Action Plan
for
Rejuvenation of River Karola
Jalpaiguri, West Bengal

Priority – V

Nodal Agency
Municipal Engineering Directorate
Department of Urban Development & Municipal Affairs
Government of West Bengal

Approved by
River Rejuvenation Committee, West Bengal
(constituted in compliance to the order of the Hon'ble National Green Tribunal)

Submitted to
Central Pollution Control Board, Delhi

SEPTEMBER, 2020

Executive Summary

Sl.	Description of Item	Details
1.	Name of the identified polluted river	RiverKarola
2.	Identified polluted stretch of the river	Jalpaiguri to ThakurerKamat
3.	Total length of the polluted river	50 KM (approximately)
4.	Towns in the catchment of the polluted stretch of the river	Jalpaiguri
5.	Is river is perennial	Perennial
6.	No. of drains contributing to pollution and names of major drains	Four (4)
	(1)Dhardhara river (2) Maskalaibari Crematorium Ghat (3) District Hospital Road (4) Dinbazar Drain	
7.	Whether 'River Rejuvenation Committee' (RRC) constituted by the State Govt./UT Administration and If so, Date of constitution of 'RRC'	Yes. 07.01.2019
8.	Major Towns on the banks of the river with population	Jalpaiguri Population = 1,07,341 (Census, 2011)
	a. Total water consumption and sewage generation in MLD	Total water consumption =21.01 MLD Total sewage generation = 12.81 MLD
	b. Total no. of existing STPs and the totalcapacities in MLD	Nil
	c. Gaps in sewage treatment in MLD and no. of towns not having STPs	Town=1, Gap=12.81 MLD
	d. Total MSW generation in TPA	14600 TPA
	e. Existing treatment and disposal facilities and total capacity	NIL
9.	Major industrial estates located with total no. of industries	NIL
	a. Total no. industries discharging wastewater directly/indirectly in to the river	NIL
	b. Total water consumption	NIL
	c. Total industrial effluent generation	NIL
	d. No. of industries having captive ETPs and their treatment capacity	NIL
	e. No. of CETP's and their treatment capacity	NIL
	f. Gap in industrial wastewater treatment	NIL
	g. Total HW generation in TPA in the catchment area	All hazardous waste generating industries are disposing their hazardous wastes through one (1) Common Hazardous Waste Treatment, Storage and Disposal Facility operating at Haldia.
	h. Existing HW Treatment and Disposal Facilities and total capacity with life span	
10.	Action plan includes mainly covering aspect such as appropriate management of sewage, rain water harvesting, measures for regulating ground water use, protection and management of flood plain zone, plantation on both sides of the river, setting up of bio-	Whichever applicable has been taken into account.

	diversity parks etc., as per Hon'ble NGT Orders dated 20.09.2018 and 19.12.2018	
11.	Responsible Organization (s) for implementation of proposed action plans (Please enclose details as annexure)	Table-6
12.	Nodal Agency	Municipal Engineering Directorate Department of Urban Development and Municipal Affairs, Govt. of West Bengal BikashBhavan, Salt Lake, Kolkata-700091

Proposed Mechanism for execution of action plans:

This action plan implementation is to be monitored by the River Rejuvenation Committee (RRC) through meetings every month. The Central Monitoring Committee constituted by the Hon'ble NGT under the Chairmanship of the Secretary, Ministry of Jal Shakti, GoIalso holds meeting in every month with the Chief Secretary/Principal Secretary, Environment of the State to assess progress of work. Every month Monthly Progress Report will be sent to Ministry of Jal Shakti, GoI.

An Environment Monitoring Cell in the Office of the Chief Secretary, WB has been constituted to oversee the progress of work.

Expected deliverables with respect to achieving Goals :

Considering the importance of this river in the Jalpaiguri district with respect to the livelihood of the fishermen living on both sides of the river, rejuvenation of water quality of this river is extremely important as it is non perennial river. For achieving this objective, generated municipal sewage should be treated and discharged only when they comply with the prescribed standards.It has to be ensured that no industrial effluents are discharged without being properly treated and complying the discharged standards prescribed under the Environment (Protection) Rules, 1986. **The target for water quality for the stretch is to be fit at least for bathing purposes (i.e. BOD< 3 mg/l and FC < 500 MPN/100 ml).**

Response of the RRC, WB on comments of the Task Team for ensuring compliance to Hon'ble NGT (PB), New Delhi in OA No 673/2018 held during 26.02.2020 and 11.06.2020

Comments of Task Team	Corresponding response(s) of RRC_West_Bengal
Latest water quality of PRS covering all parameters not provided	Monthly water quality data for BOD & FC for the years 2017, 2018 and 2019 provided. Moreover, latest water quality of river Karola covering all parameters also provided for the months of Jan-May 2020.
Projected population not taken into account for assessment of sewage generation.	Projected population till 2022 considered for assessment of sewage generation
Detailed gap analysis (Town wise/ ULB wise) w.r.t sewage, Industrial Effluent and Waste Management along with infrastructure available not included	Available information included in the report.
Aspects such as Utilization of treated waste water, Removal of encroachments not covered in action plan	Department of Urban Development and Municipal Affairs, GoWB has prepared a policy on use of treated wastewater. The policy is in final stage of preparation. The same will be sent to CPCB for approval.
Timelines for construction of STPs is exceeding March, 2021	Primary treatment of wastewater in the Four drains in Jalpaiguri town by providing screens, sedimentation tank, followed by disinfection by chlorination is proposed. The work will be completed by 30.06.2021.
Action plan to be revised adding latest water quality data for the polluted river, major drains with flow and other parameters.	Available information included in the report.
Map showing all the towns, tributaries, drains & industrial estates, contributing to pollution to be included	Available information included in the report.
Gap analysis with projection upto 15 years w.r.t sewage and Waste Management be included in action plan	12.81 MLD
Actions be initiated against industries functioning without captive ETPs or connection with CETPs.	All GPIs and SPIs under consent administration of WBPCB are having captive ETPs.
Detailed gap analysis w.r.t present generation, projected generation existing infrastructure, existing capacity utilization, gap observed in the catchment for management of industrial effluent and waste management (solid waste, hazardous waste, C & D waste, bio-medical waste) need to be detailed in a separate table clearly.	Available information included in the report.

Background:

The West Bengal is the land of rivers. An intricate network of three major river basins (the Ganga, Brahmaputra and Subarnarekha) drain this State. Human settlement and related activities on the banks of the rivers have gradually increased over the years. Considering very reach ecological diversities of the water resources and the benefits of river network, most of the industrial development in this State took place near the rivers and the population density is also very high in these areas. As a result, these rivers receive liquid wastes like industrial discharges and municipal sewage and solid wastes are also dumped near the banks of the rivers.

Since early eighties, the West Bengal Pollution Control Board (WBPCB), in collaboration with the Central Pollution Control Board (CPCB), initiated monitoring of water quality of all important rivers, canals, ponds and reservoirs. The CPCB conducted water quality assessment based on available data have collected till 2016 to identify polluted river stretches in the entire country.

An application was registered before the Hon'ble National Green Tribunal, Principal Bench, New Delhi as O.A. No. 673/2018 on the basis of a news item dated 17.09.2018 in 'The Hindu" under the heading "More river stretches are now critically polluted: CPCB". The Hon'ble Tribunal was pleased to pass an order on 20.09.2018identifying seventeen (17) polluted river stretches in the State of West Bengal and categorized these polluted stretches in five priority classes (Table-1). The Hon'ble Tribunal directed the State to prepare action plans for rejuvenation of these 17 polluted river stretches for bringing all the polluted river stretches to be fit at least for bathing purposes (i.e. BOD< 3 mg/l and FC < 500 MPN/100 ml). The Hon'ble NGT further directed on 19.12.2019 that action plans for rivers are to be reviewed by the CPCB before acceptance.

