

Land Acquisition and Resettlement Due Diligence Report

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IND: Kolkata Environmental Improvement Investment Program (Tranche 3) – Sewerage and Drainage Network (SD31)

Package No. SD31/2017-18: Development of Sewerage and Drainage Network in Churial Extension Pumping Station Catchment and Diamond Park Catchment and Construction of Churial Extension Pumping Station in Borough XVI (Part of Ward 124, 143 and 144)

Prepared by Kolkata Municipal Corporation, Government of West Bengal for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of 20 July 2018)

Currency unit = Indian rupee (₹)

₹1.00 = \$0.014

\$1.00 = ₹68.94

ABBREVIATIONS

ADB	-	Asian Development Bank
DDR	-	due diligence report
DWF	-	dry weather flow
GOWB	-	Government of West Bengal
KEIP	-	Kolkata Environmental Improvement Project
KEIIP	-	Kolkata Environmental Improvement Investment Program
KMC	-	Kolkata Municipal Corporation
ROW	-	right-of-way
S&D	-	sewerage and drainage
SWF	-	storm water flow

NOTE

In this report, "\$" refers to United States dollars.

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I. INTRODUCTION

A. Background

1. The Kolkata Environmental Improvement Project Phase 1 (KEIP 1 or the Project) was a multi-agency endeavor to arrest environmental degradation and improve the quality of life in Kolkata. The aim of the KEIP was to provide affordable access to basic urban services, revamp and upgrade the sewerage and drainage (S&D) system, make the solid waste management system efficient, restore the city's drainage canals, and improve outdoor recreation facilities in parks and water bodies. It also had a stakeholder consultation program and a capacity building component to raise the standards of delivery of municipal services by the Kolkata Municipal Corporation (KMC). Financing was from the KMC, the Government of West Bengal (GOWB) and the Asian Development Bank (ADB). In addition, there was grant financing from the Department for International Development (DFID) of the United Kingdom for the KMC capacity building component of the Project.

2. The works under the KEIP Phase 1 were completed on 30 June 2012, the closing date of the ADB loans. Both KMC and ADB wished to continue their combined efforts to improve the urban environment and living conditions in Kolkata, building on results achieved and experience gained. Therefore, a continuation of the KEIP was proposed, which was named as the Kolkata Environmental Improvement Investment Program (KEIIP) consisting of three projects, or tranches. Kolkata Municipal Corporation (KMC) is the executing agency of the proposed investment program.

3. The KEIIP has been conceptualized as a multi-tranche financing facility - consisting of three projects or tranches. A total of eight subprojects prioritizing S&D work are prioritized under Tranche 3.

4. In continuation to the Tranche 2, different subprojects under KEIIP Tranche 3 have been proposed to be taken up for the areas which are not covered under KEIP and KEIIP–Tranche 1 and 2. There are a total of 8 S&D packages under tranche 3; details of the same are given in Table 1.

Table 1: Sewerage and Drainage Packages under Tranche 3

Package Number	General Description
SD27/2017-18	Improvement of S&D Network and construction of a pumping station in Alipore body guard line premises in ward 74 and laying of sewer line along Diamond Harbour Road by Microtunneling method and Cut & Cover method
SD28/2017-18	Construction of WBSETCL Sewage Treatment Plant (45 MLD)
SD29/2017-18	Construction of Sewage Treatment Plant at Bank Plot (40 MLD)
SD30/2017-18	Construction of Rajpur – Sonarpur Sewage Treatment Plant 30 MLD)
SD31/2017-18	Development of S&D Network in Churial Extension Pumping Station catchment and Diamond Park Catchment and Construction of Churial Extension pumping station (annexed) in borough XVI (Part of Ward 124, 143 and 144)
SD32/2017-18	Improvement of S&D system in Mukundapur Area (Part of Ward 109) including construction of pumping station and improvement of drainage system in Rajdanga Area (Part of ward 107)
SD34/2017-18	Construction of pumping station at Lalababu Nikashi and upgradation of existing pumping station at Shakuntala Park
SD22/2016-17	Development of sewerage and drainage networks in Churial extension canal sub basin in Borough XIII & XVI (Part of Ward no. 122,123, 124) including laying of trunk sewer by microtunnelling method and construction of Churial extension pumping station

MLD = million liters per day, S&D = sewerage and drainage, STP = sewage treatment plant, WBSETCL = West Bengal State Electricity Transmission Company Limited.

