

Semi-Annual Environmental Monitoring Report

Project number: 42173-013

Period: January – June 2020
Submission Date: November 2020

BAN: Dhaka Environmentally Sustainable Water Supply Project – PART F

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Table W-24: Seasonal sampling results; 1st grab sample 28/12/2019

Seasonal Sample. Water quality field test parameters (Hourly sampling-1st grab sample)										
Date: 28-12-2019						Depth: 0.5 meter				
Time	Temp (°C)	pH	Salinity (‰)	Cond. (µS/cm)	TDS (mg/l)	DO (mg/l)	Turbidity (NTU)	Hardness mg/l	NH ₃ (mg/l)	Color Pt-Co
6AM	13.2	7.7	0.05	113	53.4	8.69	15.72	40	0.52	152
7AM	14.1	7.6	0.05	102.3	51.2	8.66	15.76	60	0.52	150
8AM	14.7	7.4	0.05	107.3	52.6	8.44	15.21	60	0.51	149
9AM	14.9	7.3	0.05	89.2	50.2	8.37	15.28	40	0.5	152
10AM	15.2	7.8	0.05	87.4	49.2	8.28	15.22	40	0.51	153
11AM	18.3	7.9	0.05	92.6	48.2	8.43	14.79	60	0.52	150
12PM	19.8	7.2	0.05	88.4	40.2	8.27	14.76	40	0.53	148
1PM	19.7	7.8	0.05	90.4	53.2	8.11	16.72	40	0.52	145
2PM	18.8	7.2	0.05	103.4	51.6	8.15	16.27	60	0.52	150
3PM	18.3	8.4	0.05	101.4	55.2	8.47	16.82	40	0.5	151
4PM	18.4	7.9	0.05	87.6	53.4	8.52	16.02	60	0.53	149
5PM	18.6	7.3	0.05	88.4	54.3	8.43	15.79	40	0.52	147
6PM	17.6	7.5	0.05	92.6	54.3	8.48	15.76	60	0.51	150

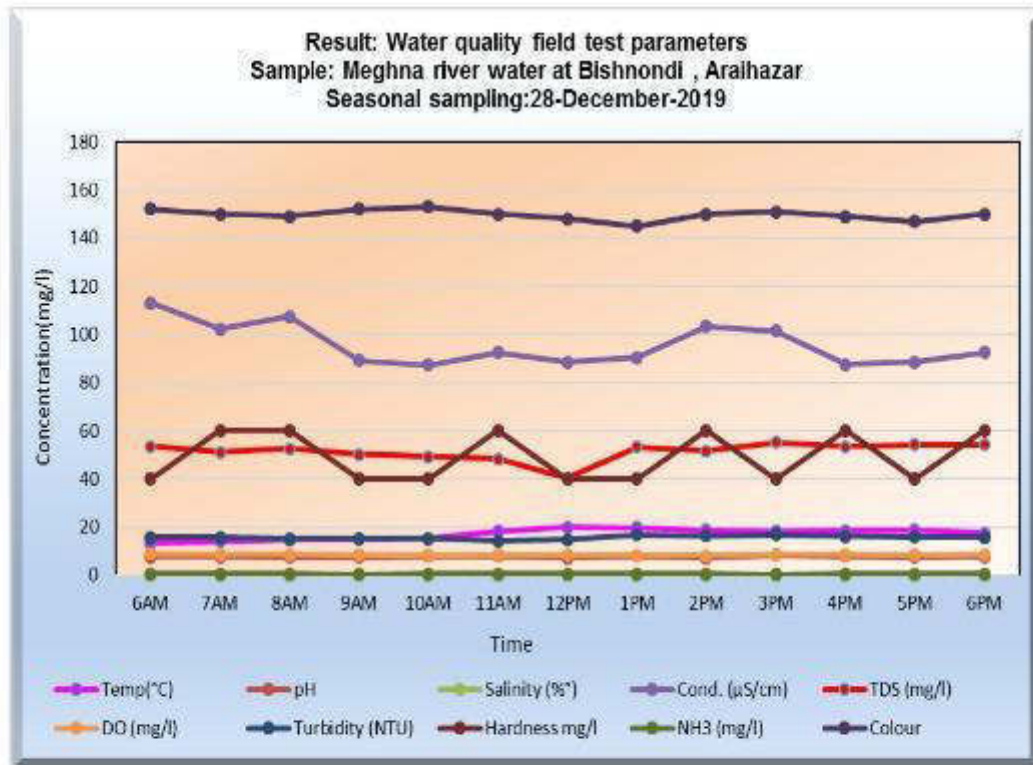


Figure A.24 Seasonal sampling results; 1st grab sample 28/12/2019



Table W-25: Seasonal sampling results; 2nd grab sample 28/12/2019

Seasonal Sample. Water quality field test parameters (Hourly sampling-2nd grab sample)										
Date: 28-12-2019						Depth: 4 meter				
Time	Temp(°C)	pH	Salinity (%)	Cond. (µS/cm)	TDS (mg/l)	DO (mg/l)	Turbidity (NTU)	Hardness (mg/l)	NH3 (mg/l)	Color (Pt-Co)
6AM	13.1	7.4	0.05	103.3	48.7	8.78	17.78	40	0.48	145
7AM	13.7	7.6	0.05	103.4	49.8	8.83	16.48	40	0.49	142
8AM	13.9	7.6	0.05	104.4	47.8	8.66	15.82	40	0.45	146
9AM	14.2	7.3	0.05	104.2	42.7	8.42	17.72	50	0.47	145
10AM	16.2	7.5	0.05	104.6	49.8	8.19	17.72	50	0.48	140
11AM	16.8	7.4	0.05	104.9	50.4	8.63	18.84	50	0.49	148
12PM	16.9	7.3	0.05	105.9	50	8.61	17.98	50	0.48	145
1PM	17	7.2	0.05	104.3	49.9	8.9	18.33	50	0.47	143
2PM	18.2	7.9	0.05	92.3	51.2	8.84	19.43	80	0.5	141
3PM	18.8	7.9	0.05	107.7	51.8	8.72	21.6	50	0.46	145
4PM	19.8	7.8	0.05	108.3	49	8.88	20.56	50	0.48	146
5PM	19.4	7.8	0.05	104.4	44.8	8.84	19.98	50	0.47	147
6PM	19.6	7.2	0.05	102.2	49.7	8.66	19.99	50	0.48	143

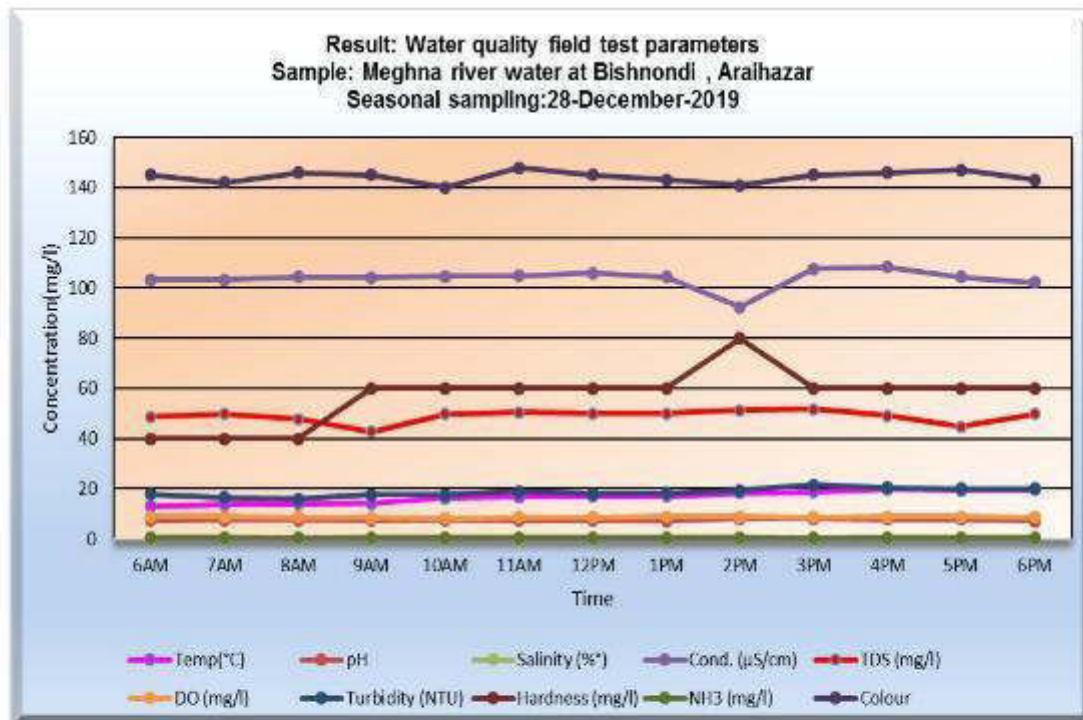


Figure A.25 Seasonal sampling results; 2nd grab sample 28/12/2019



Table W-26: Seasonal sampling results; 3rd grab sample 28/12/2019

Seasonal Sample. Water quality field test parameters (Hourly sampling-3rd grab sample)										
Date: 28-12-2019						Depth: 8meter				
Time	Temp (°C)	pH	Salinity (%)	Cond. (µS/cm)	TDS (mg/l)	DO (mg/l)	Turbidity (NTU)	Hardness mg/l	NH ₃ (mg/l)	Color (Pt-Co)
6AM	12.2	7.4	0.05	103.2	50.2	8.2	17.77	40	0.45	138
7AM	12.7	7.8	0.05	104.2	50.3	8.33	16.22	40	0.42	140
8AM	13.2	8.2	0.05	103.1	49.8	8.29	15.42	60	0.43	135
9AM	13.9	8.4	0.05	105.8	48.7	8.57	16.82	60	0.45	137
10AM	15.4	7.7	0.05	106.7	48.7	8.76	16.72	60	0.46	135
11AM	15.9	7.6	0.05	106.2	50.3	8.68	13.22	60	0.45	138
12PM	16.1	7.5	0.05	106.8	44.2	8.58	12.44	60	0.4	142
1PM	16.4	7.9	0.05	107.2	51.2	8.49	12.53	60	0.44	136
2PM	16.9	7.9	0.05	101.3	50.2	8.84	17.77	40	0.47	137
3PM	17.7	7.8	0.05	105.8	58.3	8.72	17.78	60	0.45	139
4PM	18.6	7.2	0.05	106.8	47	8.16	17.72	60	0.45	141
5PM	18.7	7.4	0.05	108.8	47.9	8.29	16.68	60	0.43	132
6PM	18.7	7.4	0.05	108.2	50.1	8.34	15.52	60	0.44	139

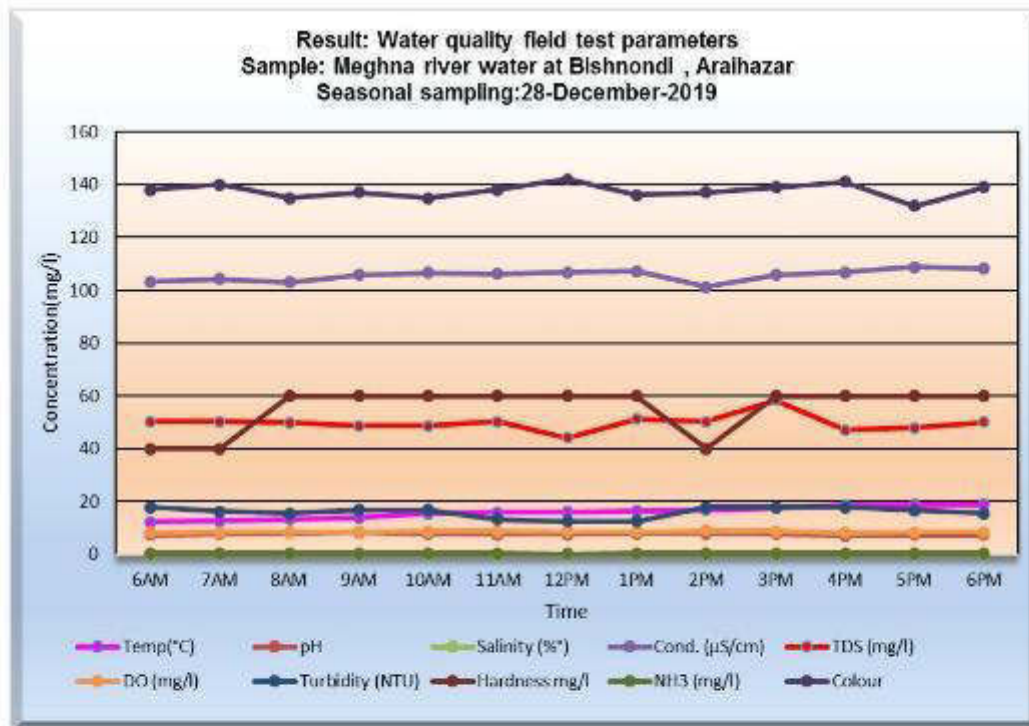


Figure A.26 Seasonal sampling results; 3rd grab sample 28/12/2019



Table W-27: Seasonal sampling results; composite sample 28/12/2019

Water quality field test parameters (Hourly sampling- Composite sample)										
Date: 28-12-2019					Depth= [Sample-1: 0.5m+Sample-2:4m+Sample-3: 8m]					
Time	Temp(°C)	pH	Salinity (% ^o)	Cond. (µS/cm)	TDS (mg/l)	DO (mg/l)	Turbidity (NTU)	Hardness mg/l	NH ₃ (mg/l)	Color (Pt-Co)
6AM	13.1	7.4	0.05	106.5	50.7	8.55	17.28	40	0.49	146
7AM	13.4	7.6	0.05	103.7	50.2	8.6	16.2	40	0.45	142
8AM	13.7	7.7	0.05	104.9	50	8.42	15.44	60	0.46	139
9AM	14.3	7.8	0.05	101.2	47.7	8.42	16.52	60	0.5	140
10AM	15.2	7.6	0.05	102.2	48.4	8.35	15.54	60	0.49	143
11AM	16.8	7.6	0.05	104.5	49.8	8.52	15.41	60	0.46	140
12PM	17.2	7.2	0.05	101.6	49.6	8.48	14.92	40	0.45	146
1PM	17.8	7.6	0.05	102.7	44.2	8.44	15.64	60	0.47	138
2PM	17.6	7.8	0.05	99.8	51.3	8.58	17.82	60	0.51	139
3PM	18.1	8.1	0.05	104.6	21	8.72	19.28	40	0.47	141
4PM	18.8	7.6	0.05	104.4	52	8.64	17.78	60	0.43	140
5PM	18.7	7.4	0.05	102.2	49.4	8.51	17.44	60	0.44	139
6PM	18.5	7.4	0.05	101.2	51.1	8.42	18.82	60	0.5	145

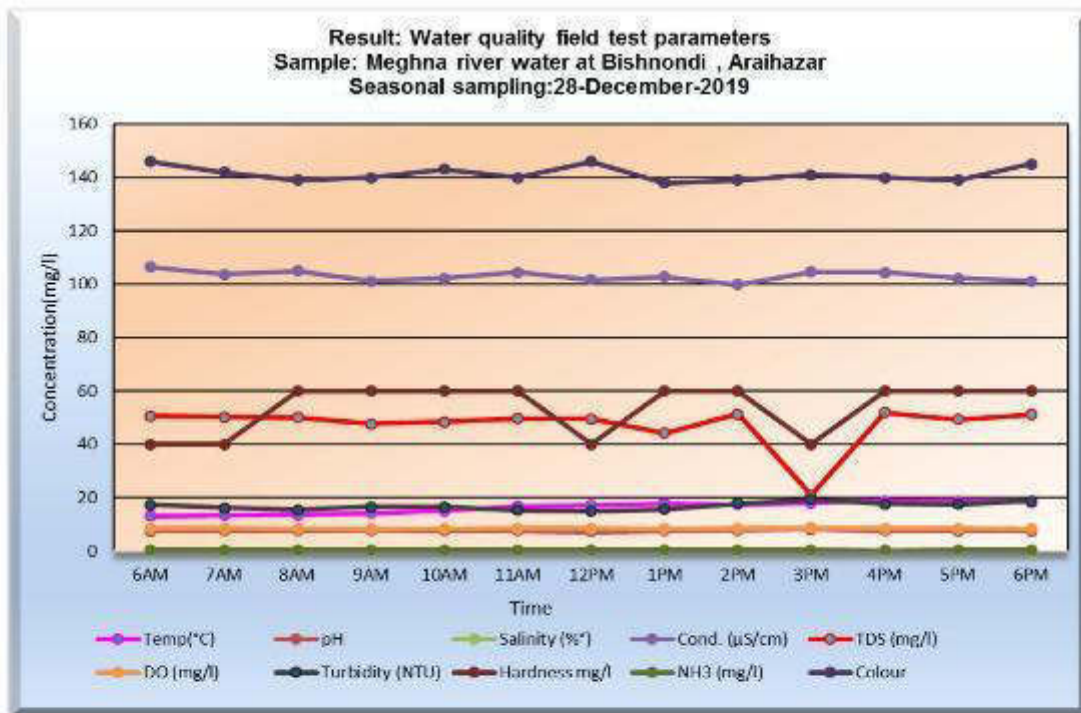




Figure A.27 Seasonal sampling results; composite sample 28/12/2019

J. Waste Management (Hazardous and Non-Hazardous Waste)



ENVIRONMENTAL STATUS WASTE DISPOSAL LOG

		DESIGN AND BUILD OF INTAKE, RAW WATER PIPELINE, AND 500 MLD WATER TREATMENT PLANT AT GANDHARBPUR UNDER DHAKA ENVIRONMENTALLY SUSTAINABLE WATER SUPPLY PROJECT (DESWSP)								
		WASTE DISPOSAL RECORD						H-00164-02T-46-DWT-PM-0004A Date: 01-Jun-2020 Rev: 005		
S.N.	COMPANY	DATE OF ISSUE	WASTE COLLECTED FROM	MANIFEST NO.	VEHICLE NO.	WASTE TYPE	DESCRIPTION OF WASTE	QUANTITY		WASTE DISPOSAL LOCATION
								KG	L	
1	Abdullah Trade International	03 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	50.00	0	Municipality designated zone
2	Abdullah Trade International	04 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	60.00	0	Municipality designated zone
3	Abdullah Trade International	05 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	40.00	0	Municipality designated zone
4	Abdullah Trade International	06 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	50.00	0	Municipality designated zone
5	Abdullah Trade International	07 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	70.00	0	Municipality designated zone
6	Abdullah Trade International	08 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	60.00	0	Municipality designated zone
7	Abdullah Trade International	09 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	30.00	0	Municipality designated zone
8	Abdullah Trade International	10 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	40.00	0	Municipality designated zone
9								0.00	0	
10								0.00	0	
TOTAL KG/L								400.00	0	

Recorded By: Yang Xiaocang
 Designation: BSC Manager

Signature: [Signature]
 Date: 10 June 2020



ENVIRONMENTAL STATUS WASTE DISPOSAL LOG

		DESIGN AND BUILD OF INTAKE, RAW WATER PIPELINE, AND 500 MLD WATER TREATMENT PLANT AT GANDHARBPUR UNDER DHAKA ENVIRONMENTALLY SUSTAINABLE WATER SUPPLY PROJECT (DESWSP)								
		WASTE DISPOSAL RECORD						H-00164-02T-46-DWT-PM-0004A Date: 01-Jun-2020 Rev: 005		
S.N.	COMPANY	DATE OF ISSUE	WASTE COLLECTED FROM	MANIFEST NO.	VEHICLE NO.	WASTE TYPE	DESCRIPTION OF WASTE	QUANTITY		WASTE DISPOSAL LOCATION
								KG	L	
1	Abdullah Trade International	27-May-20	Dormitory Bin's	NA	GT-04	food waste	General food waste	50.000	0	Municipality designated zone
2	Abdullah Trade International	28-May-20	Dormitory Bin's	NA	GT-04	food waste	General food waste	60.000	0	Municipality designated zone
3	Abdullah Trade International	29-May-20	Dormitory Bin's	NA	GT-04	food waste	General food waste	70.000	0	Municipality designated zone
4	Abdullah Trade International	30-May-20	Dormitory Bin's	NA	GT-04	food waste	General food waste	60.000	0	Municipality designated zone
5	Abdullah Trade International	31-May-20	Dormitory Bin's	NA	GT-04	food waste	General food waste	50.000	0	Municipality designated zone
6	Abdullah Trade International	01-Jun-20	Dormitory Bin's	NA	GT-04	food waste	General food waste	50.000	0	Municipality designated zone
7	Abdullah Trade International	02-Jun-20	Dormitory Bin's	NA	GT-04	food waste	General food waste	60.000	0	Municipality designated zone
8	Abdullah Trade International	03-Jun-20	Dormitory Bin's	NA	GT-04	food waste	General food waste	40.000	0	Municipality designated zone
9								0.000	0	
10								0.000	0	
TOTAL KG/L								440.00	0	

Recorded By: Yang Xiaocang
 Designation: BSC Manager

Signature: [Signature]
 Date: 03-June-2020


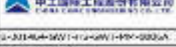
ENVIRONMENTAL STATUS WASTE DISPOSAL LOG

		DESIGN AND BUILD OF INTAKE, RAW WATER PIPELINE, AND 500 MLD WATER TREATMENT PLANT AT GANDHARBPUR UNDER DHAKA ENVIRONMENTALLY SUSTAINABLE WATER SUPPLY PROJECT (DESWSP)						 2-201404-001/1-10-001/1-00-00004 Date: 30-Jun-2020 Rev: 005		
WASTE DISPOSAL RECORD										
S.N.	COMPANY	DATE OF ISSUE	WASTE COLLECTED FROM	MANIFEST NO.	VEHICLE NO.	WASTE TYPE	DESCRIPTION OF WASTE	QUANTITY		WASTE DISPOSAL LOCATION
								KG	L	
1	Abdullah Trade International	18 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	60.00	0	Municipality designated zone
2	Abdullah Trade International	19 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	55.00	0	Municipality designated zone
3	Abdullah Trade International	20 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	85.00	0	Municipality designated zone
4	Abdullah Trade International	21 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	70.00	0	Municipality designated zone
5	Abdullah Trade International	22 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	80.00	0	Municipality designated zone
6	Abdullah Trade International	23 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	50.00	0	Municipality designated zone
7	Abdullah Trade International	24 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	70.00	0	Municipality designated zone
TOTAL KG/L								470.00	0	

Recorded By: Arwan Hossain
 Designation: ISE Engineer

Signature: 
 Date: 24-June-2020

ENVIRONMENTAL STATUS WASTE DISPOSAL LOG

		DESIGN AND BUILD OF INTAKE, RAW WATER PIPELINE, AND 500 MLD WATER TREATMENT PLANT AT GANDHARBPUR UNDER DHAKA ENVIRONMENTALLY SUSTAINABLE WATER SUPPLY PROJECT (DESWSP)						 2-201404-001/1-10-001/1-00-00004 Date: 30-Jun-2020 Rev: 005		
WASTE DISPOSAL RECORD										
S.N.	COMPANY	DATE OF ISSUE	WASTE COLLECTED FROM	MANIFEST NO.	VEHICLE NO.	WASTE TYPE	DESCRIPTION OF WASTE	QUANTITY		WASTE DISPOSAL LOCATION
								KG	L	
1	Abdullah Trade International	11 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	75.00	0	Municipality designated zone
2	Abdullah Trade International	12 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	60.00	0	Municipality designated zone
3	Abdullah Trade International	13 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	50.00	0	Municipality designated zone
4	Abdullah Trade International	14 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	70.00	0	Municipality designated zone
5	Abdullah Trade International	15 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	60.00	0	Municipality designated zone
6	Abdullah Trade International	16 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	50.00	0	Municipality designated zone
7	Abdullah Trade International	17 June 2020	Dormitory Bin's	NA	GT-04	food waste	General food waste	80.00	0	Municipality designated zone
TOTAL KG/L								445.00	0	

Recorded By: Tong Xiaohua
 Designation: ISE Manager

Signature: 
 Date: 17-June-2020

ENVIRONMENTAL STATUS WASTE DISPOSAL LOG

 <small>M M DWASA</small> <small>Gandharbpur Water Treatment SMC</small> <small>SURE DIV VESDA</small>		DESIGN AND BUILD OF INTAKE, RAW WATER PIPELINE, AND 500 MLD WATER TREATMENT PLANT AT GANDHARPUR UNDER DHAKA ENVIRONMENTALLY SUSTAINABLE WATER SUPPLY PROJECT (DESWP)						 <small>D-001464-GWT-1S-GWT-MH-0000</small> <small>Date: 20-Jan-2020</small> <small>Rev. 005</small>			
HAZARDOUS WASTE DISPOSAL RECORD											
S.N.	COMPANY	DATE OF ISSUE	WASTE COLLECTED FROM	MANIFEST NO.	VEHICLE NO.	WASTE TYPE	DESCRIPTION OF WASTE	QUANTITY		WASTE DISPOSAL LOCATION	STATUS
								KG	L		
1	Menard	26-May-20	Mechanical yard	NA	NA	Flammable waste	Waste Cooling Water	0.000	150 L	Sell to the third party contractor	Done
2	Menard	27-May-20	Office Yard	NA	NA	Flammable waste	Waste Hydraulic	0.000	90 L	Sell to the third party contractor	Done
3	Menard	28-May-20	Mechanical yard	NA	NA	Flammable waste	Waste Mobil	0.000	100 L	Sell to the third party contractor	Done
4	Menard	29-May-20	-	-	-	-	-	-	-	-	Friday
5	Menard	30-May-20	Mechanical yard	NA	NA	Flammable waste	Waste Diesel	0.000	130 L	Sell to the third party contractor	Done
6	Menard	31-May-20	Production area	NA	NA	Flammable waste	Waste Mobil	0.000	140 L	Sell to the third party contractor	Done
TOTAL KG/L								0.00	630 L		

