (Blue or Red Epoxy) 150mm dia Distribution:-	3500	mtrs	2622.95	/mtr	INR	9180325.00
4	) 600 mm dia Manhole cover with required settings:-						
A	<ul> <li>SFRC Manhole cover with settings</li> <li>CI Manhole cover with settings</li> </ul>	1400	nos.	3400.00	/no.	INR	4760000.00
	<ol> <li>CI Manhole cover with settings</li> </ol>	50	nos.	7200.00	/no.	INR	360000.00
				su	b-total=	INR	90455175.00
		A	dd 18%	GST on su	b-total=	INR	16281932.00
			INR	106737107.00			
L	Rupees (Ten crores sixty seven lakhs	thirty seve	n thous	and one hu	indred	and se	ven) only .

Junior Engineer, WS&PHE Department, Jorethang, Government of Sikkim.

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Divisional Engineer WSOBHEDDAL Nameh Divisionartment Government of Sikkinion Govt. of Sickim

CONSTRUCTION OF SEWER LINES AND CHAMBE JORETHANG TOWN AND ITS SURR SL Particulars Earth work in excavation in foundation trenches inc dressing of all sides, watering and ramming including data	JUNE	ING AREA	SINSC	UTUENSION O	FSEW
SL Particulars		0		<b>SIKKIN</b>	A" (DUERAGE SCUE
Earth work in excavation in foundation trenches inc	luding	Quantit	y .	P	(PHASE II)
dressing of all sides, watering and ramming including di of excavated earth upto 30m lead and 1.5m lift, disposed e	sposal			Rate	
be leveled and neatly dressed all complete.(All kinds of soi	arth to				Amount
	1)				
For laying of 250mm dia DI -					
$7000  x  1.00  x  1.5 \qquad = 10500.0$	00 c				
For laying of 200mm dia DI :-					
$12000 \times 1.00 \times 1.5 = 18000.0$	00 c				
For laying of 150mm dia DI :-					
$3500 \times 1.00 \times 1.5 = 5250.0 = 33750.0$	0 c				
- 557,50.0	)0 с	33750.00	cum	164 -	
Laying / fitting and jointing of 250 mm dia DI pipes	(10)			164.74	Cum IND
excluding the cost of fittings, trenching, refilling					<sup>/cum INR 5559975.00</sup>
compacting all complete as per the specific design	and				
		7000.00	mtrs	967	
Laying / fitting and jointing of 200 mm dia DI pipes	(K9)		1	857.64	/mtr INR 6003480.00
excluding the cost of fittings, trenching, refilling compacting all complete as per the specific design	and				0003480.00
		12000.00	mtrs		
Laying / fitting and jointing of 150 mm dia DI pipes	(K9)			651.01	/mtr INR 7812120.00
excluding the cost of fittings. trenching. refilling	and				/812120.00
compacting all complete as per the specific design	and	3500.00			
Refilling of the trench with available earth including wate	ering.		mtrs	342.61	mtr IND
ramming all complete.				,	/mtr_INR_1199135.00
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Deductions for area covered by pipes:					
$3.14 \times 0.25 \times 0.25 \times 7000 = 1373.74$					
$3.14 \times 0.20 \times 0.2 \times 12000 = 150720$					
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50% mixed filling:-		15310.89	cum	359.60	Cum IND
to a mixed ming."	7 C	15310.89	cum	68.44	/cum INR 5505795.00
Construction of RCC anchor blocks.					/cum INR 1047877.00
(Detail analysis per no. enclosed)					
Dimension of (0.60m X 0.60m X 0.60m)		400.00	nos.	5750.00	
Construction of RCC anchor blocks.				0700.00	/no. INR 2300000.00
(Detail analysis per no. enclosed)					
Dimension of (0.60m X 0.60m X 1.00m)		325.00	nos.	8700.00	
Construction of manhole chamber measuring				0700.00	/no. INR 2827500.00
(1.20mX1.20mX1.80m)(Detail analysis per no. enclosed)					
Construction of menhalist		425.00	nos.	57800.00	/no INR 24565000.00
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(0.70mX0 70mX1 20m)(Detail analysis per no. enclosed)					
		71 * 00			
Construction of inspection chamber measuring		715.00	nos.	25350.00	/no INR 18125250.00
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Reconstruction of pavements / cc footpaths wherever necessary         12 all complete. (Detail analysis per metre length enclosed)         13. Setting up of Sewerage Treatment Plant (2.50 Mld)         14. Provision for allied structures $\hat{g}$ . STP location         Throwing of the excavated earth / spoils away from the town to a         15. safe and permitted dumping zone all complete.	5500.00 2.50 1.00	mtrs MId Job	1200.00 15000000.00 10000000 00	/mtr - INR 6600000.00 /M1d INR 37500000.00 L.S INR 10000000.00
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Juniol Engineer. WS&PHE Department. Jorethang, Government of Sikkim.

mll Jorethang-Sub-division Jorethang-Sub-division Jorethang-Sub-Division South Sikkim

Divisional Engineer WWWA WS&PHE Department Divisional Engineer Û Governmente Department South Division Govt. of Stkim

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