



Environmental Monitoring Report

Project Number: 42266-025
April 2020
Period: January 2019 – June 2019

IND: Kolkata Environmental Improvement Investment Program - Tranche 2

Submitted by:

The Kolkata Municipal Corporation (KMC), Kolkata

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Asian Development Bank

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Subject: Semi Annual Environmental Monitoring Report - Period from January 2019 to June 2019

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Dear Sourav,

As desired, please find enclosed the Revised Semi Annual Environmental Monitoring Report for Tr-II from January 2019 to June 2019 along with the completed log sheet for your kind perusal.

With best wishes,

Project Director
Kolkata Environment Improvement Investment Programme
Kolkata Municipal Corporation
Kolkata



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Semi Annual Environmental Monitoring Report

**ADB Loan Number 3413-IND
Period Covered: January to June 2019**

July 2019

**IND: KOLKATA ENVIRONMENTAL IMPROVEMENT
INVESTMENT PROGRAM (KEIIP) – Project 2**

Prepared by Project Management Unit, Kolkata Environmental Improvement Investment Program, Kolkata Municipal Corporation, Government of West Bengal for Asian Development Bank



**KOLKATA ENVIRONMENTAL IMPROVEMENT
INVESTMENT PROGRAM (KEIIP) – PROJECT 2**

PROJECT MANAGEMENT UNIT

5th

**SEMI ANNUAL ENVIRONMENTAL MONITORING
REPORT**

TRANCHE 2

ADB Loan 3413-IND

(Period January to June 2019)

August 2019



KOLKATA MUNICIPAL CORPORATION

TABLE OF CONTENTS

I	Introduction	1
II	Implementation Progress	3
III	Environmental Procedure Review	18
IV	Compliance Status With The Environmental Management And Monitoring Plan.....	23
V	Environmental Monitoring And Evaluation.....	41
VI	Consultations And Disclosures Conducted.....	58
VII	Grievance Redressal	60
VIII	Findings And Recommendations.....	63
	APPENDIX 1: LOCATION MAP PROJECT AREA	65
	APPENDIX 2: PROGRESS OF WORK	67
	APPENDIX 3: TRAINING CONDUCTED AT PROJECT SITES	70
	APPENDIX 4: ENVIRONMENTAL MONITORING AT DIFFERENT PROJECT LOCATION	72
	APPENDIX 5: GOOD PRACTICE ADOPTED AT DIFFERENT SITES	74
	APPENDIX 6: PUBLIC CONSULTATION AT DIFFERENT PROJECT SITES.....	76
	APPENDIX 7: CONTRACTORS' ORIENTATION PROGRAMME ON ADB'S SAFEGUARD POLICY AND EMP IMPLEMENTATION.....	77
	APPENDIX 8: SAMPLE GRIEVANCE REDRESS FORM.....	80

LIST of TABLE

Table No.	Contents	Page No.
1	Implementation status of different components (package wise)	4
2	Compliance of Loan Covenants – Environment part	11
3	Details of KEIIP Environmental Safeguard Team	16
4	Status of Compliance with National and State Legal Requirements (up to 31 st December 2018)	17
5	Summarized Compliance to EMP Implementation for S&D Packages	23
6	Summarize Compliance to EMP Implementation for WS Packages	31
7	Ambient Air Quality status at working sites	40
8	Noise Level Monitoring Data at Working Sites	43
9	Performance Fact Sheet for Required Environmental Consents/Clearances of KEIIP Tranche 2 (Package-wise)	51
10	Performance Fact Sheet for EMP Implementation of KEIIP Tranche 2 (Package-wise)	52
11	Package wise EMP compliance status of different construction packages in Tranche -2 KEIIP	55
12	Types of consultations and disclosure conducted in different packages of Tranche-2	56
13	Issues raised during public consultation in different packages of Tranche -2 during July to December 2018	57
14	Grievance recorded and resolved in different packages of Tranche -2 during July to December 2018	60
15	Corrective Action Plan	61

LIST of FIGURE

Figure No.	Contents	Page No.
1	Sub Project location map- Project 2 (Tranche 2)	2
2(a)	Physical progress of Sewerage and Drainage Network of Tranche-2	10
2(b)	Physical progress of Water supply Network of	10
3	Institutional Arrangement – Safeguard	15
4	Status of PM2.5 in S&D network packages of Tranche-2	46
5	Status of PM10 in S&D network packages of Tranche-2	47
6	Status of PM2.5 in WS network packages of Tranche-2	47
7	Status of PM10 in WS network packages of Tranche-2	48
8	Status of SO ₂ & NO _x in S&D network packages of Tranche-2	48
9	Status of SO ₂ & NO _x in WS network packages of Tranche-2	49
10	Status of Noise level in S&D network packages of Tranche-2	49
11	Status of Noise level in WS network packages of Tranche-2	50
12	Package wise EMP compliance status of different construction packages in Tranche -2	55
13	Grievance Redress Mechanism	60

ABBREVIATIONS

AAI	-	Airport Authority of India
ADB	-	Asian Development Bank
ASI	-	Archaeological Survey of India
BIS	-	Bureau of Indian Standards
BOD	-	Biochemical Oxygen Demand
CBO	-	Community Based Organization
COD	-	Chemical Oxygen Demand
CPCB	-	Central Pollution Control Board
CPHEEO	-	Central Public Health and Environmental Engineering Organisation
CTE	-	Consent to Establish
CTO	-	Consent to Operate
CW	-	Canal Water
DG	-	Diesel Generator
DO	-	Dissolved Oxygen
DPR	-	Detailed Project Report
DSC	-	Design and Supervision Consultants
DWF		Dry Weather Flow
KMC	-	Kolkata Municipal Corporation
EA	-	Executing Agency
EARF	-	Environmental Assessment and Review Framework
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
GRC	-	Grievance Redressal Committee
GRM	-	Grievance Redress Mechanism
GW	-	Groundwater
HC	-	Hydrocarbons
IEE	-	Initial Environmental Examination
INR	-	Indian National Rupee
KEIP	-	Kolkata Environmental Improvement Project
KEIIP		Kolkata Environmental Improvement Investment Program
KMC	-	Kolkata Municipal Corporation
KMDA	-	Kolkata Metropolitan Development Authority
LPG	-	Liquefied Petroleum Gas
MoEFCC	-	Ministry of Environment and Forest & Climate Change, Government of India
MTBM	-	Micro Tunnel Boring Machine
NIOSH	-	National Institute of Occupational Health
NGO	-	Non Government Organization
O and M	-	Operation and Maintenance

PMC	-	Project Management Consultant
PMU	-	Project Management Unit
PS	-	Pumping Station
REA	-	Rapid Environmental Assessment
ROW	-	Right of Way
RP	-	Resettlement Plan
S & D	-	Sewage & Drainage
SEIAA	-	State Level Environmental Impact Assessment Authority
SPM	-	Suspended Particulate Matter
SPS	-	Safeguard Policy Statement
STP	-	Sewage Treatment Plant
SWF	-	Storm Water Flow
SW	-	Surface Water
TDS	-	Total Dissolved Solids
TMP	-	Traffic Management Plan
TSS	-	Total Suspended Solids
UFW	-	Unaccounted For Water
USD	-	US Dollar
WBPCB	-	West Bengal Pollution Control Board
WTP	-	Water Treatment Plant

I. INTRODUCTION

A. Background

1. Kolkata Environmental Improvement Project (KEIP) was a key urban infrastructure initiative of the Kolkata Municipal Corporation (KMC) funded by Asian Development Bank (ADB) since 2000 which succeeded in improvement of the urban environment and quality of life in parts (mainly added areas) of KMC area. On completion of the project, both KMC & ADB agreed to continue their combined effort to improve further basic urban municipal infrastructures of Kolkata through a multi - tranche financing program (MFF) of US \$400 million - 'Kolkata Environmental Improvement Investment Program' (KEIIP). Figure in **Appendix 1** shows the areas of Kolkata considered to be taken up under KEIIP Tranche 1, 2 & 3. ADB has sanctioned US \$100 million for Tranche 1, US \$200 million for Tranche 2 and US \$100 million for Tranche 3 work. The total investment duration for Tranche 1, 2 & 3 is from 2014 to 2022.

2. The main objective of the Program is to improve service quality and operational sustainability of increased water supply and sewerage in 20% of the KMC area. The Investment Program also aims towards increase in operational efficiency and scale of water supply, sewerage and drainage services in 5% of KMC area.

3. The Program output comprises of:

- ✓ rehabilitation of inefficient and outdated water supply assets;
- ✓ continued extension of sewerage to newly developed areas and
- ✓ further development of financial and project management capacity.

4. The Program is being carried out by the Govt. of West Bengal (GoWB) acting through KMC as the Executing Agency (EA). Sub project location map for **Tranche 2 (Project 2)** is shown in **Figure 1**.

B. Project & Report Purpose

5. The environmental impacts of the sub projects under **Tranche 2** were assessed through Initial Environmental Examination (IEE), prepared according to ADB Safeguard Policy (SPS 2009) and has been classified as environmental assessment **category B** (some negative impacts but less significant than category A) by ADB.

6. This report is the semi annual environment monitoring report (SEMR) covering period from **January to June 2019** and describes the implementation of the environmental management plan (EMP) in respect of each subproject of Tranche 2 as laid down in the approved IEE.

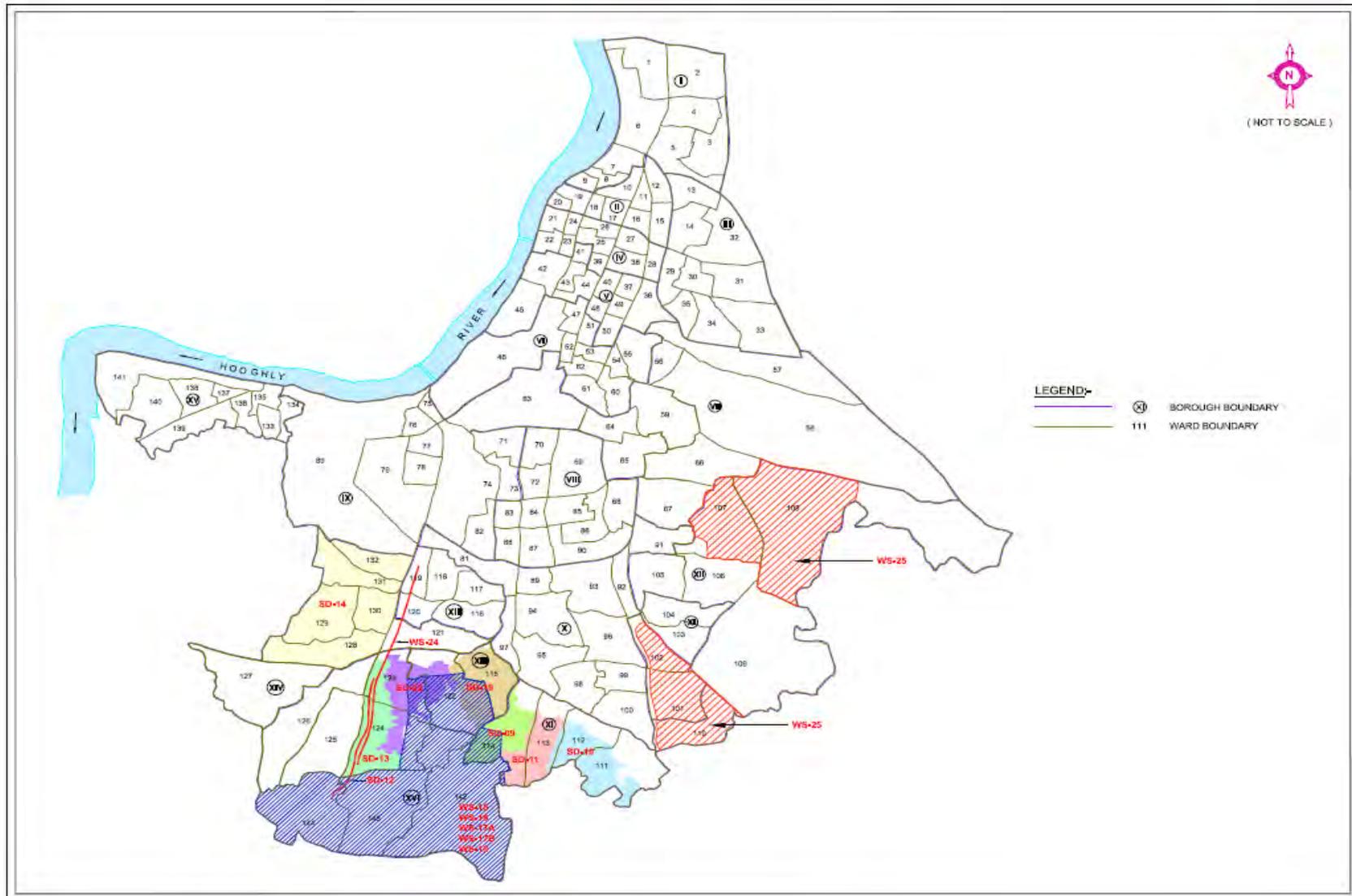


Figure 1: Sub Project location map- Project 2 (Tranche 2)

II IMPLEMENTATION PROGRESS

A. Status of Subprojects under Tranche 2

7. On date **17 packages** under **Tranche 2** have been finalized. There are 8 nos. Sewerage and Drainage package and 8 nos. Water Supply packages. One package (WS 26 B) is for supply of water supply system instrumentation and IT upgrade. For all awarded packages, contractors have been mobilized and works are in different stages of implementation. **Table 1** show the summary of subprojects (packages) under Tranche 2 including their work components, starting date and schedule date of completion, physical progress and progress of implementation of work components as on 30th June 2019. The same is also illustrated in **Figure 2(a)** and **Figure 2(b)**. Photo illustration on progress of work for all packages has been presented in **Appendix 2**.

Table 1: Summary of Subprojects under KEIIP Tranche 2 (on 30th June 2019)

Package Name and No.	Work components	Start date & Target date of completion	% Physical Progress as on 30 th June 2019	Status off progress of work upto 30 th June 2019
Construction of Sewerage and Drainage Network in Thakurpara and Purba Putiary Catchment and Construction of Keorapukur PS in Ward – 114, Borough XI including Operation & Maintenance of the Pumping Station (KEIIP/NCB/Tr 2/SD-09/2016-17)	<ul style="list-style-type: none"> • Length of proposed trunk sewer to be laid under this package is 11.7 km. For laying of pipe below canals (crossing of Western Channel & Keorapukur Canal respectively), jack pushing method is considered. Length of Gravity main (1419 mm dia.) is 40 m and proposed line to be laid by Jack pushing method (1600 mm dia) is 35. m. • Construction of one combined pumping station (Keorapukur PS) within the premises of Old Keorapukur Canal pumping station including installation of 5 nos. of SWF pumps and 4 nos. of DWF pumps. • Construction of 12 nos. gravity outfalls (7 nos. to Keorapukur canal & 5 nos. to Western channel) with flap gate. • Construction of MS bridge for the two pumping mains (SWF & DWF) for crossing Keorapukur Canal. Length of MS bridge – 18.0 m. • Laying of 620 m DWF Pumping main (500 mm dia., DI, K-9). • Laying of 50 m SWF Pumping main (1400 mm dia. OD MS). 	07.02.2017-06.02.2020	26.89%	<ul style="list-style-type: none"> • Well construction in progress. • Electrical substation completed upto roof level.
Sewerage and Drainage Network in Rania Box catchment (Part of Ward 111, 112 & 113) in Borough XI (KEIIP/NCB/Tr 2/SD-10/2015-16)	<ul style="list-style-type: none"> • Length of proposed Trunk sewer to be laid is about 11.58 km. • Length of proposed sewer to be laid by Jack pushing Method- 60 m • Construction of RCC Box drain - 0.82 Km • Construction of gravity outfall structure (1 no. to Rania canal) at the end of box drain with provision of sluice gate 	25.01.2017-24.01.2020	-	Contract terminated. Fresh bid for balance work floated and evaluation completed for award of contract.
Sewerage and Drainage Network in Vivekananda road catchment (part of ward no 113& 114) and construction of Pumping station in borough-xi (KEIIP/NCB/Tr2/SD-11/2016-17)	<ul style="list-style-type: none"> • Trunk sewer - about 9.63 km under this package • Length of proposed sewer (600 mm & above) to be laid – 8.43 km • Length of proposed sewer (below 600 mm dia.) to be laid – 1.20 km • RCC Box drain for outfall structure – 0.03 km • Construction of one combined pumping station (designated as Vivekananda Road PS) at crossing of Rania Canal and 	14.02.2017-13.02.2020	-	Contract terminated. Fresh bid for balance work floated and evaluation completed for award of contract.

Package Name and No.	Work components	Start date & Target date of completion	% Physical Progress as on 30 th June 2019	Status off progress of work upto 30 th June 2019
	<p>Vivekananda Road. Installation of 8 nos. SWF pumps each having capacity of 850 lps</p> <ul style="list-style-type: none"> • Construction of gravity outfalls (6 nos. - 3 nos. to Rania canal & 3 nos. to Western channel) with flap gate • Laying of SWF Pumping main - 1200 mm dia. MS pipe about 2.2 km • Construction of MS Bridge for 1200 m SWF pumping main over Western Channel 			
<p>Laying of Trunk Sewer along James Long Sarani by Micro-Tunnelling Method (KEIP/NCB/Tr 2/SD-12/2015-16)</p>	<ul style="list-style-type: none"> • Length of proposed trunk sewer to be laid along western flank of James Long Sarani (from Sakher Bazar crossing to near Joka Tram depot) by Micro tunneling method is about 3.8 km. • Existing rider sewers below footpath along James long Sarani are proposed for collection of SWF & DWF to be utilized. Parts of rider sewers need to be replaced to receive connection from some lateral roads and are proposed to be implemented under Package SD 13. • Connection from western flank to be done by open cut method. • Connection from eastern flank to be done by Jack pushing method. 	<p>08.02.2017-07.08.2019</p>	<p>92.75%</p>	<p>Laying of sewer line completed upto 3609 m.</p>
<p>Development of Sewerage & Drainage Network within James Long Sarani and Mahatma Gandhi Road Catchment in Borough XVI (Part of Ward no. 123 & 124) (KEIP/NCB/Tr 2/SD-13/2015-16)</p>	<ul style="list-style-type: none"> • Length of proposed sewer line to be laid 14.4 km. • Construction of 3 nos. of outfall structures including sluice gate. • Installation of Sluice gate at the outfall mouth of existing drain along eastern flank of DH road to prevent back flow from Churial canal • Replacement of part of rider sewers along both flank's of James Long Sarani to receive connections from narrow lateral roads. • Replacement of part of existing drain along eastern flank of DH Road with pipe conduit about 50 m (near Janakalyan Road) & re-sectioning of the part drain along eastern flank of DH Road about 150 m (near Behala Fire Station). • Desilting of existing rider sewers along both flanks of James Long Sarani. 	<p>05.12.2016-04.12.2019</p>	<p>26.32%</p>	<p>Laying of Sewer line completed upto 5451 m.</p>
<p>Laying of Lateral Sewers in part of Borough XIV (Ward no. 128 to 132) & De- siltation of</p>	<ul style="list-style-type: none"> • Laying of Lateral sewer for a total length of 58.4 km. • Distillation of existing box drain / conduit at Picnic Garden Road 	<p>05.12.2016-04.12.2019</p>	<p>45.54%</p>	<p>Laying of sewer line completed upto 26252 m.</p>

Package Name and No.	Work components	Start date & Target date of completion	% Physical Progress as on 30 th June 2019	Status off progress of work upto 30 th June 2019
Box Drain at Picnic Garden Road (KEIIP/NCB/Tr 2/SD-14/2015-16)				
Construction of Underground Reservoirs & Overhead Reservoirs, Pumping Stations & Linking Pumping Station Mains for Water Supply in Joka & Adjoining Areas including operation & maintenance of the pumping station KEIIP/NCB/Tr 2 /WS 15/2015-16	<ul style="list-style-type: none"> • Construction of Under Ground Reservoir (UGR) at Prantik Ph III (ward no 143)- , 17.5 ML, PS & E&M works at Prantik Ph III • Construction of UGR at KMC land on Julpia Road (ward no 142)- 4.5 ML, PS & E&M works at KMC land on Julpia Road • Construction of Elevated Service Reservoir (ESR) at Prantik Ph III (ward no 143)- 3.1 ML • Construction of ESR at KMC land on Julpia Road (ward no 142)- 2.0 ML • Construction of ESR at N-E SSESTP (ward 122)-2.0 ML • Construction of ESR at N-W SSESTP (located at junction of ward 122 & 123)- 1.8 ML • Construction of ESR at 22 Bigha (ward 143)- 3.4 ML • Construction of ESR at WBSETCL near Joka Tram Depot. (ward 144)- 2.1 ML 	05.12.2016-04.06.2019	68.67%	<ul style="list-style-type: none"> • UGR at Julpia: 86% completed. • UGR at Prantik: 67% completed • ESR at Julpia: 91% completed. • ESR at Prantik: 75% completed. • ESR at WBSETCL: 90% completed. • ESR at NE of SSESTP: 50% completed. • ESR at NW of SSESTP: 57% completed. • ESR at 22 Bigha: 26% completed.
Laying of Transmission Main from Daspara PS to UGRs at Prantik PH-III , KMC Land on Julpia Road ; and Transmission Main from PS to zonal Reservoirs KEIIP/NCB/Tr 2/WS 16/2015-16	<ul style="list-style-type: none"> • Laying of Transmission Main from existing Daspara PS to UGRs cum PS at Prantik Phase III and KMC land on Julpia Road, length - approx. 18.4 km • Supply and laying of Transmission main from Prantik Phase III UGR cum PS to existing ESR at Prantik, and proposed ESR at NW of SSE STP, NE of SSE STP, existing ESR at Diamond Park, proposed ESR at WBSETCL command area and proposed ESR at 22 Bigha command area 	19.05.2017-18.05.2019	41.73%	<ul style="list-style-type: none"> • Progress in MS pipe laying work – 9485 m completed.
Laying of Water Supply distribution network including providing household service connection in 4 distribution service areas in Joka &	<ul style="list-style-type: none"> • Laying of water supply distribution network including house service connection for proposed Elevated service reservoirs related to Prantik Ph III, NE of SSE STP and NW of SSE STP, length - approx. 155 km • Supply and laying of water supply distribution network including 	17.06.2017-16.12.2019	20.26%	<ul style="list-style-type: none"> • Progress in DI pipe laying upto 63797 m. • Progress in MS pipe laying upto 6861 m

Package Name and No.	Work components	Start date & Target date of completion	% Physical Progress as on 30 th June 2019	Status off progress of work upto 30 th June 2019
adjoining areas for the command area under proposed ESRs at Prantik Ph-III, N-E of SSE STP and N-W of SSE STP & existing ESR at Prantik KEIP/Tr 2/WS 17A/2016-17	house service connection for existing elevated service reservoirs related to Prantik			
Laying of Water Supply distribution network including providing household service connection in 4 distribution service areas in Joka & adjoining areas for command area under proposed ESRs at Company Pukur, WBSETCL & 22 Bigha & Existing ESR at Diamond Park KEIP/Tr 2/WS 17B/2016-17	<ul style="list-style-type: none"> Laying of water supply distribution network including house service connection for proposed ESR at Company Pukur (KMC land at Julpia road), WBSETCL, and 22 Bigha. Supply and laying of water supply distribution network including providing house service connection for existing ESR at Diamon Park. 	17.06.2017-16.12.2019	27.21%	<ul style="list-style-type: none"> Progress in DI pipe laying upto 64324 m. Progress in MS pipe laying upto 12591 m.
Laying of Transmission Main from pumping station to proposed 3ESRs at Ramkantapur, Malpara, Charaktala & Construction of the 3 ESRs including laying of Distribution Network with House service connection within the Command Area of the 3 ESRs for Water Supply in Joka and adjoining areas KEIP/NCB/Tr 2/WS 18/ 2016-17	<ul style="list-style-type: none"> Construction of Elevated Service Reservoirs (ESRs): Ramkantapur- 2.1 ML, Malpara – 1.5 ML, Charaktala- 1.2 ML Laying of Transmission main from pumping stations to ESRs at Ramkantapur, Malpara and Charaktala, length – approx. 72 km. Laying of Distribution system and house service connection within command area of 3 ESRs. at Ramkantapur, Malpara and Charaktala 	15.05.2017-14.05.2019	35.80% (reduced than before due to revision of weightage program)	<ul style="list-style-type: none"> ESR at Charaktala – 47% work completed. ESR at Malpara – 39.5% work completed. ESR at Ramkantapur – 56 piling work completed out of total 96. D.I. and M.S. pipe laying completed upto 51435 m.