Record By: *Mohammad Subhan* *Name* *HSE officer* *Designation* *[Signature]* *Signature* *31/05/2020* *Date*
Checked By: *Wahid Mohammad* *Name* *HSE manager* *Designation* *[Signature]* *Signature* *31/05/2020* *Date*

ENVIRONMENTAL STATUS WASTE DISPOSAL LOG

 <small>M M DWASA</small> <small>Gandharbpur Water Treatment SMC</small> <small>SURE DIV VESDA</small>		DESIGN AND BUILD OF INTAKE, RAW WATER PIPELINE, AND 500 MLD WATER TREATMENT PLANT AT GANDHARPUR UNDER DHAKA ENVIRONMENTALLY SUSTAINABLE WATER SUPPLY PROJECT (DESWP)						 <small>D-001464-GWT-1S-GWT-MH-0000A</small> <small>Date: 20-Jan-2020</small> <small>Rev. 005</small>		
WASTE DISPOSAL RECORD										
S.N.	COMPANY	DATE OF ISSUE	WASTE COLLECTED FROM	MANIFEST NO.	VEHICLE NO.	WASTE TYPE	DESCRIPTION OF WASTE	QUANTITY		WASTE DISPOSAL LOCATION
								KG	L	
1	Menard	26-May-20	Menard Office Yard	NA	NA	General Waste	Waste Metal	200 kg	-	Sell to the third party contractor
2	Menard	27-May-20	WTP Production area	NA	NA	General Waste	Waste Steel, Rebar	150 kg	-	Sell to the third party contractor
3	Menard	28-May-20	Menard Diesel storage area	NA	NA	General Waste	Waste Rebar	1000 kg	-	Sell to the third party contractor
4	Menard	29-May-20	-	-	-	-	-	-	-	Friday
5	Menard	30-May-20	Office Yard	NA	NA	General Waste	Waste Steel	200 kg	-	Sell to the third party contractor
TOTAL KG/L								5,750 Kg	0	

Record By: *Mohammad Subhan* *Name* *HSE officer* *Designation* *[Signature]* *Signature* *31/05/2020* *Date*
Checked By: *Wahid Mohammad* *Name* *HSE manager* *Designation* *[Signature]* *Signature* *31/05/2020* *Date*

K. Site specific Environmental Management Plans for P1

EMPLOYER					
 Dhaka Water Supply and Sewerage Authority					
PROJECT NAME					
Design and Build of Intake, Raw Water Pipeline, and 500 MLD Water Treatment Plant at Gandharbpur under Dhaka Environmentally Sustainable Water Supply Project (DESWSP)					
OWNER ENGINEER					
					
CONTRACTOR					
  <i>A Joint Venture of SUEZ INTERNATIONAL & OTV-VEOLIA</i>					
DOCUMENT TITLE					
<p align="center">SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN</p> <p align="center">INTAKE SITE</p>					
C	19/06/2020	3 rd Issue with inclusion of comments on COVID-19 Prevention Guidelines	NUC	RSA	RSA

B	09/06/2020	2 nd Issue with inclusion of COVID-19 Prevention Guidelines	NUC	RSA	RSA
A	21/02/2020	1 st Issue following the specific pattern of Mott's EMP	NUC	RSA	RSA
Rev	Date	Revision Description	Drawn Up By	Checked By	Approved By
Document Number				Revision	* Document Status
B-001464-GWT-EN-G00-MP-0012				C	IFA
Format:	* Key words for document status:				ALL RIGHTS RESERVED FOR ALL COUNTRIES
A4	IFI : Issued for Information	IFA : Issued for Approval	INT : Internal	CAN : Cancelled	RFQ: Ready for Quotation
	IFR : Issued for Review	IFC : Issued for Construction	ASB : As Built	SUP : Superseded	RFP: Ready for Purchase

This document is confidential and shall be used only for the purpose on the Gandharbpur

XIV. Introduction to content & Purpose of this document

The Dhaka Environmentally Sustainable water Supply Project (DESWSP) is aimed at improving the public health and environment for about 17 million people living in Dhaka City¹ through safe and reliable water supply facilities. Based on the submission made by the Government of Bangladesh (GOB) and as appraised by the Asian Development Bank (ADB), there are 3 Packages covering from Bishnandi-Intake site in Meghna River to Dhaka City where there is an urgent need for water supply improvements. The Project will help the Government provide the required institutional and management support to the DWASA under the Ministry of Local Government, Rural Development and Co-operatives (MLGRDC).

XV.Revision Change Record

Revision	Revision Date	Status	List of updated sections	Reason for update
A	21/02/2020		From page 1 to page 29	1 st Issue following the specific pattern of Mott's EMP

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B	09/06/2020		New section on COVID-19 added from 30 till the end of the document	Mandatory requirement from Mott McDonald to include COVID-19 Prevention Guidelines
C	19/06/2020		Page 30 to page 38	3rd Issue with inclusion of comments on COVID-19 Prevention Guidelines

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	• Compensation		
	• Sustainability measures:		
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- Safety Precautions
- Workplace Safety Practices
- Hygienic Practices
- Cleaning and Disinfection of Facilities
- Transportation
- General Symptoms of COVID-19
- Reporting
- FIG. 1: COVID CASE HANDLING Flow Chart
- FIG.2: Prevention Recommendations
- SELF Declaration FORM
- Summary
- 10 COVID-19 Sanitary Rules

1. PROJECT DESCRIPTION

The overall proposed project has six project components. Among those, components 1 to 3 falls under package-1, component 5 under Package 2 and component 6 under Package 3. This EMP is focused on Package 1 which is being executed by GWTSNC. The components are as follows:

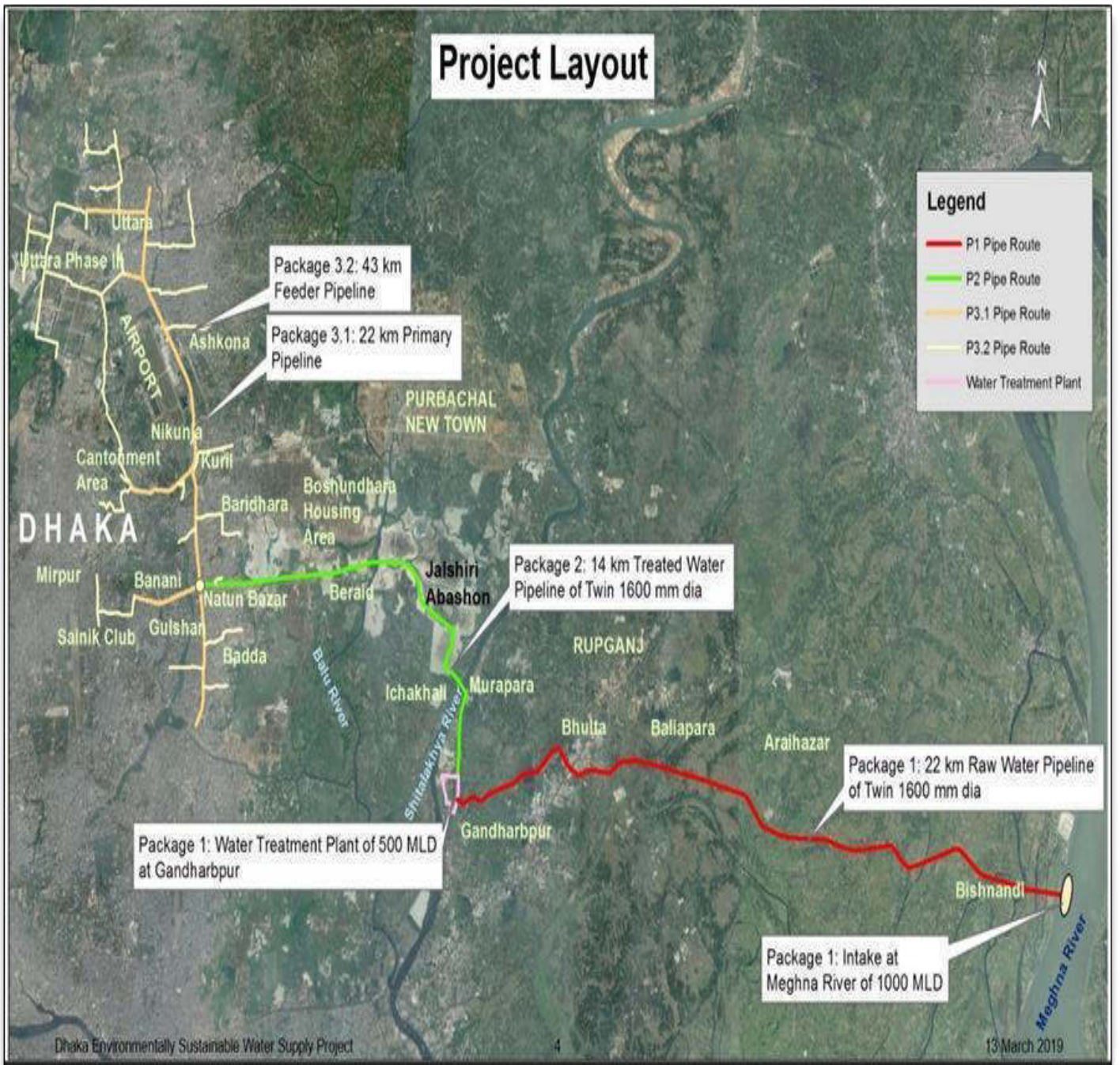


Figure 1: Project Layout Plan

Table 1: Project components / construction sites

Co. Sl.	Package	Component name	Infrastructure	Contract Package

1		Intake structures	Total Capacity: 1,050 MLD Equipment Capacity: 500 MLD	Design-build contract
2		Raw water Transmission main from Intake to Gandharbpur WTP	17.2 km: Intake to Shezan Juice Factory 4.5 km: Shezan Juice Factory to Gandharbpur WTP	Design-build contract
3		Water treatment plant at Gandharbpur	Capacity: 500 MLD at Gandharbpur	Design-build contract

Source: Updated EIA, DESWSP, Enviroconsult, April 2018

2. ENVIRONMENTAL MONITORING

Dhaka Water Supply and Sewerage Authority (DWASA) is the implementing agency (IA), which is responsible for administration, implementation, through its PMU, carries overall responsibility for engineering and environmental compliance of works aim to performed under the DESWSP Project – Additional environmental financing and to meet this responsibility provides day-to-day environmental supervision of the project implementation. According to the requirements of the national legislation, and ADB Procurement Policy, DWASA/PIU hired a consultant to provide technical supervision of works, including environmental supervision (Mott MacDonald LTD as MDSC). DWASA's environmental specialist oversees performance of the Contractor (Now GWTSNC for Package 1) for the purpose of quality assurance, which implies review of Contractor's monthly reports and validation of the provided information through periodic site-specific field visits of MDSC and DWASA environmental specialists.

The new DESWSP (the Project) is included in the country operational business plan and it strongly supports the Government's objective of human development by providing better access to safe, reliable, and sustainable water supply which will improve the lives of households in Dhaka City (under Packages 1, 2 and 3) in Bangladesh.

The outcome of the Project is improved access to safe, reliable, and sustainable water supply service managed on commercial principles and environmentally sound practices. The Project will first focus on optimizing the operation of existing infrastructure and maximizing the operating efficiency of water supply service system, followed by constructing new infrastructure. The Project will improve public health and environment for people (households and other consumers) living in Dhaka City.

Monitoring during construction shall include noise and vibration measurement based on the risk assessment that determines the final SSEMP or on the basis of any complaint. Implementation of

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the SSEMP will be monitored by inspection on an ongoing basis by the MDSC and audited by the PIU of DWASA Environmental Specialist.

Field visit checklist will be used for monitoring. Environmental impact mitigation measures implementation would be strongly supervised for all abovementioned contracts during construction implementation period. No omissions or violations of environmental standards and norms would be allowed.

Monitoring during the operating phase will be conducted as per advice of the EMP of April 2018. Environmental Monitoring and Mitigation Measures are provided in Table 6.

3. ENVIRONMENTAL MANAGEMENT

Construction works will tentatively commence on April 2019. Site inspections and random visits will be organized during construction period for Package 1. Average number of visits to each construction site per month will be determined by EMP of 2018. The compliance of environmental impact mitigation measures during construction works will be supervised by the Environmental specialists of MDSC in association with PMU Environment and safety Officer as well as GWTSNC monitoring over its subcontractors' performance.

In general, during site visits, negative environmental impacts will be registered. Some omissions and negligence on safety will be identified during randomly visits. Particularly for mobilization period main problems needs to be identified as: construction site organization in proper way /illumination, fencing, signboards, construction site pollution by construction and domestic wastes, safety signs installation. Respectively verbal notifications will be provided to contractors and technical supervisors. During regular staff meetings with contractor's issues on mandatory implementation of environmental impact and safety mitigation measures will be discussed. Corrective action plans will be developed, once monitoring reports are prepared during construction period. Quarterly Progress Reports (QPR) will be sent to project management on time. Separate part of safeguard compliance will be detailed indicating all issues concerning EMP updating and environmental impact mitigation measures implementation, public participation component, resettlement and gender points.

Further to note, the Environment Management Plan (EMP's) goal is to ensure that implementation of the DESWSP complies with both Bangladesh legislation and ADB environmental guidelines and standards. Specific auditable objectives of the EMP are listed in Table-1.

The EMP will be formulated using the following approach:

- **Impact avoidance:** Project design adjustment, construction and operation methods so as to avoid predicted negative impacts;
- **Impact minimization:** Where impacts cannot be avoided, implementing mitigation measures to reduce the impacts to insignificant levels;

- **Compensation:** Where residual impacts remain significant after mitigation, arranging compensation for example, temporary business loss for farmers, farmers affected by permanent and temporary loss of land for construction of Packages 1 under DESWSP, assets or livelihoods, or biodiversity offsets;
- **Sustainability measures:** Where certain actions are required to ensure the project's success or avoid significant risks, identifying these;
- **Enhancement:** Where additional actions could be taken giving high benefit at relatively low cost, identifying these.

During monitoring stage, the status of various parameters (Table-3) will be subject to measurement/quantification to compare with the values of Maximum Allowable Concentration (MAC) of pollutants present on land and in water.

Table 2 provides the objectives of SSEMP

Table-2 Objectives of SSEMP

Phase and Topic	Objective
Pre-construction Phase	
Design	Inclusion of all mitigation measures in final project design and budget
Tendering	Inclusion of recommended measures in tender documents for construction and construction supervision /operation.
Construction and Commissioning	
Physical	Minimized project impact during construction.
	Restoration of all land used temporarily to equal condition at end of construction.
Ecological	Avoid all spillage or disposal of toxic substances to water.
	Avoid any interruption of fish and other aquatic species migration by construction activities (Intake at Bisnandi in Meghna River and other wetlands/
	Maintain all wetlands in condition suitable for use by migratory birds throughout construction.
Social	Maximized local unskilled employment from this DESWSP Project area.
	Zero fatalities and serious accidents during construction, including from construction traffic.
	Zero increase in STD - HIV/AIDS transmission rates during construction.
	Zero unresolved complaints from local communities during construction. The community complains are important for the DESWSP construction where temporary adverse impacts are anticipated. However, after receiving any complain from the community people, the complaint type will be assessed and will be served as a way to meet requirements, prevent and address community concerns, reduce risk, and assist larger processes that create positive social change. The construction contractor supported by MDSC will employ social safeguard specialist exclusively to address grievances. As such, coordinated efforts will enable

	design and build more effective strategies for addressing community complains and grievances.
Operational Phase	
Physical	No major changes of surrounding topography a level at which crop yields are affected.
Ecological	No obstruction to fish and fisheries migration, improved habitat of native species at the rivers, canals.
	No significant reduction of water quality due to spillage runoff from the construction area.
Social	A major reduction in the incidence of common vector-borne and communicable diseases and an improvement in all other health indicators.
	No exclusion of women, and other vulnerable groups from project benefits. The proposed DESWSP construction will improve water supply, and enhance induced economic and social development objectives
	No use of child labor
Institutional	Effective, environmentally & socially sensitive operation of O&M contractor.

3.1. Air Quality:

i) Construction Phase: Construction works include site clearance, site formation, building works, infrastructure provision and any other infrastructure activities. The major temporary air pollution is dust generated as a result of these construction works. Sampling Parameters and Stations will be determined as per EIA of 2018 (parameters are: SPM, PM10, PM2.5, SO2, NOx, CO, O3).

ii) Operational Phase: The major permanent sources of air pollutants are sludge, effluents, vehicle emission from traffic on major roads and the air pollutants emitted from the vicinity of the industrial stationary sources of the Project area (parameters are: SPM, PM10, PM2.5, SO2, NOx, CO, O3).

Following Updated EIA of April 2018, 6 major location of the projected area will be under SSEMP activities. Six monitoring locations are Chaitankanda (Bishnandi), Shejan Point, Gandharbpur, Figure 1, and Table 1.

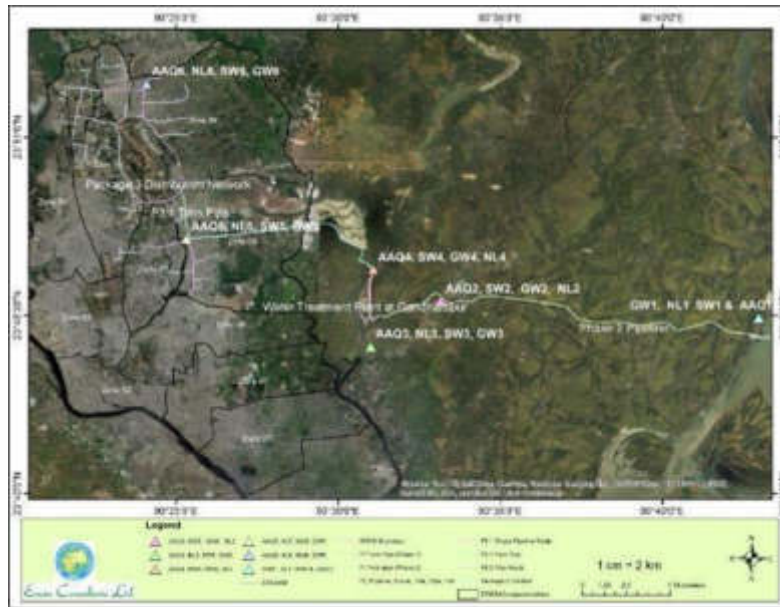


Figure 2 Environmental monitoring location of the projected area

Source: UEIA, April 2018

Table 3: Monitoring location of the projected area

ID	Monitoring Location	Map Content Name	Latitude DMS	Longitude DMS	Latitude DD	Longitude DD
1	Chaitankanda (Bishnandi)	GW1, NL1 SW1 & AAQ1	23° 45' 25.340" N	90°42' 58.075" E	23.75703 9	90.71613 2
2	Shejan Point	AAQ2, SW2, GW2, NL2	23° 45' 56.027" N	90° 33' 9.582" E	23.76556 3	90.55266 2
3	Gandharbpur	AAQ3, NL3, SW3, GW3	23° 44' 32.211" N	90° 31' 0.680" E	23.74228 1	90.51685 6

Source: UEIA, April 2018

3.2. Ambient Noise Levels

During Baseline study, noise levels were recorded at locations in the study area detailed in UEIA, will be monitored during DESWSP Package 1 implementation period as part of SSEMP requirement.

Noise levels will be recorded in the form of sound pressure levels with the help of a digital sound level meter. The details of noise monitoring locations are shown in Table 4 below. The purpose of ambient noise level measurement is to determine sound intensity at the monitoring locations. These locations were chosen in such a way that a representative data could be record all over

the project area. The sound level will be recorded in form of A-weighted equivalent continuous sound pressure level (Leq) values with the use of A-weighting filters in the noise-measuring instrument. Table 5 presents noise quality standards.

Table 4: Ambient noise level monitoring locations

Pac. No.	Project Package	Lo. No.	Monitoring Location	Land Use
1	P1 Raw Water Intake, Pipeline & Water Treatment Plant	1	Chaitankanda (Bishnandi)	Residential/agricultural
		2	Shejan Point	Industrial
		3	Gandharbpur	Residential

During SSEMP implementation, the following DOE Standards in Table 3 will be used as a reference to identify any deviation of results, if the results exceed then mitigation options will be applied as far as possible.

Table 5: Noise quality standards, by zone and time of day





Zone Class	Limits in dB(A)	
	Daytime (6 am – 9 pm)	Nighttime (9 pm – 6 am)
Silent zone	45	35
Residential zone	50	40
Mixed (residential/commercial/industrial) zone	60	50
Commercial zone	70	60
Industrial zone	75	70

Source: Department of Environment (DoE), Bangladesh

3.3. Water Quality

The physical parameters will include temperature, pH, EC, TDS, TSS, DO, and BOD5 COD, and Iron (Fe). Samples will be tested in the field immediately after collection using field test kit. For laboratory test, samples will be preserved properly in cooler box during storage and transportation to the laboratories maintaining chain of custody (detail procedures are provided below). The sampling

Stations are: Chaitankanda (Meghna River), Shejan Point (Canal), Gandhabpur (Shitalakshya River).

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Water Quality and Sample Collection Procedure for Packages 1 (P1)



The surface water source of the proposed site for the DESWSP is Meghna River at Bishnondi.

The following procedures should be maintained during collection of samples for all Packages.

- Collect location map, sample bottles and waterproofed levels from the market (scientific Shops at Bangabandhu Avenue, Dhaka) or Laboratory, use dedicated GPS (Calibrate properly) machine to record the actual location of the sampling stations
- Water sample should be collected in one litre glass or high-density polyethylene bottle and store at low temperature (4°-10° c). Collect the water sample using sterile bottle, use special preservatives for some parameters, use cool box
- If groundwater, pump out water from the well for 5-7 minutes and measure the pH with the portable meter and record it in the form, subject to requirement, also test Dissolved Oxygen (DO), Temperature, Turbidity, Electrical Conductivity (EC), Alkalinity etc. (as per EMP), immediately after sampling, as the value of these parameters will change during transport and storage
- At the time of collection samples from groundwater, use hand gloves or wash your hand with well water, uncap the bottle carefully, fill the bottle and fix the cap. If preservative is needed fill the bottle till 2-3 cm below the top of the bottle add the relevant preservative and complete filling up to the top
- For bacteriological analysis, pump out water from the well for 5-7 minutes, remove any dirt with a clean cloth from the outlet of the pump, sterilize the pump outlet for 1-2 minutes with the flame by an ignited spirit or alcohol-wet cotton, fill the bottle and fix the cap. Transport the sample to the laboratory by 4-6 hours; otherwise use portable Microbiological Testing equipment for such test (suggested labs are: BSTI (Bangladesh Standards and Testing Institute), DPHE (Department of Public Health Engineering), BRTC (Bureau of Research, Testing and Consultation), BAEC (Bangladesh Atomic Energy Commission).
- All the sample bottles should be labelled properly and corresponding sampling forms should be filled in with the information detailed below:

- Serial number of the sample
- Date of collection and time
- Weather condition (sunny, rainy, cloudy, etc.)
- Filtered or raw water
- Use of any preservative
- Source of sample water- Surface or Groundwater (if groundwater, record depth of well, type of well, etc.)

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- Preserve the entire sample in a cool box and send immediately to the laboratory or any other recognized laboratory.
- If necessary, collect some additional samples for cross-checking.