Table 1: Polluted River Stretches in West Bengal

Sl. No.	Priority	River	Polluted Stretch identified	BOD (mg/L) when identified as polluted
1	I	Vindyadhari	Haroa Bridge to Malancha Burning Ghat	26.7 – 45.0
2	II	Mahananda	Siliguri to Binaguri	6.5 – 25
3	III	Churni	Santipur Town to Majhadia	10.3 – 11.3
4	III	Dwarka	Tarapith to SadhakBamdebGhat	5.6 – 17.0
5	III	Ganga	Tribeni to Diamond Harbour	5.0 – 12.2
6	IV	Damodar	Durgachak to Dishergarh	4.4 – 8.2
7	IV	Jalangi	Laal Dighi to Krishna Nagar	8.3
8	IV	Kansi	Midnapore to Ramnagar	9.9
9	IV	MathaBhanga	Madhupur to Gobindapur	8.5
10	V	Barakar	Kulti to Asansol	5.7
11	V	Dwarakeshwar	Bankura to Kushtia	1 – 5.6
12	V	Kaljani	Bitala to Alipurdwar	6.0
13	V	Karola	Jalpaiguri to ThakurerKamat	3.9
14	V	Mayurakshi	Suri to Durgapur	5.2
15	V	Rupnarayan	Kolaghat to Benapur	3.1 – 5.8
16	V	Silabati	Ghatal to Nischindipur	3.8
17	V	Teesta	Siliguri to Paharpur	3.3

River Rejuvenation Committee:

In compliance to the direction of Hon'ble National Green Tribunal, Principal Bench, New Delhi in respect of O.A. No. 673/2018, the Government of West Bengal constituted the River Rejuvenation Committee (RRC) for preparation of such action plans for effective abatement of pollution, rejuvenation, protection and management of the identified polluted River stretches, for bringing the polluted river stretches to be fit at least for bathing purposes and identified the following components for such action plan, although all the components may not be applicable for all the polluted river stretches:

1. Identification of polluting sources
2. Trade and Sewage Generated in the Catchment Area of Polluted River Stretch.
3. Functioning status of STPs/ETPs/CETP
4. Interception and Diversion of sewage carrying drains to the STP.
5. Solid Waste Management including quantification and characterisation of Solid Waste, Bio-Medical Waste Management, e-waste and processing facilities, quantification and characterisation of Solid Waste
6. Protection and management of Flood Plain Zones (FPZ)
7. Rain Water Harvesting, Ground Water Charging
8. Adopting good irrigation practices
9. Address issues relating to Ground Water Extraction
10. Maintaining minimum Environmental Flow of river and plantation on both sides of the river
11. Plantation on both sides of the river
12. Setting up of biodiversity parks on flood plains by removing encroachment.
13. Utilization of treated sewage so as to minimize extraction of Ground or Surface Water

The Member Secretary, West Bengal Pollution Control Board is the Chairman, RRC and the Chief Executive Officer, Kolkata Metropolitan Development Authority is the Member-Convenor, RRC. The Committee is functioning under the supervision and coordination of Principal Secretary, Environment Department, GoWB.

The main causes of the river water quality deterioration are (1) Discharge of industrial wastewater (2) Discharge of municipal wastewater and (3) Pollution from nonpoint sources. Any action plan for any river stretch to improve its water quality then is required to address these three issues and address them primarily. In West Bengal there are forty eight (48) Grossly Polluting Industries (GPIs) and four hundred (400) odd Seriously Polluting Industries (SPIs). All these industries are under Consent administration of the WBPCB. The WBPCB inspects the GPIs every month and SPIs periodically to assess the environmental performance of these industries. All these industries are having Effluent Treatment Plant(s) inside the premises and the industrial wastewater generated are treated in these ETPs before being discharged either in to the river / canal or to local water bodies (Ponds & Wetlands) or to municipal drains/public sewer those are channelized to the canals. The river stretches in the State run through habitations of wide varieties and human activities. The habitations on the banks of these rivers also generate large quantities of sewage water regularly which are also drained through various discharges channels in to these rivers. As the rivers are not of perennial nature, during lean periods the

water volume becomes less resulting in high pollution concentrations. Inadequacy in solid waste management facilities resulted in unscientific dumping of solid wastes on the banks and this is also a major source of river pollution.Since most of these rivers are having long stretches, agricultural runoffs also finally find their ways in to these rivers. The river water quality database of the WBPCB however shows no significant impact of such non-point source contribution in any of these river stretches.

Therefore, the action plan for river Karola need to be prepared for its catchment areas considering the discharges from industrial source, discharges from municipal outfalls, interception and diversion of sewage carrying drains to the STP, solid waste management, Bio-medical waste management, e-waste management, ground water management, rain water harvesting, ground water charging, maintaining minimum environmental flow of river, protection and management of Flood Plain Zones (FPZ), adopting good irrigation practices, plantation on both sides of the river, setting up of biodiversity parks on flood plains etc.

The RRC, WB sent the Action Plan for rejuvenation of river Karolato CPCB on 12.02.2020 and the Task Team in its 10th Meeting held on 26.02.2020 suggested some revision in the action. The RRC, WB approved the revised action in its 7th meeting held on 09.06.2020 and sent to CPCB on 09.06.2020 which was once again reviewed by the CPCB in its 12th Task Team meeting on 11.06.2020 and once again suggested some modifications.

Now, this action plan has been modified as per recommendation of the CPCB Task Team and the RRC, WB has approved this Action Plan in its 8th meeting held on 02.07.2020.

The River Karola:

Karola originates at the place Junglee More in the tea gardens of Jalpaiguri district in the footheels of the Himalayas and run parallel to Teesta after entering the town Japaiguri.Teesta runs through the outside of the town whereas Karala goes through the main town. Karala Carries sewage from cremation ghat at Maskalaibari, from district hospital and from dinbazaar area.and drains them to Teesta at downstream. Tributary of river Karala is River Dhardhara which collects sewage from town area and drains it at Teesta at downstream. Dhardhara river enters the city and moves through Raikatpara, Senpara, Haspatalpara, Samajpara and then drains into Karala river. The stretch of this river that has been identified as "Polluted" is surrounding the town Jalpaiguri as it passes through the town. The river is in non-tidal zone, receivs fresh water supply from Teesta and municipal wastewater from the Jalpaiguri town round the year. BOD and Bacteriological count (Faecal Coliform) are the principal pollutants in this river stretch. The sources for this river is presented below.

Polluted stretch of river Karola:

The stretch of this river that has been identified as "Polluted" is Jalpaiguri to ThakurerKamat, about 50.0 km in length. The river is non tidal in nature and receives municipal wastewater from the Jalpaiguri town round the year. Bio-chemical Oxygen Demand (BOD) and Faecal Coliform (FC) are the principal pollutants in this river stretch. This river is strictly perennial. Usage of water in this stretch is mainly for purposes of agriculture and fishing.