Package Name and No.	Work components	Start date & Target date of completion	% Physical Progress as on 30 th June 2019	Status off progress of work upto 30 th June 2019
Development of S & D Network in Tolly's Nullah/ Keorapukur canal Sub-basin in part of Wards 115 & 122 including construction of a SWF pumping station in the premises of Kudghat LS – 5 and augmentation of Keorapukur MPS (KEIP/NCB/Tr 2/SD 19/ 2016-17)	<ul style="list-style-type: none"> • Length of proposed trunk sewer to be laid is 9.6 km. For laying of pipe below canals, jacking pushing method is considered • Construction of Kudhghat SWF PS including pumping main. • Installation of 4 nos. SWF pumps of 800 lps. • Augmentation of existing Keorapukur MPS Installation of 2 DWF pumps of 650 lps • Construction of gravity outfalls (Total 5 nos. - 1 nos. to Tollynullah & 4 nos. to Keorapukur canal) with sluice/ flap gate. • Laying of SWF Pumping main from Kudghat PS to Tolly's nullah – 100 m. • Laying of DWF pumping mains through bypass from Keorapukur MPS – 500 m. • Fabrication and creation of one MS pipe supporting bridge over Keorapukur Canal for carrying 1200 mm dia MS SWF pumping main from Kudghat PS. • De- silting of the entire length of MG road (approx. 2.5 km) and Banerjee para road (approx. 1.1 km) sewer line 	18.09.2017-17.12.2020	19.74%	<ul style="list-style-type: none"> • Sewer line laying in ward no. Well construction in progress. • Screen chamber construction in progress.
Development of S&D Network in Churial Extension Canal sub basin in Borough XIII & XVI (Part of Ward No. 122, 123, 124) including laying of main trunk sewer by micro-tunneling method and construction of Churial Extension Pumping Station (KEIP/NCB/Tr 2/SD-22/ 2016-17)	<ul style="list-style-type: none"> • Length of proposed sewer line to be laid by open cut method is 16.7 km. • Length of proposed trunk sewer to be laid by Micro tunneling method below Churial canal upto MG Road is 2.367 km (2200 mm – L= 660.8 m, 2400 mm- L= 1099 m, 2600 mm – L= 607.2 m). • Construction of Churial Extension PS on Churial canal by construction of 8 nos. SWF pumps (capacity 800 lps/each) • Construction of gravity outfalls with installation of sluice gate to Churial canal. • Laying of SWF pumping main from Churial Extension PS, Length - 730 m • Extension of SWF pumping main of SSE PS, Length – 1150 m • Extension of Treated effluent pumping main, Length – 1150 m • Jack pushing work (2600 mm dia., total length = 30 m at four locations and 1000 mm dia., Total length = 18 m at one location) for 	04.06.2018-02.06.2021	4.87	<ul style="list-style-type: none"> • RCC pipe laying by open cut upto 14214.45 m • RCC pipe laying by microtunneling upto 2052.5 m. • M.S. pipe laying upto 1841.12 m. • D.I. pipe laying upto 941.50m.

Package Name and No.	Work components	Start date & Target date of completion	% Physical Progress as on 30 th June 2019	Status off progress of work upto 30 th June 2019
	making inter connectivity between different units of pumping stations. <ul style="list-style-type: none"> • Construction of catch pits, Gully pits, Kerb channel and house connection & development of road on the Churial Extension Canal/ Churial Canal. 			
Dedicated Water Supply Transmission Main from Junction of James Long Sarani to Daspara near existing pumping station along James Long Sarani KEIP/NCB/Tr 2/WS 24/ 2016-17	Laying of water supply pipe line, length - 6.0 km by micro tunneling method	26.10.17-25.10.2019	47.74 %	Laying of 1400 dia M.S. Pipe completed upto 2332 m.
Performance Based Contract for Water Loss Management in Anandapur Area and Patuli Area under Jai Hind WTP KEIP/NCB/TR-2/WS25/2017-18	<ul style="list-style-type: none"> • Topographic Survey including Customer Survey for Updating WS Service Connection Database. • Review of Existing WS Distribution Network and preparing of District Metered areas within the command zones. • Preparation of System Improvement Plan (SIP) • Supply and Laying of WS Distribution Network. • Supply and Installation of Flow-meters including data logging • Establishment of DMAs • Conducting Leak Detection and carrying out pipeline repairs at leakage points • Providing and Installing Household service connections (approx 35,000 nos.) • Installation of Domestic Water meters including taking meter readings. • Operation and Maintenance of the District Metered Areas (DMAs) including flow recording, monitoring and assessment of Water Loss on a regular basis. 	04.10.2018-02.10.2021	-	Survey work discontinued from 30.05. 19.
Water Supply System Instrumentation and Information Technology	<ul style="list-style-type: none"> • Water Supply System Instrumentation and Information Technology Upgrade 	05.03.19 – 03.03.2021	-	Approved datasheet & initial procurement of EMF meter, ultrasonic meter,

Package Name and No.	Work components	Start date & Target date of completion	% Physical Progress as on 30 th June 2019	Status off progress of work upto 30 th June 2019
Upgrade KEIIP/NCB/TR-2/WS26B/2018-19				pressure transmitter, level sensor, water meter, valve & RTU communicated to the agency to commence the physical work.
Augmentation of storage capacity and transmission main under Jai Hind WTP-clear water reservoir, service main and electro mechanical works KEIIP/NCB/TR-2/WS33/2017-18	<ul style="list-style-type: none"> • Supply and Installation of additional pumping units with accessories to existing pumping stations; • Laying of service main from pumping station, length – 9.6 km. • Construction of Ground Level Storage Reservoir (GLSR) within Jai Hind WTP premise 	24.09.18-22.09.2020	9.49	<ul style="list-style-type: none"> • 2 nos. test pile completed. • 487 nos. working piles completed.

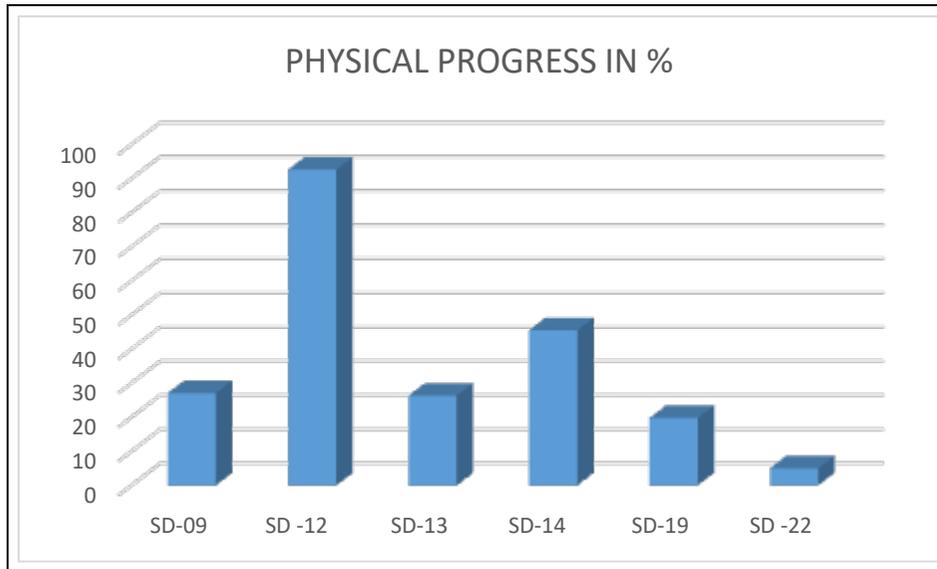


Figure 2 (a): Physical progress of Sewerage and Drainage Network of Tranche-2 (upto June ,2019)¹

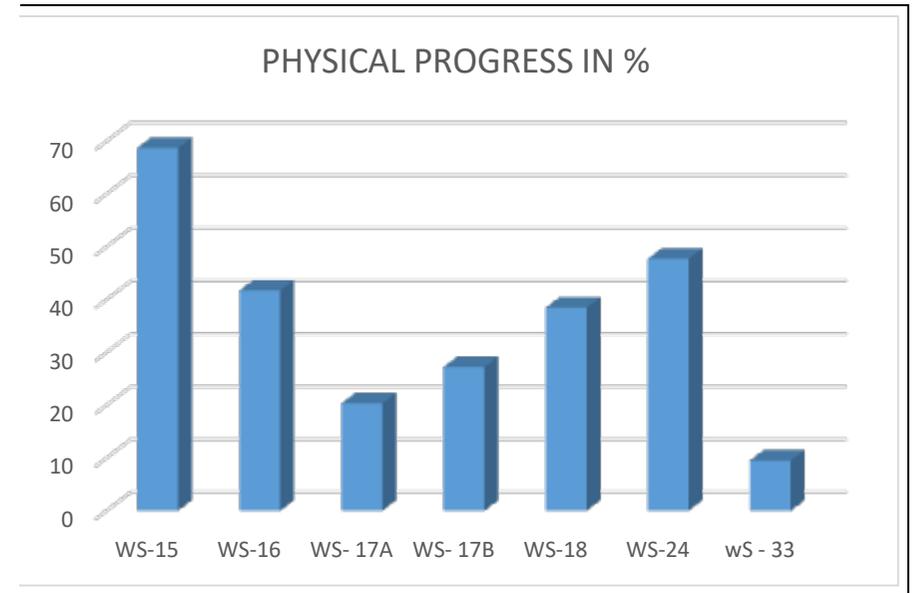


Figure 2 (b): Physical progress of Water supply Network of Tranche-2 (upto June 2019)²

¹ SD -22 just started ,SD-10, SD-11 terminated and processed for retendering , hence not included in figure 2(a)

² WS -25 and WS-33 just started , , hence not included in figure 2(b)

B. Compliance of Safeguard Loan Covenants

8. The loan agreement for KEIIP Project 2 was signed on 21st November 2016 and details are available in ADB website (<http://www.adb.org/projects/documents/loan-3413-ind-keiip-t2-mlo1>). **Table 2** provides a summary of compliance to the loan covenants related to environmental safeguards.

Table 2: Compliance of Loan Covenants – Environment part

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
Environment		
7	<p>The Borrower shall ensure or cause the EA to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project, and all projects' facilities comply with (i) all applicable laws and regulations of the Borrower and the State relating to environment, health, and safety; (ii) the Environmental Safeguards; (iii) the EARF; and (iv) all measures and requirements set forth in the respective IEE and EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.</p>	<p>Under compliance</p> <p>Document is prepared/ or under preparation by complying all relevant State and National Laws, Safeguard Policy Statement (SPS 2009) of ADB, Environment Assessment Review Framework (EARF) for Tranche-2 program.</p> <p>For Tranche 2 project Initial Environmental Examination (IEE), Environment Management Plan (EMP) report prepared and approved by ADB.</p> <p>IEE for Sewage and Drainage for Tranche 2 has been updated and that report has already been disclosed in ADB website on September 2016. Sewerage & Drainage IEE updated last on March 2017 due to revision of scope after DPR and submitted to ADB.</p> <p>IEE for water supply for Tranche 2 has already been disclosed in ADB website on April 2016. Updated version submitted to ADB on April 2017. Water Supply IEE updated last on August 2017 due to revision of scope after DPR. Updated Report disclosed on August 2017</p> <p>IEE will be revised further in case of any change of scope and location.</p> <p>All measures and requirements as prescribed in IEE/EIA and EMP are being considered during implementation.</p> <p>Corrective or preventive action plans will be reflected in Environment Monitoring Report and project implementation authority will take care of such actions when required.</p>

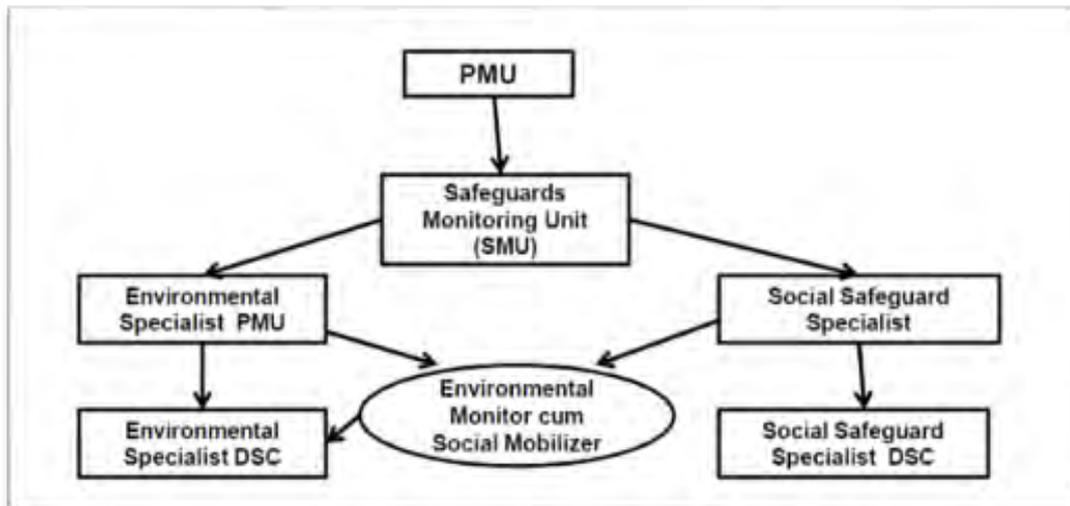
Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
Human and Financial Resources to Implement Safeguards Requirements		
11	The Borrower shall make available, or cause the EA to make available, all necessary budgetary and human resources to fully implement the EMP required.	<p>Complied Budgetary provisions have been included in EMP of Tranche 2 project. An Environment Specialist has been placed in Project Management Unit and heading Safeguard Monitoring Unit. Human resource (project consultant, i.e Environmental Specialist of DSC) for implementation of EMPs is in place for regular monitoring to secure complete compliance.</p>
Safeguards – Related Provisions in Bidding Documents and Works Contracts		
12.	<p>The Borrower shall ensure, or cause the EA to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to:</p> <p>(a) comply with the measures and requirements relevant to the contractor set forth in the IEE, the EMP, the RP and the IPP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set out in a Safeguards Monitoring Report;</p> <p>(b) make available a budget for all such environmental measures;</p> <p>(c) provide the EA with a written notice of any unanticipated environmental risks or</p>	<p>Under compliance</p> <p>(a) Approved IEE, EMP for Tranche 2 project is attached in Bidding documents. This process will be followed for all the sub projects within the present Tranche. In case of any change of scope, revised IEEs with EMP(s) will be prepared and corrective measures will be disclosed to the contractor and same will be reflected in the “Environment Monitoring Report”.</p> <p>IEE for Sewage and Drainage for Tranche 2 has been updated and that report has already been disclosed in ADB website on September 2016. Sewerage & Drainage IEE updated last on March 2017 due to revision of scope after DPR and submitted to ADB.</p> <p>IEE for water supply for Tranche 2 has already been disclosed in ADB website on April 2016. Updated version submitted to ADB on April 2017. Water Supply IEE updated last on August 2017 due to revision of scope after DPR. Updated Report disclosed on August 2017</p> <p>(b) IEE indicates budgetary provisions for implementation of EMP.</p> <p>(c) During implementation of any sub project if additional impacts/risks arise</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	<p>impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, the RP or the IPP;</p> <p>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>(e) fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	<p>due to change in scope/area that will be reflected in the revised IEEs, EMPs and Environment Monitoring Report and accordingly project Executing Agency will inform the Construction Agency for taking relevant corrective measures.</p> <p>(d) Haul roads will be marked properly (by avoiding residential and agricultural land) before commencement of transportation of materials.</p> <p>(e) Pathways, infrastructure and land which are likely to be affected for varying periods during implementation of the sub project will be restored by concerned construction agency before acceptance of the work. Restoration status will be reflected in post construction monitoring report.</p>
Safeguards Monitoring and Reporting		
13	<p>The Borrower shall cause the EA to do the following:</p> <p>(a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEEs, the EMPs, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</p> <p>(c) Report any breach of compliance with the measures and requirements set forth in the EMPs, promptly after becoming aware of the breach.</p>	<p>Under compliance</p> <p>(a) This is 4th Semi-annual safeguard monitoring report on Environment for Project 2 (Tranche 2) for the period July to December, 2018. The next report will be due by end of June 2019.</p> <p>(b) During implementation of any sub project, if additional impacts/risks arise due to change in scope/area, those will be reflected in revised IEEs with EMPs and accordingly Executing Agency (EA) will inform the ADB such change along with corrective action plan which will be reflected in the subsequent Monitoring Reports.</p> <p>(c) In case of any breach of compliance with the measures and requirements set forth in the EMP, EA will promptly inform ADB and suitable corrective action program will be planned/initiated.</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
Prohibited List of Investments		
14	The Borrower shall ensure or cause the State to ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.	Complied Under Tranche -2, there is no violation of prohibited investment activities as per ADB SPS (2009) Appendix 5.
Other Social Measures		
15	The EA shall ensure that civil works contracts under the Project follow all applicable labor laws of the Borrower and the State, and that these further include provisions to the effect that contractors: (i) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (ii) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts will also include clauses for termination in case of any breach of the stated provisions by the contractors.	Complied in Bid documents and being complied during implementation Provision are included (as per EMP & BID document) to carry out HIV/AIDS awareness programs for construction contractor, application of all relevant labour laws for health and safety including child labour law and engagement of local labours (preferably from economically backward group) covering women labours. In case of any breach of provision, necessary corrective measures as per contract clauses shall be taken. All activities including awareness program will be reflected in "Monitoring Report".

C. Implementation Arrangement

9. The institutional arrangement follows KEIIP's organizational structure and functions (**Figure 3**). The subproject is being implemented and monitored by the Project Management Unit (PMU). The KEIIP's PMU Environment Specialist is the overall in-charge on Environmental safeguard of the program. The responsibilities of the Environmental Specialist ensures that (i) environmental safeguard issues are addressed; (ii) EMP/approved Site Environment Plan (SEP) is implemented; (iii) physical and non-physical activities under the subproject are monitored; and (iv) monitoring reports are prepared on time and submitted to ADB. Safeguard Monitoring Unit (SMU) of PMU is ensuring field level monitoring and safeguard documentation.



Notes: PMU = project management unit; DSC = design and supervision consultants

Figure 3: Institutional Arrangement – Safeguard

10. PMU is supported by the Design and Supervision Consultants (DSC). An Environment Specialist is in place to ensure: (i) EMP/ approved SEP is implemented; (ii) surveys and measurements are undertaken; (iii) inspections and observations throughout the construction period are recorded to ensure that safeguards and mitigation measures are provided as intended; and (iv) statutory clearances and permits from government agencies/other entities are obtained prior to start of civil works.

11. The Safeguards Monitoring Unit will:

- (i) prepare the REA checklist, draft the EIA/IEE and arrange for disclosure of the approved EIA/IEE in the website
- (ii) ensure that Environmental Clearance (EC), Consent to Establishment and Consent to Operate and other certificates, as required, are obtained in time from appropriate authorities and ensure compliances with conditions imposed.
- (iii) ensure incorporation of the EMP, environmental mitigation and monitoring measures into the contract documents
- (iv) monitor disclosure and public consultation arranged by DSC during IEE process and ensure that comments are reflected in the IEE report
- (v) ensure disclosure of information throughout the duration of the subproject through suitable visual means and publications
- (vi) provide necessary input for grievance redress
- (vii) approve contractor's proposed locations for construction work camps, storage areas, hauling roads, lay-down areas, and disposal areas for solid and hazardous wastes on recommendations of DSC
- (viii) guide the Contractor for drawing up of Site Environmental Management Plan and to approve the same
- (ix) induct the Contractor for taking up the construction following environmental and social safeguards
- (x) facilitate scheduled monitoring during implementation of the project.
- (xi) carry out regular onsite monitoring and guide the Contractor to adopt the required site management standard.

- (xii) ensure the required health and safety measures at work sites
 - (xiii) obtain in time and to review the monthly monitoring report of the Contractors
 - (xiv) prepare 6-monthly monitoring and EMP implementation report, including the status of project compliance, statutory clearances and relevant loan covenants, and submit the approved 6-monthly report to ADB and seek permission to disclose the same in the investment program website
 - (xv) prepare monitoring report on post-construction activities by the contractors as specified in the EMP
12. The Contractor's responsibilities included:
- (i). Submission of Site environmental plan (SEP) covering proposed sites / locations for construction work camps, storage areas, haul roads, lay down areas, disposal areas for solid and hazardous wastes
 - (ii). Compliance with all applicable legislation and be conversant with the requirements of the EMP/ approved SEP;
 - (iii). Briefing of his staff, employees, and Labours about the requirements of the EMP/ approved SEP;
 - (iv). Ensuring that any sub-contractors/suppliers engaged within the context of the contract comply with the environmental requirements of the EMP/ approved SEP. The Contractor will be held responsible for non-compliance on their behalf;
 - (v). Providing methodology/information for all activities requiring special attention as specified and/or requested by the DSC Environment Specialist during the duration of the Contract;
 - (vi). Providing environmental awareness training to staff, employees, and Labours;
 - (vii). Bearing the costs of any damages/compensation resulting from non-adherence to the EMP/ approved SEP or written site instructions;
 - (viii). Conducting all activities in a manner that minimizes disturbance to directly affected residents and the public in general, and foreseeable impacts on the environment.
 - (ix). Ensuring that the PMU and DSC Environment Specialists are timely informed of any foreseeable activities that will require their expert input
13. Environment Specialist and Junior Environmental Scientist of DSC visited all construction sites every month and arranged onsite training program for contractors and supervisory staff and instructed contractors for application of corrective action measures to mitigate impacts. **Table 3** shows detail of environment safeguard team for KEIIP.