Table 6: Site Specific Environmental Management Plan (SSEMP)

Water Intake at Bishnondi



Activity	Environmental Impact	Duration/ Extent	Magnitude	Mitigation Measures	Responsibility
Pre-construction (Design Phase)					
Seismic considerations in design of structures	Structure at seismic risk	Permanent	Moderate	The designs of the project components, including intake structures and transmission mains, will conform to Bangladesh National Building Code, 2006.	Design Build Contractor, and SC
Contractor's Camps	Temporary loss of land and implications of insufficient physical and social management of camps and labor resources	Permanent	Moderate	Temporary construction camps and any auxiliary objects will be located in places adjacent to project sites. The particular place for construction camps and auxiliary objects (vehicle parking lots, storage areas and etc.) will be determined jointly with local administration authorities	Design Build Contractor, and SC

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Construction Materials	Procurement from nonenvironmentally & socially responsible suppliers	Permanent	Moderate	Give preference to goods and services sourced from organizations implementing an EMS (provision in tender documents).	Design Build Contractor, and SC
Spoil Disposal	Improper location and treatment of spoil dumps	Permanent	Moderate	Require Method Statement for spoil disposal, with details of authorization, location, placement, closure etc. (tender documents).	Design Build Contractor, and SC
Mesh size strainer / water abstraction	Impact on fish fauna	Permanent	Moderate	Design of sufficient mesh size in accordance with DoF	Design Build Contractor, and SC
Cutting of trees	Damage to trees and clearance of vegetation at the project locations	Moderate	moderate	Only trees that will require removal within the proposed construction areas of the sites will be cut. After the finalization of the designs and layout of the project components, the trees within proposed construction areas will	Design Build Contractor, and SC



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				<p>be marked. For trees not proposed to be cut, taking all precautions to protect them from any damage from construction activities, including placement of tree guards will be taken up. The Contractor shall not clear the Site of any structure or mature tree without the prior written permission of the Engineer (DB Contract, Section 6 - DB Part 03A Chapter 3.5)</p>	
Assets/facilities lost, including common property resources and religious structures	Assets/facilities lost, including common property resources and religious structures	Permanent	Moderate	Designs to be worked out to minimize impacts on these assets. Compensation and assistance will be provided in accordance with the provisions of the RP.	Design Build Contractor, and SC
	Impairment of cross-drainage	permanent	moderate	Designs to ensure cross-drainage through the provision of balancing culverts and sufficient crossmovement, including movement of fishes, shall be done to minimize severance impacts on khals and fish ponds cut across by the alignment.	Design Build Contractor, and SC



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Drinking water availability	Drinking water availability and water arrangement	Temporary	Moderate	Prior to the initiation of construction activities, the contractor will be responsible for the arrangement of water in every workplace at suitable and easily accessible places for the whole construction period. Sufficient supply of cold potable water should provide and maintain at the construction camps and other ancillary work	Design Build Contractor / SC
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Impacts on water abstraction and ecological flows of Meghna River, especially in lean flow	Impacts on water abstraction and ecological flows of Meghna River, especially in lean flow	Permanent	Moderate	areas. The proposed abstraction accounts for 0.31% of the lean flows for the ultimate intake capacities of 1,050 MLD (2035). Therefore, no impacts on downstream uses or impairment of ecological flows in Meghna River envisaged.	PMU
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fisheries	Impacts on fisheries in Meghna River	Permanent	Moderate	<p>Design of the water intake should carry out to avoid impacts on hilsa fish, the key species found in Meghna River requiring protection. The design of the intake screen will be based on the following key considerations as per the recommendations of the fisheries expert of the SC:</p> <ol style="list-style-type: none"> 1. The screen face will be oriented in the same direction as the flow. 2. The water velocity flowing through the structure against which the fish will have to swim must be lower than the critical fishes' swimming capability and it recommended that the approach intake velocity should not be more than 8 cm/sec. Screens will be located at the bottom of the watercourse to prevent entrainment of sediment and aquatic organisms associated with the bottom area. Screen sizes will be determined based on assessment of fish sizes at the location 	Contractor, with technical guidance from the fisheries
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				<p>and the swimming characteristics of hilsa and it recommended that the opening shall not exceed 3/32 inch (2.38 mm) for woven wire or perforated plate screens, or 0.0689 inches (1.75 mm) for profile wire screens, with a minimum 27% open area. It recommended providing a screen in the direction of flow to escape small fish and spawn from the screen as shown in the picture also.</p> <p>5. Impact on inland water bodies, including khals and fishponds, will address in the detailed designs through appropriate measures to provide for cross-drainage to minimize severance impacts. Traffic management plans and spoil management plans shall be prepared as part of the detailed designs.</p>	
Construction Phase					
Relocation of utilities	Damage of utility lines	Permanent	Moderate	All utilities and services impacted due to the proposed components will be shifted/relocated, with prior approval of the concerned agencies.	Design Build Contractor, and SC

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Build Intake structure at Bishnandi; Including Pump station, sub-station, embankment	Pilling and associated construction activities will disturb benthic flora and fauna.	Temporary	moderate	Use of low noise and low vibration machinery for piling work Chemical and other waste disposal measure required proper maintenance Carry out site inspections	Design Build Contractor, and SC
Health and Safety	Hazards to workers	Temporary	Moderate	Project proponent and financier signal that	Design Build Contractor, and

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			<p>best practice H&S standards should apply. At every workplace, a readily available first aid unit, including an adequate supply of sterilized dressing material and appliances, will be provided as per the factory rules. Suitable transport will be provided to facilitate the transfer of injured or ill persons to the nearest hospital. At every workplace and construction camp, equipment and nursing staff will be provided.</p> <p>The contractor will, at his own expense, conform to all antimalaria instructions given to him by the SC.</p> <p>All relevant provisions of the Bangladesh Labor Act, 2006 and Bangladesh National Building Code, 2006 will be adhered to, concerning the provision of adequate safety measures during construction. The contractor will comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway,</p>	SC
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				stairwells, excavations, trenches, and safe means of entry and egress.	
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Ecology	Possible habitat impacts	Temporary	Moderate	Need the construction contractor to design and implement fishfriendly construction processes (Standard Operating Procedures) for the diversion weir	Design Build Contractor, and SC
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				and other structures in watercourses (tender documents)	
Conflict among the work personnel and labor	Conflict among the work personnel and labor	Temporary	Moderate	Proper work distribution plan with maintenance authority.	Design Build Contractor
Child labor	Child labor Risk of contractors or subcontractors hiring child labor in the construction activities.	Temporary	Minor	<ul style="list-style-type: none"> National laws on child labor will strictly followed. No child labor will be allowed by the contractors or subcontractors in any of the project activities. 	Design Build Contractor
Health and safety	Accident prevention and work safety procedures	Temporary	Moderate	Awareness of workers about hazardous materials and proper handling methods. Warning signs, labels and signals. Provide helmets, safety shoes and other PPE for workers in accordance with accident prevention and work safety procedures	Design Build Contractor

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Dust and air quality	Dust Pollution <ul style="list-style-type: none"> Impact Sources Emissions from construction related traffic and machinery. Dust from works, carrying machinery equipment to the site, and traffic from trucks and vehicles. Create nuisance Road damage	Temporary	Moderate	The contractor will (i) take every precaution to reduce the levels of dust at construction sites, and not exceeding the preproject ambient air quality standards; (ii) fit all heavy equipment and machinery with air pollution control devices that are operating correctly; (iii) reduce dust by spraying stockpiled soil, excavated materials, and spoils; (iv) cover with tarpaulin vehicles transporting soil and sand; and (v) cover stockpiled construction materials with tarpaulin or plastic sheets.	Design Build Contractor and SC
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				<ul style="list-style-type: none"> Implement measures in Environmental Code of Practice of Air Quality Management. Dust generation will be restricted as much as possible and water sprinkling carried out as appropriate, especially where earth moving and excavation are carries out. Emissions during bore logs digging, equipment and traffic will comply with ADB EHS guidelines and will be monitored. <p>Spray of water is suggested in the road and construction sites Capacity of truck load should stay below capacity of road</p>	
	River Water Pollution	Temporary	Moderate	Protect river water during construction of intake screen and river training work. Confined the river water area of intake screen to prevent the turbidity, DO level of water and fish.	Design Build Contractor and SC

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Air quality	Air pollution (SPM, PM2.5, PM10, SOx, NO2 and CO) • Impairment of air quality may have an impact on geotechnical investigation workers, local residents and surrounding	Temporary	moderate	Drilling and transport vehicles shall move only in designated areas and roads. Water dry drilling areas and access roads to reduce dust emissions Minimize traffic in villages and other residential areas	Design Build Contractor and SC
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	environment • Air pollution generates from exhaust of engines. • During GI bore logs work Emission from drilling vehicle and machine			• Reduce vehicle speed in drilling areas and access roads to 10 km/h • Machines and vehicles must be regularly examined and maintained to comply with requirements of technical specifications Repair and maintain access roads, as necessary	
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Occupational health, safety and, fire safety	Harm to laborers	Temporary	Moderate	The scope of works includes the occupational health and labor safety measures, consistent with effective rules and provisions, prevention of incidents and occupational diseases, as well as improvement of working conditions. The primary fire - fighting equipment will	Design Build Contractor
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				be provided at construction site.	
	Noise and Vibration from construction equipment	Temporary	Moderate	The contractor will ensure (i) regular maintenance of vehicles, equipment, and machinery to keep noise from these at a minimum; and (ii) all vehicles and equipment used for construction will be fitted with exhaust silencers. During routine servicing operations, the effectiveness of exhaust silencers will be checked, and if found to be defective, will be replaced.	Design Build Contractor and SC
	Temporary measures for construction activities around	Temporary	Moderate	The contractor will provide the following measures during the laying of transmission	Design Build Contractor and SC

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	habitations/ institutional uses			mains for sections in the vicinity of habitations and commercial and institutional areas, to minimize access and livelihood disruption: (i) place walkways and metal sheets where required to maintain access across trenches for people and vehicles; (ii) increase workforce in front of critical areas such as institutions, places of worship, business establishments, hospitals, and schools; (iii) consult businesses and institutions regarding operating hours and factoring this into work schedules; and (iv) provide signboards for pedestrians to inform them of nature and duration of construction works and contact numbers for concerns/complaints.	
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	Environmental pollution / human health Stockpiling of construction materials, excavated earth/spoil from trenches	Temporary	Moderate	Due consideration will be given to material storage and construction sites such that it doesn't cause any hindrance to daily traffic movement. The contractor will (i) consult with implementing agency on the designated areas for stockpiling of clay, soils, gravel, and other construction materials; (ii) avoid stockpiling of earth fill, especially during the rainy season, unless covered by tarpaulins or plastic sheets; (iii) prioritize reuse of	Design Build Contractor / SC
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 Gandharbpur Water Treatment SNC  <small>A Joint Venture of SUEZ INTERNATIONAL & OTV-VEDIJA</small>	Document Title: SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN INTAKE SITE	Rev: C	Status: IFA
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				<p>excess spoils and materials in the construction works; and (iv) protect surface water bodies from any source of contamination, such as oily wastes, debris, and spoils that will degrade its quality.</p> <ul style="list-style-type: none"> Excavated material shall not enter surface waters, surface water banks or impede flows - in particular, the following shall be done: <p>do not dump material in surface waters, at river banks or in flooding areas, in case rivers have been blocked remove the material</p>	
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	Improper movement of construction vehicles, Oil spillage, grease and lubricant	Temporary	Moderate	<p>The movement of construction materials and equipment, to the extent possible, will be plan along major roads, with the exception of access roads to the site. In the event of movement of construction vehicles and equipment on the narrow roads, strengthening of these roads will be carried out, and timing of movement of heavy vehicles worked out to avoid peak hours and nighttime, and to ensure minimal disturbances to the communities and the resident population along these roads.</p> <ul style="list-style-type: none"> Maintenance will be conducted at 	Design Build Contractor and SC
				<p>safe distance from watercourses so that no oil spills can enter the water.</p> <p>Contaminated soil should be excavated and disposed properly in a confined place outside inundation areas</p>	

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	Contamination of soil and groundwater quality	Temporary	moderate	<ul style="list-style-type: none"> The soil contaminated with drilling mud should be avoided For effluents to be discharged from work place, camps, and offices, treatment arrangements such as retention ponds and septic tanks will be incorporated in the facility designs.	Design Build Contractor and SC
	Archaeological property chance findings	Permanent	Moderate	In the event of an archaeological chance find at the construction site, the contractor will prevent workmen or any other persons from removing and damaging any chance find artefacts and will, immediately upon discovery thereof, inform the SC of such discovery and carry out the SC's instructions for dealing with the same, awaiting which all work will be stopped for 100 m in all directions from the site of discovery.	Design Build Contractor and SC
	Loss of access to residents, businesses, and institutions during construction.	Temporary	Moderate	The contractor will provide safe and convenient passage for vehicles and pedestrians through diversions to and from side roads, and property access connecting the project roads. The contractor	Design-Build Contractor and SC

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				<p>will ensure that (i) the construction works do not interfere with the convenience of the public or access to, use, and occupation of public or private roads, or any other access to properties, whether public or private.</p> <p>Temporary access to properties adjacent to the construction site will be provided through the construction of ramps with concrete slabs for use of pedestrians and light vehicles; (ii) in critical areas such as institutions, operating hours are factored into work schedules and workforce is increased for speedy completion; (iii) advance information on works to be undertaken including appropriate signage, is provided; and (iv) the diversion is done in coordination with the traffic police division for necessary rerouting of traffic and traffic management.</p>	
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	Damages to utilities and services during construction	Permanent	Moderate	The contractor will be required to: (i) plan for immediate attendance by the service providers to any damages to utilities during construction; (ii) replace (or compensate for) public and private physical structures damaged due to construction or vibration; and (iii) provide prior public information about the likely disruption of services. In consultation and with	Design-Build Contractor and SC
				support from DWASA, the contractor will provide alternative arrangements for water supply in the event of disruption beyond a reasonable time, for instance, through tankers.	
	Compensation • Loss or impairment of private property			• written compensation arrangement and consent between property owner and contractor	

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	Clearing of construction camps and restoration	Temporary	Moderate	The contractor will prepare site restoration plans for approval by the SC. The plan will be implemented by the contractor prior to demobilization. On completion of the works, all temporary structures will be cleared away, all rubbish burned, excreta or other disposal pits or trenches filled in and effectively sealed off, and the site left clean and tidy, at the contractor's expense. The site will be restored to pre-project conditions through the removal of all extraneous material on site. During the site clearance and earthwork, it the necessary to be careful about the following:	Design Build Contractor and SC
	Quarry/borrow pit operations	Permanent	Moderate	Responsibility of the contractor to- (i) obtain approval of implementing agency if new quarries and borrow sites are necessary (ii) store stripped materials as not to disrupt natural drainage and protect them to prevent erosion	Design-Build Contractor and SC

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				<p>and migration of soil particles into surface waters; (iii) provide temporary ditches and/or settling basins to collect run-off water and to prevent erosion and contamination of surface water; (iv) plant exposed areas with suitable vegetation at the earliest opportunity and prevent ponding of water through temporary drains discharging to natural drainage channels; (v) restore sites after construction activities by stabilizing contours and slopes, spreading stripped materials to promote percolation and re-growth of vegetation, and draining any standing water. Land utilized for quarry sites access roads will also restored, and (vi) ensure adequate safety precautions during transportation of quarry material from quarries to the construction site (vii) Ensure all employee and labor covered by proper PPE and safety net program. Vehicles transporting the material will cover to prevent spillage.</p>	
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	Disposal of bituminous wastes / construction waste / debris / cut material	Temporary	Moderate	For project components involving demolition of structures, the contractor will prepare and implement a waste management plan. Safe disposal of the extraneous material will be ensured in the preidentified disposal locations. To enable	Design Build Contractor and SC
				minimization of waste disposal and do this in an environmentally safe manner, the waste management plan will (i) recover used oil and lubricants and reuse or remove from the site; (ii) manage solid waste according to the following preference hierarchy: reuse, recycle, and dispose of in designated areas;	

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	Stripping, stocking, and preservation of topsoil	Permanent	Moderate	<p>The topsoil from productive agricultural lands at the intake site, borrow areas, and areas to be permanently covered will be stripped to a specified depth of 150 mm and stored in stockpiles. The stockpile will be designed such that the slope does not exceed 1:2 (vertical to horizontal), and the height of the pile will be restricted to 2 m. Stockpiles will not be surcharged or otherwise loaded, and multiple handling will be kept to a minimum to ensure that no compaction will occur. The stockpiles will be covered with gunny bags or tarpaulin. It will be ensured by the contractor that the topsoil will not be unnecessarily trafficked, either before stripping or when in stockpiles. Such stockpiled topsoil will be returned to cover the disturbed area and cut slopes.</p>	Design-Build Contractor and SC
	Use of explosive	Permanent	Moderate	Except as may be	Design-Build

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	materials			<p>provided in the contract or ordered or authorized by the SC, the contractor will not use explosives. The contractor will, at all times, take every possible precaution, and will comply with appropriate laws and regulations relating to the importation, handling, transportation, storage, and use of explosives and will, at all times when engaged in blasting operations, post sufficient warning flagmen. The contractor will carry out the use of explosive materials only after obtaining written approval of the SC of the procedures to be followed.</p>	Contractor and SC
	Material handling at site	Temporary	Moderate	<p>All workers employed for mixing asphaltic material, cement, concrete, etc. will be provided with protective footwear and goggles. Workers engaged in welding works will be provided with welder's protective eye shields. The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions.</p>	Design Build Contractor and SC




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Soil and water pollution	Soil and water pollution due to fuel, lubricants, and construction waste	Temporary	Moderate	The fuel storage and vehicle cleaning area will be stationed such that runoff from the site does not drain into the water bodies/ponds abutting the construction sites. Oil interceptors will be provided at construction vehicle parking areas, vehicle repair areas,	Design Build Contractor and SC
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				and workshops, ensuring that all wastewater flows into the interceptor prior to its discharge. All work sites will be cleaned and restored to preproject conditions. Discharge standards promulgated under Schedule 10, standards for waste from industrial units or projects waste will be strictly adhered to.	
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Operation phase

Water abstraction and management	Water availability and flow, turbidity, species disturbance	Permanent	Moderate	Ensure O&M contractor meets cleaning of water hyacinth, weeds around the water abstraction screens performance standards	Design Build Contractor, and SC
	Impacts on downstream uses at the intake point	Permanent	Moderate	Assessment of flows will be done annually by DWASA, especially during the lean season, to ensure that there is no impact on the downstream uses.	DWASA

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	Effectiveness of intake screens	Permanent	Moderate	DWASA will periodically monitor the effectiveness of the intake screens, in terms of fish sizes and quantities of fish passing through the screen. Any modifications to the screen as required will be taken up in consultation with the fisheries department. Prevent upstream at least 5 km of aquaculture system which will pollute the river water	Design Build Contractor
	Source protection - water quality	Permanent	Moderate	Continuous water quality monitoring at the upstream locations as defined in the monitoring plan will be carried out, in addition	DWASA/ DoE
				to semi-annual field visits by DWASA jointly with the DoE representative to assess any potential polluting activities/ threats. The findings shall be documented, taken up, and presented to the steering committee for decision.	

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	Survival of trees, maintenance, of landscaping, and the green buffer zone	Permanent	Moderate	Proper care will be taken to increase the survival rate of saplings, like regular watering, pruning, provision of tree guards, provision of manure for better nourishment, etc., including timely replacement of perished saplings.	Design Build Contractor
	Environmental conditions	Permanent	Moderate	DWASA will undertake seasonal monitoring of air, water, noise, and soil quality through an approved monitoring agency. The parameters to be monitored, frequency and duration of monitoring, as well as the locations to be monitored will be as per the monitoring plan prepared.	Design Build Contractor, and SC




Table 7 : Construction Stage Environmental Monitoring Plan

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Responsibility	Cost and Source of Funds
Construction disturbances, nuisances, public and worker safety	All work sites	Implementation of dust control, noise control, traffic management, and safety measures. Site inspection checklist to	Weekly during construction	Supervising staff and safeguards specialists	No costs required
Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Responsibility	Cost and Source of Funds

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		review implementation is appended at Appendix-N			
Ambient air quality	According to IEE 2013	SPM PM10, PM2.5 NOx, SO2, CO	Once before start of construction Quarterly (yearly 4times) during construction (2-year period considered), 24hour monitoring	Contractor	part of construction costs
Ambient noise	(same as air quality monitoring)	Day time and night time noise levels (24 hours)	Once before start of construction Quarterly (except monsoon, during construction)	Contractor	Part of construction costs
Water quality intake		TDS, TSS, pH, Hardness, BOD and Fecal Coliform, total nitrogen, total phosphorus, heavy metals, temperature, DO, hydrocarbons, mineral oil, phenol, cyanide	Once before start of construction . Twice a year (pre monsoon and post monsoon) for the entire period of construction	Design-Build Contractor to be monitored through approved monitoring agency and PMU (DWASA and SC)	Part of construction costs

1. COVID-19 PREVENTION GUIDELINES কভিড -১৯ প্রতিরোধের ভিত্তিতে

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In line with the recent pandemic of COVID-19, GWTSNC reminds that our priority is to protect project sites employees, contractors and the public as well as to limit the spread of the virus further, would like to advise all stake holders to implement prevention and control measures in their respective facilities to stop the COVID-19 from entering and spreading within and outside their facilities. কভিড -১৯ -এর সাম্প্রতিক



মহামাভরর সাথে সামঞ্জস্য ররথে ভিডভিউটিএসএনভস স্মরণ কভরথে রেে রে প্রকথের কমমচারী, ঠিকার এবং িনসাধারণক সুরক্ষা রেগোর পাশাপাশ িাইরাথসর ভবস্তারথক আরও সীভমি করা আমাথের কাথে অগ্রাভধকার পাে, প্রভিথরাধ ও ভনেল্লন প্রভিো বাস্তবানে করার িনয সমস্ত রেকথহান্ডারথের পরামশম রেগো োথি কভিড -১৯ িাথের ফ্যাভসভিটিটির ভিথির এবং বাইথর সংিমন ও ভবস্তার ররাধ করথি পাথর।

1. Safety Precautions: ভিরোপত্তোমূলক সিকে িোাঃ

- Restrict/Reduce the number of visitors in the facility. ভ্রমনােীথের ফ্যাভসভিটিথি সংোযা কমাতনা/সীভমি করা।
- Evaluate the Travel history of all people before allowing them to visit your facility. ফ্যাভসভিটিথি প্রথবথশর সম্মভি প্রোথনর পৃথবম সকথির ভ্রমন ইভিহাস মূিযানে করা।
- A person coming from other countries shall undergo 14 days' quarantine period before visiting your facility অনয রেশ রেথক আসা বযভি ফ্যাভসভিটিথি প্রথবথশর পৃথবম ১৪ ভেথনর রকােোরান্টাইন সমে অভিবাত্হি করথব
- All employees/visitors Body Temperature will be checked at their Facility's Main Entrance/Door/Gate. ফ্যাভসভিটিথির প্রধান প্রথবশ পথে/েরি/রেট এ সকি কমমচারী/ভ্রমনােীর শারীভরক িাপমাত্রা পরীক্ষা করথি হথব
- Any employees/visitors with Symptoms of Cough, Runny Nose, Fever and Headache shall be restricted from entering the project site and will be recommended for further Healthcare evaluation. কাভশ, সভেম, জ্বর এবং মােবযো িক্ষন ধরী রেথকান কমমচারী/ভ্রমনােী প্রথিষ্ট সাইথট প্রথবশ করথি পারথব না এবং পরবী স্বাস্থ্য পরীক্ষার িনয পাঠাথনা হথব।
- Face Masks and Hand Gloves shall be provided as mandatory PPEs for all employees/visitors রফসমাস্ক এবং হািথমািা িযাবশযক ভপভপই ভহথসথব সকি কমমচারী/ভ্রমনােীথের প্রোন করথি হথব।

2. Workplace Safety Practices: কমেস্বরল ভিরোপত্তোর চচে ো

- Reduce the working hours in the facility. ফ্যাভসভিটিথি কমম ঘন্টা কমাে

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- b. Social Distancing (minimum of 2 meters) shall be maintained between every person inside the facility ফ্যাভসভিটির ভিত্তির প্রথিতক বযভি রেথক সামাভিক দূরত্ব (নূযনিম ২ ভমটার) বিাে রােথি হথব।
- c. Meetings, Conferences and Gatherings shall be completely avoided. ববঠক, সিা এবং সমাথবশ সম্পূনম এভিথে চিথি হথব।
- d. Face Masks and Gloves shall be made mandatory PPEs throughout the day and to be monitored regularly to protect employees from exposure. রফসমাস্ক এবং হািথমািা অিযাবশযক ভপভপই ভহথসথব সমগ্র ভেনবযাপী বাধযিামূিক করা হথব এবং ভনেভমি িেোরভক করথি হথব েথি কমমচারীরা সংভিমি না হে।
- e. Avoid Physical contact with each other (Shaking Hands, Hugging, Kissing, etc.). এথক অপথরর সাথে শারীভরক সংস্পশম এভিথে চিুন
- f. Confine yourself within your workplace boundaries. কমমস্থথির সীমানা মথধয ভনথিথক আবদ্ধ রােুন।
- g. Avoid roaming around sites without any valid reasons. উপেুি কারন েোিা সাইথট ঘুরাঘুভর এভিথে চিুন।

3. Hygienic Practices: স্বোস্থযভিভে চচে োাঃ

- a. Provide Sufficient Hand Wash and Sanitizers in prominent places at the facility. উপেুি স্থ্াথন পেমাপ্ত হযাল্ডগেশ এবং সযাভনটাহির প্রোন করুন।
- b. Wash Hands often with soap and water for at least 20 seconds. প্রােশই হাি সাবান পাভন ভেথে ২০ রসথকল্ড রধৌি করুন।
- c. Avoid Touching your Eyes, Nose and Mouth without washing your hands. রচাে, নাক এবং মুে হাি না ধুথে স্পশম করা রেথক ভবরি োকুন।
- d. Use hand sanitizer (70% Alcohol-based) if soap and water are not available. সাবান এবং পাভন না োকথি সযাভনটাহির বযবহার করুন।
- e. Cover coughs and sneezes with tissues or bent elbow. কাভশ এবং হাভচ টিশ্যয বা কনুইথের িাি ভেথে রেথক ভেন।