B. Scope of this Report

5. This due diligence report is prepared for the proposed S&D package TR-3/SD-31 that will involve construction of a pumping station in Joka area and development of S&D system within KMC ward number 42, 143 (Borough XVI) and some adjoining fringe areas of wards 124 (Borough XIII).

6. A due diligence process was conducted to examine the land acquisition and resettlement issues in detail, in line with ADB Safeguard Policy Statement (SPS), 2009. This report describes the findings and provides copies of relevant documents, resolutions, minutes of meetings and photographs. This land acquisition and resettlement due diligence report needs to be considered along with the resettlement framework prepared for KEIIP.

7. Upon project implementation, the Officer designated for Social Safeguards at program management unit will be required to undertake a review of this due diligence, prepare a confirmation letter or report documenting any modifications for the subproject and submit to ADB; and receive a 'no objection' confirmation from ADB prior to start of construction in the subproject.

II. SUBPROJECT DESCRIPTION

A. Background of Subproject Area

8. The proposed area is newly added to KMC, and virtually devoid of any organized S&D system. It is low-lying and much of the area gets inundated during the rains.

9. At present, there is no existing organized sewerage and drainage system in this basin. The subproject coverage area depends largely on septic tanks at present. There are very few surface drainage lines, which were mostly laid by KMC. These existing lines not only carry storm water but also carry dry weather flow (DWF) to Churial Canal and Keorapukur Canal. As a result, not only the canals but also the river water is getting polluted. Other major inadequacies of the existing system observed within the study area are mentioned below, which point to the need for the proposed system.

10. System Inadequacies:

- (i) Poor drainage networks and absence of organized drainage network in many areas;
- (ii) Inadequate capacities of drains;
- (iii) Poor or no maintenance of drains resulting in heavy siltation and substantial reduction in carrying capacities;
- (iv) Choking of drains at different stretches due to indiscriminate dumping of solid wastes;
- (v) Surface drains laid through inaccessible areas in many cases virtually not allowing any maintenance access; and
- (vi) Connection of drains to sewers, which was previously designed to carry only DWF load.

11. The subproject area depends largely on septic tanks for household sanitary systems and open surface drainage systems mainly for storm water and effluents of septic tanks. In many cases, the drains do not have any proper outlet and terminate into low-lying land/canal. All these

existing practices need to be controlled by providing a comprehensive waste water (DWF+SWF) collection system. This system needs to be proposed for the basin with defined drainage outlet to Churial Canal and Keorapukur Canal through gravity overflows and pumping of SWF, and diversion of the entire quantum of DWF generated to the respective STPs.

B. Subproject Description

12. The proposed subproject focuses on the development of S&D system in newly added areas covering Wards 142, 143, (Borough XVI) and some adjoining fringe areas of wards 124 (Borough XIII). The area considered earlier for development of S&D network under this package has been re-delineated based on availability of lands for pumping station. Joka area falls under 2 drainage basins - Churial Basin and Keorapukur Canal Basin.

13. The subproject area is presently delineated in 7 catchments, each to be connected to a pumping station. Table 2 shows different catchments in Joka Area.

Table 2: Subproject Delineation in Proposed Catchment Area

Catchment	Basin
Julpia Road catchment	Under Tolly's Nullah/Keorapukur Basin
Kabar Danga Pumping Station catchment	Under Tolly's Nullah/Keorapukur Basin
Churial Extension Pumping Station catchment	under Churial Basin
22 Bigha Pumping Station catchment	under Churial Basin
Diamond Park catchment	under Churial Basin
Hanspukur Park catchment	under Churial Basin
Bakrahat Road catchment	under Churial Basin

14. Out of the above catchments, Churial Extension pumping station catchment and Diamond Park catchment are considered for development of S&D network under the package, TR 3/SD-31. Proposed works under the package TR3/SD-31 include: development of S&D network in Churial Extension pumping station catchment and Diamond Park catchment and construction of Churial Extension pumping station in Borough XVI (Part of Ward 124, 143 and 144).

15. A major portion of SWF from Churial Extension pumping station catchment would be catered to by the proposed Churial Extension Pumping Station. A few proposed gravity outfall structures would also facilitate in evacuation of SWF. The outfall would also cater to the load from subproject TR 2/SD-22.

16. The objectives of the subproject include:
- (i) To develop S&D network facilities on priority basis, which in turn helps to improve environmental condition;
 - (ii) To provide relief from water logging conditions within the project area; and
 - (iii) To divert sewage generated within the project area to STP through an organized S&D system for treatment which will help to prevent pollution to canal/river.
17. The following project components are considered to meet the above objectives:
- (i) Development of S&D network including outfall arrangements for storm water disposal; and
 - (ii) Construction of a combined (SWF+DWF) pumping station.