Table 3: Details of KEIIP Environmental Safeguard Team

Designation	Name and Contact Details
PMU, Environment Specialist Safeguard Monitors in SMU	Name: Dr. Chinmoy Chakrabarti Office Address: Unnayan Bhawan, 206 A. J. C Bose Road, Kolkata 700017 Phone:033 2283 0169 Email:pdkeiip@gmail.com, chin_moy@yahoo.com

DSC, Environment Specialist	Name: Dr. Samar Kumar Banerjee Office Address: Unnayan Bhawan, 206 A. J. C Bose Road, Kolkata 700 017 Phone:033 2283 0044, 9830415953 Email:dsckeip@gmail.com, samarbanerjee1@gmail.com,
DSC, Environmental Engineer	Name: Dr. Bidisha Mukherjee Office Address: Unnayan Bhawan, 206 A. J. C Bose Road, Kolkata 700 017 Phone:033 2283 0044, 9830592875 Email:dsckeip@gmail.com, bidisha1809@gmail.com

III ENVIRONMENTAL PROCEDURE REVIEW

A. Environmental Legal Requirement

14. For implementation of the project both national and state rules & regulations need to be followed. **Table 4** in next section indicates environment legal requirement for the projects under KEIIP.

B. Compliance with Environmental Legal Requirements

15. Before implementation of the project, compliance with environmental policy, law and legislation is necessary.

16. Under **Tranche 2** present status of Environment, forest and other clearances are mentioned below.

Table 4: Status of Compliance with National and State Legal Requirements (up to 30th June 2019)

Package	Main package work	National and State Legal Requirement Applicable to the sub-project	Status	Conditions of the Clearance/NOCs
KEIIP/NCB/Tr 2/SD-09/2016-17	Sewerage & Drainage-Construction of sewerage and Drainage Network in Thakurpara and Purba Putiary catchment and construction of Keorapukur Pumping Station in Ward 114, Borough XI including Operation & Maintenance of the Pumping Station	Water (Prevention and Control of Pollution) Act, 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 In case of setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	
KEIIP/NCB/Tr 2/SD-10/2015-16	Sewerage & Drainage Sewerage and Drainage Network in Rania Box catchment (Part of Ward 111, 112 & 113) in Borough XI	Water (Prevention and Control of Pollution) Act, 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act,	Work withheld, will be implemented during construction work.	

Package	Main package work	National and State Legal Requirement Applicable to the sub-project	Status	Conditions of the Clearance/NOCs
		1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)		
KEIIP/NCB/Tr 2/SD-11/2016-17	Sewerage & Drainage: Sewerage and Drainage Network in Vivekananda Road Catchment (Part of Ward 113 & 114) & construction of a Pumping Station in Borough XI including Operation & Maintenance of the Pumping Station	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Work withheld, will be implemented during construction work.	
KEIIP/NCB/Tr 2/SD-12/2015-16	Laying of Trunk sewer along James Long Sarani by Micro-tunneling method	West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006- Tree felling permission Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	NOC received from Urban Forest Dept (via certificate no. 37 (o)/Clearance/17 dated 27.02.18) for felling of 30 nos. tree. During implementation of project compliance with Air Act, Noise Rules and Water Act will be required For acoustic type of Generator - not required	Plantation of 5 times of number of tree felling i.e 150 nos. of plantation of trees over 0.25 ha land of KMC along Taratala and DH Road completed which need proper maintenance for survival.
KEIIP/NCB/Tr 2/SD-13/2015-16	Development of Sewerage & Drainage Network within James Long Sarani and Mahatma Gandhi Road catchment in Borough XVI (Part of Ward no. – 123 & 124)	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented Types of Generator (acoustic) being used - do not require CTE and CTO	
KEIIP/NCB/Tr 2/SD-14/2015-16	Laying of lateral sewers in Borough XIV (Part of Ward no. 128 to 132)	Water (Prevention and Control of Pollution) Act. 1974	Are being implemented	

Package	Main package work	National and State Legal Requirement Applicable to the sub-project	Status	Conditions of the Clearance/NOCs
		The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Types of Generator (acoustic) being used - do not require CTE and CTO	
KEIIP/NCB/ Tr 2 /WS 15/2015-16	Construction of Underground Reservoirs and Overhead Reservoirs, Pumping Stations and linking Pumping station mains for water supply in Joka and adjoining areas including Operation & Maintenance of the Pumping station	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	
KEIIP/NCB/Tr 2/WS 16/2015-16	Laying of Transmission Main from existing Daspara PS to UGRs at Prantik Phase III, KMC land on Julpia Road and Transmission main from PS to zonal reservoirs	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	
KEIIP/Tr 2/WS 17A/2016-17	Laying of water supply distribution network including providing household service connection in 4 distribution service areas in Joka and adjoining areas for the command area under proposed ESRs at Prantik Ph III, NE of SSE STP and NW of SSE STP and existing ESR at Prantik	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	

Package	Main package work	National and State Legal Requirement Applicable to the sub-project	Status	Conditions of the Clearance/NOCs
KEIIP/Tr 2/WS 17B/2016-17	Laying of water supply distribution network including providing household service connection in 4 distribution service areas in Joka and adjoining areas for the command area under proposed ESRs at Company pukur (KMC land at Julpia road), WBSETCL, 22 Bigha and existing ESR at Diamond Park	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	
KEIIP/NCB/Tr 2/WS 18/ 2016-17	Laying of Transmission main from pumping stations to proposed 3 nos. ESRs at Ramakantpur, Malpara, Charaktala and construction of 3 ESRs including laying of distribution network with house service connection within the command area of the 3 ESRs for water supply in Joka and adjoining areas	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	
KEIIP/NCB/TR-2/SD19/2016-17	Development of S & D network in Tolly' nullah/ Keorapukur canal sub basin in part of wards 115 and 122 including construction of a SWF pumping station in the premise of Kudghat LS-5 and augmentation of Keorapukur MPS	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	
KEIIP/NCB/Tr 2/SD- 22/ 2016-17	Development of S&D Network in Churial Extension Canal sub basin in Borough XIII & XVI (Part of Ward No. 122, 123, 124) including laying of main trunk sewer by micro-tunneling method and construction of Churial Extension Pumping Station	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	

Package	Main package work	National and State Legal Requirement Applicable to the sub-project	Status	Conditions of the Clearance/NOCs
KEIIP/NCB/Tr 2/WS 24/ 2016-17	Dedicated Water Supply Transmission Main from Junction of James Long Sarani to Daspara near existing pumping station along James Long Sarani	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	
KEIIP/NCB/TR-2/WS25/2017-18	Performance Based Contract for Water Loss Management in Anandapur Area and Patuli Area under Jai Hind WTP	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Work not started yet, will be implemented during construction work.	
KEIIP/NCB/TR-2/WS33/2017-18	Augmentation of storage capacity and transmission main under Jai Hind WTP- clear water reservoir, service main and electro mechanical works	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	Are being implemented	

IV. COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

17. There are 13 environment sensitive subprojects under implementation (as on 30th June 2019) out of total 17 packages in Tranche 2. Site Environment plan including site specific EMP was submitted by the contractor before starting of each construction packages. These EMPs are generally revised semi-annually as per progress of construction work. Sample Site Specific EMP was submitted previously in last three SEMR.

18. Environment Specialist from DSC and PMU regularly monitoring EMP implementation through desk review of contractor's records and site inspections. Package wise findings for the period January to June 2019 are presented in **Tables 5 and 6**.

19. Over all, most of the sites are environmentally well managed. However, in a few running packages, there were scopes for further improvement in site management measures as mentioned below,

- Use of PPEs (particularly working shoes/ gumboots, hand gloves) by contractors' at different work locations
- Use of caution tape/ barricade at few locations of running packages
- Inclusion of emergency contact no. and project detail at display/ caution board placed at few work sites of running packages
- arrangement for dust suppression and air quality improvement in all running packages.
- Improvement of access facility and housekeeping at few locations of running packages.

20. The concerned contractors were instructed verbally and also in writing. During subsequent field visits and from monitoring reports it was observed that necessary action to minimize such deficiencies has been undertaken by the respective Contractor and site management has considerably improved.

Table 5: Summarized Compliance to EMP Implementation for S&D Packages (Package No. SD 09, SD 12, SD 13, SD 14, SD 19, SD 22)

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation SD 09	Compliance Status/ Explanation SD 12	Compliance Status/ Explanation SD 13	Compliance Status/ Explanation SD 14	Compliance Status/ Explanation SD 19	Compliance Status/ Explanation SD 22
Pre Construction - Design phase											
1	Site clearance	Site preparation work including necessary clearance and permission.	<ul style="list-style-type: none"> Tree felling requirement – site environment plan. NOC – paper documents from line agency. Method - Site observation and document checking. 	Environment Specialist of DSC and PMU	All Project locations, before commencement of physical work.	Complied Tree felling not required.	Total 30 no. of trees has felled. NOC received from Urban Forest Dept (via certificate no. 37(o)/Clearance/17 dated 27.02.18) for felling of 30 nos. tree.150 nos. of trees already planted along J. L Sarani and Taratala Road.	Complied Tree felling not required.	Complied Tree felling not required.	Complied Tree felling not required.	Complied Tree felling not required as per present scope of work.
2	Access to Site	<ul style="list-style-type: none"> maintained via existing roads Involvement of local Traffic Department in the planning stages for road closure traffic diversion. 	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Method – Site observation 	Environment Specialist of DSC and PMU	Specific project location	Site is accessible.	Site is accessible.	Working site is accessible, but improvement required.	Site is accessible.	Working site is accessible, but improvement required.	Site is accessible.
3	Affected utilities	Shifting of affected utilities like electric and telephone lines, cable lines, pipe lines etc.	<ul style="list-style-type: none"> List of affected utilities if any, contact operators. Bid document to include requirement for a contingency plan for service interruptions. Method - Site observation and document checking. 	Environment Specialist of DSC and PMU	Specific project location	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.
4	Water supply	Health risk due to damage in water supply line	<ul style="list-style-type: none"> Schedule of closure. Delivery of KMC potable water to affected people . Method - Site observation 	Environment Specialist of DSC and PMU	Specific project location	Not required as per present nature of work	Not required as per present nature of work	Not required as per present nature of work	Not required as per present nature of work	Not required as per present nature of work	Not required as per present nature of work
5	Traffic Management	Planning for Traffic Management	Ensure traffic management plan is part of contract documents and being implemented. Method - Site observation and document checking.	Environment Specialist of DSC and PMU	-	Complied Traffic management plan prepared and approved from traffic/ police dept. Copy available as back up with DSC.	Complied Traffic management plan prepared and approved from traffic/ police dept. Copy available as back up with DSC.	Complied. Traffic management plan prepared and approved from traffic/ police dept. Copy available as back up with DSC.	Complied Traffic management plan prepared and approved from traffic/ police dept. Copy available as back up with DSC.	Complied Traffic management plan prepared and approved from traffic/ police dept. Copy available as back up with DSC.	Complied Traffic management plan prepared and approved from traffic/ police dept. Copy available as back up with DSC.

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation SD 09	Compliance Status/ Explanation SD 12	Compliance Status/ Explanation SD 13	Compliance Status/ Explanation SD 14	Compliance Status/ Explanation SD 19	Compliance Status/ Explanation SD 22
6	Setting of construction camps, hot mix plants, stockpile areas, storage areas, and disposal areas.	<ul style="list-style-type: none"> Planning for setting up construction camp, hot mix plants, stockpile areas, storage and disposal areas – to be submitted to DSC for prior approval. Prioritize areas within or nearest possible vacant space in the sub-project location No use of residential areas No disposal of waste in water 	List of selected location for construction work camps, hot mix plants, stockpile areas, storage areas, and disposal areas. Method - Site observation and document checking.	Environment Specialist of DSC and PMU	Camp and other sites, before start of physical work & Continuous	Setting of hot mix plant not required. Stockpile and storage area demarcated. Overall status - Complied.	Setting of hot mix plant not required. Stockpile and storage area demarcated. Overall status - Complied.	Setting of hot mix plant not required. Stockpile and storage area demarcated. Overall status - partially complied.	Setting of hot mix plant not required. Stockpile and storage area demarcated. Overall status - Complied.	Setting of hot mix plant not required. Stockpile and storage area demarcated. Overall status - partially complied.	Setting of hot mix plant not required. Stockpile and storage area demarcated. Overall status - Complied..
7	Establishing Equipment Lay-down and Storage Area ³	<ul style="list-style-type: none"> Choice of location for equipment lay-down and storage areas must take into account prevailing winds, distances to adjacent land uses, general on-site topography and water erosion potential of the soil. Storage areas shall be secure so as to minimize the risk of crime. Away from school and direct residential areas Fire prevention facilities must be present at all storage facilities Proper storage facilities for the storage of oils, paints, grease, fuels, chemicals and any hazardous materials These storage facilities (including any tanks) must be on an impermeable surface Staff must be aware of their potential impacts and follow the appropriate safety measures 	List of selected location and facility. Method - Site observation and document checking.	Environment Specialist of DSC and PMU	Proposed locations considered in the package. Before start of physical work & Continuous	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.

³ Storage areas can be hazardous, unsightly and can cause environmental pollution if not designed and managed carefully

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation SD 09	Compliance Status/ Explanation SD 12	Compliance Status/ Explanation SD 13	Compliance Status/ Explanation SD 14	Compliance Status/ Explanation SD 19	Compliance Status/ Explanation SD 22
8	Education of site staff on general and Environmental Conduct ⁴	<ul style="list-style-type: none"> Ensure that all site personnel have a basic level of environmental awareness training All employees must undergo safety training and wear the necessary protective clothing 	Documentation – Training and awareness. Method - Materials and records on awareness training program	Environment Specialist of DSC and PMU	-	Site Safety training continued for worker and recorded properly. Copy available as back up with DSC.	Site Safety training continued for worker and recorded properly. Photographic evidences attached as appendix-3	Site Safety training continued for worker and recorded properly. Copy available as back up with DSC. Photographic evidences attached as appendix-3	Site Safety training continued for worker and recorded properly. Copy available as back up with DSC. Photographic evidences attached as appendix-3	Site Safety training continued for worker and recorded properly. Photographic evidences attached as appendix-3	Site Safety training continued for worker and recorded properly. Copy available as back up with DSC. appendix-3
Construction											
9	Materials Management – Sourcing ⁵	<ul style="list-style-type: none"> Contractors shall prepare a source statement indicating the sources of all materials (including topsoil, sands, natural gravels, crushed stone, asphalt, clay liners etc), and submit these to the DSC for approval prior to commencement of any work. Use of Govt. approved quarry sites for procurement of materials Verify suitability of all material sources and obtain approval of Investment from PMU/DSC 	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Bid document to include requirement for verification of suitability of sources and permit for additional quarry sites if necessary. Construction Contractor documentation Method - Site observation and document checking. 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Quarries and material source areas. Daily visit by construction supervisor of DSC. Weekly visit by Construction Manager. Fortnight visit by Environment Specialist / Environmental Engineer.	Complied Approval obtained from PMU and DSC as per requirement.	Complied Approval obtained from PMU and DSC as per requirement.	Complied Approval obtained from PMU and DSC as per requirement	Complied Approval obtained from PMU and DSC as per requirement	Complied Approval obtained from PMU and DSC as per requirement	Complied Approval obtained from PMU and DSC as per requirement.
10	Maintenance of Construction Camp	<ul style="list-style-type: none"> Establishment of temporary camps with drinking water, sanitary and solid waste management arrangement Train employees in the storage and handling of materials Remove all wreckage, rubbish, or temporary structures 	<ul style="list-style-type: none"> Complaints from sensitive Receptors Water and sanitation facilities for employees Housekeeping – regular disposal of solid waste. Method – site observation 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Camp site. Same as above.	Labour camp established at Natun pally. Drinking water and toilet facility available at camp. Overall status – partially complied.	Complied. Rented house arranged for labours with all facility.	Labour camp arranged at rented house at Boro Bagan Area. Drinking water and toilet facility available at camp. Overall status – Complied.	Labor camp not yet established, as they are utilizing the workforce from nearby locations.	Labour camp arranged at rented house at Panchanantala Road. Drinking water and toilet facility available at camp. Overall status – Complied.	Labour camp established at Dhalai Bridge, canal bank. Drinking water and toilet facility available at camp. Overall status – partially complied.
11	Landscape and Aesthetics	<ul style="list-style-type: none"> Removal of overburden and excavated material from working site and use / preservation of 	<ul style="list-style-type: none"> Waste Management List Complaints from 	For mitigation - contractor, for monitoring -	Project Locations. Same as above.	Complied mostly. Utilization of excess earth is being done as per EMP. Spoil management	Complied. Spoil management plan applied as per EMP. Copy available as back	Partially complied. Excess earth is being disposed as per EMP but	Complied. Utilization of excess earth is being done as per EMP.	Partially complied. Excess earth is being disposed as per EMP but need	Complied. Spoil management plan applied as per EMP. Spoil management plan

⁴ These points need to be made clear to all staff on site before the subproject begin.

⁵ Materials must be sourced in a legal and sustainable way to prevent offsite environmental degradation.

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation SD 09	Compliance Status/ Explanation SD 12	Compliance Status/ Explanation SD 13	Compliance Status/ Explanation SD 14	Compliance Status/ Explanation SD 19	Compliance Status/ Explanation SD 22
		<p>the same – as per mitigation measures</p> <ul style="list-style-type: none"> Fencing of storage areas Disposal of construction debris if any as per mitigation measures Prepare and implement Waste Management List Avoid stockpiling of excess excavated soils Coordinate with KMC for beneficial uses of excess excavated soils 	<p>sensitive receptors</p> <ul style="list-style-type: none"> PMU/PIU/DSC to report in writing that the necessary environmental restoration work has been done. Method – checking of records, visual observation 	Environment Specialist of DSC and PMU.		plan applied as per EMP. Copy available as back up with DSC.	up with DSC.	need improvement . Spoil management plan applied as per EMP. Copy available as back up with DSC.	Spoil management plan applied as per EMP. Copy available as back up with DSC.	improved. Spoil management plan applied as per EMP. Copy available as back up with DSC.	applied as per EMP. Copy available as back up with DSC.
12	Dust and Air Pollution ⁶	<ul style="list-style-type: none"> Selection of materials storage area Water sprinkling at construction site for arresting dust (if any during dry period) Use tarpaulins to cover sand and other loose material- Reducing dust hazard All vehicles and equipments mobilized to construction site and producing emission, have Pollution Under Control certification No fire wood burning is allowed on site Carry out air quality monitoring 	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Heavy equipment and machinery with air pollution control Water sprinkling arrangement Cover materials. Method – checking of records, visual observation 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations, same as above.	<p>Complied.</p> <p>Location of stockpiles selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments collected. (Refer appendix -4, table 7 and figure 4 to 9)</p>	<p>Complied.</p> <p>Location of stockpiles selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments collected. ((Refer appendix -4, table 7 and figure 4 to 9)</p>	<p>Partially Complied.</p> <p>Location of stockpiles selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments collected. (Refer appendix -4, table 7 and figure 4 to 9)</p>	<p>Partially Complied.</p> <p>Location of stockpiles selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments collected. (Refer appendix -4, table 7 and figure 4 to 9)</p>	<p>Partially Complied.</p> <p>Location of stockpiles selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments collected. (Refer appendix -4, table 7 and figure 4 to 9)</p>	<p>Complied.</p> <p>Location of stockpiles selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments collected. (Refer appendix -4, table 7 and figure 4 to 9)</p>

⁶ Main causes of air pollution during construction are dust from vehicle movements and stockpiles, vehicle emissions and fires.

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation SD 09	Compliance Status/ Explanation SD 12	Compliance Status/ Explanation SD 13	Compliance Status/ Explanation SD 14	Compliance Status/ Explanation SD 19	Compliance Status/ Explanation SD 22
13	Noise level	<ul style="list-style-type: none"> Noise producing work needs to be conducted at day time Regular maintenance of noise producing equipment Horns not be used unless it is necessary to warn other road users Maintain maximum sound levels not exceeding 80 decibels (dbA) when measured at a distance of 10 m or more from the vehicle/s At sensitive locations, enclosures provided around generator set or other noise producing machinery. 	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data. Method – checking of records, visual observation 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations, same as above.	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). (Refer appendix- 4, table 8 ,figure 9 to10)	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). (Refer appendix- 4, table 8 ,figure 9 to10)	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). (Refer appendix- 4, table 8 ,figure 9 to10)	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). (Refer appendix- 4, table 8 ,figure 9 to10)	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). (Refer appendix- 4, table 8 ,figure 9 to10)	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). (Refer appendix- 4, table 8 ,figure 9 to10)
14	Storm water management	Arrangement of drainage of waste water and arresting of solid waste/silt from waste water generated at construction site	<ul style="list-style-type: none"> Areas for stockpiles, storage of fuels and lubricants and waste materials Number of silt traps installed along drainages (in slope) leading to water bodies. Method – checking of records, visual observation. 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations, same as above.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.
15	Water Quality ⁷	<ul style="list-style-type: none"> Contractor to ensure run-off from vehicle or plant washing does not enter Hooghly river Contractor to ensure every effort is made that any chemicals or hazardous substances do not contaminate the soil, Hooghly river, or groundwater on site. 	Non entry of pollutant in water body. Method – site observation.	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	At present there is no water source nearby the project location.	No water source near the construction location.	No water source near the construction location.	No water source near the construction location.	No water source near the construction location.	No water source near the construction location.

⁷ Water quality is affected by the incorrect handling of substances and materials. Soil erosion and sediment is also detrimental to water quality. Mismanagement of polluted run-off from vehicle and plant washing and wind dispersal of dry materials into rivers and watercourses are detrimental to water quality.