4. Cleaning and Disinfection of Facilities: ফ্যাভসভলটি পভরস্কোর ও জীিোিমুক্তকরিাঃ

- a. Carry out Cleaning, Sanitization and Disinfection programs in the facility, on a regular basis. প্রভিভনেি পভরস্কোর, পেঃভনস্কাসন ও িীবানুমূিকরন রপ্রাগ্রাম চািু রােুন।
- b. All common areas of workplace and movements shall be disinfected. Disinfection areas of the facility are listed below, but not limited to: কমমথক্ষত্র ও চািচথির েন গ্রািকাগুভি



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বিস্তারিত করা হবে। ফ্যাকসিলিটির বিস্তারিতকরণ প্রকার ভিত্তিক ভিত্তিক রেগো হি, ভিত্তিক সীমিত নেঃ

- Administration Area - office room, meeting room, conference room, reception, etc. প্রশাসনিক প্রকার-অফিস কক্ষ, বসবার কক্ষ, সি কক্ষ, অফিসের হিহাভে।
- Office Equipment — desktop PC, laptop, tablet, desk, chair, etc. অফিস সরঞ্জাম-রডস্কটপ ভিত্তিক, হিহাভে, টায়াবখিট, রডস্ক, রচোর হিহাভে।
- Regular Access / Touch Units — doors, windows, rails, switches, buttons, etc. প্রিহহ অভিহেম/স্পর্শমি ইউভনট-েরি, হিনাি, হিহেভন, সুইচ, বাটন হিহাভে
- Welfare facilities - restroom, dining room, toilets, washrooms, first aid stations, etc. ওথেথিফোর ফ্যাকসিলিটি-ভিত্তিকের, হেবারঘর, রশৌচোর, সািঘর, প্রােভমক ভিত্তিকসার রেশান হিহাভে
- Workshops - machinery, equipment, tools, panel board, control switches, working platforms, etc. কারোনা-রমভশনপত্র, সরঞ্জাম, হেত্রাংশ, পযাথনি রবাডম, ভনেত্রক সুইচ, কাথির স্থান হিহাভে।
- Warehouse — storage area, handling equipment, racking system, loading/unloading bay, etc. পণ্যের-সংরক্ষণ প্রকার, হযাভভিৎ সরঞ্জাম, ররভকং ভিত্তিক, উঠাথনা নামাথনা হেভি হিহাভে
 - c. Selection of cleaning and disinfection solutions should be primarily based on the safety and efficacy of the product and surface to be cleaned and/or disinfected. পত্ররকার এবং বিস্তারিত দ্রব্য ভিত্তিক প্রােভমকিহব ভিত্তিক পণ্য এবং পুথের পত্ররকার এবং / বা বিস্তারিত হেগোর ভিত্তিক ভিত্তিক এবং কােমকাভরির উপর ভিত্তিক কথর হেগো উভটি।
 - d. All the facilities shall develop an Infectious Disease Preparedness and Response plan/procedure, that includes the Cleaning, Sanitizing and Disinfecting process of surfaces exposed to infection সমস্ত ফ্যাকসিলিটিগুভি একটি সংিমক ররাে প্রস্তুভি এবং প্রভিভিো পত্ররকেনা / পত্রভি ভিত্তিক করথব, হোর মথথয সংিমথগর বাভহি পুেগুভির পত্ররকারকরণ, সযাভনটাইভিৎ এবং বিস্তারিত প্রভিো অন্তিম হি রথথে।

5. Transportation: পত্রহিহাঃ

- a. Common Staff Transports Vehicle & Buses, before and after each trip, shall be properly disinfected. কমন হেফ পত্ররবাহী হেভনহন ও বাসগুভি প্রভিবার হেভিহেথির আথে এবং পথর সঠিকিহব বিস্তারিত করা হথব।
- b. Disinfection of vehicles shall include all seats, belts, handles, etc. and distribution vehicle/truck. হেভনহন বিস্তারিতকরণর মথথয সমস্ত আসন, রবল্ট, হযাথভি হিহাভে এবং ভিত্তিক হেভনহন / ট্রাক অন্তিম হি হেভকথব।

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- Social distancing shall be followed in passenger's transport, for each trip. Only One Person shall be permitted to sit on each row/seat. প্রতিবার োঁিাোঁিা োঁিা পভরবহথন সামাভিক দূরত্ব অনুসরণ করা হথব। প্রতিটি সাভর / আসথন রকবি একিন বযভিথক বসার অনুমভি রেগো হথব।
- Face masks shall be mandatory for passengers while travelling because social distancing will be less than 2m. োঁিাথের িনয মাক্স পরা বাধযামূিক হথব কারণ সামাভিক দূরত্ব ২ ভম এর ভনথচ হথব
- Face Masks and Hand Gloves shall be provided as mandatory PPEs for all employees/visitors. সকি কমমচারী \ভ্রমনাোঁিাথের িনয বাধযামূিক ভপভপই সরবরাহ করথি হথব

6. General Symptoms of COVID-19:

- Headache: মাোঁবযো
- Breathing difficulty: শ্বাসকষ্ট
- Fever: জ্বর
- Loss of smell and taste: োঁক ও স্বাোঁ কথম োঁগো
- Runny nose: সভেম
- Dizziness: ভিমুভন
- Sore throat and cough: োঁিাযো এবং কাভশ

ককোভিড-১৯ এর সোোঁরি লক্ষিসমূহা:

7. Reporting: ভররপোটিোঁটা:

Any employees developing the above Symptoms, with a Travel History to affected countries, shall be advised to take immediate Medical/Healthcare evaluation.

আান্ত রেশগুভিথি ভ্রমথনর ইভিহাস সম্ভি রকানও কমমচারীর মথধয উপথরর িক্ষনগুভি প্রকাশ রপথি িাংক্ষভগক ভচভকংসা / স্বাস্থ্যথসবা মূিযােন করার পরামশম রেগো হথব।

COVID-19 suspected and positive cases must be reported to the GWTNSC Project site management

COVID-19 সথেহিনক এবং ভনভি রকসগুভি অবশযই GWTNSC প্রকথের সাইট মযাথনিথমন্টথক িানাথি হথব

- GWTSNC Security Managers +880-1714-110353
- GWTSNC HSE Manager +880-1313-404996



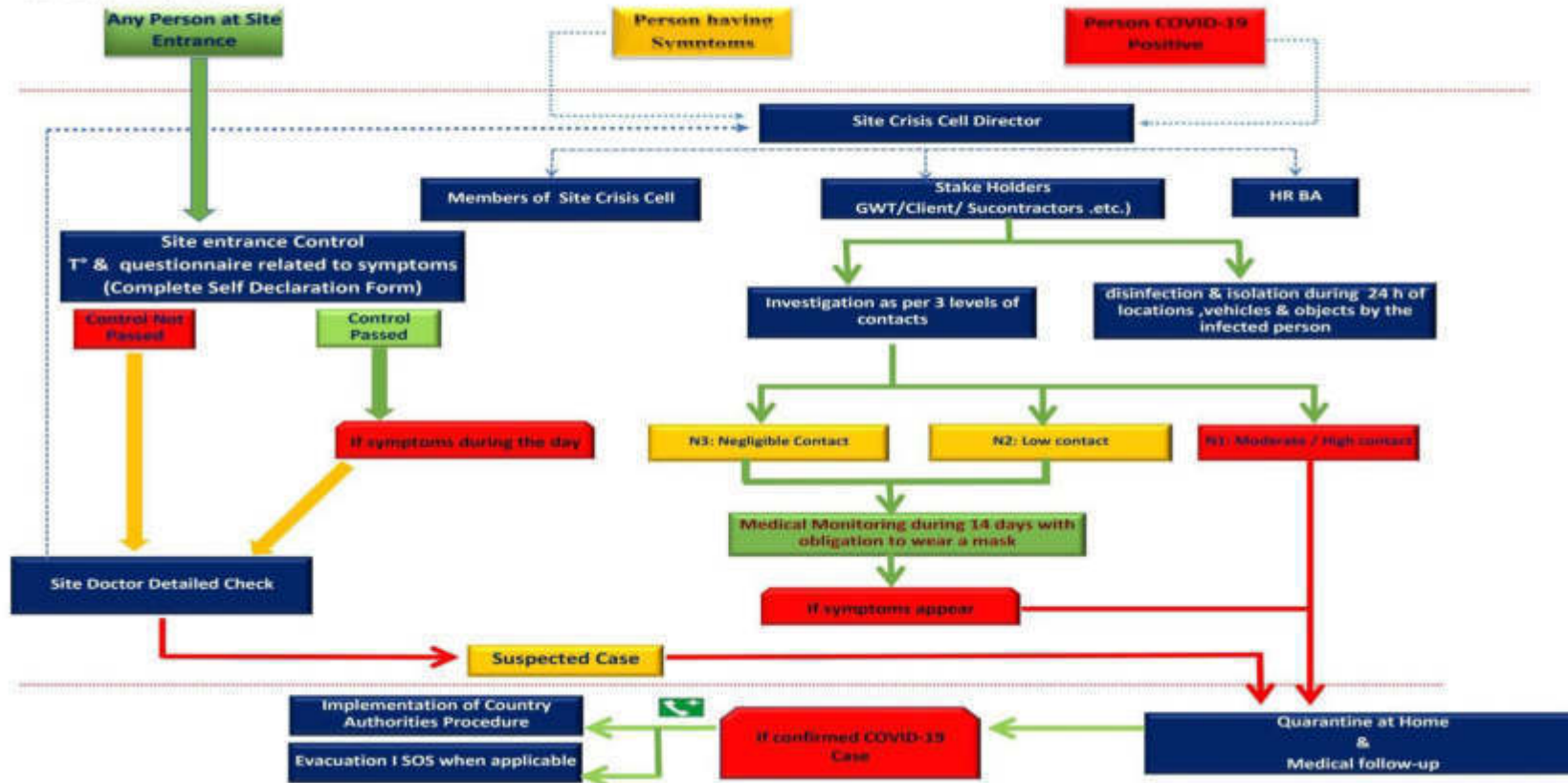
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FIG. 1: COVIDE CASE HANDLING Flow Chart

COVID CASE HANDLING



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FIG.2: Prevention Recommendations



CORONAVIRUS (COVID19) 新冠病毒

Preventive Measures 预防措施





GWTSNC is taking reasonable precautions to prevent the spread of Coronavirus



Coronavirus (COVID19) is a GLOBAL Pandemic

Symptoms 症状





Know how the coronavirus spreads. 新冠怎么传染?



Respiratory droplets of infected person
飞沫传播
আক্রান্ত ব্যক্তির শ্বাসতন্ত্রের কথা (হাঁচি, কাশি)



Contact with live animals
动物可能会传染人
জীবিত প্রাণীদের খালি হাতে স্পর্শ করা

Take steps to protect yourself 保护自己的几个方法



Wash your hands frequently for 20 seconds.
勤洗手，每次不少于20秒
কমপক্ষে ২০ সেকেন্ড আপনার হাত পানি দিয়ে প্রায়শই ধুয়ে নিন



If you feel sick stay at home – stay at home and consult a physician
发现自己体温不正常就居家隔离观察并上报项目安全部门
অসুস্থ অনুভব করলে গৃহে অবস্থান করুন



Wear a facemask when you are visiting a public place
去公众区域戴口罩
জনসমাগম স্থানে গমনের সময় ফেস মাস্ক ব্যবহার করুন



Cough or sneeze into the crease of your elbow and use disposable tissue.
咳嗽打喷嚏时用肘部遮挡，并使用一次性纸巾
আপনার কনুই আর ডাজ এ হাচি এবং কাশি দিন



Keep a minimum distance of one meter from other people
和其他人保持至少1米的距离
অন্য ব্যক্তি থেকে ন্যূনতম ১ মিটার দূরত্ব বজায় রাখুন



Clean and disinfect frequently touched surfaces daily.
每日清洁和消毒你经常触碰的物体表面
দৈনিক ব্যবহৃত আসবাবগুলো প্রতিদিন ভালোভাবে পরিষ্কার করুন



Avoid hugs and physical contact
见面问候时不要有身体类接触
আলিঙ্গন এবং শারীরিক স্পর্শ পরিহার করুন






Avoid busy public area
避开拥挤的公众场所
জনসমাগম স্থান পরিহার করুন



Avoid touching your eyes, nose, or Mouth with unwashed hands
未洗手前禁止触摸眼睛、鼻子、口腔
চোখ, নাক বা মুখ অপরিষ্কার হাত দিয়ে স্পর্শ করবেন না



While you are having any symptom mentioned above immediately consult doctor
当您有症状时立即咨询工地总承包医生
উপরে উল্লিখিত কোনো লক্ষণ দেখা দিলে অবিলম্বে ডাক্তারের পরামর্শ নিন

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SELF Declaration FORM ভিজস্ব ক োষণো ফমে





This COVID-19 declaration form is intended for any person entering to site. It applies to those who: সাইথট প্রথবশকারী রেথকান বযভির উথেথশয এই রকান্ডিড-১৯ রঘাষনা ফমম। এটি িাথের রক্ষথত্র প্রথোিয োরা:

- 1) were contaminated by the COVID-19 virus or had the symptoms কভিড -১৯
িাইরাস দ্বারা দূভষি ভেি বা এর িক্ষণ ভেি
- 2) have been in a country at risk or
ি়ুুঁ ভকপূণম একটি রেথশ ভেি বা
- 3) have been in the vicinity of an infected person to register in the group database.
গ্রুপ ডাটাথবথস ভনবন্ধথনর িনয রকানও সংিাভমি বযভির সংস্পথশম রেথেথন।
- 4) New joiner or who have Joined site after a leave/holiday/gap of considerable time.
নিুন রোেোনকারী বা োরা েুটির পথর / েুটির ভেন / ভনর্দমষ্ট সমথের বযবধাথন সাইটটিথি রোেোন কথরথেন।

This information, which is treated confidentially by GWT SNC, makes it possible to assess the evolution of the epidemic within the company and to set up the necessary prevention and protection measures. This declaration should, in no way, exclude other existing information systems: HR/Health and Safety/Management.

এই িেষ, ো GWT SNC রোপথন পভরমান কথর, সংস্থার মথধয মহামারীটির অবস্থা মূিযােন এবং প্রথোিনীে প্রভিথরাধ ও সুরক্ষা বযবস্থা স্থাপন সম্ভব কথর। এই রঘাষণাথক রকানও উপাথে অনয ভবেযমান িেষ ভসথেমগুভি বাে রেগো উভচি নে: এইচআর / স্বাস্থ্য ও সুরক্ষা / বযবস্থাপনা

All details including International and Domestic Travel needs to be include as follows:
আন্তিম াভিক এবং আিযন্তরীণ ভ্রমথনর ভবস্তাভরি ভববরণ ভনম্ভিভেি উপাথে অন্তিম ি করা প্রথোিন:

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1. Details of the cities / countries visited since last 14 days?
 ১৪ ভেন রেখক রে শহরগুভি / রেশ পভরেশমন করা হথেথে িার ভবশে?

2. Are you suffering from any of the following symptoms?
 আপভন ভক ভনমভিভেি রকানও িক্ষণ ভনথে িুেথেন?

Fever: জ্বর:	Yes হ্যা	No না
Cough: কাভশ:	Yes হ্যা	No না
Respiratory distress (Shortness of breath): শ্বাসকষ্ট	Yes হ্যা	No না
Muscle Pain রপশী বযো	Yes হ্যা	No না
Diarrhea ডােভরো -ডেরামে	Yes হ্যা	No না
Loss of smell েক্ষ না পাণ্ডো	Yes হ্যা	No না
Cold ঠান্ডা িাো	Yes হ্যা	No না
Sore throat েিাে বযো	Yes হ্যা	No না

3. Do you have a travel history to China, Hong Kong, Republic of Korea, Italy, Iran, Japan, France, Spain, UK, USA and other Covid-19 affected countries on or after Dec 08, 2019? If yes, then mention the country:
 আপনার ভক চীন, হংকং, রকানভরো, হিভি, ইরান, িাপান, ফ্রান্স, রস্পন, েুরিািয এবং অনযানয রকানভিড -১৯ প্রিভি রেশগুভি ০৪ ই ভডথসম্বর, ২০১৯ এর পথর ভ্রমণ করার ইভিহাস রথেথে?
 েভে হ্যা, িথব রেশটির নাম উথেে করুন:

• Yes হ্যা No না

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4. Have you contacted with people having such travel history? If yes than mention Travel history and relation with the person (Father, mother, siblings, spouse and children): আপভন ভক এই িািীে ভ্রমণ




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ইভিহাথসর সাথে রোোথোে কথরথেন? েভে হযা় িার রচথে ভ্রমথণর ইভিহাস এবং রসই বযভির সাথে সম্পথকম র কো উথেে করুন (ভপা, মা, িাইথবান, স্ত্রী এবং সস্তাথনরা):

5. Have you • Yes হযা No না already been diagnosed as contaminated with Covid-19? আপভন ইভিমথধয রকাভিড -১৯-এ আ্মান্ত ভহসাথব ভনণীি হথেথেন?
- Yes হযা No না
6. Have you been in contact with co-workers since the symptoms appeared? িক্ষণগুভি রেো রেণোর পর রেথক আপভন ভক সহকমীথের সংস্পথশম এথসথেন?
- Yes হযা No না
7. If yes, precise where and with whom (most complete list required): হযা হথি, রকাোে এবং কার সাথে িা েোেেোিাথব ভি়েুন (পভরপূনম িাভিকা ভেথি হথব)
8. Have you travelled to any Covid-19 affected area of Bangladesh? please mention আপভন ভক বাংিাথেথশর রকাভিড-১৯ আ্মান্ত রকান ি্রাকা ভ্রমন কথরথেন? অনুগ্রহ পূবমক উথেে করুন
9. Other important information to communicate: প্রথেে অনযানয গুরুত্বপূনম িেয:

Name:নাম




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Signature স্বাক্ষর & Date: িাভরে

Summary সোরসটরক্ষপ

Actions ভিোকিপ	Short Description রোট ভববরণ
1. Office sanitization অভফস পভরচ্ছনি	<ul style="list-style-type: none"> ✦ Clean all the common areas of the building/office premises including toilets are cleaned after each use & entrance areas sterilized রশৌচোর সহ িবন / অভফস প্রাঙ্গথনর সমস্ত সাধারন ত্রিকা প্রভিবার বযবহাথরর পথর পভরক্ষার করুন & প্রথবশমুে িীবানুমুি করুন ✦ Pantries are closed পযাভিগুভি বন্ধ রােুন ✦ Provide single use and disposables for employees সকি কমীর িনয এক বারই বযবহার ও পভরিযাে দ্রবযাভে প্রোন করুন

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2. Entrance health checks প্রথবশকাথি স্বাস্থ্য ভনরীক্ষা	Ensure that anyone entering the building/office including staff and visitors all undergo temperature screening & checks োফ এবং ভ্রমনকারী সহ রে রকউ ভবভল্ডং / অভফথস প্রথবশ করথেন িাপমাত্রা পরীক্ষা করা ও নীভরক্ষা করা ভনভি করুন † Ill employees and those showing signs are prohibited from coming to work অসুস্থ কমমচারী এবং োথের িক্ষন প্রকাভশি িাথের কাি করথি আসা ভনভষদ্ধ
3. Provision of masks & hand sanitizers মাস্ক ও হযাল্ড রসভনটাহির প্রোন	All employees/visitors are mandated to wear masks at all time in the building/office from entry. Non-compliance will lead to denial of entry to building/office সমস্ত কমমচারী / ভ্রমনকারীথের প্রথবথশর সমে রেথক ভবভল্ডং / অভফথস সবমো মাস্ক পরথি বাধয। অপারেিা প্রকাশকারী ভবভল্ডং / অভফথস প্রথবথশর অথোেয বথি ভবথবচয হথব † Hand sanitizers to be installed হযাল্ড সযাভনটাহির প্রোন করা হথব
4. Physical Distancing of Minimum 2 meters নূযনিম 2 ভমটার শারীভরক দূরত্ব	† Ensure the minimum 2-meter distancing measure is maintained in all common areas, office room, meeting room, conference room, reception, dining room, First aid station etc. † ভনভি করুন রে সমস্ত সাধারন গ্রািকা, অভফস কক্ষ, সিা কক্ষ, কনফাথরলস কক্ষ, সংবধমনা, ডাইভনং রুম, প্রােভমক ভচভকত্সা রকন্দ্র হিযাভেথি নূযনিম ২ ভমটার দূরত্ব বিাে রােো হে।
5. Offices working Hours অভফথসর কমমচাকািীন	† Building and office hours not to exceed 8 hours' daily ভবভল্ডং এবং অভফথসর কমমসমে প্রভিভেন ৮ ঘন্টার রবভশ ন হগো † Minimize meetings and ensure no more than 10 people in a meeting with minimum 2 m social distancing maintained ববঠকগুভি সংভক্ষপ্ত করুন এবং নূযনিম ২ ভম সামাভিক দূরত্ব বিাে ররথে একটি ববঠথক ১০ িথনর রবভশ রিক না হে ভনভি করুন † No gatherings permitted † রকান সমাথবথশর অনুমভি রনই
6. Communication রোোথোে	† All restrictions must be communicated to employees and visitors সমস্ত ভবভধভনথষধ কমমচারী এবং েশমনােীথের কাথে অবভহি করথি হথব † Isolation room to be provided for suspect cases. † সথেহিনক ররােীর রক্ষথত্র আইথসাথিশান কক্ষ প্রোন করা হথব



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Failure to report or hide the Suspected cases shall result in strict disciplinary measures to be taken by the project management

সখেহিনক রকসগুভি ভরথপাটম বা আিাি করথি বযেম হথি প্রকে বযবস্খাপনা কিম ক কথঠার আইনানুে বযবস্খা গ্রহণ করা হথব

Thank you in advance for your support and cooperation.

আপনার সমেমন এবং সহথোভেিার িনয অগ্রীম ধনযবাবো।

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10 COVID-19 Sanitary Rules

All responsible! সবাই দায়বদ্ধ!

General prevention সাধারণ প্রতিরোধ

01

If I exhibit symptoms (temperature or other), I don't go to work, inform my manager and I contact my referring doctor. I will be evaluated and tested according to the local medical protocols.

যদি আমি লক্ষণগুলি (জ্বরের বা অন্য) প্রদর্শন করি তবে আমি কাজ করতে যাই না, আমার ম্যানেজারকে অবহিত করি এবং আমি আমার রেফারিং ডাক্তারের সাথে যোগাযোগ করি। স্থানীয় মেডিকেল প্রোটোকল অনুসারে আমার মূল্যায়ন ও পরীক্ষা করা হবে।

02

If I am diagnosed by the doctor as COVID-19 positive, I will inform my manager to trace and warn the people I have been in contact with.

যদি আমি ডাক্তারের দ্বারা COVID-19 পজিটিভ হিসাবে নির্ণয় করা হয় তবে আমি আমার ম্যানেজারকে আমার পরিচিত ব্যক্তিদের সন্ধান এবং সতর্ক করে জানাব।

03

If I am at high risk of developing severe illness due to COVID-19, I can inform my manager or my referring doctor so that my working conditions can be assessed for my protection, while respecting confidentiality of my information.

যদি আমি COVID-19-এর কারণে গুরুতর অসুস্থ হওয়ার ঝুঁকিতে আছি তবে আমি আমার ম্যানেজার বা আমার রেফারিং ডাক্তারকে অবহিত করতে পারি যাতে আমার ভয়ের গোপনীয়তার প্রতি শ্রদ্ধা রেখে আমার কাজের পরিমিতি আমার সুস্থতার জন্য মূল্যায়ন করা যায়।

04

I respect the organizational set up and rules, health pathways, telecommuting, operating procedures, assigned time slots, travel instructions.

আমি সাংগঠনিক সেটআপ এবং নিয়মগুলি সম্মান করি: স্বাস্থ্য পথ, টেলিযোগাযোগ, অপারেশন পদ্ধতি, নির্ধারিত সময় স্লট, ভ্রমণের নির্দেশাবলী।

Measures Barriers প্রতিরোধমূলক ব্যবস্থা

05

I limit social contacts and physical interactions to a minimum. I organize my work to avoid physical travel and face-to-face meetings.

আমি সামাজিক যোগাযোগ এবং শারীরিক মিথস্ক্রিয়াকে সর্বনিম্ন রাখি। শারীরিক ভ্রমণ এবং মুখোমুখি সাক্ষাৎকে এড়াতে আমি আমার কাজের আয়োজন করি।

06

I respect social distance at all times: during operations but also in changing rooms, office elevators, meeting rooms, catering areas, pedestrian traffic areas.

আমি সর্বদা সামাজিক দূরত্বকে সম্মান করি: অপারেশনের সময় কিন্তু কক্ষ, অফিস, মিটিং রুম, খাবার, ক্যাটারিং অঞ্চল, পথচারী ট্রাফিক অঞ্চলগুলিতে পরিবর্তন করে।

07

I wear a mask according to the instructions related to my activity. I safely dispose it according to instructions provided to prevent the spread of contamination.

আমি আমার ক্রিয়াকলাপ সম্পর্কিত নির্দেশাবলী অনুসারে একটি মুখোশ পরে থাকি। দূষণের বিস্তার রোধ প্রদত্ত নির্দেশাবলী অনুসারে আমি নিরাপদে এটিকে নিষ্পত্তি করি।

08

I cough and sneeze into my elbow or into disposable tissue, I avoid touching my face.