Table-2: Polluted stretch of river Karola

SL. No.	Name of the rivers/streams	Details	Identified polluted stretches	BOD (mg/L) when identified	Prioritywise
1.	Karola	Karola originates at the place Junglee More in the tea gardens of Jalpaiguri district in the footheels of the Himalayas and run parallel to Teesta after entering the town Japaiguri.Teesta runs through the outside of the town whereas Karala goes through the main town. Karala Carries sewage from cremation ghat at Maskalaibari, from district hospital and from dinbazaar area.and drains them to Teesta at downstream. Tributary of river Karala is River Dhardhara which collects sewage from town area and drains it at Teesta at downstream. Dhardhara river enters the city and moves through Raikatpara, Senpara, Haspatalpara,	Jalpaiguri to ThakurerKamat, about 50.0 km in length	3.90 mg/l	V

		Samajpara and then drains into Karala river. The stretch of this river that has been identified as "Polluted" is surrounding the town Jalpaiguri as it passes through the town. The river is in non-tidal zone, receivs fresh water supply from Teesta and municipal wastewater from the Jalpaiguri town round the year			

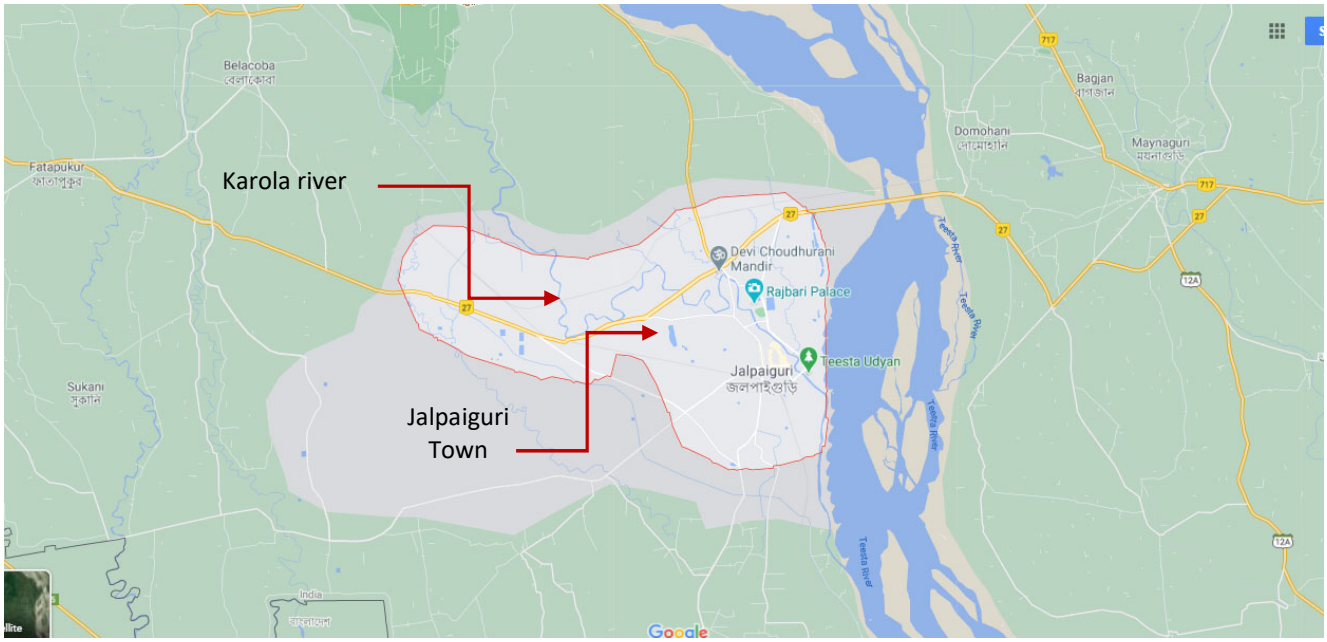

Figure 1: Map showing the River Karola and the Jalpaiguri Town

Major towns located on the bank of the polluted stretch:

Within the identified polluted river stretch, the major town located on the side of the river is the Jalpaiguri town. As of 2011 India census, Jalpaiguri had a population of 1,07,341. It is the largest town in Jalpaiguri district.

Water quality assessment of river Karola:

The water quality status of the river Karola is monitored by the West Bengal Pollution Control Board under the National Water Monitoring Programme on monthly basis at one location at Downstream of Jalpaiguri, near Min Bhawan (CPCB Station Code: 2523). The water quality of the river Karola during last three years (January 2017-December 2019) for two criteria pollutants (BOD & FC) is given in Table-3.

Table-3: Water quality of river Karola during 2017, 2018 & 2019

Sampling Location: River Karola, Downstream of Jalpaiguri, near Min Bhawan						
Months	**BOD (mg/l)**			**FC (MPN/100 ml)**		
	2017	**2018**	**2019**	**2017**	**2018**	**2019**
January	1.2	2.7	1.8	3400	3300	2700
February	3.4	2.6	2.2	3400	5000	3400
March	2.8	2.8	2.4	2700	5000	3300
April	3.2	3.2	2.1	2600	5000	2200
May	2.6	3.4	1.8	2300	3000	2200
June	2.8	2.2	2.1	5000	2300	1700
July	2.6	2.2	2.1	2200	5000	2200
August	1.2	2.4	1.5	3300	3000	2600
September	2.3	2.6	2.8	5000	3400	3300
October	2.4	2.6	1.7	7000	5000	2600
November	3.9	3.4	1.8	900	5000	2100
December	1.4	2.4	1.8	1100	3400	2300
Range	1.2-3.9	2.2-3.4	1.5-2.8	900-7000	3300-5000	1700-3400
Average	2.48	2.71	2.01	3241.67	4033.33	2550.00

Latest water quality of river Karola:

Considering the impact of this river water to the ecosystem of the Jalpaiguri district and the livelihood of the fishermen living on both sides of the river, revival of the water quality of this river is extremely important on context of its utility as it is Perennial River. The ultimate goal for beneficial use of rivers will determine the level of actions to be taken for maintaining the water quality. The water quality of river Karola during the first five months in the year 2020 (Jan-May) are also depicted Table-4.

For achieving this objective, generated municipal sewage should be treated to meet the required standards for outdoor bathing as notified by the Ministry of Environment, Forests & Climate Change, GoI for "Primary Water Quality Criteria for Bathing Water" vide GSR 742I dated 25.09.2000. Also, the trade and other effluents generated within the catchment of river and generated from the catchment of the river which are ultimately joining and contributing to the pollution load in the river should be treated to meet the effluent discharge standards as stipulated above.

The target for water quality for the stretch is for organised outdoor bathing.

Table-4: Water quality of river Karola during Mar-Jul 2020

Sampling Location: River Karola, Downstream of Jalpaiguri, near Min Bhawan					
Parameter	**Mar-2020**	**Apr-2020**	**May-2020**	**Jun-2020**	**Jul-2020**
Temperature (°C)	21	28	24	21	30
pH	7.6	7.2	6.93	7.82	7.62
Dissolved Oxygen (mg/l)	8.2	8.6	7.2	7.1	7.2
BOD (mg/l)	1.8	1.2	1.8	1.4	1.8
COD (mg/l)	28	16	20	25	42
Total Coliform (MPN/100 ml)	3400	3400	13000	17000	17000
Fecal Coliform (MPN/100 ml)	1700	1300	3400	5000	3400
Total Dissolved Solids (mg/l)	64	72	65	78	68
Total Fixed Solids (mg/l)	Not Done	Not Done	Not Done	Not Done	108
Total Suspended Solids (mg/l)	12	10	48	66	56
Turbidity (NTU)	Not Done	Not Done	Not Done	Not Done	1.76
Conductivity (µs/cm)	128	78.1	98.64	86.43	46.61
Calcium (mg/l)	12.83	15.23	24.84	10.42	4.01
Magnesium (mg/l)	2.88	8.64	6.33	7.49	1.86
Total Hardness as CaCO3 (mg/l)	42	58	84	40	18
Total Alkalinity (mg/l)	76	64	48	102	78
Phenolphthalein Alkalinity (mg/l)	NIL	NIL	NIL	NIL	NIL
Ammonia-N (mg/l)	Not Done	Not Done	Not Done	Not Done	BDL
Nitrate-N (mg/l)	Not Done	Not Done	Not Done	Not Done	2.1
Phosphate-P (mg/l)	0.003	0.003	0.019	0.152	0.116
Sulphate (mg/l)	15.38	9.06	16.06	15.08	14.77
Fluoride (mg/l)	Not Done	Not Done	Not Done	Not Done	BDL
Chloride (mg/l)	10.76	7.82	13.69	17.61	10.76
Boron (mg/l)	0.64	Not Done	4.57	0.5	2.08
Potassium (mg/l)	1.6	2.4	1.4	1.1	1.6
Sodium (mg/l)	4.8	3	3.2	3	3.8

Polluting Sources of River Karola:

Industrial wastewater treatment:

There is no industrial estate in the catchment of river Karola. There is no identified water polluting industry.However inventorisation of industries is under progress.