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation SD 09	Compliance Status/ Explanation SD 12	Compliance Status/ Explanation SD 13	Compliance Status/ Explanation SD 14	Compliance Status/ Explanation SD 19	Compliance Status/ Explanation SD 22
16	Conservation of Natural Environment	<ul style="list-style-type: none"> Contractor to ensure removal of only trees that have been marked beforehand Contractor to immediately re-vegetate stripped areas Contractor to prohibit site staff from gathering firewood, fruits, plants, crops or any other natural material on-site or in areas adjacent to the sites. 	Tree felling requirement and afforestation after final design. Method – checking of records, visual observation.	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	No tree cutting as per present working condition	Tree cutting done as per rule and afforestation initiated as per guideline of Department of forest ,Govt. of West Bengal	No tree cutting as per present working condition	No tree cutting as per present working condition	No tree cutting as per present working condition	No tree cutting as per present working condition
17	Materials Management	<ul style="list-style-type: none"> Contractor to ensure stockpiles do not obstruct natural water pathways. Contractor to cover stockpiles exposed to windy conditions or heavy rain with vegetation, cloth, or tarps. Contractor to ensure all concrete mixing take place on a designated, impermeable surface. 	Stockpile management. Method – checking of records, visual observation.	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Stockpile / storage area	Complied Stockpiling of materials done at designated areas.	Complied Stockpiling of materials done at designated areas	Complied Stockpiling of materials done at designated areas	Complied Stockpiling of materials done at designated areas.	Complied Stockpiling of materials done at designated areas.	Complied Stockpiling of materials done at designated areas
18	Occupational Health & safety	<ul style="list-style-type: none"> Develop and implement site-specific Health and Safety (H&S) Plan Use Personal Protective Equipment like helmet, gumboot, gloves, nose mask and earplugs H&S Training for all site personnel Documentation of work-related accidents; Designate a safeguard focal person and undertake safeguards orientation by PMU/PIU Provide specific guidance for suitable PPE for every on-site work assignment Ensure availability of First aid box at all 	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Number of accidents Supplies of potable drinking water; Record of H&S orientation trainings Personal protective equipments Sign boards for hazardous 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer appendix -5)	Site-specific Health and Safety (H&S) Plan under implementation HSE plan available with DSC. HSE training arranged for the labours on regular basis. Appendix 5 shows training document. Drinking water and first aid box available at site. Insurance arranged for the labors. No accident recorded till report period. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer appendix -5)	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours.. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer appendix -5)	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer appendix -5)	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer appendix -5)	Site-specific Health and Safety (H&S) Plan under implementation HSE plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Insurance arranged for the labors. No accident recorded till report period. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer appendix -5)

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation SD 09	Compliance Status/ Explanation SD 12	Compliance Status/ Explanation SD 13	Compliance Status/ Explanation SD 14	Compliance Status/ Explanation SD 19	Compliance Status/ Explanation SD 22
		<p>working sites and labour camp</p> <ul style="list-style-type: none"> • Provide medical insurance coverage for workers; • Provide supplies of potable drinking water at working sites; • Provide H&S orientation training to all new workers • Mark and provide sign boards for hazardous areas such as energized electrical devices and lines • Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection. 	<p>areas such as energized electrical devices and lines, service rooms.</p> <ul style="list-style-type: none"> • Method – checking of records, visual observation. 								
19	Social Impacts ⁸ - Community Health & safety, accessibility	<ul style="list-style-type: none"> • Plan truck routes (for carrying construction materials including pipes) to avoid narrow or congested roads and tourist sites • Contractor to ensure disruption of access for local residents is minimized • Contractor to restrict activities and movement of staff to designated construction areas • Contractor to provide walkways and metal sheets where required to maintain access across for people and vehicles • Consideration of public safety - as per prescribed mitigation measures • Contractors to ensure lighting on the 	<ul style="list-style-type: none"> • Traffic Management Strategy • Complaints from sensitive receptors • Number of signages placed at subproject location. • Method – checking of records, visual observation. 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	Complied. Caution tape placed around excavated and working area as and when required. Sufficient access maintained.	Complied. Caution tape placed around excavated and working area as and when required. Sufficient access maintained. Emergency contact number displayed.	Caution tape/ barricade placed around excavated area. Improvement is noted. Particularly inclusion of all emergency contact no. in display board is required.	Caution tape/ barricade placed around excavated area mostly. Access maintained mostly. Emergency contact number displayed.	Caution tape/ barricade placed around excavated area mostly. Access maintained mostly.	Caution tape/ barricade placed around excavated area. Safety signage used. Emergency contact number displayed.

⁸ Regular communication between the Contractor and the interested and affected parties is important for the duration of the contract.

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation SD 09	Compliance Status/ Explanation SD 12	Compliance Status/ Explanation SD 13	Compliance Status/ Explanation SD 14	Compliance Status/ Explanation SD 19	Compliance Status/ Explanation SD 22
		<ul style="list-style-type: none"> construction site Provide protective fencing around open trenches Provide road signs and flag persons to warn Schedule transport and hauling activities during non- peak hours 									
20	Socio cultural resources	<ul style="list-style-type: none"> Strictly follow the protocol for chance archaeological finds in any excavation work Stop work immediately to allow further investigation if any finds are suspected 	Chance find protocol. Method - Checking of records	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	Not required till date Instruction has been given	Not required till date. Instruction has been given	Not required till date. Instruction has been given	Not required till date. Instruction has been given	Not required till date. Instruction has been given	Not required till date
21	Employment generation	<ul style="list-style-type: none"> The use of labor intensive construction measures will be used where appropriate Employ local (unskilled) labor if possible Training of labor to benefit individuals beyond completion of the subproject 	Employment record. Method - Checking of records	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	Local labours are engaged as much as possible.	At present local labors are mostly engaged.	Local labours are engaged as much as possible.	At present local labours are mostly engaged.	Local labours are engaged as much as possible.	Local labours are engaged as much as possible.

Note: Package SD 10 and SD 11 have been terminated and processed for retendering – hence no environmental monitoring reported

Table 6: Summarize Compliance to EMP Implementation for WS Packages (Package No. WS 15, WS 16, WS 17A, WS 17B, WS 18, WS 24, WS 33)

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation WS 15	Compliance Status/ Explanation WS 16	Compliance Status/ Explanation WS 17A	Compliance Status/ Explanation WS 17B	Compliance Status/ Explanation WS 18	Compliance Status/ Explanation WS 24	Compliance Status/ Explanation WS 33
Pre Construction - Design phase												
1	Site clearance	Site preparation work including necessary clearance and permission	<ul style="list-style-type: none"> Tree felling requirement – site environment plan. NOC – paper documents from line agency. Method - Site observation and document checking. 	Environment Specialist of DSC and PMU	All Project locations, before commencement of physical work.	Complied Tree felling not required.						
2	Access to Site	<ul style="list-style-type: none"> maintained via existing roads Involvement of local Traffic Department in the planning stages for road closure traffic diversion. 	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Method – Site observation 	Environment Specialist of DSC and PMU	Specific project location	Working site is accessible, but need improvement.	Working site is accessible.	Working site is accessible, but need improvement	Working site is accessible, but need improvement	Working site is accessible.	Working site is accessible.	Working site is accessible.
3	Affected utilities	Shifting of affected utilities like electric and telephone lines, pipe lines etc.	<ul style="list-style-type: none"> List of affected utilities if any and contact operators. Bid document to include requirement for a contingency plan for service interruptions. Method - Site observation and document checking. 	Environment Specialist of DSC and PMU	Specific project location	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.	Done as per requirement with the help of concerned authority.
4	Water supply	Health risk due to closure of water supply	<ul style="list-style-type: none"> Schedule of closure Delivery of KMC of potable water to affected people . Method - Site observation and record checking. 	Environment Specialist of DSC and PMU	Specific project location	Not required as per present nature of work	Not required as per present nature of work	Not required as per present nature of work	Not required as per present nature of work	Not required as per present nature of work	Not required as per present nature of work	Not required as per present nature of work
5	Traffic Management	Planning for Traffic Management	Ensure traffic management plan is	Environment Specialist of DSC and	-	Not required as per present scope of work.	Complied Traffic management	Complied Traffic management	Complied Traffic management	Not required as per present scope of work.	Complied Traffic management	Not required as per present

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation WS 15	Compliance Status/ Explanation WS 16	Compliance Status/ Explanation WS 17A	Compliance Status/ Explanation WS 17B	Compliance Status/ Explanation WS 18	Compliance Status/ Explanation WS 24	Compliance Status/ Explanation WS 33
			part of contract documents and being implemented. Method - Site observation and document checking.	PMU			plan prepared and approved by traffic/police dept. Copy available as back up with DSC.	plan prepared and approved by traffic/police dept. Copy available as back up with DSC.	plan prepared and approved by traffic/police dept. Copy available as back up with DSC.		plan prepared and approved by traffic/police dept. Copy available as back up with DSC.	nature of work
6	Setting of construction camps, hot mix plants, stockpile areas, storage areas, and disposal areas.	<ul style="list-style-type: none"> Planning for setting up worker camps, hot mix plant, stockpile area, storage and disposal areas Prioritize areas within or nearest possible vacant space in the subproject location Non use of residential area Arrangement of toilet and drinking water facility No disposal of waste in water 	List of selected location for construction work camps, hot mix plants, stockpile areas, storage areas, and disposal areas. Method - Site observation and document checking.	Environment Specialist of DSC and PMU	Camp and other sites, before start of physical work & Continuous	Setting of hot mix plant not required. Stockpile and storage area demarcated. Overall status .	Setting of hot mix plant not required. Stockpile and storage area demarcated.	Setting of hot mix plant not required. Stockpile and storage area demarcated.	Setting of hot mix plant not required. Stockpile and storage area demarcated..	Setting of hot mix plant not required. Stockpile and storage area demarcated.	Setting of hot mix plant not required. Stockpile and storage area demarcated.	Setting of hot mix plant not required. Stockpile and storage area demarcated.
7	Establishing Equipment Lay-down and Storage Area ⁹	<ul style="list-style-type: none"> Choice of location for equipment lay-down and storage areas must take into account prevailing winds, distances to adjacent land uses, general on-site topography and water erosion potential of the soil. Storage areas shall be secure so as to minimize the risk of crime. Away from school and direct residential areas Fire prevention facilities must be present at all storage facilities Proper storage 	List of selected location and facility. Method - Site observation and document checking.	Environment Specialist of DSC and PMU	Proposed locations considered in the package. Before start of physical work & Continuous	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.	Complied. Proper storage of fuels, lubricants done. Equipment lay-down area demarcated.

⁹ Storage areas can be hazardous, unsightly and can cause environmental pollution if not designed and managed carefully

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation WS 15	Compliance Status/ Explanation WS 16	Compliance Status/ Explanation WS 17A	Compliance Status/ Explanation WS 17B	Compliance Status/ Explanation WS 18	Compliance Status/ Explanation WS 24	Compliance Status/ Explanation WS 33
		facilities for the storage of oils, paints, grease, fuels, chemicals and any hazardous materials <ul style="list-style-type: none"> • These storage facilities (including any tanks) must be on an impermeable surface • Staff must be aware of their potential impacts and follow the appropriate safety measures 										
8	Education of site staff on general and Environmental Conduct ¹⁰	<ul style="list-style-type: none"> • Ensure that all site personnel have a basic level of environmental awareness training • All employees must undergo safety training and wear the necessary protective clothing 	Documentation – Training and awareness. Method - Materials and records on awareness training program	Environment Specialist of DSC and PMU	-	Site Safety training continued for worker and recorded properly.	Site Safety training continued for worker and recorded properly. Photographic evidences attached as appendix-3	Site Safety training continued for worker and recorded properly. Photographic evidences attached as appendix-3	Site Safety training continued for worker and recorded properly. Photographic evidences attached as appendix-3	Site Safety training continued for worker and recorded properly. Photographic evidences attached as appendix-3	Site Safety training continued for worker and recorded properly. Photographic evidences attached as appendix-3	Site Safety training continued for worker and recorded properly. Photographic evidences attached as appendix-3
Construction												
9	Materials Management – Sourcing ¹¹	<ul style="list-style-type: none"> • Contractors shall prepare a source statement indicating the sources of all materials (including topsoil, sands, natural gravels, crushed stone, asphalt, clay liners etc), and submit these to the DSC for approval prior to commencement of any work. • Use of Govt. approved quarry sites for procurement of materials • Verify suitability of 	<ul style="list-style-type: none"> • List of approved quarry sites and sources of materials • Bid document to include requirement for verification of suitability of sources and permit for additional quarry sites if necessary. • Construction Contractor documentation • Method - Site observation and document checking. 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Quarries and material source areas. Daily visit by construction supervisor of DSC. Weekly visit by Construction Manager. Fortnight visit by Environment Specialist / Environmental Engineer.	Complied Approval obtained from PMU and DSC as per requirement	Complied Approval obtained from PMU and DSC as per requirement	Complied Approval obtained from PMU and DSC as per requirement	Complied Approval obtained from PMU and DSC as per requirement	Complied Approval obtained from PMU and DSC as per requirement	Complied Approval obtained from PMU and DSC as per requirement	Complied Approval obtained from PMU and DSC as per requirement

¹⁰ These points need to be made clear to all staff on site before the subproject begin.

¹¹ Materials must be sourced in a legal and sustainable way to prevent offsite environmental degradation.

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation WS 15	Compliance Status/ Explanation WS 16	Compliance Status/ Explanation WS 17A	Compliance Status/ Explanation WS 17B	Compliance Status/ Explanation WS 18	Compliance Status/ Explanation WS 24	Compliance Status/ Explanation WS 33
		all material sources and obtain approval of Investment from PMU/DSC										
10	Maintenance of Construction Camp	<ul style="list-style-type: none"> Establishment of temporary camps with drinking water, sanitary and solid waste management arrangement Train employees in the storage and handling of materials Remove all wreckage, rubbish, or temporary structures 	<ul style="list-style-type: none"> Complaints from sensitive Receptors Water and sanitation facilities for employees Housekeeping – regular disposal of solid waste. Method – site observation 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Camp site. Same as above.	Labour camp constructed at each of the working locations. Drinking water and toilet facility available at camp. Housekeeping need to be improved. Overall status – Partially Complied.	Labour camp arranged at rented house. Drinking water and toilet facility available at camp. Overall status – Complied.	Not required now, as most of the labours engaged in work are from nearby areas.	Not required now, as most of the labours engaged in work are from nearby areas.	Labour camp constructed at each of the working locations. Drinking water and toilet facility available at camp. Overall status – Complied.	Labour camp arranged at rented house near J. L. Sarani. Drinking water and toilet facility available at camp. Overall status – Complied.	Labour camp arranged within the premise of Jai Hind Water Works. Drinking water and toilet facility available at camp. Housekeeping need to be improved. Overall status – Partially Complied.
11	Landscape and Aesthetics	<ul style="list-style-type: none"> Removal of overburden and excavated material from working site and use / preservation of the same – as per mitigation measures Fencing of storage areas Disposal of construction debris if any as per mitigation measures Prepare and implement Waste Management List Avoid stockpiling of excess excavated soils Coordinate with KMC for beneficial uses of excess excavated soils 	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors PMU/PIU/DSC to report in writing that the necessary environmental restoration work has been done. Method – checking of records, visual observation 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations. Same as above.	Partially complied. Excess earth need to be disposed completely, at earliest. Spoil management plan applied partially as per EMP. Copy available as back up with DSC.	Complied mostly. Utilization of excess earth done as per EMP. Spoil management plan applied as per EMP. Copy available as back up with DSC.	Complied mostly. Utilization of excess earth done as per EMP. Spoil management plan applied as per EMP. Copy available as back up with DSC.	Complied mostly. Utilization of excess earth done as per EMP. Spoil management plan applied as per EMP. Copy available as back up with DSC.	Complied mostly. Utilization of excess earth done as per EMP. Spoil management plan applied as per EMP. Copy available as back up with DSC.	Complied mostly. Utilization of excess earth done as per EMP. Spoil management plan applied as per EMP. Copy available as back up with DSC.	Complied mostly. Utilization of excess earth done as per EMP. Spoil management plan applied as per EMP. Copy available as back up with DSC.
12	Dust and Air Pollution ¹²	<ul style="list-style-type: none"> Selection of materials storage area Water sprinkling at 	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive 	For mitigation - contractor, for	Project Locations, same as above.	Partially Complied. Location of stockpiles	Partially Complied. Location of stockpiles	Partially Complied. Location of stockpiles	Partially Complied. Location of stockpiles	Partially Complied. Location of stockpiles	Partially Complied. Location of stockpiles	Partially Complied. Location of stockpiles

¹² Main causes of air pollution during construction are dust from vehicle movements and stockpiles, vehicle emissions and fires.

Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation WS 15	Compliance Status/ Explanation WS 16	Compliance Status/ Explanation WS 17A	Compliance Status/ Explanation WS 17B	Compliance Status/ Explanation WS 18	Compliance Status/ Explanation WS 24	Compliance Status/ Explanation WS 33
	<ul style="list-style-type: none"> construction site for arresting dust (if any during dry period) Use tarpaulins to cover sand and other loose material- Reducing dust hazard All vehicles and equipments mobilized to construction site and producing emission, have Pollution Under Control certification No fire wood burning is allowed on site Carry out air quality monitoring 	<ul style="list-style-type: none"> receptors Monitoring data Heavy equipment and machinery with air pollution control Water sprinkling arrangement Cover materials. Method – checking of records, visual observation 	monitoring - Environment Specialist of DSC and PMU.		selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments Procured Refer table 7 , appendix - 4 and figures 4 to 9	selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments Procured Refer table 7 , appendix - 4 and figures 4 to 9	selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments Procured Refer table 7 , appendix - 4 and figures 4 to 9	selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments Procured Refer table 7 , appendix - 4 and figures 4 to 9	selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments Procured Refer table 7 , appendix - 4 and figures 4 to 9	selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments Procured Refer table 7 , appendix - 4 and figures 4 to 9	selected. Covering of materials done partially. Sprinkling of water done as per requirement During construction air quality monitoring done as per EMP. (Complete result certificates available in DSC office as back up paper). Pollution under Control Certificate of vehicles and equipments Procured Refer table 7 , appendix - 4 and figures 4 to 9
13	Noise level	<ul style="list-style-type: none"> Noise producing work needs to be conducted at day time Regular maintenance of noise producing equipment Horns not be used unless it is necessary to warn other road users Maintain maximum sound levels not exceeding 80 decibels (dbA) when measured at a distance of 10 m or more from the vehicle/s At sensitive locations, 	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data. Method – checking of records, visual observation 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations, same as above.	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). Refer table 8, appendix - 4 and figures 10	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). Refer table 8, appendix - 4	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). Refer table 8, appendix - 4	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). Refer table 8, appendix - 4	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). Refer table 8, appendix - 4	Complied No as such noise producing machinery mobilized at site. PPE supplied to workers and utilized as per requirement. During construction monitoring done. (Complete result certificates available in DSC office as back up paper). Refer table 8, appendix - 4 and figures 10 & 11)

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation WS 15	Compliance Status/ Explanation WS 16	Compliance Status/ Explanation WS 17A	Compliance Status/ Explanation WS 17B	Compliance Status/ Explanation WS 18	Compliance Status/ Explanation WS 24	Compliance Status/ Explanation WS 33
		enclosures provided around generator set or other noise producing machinery.				& 11)	and figures 10 & 11)	and figures 10 & 11)	and figures 10 & 11)	and figures 10 & 11)	and figures 10 & 11)	
14	Storm water management	Arrangement of drainage of waste water and arresting of solid waste/silt from waste water generated at construction site	<ul style="list-style-type: none"> • Areas for stockpiles, storage of fuels and lubricants and waste materials • Number of silt traps installed along drainages (in slope) leading to water bodies. • Method – checking of records, visual observation. 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations, same as above.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.	Complied. Arrangement of drainage of waste water from construction site is maintained.
15	Water Quality ¹³	<ul style="list-style-type: none"> • Contractor to ensure run-off from vehicle or plant washing does not enter Hooghly river • Contractor to ensure every effort is made that any chemicals or hazardous substances do not contaminate the soil, Hooghly river, or groundwater on site. 	Non entry of pollutant in water body. Method – site observation.	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	No water source near the construction location.						
16	Conservation of Natural Environment	<ul style="list-style-type: none"> • Contractor to ensure removal of only trees that have been marked beforehand • Contractor to immediately re-vegetate stripped areas 	Tree felling requirement and afforestation after final design. Method – checking of records, visual observation.	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	No tree cutting as per present working condition	No tree cutting as per present working condition	No tree cutting as per present working condition	No tree cutting as per present working condition	No tree cutting as per present working condition	No tree cutting as per present working condition	No tree cutting as per present working condition

¹³ Water quality is affected by the incorrect handling of substances and materials. Soil erosion and sediment is also detrimental to water quality. Mismanagement of polluted run-off from vehicle and plant washing and wind dispersal of dry materials into rivers and watercourses are detrimental to water quality.

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation WS 15	Compliance Status/ Explanation WS 16	Compliance Status/ Explanation WS 17A	Compliance Status/ Explanation WS 17B	Compliance Status/ Explanation WS 18	Compliance Status/ Explanation WS 24	Compliance Status/ Explanation WS 33
		<ul style="list-style-type: none"> Contractor to prohibit site staff from gathering firewood, fruits, plants, crops or any other natural material on-site or in areas adjacent to the sites. 										
17	Materials Management	<ul style="list-style-type: none"> Contractor to ensure stockpiles do not obstruct natural water pathways. Contractor to cover stockpiles exposed to windy conditions or heavy rain with vegetation, cloth, or tarps. Contractor to ensure all concrete mixing take place on a designated, impermeable surface. 	Stockpile management. Method – checking of records, visual observation.	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Stockpile / storage area	Complied Stockpiling of materials done at designated areas.	Complied Stockpiling of materials done at designated areas.	Complied Stockpiling of materials done at designated areas.	Complied Stockpiling of materials done at designated areas.	Complied Stockpiling of materials done at designated areas.	Complied Stockpiling of materials done at designated areas.	Complied Stockpiling of materials done at designated areas.
18	Occupational Health & safety	<ul style="list-style-type: none"> Develop and implement site-specific Health and Safety (H&S) Plan Use Personal Protective Equipment like helmet, gumboot, gloves, nose mask and earplugs H&S Training for all site personnel Documentation of work-related accidents; Designate a safeguard focal person and undertake safeguards orientation by PMU/PIU Provide specific guidance for suitable PPE for every on-site work 	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Number of accidents Supplies of potable drinking water; Record of H&S orientation trainings Personal protective equipments Sign boards for hazardous areas such as energized electrical 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory.	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis.. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer	Site-specific HSE Plan under implementation The plan available with DSC. HSE training arranged for the labours on regular basis.. Drinking water and first aid box available at site. Use of PPEs partially satisfactory at site. Insurance arranged for the Labours. Tie up with nearby health center/ hospital done. Overall compliance is satisfactory. (Refer appendix -5)

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation WS 15	Compliance Status/ Explanation WS 16	Compliance Status/ Explanation WS 17A	Compliance Status/ Explanation WS 17B	Compliance Status/ Explanation WS 18	Compliance Status/ Explanation WS 24	Compliance Status/ Explanation WS 33
		<ul style="list-style-type: none"> assignment Ensure availability of First aid box at all working sites and labour camp Provide medical insurance coverage for workers; Provide supplies of potable drinking water at working sites; Provide H&S orientation training to all new workers Mark and provide sign boards for hazardous areas such as energized electrical devices and lines Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection. 	<ul style="list-style-type: none"> devices and lines, service rooms. Method – checking of records, visual observation. 			(Refer appendix -5)	satisfactory. (Refer appendix -5)	appendix -5)	(Refer appendix -5)	appendix -5)	compliance is satisfactory. (Refer appendix -5)	
19	Social Impacts ¹⁴ - Community Health & safety, accessibility	<ul style="list-style-type: none"> Plan truck routes (for carrying construction materials including pipes) to avoid narrow or congested roads and tourist sites Contractor to ensure disruption of access for local residents is minimized Contractor to restrict activities and movement of staff to designated construction areas Contractor to provide walkways and metal sheets 	<ul style="list-style-type: none"> Traffic Management Strategy Complaints from sensitive receptors Number of signages placed at subproject location. Method – checking of records, visual observation. 	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	Caution tape/ barricade placed around excavated area mostly. Access maintained mostly.	Caution tape/ barricade placed around excavated area mostly. Access maintained mostly.	Caution tape/ barricade placed around excavated area mostly. Access maintained mostly.	Caution tape/ barricade placed around excavated area mostly. Access maintained mostly.	Caution tape/ barricade placed around excavated area mostly. Access maintained mostly.	Caution tape/ barricade placed around excavated area mostly. Access maintained mostly.	Caution tape/ barricade placed around excavated area mostly. Access maintained mostly.