আমি কাশি এবং আমার কনুই বা একবার ব্যবহারযোগ্য টিস্যু মধ্যে হাটু, আমি আমার মুখ স্পর্শ এড়াতে।

09

I wash my hands regularly with soap and warm water for 20 seconds or disinfect them with hydroalcoholic gel.

আমি 20 সেকেন্ডের জন্য নিয়মিত সাবান এবং উষ্ণ জল দিয়ে আমার হাত ধোয়া বা হাইড্রো অ্যালকোহলিক জেল দিয়ে তখন জীবাণুমুক্ত করি।



10




I regularly disinfect my workstation and tool. GWTSNC regularly disinfects common areas (changing rooms, toilets, handles, control access keypads, etc.).




আমি নিয়মিত আমার ওয়ার্কস্টেশন এবং সরঞ্জামগুলিকে জীবাণুমুক্ত করি। GWTSNC নিয়মিত সাধারণ অঞ্চলগুলি (ঘের, টয়লেট হ্যান্ডেলগুলি, নিয়ন্ত্রণ অ্যাক্সেস কীপ্যাড ইত্যাদি) পরিবর্তন করে জীবাণুমুক্ত করে।

I demonstrate the respect of these measures within the company, to my subcontractors and my customers. I consult with my colleagues and my management if I face difficulties in the application of these rules in order to collectively find solutions. The respect of these rules outside my workplace and working hours allows me to continue to protect myself, my colleagues and my family.

আমি সংস্থার মধ্যে, আমার সাবকন্ট্রাক্টর এবং আমার গ্রাহকদের কাছে এই ব্যবস্থাগুলির সম্মান প্রদর্শন করি। সম্মিলিতভাবে সমাধানগুলি সম্মান করতে যদি আমি এই বিধিগুলি প্রয়োগে অসুবিধার সম্মুখীন হই তবে আমি আমার সহকর্মীদের এবং আমার পরিচালনার সাথে পরামর্শ করি। আমার কর্মক্ষেত্র এবং কাজের সময়গুলির বাইরে এই বিধিগুলির সম্মান আমাকে নিজেকে, আমার সহকর্মীদের এবং আমার পরিবারকে রক্ষণ করা চালিয়ে যেতে সহায়তা করে।

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EMPLOYER  Dhaka Water Supply and Sewerage Authority																		
PROJECT NAME Design and Build of Intake, Raw Water Pipeline, and 500 MLD Water Treatment Plant at Gandharbpur under Dhaka Environmentally Sustainable Water Supply Project (DESWSP)																		
OWNER ENGINEER 																		
CONTRACTOR 																		
DOCUMENT TITLE SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN RAW WATER TRANSMISSION SITE																		
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C	19/06/2020	3 rd Issue with inclusion of comments on COVID-19 Prevention Guidelines	NUC	RSA	RSA
B	09/06/2020	2 nd Issue with inclusion of COVID-19 Prevention Guidelines	NUC	RSA	RSA
A	21/02/2020	1 st Issue following the specific pattern of Mott's EMP	NUC	RSA	RSA
Rev	Date	Revision Description	Drawn Up By	Checked By	Approved By
Document Number				Revision	* Document Status
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Format:	* Key words for document status:				ALL RIGHTS RESERVED FOR ALL COUNTRIES
A4	IFI : Issued for Information	IFA : Issued for Approval	INT : Internal	CAN : Cancelled	RFQ: Ready for Quotation
	IFR : Issued for Review	IFC : Issued for Construction	ASB : As Built	SUP : Superseded	RFP: Ready for Purchase

Introduction to content & Purpose of this document

The Dhaka Environmentally Sustainable water Supply Project (DESWSP) is aimed at improving the public health and environment for about 17 million people living in Dhaka City¹ through safe and reliable water supply facilities. Based on the submission made by the Government of Bangladesh (GOB) and as appraised by the Asian Development Bank (ADB), there are 3 Packages covering from Bishnandi-Intake site in Meghna River to Dhaka City where there is an urgent need for water supply improvements. The Project will help the Government provide the required institutional and management support to the DWASA under the Ministry of Local Government, Rural Development and Co-operatives (MLGRDC).

Revision Change Record

Revision	Revision Date	Status	List of updated sections	Reason for update
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	Design and Build Intake, Raw Water Pipeline, and 500 MLD Water Treatment Plant at Gandharbpur under Dhaka Environmentally Sustainable Water Supply Project (DESWSP)	Document Number : B-001464-GWT-EN-G00-MP-0013	
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A	21/02/2020		From page 1 to page 35	1 st Issue following the specific pattern of Mott's EMP
B	09/06/2020		New section on COVID-19 added from 36 till the end of the document	Mandatory requirement from Mott McDonald to include COVID-19 Prevention Guidelines
C	19/06/2020		Page 28 to page 37	3rd Issue with inclusion of comments on COVID-19 Prevention Guidelines

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XVII. 1. PROJECT DESCRIPTION

The overall proposed project has six project components. Among those, components 1 to 3 falls under package-1, component 5 under Package 2 and component 6 under Package 3. This EMP is focused on Package 1 which is being executed by GWTSNC. The components are as follows:

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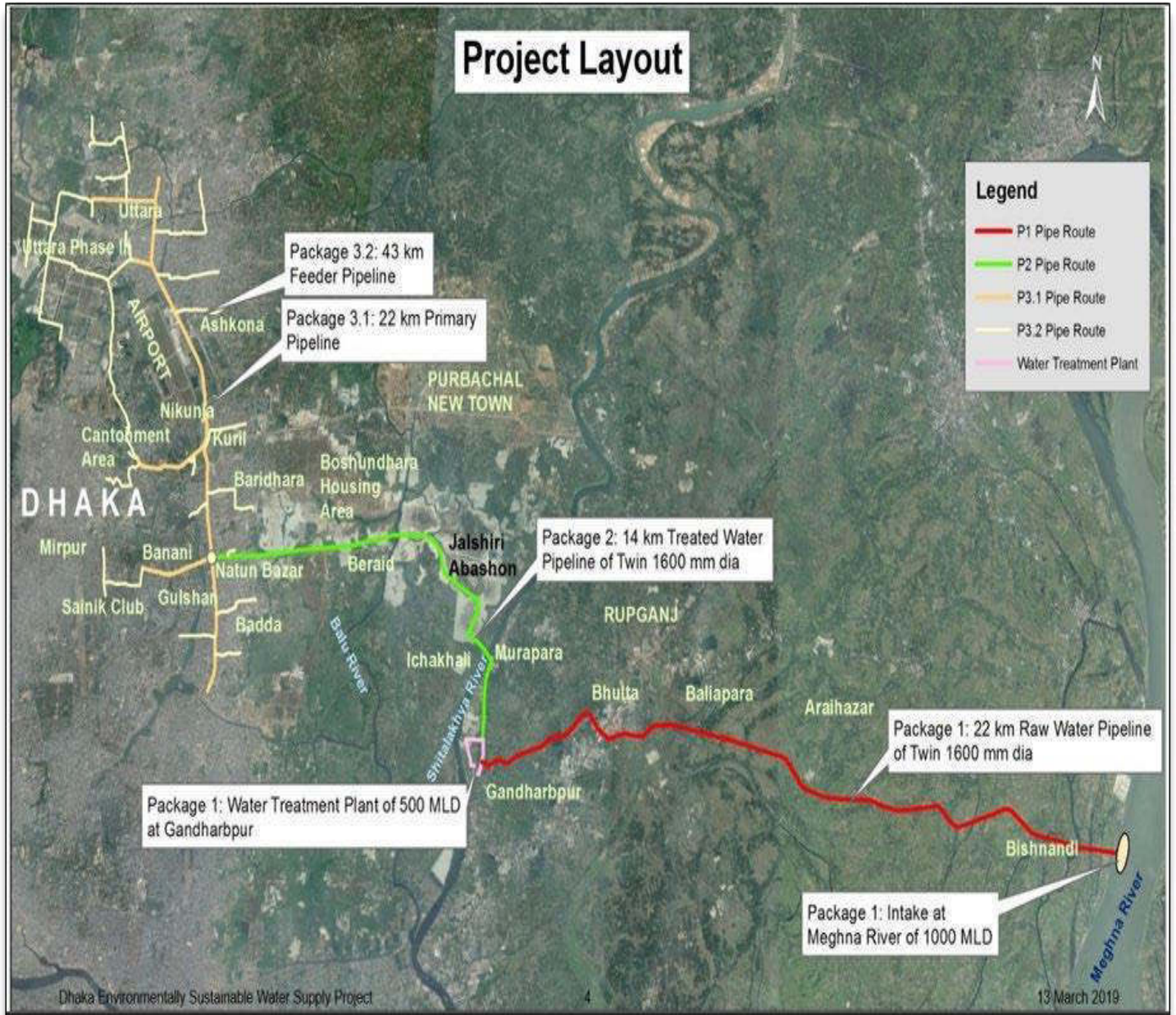




Figure 1: Project Layout Plan
Table 1: Project components

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Co. Sl.	Package	Component name	Infrastructure	Contract Package
1	1	Water treatment plant at Gandharbpur	Capacity: 500 MLD at Gandharbpur	Design-build contract
2		Intake structures	Capacity: 1,050 MLD	Design-build contract
3			Total Capacity: 1,050 MLD Equipment Capacity: 500 MLD	Design-build contract
4		Raw water Transmission main from Intake to Gandharbpur WTP	17.2 km: Intake to Shezan Juice Factory 4.5 km: Shezan Juice Factory to Gandharbpur WTP	Design-build contract

Source: Updated EIA, DESWSP, Enviroconsult, April 2018

XVIII. 2. ENVIRONMENTAL MONITORING

Dhaka Water Supply and Sewerage Authority (DWASA) is the implementing agency (IA), which is responsible for administration, implementation, through its PMU, carries overall responsibility for engineering and environmental compliance of works aim to performed under the DESWSP Project – Additional environmental financing and to meet this responsibility provides day-to-day environmental supervision of the project implementation. According to the requirements of the national legislation, and ADB Procurement Policy, DWASA/PIU hired a consultant to provide technical supervision of works, including environmental supervision (Mott MacDonald LTD as MDSC). DWASA's environmental specialist oversees performance of the Contractor (Now GWTSNC for Package 1) for the purpose of quality assurance, which implies review of Contractor's monthly reports and validation of the provided information through periodic site-specific field visits of MDSC and DWASA environmental specialists.

The new DESWSP (the Project) is included in the country operational business plan and it strongly supports the Government's objective of human development by providing better access to safe, reliable, and sustainable water supply which will improve the lives of households in Dhaka City (under Packages 1, 2 and 3) in Bangladesh.

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The outcome of the Project is improved access to safe, reliable, and sustainable water supply service managed on commercial principles and environmentally sound practices. The Project will first focus on optimizing the operation of existing infrastructure and maximizing the operating efficiency of water supply service system, followed by constructing new infrastructure. The Project will improve public health and environment for people (households and other consumers) living in Dhaka City.

Monitoring during construction shall include noise and vibration measurement based on the risk assessment that determines the final SSEMP or on the basis of any complaint. Implementation of the SSEMP will be monitored by inspection on an ongoing basis by the MDSC and audited by the PIU of DWASA Environmental Specialist.

Field visit checklist will be used for monitoring. Environmental impact mitigation measures implementation would be strongly supervised for all abovementioned contracts during construction implementation period. No omissions or violations of environmental standards and norms would be allowed.



Monitoring during the operating phase will be conducted as per advice of the EMP of April 2018. Environmental Monitoring and Mitigation Measures are provided in Table 6.

XIX. 3. ENVIRONMENTAL MANAGEMENT

Construction works will tentatively commence on April 2019. Site inspections and random visits will be organized during construction period for the Package 1. Average number of visits to each construction site per month will be determined by EMP of 2018. The compliance of environmental impact mitigation measures during construction works will be supervised by the Environmental specialists of MDSC in association with PMU Environment and safety Officer as well as GWTSNC monitoring over its subcontractors' performance.

In general, during site visits, negative environmental impacts will be registered. Some omissions and negligence on safety will be identified during randomly visits. Particularly for mobilization period main problems needs to be identified as: construction site organization in proper way /illumination, fencing, signboards, construction site pollution by construction and domestic wastes, safety signs installation. Respectively verbal notifications will be provided to contractors and technical supervisors. During regular staff meetings with contractor's issues on mandatory implementation of environmental impact and safety mitigation measures will be discussed.

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Corrective action plans will be developed, once monitoring reports are prepared during construction period. Quarterly Progress Reports (QPR) will be sent to project management on time. Separate part of safeguard compliance will be detailed indicating all issues concerning EMP updating and environmental impact mitigation measures implementation, public participation component, resettlement and gender points.

Further to note, the Environment Management Plan (EMP's) goal is to ensure that implementation of the DESWSP complies with both Bangladesh legislation and ADB environmental guidelines and standards. Specific auditable objectives of the EMP are listed in Table-1.

The EMP will be formulated using the following approach:



- **Impact avoidance:** Project design adjustment, construction and operation methods so as to avoid predicted negative impacts;
- **Impact minimization:** Where impacts cannot be avoided, implementing mitigation measures to reduce the impacts to insignificant levels;
- **Compensation:** Where residual impacts remain significant after mitigation, arranging compensation for example, temporary business loss for farmers, farmers affected by permanent and temporary loss of land for construction of Package 1 under DESWSP, assets or livelihoods, or biodiversity offsets;
- **Sustainability measures:** Where certain actions are required to ensure the project's success or avoid significant risks, identifying these;
- **Enhancement:** Where additional actions could be taken giving high benefit at relatively low cost, identifying these.

During monitoring stage, the status of various parameters (Table-3) will be subject to measurement/quantification to compare with the values of Maximum Allowable Concentration (MAC) of pollutants present on land and in water.

Table 2 provides the objectives of SSEMP



Table-2 Objectives of SSEMP

Phase and Topic	Objective
Pre-construction Phase	

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Design	Inclusion of all mitigation measures in final project design and budget
Tendering	Inclusion of recommended measures in tender documents for

	construction and construction supervision /operation.
Construction and Commissioning	
Physical	Minimized project impact during construction.
	Restoration of all land used temporarily to equal condition at end of construction.
Ecological	Avoid all spillage or disposal of toxic substances to water.
	Avoid any interruption of fish and other aquatic species migration by construction activities (Intake at Bisnandi in Meghna River and other wetlands)
	Maintain all wetlands in condition suitable for use by migratory birds throughout construction.
Social	Maximized local unskilled employment from this DESWSP Project area.
	Zero fatalities and serious accidents during construction, including from construction traffic.
	Zero increase in STD - HIV/AIDS transmission rates during construction.
	Zero unresolved complaints from local communities during construction. The community complains are important for the DESWSP construction where temporary adverse impacts are anticipated. However, after receiving any complain from the community people, the complaint type will be assessed and will be served as a way to meet requirements, prevent and address community concerns, reduce risk, and assist larger processes that create positive social change. The construction contractor supported by MDSC will employ social safeguard specialist exclusively to address grievances. As such, coordinated efforts will enable design and build more effective strategies for addressing community complains and grievances.
Operational Phase	
Physical	No major changes of surrounding topography a level at which crop yields are affected.

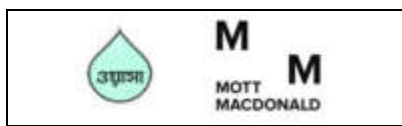
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Ecological	No obstruction to fish and fisheries migration, improved habitat of native species at the rivers, canals.
	No significant reduction of water quality due to spillage runoff from the construction area.
Social	A major reduction in the incidence of common vector-borne and communicable diseases and an improvement in all other health indicators.
	No exclusion of women, and other vulnerable groups from project benefits. The proposed DESWSP construction will improve water supply, and enhance induced economic and social development objectives
	No use of child labor
Institutional	Effective, environmentally & socially sensitive operation of O&M
	contractor.

3.1. Air Quality:

- i) Construction Phase: Construction works include site clearance, site formation, building works, infrastructure provision and any other infrastructure activities. The major temporary air pollution is dust generated as a result of these construction works. Sampling Parameters and Stations will be determined as per EIA of 2018 (parameters are: SPM, PM10, PM2.5, SO2, NOx, CO, O3).
- ii) Operational Phase: The major permanent sources of air pollutants are sludge, effluents, vehicle emission from traffic on major roads and the air pollutants emitted from the vicinity of the industrial stationary sources of the Project area (parameters are: SPM, PM10, PM2.5, SO2, NOx, CO, O3).

Following Updated EIA of April 2018, 6 major location of the projected area will be under SSEMP activities. Six monitoring locations are Chaitankanda (Bishnandi), Shejan Point, Gandharbpur, Figure 1, and Table

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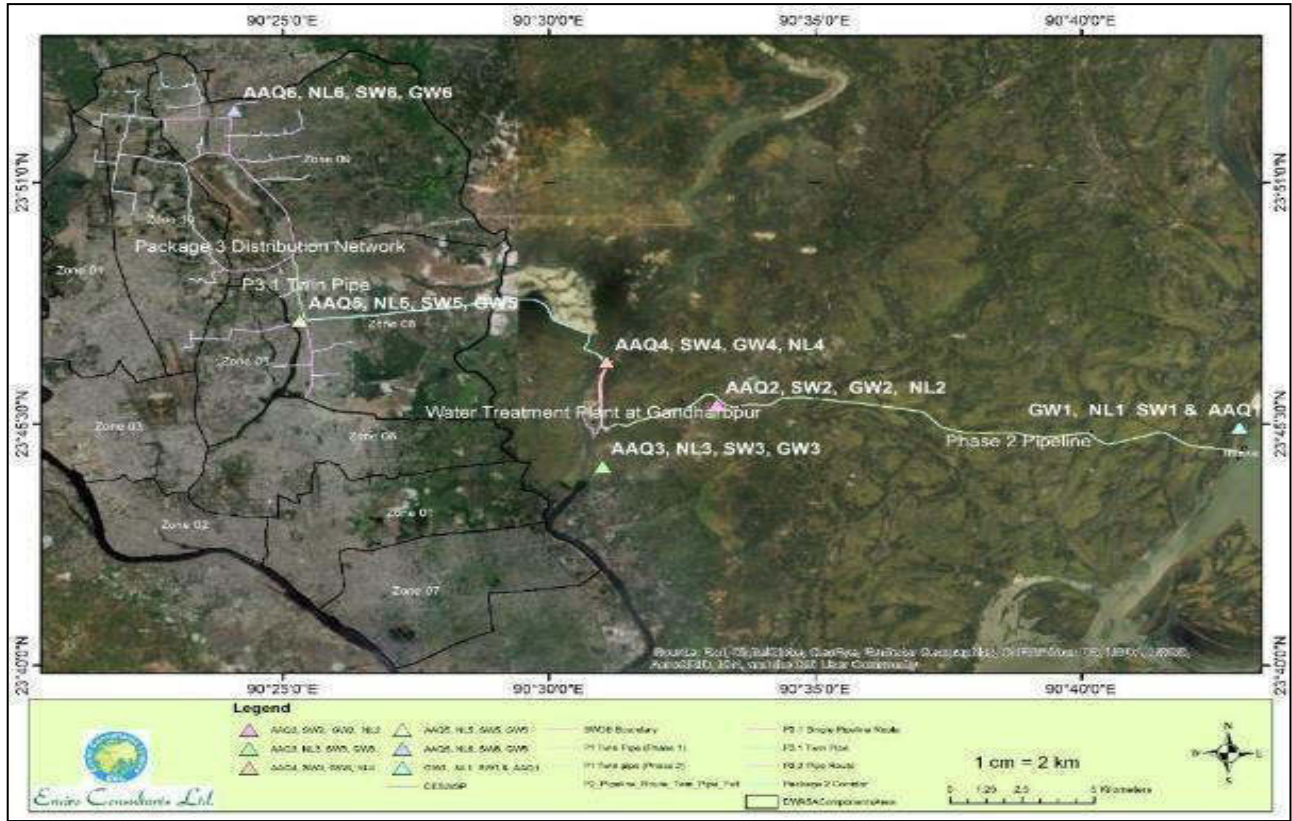




Figure 2 Environmental monitoring location of the projected area

Source: UEIA, April 2018

Table 3: Monitoring location of the projected area

ID	Monitoring Location	Map Content Name	Latitude DMS	Longitude DMS	Latitude DD	Longitude DD
1	Chaitankanda (Bishnandi)	GW1, NL1 SW1 & AAQ1	23° 45' 25.340" N	90°42' 58.075" E	23.757039	90.716132
2	Shejan Point	AAQ2, SW2, GW2, NL2	23° 45' 56.027" N	90° 33' 9.582" E	23.765563	90.552662
3	Gandharbpur	AAQ3, NL3, SW3, GW3	23° 44' 32.211" N	90° 31' 0.680" E	23.742281	90.516856

Source: UEIA, April 2018

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3.2. Ambient Noise Levels

During Baseline study, noise levels were recorded at locations in the study area detailed in UEIA, will be monitored during DESWSP Package 1 implementation period as part of SSEMP requirement. Noise levels will be recorded in the form of sound pressure levels with the help of a digital sound level meter. The details of noise monitoring locations are shown in Table 4 below. The purpose of ambient noise level measurement is to determine sound intensity at the monitoring locations. These locations were chosen in such a way that a representative data could be record all over the project area. The sound level will be recorded in form of A-weighted equivalent continuous sound pressure level (Leq) values with the use of A-weighting filters in the noise-measuring instrument. Table 5 presents noise quality standards.

Table 4: Ambient noise level monitoring locations



Pac. No.	Project Packages	Lo. No.	Monitoring Location	Land Use
1	P1 Raw Water Intake, Pipeline & Water Treatment Plant	1	Chaitankanda (Bishnandi)	Residential/agricultural
		2	Shejan Point	Industrial
		3	Gandharbpur	Residential

During SSEMP implementation, the following DoE Standards in Table 3 will be uses as a reference to identify any deviation of results, if the results exceeds than mitigation options will be applied as far as possible

Table 5: Noise quality standards, by zone and time of day

Zone Class	Limits in dB(A)	
	Daytime (6 am – 9 pm)	Nighttime (9 pm – 6 am)
Silent zone	45	35
Residential zone	50	40
Mixed (residential/commercial/industrial) zone	60	50
Commercial zone	70	60
Industrial zone	75	70

Source: Department of Environment (DoE), Bangladesh

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3.3. Water Quality



The physical parameters will include temperature, pH, EC, TDS, TSS, DO, and BOD₅ COD, and Iron (Fe). Samples will be tested in the field immediately after collection using field test kit. For laboratory test, samples will be preserved properly in cooler box during storage and transportation to the laboratories maintaining chain of custody (detail procedures is provided below). The sampling Stations are: Chaitankanda (Meghna River), Shejan Point (Canal), Gandhabpur (Shitalakshya River).

Water Quality and Sample Collection Procedure for all Package 1 (P1)

The surface water source of the proposed site for the DESWSP is Meghna River at Bishnondi.

The following procedures should be maintained during collection of samples for all Packages.

- Collect location map, sample bottles and waterproofed levels from the market (scientific Shops at Bangabandhu Avenue, Dhaka) or Laboratory, use dedicated GPS (Calibrate properly) machine to record the actual location of the sampling stations
- Water sample should be collected in one litre glass or high-density polyethylene bottle and store at low temperature (4°-10° c). Collect the water sample using sterile bottle, use special preservatives for some parameters, use cool box
- If groundwater, pump out water from the well for 5-7 minutes and measure the pH with the portable meter and record it in the form, subject to requirement, also test Dissolved Oxygen (DO), Temperature, Turbidity, Electrical Conductivity (EC), Alkalinity etc. (as per EMP), immediately after sampling, as the value of these parameters will change during transport and storage
- At the time of collection samples from groundwater, use hand gloves or wash your hand with well water, uncap the bottle carefully, fill the bottle and fix the cap. If preservative is needed fill the bottle till 2-3 cm below the top of the bottle add the relevant preservative and complete filling up to the top
- For bacteriological analysis, pump out water from the well for 5-7 minutes, remove any dirt with a clean cloth from the outlet of the pump, sterilize the pump outlet for 1-2 minutes with the flame by an ignited spirit or alcohol-wet cotton, fill the bottle and fix the cap. Transport the sample to the laboratory by 4-6 hours; otherwise use portable Microbiological Testing equipment for such test (suggested labs are: BSTI (Bangladesh Standards and Testing Institute), DPHE (Department of Public Health

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Engineering), BRTC (Bureau of Research, Testing and Consultation), BAEC (Bangladesh Atomic Energy Commission).

- All the sample bottles should be labelled properly and corresponding sampling forms should be filled in with the information detailed below:

- Serial number of the sample
- Date of collection and time
- Weather condition (sunny, rainy, cloudy, etc.)
- Filtered or raw water
- Use of any preservative
- Source of sample water- Surface or Groundwater (if groundwater, record depth of well, type of well, etc.)
 - Preserve the entire sample in a cool box and send immediately to the laboratory or any other recognized laboratory.
 - If necessary, collect some additional samples for cross-checking.