Municipal wastewater treatment:

The following 4 (four) canals/drains are discharging large quantities of municipal wastewater in to the river.

(1)Dhardhara river (2) Maskalaibari Crematorium Ghat (3) District Hospital Road (4) Dinbazar Drain.

Name of the recipient water body	:	River Karola
Name of the Municipal Town	:	Jalpaiguri Town
No. of drains discharging	:	4 (four)
No. of drains considered for treatment facility	:	4 (four)
Water consumption as on 2020	:	21.01 MLD
Wastewater generation as on 2020	:	12.81 MLD
Existing wastewater treatment facility	:	NIL
Gap in wastewater treatment	:	12.81 MLD
Proposed Treatment system	:	Primary treatment with Sedimentation Tank & disinfection
Scheduled date of start of work for Primary treatment	:	31.08.2020
Scheduled date of completion of work for Primary treatment	:	30.06.2021

Primary treatment at Jalpaiguri town for river Karola by providing screens, sedimentation tank, followed by disinfection by chlorination at out falls of 4 nos. of drains is proposed. The tender is expected to be finalized by August2020.

Municipal Solid Waste Management:

Present generation of waste in Jalpaiguri town is 40 TPD. Door-to-Door collection of solid waste is expected to be achieved within Jan. 2021. Waste segregation at source is expected to be achieved within Mar. 2021. Establishment of waste processing facility including Sanitary Land Fill (SLF) for the town will be completed following the timeframe as stipulated in Rule 22 of SWM Rule 2016

Hazardous Saste Management:

In West Bengal, there is one (1) Common Hazardous Waste Treatment, Storage and Disposal Facility operating at Haldia. The facility is capable of disposing all hazardous wastes generated in the State. All hazardous waste generating industries are disposing their hazardous wastes through the CHWTSDFs located at Haldia.

Bio-Medical Waste Management:

In West Bengal, there are six (6) Common Bio-medical Waste Treatment, Storage and Disposal Facilities. All health care institutions within the catchment area of the river are disposing their bio-medical wastes through the Common Bio-medical Waste Treatment, Storage and Disposal Facility at Haldia, PurbaMedinipur district.

Construction & Demolition Waste Management:

Local ULB has been directed by the WBPCB and UD&MA Dept., GoWB to take necessary action as per C&D Waste Management Rules, 2016.

Ecological/Environmental Flow (E-Flow):

The river Karola has sufficient freshwater supply from upstream source as well as non tidal event. It receives runoff during monsoon and base flow is maintained from ground water pool and tidal flow during lean months including the up-stream flow. Afforestation, rainwater harvesting and reduction of ground water exploitation from flood plain could ensure the ecological flow in this river. At one location, i.e., downstream of the town, flow of the river should be measured and record maintained by State Irrigation department.

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Table-6: Action Plan with agencies responsible, time target and budgetary estimates

Departments /Agencies	*Actions to be taken*		*Targeted timeline*	*Budgetary Estimate (Rs. In lakh)*
MED	Action plans for Management of Municipal Waste Water discharge.		30.06.2021	36.56
WBPCB	All industries are having treatment facilities in place and are being monitored on regular basis.		Continuous process	-
SUDA	Action plans for management of Solid wastes & Plastic wastes in urban areas • Door to Door collection of solid waste. • Waste segregation at household source. • Establishment of waste processing facility including SLF for the town will be completed following the timeframe as stipulated in Rule 22 of SWM Rule 2016 • Development of IEC activities & capacity buildings of different stakeholder. • Draft Action Plan prepared to be ratified by State Level Technical Committee shortly		31.01.2021 31.03.2021	1233.00
WBPCB	Action plans for management of Hazardous, Bio-medical and Electrical and Electronic wastes		Continuous process	0.00
DoIT	Quantification and Characterization	Installation of e-waste bin, Categorizing and Disposal	28.02.2021	2.30
	Existing Infrastructure	Selection and Utilization of approved PROs for collection and Disposal		
	Detailed Gap Analysis	Monitoring & Management		
	Management Action Plan	Meeting with OEMs, other stake holders		
	Promotional	Sensitization Training		
		Promotional Documents, Training Materials		
		Hoardings at river stretch		
IRD	**Protection and management of flood plain zones (FPZ)** River specific action plan on the following. 1. Construction of bank protection work on the left bank of river		31.03.2020	367.35

	Karala near multi super speciality hospital for a length of 600.00 MTR within Jalpaiguri Municipality area in P.S,Block and Dist-Jalpaiguri. (IW/CSP-80/2018-19) 2. Construction of bank protection work on the left bank of river Karala near RSA club and back side of Indira colony for a length of 480.00 m in p.s & district-Jalpaiguri. (IW/CSP-424/2018-19) (UO-No-206 Dt 24.09.18) Protection on the right bank of River Karala near Mundabasti for a length of 950.00 m in Block-Sadar, P.S & District –Jalpaiguri.		
DoF	Forestry Development for Stretch Identified at Jalpaiguri from Monthani to Moulabipara.	31.03.2024	44.156
DoAg	Good agricultural practice (Bio-village program, IPM demonstration etc.) Crop diversification (Demonstration with low water requiring crops etc.) Good irrigation practices (Micro irrigation with supplementary water management activities) Soil and water conservation (water harvesting structure, dug well, Gully plugging, Check dam etc.)	31.03.2022	37.80
P&RDD	• Strengthening of Embankment • Baoulder protection work	28.02.2021	35.83
SWID	• GW Level & Quality Monitoring • Real-Time GWL Monitoring through Installation of DWLR • Roof top rainwater and surface runoff Harvesting for conservation on surface and artificial recharge to groundwater		
DoUD&MA	Utilization of treated waste water	Policy has been notified by Govt. of West Bengal on 30-06-2020. Action will be taken accordingly.	

MED: Municipal Engineering Directorate, DoUD&MA, GoWB
SUDA: State Urban Development Agency, DoUD&MA, GoWB
WBPCB: West Bengal Pollution Control Board
DoIT: Department of Information Technology, GoWB
P&RDD: Panchayat & Rural Development Department, GoWB
SWID: State Water Investigation Directorate
IRD: Irrigation Department, GoWB
DoF: Forest Department, GoWB
DoAg: Agriculture Department, GoWB
DoUD&MA: Department of Urban Development & Municipal Affairs, GoWB

24/08/2020
Additional Chief Engineer (South)
M. E. Directorate, Govt. of W.B.