¹⁴ Regular communication between the Contractor and the interested and affected parties is important for the duration of the contract.

	Environmental Issues	Mitigation Activities and Method	Parameters monitored & Monitoring method adopted	Responsible for Mitigation & Monitoring	Location & Date of Monitoring	Compliance Status/ Explanation WS 15	Compliance Status/ Explanation WS 16	Compliance Status/ Explanation WS 17A	Compliance Status/ Explanation WS 17B	Compliance Status/ Explanation WS 18	Compliance Status/ Explanation WS 24	Compliance Status/ Explanation WS 33
		<p>where required to maintain access across for people and vehicles</p> <ul style="list-style-type: none"> • Consideration of public safety - as per prescribed mitigation measures • Contractors to ensure lighting on the construction site • Provide protective fencing around open trenches • Provide road signs and flag persons to warn • Schedule transport and hauling activities during non- peak hours 										
20	Socio cultural resources	<ul style="list-style-type: none"> • Strictly follow the protocol for chance archaeological finds in any excavation work • Stop work immediately to allow further investigation if any finds are suspected 	Chance finds protocol. Method - Checking of records	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	Not required till date Instruction has been given						
21	Employment generation	<ul style="list-style-type: none"> • The use of labor intensive construction measures will be used where appropriate • Employ local (unskilled) labor if possible • Training of labor to benefit individuals beyond completion of the subproject 	Employment record. Method - Checking of records	For mitigation - contractor, for monitoring - Environment Specialist of DSC and PMU.	Project Locations	Local labours are engaged as much as possible.	Local labours are engaged as much as possible.	At present local labours are mostly engaged.	At present local labours are mostly engaged.	Local labours are engaged as much as possible.	Local labours are engaged as much as possible.	Local labours are engaged as much as possible.

Note: work withheld for Package no. WS 25, hence no environmental monitoring reported

V. ENVIRONMENTAL MONITORING AND EVALUATION

21. In addition to desk reviews and site inspections, monitoring of selected environmental parameters have been conducted during the reporting period. The frequencies of the environmental monitoring activities are commensurate to the type and significance of the impacts. For **Tranche 2** subprojects, the parameters to be monitored are ambient air quality and noise levels.

22. During report period during construction air quality and noise level monitoring has been conducted for most of the packages except SD 10, SD 11 and WS 25¹⁵.

23. Air quality monitoring results are shown in **Table 7** and comparison with standards has been presented in **Figures 4 to 9**. All test certificates are available in DSC office as back up paper.

24. Salient findings from air quality monitoring are as follows,

- In all cases concentration of SO₂ is within the prescribed standard. Value of SO₂ was maximum (15.43 µg/m³) at SD 09 package location.
- In all cases concentration of NO_x is within the prescribed standard. Concentration of NO_x found maximum (49.5 µg/m³) at SD 12 package location.
- In most of the cases concentration of PM_{2.5} is above the prescribed standard. Maximum concentration of 106.0 µg/m³ was noted for the package WS 17A. High PM_{2.5} concentration is not only due to different construction activity at that specific site but also for different vehicular movement, other anthropogenic activities and seasonal effect¹⁶. For understanding increasing or decreasing trend monitoring will be conducted throughout the construction phase. Dust generation for short period is being suppressed by adopting dust suppression measures time to time.
- In most of the cases concentration of PM₁₀ was above the prescribed standard. Maximum concentration of 177 µg/m³ was noted for the package WS 24. High PM₁₀ concentration is not only due to different construction activity at that specific site but also for different vehicular movement, other anthropogenic activities and seasonal effect. For understanding increasing or decreasing trend monitoring will be conducted throughout the construction phase. Dust generation for short period is being suppressed by adopting dust suppression measures time to time.
- In overall, base line monitoring air quality parameters (specifically particulate matter) are comparatively higher and above the standard for few packages. Those are basically generation of dust at local area.
- In all the cases concentration of Hydrocarbon is below the detection limit.
- Contractors are being advised regularly to take necessary action on dust suppression (during dry periods) by sprinkling of water whenever required.

¹⁵ SD 10 and SD 11 have been terminated and work withheld in WS -25 just started

¹⁶ Long dry summerr

Table 7: Ambient Air Quality Status at Working Sites

Construction Package	Monitoring location	Monitoring stage	Date of monitoring	Parameters , $\mu\text{g}/\text{m}^3$				
				SO ₂	NO ₂	PM _{2.5}	PM ₁₀	HC
Construction of sewerage & drainage network in Thakurpara & Purba Putiary Catchment and Construction of Keorapukur PS in Ward 114, Borough XI including Operation & Maintenance of the Pumping Station (KEIIP/NCB/ Tr-2/SD-09/ 2016-17)	Keorapukur Pumping Station	Base line	03.06.17.	15.43	43.30	31.29	83.87	ND
	Natun Pally Dhalai Bridge Road	Base line	03.06.17.	16.40	45.03	33.79	89.46	ND
	Keorapukur Pumping Station	During Construction	13.05.19	8.5	36.1	73	134	ND
	Sarodamoyee Lane Dakshin Para	During Construction	13.05.19	8.8	36.8	66	114	ND
	Gurucharan Naskar Road	During Construction	13.05.19	8.1	34	68	121	ND
Laying of Trunk sewer along James Long Sarani by micro tunneling method (KEIIP/NCB/ Tr-2/SD-12 / 2015-16)	James Long Sarani	Base line	11.06.17	13.50	49.36	24.94	76.24	ND
	James Long Sarani (shaft no. 6)	During Construction	04.02.19	16.50	49.14	35.04	92.41	ND
	James Long Sarani (shaft no. 4)	During Construction	08.05.19	17.74	49.69	33.96	91.17	ND
Development of Sewerage & Drainage Network within James Long Sarani& Mahatma Gandhi Road Catchment in Borough XVI (part of Ward No. 123 & 124) (KEIIP/NCB/ Tr-2/SD-13 / 2015-16)	Viveekananda College Road, Gour Nagar	Base line	29.05.17	6.1	37.8	35.0	83.0	ND
	M.G.Road	During Construction	10.04.19	9.2	37.7	50	94	ND
	Santoshri Pally	During Construction	10.04.19	9.2	37.7	58	96	ND
Laying of lateral sewers in part of Borough XIV (Ward nos. 128 to 132) & De siltation of Box Drain at Picnic Garden Road (KEIIP /NCB/ Tr-2/SD-14/ 2015-16)	Dr. A.K. Pal Road	Base line	29.05.17	5.3	33.7	26.0	69.0	ND
	Arya Samiti Road	During Construction	09.04.19	7.2	38.5	49	93	ND
	Nabapally Main Gate	During Construction	09.04.19	7.4	36.0	53	92	ND
Construction of underground reservoirs & overhead reservoirs, Pumping Stations and linking Pumping Station Mains for Water supply in Joka& adjoining areas including operation & maintenance of the pumping station (KEIIP/NCB/ Tr-2/WS-15)	Prantik Phase 3	Base line	29.03.17	14.47	38.97	32.50	79.03	ND
	Julpia	Base line	27.02.17	13.50	40.70	30.04	71.58	ND
	Prantik Site	During Construction	24.06.19	4.2	40.8	23	60	ND
	North West site	During Construction	24.06.19	3.9	45.4	25	55	ND
	North west ESR	During Construction	13.02.19	4.9	36.8	40.2	68.5	ND
	North East	During Construction	13.02.19	5.2	34.2	39.4	71.1	ND
	Prantik UGR	During Construction	13.02.19	4.9	36.2	38.5	65.8	ND
Laying of Transmission Main from existing Daspara PS to UGRs at Prantik Phase III, KMC land on Julpia Road and Transmission main from PS to zonal reservoirs	Kabardanga stock yard	Base line	08.11.17	12.47	16.61	24.94	73.68	ND
	Near Churial Canal	Base line	08.11.17	10.39	17.53	21.20	65.40	ND
	Kabardanga Stock Yard	During Construction	16.05.19	14.92	20.89	31.21	85.64	ND

Construction Package	Monitoring location	Monitoring stage	Date of monitoring	Parameters , $\mu\text{g}/\text{m}^3$				
				SO ₂	NO ₂	PM _{2.5}	PM ₁₀	HC
(KEIIP/NCB/Tr 2/WS 16/2015-16)	Pipe laying site near SSE STP	During Construction	16.05.19	13.85	19.08	29.96	73.27	ND
Laying of water supply distribution network including providing household service connection in 4 distribution service areas in Joka and adjoining areas for the command area under proposed ESRs at Prantik Ph III, NE of SSE STP and NW of SSE STP and existing ESR at Prantik (KEIIP/Tr 2/WS 17A/2016-17)	Kalitola Road	Base line	26.12.17	9.8	38.5	54	112	ND
	Bakulbithi	During Construction	09.04.19	7.4	36.0	31.21	92	ND
	Srijoni	During Construction	09.04.19	11.8	47.5	29.96	89	ND
Laying of water supply distribution network including providing household service connection in 4 distribution service areas in Joka and adjoining areas for the command area under proposed ESRs at Company pukur (KMC land at Julpia road), WBSETCL, 22 Bigha and existing ESR at Diamond Park (KEIIP/Tr 2/WS 17B/2016-17)	Satyen Park	Base line	26.12.17	10.6	40.2	49	92	ND
	Bakrahat Road	During Construction	08.04.19	7.7	37.5	52	91	ND
	Diamond Park	During Construction	08.04.19	7.2	36.7	49	88	ND
Laying of Transmission main from pumping stations to proposed 3 nos. ESRs at Ramakantapur, Malpara, Charaktala and construction of 3 ESRs including laying of distribution network with house service connection within the command area of the 3 ESRs for water supply in Joka and adjoining areas (KEIIP/NCB/Tr 2/WS 18/2016-17)	Malpara ESR	Base line	08.11.17	11.10	17.96	27.43	71.33	ND
	Charaktala ESR	Base line	08.11.17	11.33	17.53	22.41	71.03	ND
	Ramkantapur ESR	Base line	08.11.17	7.25	14.88	21.58	57.25	ND
	Malpara ESR	During Construction	16.05.19	12.79	18.17	24.97	65.85	ND
	Charaktala ESR	During Construction	16.05.19	11.72	17.26	30.0	76.39	ND
	Ramkantapur ESR	During Construction	16.05.19	11.72	17.26	30.0	76.39	ND
Development of S & D network in Tolly' nullah/ Keorapukur canal sub basin in part of wards 115 and 122 including construction of a SWF pumping station in the premise of Kudghat LS-5 and augmentation of Keorapukur MPS (KEIIP/NCB/Tr 2/SD-19/2016-17)	Keorapukur, Tollygunj	Base line	26.12.17	8.9	42.6	56	129	ND
	Taramoni Ghat	During Construction	10.04.19	8.1	37.2	52	91	ND
	Kudghat P.S.	During Construction	10.04.19	6.9	35.5	48	88	ND

Construction Package	Monitoring location	Monitoring stage	Date of monitoring	Parameters , $\mu\text{g}/\text{m}^3$				
				SO ₂	NO ₂	PM _{2.5}	PM ₁₀	HC
Development of S& D Network in churial Extension Canal sub basin in Borough XIII & xvi (Part of Ward no. 122,123 ,124) including laying of trunk sewer by micro tunneling method and construction of Churial Extension Pumping Station (KEIIP/NCB/TR-2/SD22/2016-17)	Purbason area	Base line	12.10.18	7.4	31.3	46	89	ND
	Purbason Area (Shaft No. 2)	During Construction	05.02.19	10.5	37.7	51	92	ND
	Netaji Pally	During Construction	05.02.19	9.3	33.2	47	78	ND
	Shaft No. 3	During Construction	15.06.19	8.9	33.0	41	75	ND
Dedicated Water Supply Transmission Main from Junction of James Long Sarani to Daspara near existing pumping station along James Long Sarani (KEIIP/NCB/Tr 2/WS 24/2016-17)	Sakher Bazar	Base line	14.04.18	9.8	42.4	89.0	152.0	ND
	Roy Bahadur Road	During Construction	09.04.19	8.2	42	49	89	ND
	Chowrasta More	During Construction	09.04.19	10.9	41.3	55	91	ND
Augmentation of storage capacity and transmission main under Jai Hind WTP- clear water reservoir, service main and electro mechanical works (KEIIP/NCB/TR-2/WS33/2017-18)	Jai Hind WTP Premise	Baseline	12.12.18	8.2	40.4	22	255	ND
		During Construction	20.03.19	6.1	66.94	18	85	ND
		During Construction	26.06.19	4.8	55.03	21	60	ND
		Standard		80.0	80.0	60.0	100.0	

25. Base line and during construction ambient noise level data are presented in **Table 8**. During construction average noise level (both day and night) is above the standard at all the monitoring locations (Refer **Figure 10 and 11**). High noise concentration is not only due to different construction activity¹⁷ at that specific site but also for different vehicular movement, other anthropogenic activities and seasonal effect¹⁸. Baseline noises in all the sites were found higher than the national standards of the residential areas. For understanding increasing or decreasing trend monitoring will be conducted throughout the construction phase. In all the cases mitigation measures need to be applied as per site specific EMP. Particularly use of ear plugs by workers at high noise producing area is necessary. It is ensured that the contractors will strictly implement the action plan as per EMP for reduction of noise level and minimization of noise impact.

26. “During construction” air quality, noise level and water quality monitoring will be continued for the packages as per Environment Management and Monitoring Plan. All monitoring expenses will be borne by contractors from their project Health safety monitoring budget.

27. A performance monitoring fact sheet has been prepared to facilitate tracking and quick reference on environmental monitoring of Tranche 2 subproject packages (**Tables 9 and 10**).

¹⁷ No major construction noise producing activities at sites and mostly no activity at night, Generators in use are mostly green and acoustic generators .

¹⁸ Winter season

Table 8: Noise Level Monitoring Data at Working Sites

Package No.	Sampling Locations- Area	Implementation Stage	Date of Monitoring	Day Time Leq dB(A)	Night Time Leq dB(A)
Construction of sewerage & drainage network in Thakurpara & Purba Putiary Catchment and Construction of Keorapukur PS in Ward 114, Borough XI including Operation & Maintenance of the Pumping Station (KEIIP /NCB/ Tr-2/SD-09/2016-17)	Keorapukur Pumping Station	Base line	03.06.17.		53.30
	Natun Pally Dhalai Bridge Road	Base line	03.06.17.	69.29	
	Keorapukur Pumping Station	During Construction	13.05.19	65.3	53.4
	Sarodamoyee Lane Dakshin Para	During Construction	13.05.19	62.6	52.4
	Gurucharan Naskar Road	During Construction	13.05.19	63.0	52.5
Laying of Trunk sewer along James Long Sarani by micro-tunneling method (KEIIP/NCB/ Tr-2/SD-12 / 2015-16)	James Long Sarani	Base line	11.06.17	78.84	-
	James Long Sarani (shaft no. 6)	During Construction	04.02.19	71.19	
	James Long Sarani (shaft no. 4)	During Construction	08.05.19	67.46	
Development of Sewerage & Drainage Network within James Long Sarani & Mahatma Gandhi Road Catchment in Borough XVI (part of Ward No. 123 & 124) (KEIIP/NCB/ Tr-2/SD-13/ 2015-16)	Viveekananda College Road, Gour Nagar	Base line	29.05.17		
	M.G.Road	During Construction	10.04.19	64.8	53.8
	Santoshri Pally	During Construction	10.04.19	62.1	54.9
Laying of lateral sewers in part of Borough XIV (Ward nos. 128 to 132) & De siltation of Box Drain at Picnic Garden Road (KEIIP /NCB/ Tr-2/SD-14/2015-16)	Dr. A.K. Pal Road-R	Base line	29.05.17	52.4	40.3
	Arya Samiti Road	During Construction	09.04.19	63.2	52.9
	Nabapally Main Gate	During Construction	09.04.19	63.9	54.0
Construction of underground reservoirs & overhead reservoirs, Pumping Stations and linking Pumping Station Mains for Water supply in Joka & adjoining areas including operation & maintenance of the pumping station (KEIIP/NCB/ Tr-2/WS-15/ 2015-16)	Prantik Phase 3	Base line	29.03.17	74.22	-
	Julpia	Base line	27.02.17	72.73	-
	Prantik Site	During Construction	24.06.19	72.2	
	North West site	During Construction	24.06.19	74.3	
	North west ESR	During Construction	13.02.19	63.9	
	North East	During Construction	13.02.19	63.6	
	Prantik UGR	During Construction	13.02.19	64.9	
Laying of Transmission Main from existing Daspara PS to UGRs at Prantik Phase III, KMC land on Julpia Road and Transmission main from PS to zonal reservoirs	Kabardanga Stock Yard	Baseline	08.11.17	60.91	-
	Near Churial Canal	Baseline	08.11.17	59.38	-

Package No.	Sampling Locations- Area	Implementation Stage	Date of Monitoring	Day Time Leq dB(A)	Night Time Leq dB(A)
(KEIIP/NCB/Tr-2/WS-16/2015-16)	Kabardanga Stock Yard	During Construction	16.05.19	56.23	
	Pipe laying site near SSE STP	During Construction	16.05.19	53.84	
Laying of water supply distribution network including providing household service connection in 4 distribution service areas in Joka and adjoining areas for the command area under proposed ESRs at Prantik Ph III, NE of SSE STP and NW of SSE STP and existing ESR at Prantik (KEIIP/Tr 2/WS-17A/2016-17)	Kalitola Road	Baseline	19.12.17	52.6	43.2
	Bakulbithi	During Construction	09.04.19	60.6	53.0
	Srijoni	During Construction	09.04.19	64.4	52.3
Laying of water supply distribution network including providing household service connection in 4 distribution service areas in Joka and adjoining areas for the command area under proposed ESRs at Company pukur (KMC land at Julpia road), WBSETCL, 22 Bigha and existing ESR at Diamond Park (KEIIP/Tr 2/WS-17B/2016-17)	Satyen park	Baseline	19.12.17	51.9	42.0
	Bakrahat Road	During Construction	08.04.19	64.4	52.3
	Diamond Park	During Construction	08.04.19	64.9	54.3
Laying of Transmission main from pumping stations to proposed 3 nos. ESRs at Ramakantapur, Malpara, Charaktala and construction of 3 ESRs including laying of distribution network with house service connection within the command area of the 3 ESRs for water supply in Joka and adjoining areas (KEIIP/NCB/Tr-2/WS-18/ 2016-17)	Malpara ESR	Baseline	8.11.17	49.82	-
	Charaktala ESR	Baseline	8.11.17	46.91	-
	Ramkantapur ESR	Baseline	8.11.17	51.53	-
	Malpara ESR	During Construction	16.05.19	55.28	
	Charaktala ESR	During Construction	16.05.19	56.87	
	Ramkantapur ESR	During Construction	16.05.19	58.62	
Development of S & D network in Tolly' nullah/ Keorapukur canal sub basin in part of wards 115 and 122 including construction of a SWF pumping station in the premise of Kudghat LS-5 and augmentation of Keorapukur MPS (KEIIP/NCB/Tr-2/SD-19/2016-17)	Keorapukur, Tollygunj	Baseline	18.12.17	55.3	41.8
	Taramoni Ghat	During Construction	10.04.19	64.3	54.9
	Kudghat P.S.	During Construction	10.04.19	64.4	54.6
Development of S& D Network in churial Extension Canalsub basin in Borough XIII & xvi (Part of Ward no. 122,123 ,124) including laying of trunk sewer by micro tunneling method and construction of Churial	Purbasan area	Baseline	12.10.18	54.9	-
	Purbason Area (Shaft No. 2)	During Construction	05.02.19	59.2	
	Netaji Pally	During Construction	05.02.19	57.3	

Package No.	Sampling Locations- Area	Implementation Stage	Date of Monitoring	Day Time Leq dB(A)	Night Time Leq dB(A)
Extension Pumping Station (KEIIP/NCB/TR-2/SD-22/2016-17)	Shaft No. 3	During Construction	15.06.19	56.2	
Dedicated Water Supply Transmission Main from Junction of James Long Sarani to Daspara near existing pumping station along James Long Sarani (KEIIP/NCB/Tr-2/WS-24/ 2016-17)	29 Pally	Baseline	14.04.18	60.6	45.7
	Roy Bahadur Road	During Construction	09.04.19	64.5	53.6
	Chowrasta More	During Construction	09.04.19	64.8	54.2
Augmentation of storage capacity and transmission main under Jai Hind WTP- clear water reservoir, service main and electro mechanical works (KEIIP/NCB/TR-2/WS33/2017-18)	Jai Hind WTP Premise	Baseline	12.12.18	51.7	-
		During construction	20.03.19	70.7	
		During construction	26.06.19	64.6	
		Standard	R- Residential, C- Commercial, I- Industrial Standard Day time: Industrial area:75 Commercial: 65 Residential area: 55 Night time: Industrial area:70 Commercial: 55 Residential area: 45		