Table 6: Site Specific Environmental Management Plan (SEMP) Raw Water Transmission
Main

Activity	Environmental Impact	Duration /Extent	Magnitude	Mitigation Measures	Responsibility
Pre-construction (Design Phase)					
Raw water transmission pipeline	Damage to trees and clearance of vegetation at the project locations	Permanent	Moderate	Trees within the corridor of impact (area required for construction) will be felled after prior approval.	DBO Contractor



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Assets	Assets/facilities lost, including common property resources and religious structures	Permanent	Moderate	Designs to ensure crossdrainage through the provision of balancing culverts and sufficient cross-movement, including movement of fishes, shall be done to minimize severance impacts on khals and fish ponds cut across by the alignment.	DBO Contractor
Erosion	Soil erosion	Permanent	Moderate	The measures to address soil erosion at the proposed facilities will consist of measures as per design, or as directed by the SC to control soil erosion, sedimentation, and water pollution. All temporary sedimentation, pollution control works, and maintenance thereof will be deemed incidental to the	DBO Contractor

				earthwork or other items of work.	
Seismic considerations in design of structures	Structure at seismic risk	Permanent	Moderate	The designs of the project components, including intake structures and transmission mains, will conform to Bangladesh National Building Code, 2006.	Design Build Contractor, and SC



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Contractor's Camps	Temporary loss of land and implications of insufficient physical and social management of camps and labor resources	Permanent	Moderate	Temporary construction camps and any auxiliary objects will be located in places adjacent to project sites. The particular place for construction camps and auxiliary objects (vehicle parking lots, storage areas and etc.) will be determined jointly with local administration authorities	Design Build Contractor, and SC
Construction Materials	Procurement from nonenvironmentally & socially responsible suppliers	Permanent	Moderate	Give preference to goods and services sourced from organizations implementing an EMS (provision in tender documents).	Design Build Contractor, and SC
Spoil Disposal	Improper location and treatment of spoil dumps	Permanent	Moderate	Require Method Statement for spoil disposal, with details of authorization, location, placement, closure etc. (tender documents).	Design Build Contractor, and SC



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Cutting of trees	Damage to trees and clearance of vegetation at the project locations	Moderate	moderate	<p>Only trees that will require removal within the proposed construction areas of the sites will be cut. After the finalization of the designs and layout of the project components, the trees within proposed construction areas will be marked. For trees not proposed to be cut, taking all precautions to protect them from any damage from construction activities, including placement of tree guards will be taken up.</p> <p>The Contractor shall not clear the Site of any structure or mature tree without the prior written permission of the Engineer</p>	Design Build Contractor, and SC
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				(DB Contract, Section 6 - DB Part 03A Chapter 3.5)	
Assets/facilities lost, including common property resources and religious structures	Assets/facilities lost, including common property resources and religious structures	Permanent	Moderate	Designs to be worked out to minimize impacts on these assets. Compensation and assistance will be provided in accordance with the provisions of the RP.	Design Build Contractor, and SC

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Drinking water availability	Lacking of drinking water availability and water arrangement	Temporary	Moderate	Prior to the initiation of construction activities, the contractor will be responsible for the arrangement of water in every workplace at suitable and easily accessible places for the whole construction period. Sufficient supply of cold potable water should provide and maintain at the construction camps and other ancillary work areas.	Design Build Contractor / SC
Access to properties and services	Interference with access to properties and services	temporary	moderate	Section 6, part 03D General spec- Contract requirements, chapter 1.6.2: Before interfering with access to any property, the contractor shall provide alternative arrangements for such access. The contractor shall notify the engineer and the relevant occupiers in writing not less than 28 days in advance of such interference, and shall confirm to the engineer that alternative arrangements have been agreed. The contractor shall not obstruct access to any public utility or private owned manhole or other surface cover without prior approval in writing from the relevant authority.	Design Build contractor

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Construction Phase					
Relocation of utilities	Damage of utility lines	Permanent	Moderate	All utilities and services impacted due to the proposed components will be shifted/relocated, with prior approval of the	Design Build Contractor, and SC
				concerned agencies.	

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Health and Safety	Hazards to workers	Temporary	Moderate	<p>Project proponent and financier signal that best practice H&S standards should apply.</p> <p>At every workplace, a readily available first aid unit, including an adequate supply of sterilized dressing material and appliances, will be provided as per the factory rules. Suitable transport will be provided to facilitate the transfer of injured or ill persons to the nearest hospital. At every workplace and construction camp, equipment and nursing staff will be provided.</p> <p>The contractor will, at his own expense, conform to all anti-malaria instructions given to him by the SC.</p> <p>All relevant provisions of the Bangladesh Labor Act, 2006 and Bangladesh National Building Code, 2006 will be adhered to, concerning the provision of adequate safety measures during construction. The contractor will comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells,</p>	Design Build Contractor
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				excavations, trenches, and safe means of entry and egress.	
Conflict among the work personnel and labor	Conflict among the work personnel and labor	Temporary	Moderate	Proper work distribution plan with maintenance authority.	Design Build Contractor

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Child labor	Child labor Risk of contractors or subcontractors	Temporary	Minor	<ul style="list-style-type: none"> • National laws on child labor will strictly followed. No child labor will be allowed by the contractors 	
	hiring child labor in the construction activities.			or subcontractors in any of the project activities.	
Health and safety	Accident prevention and work safety procedures	Temporary	Moderate	Awareness of workers about hazardous materials and proper handling methods. Warning signs, labels and signals. Provide helmets, safety shoes and other PPE for workers in accordance with accident prevention and work safety procedures	Design Build Contractor

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Dust and air quality	Dust Pollution <ul style="list-style-type: none"> • Impact Sources Emissions from construction related traffic and machinery. • Dust from works, carrying machinery equipment to the site, and traffic from trucks and vehicles. • Create nuisance 	Road damage	Temporary	Moderate	<p>The contractor will (i) take every precaution to reduce the levels of dust at construction sites, and not exceeding the pre-project ambient air quality standards; (ii) fit all heavy equipment and machinery with air pollution control devices that are operating correctly; (iii) reduce dust by spraying stockpiled soil, excavated materials, and spoils; (iv) cover with tarpaulin vehicles transporting soil and sand; and (v) cover stockpiled construction materials with tarpaulin or plastic sheets.</p> <p>Implement measures in Environmental Code of Practice of Air Quality Management. Dust generation will be restricted as much as possible and water sprinkling carried out as appropriate, especially where earth moving and excavation are carries out.</p> <p>Emissions during bore logs digging, equipment and traffic will comply with ADB EHS guidelines and will be monitored.</p>	Design Build Contractor and SC
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				Spray of water is suggested in the road and construction sites Capacity of truck load should stay below capacity of road	
ROW along agricultural land, cutting trees growing in Right of way P1 Pipelines and slopes, constraining to rehabilitation of irrigation canals and structures	Distortion of land change of ecological system and biodiversity	Permanent	Moderate	The planting locations and number of plants to be determined based on results survey to be held prior to construction, without entering into area of private land holders	Package 2 Contractor, MDSC,

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<p>Air pollution (SPM, PM_{2.5}, PM₁₀, SO_x, NO₂ and CO)</p> <p>Impairment of air quality may have an impact on geotechnical investigation workers, local residents and surrounding environment</p> <p>Air pollution generates from exhaust of engines.</p> <p>Emission</p>	<p>Adverse impact to flora, fauna, human health & surrounding</p>	<p>Temporary</p>	<p>Moderate</p>	<p>-Drilling and transport vehicles shall move only in-designated areas and roads.</p> <p>-Water dry drilling areas and access roads to reduce dust emissions</p> <p>-Minimize traffic in villages and other residential areas</p> <p>-Reduce vehicle speed in drilling areas and access roads to 10 km/h</p> <p>-Machines and vehicles must be regularly examined and maintained to comply with requirements of technical specifications</p>	
<p>from drilling vehicle and machine</p>					



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Construction Access & Traffic	Unsafe access routes and construction traffic hazards, temporary dispersion of dust	Temporary	Moderate	Maximize use of future permanent roads for site access. The project site is located at remote area, no settlements are there, as such sign postings, dedicated parking for construction vehicles, etc, not considered essential. Contractor's yard will be placed as discussed.	
Construction Access to construction site	Access to and disturbance of private properties	temporary	moderate	D&B part 3A-specification Civil clause 1.4.2: Interference with access to properties and services " Before interfering with access to any property, contractor shall provide alternative arrangement for such access"	Design Build contractor
Spoil Disposal	Improper location and treatment of spoil dumps	Permanent	Moderate	Dispose of spoil only at designated sites and by approved methods; methods must consider topsoil conservation and quality, long-term soil stability against shrinking and swelling, erosion and flood waters	Design Build contractor
Waste Management and Pollution	Improper disposal of solid and liquid wastes; spills & inadequate clean-up	Permanent	Moderate	Design and prepare Site Waste Management Plan in consultation with Dhaka North City Corporation (DNCC) Dhaka South City Corporation (, DSCC), Department of Environment (DoE)	Design Build contractor



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Dust	Dust nuisance or hazard at construction sites and surroundings (Dust generates due to stone crushing, equipment	Temporary	Moderate	Spray water exposed surfaces and access routes in dry season to prevent dust nuisance	Design Build contractor
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	staging yards/areas, material storage areas, excavated material disposal areas, uncontrolled emission of solid airborne particulate matter from any source other than combustion, etc.).				
Occupational health, safety and, fire safety	Harm to laborers	Temporary	Moderate	The scope of works includes the occupational health and labor safety measures, consistent with effective rules and provisions, prevention of incidents and occupational diseases, as well as improvement of working conditions. The primary fire -fighting equipment will be provided at construction site.	Design Build contractor

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	Noise and Vibration from construction equipment	Temporary	Moderate	The contractor will ensure (i) regular maintenance of vehicles, equipment, and machinery to keep noise from these at a minimum; and (ii) all vehicles and equipment used for construction will be fitted with exhaust silencers. During routine servicing operations, the effectiveness of exhaust silencers will be checked, and if found to be defective, will be replaced.	Design Build Contractor and SC
	Temporary measures for construction activities around habitations/ institutional uses	Temporary	Moderate	The contractor will provide the following measures during the laying of transmission mains for sections in the vicinity of habitations and commercial and institutional areas, to minimize access and livelihood disruption: (i) place walkways and metal	Design Build Contractor and SC

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			<p>sheets where required to maintain access across trenches for people and vehicles; (ii) increase workforce in front of critical areas such as institutions, places of worship, business establishments, hospitals, and schools; (iii) consult businesses and institutions regarding operating hours and factoring this into work schedules; and (iv) provide signboards for pedestrians to inform them of nature and duration of construction works and contact numbers for concerns/complaints.</p>	
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	Environmental pollution / human health Stockpiling of construction materials, excavated earth/spoil from trenches	Temporary	Moderate	<p>Due consideration will be given to material storage and construction sites such that it doesn't cause any hindrance to daily traffic movement. The contractor will (i) consult with implementing agency on the designated areas for stockpiling of clay, soils, gravel, and other construction materials; (ii) avoid stockpiling of earth fill, especially during the rainy season, unless covered by tarpaulins or plastic sheets; (iii) prioritize reuse of excess spoils and materials in the construction works; and (iv) protect surface water bodies from any source of contamination, such as oily wastes, debris, and spoils that will degrade its quality.</p> <ul style="list-style-type: none"> Excavated material shall not enter surface waters, surface water banks or impede flows - in particular, the following shall be done: do not dump material in surface waters, at river banks or in flooding areas, in case rivers have been blocked remove the 	Design Build Contractor / SC
				material	

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	Improper movement of construction vehicles, Oil spillage, grease and lubricant	Temporary	Moderate	<p>The movement of construction materials and equipment, to the extent possible, will be plan along major roads, with the exception of access roads to the site. In the event of movement of construction vehicles and equipment on the narrow roads, strengthening of these roads will be carried out, and timing of movement of heavy vehicles worked out to avoid peak hours and night time, and to ensure minimal disturbances to the communities and the resident population along these roads.</p> <ul style="list-style-type: none"> Maintenance will be conducted at safe distance from watercourses so that no oil spills can enter the water. <p>Contaminated soil should be excavated and disposed properly in a confined place outside inundation areas</p>	Design Build Contractor and SC
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	Contamination of soil and groundwater quality	temporary	moderate	<ul style="list-style-type: none"> The soil contaminated with drilling mud should be avoided For effluents to be discharged from work place, camps, and offices, treatment arrangements such as retention ponds and septic tanks will be incorporated in the facility designs.	Design Build contractor
	Archaeological property chance findings	Permanent	Moderate	In the event of an archaeological chance find at the construction site, the contractor will prevent workmen or any other persons from removing and damaging any chance find artefacts and will, immediately upon discovery	Design Build Contractor and SC
				thereof, inform the SC of such discovery and carry out the SC's instructions for dealing with the same, awaiting which all work will be stopped for 100 m in all directions from the site of discovery.	



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	Loss of access to residents, businesses, and institutions during construction.	Temporary	Moderate	<p>The contractor will provide safe and convenient passage for vehicles and pedestrians through diversions to and from side roads, and property access connecting the project roads. The contractor will ensure that (i) the construction works do not interfere with the convenience of the public or access to, use, and occupation of public or private roads, or any other access to properties, whether public or private. Temporary access to properties adjacent to the construction site will be provided through the construction of ramps with concrete slabs for use of pedestrians and light vehicles; (ii) in critical areas such as institutions, operating hours are factored into work schedules and workforce is increased for speedy completion; (iii) advance information on works to be undertaken including appropriate signage, is provided; and (iv) the diversion is done in coordination with the traffic police division for necessary rerouting of traffic and traffic management.</p>	Design-Build Contractor and SC
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	Damages to utilities and services during construction	Permanent	Moderate	The contractor will be required to: (i) plan for immediate attendance by the service providers to any damages to utilities during	Design-Build Contractor and SC
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				construction; (ii) replace (or compensate for) public and private physical structures damaged due to construction or vibration; and (iii) provide prior public information about the likely disruption of services. In consultation and with support from DWASA, the contractor will provide alternative arrangements for water supply in the event of disruption beyond a reasonable time, for instance, through tankers.	
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	Clearing of construction camps and restoration	Temporary	Moderate	The contractor will prepare site restoration plans for approval by the SC. The plan will be implemented by the contractor prior to demobilization. On completion of the works, all temporary structures will be cleared away, all rubbish burned, excreta or other disposal pits or trenches filled in and effectively sealed off, and the site left clean and tidy, at the contractor's expense. The site will be restored to preproject conditions through the removal of all extraneous material on site. During the site clearance and earthwork, it the necessary to be careful about the following:	Design Build Contractor and SC
	Quarry/borrow pit operations	Permanent	Moderate	Responsibility of the contractor to- (i) obtain approval of implementing agency if new quarries and borrow sites are necessary (ii) store stripped materials as not to disrupt natural drainage and protect them to prevent erosion and migration of soil particles into surface waters; (iii) provide temporary ditches and/or settling basins to collect run-off water and to prevent	Design-Build Contractor and SC

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			<p>erosion and contamination of surface water; (iv) plant exposed areas with suitable vegetation at the earliest opportunity and prevent ponding of water through temporary drains discharging to natural drainage channels; (v) restore sites after construction activities by stabilizing contours and slopes, spreading stripped materials to promote percolation and re- growth of vegetation, and draining any standing water. Land utilized for quarry sites access roads will also restored, and (vi) ensure adequate safety precautions during transportation of quarry material from quarries to the construction site (vii) Ensure all employee and labor covered by proper PPE and safety net program. Vehicles transporting the material will cover to prevent spillage.</p>	
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	Disposal of bituminous wastes / construction waste / debris / cut material	Temporary	Moderate	For project components involving demolition of structures, the contractor will prepare and implement a waste management plan. Safe disposal of the extraneous material will be ensured in the pre-identified disposal locations. To enable minimization of waste disposal and do this in an environmentally safe manner, the waste management plan will (i) recover used oil and lubricants and reuse or remove from the site; (ii) manage solid waste according to the following preference hierarchy: reuse, recycle, and dispose of in designated areas;	Design Build Contractor and SC
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	Stripping, stocking, and preservation of topsoil	Permanent	Moderate	<p>The topsoil from productive agricultural lands at the intake site, borrow areas, and areas to be permanently covered will be stripped to a specified depth of 150 mm and stored in stockpiles. The stockpile will be designed such that the slope does not exceed 1:2 (vertical to horizontal), and the height of the pile will be restricted to 2 m. Stockpiles will not be surcharged or otherwise loaded, and multiple handling will be kept to a minimum to ensure that no compaction will occur. The stockpiles will be covered with gunny bags or tarpaulin. It will be ensured by the contractor that the topsoil will not be unnecessarily trafficked, either before stripping or when in stockpiles. Such stockpiled topsoil will be returned to cover the disturbed area and cut slopes.</p>	Design-Build Contractor and SC
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	Use of explosive materials	Permanent	Moderate	<p>Except as may be provided in the contract or ordered or authorized by the SC, the contractor will not use explosives.</p> <p>The contractor will, at all times, take every possible precaution, and will comply with appropriate laws and regulations relating to the importation, handling, transportation, storage, and use of explosives and will, at all times when engaged in blasting operations, post sufficient warning flagmen. The contractor will carry out the use of explosive materials only after obtaining written approval of the SC of the procedures to be followed.</p>	Design-Build Contractor and SC
	Material handling at site	Temporary	Moderate	<p>All workers employed for mixing asphaltic material, cement, concrete, etc. will be provided with protective footwear and goggles. Workers engaged in welding works will be provided with welder's protective eye shields. The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions.</p>	Design Build Contractor and SC

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Soil and water pollution	Soil and water pollution due to fuel, lubricants, and construction waste	Temporary	Moderate	<p>The fuel storage and vehicle cleaning area will be stationed such that runoff from the site does not drain into the water bodies/ponds abutting the construction sites.</p> <p>Oil interceptors will be provided at construction vehicle parking areas, vehicle repair areas, and workshops, ensuring that all wastewater flows into the interceptor prior to its discharge. All work sites will be cleaned and restored to pre-project conditions.</p> <p>Discharge standards promulgated under Schedule 10, standards for waste from industrial units or projects waste will be strictly adhered to.</p>	Design Build Contractor and SC
Operation phase					
Pipeline route along agricultural land, pipeline access road	Possible waterlogging	Permanent	Moderate	<p>Canalization of water through the internal Canals and rivers</p> <p>Section 6-D&B part 2E- Access Roads and Crossing Requirements, Clause 1.3 Pipeline Access Road- Para 3 :</p> <p>"Culverts and other appropriate means of drainage shall be provided such that the pipeline access road shall not interface with natural</p>	Design build contractor

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				<p>drainage paths"</p> <p>D&B part 3A- specification Civil Clause 1.4.7: Works affecting watercourse and surface water drains- 2nd para:</p> <p>"The Contractor shall maintain watercourses and drains within the site in effective working condition at all time"</p> <p>4th para</p> <p>" The Contractor shall take all reasonable precautions to ensure that no work in any water course or drain is done in such a manner as to cause unnecessary damage. And if any damage is done, he will repair such immediately and for such repair no payment will be made to the Contractor."</p>	
	Survival of trees, maintenance, of landscaping, and the green buffer zone	Permanent	Moderate	Proper care will be taken to increase the survival rate of saplings, like regular watering, pruning, provision of tree guards, provision of manure for better nourishment, etc., including timely replacement of perished saplings.	Design Build contractor

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	Environmental conditions	Permanent	Moderate	Design Build contractor will undertake seasonal monitoring of air, water, noise, and soil quality through an approved monitoring agency. The parameters to be monitored, frequency and duration of monitoring, as well as the locations to be monitored will be as per the monitoring plan prepared.	Design Build contractor
	Occupational health and safety at the water transmission main	Permanent	Moderate	Design Build contractor will establish procedures and systems to maintain sound occupational health and safety for the personnel at the various facilities,	Design Build contractor
				including the use of PPE, provision of training on occupational health and safety to all workers, etc. To address environmental risks, during the operation of the facilities, DWASA will develop and implement an emergency action plan, which will include training and systems on emergency response systems and procedures.	

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Raw water transmission pipeline	Damage to trees and clearance of vegetation at the project locations	Permanent	Moderate	Trees within the corridor of impact (area required for construction) will be felled after prior approval. Cutting of trees in private and public lands will be minimized. Compensatory plantation for trees lost at a rate of 10 trees for every tree cut, maintenance of the saplings for the duration of the contract	DB Contractor
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Table 7: Construction Stage Environmental Monitoring Plan

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Responsibility	Cost and Source of Funds
Construction disturbances, nuisances, public and worker safety	All work sites	Implementation of dust control, noise control, traffic management, and safety measures. Site inspection checklist to review implementation is appended at Appendix-N	Weekly during construction	Supervising staff and safeguards specialists	No costs required
Ambient air quality	According to IEE 2013	SPM PM10, PM2.5 NOx, SO2, CO	Village 2km away from intake, Sejan juice factory, Quarterly (except monsoon season) during construction	Contractor	part of construction costs

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Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Responsibility	Cost and Source of Funds
			(2-year period)		
			considered), 24hour monitoring		
Ambient noise	(same as air quality monitoring)	Day time and night time noise levels (24 hours)	Once before start of construction Quarterly (except monsoon, during construction)	Contractor	Part of construction costs
Water quality (River crossings required for the transmission lines at various canals at RWP alignment)		TDS, TSS, pH, Hardness, BOD and Fecal Coliform)	Once before start of construction. Twice a year (pre monsoon and post monsoon) for the entire period of construction	Design-Build Contractor to be monitored through approved monitoring agency and PMU (DWASA and SC)	Part of construction costs

1. COVID-19 PREVENTION GUIDELINES কিভড -১৯ িতেরােধর িনেদর্ িশক

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In line with the recent pandemic of COVID-19, GWTSNC reminds that our priority is to protect project sites employees, contractors and the public as well as to limit the spread of the virus further, would like to advise all stake holders to implement prevention and control measures in their respective facilities to stop the COVID-19 from entering and spreading within and outside their facilities. কিভড -১৯ -এর সািতক




মহামারির সাথে সামসয ে রেখ িজিডিউটিএসএনিস রন কিরেয় েদয় েষ কের কমর্চারী, িঠকাদার এবং জনসাধারণেক সুরা েদওয়ার পাশাপাশি ভাইরাসের িবারেক আরও সীিমিত করা আমােদর কােছ অাধিকার পায়, িতেরাধ ও িনয়ন িয়া বাবায়ন করার জনস্ব সম েকেহারেদর পরামশর্ েদওয়া যােতে কিভড -১৯ তােদর ফস্াসিলিটর িভতের এবং বাইের সংমন ও িবার েরাধ করেত পাের।

1. Safety Precautions: িনরাপৎতামূলক সতকর্ তাঃ

- Restrict/Reduce the number of visitors in the facility. মনাথেদর ফস্াসিলিটেত সংখস্া কমােনা/সীিমিত করা।
- Evaluate the Travel history of all people before allowing them to visit your facility. ফস্াসিলিটেত েবেশর সিত দােনর পূেবর্ সকেলর মন হিতহাস মূলস্ায়ন করা।
- A person coming from other countries shall undergo 14 days' quarantine period before visiting your facility অনস্ব েদেশ েথেক আসা বস্ি ফস্াসিলিটেত েবেশর পূেবর্ ১৪ িদেনর েকায়ারাইন সময় িতবািহিত করেব
- All employees/visitors Body Temperature will be checked at their Facility's Main Entrance/Door/Gate. ফস্াসিলিটর ধান েবেশ পেথ/দরজা/েগট এ সকল কমর্চারী/মনাথর শারীিরক তাপমাা পরীা করেত হেব
- Any employees/visitors with Symptoms of Cough, Runny Nose, Fever and Headache shall be restricted from entering the project site and will be recommended for further Healthcare evaluation. কাশি, সিদর্, র এবং মাথাবস্খা লন ধারী েযেকান কমর্চারী/মনাথ েজ সাইেট েবেশ করেত পারেব না এবং পরবত াস্ পরীার জনস্ব পাঠােনা হেব।
- Face Masks and Hand Gloves shall be provided as mandatory PPEs for all employees/visitors েফসমা এবং হাতেমাজা অতস্াবশস্ক িপিপই িহেসেব সকল কমর্চারী/মনাথেদর দান করেত হেব।

2. Workplace Safety Practices: কমর্লে িনরাপৎতার চচর্ া

- Reduce the working hours in the facility. ফস্াসিলিটেত কমর্ ঘা কমায়
- Social Distancing (minimum of 2 meters) shall be maintained between every person inside the facility ফস্াসিলিটর িভতের েতস্ক বস্ি েথেক সামািজিক দূর (নূস্নতম ২ িমটার) বজায় রাখেত হেব।

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- c. Meetings, Conferences and Gatherings shall be completely avoided. বৈঠক, সভা এবং সমাবেশ সূনর ড্রিডেয় চলেত হেব।
- d. Face Masks and Gloves shall be made mandatory PPEs throughout the day and to be monitored regularly to protect employees from exposure. ফেসমা এবং হাতেমাজা অতযাবশযক িপিপই িহেসেব সম িদিনবযাপী বাধয্তামূলক করা হেব এবং িনয়িমত তদারিক করেত হেব যাতে কমর্চারীরা সংমিত না হয়।
- e. Avoid Physical contact with each other (Shaking Hands, Hugging, Kissing, etc.). এক অপেরর সােথ শারীরিক সংশর্ ড্রিডেয় চলুন
- f. Confine yourself within your workplace boundaries. কমর্লের সীমানা মেধয িনেজেক আব রাখুন।
- g. Avoid roaming around sites without any valid reasons. উপযু কারন ছাড়া সাইট ঘুরাঘুরি ড্রিডেয় চলুন।