24/08/2020
Secretary
M.E. Directorate
Deptt. of UD & MA
Govt. of West Bengal

Compliance of RRC meeting held on 17/08/2020

SL	Observation of RRC Meeting	Remarks
1	Water quality of the polluted river stretches for Fecal Streptococci (FSC) whereas water quality of all drains to be analyzed for general parameters, heavy metals and Fecal coliform as well as Fecal Streptococci (FSC) and included in the report.	Will be complied as per CPCB guideline
2	Water quality of groundwater in the catchment for relevant parameters to be included.	
3	Bio-mining of existing dumpsites in the catchment of polluted river stretches need to be elaborated.	
4	I & D of sewage from the identified drains to the nearby existing STPs or proposed STPs to be mentioned clearly in the report.	Not Applicable
5	Watershed management, flood plain protection, ground water recharge, greenery, rainwater harvesting apart from measures for discharge of stored water from U/s of dams to be included as a part of proposal for e-flow maintenance in all the polluted river stretches.	Will be complied as per CPCB guideline
6	Specific funding agency for each action point to be included.	Department of UD & MA
7	Short-term measures for drains such as phytoremediation/bio-remediation/nano bubbles treatment/aeration treatment and other options feasibility to be examined and adopted to improve water quality of polluted rivers depending on the local conditions.	Action already initiated.
8	Timelines to be revised as per Hon'ble NGT order for all the proposed action plan and PERT chart also be included.	To be completed by 30/06/2021, Revised PERT chart incorporated.

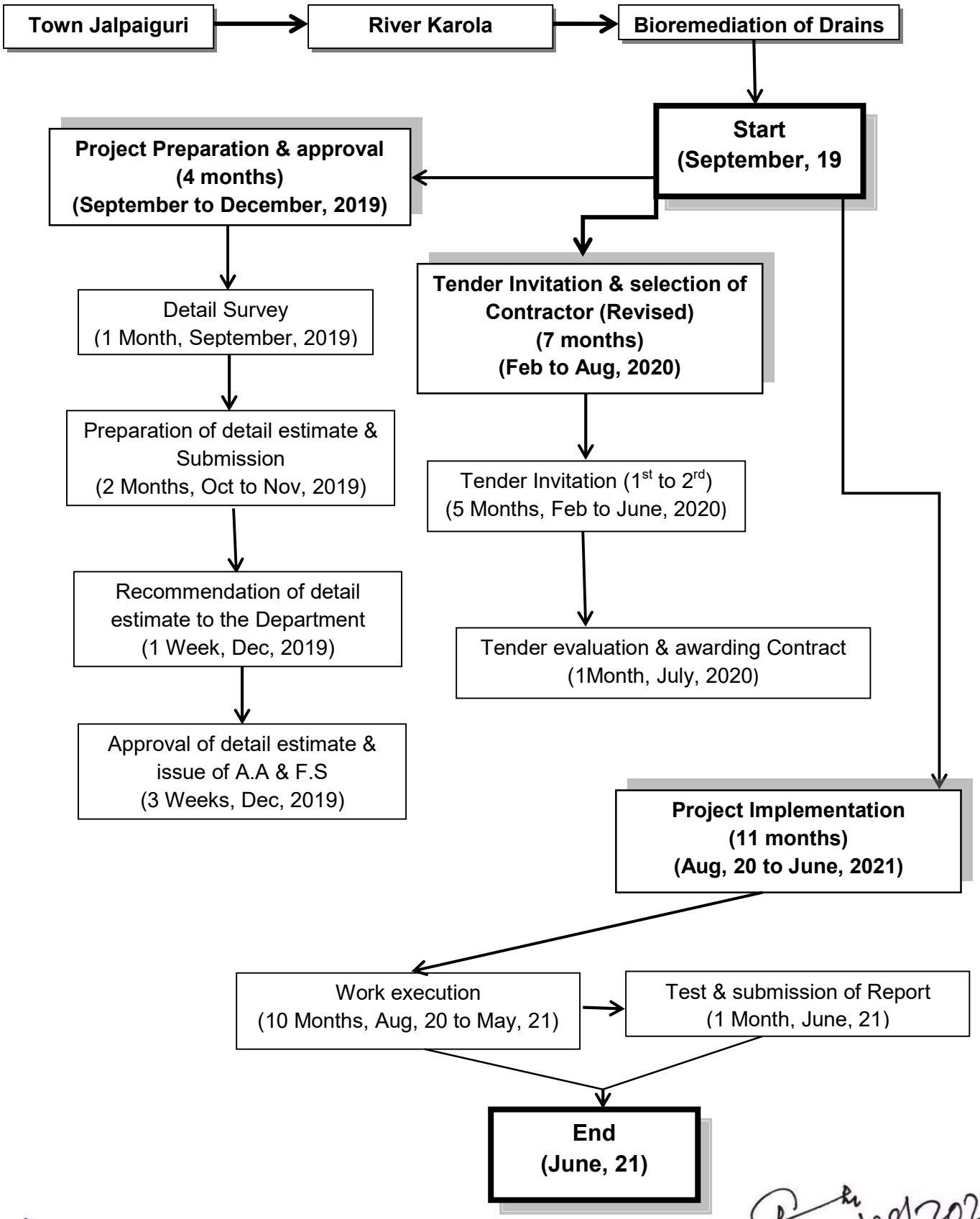
24/08/2020

Additional Chief Engineer (S)
Municipal Engineering Dte.

24/08/2020

Secretary
Municipal Engineering Dte.

PERT Chart in respect of implementation of action plans for **Karola** River stretch



24/08/2020

Additional Chief Engineer (S)
Municipal Engineering Dte.

24/08/2020

Secretary
Municipal Engineering Dte.

Information on Drains. Sewage Treatment Plants in compliance to Hon'bie NGT order dated 22.08.2019

Annexure ME-1

Sl	Name of River	City /town	Water Consumption data as on 2022		Waste Water Generation as on 2022	Existing Waste Water Treatment Infrastructure	Gap analysis for Waste Water Treatment	Waste Water Management Action Plan										
								Primary Treatment										
								Name of Drain	(Nos.) untapped Name of Drain	Total discharge capacity of drains	Provision of bioremediation for drain (Yes / No)		Action Plan for Primart Treatment					
													Estimated Cost	Type of Structure proposed	Whether Tender Invited	Time period for finalization of Tender Process 8, awarding Work Order	Work Start date	Schedule dale of completion of work
			Source	Consumtion (MLD)	(MLD)	(MLD)				(MLD)			(Lakhs)					
1	Jalangi	Krishnagar	Surface	28.61	17.45	0	17.45	8	Enclosed in separate sheet	17.45	Yes	Action Taken	18.34	Screen bar, Cascade, Aeration & disinfection	Yes	31.08.2020	01.09.2020	30.06.2021
2	Kansi	Medinipur	surface	33.98	21.41	0	21.41	2	NA	21.41	Yes	Action Taken	55.66	Sedimentation Tank & disinfection	Yes	31.08.2020	01.09.2020	30.06.2021
3	Darakeswar	Bankura	Surface	25.09	15.10	0	15.10	13	NA	15.10	Yes	Action Taken	131.49	Sedimentation Tank & disinfection	Yes	31.08.2020	01.09.2020	30.06.2021
4	kaljani	Alipurduar	Surface	15.43	9.33	0	9.33	18	NA	9.33	Yes	Action Taken	22.25	Sedimentation Tank & disinfection	Yes	31.08.2020	01.09.2020	30.06.2021
5	Karola	Jalpaiguri	Surface	21.01	12.81	0	12.81	4	NA	12.81	Yes	Action Taken	36.56	Sedimentation Tank & disinfection	Yes	31.08.2020	01.09.2020	30.06.2021
6	Rupnarayan	Tamluk	Surface	13.24	8.37	0	8.37	4	NA	8.37	Yes	Action Taken	81.87	Sedimentation Tank & disinfection	Yes	31.08.2020	01.09.2020	30.06.2021
7	Mayurakshi	Suri	Ground	7.44	4.04	0	4.04	12	NA	4.04	Yes	Action Taken	78.97	Sedimentation Tank & disinfection	Yes	31.08.2020	01.09.2020	30.06.2021
8	Mayurakshi	Sainthia	Ground	5.02	2.68	0	2.68	14	NA	2.68	Yes	Action Taken	86.27	Sedimentation Tank & disinfection	Yes	31.08.2020	01.09.2020	30.06.2021
9	Silabati	Ghatal	Surface	6.92	3.80	0	3.80	4	NA	3.80	Yes	Action Taken	134.37	Sedimentation Tank & disinfection	Yes	31.08.2020	01.09.2020	30.06.2021

11/02/2020
Additional Chief Engineer (South)
M. E. Directorate, Govt. of W.B.