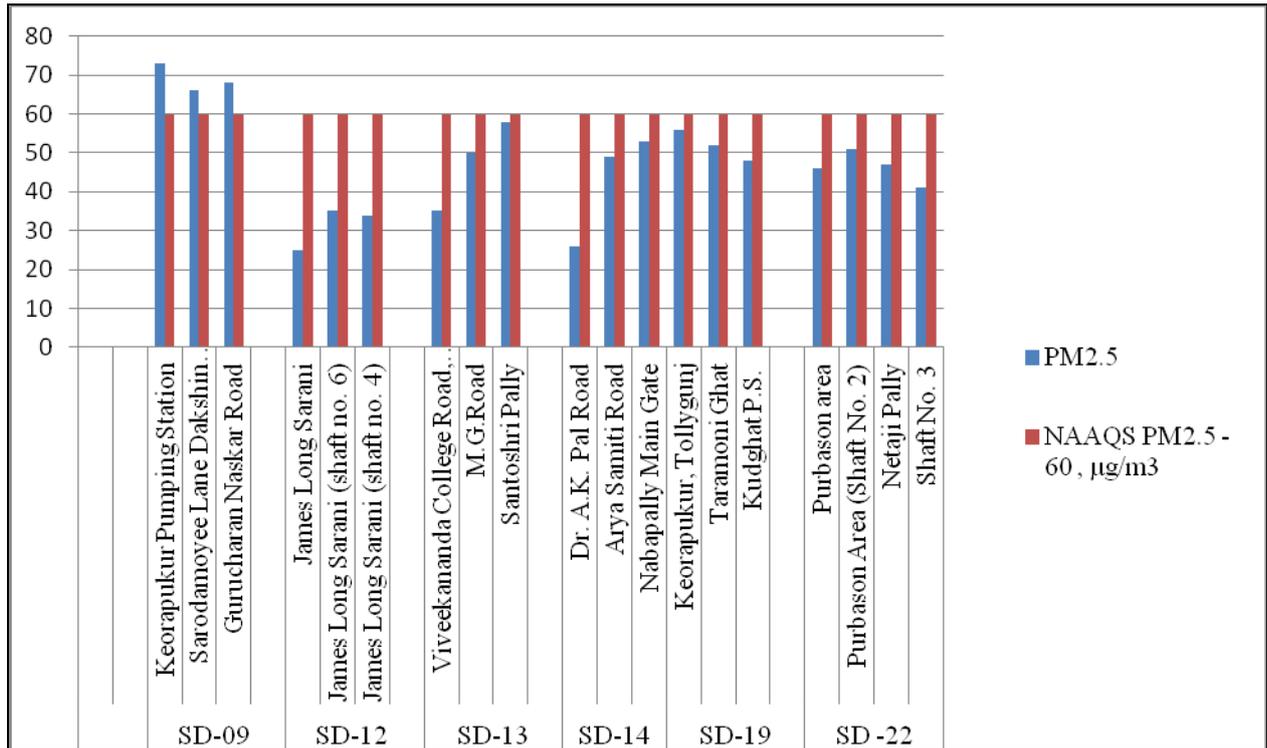


Figure 4: Status of PM2.5 in S&D network packages of Tranche-2

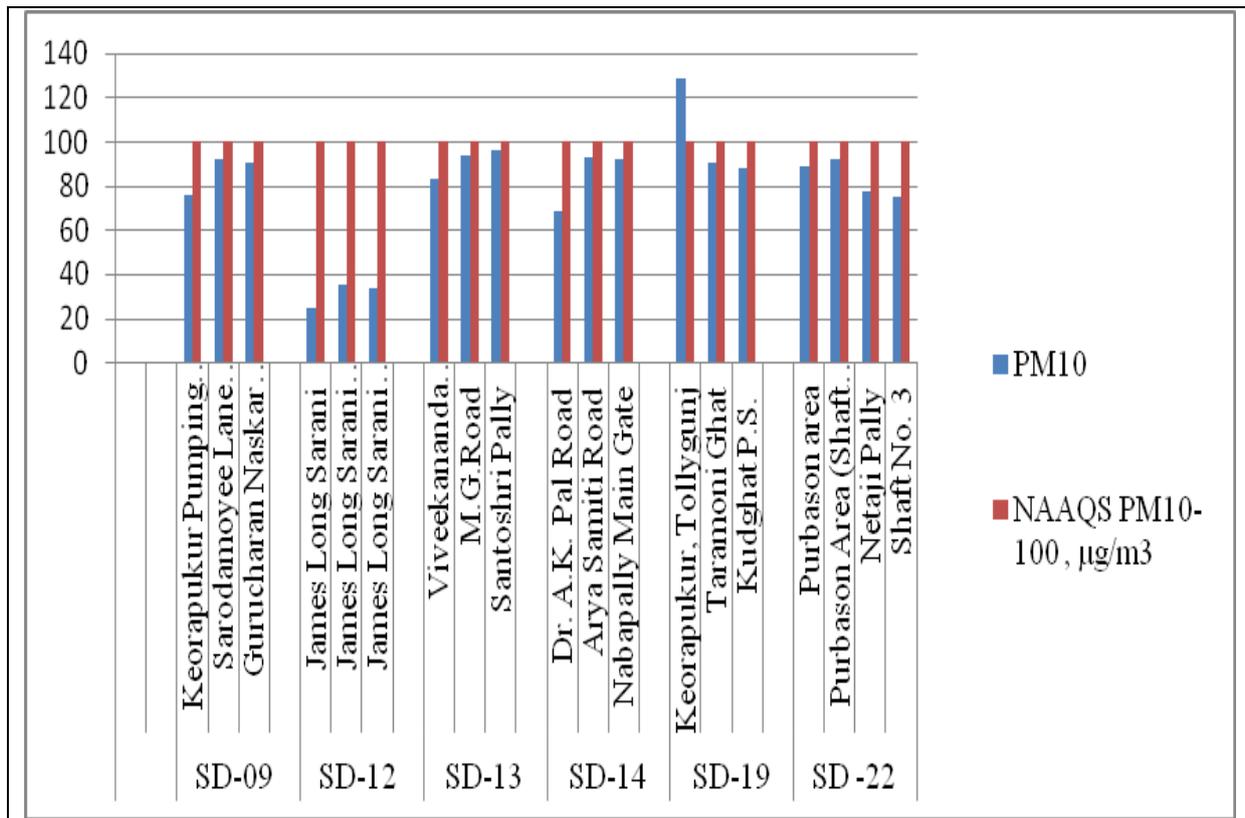


Figure 5: Status of PM10 in S&D network packages of Tranche-2

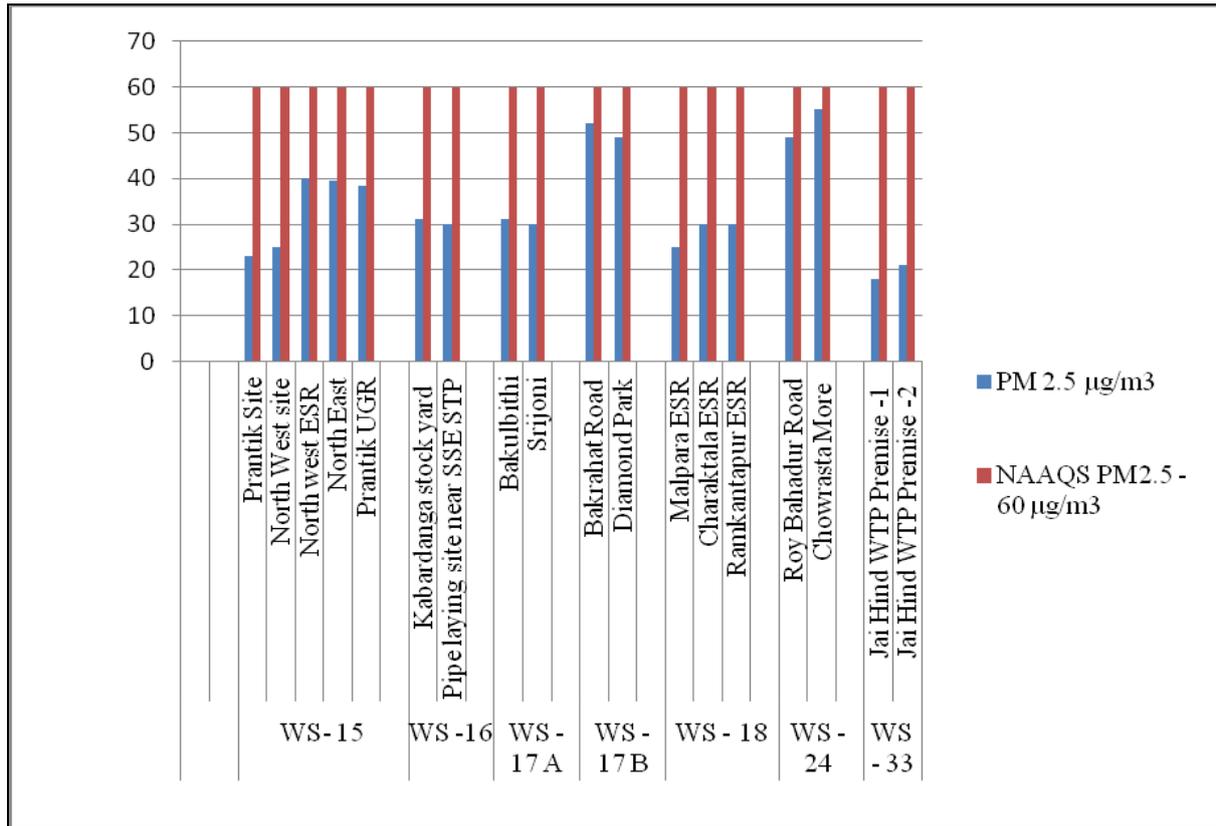


Figure 6: Status of PM2.5 in WS network packages of Tranche-2

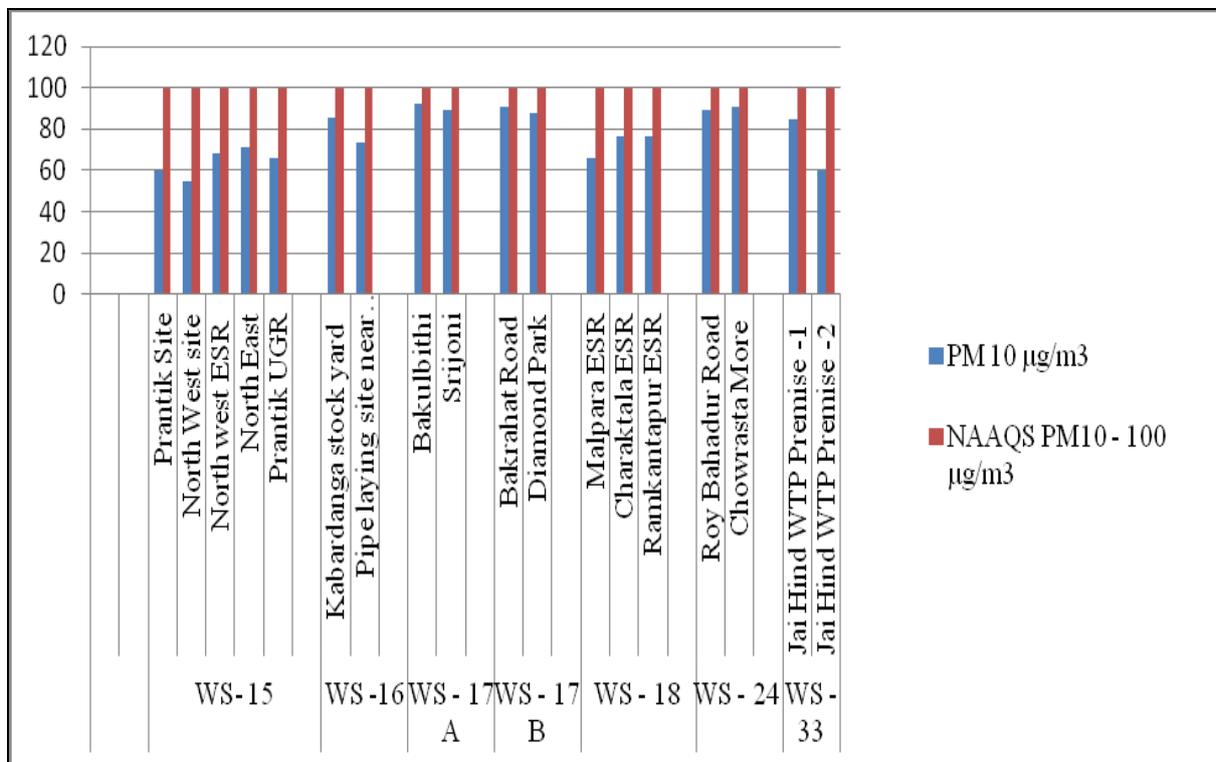


Figure 7: Status of PM10 in WS network packages of Tranche-2

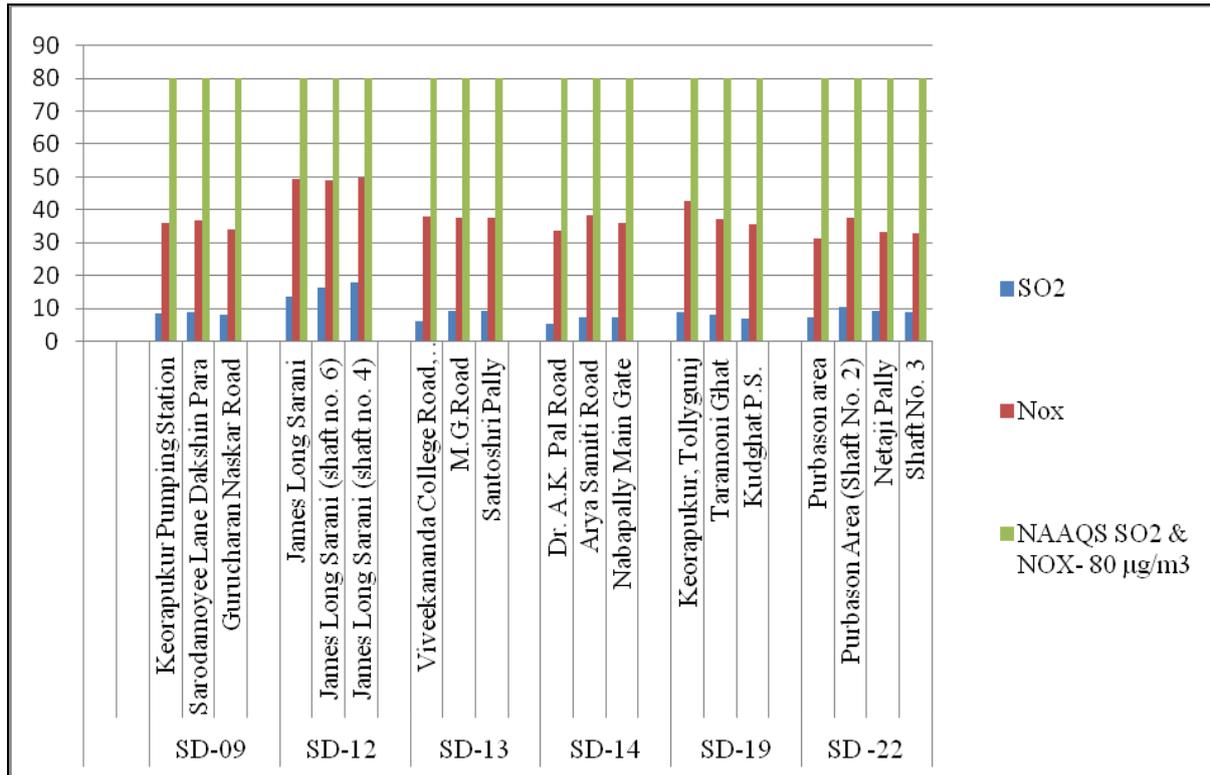


Figure 8: Status of SO₂ & NO_x in S&D network packages of Tranche-2

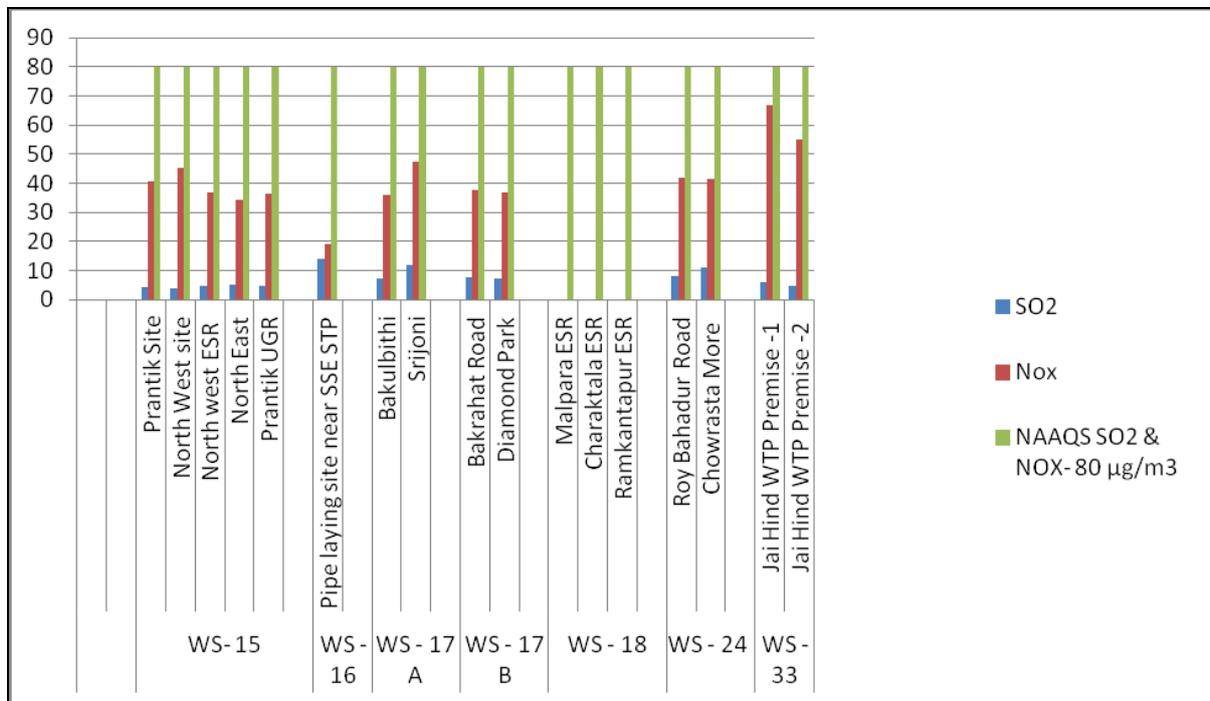


Figure 9: Status of SO₂ & NO_x in WS network packages of Tranche-2

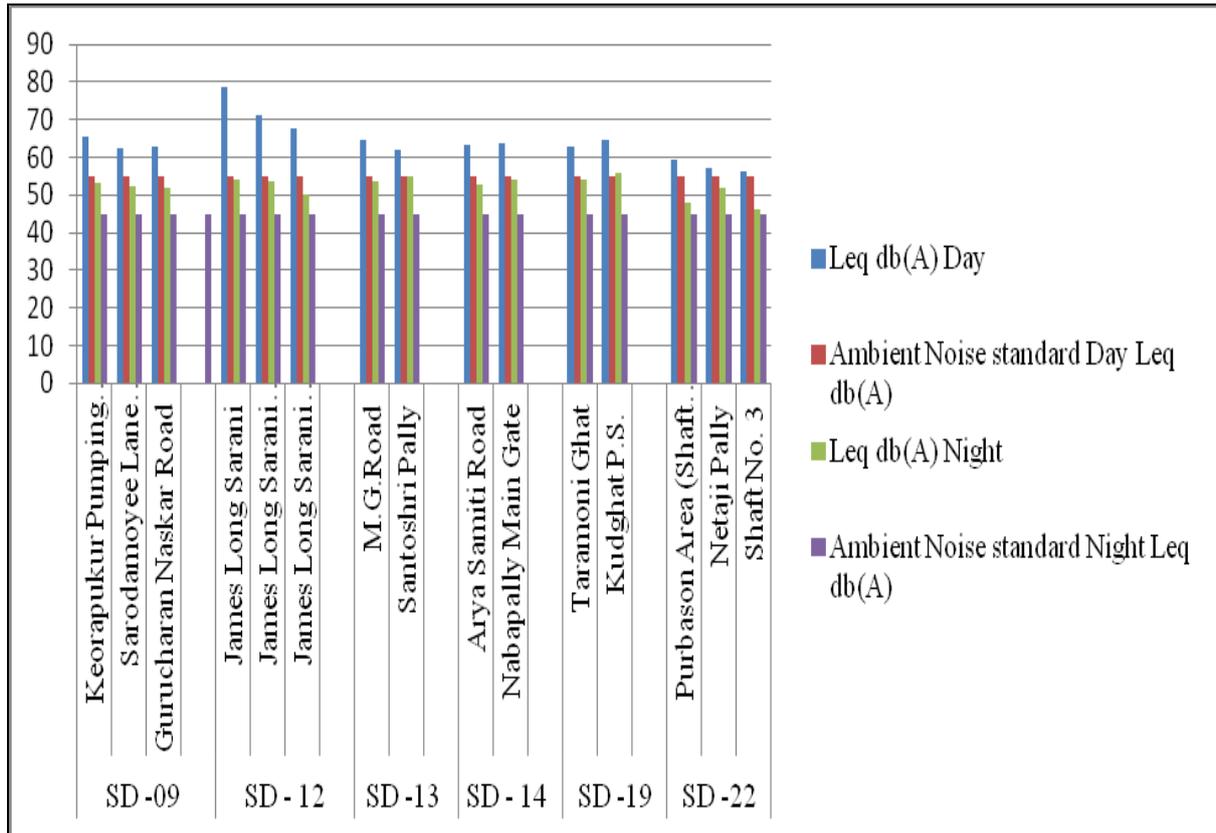


Figure 10: Status of Noise level in S&D network packages of Tranche-2

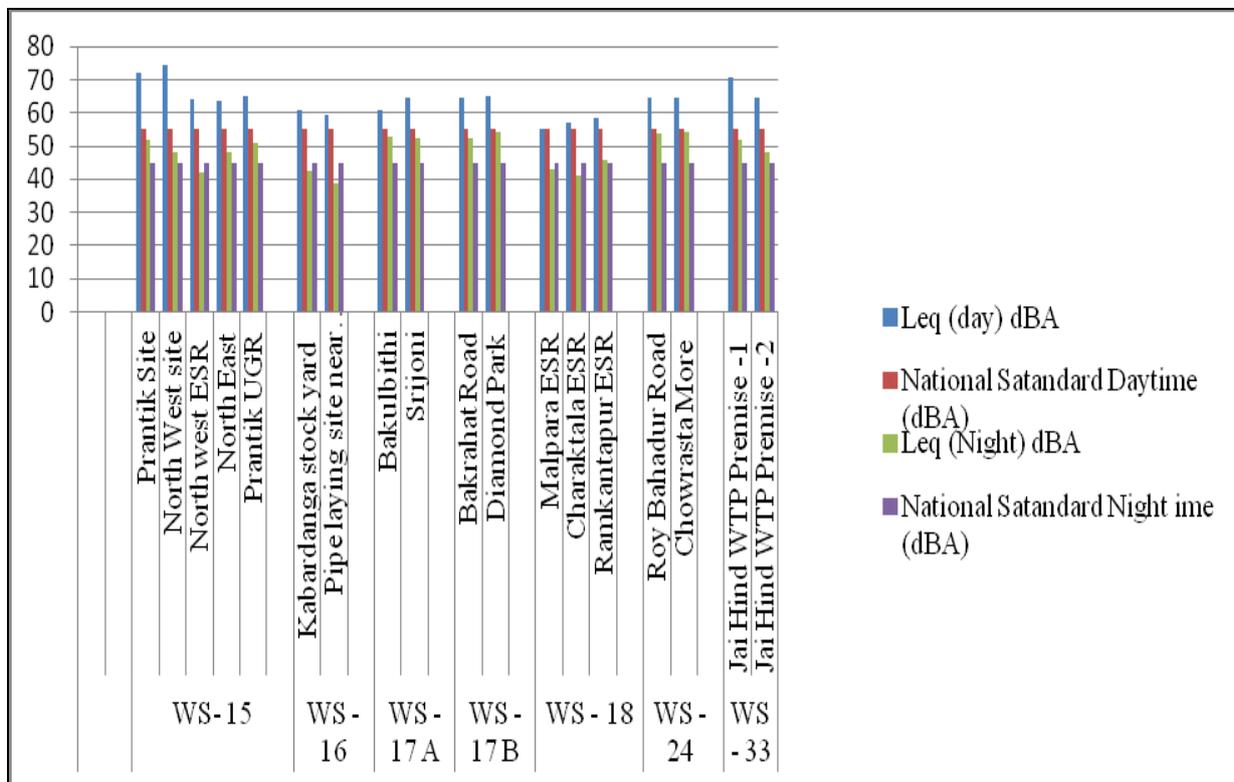


Figure 11: Status of Noise level in WS network packages of Tranche-2

Table 9: Performance Fact Sheet for Required Environmental Consents/Clearances of KEIP Tranche 2 (Package-wise)