Table 3: Subproject Component

Project Component	Works Considered to be Taken Up	Involuntary Resettlement Impacts
S&D Mains and Pumping Station in Churial Extension pumping station Catchment and Diamond Park Catchment in Borough XVI (Part of Ward 124, 143 and 144)	Length of proposed trunk sewer to be laid 14.0 km under this package Length of proposed sewer (600 mm and above) to be laid – 10.5 km Length of proposed sewer (below 600 mm dia) to be laid – 3.5 km	No involuntary resettlement impacts anticipated as all pipes proposed along public road ROW with adequate width.
	Construction of Churial Extension pumping station (Annexed), i.e., one pumping station is already proposed in Package TR2/SD-22 and another pumping station also proposed beside the previous pumping station (under Package TR3/SD-31).	No involuntary resettlement impacts anticipated as pumping station proposed on Churial Canal, under Irrigation Department, GOWB. Separate due diligence report (DDR) prepared for package SD 22.
	Construction of gravity outfalls – 3 no.	No involuntary resettlement impacts anticipated as outfalls proposed in Churial Canal of Irrigation Department, GOWB
	Laying of DWF Pumping main – To be laid under separate package, SD29	No involuntary resettlement impacts anticipated; separate DDR prepared for SD 29.
	Laying of SWF Pumping main - L= 600 m, dia. = from (1200) mm	No involuntary resettlement impacts anticipated as the pumping main will be laid through KMC roads

DDR = due diligence report, DWF = dry weather flow, GOWB = Government of West Bengal, KMC = Kolkata Municipal Corporation, m = meter, mm = millimeter, ROW = right-of-way, S&D = sewerage and drainage, SWF = storm water flow.

III. FIELD WORK AND PUBLIC CONSULTATION

A. Outline of Field Work

18. In May and June 2017, field inspections were carried out at the proposed sub -project site locations and stakeholder consultations conducted. Inspections and transect walks were carried out along the entire stretch of pipe alignments in ward no. 124,143 and 144, and the pumping station site.

B. Public Consultation

19. Consultations were undertaken with key stakeholders as per ADB's requirements pertaining to environmental and social considerations. The tool used for consultation was stakeholder meetings. These consultations helped identify the felt needs/concerns and apprehensions of the communities related to the project and priorities of concerned stakeholders. Discussions were held with people residing at/near the proposed subproject locations (site and alignments). Members of the community are willing to cooperate for the proposed project as water logging in the subproject area is a longstanding problem faced by them. A summary of stakeholder consultations is provided in Table 4 and consultation photographs and list of participants is provided in Appendix.

Table 4: Summary of Stakeholder Consultations

Date	Location	No. of Participants	Topics Discussed	Issues Raised	Issues Addressed
06 November 2017	Kali Tala at Boundary of KMC Ward 142 and 143	26 (Residents of Ward 142 and 143)	<p>Explaining about KEIP as an initiative of The Kolkata Municipal Corporation funded by The Asian Development Bank, and its role for improving the S&D and water supply services in Kolkata and its adjoining areas.</p> <p>Need for and scope of work and tentative commencement date for this package was elucidated.</p> <p>No adverse impacts on structures, livelihoods anticipated. Importance of public participation and public awareness was emphasized.</p> <p>Potential impact of the project on environment, health etc.</p> <p>Technical information i.e. total length of work, diameter of pipes to be laid along the road, flow of water etc. was shared</p>	<p>The commencement of the project work and duration. Expected timeline to resolve the water logging problem.</p> <p>Availability of funding for uninterrupted work.</p> <p>Existing water logging during heavy showers, backflow of water from adjoining area happens to be a persistent issue.</p> <p>Choking of drains, latrines etc. during heavy showers. Provision of rain water harvesting.</p> <p>Request to think about a long-term plan to resolve the abovementioned issues.</p>	<p>Regarding the time span for the completion of the project, the DSC Resettlement Specialist, Mr. K. S. Ghosh assured the participants that any and every ADB funded project has a fixed time span. Thus, the project performance is monitored by ADB on a periodic basis in order to ensure that the project is completed within the stipulated time frame.</p> <p>This project is funded by the ADB. Hence, there should be no paucity of funds.</p> <p>Water logging will be abated, by ensuring discharge of water at Tolly's Nullah.</p> <p>Technical information was shared in detail by Mr. Sourya Chowdhury (Junior Engineer, DSC).</p> <p>Beneficial impacts were explained in detail by DSC officials present.</p>

ADB = Asian Development Bank, DSC=design and supervision consultant, KEIP=Kolkata Environmental Improvement Investment Program, KMC = Kolkata Municipal Corporation, S&D = sewerage and drainage.