ME - II

NAME OF DRAINS FOR WHICH PROPOSAL OF PRIMARY TREATMENT PROPOSED

Sl	Name of town	Nos.of Drains Identified	Name of Drains
1	Krishnagar	8	Haldar Para TD Banerjee Lane
			Kumar Para Ghat Lane
			Surkikal Ghat
			Ahibhusan Haldar Lane
			Amarbharati
			Momin Park
			Talikhola
			Sasan Kalibari
2	Medinipur	28	Daribandh Khal
			Jharna Khal & other small Drains
3	Bankura	13	Lokpur Ghat
			Raja gram-1
			Raja gram-2
			Kankata
			Patpur
			Minapur Samsan
			Patpur naopara
			Kedardanga Patakola
			Kedardanga B agdipara
			Kedardanga Ghat
			Satighat
			Lakhatora
4	Alipurduar	18	Arabindanagar
			Crematorium
			Dima Bridge
			Hatat Colony
			Bidhanpally
			Crematorium at ward 10
			Uttarpara
			Asutosh Club
			Palas Bari
			Santidham Asram
			Babupara Rail Bridge
			BM Club
			Sanjay Colony
			Another 5 small stretches
5	Jalpaiguri	4	Dhardhara
			Maskalibari Crematorium Ghat
			District Hospital Road
			Dinbazar Drain

Sl	Name of town	Nos.of Drains Identified	Name of Drains
6	Tamluk	4	Drains adjoining to Sankarara Khal
			Drains adjoining to Narayanpur Khal
			Drains adjoining to Pairatunga Khal
7	Suri	12	NA
8	Sainthia	14	NA
9	Ghatal	4	NA

11/02/2020

Additional Chief Engineer (South)
M. E. Directorate, Govt. of W.B.

Annexure - ME- IV

The Estimate for ---Screening arrangement at 47 nos. outfall points of drains at different locations within Jalpaiguri Municipality.

[Based on P.W.D.(W.B.) Schedule of rates for Building works-Vol-I[Incorporation of GST Act. 2017 & All addenda & Corrigenda of SOR, 01.12.2015]With effect from 01.11.2017 with latest Corrigenda and Addenda] & PWD (WB) SOR VOL-III FOR ROAD AND BRIDGE WORKS 2018 W.E.F. 30.08.2018]

Ref.	Item	Description of Item	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
ANALISED RATE	1.00	Boulder Apron Laid in Wire Crates:Providing and laying of boulder apron laid in wire crates made with 4mm dia GI wire conforming to IS: 280 & IS:4826 in 100mm x 100mm mesh (weaved diagonally) including 10 per cent extra for laps and joints laid with stone boulders weighing not less than 40 kg each.	188.000	cum	2566.80	4,82,558.40
P-1 I-2a,b	2.00	Earth work in excavation of foundation trenches or drains or septic tank soak well etc. in all sorts of soil (including mixed soil but excluding moorum and laterite or sand stone) including removing, spreading or stacking the spoils within a lead of 75 metre as directed,including trimming the bottom,side of trenches,levelling,dressing and ramming the bottom,bailing or pumping out water etc.as recuired complete.				
		i) Depth of excavation not exceeding 1500mm(not rquiring soring)	94.000	cum	119.27	11,211.38
P-1 I-3a	3.00	Earth work in filling in foundation trenches or plinth with good earth in layers not exceeding 15 c.m. including breaking clods watering and ramming etc.layer by layer complete.With earth obtained from excavation of foundation.	94.000	cum	77.54	7,288.76
P-46 I-13	4.00	Supplying and laying Polythene Sheet (150gm/sq.m)over damp proof course or below flooring or roof terracing or in foundation trenches.	94.00	sqm	24.00	2,256.00
P-35 I-22,II	5.00	Cement concrete with 30 mm down graded shingles excluding shuttering. N.B. Variety, In ground floor (a) 1:3:6 proportion	23.50	cum	3393.00	79,735.50
P-15, I-7(i) & P-26, I-11(i)	6.00	Ordinary cement concrete (mix 1:1.5:3) with graded stone chips (20 mm nominal size) excluding shuttering and reinforcement if any in ground floor as per relevant IS Codes. (Pakur Variety).				
		i) Gr. Floor upto 4 M	117.50	cum	~~6112.91~~	~~7,18,266.93~~ 6,72,744=75
P-28 I-15a(i)(I) & (b)(i)(ii)	7.00	Reinforcement for reinforced concrete work in all sorts of structures including distribution bars stirrups,binders etc. including supply of rods,initial straightening and removal of loose rust (if necessary)cutting to requisite length hooking and bending to correct shape,placing in proper position and binding with 16 gauge black annealed wire at every intersection complete in raft footing, columns, bracings, heal beam, ring beam, bottom dome, shaft, conical floor, roof, etc as per drawing and direction of EIC & including cost of wire (payment to be made on required quantity of reinforcement as per drawing and direction)-- (i) Tor steel/Mild Steel.I(~~SAIL/TATA/RINL~~ JSW/JSPL/SHYAM/SRMB/BMSAL/ELECTRO STEEL/SSL.				
		a) For works in foundation, basement and upto roof of ground floor/upto 4 m	11.75	MT	~~70403.00~~	~~8,27,235.25~~ 5,95,883=82
P-27 I-12(f), (c)	8.00	Hire and labour charges for shuttering with centering and necessary staging upto 4 m using approved stout props and thick hard wood planks of approved thickness with required bracing for concrete slabs, beams and columns, lintels curved or straight including fitting, fixing and striking out after completion of works (upto roof of ground floor).				
		(i) 25 mm to 30 mm shuttering without staging in foundation	235.00	sqm	205.00	48,175.00
		(a) 25 mm to 30 mm thick wooden shuttering as per decision & direction of Engineer-In-Charge.	235.00	sqm	328.00	77,080.00
P-164 I-2(iii)(a),© & (ii)(b) & P-166, I-5(i)(b) & (ii)(b)	9.00	Plaster (to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints including throating, nosing and drip course, scaffolding/staging where necessary (Ground floor).[Excluding cost of chipping over concrete surface].				
		(i) With 1:6 cement mortar				
		(b) 20 mm thick plaster	564.00	sqm	161.00	90,804.00
P-166 I-8	10.00	Neat cement punning wall, dado window sills, floor, drain etc.	470.00	sqm	34.00	15,980.00
P-196 I-8 (a)	11.00	Applying Exterior grade Acrylic primer of approved quality and brand on plastered or concrete surface old or new surface to receive decorative textured (matt finish) or smooth finish acrylic exterior emulsion paint including scraping and preparing the surface throughly, complete as per manufacturer's specification and as per direction of the EIC.In Ground Floor:				
		(a) One Coat	564.00	sqm	31.40	17,709.60
P-197 I-17,a	12.00	Protective and Decorative Acrylic exterior emulsion paint of approved quality, as per manufacturer's specification and as per direction of Engineer-in-Charge to be applied over acrylic primer as required. The rate includes cost of material, labour, scaffolding and all incidental charges but excluding the cost of primer.In Ground floor (Two Coat).				
		a) Normal Acrylic Emulsion	564.00	sqm	67.00	37,788.00