3. Hygienic Practices: াযিবিধ চচর্ াঃ

- a. Provide Sufficient Hand Wash and Sanitizers in prominent places at the facility. উপযু ানে পযর্ হযাওয়াশ এবং সয্ িনটাইজার দান করুন।
- b. Wash Hands often with soap and water for at least 20 seconds. ায়শই হাত সাবান পািন িদেয় ২০ েসেক ধৌত করুন।
- c. Avoid Touching your Eyes, Nose and Mouth without washing your hands. েচাখ, নাক এবং মুখ হাত না ধুেয় শর্ করা েথেক িবরত থাকুন।
- d. Use hand sanitizer (70% Alcohol-based) if soap and water are not available. সাবান এবং পািন না থাকেল সয্ িনটাইজার বয্বহার করুন।
- e. Cover coughs and sneezes with tissues or bent elbow. কাশি এবং হাচি িটশয বা কনুইয়র ভাজ িদেয় েডেক িদিন।

4. Cleaning and Disinfection of Facilities: ফয্ িসিলিট পিরার ও জীবানুমুকরনঃ



- a. Carry out Cleaning, Sanitization and Disinfection programs in the facility, on a regular basis. িতিনয়ত পিরার, পযঃ িনাশন ও জীবানুমুকরন োাম চালু রাখুন।
- b. All common areas of workplace and movements shall be disinfected. Disinfection areas of the facility are listed below, but not limited to: কমর্ে ও চলাচেলর গন এলাকাগিল জীবানুমু করেত হেব। ফয্ িসিলিটর জীবানুমুকরন এলাকার তালিকা িনেচ েদওয়া হল, িক সীমা নয়ঃ

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- Administration Area - office room, meeting room, conference room, reception, etc. শাসিনক এলাকা-অফিস ক, বৈঠক ক, সভা ক, অভয়রথনা ইত্যাদি।
- Office Equipment — desktop PC, laptop, tablet, desk, chair, etc. অফিস সরাম-ডেটপ পিসি, ল্যাপটপ, ট্যাবলেট, ডে, চেয়ার ইত্যাদি।
- Regular Access / Touch Units — doors, windows, rails, switches, buttons, etc. তস্থ অভগমন/শির্ত ইউনিট-দরজা, জানালা, হাতদানি, সুইচ, বাটন ইত্যাদি
- Welfare facilities - restroom, dining room, toilets, washrooms, first aid stations, etc. ওয়লেফয়ার ফ্যাসিলিট-বিমাগার, খাবারঘর, শৌচাগার, সাজঘর, াথমক িচিকটসার েশান ইত্যাদি
- Workshops - machinery, equipment, tools, panel board, control switches, working platforms, etc. কারখানা-েমিশনপ,সরাম,যাংশ, প্যােনল েবডর, িনয়ক সুইচ, কােজর ান ইত্যাদি।
- Warehouse — storage area, handling equipment, racking system, loading/unloading bay, etc. পণ্যাগার-সংরন এলাক, হ্যািলিং সরাম, েরিকং িসেম, উঠােনা নামােনা খািড় ইত্যাদি
- c. Selection of cleaning and disinfection solutions should be primarily based on the safety and efficacy of the product and surface to be cleaned and/or disinfected. পিরার এবং জীবানুনাশক বয় িনবরাচন াথমকভাবে িনদুর পণয় এবং পুরে পিরার এবং / বা জীবানু হওয়ার জনয় িনরাপদ এবং কাযর্কারিতার উপর িভিৎত কের হওয়া উচিত।
- d. All the facilities shall develop an Infectious Disease Preparedness and Response plan/procedure, that includes the Cleaning, Sanitizing and Disinfecting process of surfaces exposed to infection সম ফ্যাসিলিটগিল একিট সংামক েরাগ িত এবং িতিয়া পিরকনা / পিত িবকাশ কেরব, যার মেধয় সংমেণর বাহিত পৃগিলর পিরারকরণ, স্যািনটাইজং এবং জীবানুনাশক িয়া অভুর রেয়েছ।

5. Transportation: পিরবহনঃ

- a. Common Staff Transports Vehicle & Buses, before and after each trip, shall be properly disinfected. কমন াফ পিরবাহী যানবাহন ও বাসগিল িতবার যাতায়াতের ঐাগ এবং পের সিঠকভাবে জীবানু মু করা হেব।
- b. Disinfection of vehicles shall include all seats, belts, handles, etc. and distribution vehicle/truck. যানবাহন জীবানুমুকেরনর মেধয় সম আসন, েব, হ্যােলে ইত্যাদি এবং িবতরণ যানবাহন / াক অভুর থাকেব।
- c. Social distancing shall be followed in passenger's transport, for each trip. Only One Person shall be permitted to sit on each row/seat. িতবার যাতায়াতে যী পিরবহেন সামাজিক দূর অনুসরণ করা হেব।
িতিট সারি / আসনে কেবল একজন বয়িক বসার অনুমিত েদওয়া হেব।

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- d. Face masks shall be mandatory for passengers while travelling because social distancing will be less than 2m. যীেদর জনষ্ মা পরা বাধ্য়তামূলক হেব কারণ সামাজিক দূর ২ িম এর িনেচ হেব
- e. Face Masks and Hand Gloves shall be provided as mandatory PPEs for all employees/visitors. সকল কর্মচারী \মনাথেদর জনষ্ বাধ্য়তামূলক িপিপই সরবরাহ করেত হেব

6. General Symptoms of COVID-19:

- Headache: মাথাবষ্থা
- Breathing difficulty: াসক
- Fever: র
- Loss of smell and taste: গ ও াদ কেম যাওয়া
- Runny nose: সিদর্
- Dizziness: িঝমুিন
- Sore throat and cough: গলাবষ্থা এবং কাশি

েকাভিড-১৯ এর সাধারন লনসমূহ:

7. Reporting: িরেপাটর্ ংঃ

Any employees developing the above Symptoms, with a Travel History to affected countries, shall be advised to take immediate Medical/Healthcare evaluation.

আা েদেশগিলেত মেনর হিতহাস সিলত েকানও কর্মচারীর মেধ্ উপেরর লনগিল কাশ েপেল তাড়িগক িচিকৎসা / াষ্েসবা মূলষ্ায়ন করার পরামশর্ েদওয়া হেব।

COVID-19 suspected and positive cases must be reported to the GWTNSC Project site management

COVID-19 সেহজনক এবং িনিত েকসগিল অবশ্য়ই GWTNSC কের সাইট ম্শ্ােনজেমেক জানাতে হেব

- GWTNSC Security Managers +880-1714-110353
- GWTNSC HSE Manager +880-1313-404996





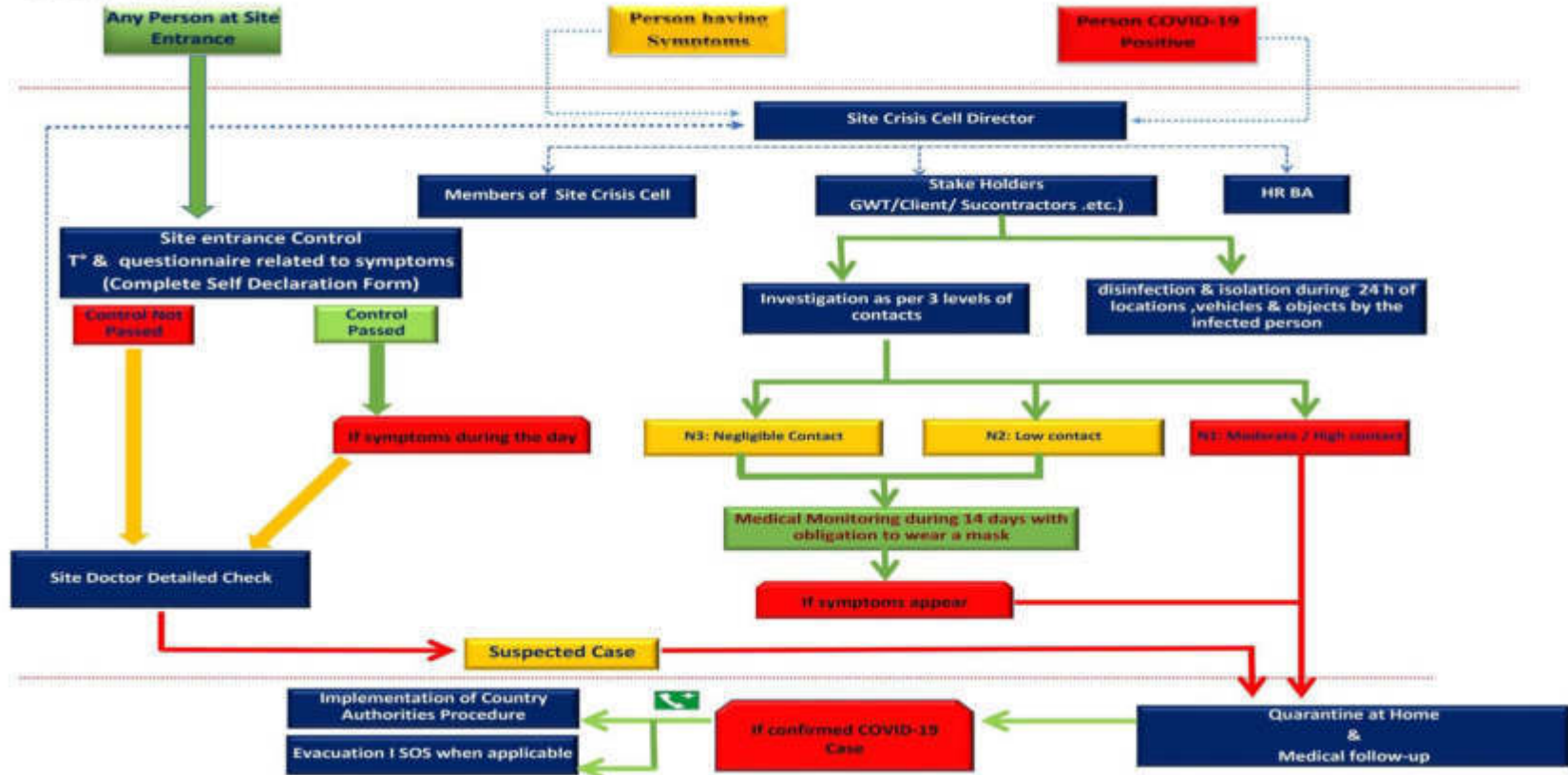
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FIG. 1: COVIDE CASE HANDLING Flow Chart

COVID CASE HANDLING



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FIG.2: Prevention Recommendations



CORONAVIRUS (COVID19) 新冠病毒

Preventive Measures 预防措施




GWTSNC is taking reasonable precautions to prevent the spread of Coronavirus




Coronavirus (COVID19) is a GLOBAL Pandemic

Symptoms 症状


Know how the coronavirus spreads. 新冠怎么传染?

Take steps to protect yourself 保护自己的几个方法



Wash your hands frequently for 20 seconds.
勤洗手，每次不少于20秒
কমপক্ষে ২০ সেকেন্ড আগলার হাত পানি দিয়ে প্রায়শই ধুয়ে নিব



Wear a facemask when you are visiting a public place
去公众区域戴口罩
জনসমাগম স্থানে গমন্নের সময় ফেস মাস্ক ব্যবহার করুন



Keep a minimum distance of one meter from other people
和其他人保持至少1米的距离
অন্য ব্যক্তি থেকে ন্যূনতম ১ মিটার দূরত্ব বজায় রাখুন



Avoid hugs and physical contact
见面问候时不要有身体类接触
আদর্শন এবং শারীরিক স্পর্শ পরিহার করুন



Avoid touching your eyes, nose, or Mouth with unwashed hands.
未洗手前禁止触摸眼睛、鼻子、口腔
চোখ, নাক বা মুখ অপরিষ্কার হাত দিয়ে স্পর্শ করবেন না



If you feel sick stay at home – stay at home and consult a physician
发现自己体温不正常就居家隔离观察并上报项目安全部门
অসুস্থ অনুভব করলে গৃহে অবস্থান করুন



Cough or sneeze into the crease of your elbow and use disposable tissue.
咳嗽打喷嚏时用肘部遮挡，并使用一次性纸巾
আপনার কবুই আর ডাজ এ হাচি এবং কাশি দিন






Clean and disinfect frequently touched surfaces daily.
每日清洁和消毒你经常触碰的物体表面
দৈনিক ব্যবহৃত আসবাবগুলো প্রতিদিন ভালোভাবে পরিষ্কার করুন



Avoid busy public area
避开拥挤的公众场所
জনসমাগম স্থান পরিহার করুন



While you are having any symptom mentioned above immediately consult doctor
当您有症状时立即咨询工地总承包医生
উপরে উল্লিখিত কোনো লক্ষণ দেখা দিলে অবিলম্বে ডাক্তারের পরামর্শ নিব

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XX. SELF Declaration FORM নিজ ঘোষণা ফর্ম

This COVID-19 declaration form is intended for any person entering to site. It applies to those who: সাইট বেসকারী যেকোন ব্যক্তির উদ্দেশ্য এই কোভিড-১৯ ঘোষণা ফর্ম।
প্রতি তাদের ঘোষণা যারা:





- 1) were contaminated by the COVID-19 virus or had the symptoms
কোভিড -১৯ ভাইরাস দ্বারা দূষিত ছিল বা এর লক্ষণ ছিল
- 2) have been in a country at risk or ঝুঁকিপূর্ণ একটি দেশে ছিল
বা
- 3) have been in the vicinity of an infected person to register in the group database. গ্রুপ ডাটাবেসে নিবনের জন্য কোনও সংশ্লিষ্ট ব্যক্তির সংশ্লিষ্ট রেখেছেন।
- 4) New joiner or who have Joined site after a leave/holiday/gap of considerable time.
নতুন যোগদানকারী বা যারা ছুটির পের / ছুটির দিন / নিবন্ধ সময়ের ব্যবধানে সাইটেতে যোগদান করেছেন।

This information, which is treated confidentially by GWT SNC, makes it possible to assess the evolution of the epidemic within the company and to set up the necessary prevention and protection measures. This declaration should, in no way, exclude other existing information systems: HR/Health and Safety/Management.

এই তথ্য, যা GWT SNC গোপনে পরিচালনা করে, সংশ্লিষ্ট মহামারীর অবস্থা মূল্যায়ন এবং যৌক্তিক ঝুঁকি তৈরি ও সুরা ব্যবস্থা গ্রহণ সব করে। এই ঘোষণাকে কোনও উপায়ে অন্য বিদ্যমান তথ্য সিস্টেমগুলি বাদ দেওয়া উচিত নয়: এইচআর / ঝুঁকি ও সুরা / ব্যবস্থাপনা

All details including International and Domestic Travel needs to be include as follows:
আজরাতিক এবং আন্তর্জাতিক যাত্রার বিবরণ নিম্নলিখিত উপায়ে অন্তর্ভুক্ত করা
য়োজন:

1. Details of the cities / countries visited since last 14 days?

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গত ১৪ দিন থেকে যে শহরগিল / দেশ পরিদর্শন করা হয়েছে তার বিবরণ?

_____ 2. Are you suffering from any of the following symptoms?





আপনি কি নিম্নলিখত কোনও লগ্ন নিয়ে ভুগেছন?

Fever:র:	Yes হ্যাঁ	No না
Cough:কাশি:	Yes হ্যাঁ	No না
Respiratory distress (Shortness of breath):াসক	Yes হ্যাঁ	No না
Muscle Pain পেশী ব্যথা	Yes হ্যাঁ	No না
Diarrhea ডায়রিয়া -উদরাময়	Yes হ্যাঁ	No না
Loss of smell গন্ধ না পাওয়া	Yes হ্যাঁ	No না
Cold ঠাণ্ডা লাগা	Yes হ্যাঁ	No না
Sore throat গলায় ব্যথা	Yes হ্যাঁ	No না

3. Do you have a travel history to China, Hong Kong, Republic of Korea, Italy, Iran, Japan, France, Spain, UK, USA and other Covid-19 affected countries on or after Dec 08, 2019? If yes, then mention the country:

আপনার কি চীন, হংকং, কোরিয়া, ইতালি, ইরান, জাপান, ফ্রান্স, স্পেন, যুক্তরাষ্ট্র এবং অন্যান্য কোভিড-১৯ ভাবিত দেশগিল ০৮ ই ডিসেম্বর, ২০১৯ এর পের মগ করার ইতিহাস রয়েছে? যদি হ্যাঁ, তবে দেশটির নাম উেখ করুন:




• Yes হ্যাঁ No না

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4. Have you contacted with people having such travel history? If yes than mention Travel history and relation with the person (Father, mother, siblings, spouse and children): আপনি িক এই জাতীয় মণ হিতহাসের সাথে যোগাযোগ করেছেন? যদি হ্যাঁ তার চেয়ে মের হিতহাস এবং সেই বর্ষের সাথে সেকর্ র কথা উেখ করুন (িপিতা, মা, ভাইবান, ী এবং সানেরা):
5. Have you Yes হ্যাঁ No না already been diagnosed as contaminated with Covid-19? আপনি হিতমেধয কেকাভিড -১৯-এ আ িহসাবে িনণত হয়েছেন?
 - Yes হ্যাঁ No না
6. Have you been in contact with co-workers since the symptoms appeared? লগিল েদখা েদওয়ার পর েথেক আপনি িক সহকমেদর সংেশর্ গ্রেসেছেন?
 - Yes হ্যাঁ No না
7. If yes, precise where and with whom (most complete list required): হ্যাঁ হেল, কেকাথায় এবং কার সাথে তা যথায়ভাবে িলখুন (পিরপূনর্ তালিকা িদেত হেব)
8. Have you travelled to any Covid-19 affected area of Bangladesh? please mention আপনি িক বাংলােশের কেকাভিড-১৯ আ কেকান এলাকা মন করেছেন? অনুহ পূবর্ক উেখ করুন
9. Other important information to communicate: েদয় অনয্ানয্ গরূপূনর্ তথয্:



Name:নাম

Signature ার & Date:তারিখ

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XXI. Summary সারসংক্ষেপ





Actions িয়াকলাপ	Short Description েছট িববরণ
1. Office sanitization অিফস পিরতা	<ul style="list-style-type: none"> ▪ Clean all the common areas of the building/office premises including toilets are cleaned after each use & entrance areas sterilized েশীচাগার সহ ভবন / অিফস ানের সম সাধারণ এলাকা িতবা বয্বহােরর পের পিরার করুন & েবশমুখ জীবানু মু করুন ▪ Pantries are closed পয্াগিল ব রাখুন ▪ Provide single use and disposables for employees সকল কমর জনয্ এক বারই বয্বহার ও পিরতয্াগ বয্াদি দান করুন
2. Entrance health checks েবশকালে ায্ িনরী	<p>Ensure that anyone entering the building/office including staff and visitors all undergo temperature screening & checks াফ এবং মনকারী সহ েয েকউ িবিং / অিফেস েবশ করেছন তাপম্যা পরী করা ও নীরি করা িনিত করুন</p> <ul style="list-style-type: none"> ▪ Ill employees and those showing signs are prohibited from coming to work অসু কর্মচারী এবং যােদর লন কাশিত তােদর কাজ করেত আ িনিষ

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<p>3. Provision of masks & hand sanitizers মা ও হ্যা সেনিটাইজার দান</p> <p>4. Physical Distancing of Minimum 2 meters ন্যূনতম 2 মিটার শারীরিক দূর</p>	<p>All employees/visitors are mandated to wear masks at all times in the building/office from entry. Non-compliance will lead to denial of entry to building/office সম কর্মচারী / মনকারীদের বেশের সময় থেকে বিিং / অফিস সবদা মা পরেত বাধ্য। অপারগতা কাশকারী বিিং / অফিস বেশের অযোগ্য বেল বিবচষ্ হেব</p> <ul style="list-style-type: none"> ▪ Hand sanitizers to be installed হ্যা সেনিটাইজার দান করা হেব ▪ Ensure the minimum 2-meter distancing measure is maintained in all common areas, office room, meeting room, conference room, reception, dining room, First aid station etc. ▪ নিত করুন যে সম সাধারণ এলাকা, অফিস ক, সভা ক, কনফারেন্স ক, সংবধনা, ডাইনিং রুম, াথমিক চিকিত্সা কেন্দ্র ইত্যাদিতে ন্যূনতম ২ মিটার দূর বজায় রাখা হয়।
<p>5. Offices working Hours অফিসের কর্মসময়</p>	<ul style="list-style-type: none"> ▪ Building and office hours not to exceed 8 hours' daily বিিং এবং অফিসের কর্মসময় তিদিন ৮ ঘর বেশ না হওয়া ▪ Minimize meetings and ensure no more than 10 people in a meeting with minimum 2 m social distancing maintained বৈঠকগুলি সংি করুন এবং ন্যূনতম ২ মি সামাজিক দূর বজায় রেখ একটি বৈঠকে ১০ জনর বেশ লোক না হয় নিত করুন ▪ No gatherings permitted ▪ কোন সমাবেশ অনুমিত নেই
<p>6. Communication যোগাযোগ</p>	<ul style="list-style-type: none"> ▪ All restrictions must be communicated to employees and visitors সম বিধিনিষেধ কর্মচারী এবং দর্শনাথের কাছে অবহিত করেত হেব ▪ Isolation room to be provided for suspect cases. ▪ সেহজনক রোগীর বে আইসোলেশন ক দান করা হেব।



Failure to report or hide the Suspected cases shall result in strict disciplinary measures to be taken by the project management

সেহজনক কেন্দ্রগুলি রিপোর্ট বা আড়াল করেত ব্যর্থ হেল ক ব্যবাপনা কত্র ক কেঠার আইনানুগ ব্যবহরণ করা হেব

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Thank you in advance for your support and cooperation.

আপনার সমর্থন এবং সহযোগিতার জন্য অীম ধন্যবাদ।

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10 COVID-19 Sanitary Rules

All responsible! সবাই দায়বদ্ধ!

General prevention সাধারণ প্রতিরোধ



If I exhibit symptoms (temperature or other), I don't go to work, inform my manager and I contact my referring doctor. I will be evaluated and tested according to the local medical protocols.

যদি আমি লক্ষণগুলি (জ্বর বা অন্য) প্রদর্শন করি তবে আমি কাজ করতে যাই না, আমার ম্যানেজারকে অবহিত করি এবং আমি আমার রেফারিং ডাক্তারের সাথে যোগাযোগ করি। স্থানীয় মেডিকেল প্রোটোকল অনুসারে আমার মূল্যায়ন ও পরীক্ষা করা হবে।



If I am diagnosed by the doctor as COVID-19 positive, I will inform my manager to trace and warn the people I have been in contact with.

যদি আমি ডাক্তার দ্বারা COVID-19 পজিটিভ হিসাবে নির্ণয় করা হয় তবে আমি আমার ম্যানেজারকে আমার পরিচিত ব্যক্তিদের সন্ধান এবং সতর্ক করে জানাব।



If I am at high risk of developing severe illness due to COVID-19, I can inform my manager or my referring doctor so that my working conditions can be assessed for my protection, while respecting confidentiality of my information.

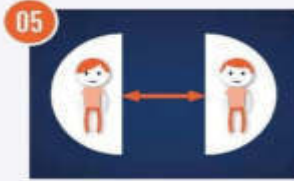
যদি আমি COVID-19-এর কারণে গুরুতর অসুস্থ হওয়ার ঝুঁকিতে আছি তবে আমি আমার ম্যানেজার বা আমার রেফারিং ডাক্তারকে অবহিত করতে পারি যাতে আমার তথ্যের গোপনীয়তার প্রতি প্রজ্ঞা রেখে আমার কাজের পরিস্থিতি আমার সুস্থতার জন্য মূল্যায়ন করা যায়।



I respect the organizational set up and rules, health pathways, telecommuting, operating procedures, assigned time slots, travel instructions.

আমি সংগঠনিক সেটআপ এবং নিয়মগুলি সম্মান করি: স্বাস্থ্য পথ, টেলিযোগাযোগ, অপারেশনাল প্রকল্প, নির্ধারিত সময় স্লট, ভ্রমণের নির্দেশাবলী।

Measures Barriers প্রতিরোধমূলক ব্যবস্থা



I limit social contacts and physical interactions to a minimum. I organize my work to avoid physical travel and face-to-face meetings.

আমি সামাজিক যোগাযোগ এবং শারীরিক মিথস্ক্রিয়াকে সর্বনিম্ন সীমাবদ্ধ করি। শারীরিক ভ্রমণ এবং মুখোমুখি সন্তোগগুলি এড়িয়ে আমি আমার কাজের আয়োজন করি।



I respect social distance at all times: during operations but also in changing rooms, office elevators, meeting rooms, catering area, pedestrian traffic areas.

আমি সর্বদা সামাজিক দূরত্বকে সম্মান করি: অপারেশনের সময় কিন্তু কক্ষ, অফিস, লিফট, মের, ক্যাটারিং অঞ্চল, পথচারী ট্রাফিক অঞ্চলগুলিতে পরিবর্তন করে।



I wear a mask according to the instructions related to my activity. I safely dispose it according to instructions provided to prevent the spread of contamination.

