

CPHEEO

Appraisal Note for Consideration of Projects under JNNURM by Central Sanctioning & Monitoring Committee of M/o UD

(Sewerage System)

Proposal	: Upgradation of Sewer System for the City of Kolkata
Name of State / UT	: West Bengal
Name of City	: Kolkata
Objectives	: Immediate action regarding rehabilitation of the sewerage system by way of desilting and strengthening the structure in a stretch of 36.271 kms
Whether CDP is prepared	: Not furnished to CPHEEO
Present Status	: The Kolkata town system sewer network is almost 140 years old and the suburban system is around 100 years old. The brick sewers in these two systems have already outlived its life and silted and are collapsing at various locations primarily where tram line is in operation. The project influence area consists of following sewerage / drainage network: <ul style="list-style-type: none">• Man entry brick sewers : 88 kms• No-man entry brick sewers : 92 kms• Pipe sewers : 1207 kms The part of sewer network under consideration under the present upgradation proposal has 36.271 kms of non man entry brick sewers spread across various sections/locations of the project influence area for town system and suburban system.
Need of the Project	: The brick sewer system in the upgradation project area under consideration in the present proposal (36.271 kms) is in a dilapidated condition and there are numerous associated problems like: <ul style="list-style-type: none">⇒ Reduction of Hydraulic capacity of the sewerage system due to heavy siltation.⇒ Old brick sewers are in poor structural condition along several stretches and have collapsed at different locations mostly in the areas where trams are in operation. Many gully pits are filled with debris and inlets covered with trash and polythene bags, making it difficult for storm water to enter the sewer system.⇒ Rapid uncontrolled urbanization and destruction of wetlands has resulted in increased runoff.
Population	: The population in the project area is almost stagnant for last two & half decade and is expected to be stagnant for coming decades.
▪ Base year 2007	: 4.45 lakh
▪ Year 2019	: 4.45 lakh
▪ Year 2034	: 4.45 lakh

Sewage Generation (mLd)	:	The system in place is a combined system for sewage and storm water.
Project Components	:	⇒ Desilting of sewers ⇒ Rehabilitation of sewer ⇒ Restoration of road after sewer rehabilitation
Estimated Cost (proposed) (Rs-Crores)	:	Rs. 97.25 Crores
Period of implementation (Schedule)	:	36 months
Funding pattern GOI: State : ULB	:	35%:15%:50%
Financial Phasing	:	2006-07 : 30 % 2007-08 : 40% 2008-09 : 30%
Implementing Agency	:	Kolkata Municipal Corporation
Annual O & M Expenditure (Rs. lakh)		
* Existing	:	Not furnished for project area, however, for whole of Kolkata it is Rs. 36.29 Crore
Proposed (first year)	:	Rs. 2.50 Crore per annum with 5% escalation expected every year. Every five years after completion of the work, major maintenance expenditure @ 1% (in 5 th year), 2% (10 th year)& 3% (15 th year) of capital cost is expected.
17. Agency Responsible for O & M	:	Kolkata Municipal Corporation
18. Sewage Cess		
* Existing	:	Current practice of adhoc allocation of a year-by-year determined portion of property taxes (as drainage & sewerage charges) for domestic customers. For industrial/commercial /institutional (ICI) 25% of water charges, which are not metered currently and collected on the basis of ferrule sizes. Existing water tariff structure: Rs. 6.00/K.L for Domestic customer Rs. 12.00/KL for ICI customer
* Proposed	:	Existing practice will be discontinued and user charges are proposed to be levied as a percentage (25%) of water charges for industrial/commercial/institutional/domestic-customers.
19 Revenue Generation (Rs. Lakh)		
* Existing	:	Around Rs. 2.00 Crore "
◆Proposed(2009-10)	:	Around Rs. 4.88 Crore

20. Estimated Cost for : Rs. 97.12 Crores
Consideration &
approval (Rs. Crore)

CPHEEO's Technical Comments

1. The proposal is for structural rehabilitation, desilting of 36.271 km of brick sewers 100 to 140 years old and restoration of road after sewer rehabilitation.
2. The collapse in aforesaid length of the sewer has taken place at different locations/stretches due to age of sewer, dynamic/moving loads due to trams operation.
3. The population in the project area is almost stagnant for last two & half decade and is expected to be stagnant for coming decades as there is hardly any scope for horizontal or vertical expansion.
4. Detailed cost estimates have been furnished for all the components of the project. The rates are based on the Government SOR prevailing in Kolkata.
5. The DPR for "Upgradation of Sewer System for the City of Kolkata" is approved from technical angle at a cost of Rs. 97.12 crore for execution subject to the following conditions.
 - a. All works proposed in the DPR shall be carried out as per the detailed standard specifications and the relevant code of practice published by the Bureau of India Standards.
 - b. Kolkata Municipal Corporation should explore the possibility of providing separate system for sewage and storm water.
 - c. No. change in the scope of work shall be effected without prior approval of CPHEEO