IV. LAND AVAILABILITY

20. Implementation of the sub-project will not cause any land acquisition or resettlement impact. Under the proposed S&D subproject TR-03/SD-31, there is no major construction which will involve significant land requirement. One Pumping Station will be constructed on Churial Canal at Ward no. 142. Permission from Irrigation and Waterways Department, Government of Bengal will be required for the construction of Pumping Station and outfalls.

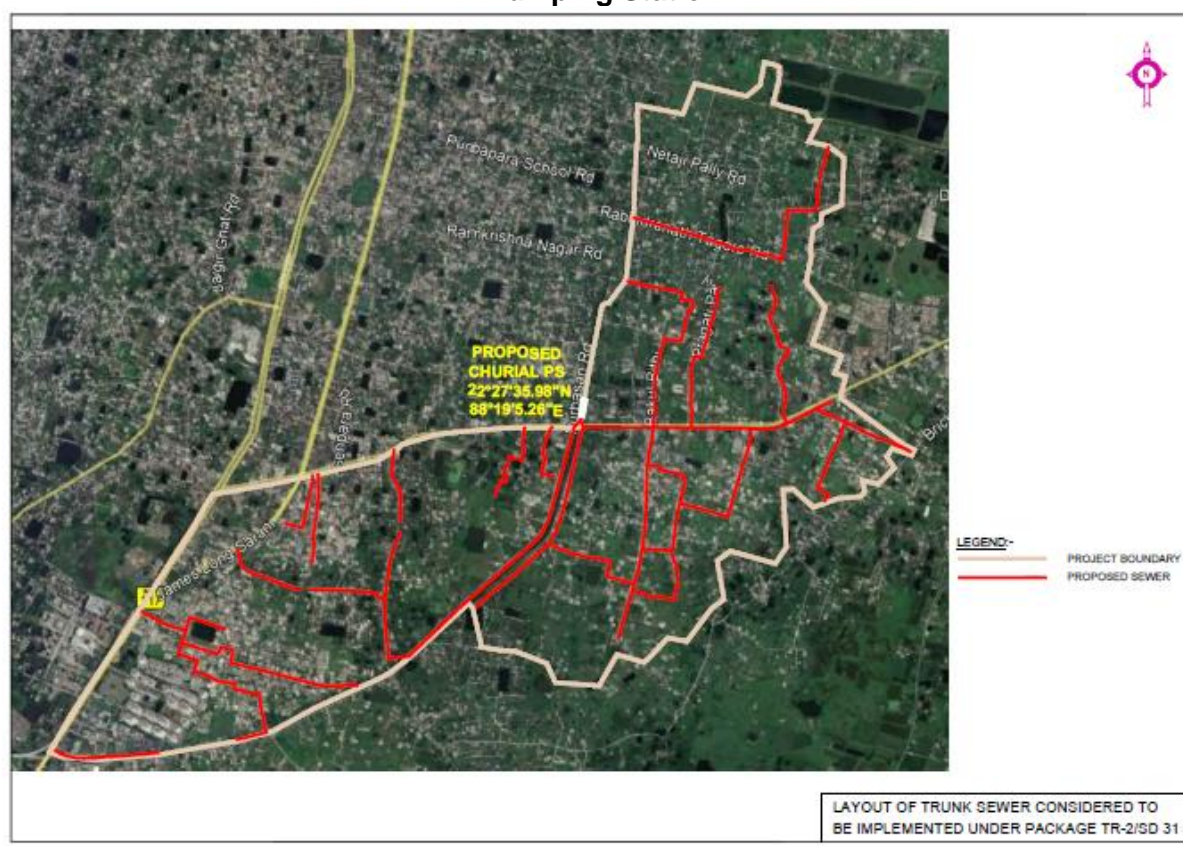
21. For laying of the S&D pipelines in the sub-project area, the roads have been numbered. Details of proposed pipe laying activity and anticipated excavation (in terms of trench width) is provided in Table 5. All roads where pipes are proposed to be laid, belong to KMC.