Sl. No.	Package No.	Name of Contractor	EMP Part of contract Document(Yes/ No)	Environmental Consents / Clearances Required			
				Tree Cutting	i. Crusher ii. Batching Plant iii. Hot mix plant	Diesel Generator Set	Pollution Under Control Certificates (PUC) for Contractor's Vehicles
1	KEIP/NCB/Tr 2/SD-09/2016-17	SNET-JBPL JV	Yes	Not required as per present scope of work	NR as per present work	Acoustic type of generator is used. No permission is required. Emission monitoring done.	Obtained
2	KEIP/NCB/Tr 2/SD-10/2015-16	Contract terminated and processed for retendering					
3	KEIP/NCB/Tr 2/SD-11/2016-17	Contract terminated and processed for retendering					
4	KEIP/NCB/Tr 2/SD-12/2015-16	ITD-ITD CEM JV	Yes	NOC received from Urban Forest Dept (via certificate no. 37 (o)/Clearance/17 dated 27.02.18) for felling of 30 nos. tree	NR as per present work	Green silent DG used	Obtained
5	KEIP/NCB/Tr-2/SD-13/2015-16	Simplex infrastructures Ltd.	Yes	Not required as per present scope of work	NR as per present work	Acoustic type of generator is used	Obtained
6	KEIP/NCB/Tr-2/SD-14/2015-16	Simplex infrastructures Ltd.	Yes	Not required as per present scope of work	NR as per present work	Acoustic type of generator is used	Obtained

Sl. No.	Package No.	Name of Contractor	EMP Part of contract Document(Yes/ No)	Environmental Consents / Clearances Required			
				Tree Cutting	i. Crusher ii. Batching Plant iii. Hot mix plant	Diesel Generator Set	Pollution Under Control Certificates (PUC) for Contractor's Vehicles
7	KEIIP/NCB/Tr 2 /WS 15/2015-16	M/s Gannon Dunkerley & Co.Ltd.	Yes	Not required as per present scope of work	NR as per present work	Acoustic type of Generator used.	Obtained
8	KEIIP/NCB/Tr 2/WS16/2015-16	FFIL-RIL JV	Yes	Not required as per present scope of work	NR as per present work	Green silent DG used	Obtained
9	KEIIP/Tr-2/WS 17A/2016-17	Simplex infrastructures Ltd.	Yes	Not required as per present scope of work	NR as per present work	Acoustic type of generator is used	Obtained
10	KEIIP/Tr-2/WS 17B/2016-17	Simplex infrastructures Ltd.	Yes	Not required as per present scope of work	NR as per present work	Acoustic type of generator is used	Obtained
11	KEIIP/NCB/Tr 2/WS18/2016-17	FFIL-RIL JV	Yes	Not required as per present scope of work	NR as per present work	Green silent DG used	Obtained
12	KEIIP/NCB/Tr 2/SD-19/2016-17	Simplex infrastructures Ltd.	Yes	Not required as per present scope of work	NR as per present work	Acoustic type of generator is used	Obtained
13	KEIIP/NCB/Tr 2/SD-22/2016-17	ITD-ITD CEM JV	Yes	12 Nos. of trees need to be cut .Applied for tree	NR as per present work	Acoustic type of generator is used	Obtained

Sl. No.	Package No.	Name of Contractor	EMP Part of contract Document(Yes/ No)	Environmental Consents / Clearances Required			
				Tree Cutting	i. Crusher ii. Batching Plant iii. Hot mix plant	Diesel Generator Set	Pollution Under Control Certificates (PUC) for Contractor's Vehicles
				cutting permission from DFO			
14	KEIP/NCB/Tr 2/WS24/2016-17	Simplex infrastructures Ltd.	Yes	Not required as per present scope of work	NR as per present work	Green silent DG used	Obtained
15	KEIP/NCB/TR-2/WS25/2017-18	SUEZ India Pvt. Ltd.	Yes	Work not yet started			
16	KEIP/NCB/TR-2/WS33/2017-18	TEPL-SNET JV	Yes	Not required as per present scope of work		Acoustic type of generator is used	

Table 10: Performance Fact Sheet for EMP Implementation of KEIIP Tranche 2 (Package-wise)

Sl. No	Package Number	Contractor Social/ Environment Person ¹⁹	Overall Status of EMP Implementation	Field to be Monitored as per EMP												
				Source of Materials	Camp Sites	Landscape and Aesthetics	Air Quality	Noise Level	Traffic	Ecological Resources – Terrestrial	Accessibility	Water Quality	Occupational Health & Safety	Community Health & Safety	Socio cultural resources	Employment generation
				In compliance (2) / Partial Compliance (1) / Not in compliance (0) / Not applicable (n/a)												
1	KEIIP/NCB/Tr-2/SD-09/2016-17	Nominated	Complied	2	1	2	1	1	2	n/a	1	n/a	2	2	n/a	2
2	KEIIP/NCB/Tr-2/SD-10/2015-16	Nominated	Work withheld since last six months.													
3	KEIIP/NCB/Tr-2/SD-11/2016-17	Nominated	Work withheld since last six months.													
4	KEIIP/NCB/Tr-2/SD-12/2015-16	Nominated	Complied	2	2	2	1	2	2	2	2	n/a	1	2	n/a	2
5	KEIIP/NCB/ Tr-2SD-13/2015-16	Nominated	Complied	2	1	2	1	2	2	n/a	1	n/a	1	2	n/a	2
6	KEIIP/NCB/Tr-2/SD-14/2015-16	Nominated	Complied	2	n/a	2	2	1	2	n/a	1	n/a	1	2	n/a	2
7	KEIIP/NCB/Tr-2/WS-15/2015-16	Nominated	Complied	2	1	1	1	2	n/a	n/a	1	n/a	1	2	n/a	2
8	KEIIP/NCB/Tr-2/WS-16/2015-16	Nominated	Complied	2	1	2	1	1	2	n/a	2	n/a	1	2	n/a	2
9	KEIIP/Tr-2/WS-17A/2016-17	Nominated	Complied	2	n/a	2	2	2	2	n/a	1	n/a	2	2	n/a	2

Sl. No	Package Number	Contractor Social/ Environment Person ¹⁹	Overall Status of EMP Implementation	Field to be Monitored as per EMP													
				Source of Materials	Camp Sites	Landscape and Aesthetics	Air Quality	Noise Level	Traffic	Ecological Resources – Terrestrial	Accessibility	Water Quality	Occupational Health & Safety	Community Health & Safety	Socio cultural resources	Employment generation	
				In compliance (2) / Partial Compliance (1) / Not in compliance (0) / Not applicable (n/a)													
10	KEIIP/Tr-2/WS-17B/2016-17	Nominated	Complied	2	n/a	2	2	2	2	2	n/a	1	n/a	2	2	n/a	2
11	KEIIP/NCB/Tr-2/WS-18/2016-17	Nominated	Complied	2	1	2	2	2	2	2	n/a	2	n/a	1	2	n/a	2
12	KEIIP/NCB/Tr-2/SD-19/2016-17	Nominated	Complied	2	1	2	1	2	2	2	n/a	1	n/a	1	2	n/a	2
13	KEIIP/NCB/Tr-2/SD-22/2016-17																
14	KEIIP/NCB/Tr-2/WS-24/2016-17	Nominated	Complied	2	n/a	1	1	2	2	2	n/a	2	n/a	1	2	n/a	2
15	KEIIP/NCB/TR-2/WS-33/2017-18	Nominated	Complied	2	n/a	1	1	2	2	2	n/a	2	n/a	1	2	n/a	2
16	KEIIP/NCB/TR-2/WS-25/2017-18			Substantial physical work not yet started.													
17	KEIIP/NCB/TR-2/WS26B/2018-19			Substantial physical work not yet started.													

Note: Calculation of numerical value for determining performance status- calculation is based on addition of numerical value like below (Refer **Table 11** and **Figure 12** for status of compliance).

Package - KEIIP/NCB/Tr 2/SD-09/2016-17= Total score- 2+1+2+1+1+2+1+2+2+2 = 16. Number of field=10, Then- **16/10=1.6**, More than 1.5 (Complied)
 Package - KEIIP/NCB/Tr 2/SD-12/2015-16= Total score- 2+2+2+1+2+2+2+2+1+2+2= 20. Number of field=11, Then- **20/11=1.8** More than 1.5 (Complied)
 Package - KEIIP/NCB/ Tr-2/SD-13 / 2015-16= Total score- 2+1+2+1+2+2+1+1+1+2= 14. Number of field=10, Then- **15/10=1.5**, Equal to 1.5 (Complied)
 Package- KEIIP /NCB/ Tr-2/SD-14/ 2015-16= Total score- 2+2+2+1+2+1+1+2+2= 15. Number of field=9, Then- **15/9=1.7**, More than 1.5 (Complied)
 Package- KEIIP/NCB/ Tr 2 /WS 15/2015-16= Total score- 2+1+1+1+2+1+1+2+2= 14. Number of field=9, Then- **14/9=1.5**, Equal to 1.5 (Complied)
 Package -KEIIP/NCB/Tr 2/WS 16/2015-16= Total score- 2+1+2+1+1+2+2+1+2+2= 16. Number of field=10, Then- **16/10=1.6**, More than 1.5 (Complied)

Package- KEIP/Tr 2/WS 17A/2016-17= Total score- 2+2+2+2+2+1+2+2+2= 17. Number of field=9, Then- $17/9=1.8$, More than 1.5 (Complied)
 Package- KEIP/Tr 2/WS 17B/2016-17= Total score- 2+2+2+2+2+1+2+2+2= 17. Number of field=9, Then- $17/9=1.8$, More than 1.5 (Complied)
 Package KEIP/NCB/Tr 2/WS 18/ 2016-17= Total score-2+1+2+2+2+2+2+1+2+2= 18. Number of field=10, Then- $18/10=1.8$, More than 1.5 (Complied)
 Package KEIP/NCB/Tr 2/SD 19/ 2016-17= Total score-2+1+2+1+2+2+1+1+2+2= 16. Number of field=10, Then- $16/10=1.6$, More than 1.5 (Complied)
 Package KEIP/NCB/Tr 2/WS 24/ 2016-17= Total score-2+1+1+2+2+2+2+1+2+2= 15. Number of field=10, Then- $15/10=1.5$, Equal to 1.5 (Complied)
 Package KEEIP/NCB/TR 2/WS 33/ 2017-18= Total score-2+1+1+2+2+2+2+1+2+2= 15. Number of field=10, Then- $15/10=1.5$, Equal to 1.5 (Complied)

(Note: Work in few packages has just started and construction of camp, arrangement of safety caution board, barricade. has commenced. Initial EMP compliance in these areas is unsatisfactory in some instances. It is expected that during next report period all non compliance issues will be resolved. Barring the above lacuna most of the sites are environmentally well managed)

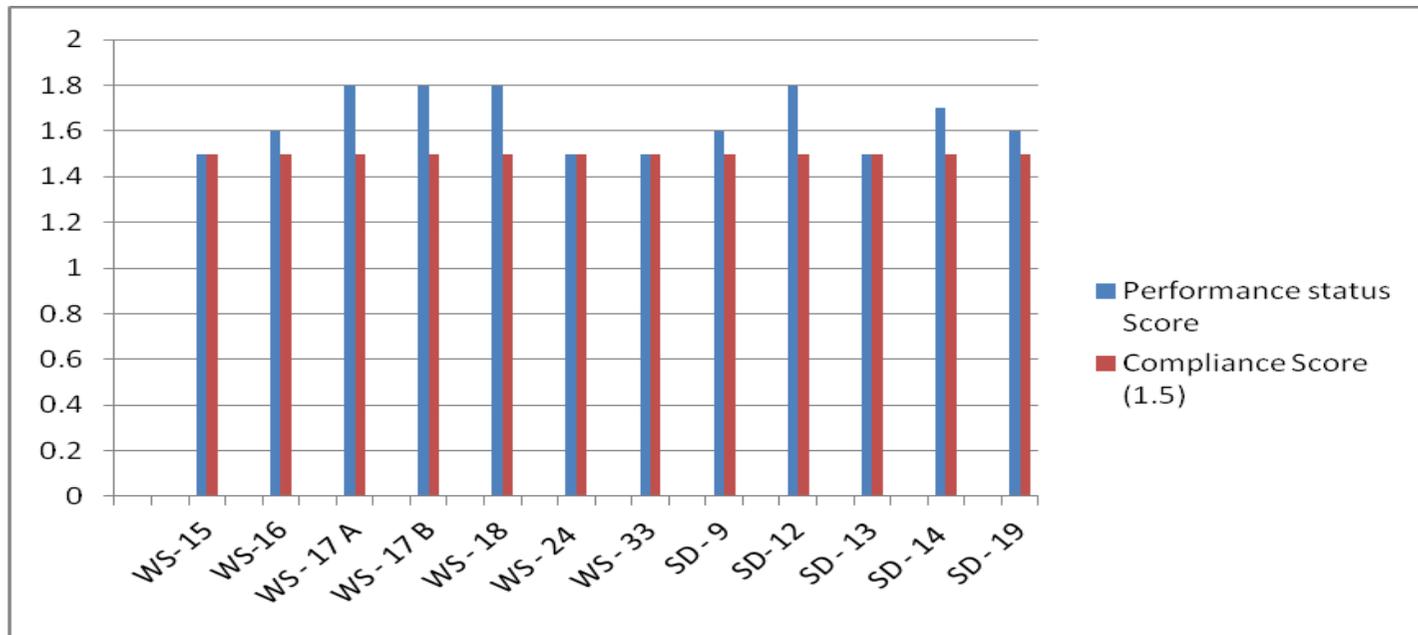


Figure 12: Package wise EMP compliance status of different construction packages in Tranche -2

VI. CONSULTATIONS AND DISCLOSURES CONDUCTED

28. As per approved IEE, consultations and disclosure will be a continuous process throughout Tranche 2 project implementation involving public consultations and focus group discussions. Informal consultations were carried out with local people, pedestrian, etc.

29. Types of consultations and disclosure conducted in different packages of Tranche -2 during January to June 2019 is presented in **Table 12**.

30. Table 13 indicate different types of consultations , issues raised and resolved in different packages of Tranche -2 during January to June 2019.

Table 12: Types of consultations and disclosure conducted in different packages of Tranche-2

Type of Consultation/ Disclosure	Target Date	Location	Target Participants	Responsible Person and Source of Funds
Local level consultation / FGD	Weekly – to be continued	At all construction locations	General public, shop keepers, pedestrian	Construction supervisor, Environment & safety officer of contractor Project budget – continuous process
Consultation – safety issues, implementation of EMP	During January 2019 to June 2019	At KEIIP office and project site office	Supervisor Engineer, PMU Engineer, all safety and environment staff of contractors	Construction Manager, Environment specialist of DSC and PMU
Consultation – safety issues, implementation of EMP and any social issue	During January 2019 to June 2019	During site visit at all sites and any grievance /complain received	Supervisor Engineer, PMU Engineer, all safety and environment staff of contractors	Construction Manager, Environment social team of DSC and PMU

31. Field level training program is being arranged for contractor's staffs and supervisors, some time for Project Managers by DSC's Environment Specialist on Environment Health and safety on regular basis.

32. There are series of informal discussions by the DSC with Chief Engineers of KMC and Director General (Projects), PMU mainly on understanding current situation and optimum design to be adopted in order to attain the objectives of taking up the work items.

33. Photographic evidences of training and awareness programme at different project sites of Tranche-2 and consultations at sites have been provided in **Appendix -3** and **Appendix-6** respectively.

34. A workshop cum training programme on Safeguard Implementation Issues in the project (Kolkata Environmental Improvement Investment Program (KEIIP – Tranche II) was organised by the Safeguard Unit (environment & social Safeguard) of Design & Supervision Consultants (DSC) Tranche-II, KEIIP on 24th January, 2019 at Conference Room of KEIIP. The workshop cum training programme was attended by Contractor's Project Managers, Environment Safety Officers, DSC's Construction Managers & Experts, DSC's Safeguard Team Members and PMU's Safeguard Team

35. In the workshop topics discussed in detail were - Implementation of EMP in the project, contractual obligation of the contractor related to safeguard, some good and bad EHS practices in Urban Infrastructure Projects. In addition to the above mentioned issued during interaction EMP implementation mechanisms, contractor's safety officers were asked to make a short power point presentation on their own sites regarding good practices adopted to minimise the EHs issues, spoil management, environmental monitoring, public consultation and existing safeguard issues which need DSC's intervention to mitigate.

36. Another workshop cum training on ADB E-Learning Courses was conducted on 22.04.19. The program was attended by Contractor's Environment Safety Officers, DSC's Construction Managers, DSC's Safeguard Team Members and PMU's Safeguard Team.

37. In the workshop the topics discussed in detail were – ADB Environmental and Social Safeguard Policy Statement, Implementation of Gender Action Plan in the project etc.

38. DSC conducted another workshop on ADB Safeguard Policy Statement 2009 on 08.05.19. the program was attended by Engineers of Contract Management Unit (KEIIP) , Environmental Expert (PMU), Construction Managers (DSC) of all the packages and safeguard team members from DSC, and PMU.

39. In the workshop the topics discussed in detail were – ADB Environmental and Social Safeguard Policy Statement, implementation of EMP in the project, environmental safeguard provision in the contract packages, contractual obligation of KEIIP in safeguard implementation, contractors obligation in implementation of safeguard issues.

40. The summary sheet on the above mentioned workshops has been provided as Appendix -7

Table 13: Issues raised during public consultation in different packages of Tranche -2 during January to June 2019

Package Number	Place and Date of Consultation	Issues Raised
SD 09	Keorapukur canal side road , Gurcharan Naskar road, Natun Pally Dhalai bridge Road	Access problem, disposal of surplus earth, damage in house service connection.
SD 12	James Long Sarani	Spoil spillage on road, loud sound during piling work at night, access problem,
SD 13	M.G. Road	Road restoration, disposal of surplus earth, access problem.
SD 14	M.B. Road and B.C Road	Access problem, disposal of surplus earth, damage in house service connection.
SD 19	Baroda Sarani, Taramoni Ghat Road	Access problem, disposal of surplus earth, damage in drinking water line.

WS 17B	Zone B1, C1, C2, C3	Restoration of water supply line, repair of potholes, road restoration.
WS 16	Dhalipara, Daspara, 22 Bigha	Restoration of water supply line, road restoration.
SD 22	Sodepur Brickfield Road, Barisha Purba Para, Purbachal	Spoil spillage, access problem, disposal of surplus earth.
WS 24	J. L. Sarani (Chowrastha)	Dust generation, storage of construction materials

VII GRIEVANCE REDRESSAL

41. **Common Grievance Redress Mechanism.** A common grievance redress mechanism (GRM) has been established for social, environmental or any other subproject related grievances.

42. Grievance Redress Process. PMU is maintaining a Complaint Cell at KEIIP office located in 206 A J C Bose Road Kolkata 700017 headed by a designated Grievance Officer (currently the Administrative Officer) under Project Director. The Complaint Cell will also serving as Public Information Centre, where, apart from grievance registration, information on the Project, subprojects, social and environmental safeguards, etc can be provided.

43. At every Borough of KMC under which works are in progress, a Public Relations & Grievance Redressal Unit have been established for information disclosure on request from public and for receipt of complaints.

44. At Contractors' site offices, complaint and suggestion books available for lodging any complaint. The concerned Executive Engineers of KEIIP will monitor these books and if possible take necessary actions for redressal of minor complaints with intimation to the complainant.

45. The Grievance Registration/Suggestion Form will be available at the Complaints Cell and in Borough Offices and will also be downloadable from the KEIIP/KMC websites. Grievances/ suggestions of affected persons can be dropped in suggestion boxes or conveyed through phone or mail. Affected Persons will also be able to register grievances - social, environmental or other, personally at the Complaint Cell and at Borough offices of KMC. The Grievance Officer and designated official at the Boroughs will be able to correctly interpret/record verbal grievances of non-literate persons and those received over telephone.

46. All complaints (unresolved at local site/Borough level) relating to KEIIP will be sent to the Project Director, KEIIP including those received in the KMC/KEIIP website for redressal. The Grievance Officer will resolve simple unresolved issues and in case of complicated issues, consult/seek the assistance of the Environment/Social Specialist of the DSC/PMU. Grievances not redressed through this process within one month of registration will be brought to the notice of the Project Director, KEIIP. Action taken in respect of all complains will be communicated to the complainant by letter, over phone or e-mail or WhatsApp as the case may be.