UPGRADATK3N OF SEWER SYSTEM FOR KOLKATA- COST ANALYSIS

SI. No.	Name of the Road	Existing Size	Length in metre	Cost				Total Cost
				Desilting per metre (In Rs.)	Rehabilitation per metre (In Rs.)	Restoration per metre	Cost per metre	
1	Bagbazar Street	3'-6" X 2'-4" 3'-6" X 2'-4"	700 310	220	17615	6810	24645	24891450
2	Shyambazar Street	3'-0" X 2'-0"	310	220	17378	6810	24408	7566480
3	Judges Court Road	3'-6"	1400	263	32258	6810		
4	Ballygunge St Road	3'-6"	915	265	32258	571C		
5	Harighosh Street	3'-0" X 2'-0"	270	220	17378	5716	23314	6294780
6	Kashighosh Lane	3'-0" X 2'-0"	220	220	17378	5716	23314	5129080
7	Tarak Paramanick Road	3'-6" X 2'-4"	410	220	17615	5716	23551	9655910
8	B.B. Ganguly Street	3'-6" X 2'-4" 4'-0" X 2'-8" 5'-0" X 3'-4"	270 675 405	220 230 243	17615 17851 19338	6810 6810 6810	24645 24891 26391	6654150 16801425 10688355
9	Rabindra Sarani (From Crossing of Bagbazar Street to crossing of Bowbazar Street)	3'-0" X 2'-0" 3'-6" X 2'-4" 5'-0" X 3'-4"	1115 1205 700	220 220 243	17378 17615 19338	6810 6810 6810	24408 24645 26391	27214920 29697225 18473700
10	Bidhan Sarani (From Shyambazar five point crossing to crossing of Collutala Street)	3'-0" X 2'-0" 3'-6" X 2'-4" 4'-6" X 3'-0"	810 1480 820	220 220 236	17378 17615 18087	6810 6810 6810	24408 24645 25133	19770480 36474600 20609060
11	Amherst Street	3'-0" X 2'-0"	1275	220	17378	6810	24408	31120200
12	Sashi Bhusan Dey Street	4'-6" X 3'-0" 4'-0" X 2'-5"	405 270	236 230	18087 17851	5716 5716	24039 23797	9735795 6425190
13	Raja Dinendra Street	3'-0" X 2'-0" 3'-6" X 2'-4" 4'-6" X 3'-0"	285 475 190	220 220 236	17378 17615 18087	5716 5716 5716	23314 23551 24039	6644490 11186725 4567410
14	Council House Street (East)	4'-6" X 3'-0" 3'-6" X 2'-4"	216 324	236 220	18087 17615	5716 5716	24039 23551	5192424 7630524
15	Government Exchange Place	5'-0" X 3'-4" 4'-6" X 3'-0"	216 324	243 236	19338 18087	6810 6810	26391 25133	5700456 8143092
16	Lindsav Street	3'-6" X 2'-4"	700	220	17615	5716	23551	16485700
17	Suddar Street	3'-6" X 2'-4"	240	220	17615	5716	23551	5652240
18	Kyd Street	3'-6" X 2'-4"	170	220	17615	5716	23551	4003670
19	Free School Street	3'-6" X 2'-4" 4'-0" X 2'-8" 4'-6" X 3'-0"	255 242 355	220 230 236	17615 17851 18087	5716 5716 5716	23551 23797 24039	6005505 5758874 8533845
20	Rafi Ahmed Kidwai Road	3'-6" X 2'-4" 3'-6" X 2'-4"	275 200	220 220	17615 17615	6810 6810	24645 24645	6777375 4929000
21	Rani Rasmoni Road	4'-6" X 3'-0"	200	236	18087	5716	24039	4807800
22	Royd Street	3'-6" X 2'-4"	200	220	17615	6810	24645	4929000