B 21,59,215=25

Ref.	Item	Description of Item	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
P-104 I-13,b	13.00	M.S.or W.I. Ornamental grill of approved design joints continuously welded with M.S, W.I. Flats and bars of windows, railing etc. fitted and fixed with necessary screws and lugs in ground floor. (i) Grill weighing above 10 Kg./sq.mtr and up to 16 Kg./sq. mtr.	11.75	Qntl	10021.00	1,17,746.75
PWD(BLDG) P-99 IT-1	14.00	M.S. structural works in columns, beams etc. with simple rolled structural members (e.g. joists, angle, channel sections conforming to IS: 226, IS: 808 & SP (6)- 1964 connected to one another with bracket, gussets, cleats as per design, direction of Engineer-incharge complete including cutting to requisite shape and length, fabrication with necessary bolting, metal arc welding conforming to IS: 816- 1969 & IS: 1995 using electrodes of approved make and brand conforming to IS:814- 2004, haulage, hoisting and erection all complete. The rate includes the cost of rolled steel section, consumables such as electrodes, gas and hire charge of all tools and plants and labour required for the work including all incidental chages such as electricity charges, labour insurance charges etc. Payment to be made on the basis of calculated weight of structural members only in finished work as per IS specified weight. Payment for gusset, bracket, cleat, rivets, bolts and nuts may be make by adding the actual weight of such items with the weight of finished structural members or 7% of weight for finished structural members weighing not less than 22.5 Kg. / m. or 15 % of weight for finished structal members weighing less than 22.5 Kg. / m. may be increased allow for bracket, cleat, rivet, bolts and nuts etc. and no seperate payment being made for these items, as per direction of Engineer In Charge. The rates are considered for a height of erection 8m. / 2nd floor level from the ground. Add 1.5% extra over the rate for each additional floor or 4m. beyond initiial 8m. or part thereof.II) For Structural Works in Roof Trusses etc. using joists, channels and angles of specified section weighing less than 22.5 kg/ m	4.70	MT	74571.00	3,50,483.70
PWD(BLDG) P-104 IT-12	15.00	M.S. works in framed gratings of window etc.made of round or square bars and frame work or M.S. flats (with the bars securely fixed to the flat bar frame) with or without intermediate flat bar stiffener and fixed with necessary screws etc. complete, as directed.	47.00	Qntl.	8948.00	4,20,556.00
PWD(R&B) P-322 IT-16.21	16.00	Providing anti-corrosive protective coating to inhibit the corrosion to HYSD reinforcements including two coats of anti-corrosive coatings of consumption as per manufacturer's specification, cleaning etc. complete as per the direction of the Engineer-in-Charge.	70.50	sqm	506.00	35,673.00
P-222 I-12a	17.00	Supplying, fitting, fixing in position netting with PVC Coated Crinkle mesh of approved colour with wooden or steel or concrete frame work including cost of galvanised bolts, nuts, screws, nails, spacers, shape welding etc complete but excluding the cost of supporting frame works, battens etc.(a) 25 mm. x 25 mm. x 8 g.	70.50	sqm	706.00	49,773.00
P-200 I-1.a	18.00	Priming one coat on steel or other metal surface with synthetic oil bound primer of approved quality including smoothening surface by sand papering etc. (This item is applicable to new work or to old work when the original surface has been exposed by removal of old paint)	47.00	sqm	29.00	1,363.00
P-200 I-2(b) (iv)	19.00	Painting with best quality synthetic enamel paint of approved make and brand including smoothening surface by sands papering etc. including using of approved putty etc. on the surface if necessary.- on steel or other metal surface-With super gloss (Hi gloss) -Two coats(with any shade except white)	47.00	sqm	79.00	3,713.00

₹ 31,38,523=70	TOTAL:- ₹ 33,03,030.52	Rs. 33,95,397.27
₹ 3,76,622=84	Add GST @ 12.00% ₹ 3,96,363.66	Rs. 4,07,447.67
₹ 35,15,146=54	Cost excluding Labour Welfare Cess ₹ 36,99,394.18	Rs. 38,02,844.94
₹ 35,151=47	Add Labour Welfare Cess @ 1.00% ₹ 36,993.94	Rs. 38,028.45
₹ 35,50,298=01	Cost including Labour Welfare Cess ₹ 37,36,388.12	Rs. 38,40,873.39
₹ 1,05,457=40	Add Contingency @ 3% ₹ 1,10,981.83	Rs. 1,14,085.35
₹ 36,55,755=41	Total Estimated Cost:- ₹ 38,47,369.94	Rs. 39,54,958.73
₹ 36,55,752=00	Say:- ₹ 38,47,370.00	Rs. 39,54,959.00

(Rupees Thirty Six lakh fifty five thousand Seven hundred fifty two only)

19/11/19
Junior Engineer
Jalpaiguri Division M.E. Dte
Dept. of U.D. & M.A.
Govt. of West Bengal

19/11/2019
Assistant Engineer
Jalpaiguri Division M.E. Dte.
Dept. of U.D. & M.A.
Govt. of West Bengal

19/11/19
Executive Engineer
Jalpaiguri Division M.E. Dte.
Dept. of U.D. & M.A.
Govt. of West Bengal

Sub-Assistant Engineer
Jalpaiguri Municipality

11/12/19
Assistant Engineer
Office of the Addl. C.E.(South)
M. E. Directorate
Govt. of West Bengal

11/12/2019
Additional Chief Engineer (South)
M. E. Directorate
Govt. of West Bengal

19/11/19
EXECUTIVE OFFICER
Jalpaiguri Municipality

Annexure- SUDA-I

SWM Action Plans for Jalpaiguri Municipality — Karola

Sl.	Key Components of Proposed Action Plans for Restoration of Identified Polluted River Stretches- **KAROLA**	Proposed Achievable Target	Proposed Time Targets to achieve target	Remarks
	Municipal Solid Waste Management			
	Commissioning of Integrated Waste Management Facilities or Sanitary Land Fills or Bio manure or Pellets making or Waste to Energy Plants	➢ Door to Door collection of solid waste. ➢ Waste segregation at household source. ➢ Establishment of waste processing facility including SLF. ➢ Development of IEC activities & capacity buildings of different Stack holders.	➢ D 2 D collection of solid waste is expected to be achieved within March 2020. ➢ Waste segregation at source is expected to be achieved within Octo.2020 ➢ Present generation of waste in town is 40 TPD. Establishment of waste processing facility including SLF for the town will be completed following the timeframe as stipulated in Rule 22 of SWM Rule 2016	City specific Draft DPR have been prepared for implementation of SWM projects. Tentative cost is 12.33 Cr. that includes collection, transportation and Processing of Waste. Litter bins are provided besides the River banks.. Accumulated garbage have been removed from the river banks. Intensive IEC activities including display of poster/banner, awareness campaign, capacity building of stakeholders are continuously organized by ULB.