Table 5: Roads Where Sewer Lines are Being Laid under SD31/2017-18

Road Name	Road Width (m)	Dia of Pipe (mm)	Trench Width with Shoring (mm)	Road Name	Road Width (m)	Dia of Pipe (mm)	Trench Width with Shoring (mm)	Ownership of Roads
Srijani Road	3.8-4.5	800-1000	1500-1800	Bakulbithi Road	5.1-6.8	300- 800	750-1800	All the roads are under the ownership of KMC.
Balaka Housing Society Road	3.7-6.4	1000-1400	1800-2400	Satyajit Park Road	5-6	300-800	750-1200	
B Road Srijani	3.3-5.5	400 - 1000	900-1800	Pragati Pally Road	4.9-5.6	300- 800	750-1500	
Nalonda Park Road	3.2-5.9	300-1000	750-1800	R N Tagore Road	3.8-5.2	300-1200	750-2100	
Swarup Datta Road	3.4-6.3	600-1000	1200-1800	Dhalipara Road	3.3-6	400-1000	900-1800	
Mission Dhali Para Road	5.5 - 7.5	600-1000	1200-1400	Haridebpur Road	2.5-11.6	1000 and 300 - 1000	750-1800	

KMC = Kolkata Municipal Corporation, m = meter, mm = millimeter.

Figure 1: Google Earth Image Showing Roads within the Subproject Area and Location of Pumping Station



A. Pumping Station

22. The details of combined pumping station are shown in Table 5.

Table 6: Details of Combined Pumping Station

Pumping Station	Type of Pumping Station	Capacity of Each Pump (kW)	Number of Pumps to be Installed	Land Ownership
Churial Extension Pumping Station	SWF	240	(3W+1S) Each pump	The combined pumping station is proposed within Churial Canal ROW (owned by Irrigation Department, GOWB).

kW = kilowatt, GOWB = Government of West Bengal, ROW = right of way, SWF = storm water flow.

B. Pumping Main

23. The SWF from the proposed pumping station will be discharged to the Churial Canal through a 1200 mm outer diameter mm dia pipe. The pumping mains will also be laid along canal. Permission will be required from Irrigation and Waterways Department, GOWB.

V. CONCLUSION

A. Summary and Conclusion

24. Subproject implementation work is not anticipated to cause any involuntary resettlement impacts. The pumping station and outfalls will be constructed within the Churial Canal ROW, which is under the jurisdiction of the Irrigation and Waterways Department, GOWB. The identified alignment for the proposed pipe laying activity is along municipal road rights of way. Temporary disruptions during construction will be mitigated by the contractor through a traffic management plan and simple measures such as proper stacking/storing of construction materials, provision of planks to ensure that pedestrian access to residences is maintained.

B. Next Step

25. The DDR needs to be updated with the following information:
- (i) No objection certificate from Irrigation and Waterways Department, Government of West Bengal, for constructing SWF Pumping Station and outfall sewers on Churial Canal; and
 - (ii) ADB approval of the updated due diligence report based on the final assessment at detailed measurement survey stage needs to be obtained by the program management unit.

PHOTOGRAPHS OF SUBPROJECT AREA AND COMMUNITY CONSULTATION**Photographs of Road Alignment of Tranche 3 (SD31/2017-18) Subproject Area**

Ward No 124



Ward No 143



Ward No 144



**Photographs of Community Consultation at Junction of Ward No. 142 and 143
(Kali Tala), 6 November 2017**



LIST OF PARTICIPANTS AT PUBLIC CONSULTATION

Kolkata Environmental Improvement Investment Programme

Date 06.11.17

SD-31/TR-II, Kalitara Bazar
U.A. Road, Place

Sl. No	Name	Contact No	Signature
1	Shekhar Dohri	8017077807	
2	Rabish Ban	9834622103	
3	Ranjit Pal	9831406371	
4	Islam Makkal	9433265071	
5	সত্যজিৎ গগৈ	9330595289	
6	Goutam Kalay	9831779181	
7	Raman mandal	9007123741	
8	Sanjay Paul	9674261124	
9	Raju Dohri	7278109160	
10	Bonkoj Ghosh	8584012233	
11	Satyam Chatterjee	9830154154	
12	Arjit Bhunia	7059804317	
13	সত্যজিৎ গগৈ	9330595289 9330595289	
14	সত্যজিৎ গগৈ	9804438542	
15	সত্যজিৎ গগৈ	9432417281	
16	Nayan Das		
17	Anil Bala		
18	SUMAN GHOSH	8697658950	
19	Debabrata Bishwas	9836480376	
20	Milan Nath	9804889880	
21	Madhumita Saha	9433477118	