47. Periodic community meetings with affected communities to understand their concerns and help them through the process of grievance redress (including translation from local dialect/language, recording and registering grievances of non-literate affected persons

and explaining the process of grievance redress) will be conducted if required. The above Grievance Redress Process will be discussed with the stakeholders at the proposed disclosure workshop.

48. **Grievance Redressal Committee (GRC).** A PMU level GRC has already been constituted by the Project Director to address grievances. Grievances not resolved at borough level are referred to PMU level. However grievances that cannot be resolved at PMU level will be referred to an apex grievance redress committee (GRC).²⁰ Still unresolved issues will be referred to an appropriate court of law. Despite the project GRM, an aggrieved person shall have access to the country's legal system at any stage, and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM.

49. The time limit for grievance redressal will be as follows,

- ✓ Site level – 7 days
- ✓ Borough level – 7 days
- ✓ GRC – PMU level – 15 days
- ✓ Apex GRC- 15 days

50. **Consultation Arrangements for GR** - This will include group meetings and discussions with affected persons, to be announced in advance and conducted at the time of day agreed on with affected persons and conducted to address general/common grievances; and if required with the Environment/Social Specialist of PMU/DSC for one-to-one consultations. Non-literate affected persons/ vulnerable affected persons will be assisted to understand the grievance redress process, to register complaints and with follow-up actions at different stages in the process.

51. **Record-keeping.** Records will be kept by PMU/Borough Office/Contractors' site office of all grievances received including contact details of complainant, date the complaint was received, nature of grievance, agreed corrective actions and the date these were in effect, and final outcome.

52. **Information Dissemination Methods of the GRM.** Grievances received and responses provided will be documented and reported back to the affected persons (**Appendix 8** -Sample Grievance Registration Format). The number of grievances recorded and resolved and the outcomes will be displayed/disclosed in the offices of the different Boroughs of KMC and web. The phone number where grievances are to be recorded will be prominently displayed at the construction sites.

53. **Periodic Review and Documentation of Lessons Learned.** PMU will periodically review the functioning of the GRM and effectiveness of the mechanism, especially on the Project's ability to prevent and address grievances.

54. **Costs.** All costs involved in resolving the complaints (meetings, consultations, communication and reporting / information dissemination) will be borne by PMU.

55. A GRM flow chart has been provided in **Figure 13** of this report.

56. Grievances received and responses provided in different packages of Tranche -2 during July to December 2018 is presented in **Table 14** which indicate that there were no major grievances at project sites and issues recorded has been resolved.

²⁰ The apex GRC will have the following members: KMC Commissioner as Chairperson, KEIIP Project Director, Director General (P), KEIIP, Environment/Social Safeguard Officer, Administrative Officer as the convener, representatives of APs, Community Based Organizations (CBOs), and eminent citizens. The GRC must have at least two women members.

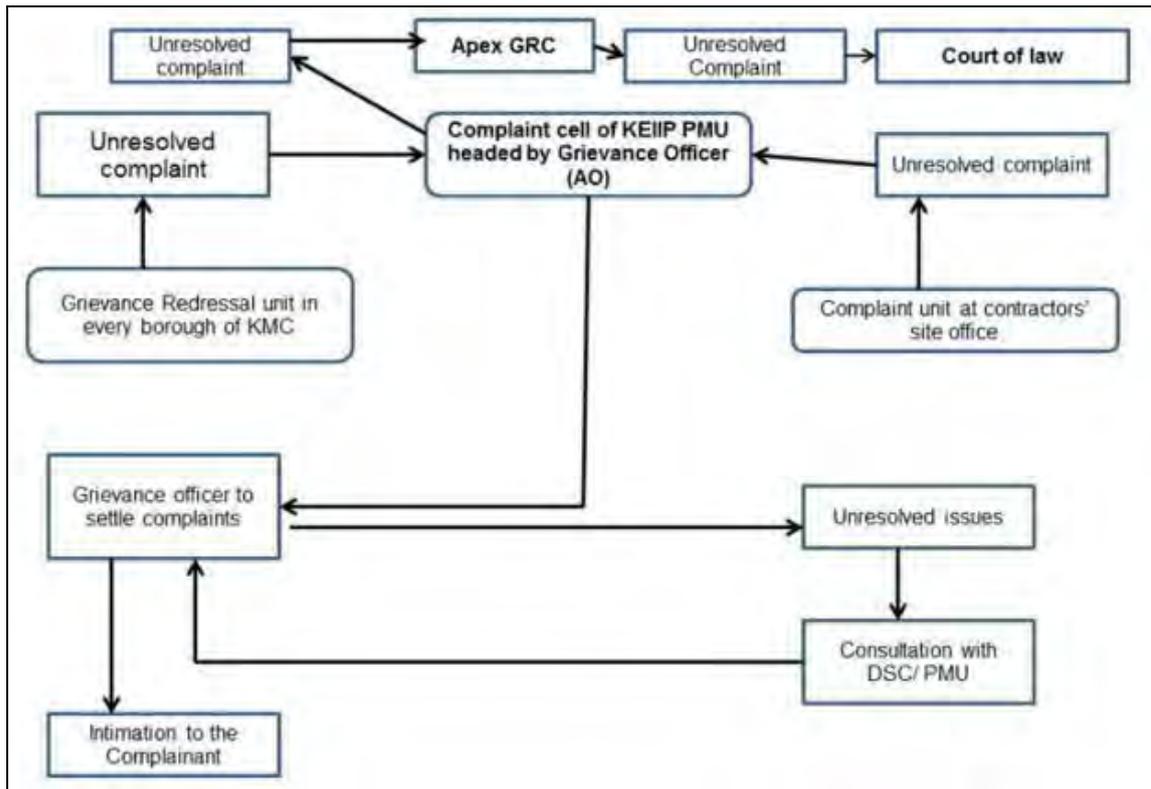


Figure 13: Grievance Redress Mechanism

Table 14: Grievance recorded and resolved in different packages of Tranche -2 during January to June 2019

Package Number	Issues registered / recorded	Status of the issues registered / recorded
SD 09	Access problem, disposal of surplus earth, damage in house service connection.	Issues resolved immediately, verified by DSC.
SD 12	Spoil spillage on road, loud sound during piling work at night, access problem,	Issues resolved immediately, verified by DSC.
SD 13	Road restoration, disposal of surplus earth, access problem.	Issues resolved immediately, verified by DSC.
SD 14	Access problem, disposal of surplus earth, damage in house service connection.	Issues resolved immediately, verified by DSC.
SD 19	Access problem, disposal of surplus earth, damage in drinking water line.	Issues resolved immediately, verified by DSC.

WS 17B	Restoration of water supply line, repair of potholes, road restoration.	Issues resolved immediately, verified by DSC.
WS 16	Restoration of water supply line, road restoration.	Issues resolved immediately, verified by DSC.
SD 22	Spoil spillage, access problem, disposal of surplus earth.	Issues resolved immediately, verified by DSC.
WS 24	Dust generation, storage of construction materials	Issues resolved immediately, verified by DSC.

VIII FINDINGS AND RECOMMENDATIONS

57. Field activity of the sub-project has started at most of the locations. Up to June 30th 2019 contractors have done good progress in all subprojects and in some area considerable progress has been reported. Provisions in the EMP are implemented in all the subproject. Within this reporting period (January to June 2019), no major environmental health and safety issues and problems have been encountered with, at the sub project locations.

58. Based on the foregoing observations, findings and environmental monitoring carried out from January to June 2019, it may be concluded that KEIIP Tranche 2 sub projects have been implemented in almost full compliance of the required environmental safeguards. Some time minor, localised and short duration non-compliances in some work sites of a few packages during this period was observed and pointed out to contractor by DSC Environment team and the issues were rectified in short time.

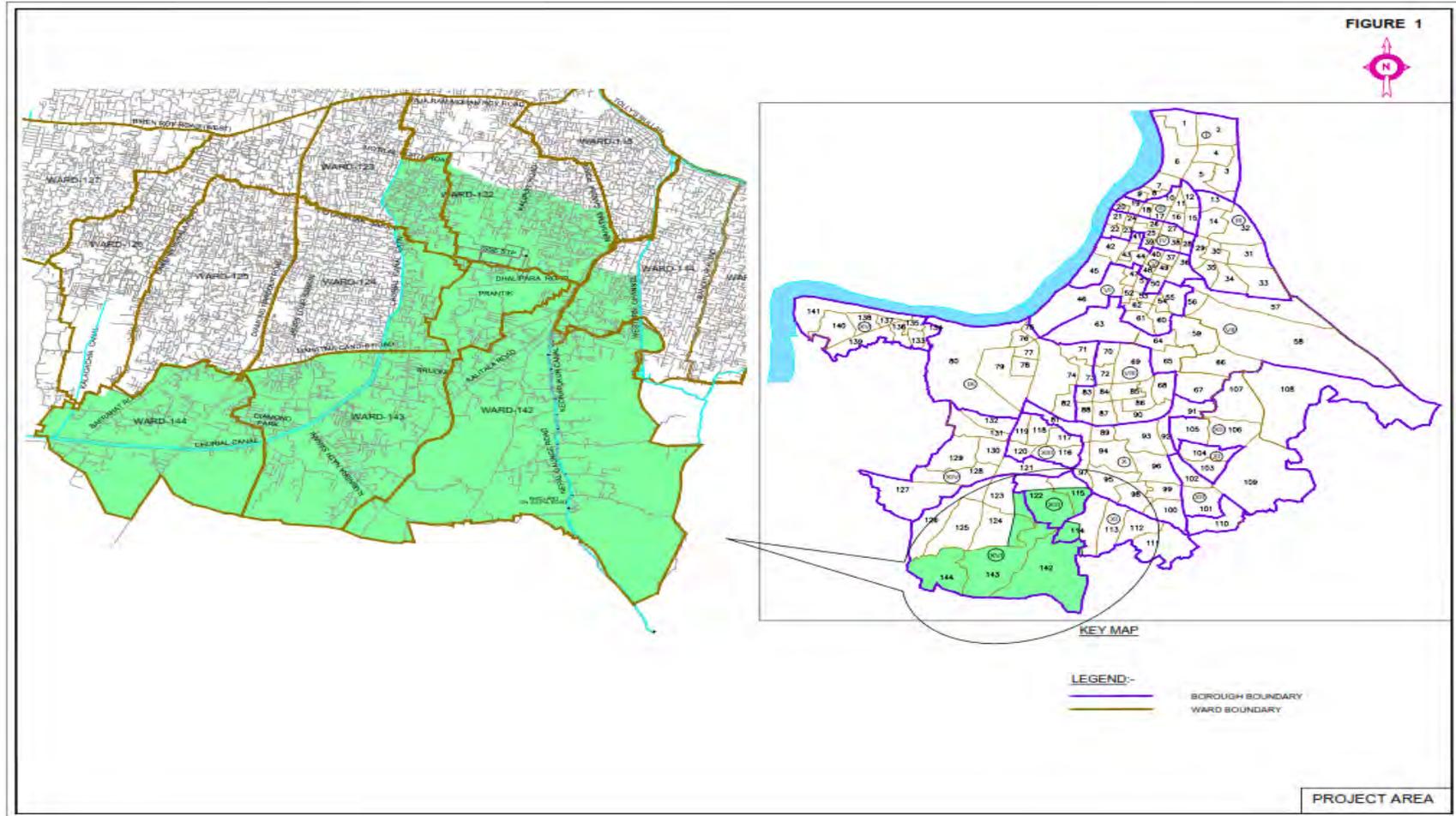
59. **Table 15** provides the recommended corrective action plan that has been devised and target dates that have been set so as to remove these non-compliances. The concerned Contractors have been suitably advised. Contractors have also been advised to provide written commitment for implementation of corrective action plan.

Table 15: Corrective Action Plan

Sr. No.	Partial complied issues	Action Required	Responsible	Target Date	Indicator of Compliance
1	Application of EMP	Continue on regular basis	Contractor in association with PIU and DSC	Continuous process	Site observation and checking
2	Incomplete Use of PPEs (particularly working shoes/gumboots, hand gloves) by contractors' at different work locations	Complete use of PPEs, particularly use of working shoes, gumboots	Contractor	Immediate	Availability and use of PPE
3	Missing caution tape/barricade at few locations of running packages	Complete use of caution tape/ barricade at all working sites	Contractor	Immediate	Site observation and checking

Sr. No.	Partial complied issues	Action Required	Responsible	Target Date	Indicator of Compliance
4	Non Availability of emergency contact no. at display/ caution board placed at few work sites of running packages	Complete arrangement of display / caution board with all emergency contact no.	Contractor	Immediate	Site observation
5	Air pollution and increase in dust at few work sites of the running packages.	Immediate action to be taken like, water sprinkling, maintaining of stack height in Dg set, use of CPCB approved green DG set etc.	Contractor	Immediate	Monitoring result
8	Arrangement of labour camp/ rented house for contractor	Arrangement as per requirement	Contractor	Continuous process	Site observation and checking
9	Training to workers	Regular tool box training for labour. Safeguard orientation training for contractor	Contractor, PIU, DSC	Continue process	Record keeping and safeguard implementation
10	Renewal of Labour License	Continue on regular basis	Contractor, PIU, DSC	Continue process	Record keeping

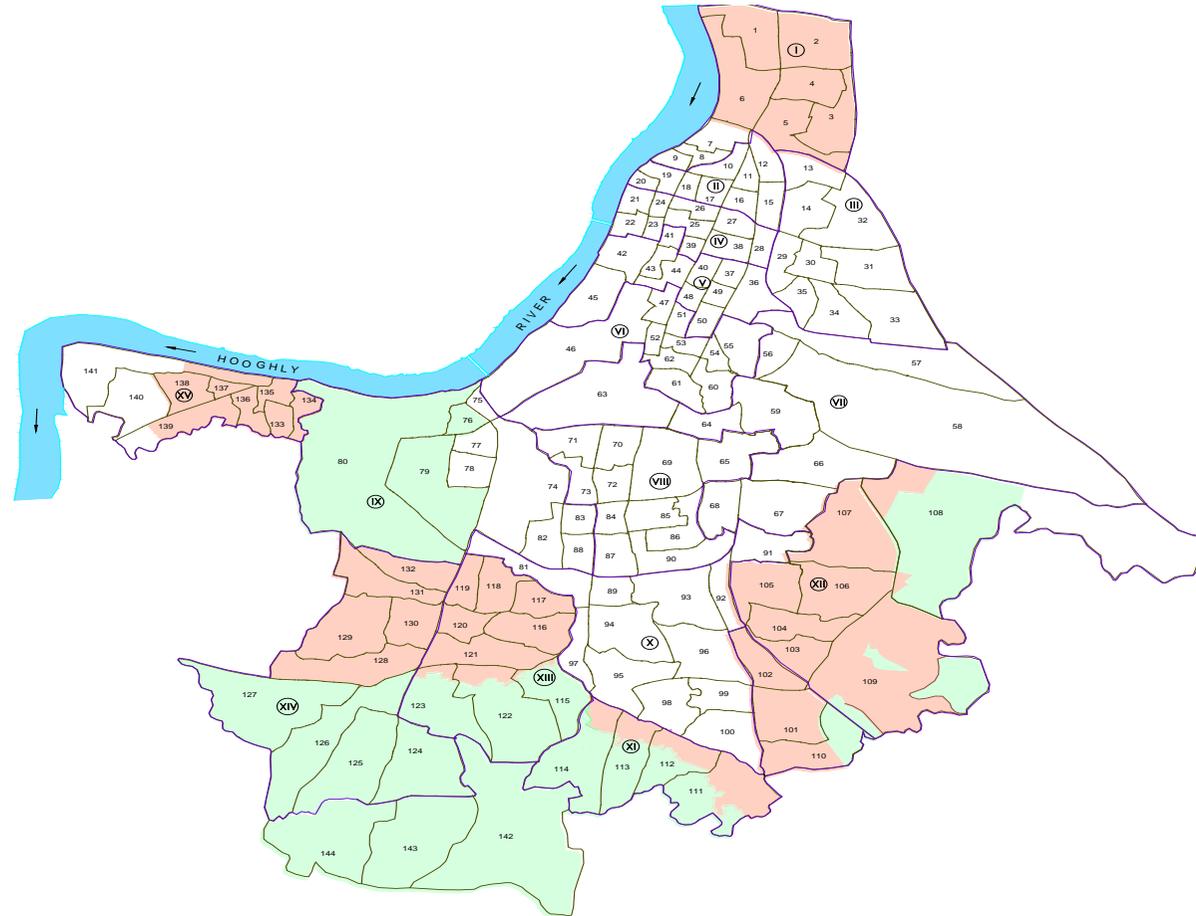
APPENDIX 1: LOCATION MAP PROJECT AREA



Water Supply Project Area

Sewerage and Drainage Project Area

- LEGEND-**
- BOROUGH BOUNDARY
 - WARD BOUNDARY
 - AREA TAKEN UP UNDER KEIP PHASE I
 - AREA TO BE CONSIDERED UNDER KEIP FOR S&D DEVELOPMENT



Appendix 2: Progress of Work



RCC pipe laying work in progress at Talbagan road by lane (SD 09)



Road restoration work in progress at Purba Putiary sani mandir road (SD 09)



Jack pushing in progress from JL03 to JL02 (SD 12)



Shoring work in progress at M.G. road (SD 13)



Work in progress at Prantik ESR (WS 15)



Pipe laying work in progress at MG road (Ws 16)



Pipe laying in progress at Sodepur K.K. road (WS 17 A)



Construction of Charaktala ESR in progress (WS 18)



Construction of Malpara ESR in progress (WS 18)



Pipe laying work in progress at Nabaliya Para road to Janakalyan road (WS 24)



Shoring work done at Sanjib Pally (SD 14)



Wet well casting in progress at Kudghat PS (SD 19)



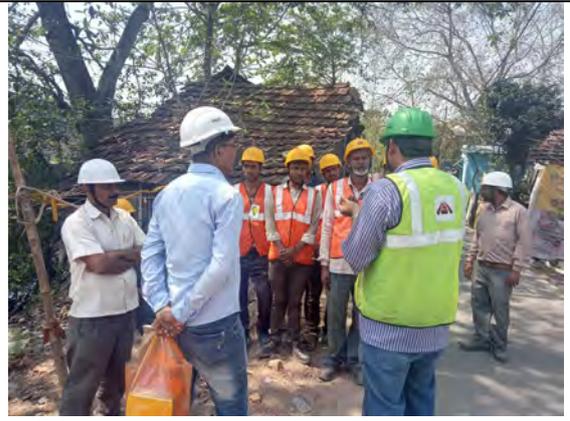
Pipe Laying work at Churial Canal Extension (SD 22)



Pipe laying work in progress at Brick field road by open cut (SD 22)

Appendix 3: Training Conducted at Project Sites





Appendix 4: Environmental Monitoring at different project location





APPENDIX 5: GOOD PRACTICE ADOPTED AT DIFFERENT SITES





Appendix 6: Public Consultation at different project sites of Tranche - 2



Appendix 7: Contractors' Orientation Programme on ADB's Safeguard Policy and EMP implementation

Summary Sheet

Workshop on Safeguard Implementation Issues in KEIIP Project

Date: 24.01.19

Venue: Conference Room of KEIIP

A workshop on safeguard implementation issues in the project was organized by the DSC Environmental Safeguard Team (Tranche 2), KEIIP on 24.01.19. The program was attended by DG (project), Dy. Team Leader (DSC), Environmental Expert (PMU), contractor's project managers and safety officers from the respective packages, DSC's construction managers and experts, DSC's safeguard team members and PMU's safeguard team.

In the workshop following topic was discussed in detail:

- Implementation of EMP in the project
- Contractual obligations of contractor in EMP implementation in the project
- Some good and bad EHS practices in KEIIP project

In addition to these issues, contractor's safety officers were asked to make a short power point presentation on their own sites regarding:

Good practices adopted to minimise the EHs issues, spoil management, environmental monitoring, public consultation and existing safeguard issues which need DSC's intervention to mitigate.

The workshop ended with vote of thanks.



Summary Sheet

Workshop on ADB E-Learning Course

Date: 22.04.19

Venue: Conference Room of KEIIP

A workshop on ADB Safeguard Policy Statement 2009 (E-Learning Course) was organized by the DSC Environmental Safeguard Team (Tranche 2), KEIIP on 22.04.19. The program was attended by Team Leader (DSC), Dy. Team Leader (DSC), Environmental Expert (PMU), Team Leader (PMC) Contractor's safety officers from the all the packages and safeguard team members from DSC, PMC, and PMU.

In the workshop following topic was discussed in detail:

- ADB Environmental Safeguard Policy Statement
- ADB Social Safeguard Policy Statement
- Summary of different learning module from the course
- Implementation of Gender Action Plan in project

All the participants were provided with the link for safeguard e-learning course and was guided to learn the modules in the course. All the modules were also discussed and explained to the participants.

The workshop was successful and ended with vote of thanks.



Summary Sheet

Workshop on ADB Safeguard Policy Statement 2009

Date: 08.05.19

Venue: Conference Room of KEIIP

A workshop on ADB Safeguard Policy Statement 2009 was organized by the DSC Environmental Safeguard Team (Tranche 2), KEIIP on 08.05.19.

The program was chaired by Team Leader (DSC), and attended by the Engineers of Contract Management Unit (KEIIP), Environmental Expert (PMU), Construction Managers (DSC) of all the packages and safeguard team members from DSC, and PMU.

In the workshop following topic was discussed in detail:

- SPS (2009) & ADB Environmental Safeguard Policy Statement
- Implementation of EMP
- Environment Safeguard provisions in the contract packages
- Contractual obligations of KEIIP in safeguard implementation
- Contractual obligations of contractors in safeguard implementation

All the participants were provided with the link for safeguard e-learning course and were guided to learn the modules in the course. An interactive session on issues related to implementation of EHS & EMP in the project was also organised during the work shop.

The workshop was successful and ended with vote of thanks.



Appendix 8: Sample Grievance Redress Form

The **Kolkata Environmental Improvement Investment Program (KEIIP)** welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing ***(CONFIDENTIAL)*** above your name. Thank you.

Date		Place of registration			
Contact Information/Personal Details					
Name		Gender	Male Female	Age	
Home Address					
Village / Town					
District					
Phone no.					
E-mail					
Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
If – then mode:	
<ul style="list-style-type: none"> • Note/Letter • E-mail • Verbal/Telephonic 	
Reviewed by: (Names/Positions of Official(s) reviewing grievance)	
Action Taken:	
Whether Action Taken Disclosed:	<ul style="list-style-type: none"> • Yes • No
Means of Disclosure:	

GRIVENCE REDRESS REGISTAR GRIVENCES RECORD AND ACTION TAKEN

Sr. No.	Date	Name and Contact No. of Complainer	Type of Complain	Place	Status of Redress	Remarks