Annexure- IT-I

River Name	River Stretch	Activities		Steps Taken	Number	Timeline	Total Sanctioned Amount (For FY - 2020-2021)	Total Sanctioned Amount (For FY - 2021-2022)
Karola	Jalpaiguri to Thakurer Kamat	Quantification and Characterization	Instalation of e-waste bin, Categorizing and Disposal		2	FY - 2020-2021	115000	115000
		Existing Infrastructure	Selection and Utilization of approved PROs for collection and Disposal					
		Detailed Gap Analysis	Monitoring & Management					
		Management Action Plan	Meeting with OEMs, other stake holders		1			
		Promotional	Sensitization Training		1			
			Promotional Documents, Training Materials		1			
			Hoardings at river stretch		2			

Annexure- PD-I

JALPAIGURI DISTRICT

Status of Implementation of Action Plans for Restoration of Identified Polluted River					
Sl. No.	**River**	**Activity to be monitored**	**Timeline**	**Financial Outlay**	**Remarks**
1	Karala	Strengthening of Embankment	February'2021	7.50 lakh	
2	Karala	Strengthening of Embankment	February'2021	5.60 lakh	
3	Karala	Baoulder protection work	January'2021	22.73 lakh	

Annexure - 1D - I

Sl. No.	River Stretches	Key components of proposed action plans for restoration of identified polluted river stretches in States/UTs	Cost in Rs. Lakh	Proposed Achievable Target	Proposed Time Targets for compliance	Present Status and or pendency in terms of %
5	Kaljani (Bitala To Alipurdwar)	Bank protection work at BirparaKhudiram pally area alongthe right bank of river Kaljani for a length of 400 mt. under Parapar G.P. Block - Alipurduar-I in P.S.& Dist. Alipurduar.	63.33	Erosion protection at Birpara Khudiram pally in Parapar G.P. Block - Alipurduar-I in P.S.& Dist. Alipurduar.	31.03.2020	Work started, 18 % Progress.
6	Kaljani (Bitala To Alipurdwar)	Bank protection work at PaschimSalbari area along the right bank of river Kaljani for a length of 500 mt. under Parapar G.P. Block - Alipurduar-I in P.S.& Dist. Alipurduar.	84.27	Erosion protection at Paschim Salbari in Parapar G.P. Block - Alipurduar-I in P.S.& Dist. Alipurduar.	31.03.2020	Work started, 45 % Progress.
7	Rupnarayan (Kolaghat To Benapur)	Protection to severely damaged right bank of River Rupnarayan in between MP 17.75 and MP19.54 Ghat for a length of 1132.00 m in Tamluk Municipality, P.S - Tamluk & District –Purba Medinipur.	367.53	Erosion protection at Tamluk Municipality, P.S - Tamluk & District –Purba Medinipur.	31.03.2020	Work started, 39 % Progress.
8	Karola (Jalpaiguri To Thakurer	Construction of bank protection work on the left bank of river Karala near multi super speciality hospital for a length of 600.00 MTR within Jalpaiguri Municipality area in P.S,Block and Dist-	106.17	Erosion protection at Jalpaiguri Municipality area in P.S, Block and Dist-Jalpaiguri.	31.03.2020	Work completed
9	Karola (Jalpaiguri To Thakurer	Construction of bank protection work on the left bank of river Karala near RSA club and back side of Indira colony for a length of 480.00 m in p.s & district-Jalpaiguri. (IW/CSP-424/2018-19)	96.08	Erosion protection at RSA club & back of Indira colony in P.S. & District-Jalpaiguri.	31.03.2020	Work completed
10	Karola (Jalpaiguri To Thakurer Kamat)	Protection on the right bank of River Karala near Mundabasti for a length of 950.00 m in Block-Sadar, P.S & District –Jalpaiguri.	165.10	Erosion protection at Mundabasti in Block-Sadar, P.S & District –Jalpaiguri.	30.04.2020	Work started, 30 % Progress.
11	Teesta (Siliguri to Paharpur)	Bank protection work in between spur no 2 and spur no 4 of Gourikone area for a length of 985 Mtr in P.s and Dist Jalpaiguri .	174.69	Erosion protection at Gourikone area in P.S and Dist Jalpaiguri .	31.12.2019	90 % work completed
12	Teesta (Siliguri to Paharpur)	Construction country side toe wall at JTP embankment and improvement of countryside slope and crest for a length of 3.00 K.M in between Balapara and D.M office complex within Jalpaiguri municipality and Kharia G.P along the right bank of river Teesta in P.S,Block and Dist.Jalpaiguri .	193.40	Erosion protection at Jalpaiguri Municipality and Kharia G.P in P.S, Block and Dist.Jalpaiguri .	31.01.2020	90 % work completed

Financial Outlay of Action Plan in Polluted River Stretches

Forestry Development, Forest Department — Annexure- FD-I

Sl. No.	River Name	District	Division	Stretch Identified	Town	Block/ Municipality	Mouza/ward	J.L. No.	Plot	Area in Hecture	Financial outlay	Time line
1	Darakeswar	Bankura	Bankura South	Bankura to Kusthia	Bankura	Bankura II	Kankata- 215			3.6	5,00,495.40	2019-20 to 2023-24
2				Bankura to Kusthia	Bankura	Bankura II	Matranga- 280			4	5,56,106.00	
3				Bankura to Kusthia	Bankura	Bankura II	Pratapur- 282			4	5,56,106.00	
4				Bankura to Kusthia	Bankura	Onda	Ola- 109			4	5,56,106.00	
5			Panchet	Bankura to Kusthia	Bankura	Onda	Nischintipur- 118			10	13,90,265.00	
Sub Total										**25.6**	**35,59,078.40**	
6	Jalangi	Nadia	NMD	Near Taranipur Ghat	Mayapur	Nabadwip	Ghasighata	12	157/276, 157/277	1.15	1,59,850.00	
7				Near Bahadurpur Sambhunagar	Mayapur	Nabadwip	Sardanga	11	,913, 915, 1122, 1123, 1124, 1125, 1126, 1157/1640, 1161/1646, 162/1647, 1190/1650, 1196, 1197, 702/1761, 702/1738, 702/1707, 702/1708, 1491/1709, 1491/1710	5.3	7,36,700.00	
8				Near Tarinipur Ghat	Mayapur	Nabadwip	Mollapara	13	240/749, 622/739, 169/677	0.7	97,300.00	
9				Near Nabadwip BDO Office, Maheshgunj	Nabadwip	Nabadwip	Teorkhali	15	11, 39/913, 39/914	0.28	38,920.00	
10				Near Mahesgunj Hospital	Nabadwip	Nabadwip	Maheshgunj	16	141	0.76	1,05,640.00	
11				Hulorghat	Mayapur	Nabadwip	Rudrapara	5	4540, 4537, 4539	0.3	41,700.00	
Sub Total										**8.49**	**11,80,306.81**	
12	Kansi (Kansai)	Paschim Medinipur	Medinipur	Jamsole and Lohatikri in between Midnapur to Ramnagar	Midnapur	Midnapur Sadar	Lohatikri and Jamsole	136 and 137	371 and 654/695	10	13,90,265.00	
Sub Total										**10**	**13,90,265.00**	
13	Karala	Jalpaiguri	Jalpaiguri SF	Monthani to Moulabipara	Jalpaiguri	Sadar	Kharia & Patkata	05 & 07		30	**44,15,685.00**	
14	Rupnarayan	Purba Medinipur	Purba Medinipur Forest	1800 meter in to 570 meter	Kolaghat	Kolaghat	Amalhanda	291	River char	10	13,90,265.00	
15				2350 meter * 425 meter	Kolaghat	Kolaghat	Faridpur	272	River char	10	13,90,265.00	
Sub Total										**20**	**27,80,530.00**	

Annexure AD-I

Department of Agriculture

River Rejuvenation Action Plan of Polluted River Stretches of **River Karola**

Distribution of Organizational Responsibilities				
Departments / Agencies	*Actions to be taken*	*Targeted timeline*	*Budgetary Estimate*	*Remarks (Annexure)*
Agriculture Department	Good agricultural practices (Bio village Program,Farmers Field School etc) Crop Diversification (Demonstration with low water requiring crops etc.) Good Irrigation Practices (Micro irrigation with supplementary water management activities)	2019-20 to 2021-22 (3-years)	Rs 0.378 crore	