আমি আমার অ্যাকটিভিটি সম্পর্কিত নির্দেশাবলী অনুসারে একটি মুখোশ পরে থাকি। দূষণের বিস্তার রোধে প্রদত্ত নির্দেশাবলী অনুসারে আমি নিরাপদে এটিকে নিষ্পত্তি করি।



I cough and sneeze into my elbow or into disposable tissue, I avoid touching my face.

আমি কাশি এবং আমার কনুই বা একবার নিষ্পত্তিযোগ্য টিস্যু মধ্যে হাটু, আমি আমার মুখ স্পর্শ এড়িয়ে।



I wash my hands regularly with soap and warm water for 20 seconds or disinfect them with hydroalcoholic gel.

আমি 20 সেকেন্ডের জন্য নিঃশব্দিত সাবান এবং উষ্ণ জল দিয়ে আমার হাত ধোয়া বা হাইড্রো অ্যালকোহলিক জেল দিয়ে তাদের স্ট্রীয়াইজ করি।



I regularly disinfect my workstation and tool. GWTSNC regularly disinfects common area (changing rooms, toilets, handles, control access keypads, etc.).




আমি নিয়মিত আমার ওয়ার্কস্টেশন এবং সরঞ্জামগুলিকে স্ট্রীয়াইজ করি। কিউইটিসএসএনএন নিয়মিত সাধারণ অঞ্চলগুলি (ঘর, টয়লেট, হ্যান্ডেলগুলি, নিয়ন্ত্রণ আয়তন সীলপাত ইত্যাদি) পরিবর্তন করে। স্ট্রীয়াইজ করে।

I demonstrate the respect of these measures within the company, to my subcontractors and my customers. I consult with my colleagues and my management if I face difficulties in the application of these rules in order to collectively find solutions. The respect of these rules outside my workplace and working hours allows me to continue to protect myself, my colleagues and my family.

আমি সংস্থার মধ্যে, আমার সাবকন্ট্রাক্টর এবং আমার গ্রাহকদের কাছে এই ব্যবস্থাগুলির সম্মান প্রদর্শন করি। সম্মিলিতভাবে সমাধানগুলি সন্ধান করতে যদি আমি এই বিধিগুলি প্রয়োগে অসুবিধার সম্মুখীন হই তবে আমি আমার সহকর্মীদের এবং আমার পরিচালনার সাথে পরামর্শ করি। আমার কর্মক্ষেত্র এবং কাজের সময়গুলির বাইরে এই বিধিগুলির সম্মান আমাকে নিজেকে, আমার সহকর্মীদের এবং আমার পরিবারকে রক্ষা করা চালিয়ে যেতে সহায়তা করে।

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EMPLOYER Dhaka Water Supply and Sewerage Authority
PROJECT NAME Design and Build of Intake, Raw Water Pipeline, and 500 MLD Water Treatment Plant at Gandharbpur under Dhaka Environmentally Sustainable Water Supply Project (DESWSP)
OWNER ENGINEER
CONTRACTOR <small>A Joint Venture of SUEZ INTERNATIONAL & OTV-VEOLIA</small>
DOCUMENT TITLE SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN WATER TREATMENT PLANT (WTP)



 	Design and Build Intake, Raw Water Pipeline, and 500 MLD Water Treatment Plant at Gandharbpur under Dhaka Environmentally Sustainable Water Supply Project (DESWSP)	Document Number : B-001464-GWT-EN-G00-MP-0011	
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C	19/06/2020	3 rd Issue with inclusion of comments on COVID-19 Prevention Guidelines	NUC	RSA	RSA
B	09/06/2020	2 nd Issue with inclusion of COVID-19 Prevention Guidelines	NUC	RSA	RSA
A	21/02/2020	1 st Issue following the specific pattern of Mott's EMP	NUC	RSA	RSA
Rev	Date	Revision Description	Drawn Up By	Checked By	Approved By
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B-001464-GWT-EN-G00-MP-0011				C	IFA
Format:	* Key words for document status: ALL RIGHTS RESERVED FOR ALL COUNTRIES				
A4	IFI : Issued for Information	IFA : Issued for Approval	INT : Internal	CAN : Cancelled	RFQ: Ready for Quotation
	IFR : Issued for Review	IFC : Issued for Construction	ASB : As Built	SUP : Superseded	RFP: Ready for Purchase

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XXII. Introduction to content & Purpose of this document

The Dhaka Environmentally Sustainable water Supply Project (DESWSP) is aimed at improving the public health and environment for about 17 million people living in Dhaka City¹ through safe and reliable water supply facilities. Based on the submission made by the Government of Bangladesh (GOB) and as appraised by the Asian Development Bank (ADB), there are 3 Packages covering from Bishnandi-Intake site in Meghna River to Dhaka City where there is an urgent need for water supply improvements. The Project will help the Government provide the required institutional and management support to the DWASA under the Ministry of Local Government, Rural Development and Co-operatives (MLGRDC).

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XXIII. Revision Change Record

Revision	Revision Date	Status	List of updated sections	Reason for update
A	21/02/2020		From page 1 to page 33	1 st Issue following the specific pattern of Mott's EMP
B	09/06/2020		New section on COVID-19 added from 34 till the end of the document	Mandatory requirement from Mott McDonald to include COVID-19 Prevention Guidelines
C	19/06/2020		Page 35 to page 44	3rd Issue with inclusion of comments on COVID-19 Prevention Guidelines

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1. PROJECT DESCRIPTION

The overall proposed project has six project components. Among those, components 1 to 3 falls under package-1, component 5 under Package 2 and component 6 under Package 3. This EMP is focused on Package 1 which is being executed by GWTSNC. The components are as follows:

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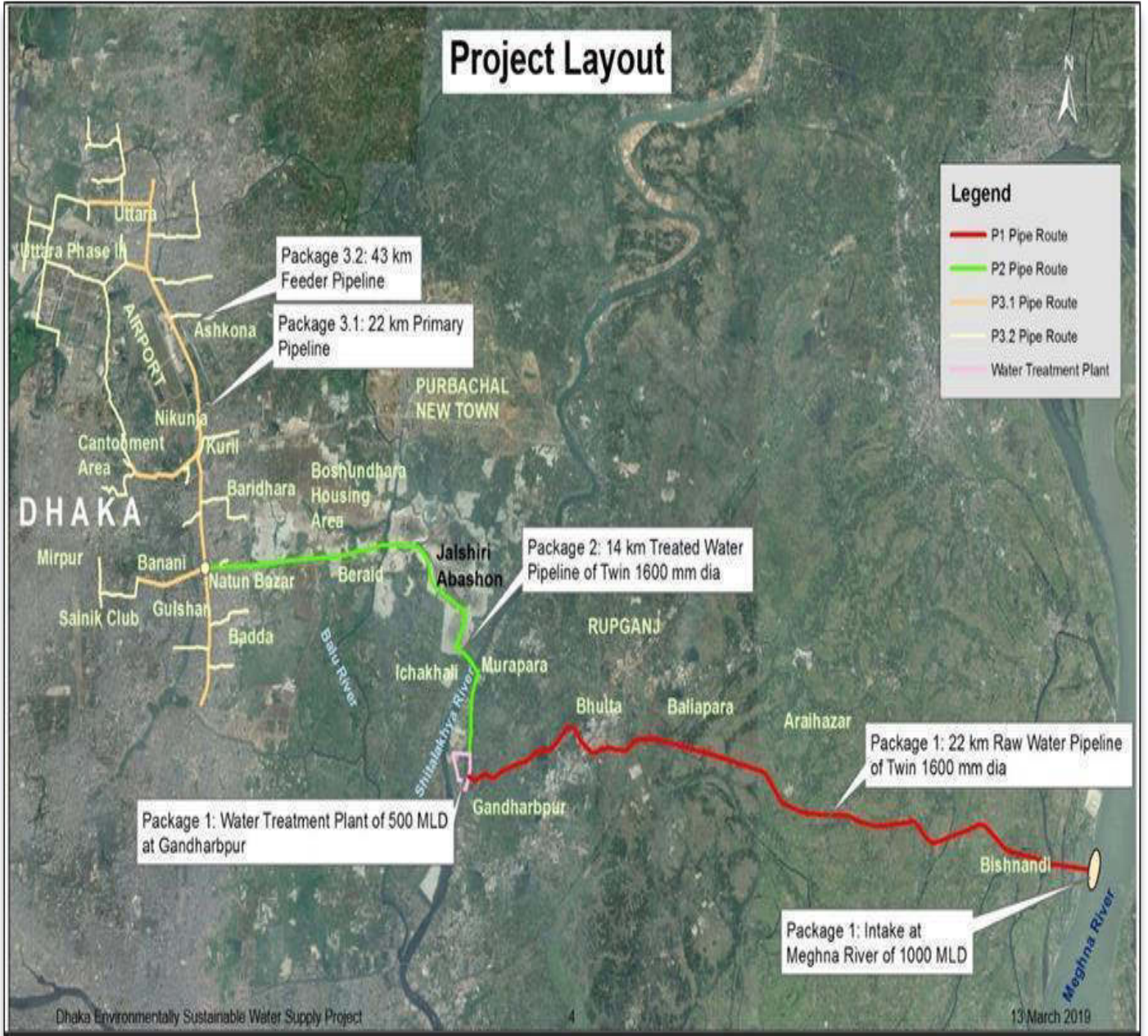


Figure 1: Project Layout Plan

1 The population of Dhaka is increasing every day as people move into it from different areas across the country to avail facilities. Government estimates say at least 1,418 people are adding to the population of Dhaka every day, with the current population at over 17 million marking the city as the densest city on the globe, with a density of 47,400 people km². Ref. Dhaka Tribune, 20 March 2019.



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Table 1: Project components



Co. Sl.	Package	Component name	Infrastructure	Contract Package
1	1	Water treatment plant at Gandharbpur	Capacity: 500 MLD at Gandharbpur	Design-build contract
2		Intake structures	Capacity: 1,050 MLD	Design-build contract
3			Total Capacity: 1,050 MLD Equipment Capacity: 500 MLD	Design-build contract
4		Raw water Transmission main from Intake to Gandharbpur WTP	17.2 km: Intake to Shezan Juice Factory 4.5 km: Shezan Juice Factory to Gandharbpur WTP	Design-build contract

Source: Updated EIA, DESWSP, Enviroconsult, April 2018

2. ENVIRONMENTAL MONITORING

Dhaka Water Supply and Sewerage Authority (DWASA) is the implementing agency (IA), which is responsible for administration, implementation, through its PMU, carries overall responsibility for engineering and environmental compliance of works aim to performed under the DESWSP Project – Additional environmental financing and to meet this responsibility provides day-to-day environmental supervision of the project implementation. According to the requirements of the national legislation, and ADB Procurement Policy, DWASA/PIU hired a consultant to provide technical supervision of works, including environmental supervision (Mott MacDonald LTD as MDSC). DWASA's environmental specialist oversees performance of the Contractor (Now GWTSNC for Package 1) for the purpose of quality assurance, which implies review of Contractor's monthly reports and validation of the provided information through periodic site-specific field visits of MDSC and DWASA environmental specialists.

The new DESWSP (the Project) is included in the country operational business plan and it strongly supports the Government's objective of human development by providing better access

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to safe, reliable, and sustainable water supply which will improve the lives of households in Dhaka City (under Packages 1, 2 and 3) in Bangladesh.

The outcome of the Project is improved access to safe, reliable, and sustainable water supply service managed on commercial principles and environmentally sound practices. The Project will first focus on optimizing the operation of existing infrastructure and maximizing the operating efficiency of water supply service system, followed by constructing new infrastructure. The Project will improve public health and environment for people (households and other consumers) living in Dhaka City.

Monitoring during construction shall include noise and vibration measurement based on the risk assessment that determines the final SSEMP or on the basis of any complaint. Implementation of the SSEMP will be monitored by inspection on an ongoing basis by the MDSC and audited by the PIU of DWASA Environmental Specialist.

Field visit checklist will be used for monitoring. Environmental impact mitigation measures implementation would be strongly supervised for all abovementioned contracts during construction implementation period. No omissions or violations of environmental standards and norms would be allowed.



Monitoring during the operating phase will be conducted as per advice of the EMP of April 2018. Environmental Monitoring and Mitigation Measures are provided in Table 6.

3. ENVIRONMENTAL MANAGEMENT

Construction works will tentatively commence on April 2019. Site inspections and random visits will be organized during construction period for Package 1. Average number of visits to each construction site per month will be determined by EMP of 2018. The compliance of environmental impact mitigation measures during construction works will be supervised by the Environmental specialists of MDSC in association with PMU Environment and safety Officer as well as GWTSNC monitoring over its subcontractors' performance.

In general, during site visits, negative environmental impacts will be registered. Some omissions and negligence on safety will be identified during randomly visits. Particularly for mobilization period main problems needs to be identified as: construction site organization in proper way /illumination, fencing, signboards, construction site pollution by construction and domestic wastes, safety signs installation. Respectively verbal notifications will be provided to contractors and technical supervisors. During regular staff meetings with contractor's issues on mandatory implementation of environmental impact and safety mitigation measures will be discussed.

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Corrective action plans will be developed, once monitoring reports are prepared during construction period. Quarterly Progress Reports (QPR) will be sent to project management on time. Separate part of safeguard compliance will be detailed indicating all issues concerning EMP updating and environmental impact mitigation measures implementation, public participation component, resettlement and gender points.

Further to note, the Environment Management Plan (EMP's) goal is to ensure that implementation of the DESWSP complies with both Bangladesh legislation and ADB environmental guidelines and standards. Specific auditable objectives of the EMP are listed in Table-1.

The EMP will be formulated using the following approach:



- **Impact avoidance:** Project design adjustment, construction and operation methods so as to avoid predicted negative impacts;
- **Impact minimization:** Where impacts cannot be avoided, implementing mitigation measures to reduce the impacts to insignificant levels;
- **Compensation:** Where residual impacts remain significant after mitigation, arranging compensation for example, temporary business loss for farmers, farmers affected by permanent and temporary loss of land for construction of Packages 1 under DESWSP, assets or livelihoods, or biodiversity offsets;
- **Sustainability measures:** Where certain actions are required to ensure the project's success or avoid significant risks, identifying these;
- **Enhancement:** Where additional actions could be taken giving high benefit at relatively low cost, identifying these.

During monitoring stage, the status of various parameters (Table-3) will be subject to measurement/quantification to compare with the values of Maximum Allowable Concentration (MAC) of pollutants present on land and in water.



Table 2 provides the objectives of SSEMP

Table-2 Objectives of SSEMP

Phase and Topic	Objective
Pre-construction Phase	
Design	Inclusion of all mitigation measures in final project design and budget
Tendering	Inclusion of recommended measures in tender documents for construction and construction supervision /operation.
Construction and Commissioning	

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Physical	Minimized project impact during construction.
	Restoration of all land used temporarily to equal condition at end of construction.
Ecological	Avoid all spillage or disposal of toxic substances to water.
	Avoid any interruption of fish and other aquatic species migration by construction activities (Intake at Bisnandi in Meghna River and other wetlands)
	Maintain all wetlands in condition suitable for use by migratory birds throughout construction.
Social	Maximized local unskilled employment from this DESWSP Project area.
	Zero fatalities and serious accidents during construction, including from construction traffic.
	Zero increase in STD - HIV/AIDS transmission rates during construction.
	Zero unresolved complaints from local communities during construction. The community complains are important for the DESWSP construction where temporary adverse impacts are anticipated. However, after receiving any complain from the community people, the complaint type will be assessed and will be served as a way to meet requirements, prevent and address community concerns, reduce risk, and assist larger processes that create positive social change. The construction contractor supported by MDSC will employ social safeguard specialist exclusively to address grievances. As such, coordinated efforts will enable design and build more effective strategies for addressing community complains and grievances.
Operational Phase	
Physical	No major changes of surrounding topography a level at which crop yields are affected.
Ecological	No obstruction to fish and fisheries migration, improved habitat of native species at the rivers, canals.
	No significant reduction of water quality due to spillage runoff from the construction area.
Social	A major reduction in the incidence of common vector-borne and communicable diseases and an improvement in all other health indicators.
	No exclusion of women, and other vulnerable groups from project benefits. The proposed DESWSP construction will improve water

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	supply, and enhance induced economic and social development objectives
	No use of child labor
Institutional	Effective, environmentally & socially sensitive operation of O&M contractor.

3.1. Air Quality:

- i) Construction Phase: Construction works include site clearance, site formation, building works, infrastructure provision and any other infrastructure activities. The major temporary air pollution is dust generated as a result of these construction works. Sampling Parameters and Stations will be determined as per EIA of 2018 (parameters are: SPM, PM10, PM2.5, SO2, NOx, CO, O3).
- ii) Operational Phase: The major permanent sources of air pollutants are sludge, effluents, vehicle emission from traffic on major roads and the air pollutants emitted from the vicinity of the industrial stationary sources of the Project area (parameters are: SPM, PM10, PM2.5, SO2, NOx, CO, O3).

Following Updated EIA of April 2018, 6 major location of the projected area will be under SSEMP activities. Six monitoring locations are Chaitankanda (Bishnandi), Shejan Point, Gandharbpur, Figure 1, and Table 1.

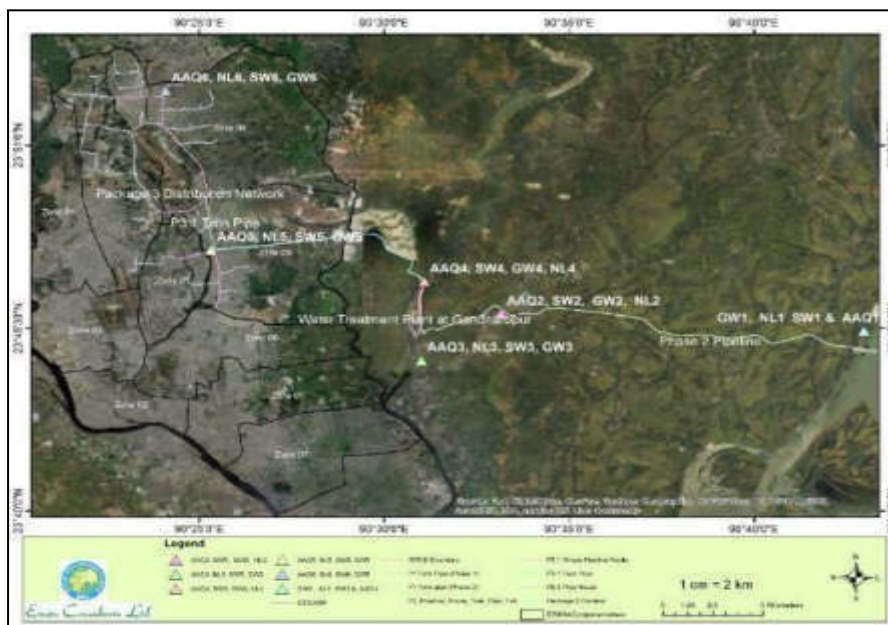


Figure 2 Environmental monitoring location of the projected area

Source: UEIA, April 2018



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Table 3: Monitoring location of the projected area

ID	Monitoring Location	Map Content Name	Latitude DMS	Longitude DMS	Latitude DD	Longitude DD
1	Chaitankanda (Bishnandi)	GW1, NL1 SW1 & AAQ1	23° 45' 25.340" N	90°42' 58.075" E	23.757039	90.716132
2	Shejan Point	AAQ2, SW2, GW2, NL2	23° 45' 56.027" N	90° 33' 9.582" E	23.765563	90.552662
3	Gandharbpur	AAQ3, NL3, SW3, GW3	23° 44' 32.211" N	90° 31' 0.680" E	23.742281	90.516856



Source: UEIA, April 2018

3.2. Ambient Noise Levels



During Baseline study, noise levels were recorded at locations in the study area detailed in UEIA, will be monitored during DESWSP Package 1 (P1) implementation period as part of SSEMP requirement. Noise levels will be recorded in the form of sound pressure levels with the help of a digital sound level meter. The details of noise monitoring locations are shown in Table 4 below. The purpose of ambient noise level measurement is to determine sound intensity at the monitoring locations. These locations were chosen in such a way that a representative data could be record all over the project area. The sound level will be recorded in form of A-weighted equivalent continuous sound pressure level (Leq) values with the use of A-weighting filters in the noise-measuring instrument. Table 5 presents noise quality standards.

Table 4: Ambient noise level monitoring locations

Pac. No.	Project Packages	Lo. No.	Monitoring Location	Land Use
1	P1 Raw Water Intake, Pipeline & Water Treatment Plant	1	Chaitankanda (Bishnandi)	Residential/agricultural
		2	Shejan Point	Industrial
		3	Gandharbpur	Residential
2	P2 Treated Water Pipeline Transmission	4	Murapara Near LGED Bridge	Commercial

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	Main Starting from Gandharbpur Treatment Plant to Near US Embassy	5	Gulshan-2 Near US Embassy	Industrial
3	P3 (Component 3.1) (23 km Major Distribution Pipe) P3 (Component 3.2) (56 km Small Distribution pipe to DMA)	6	Uttara (House Building)	Commercial

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During SSEMP implementation, the following DOE Standards in Table 3 will be used as a reference to identify any deviation of results, if the results exceed then mitigation options will be applied as far as possible.

Table 5: Noise quality standards, by zone and time of day

Zone Class	Limits in dB(A)	
	Daytime (6 am – 9 pm)	Nighttime (9 pm – 6 am)
Silent zone	45	35
Residential zone	50	40
Mixed (residential/commercial/industrial) zone	60	50
Commercial zone	70	60
Industrial zone	75	70

Source: Department of Environment (DoE), Bangladesh

3.3. Water Quality



The physical parameters will include temperature, pH, EC, TDS, TSS, DO, and BOD5 COD, and Iron (Fe). Samples will be tested in the field immediately after collection using field test kit. For laboratory test, samples will be preserved properly in cooler box during storage and transportation to the laboratories maintaining chain of custody (detail procedures are provided below). The sampling Stations are: Chaitankanda (Meghna River), Shejan Point (Canal), Gandhabpur (Shitalakshya River).

Water Quality and Sample Collection Procedure for all Packages (P1)

The surface water source of the proposed site for the DESWSP is Meghna River at Bishnondi.

The following procedures should be maintained during collection of samples for all Packages.

- Collect location map, sample bottles and waterproofed levels from the market (scientific Shops at Bangabandhu Avenue, Dhaka) or Laboratory, use dedicated GPS (Calibrate properly) machine to record the actual location of the sampling stations
- Water sample should be collected in one litre glass or high-density polyethylene bottle and store at low temperature (4°-10° c). Collect the water sample using sterile bottle, use special preservatives for some parameters, use cool box

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- If groundwater, pump out water from the well for 5-7 minutes and measure the pH with the portable meter and record it in the form, subject to requirement, also test Dissolved Oxygen (DO), Temperature, Turbidity, Electrical Conductivity (EC), Alkalinity etc. (as per EMP), immediately after sampling, as the value of these parameters will change during transport and storage
- At the time of collection samples from groundwater, use hand gloves or wash your hand with well water, uncap the bottle carefully, fill the bottle and fix the cap. If preservative is needed fill the bottle till 2-3 cm below the top of the bottle add the relevant preservative and complete filling up to the top
- For bacteriological analysis, pump out water from the well for 5-7 minutes, remove any dirt with a clean cloth from the outlet of the pump, sterilize the pump outlet for 1-2 minutes with the flame by an ignited spirit or alcohol-wet cotton, fill the bottle and fix the cap. Transport the sample to the laboratory by 4-6 hours; otherwise use portable Microbiological Testing equipment for such test (suggested labs are: BSTI (Bangladesh Standards and Testing Institute), DPHE (Department of Public Health Engineering), BRTC (Bureau of Research, Testing and Consultation), BAEC (Bangladesh Atomic Energy Commission).
- All the sample bottles should be labelled properly and corresponding sampling forms should be filled in with the information detailed below:

- Serial number of the sample
- Date of collection and time
- Weather condition (sunny, rainy, cloudy, etc.)
- Filtered or raw water
- Use of any preservative
- Source of sample water- Surface or Groundwater (if groundwater, record depth of well, type of well, etc.)
 - Preserve the entire sample in a cool box and send immediately to the laboratory or any other recognized laboratory.
 - If necessary, collect some additional samples for cross-checking.

Table 6: Site Specific Environmental Management Plan (SSEMP)



Water Treatment Plant

Activity	Environmental Impact	Duration /Extent	Magnitude	Mitigation Measures	Responsibility
Pre-construction (Design Phase)					


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water treatment plant	Damage to trees and clearance of vegetation at the project locations	Permanent	Moderate	Trees within the area required for construction will be felled after prior approval.	Design Build Contractor
Erosion	Soil erosion	Permanent	Moderate	The measures to address soil erosion at the proposed facilities will consist of measures as per design, or as directed by the SC to control soil erosion, sedimentation, and water pollution. All temporary	Design Build Contractor



				sedimentation, pollution control works, and maintenance thereof will be deemed incidental to the earthwork or other items of work.	
Seismic considerations in design of structures	Structure at seismic risk	Permanent	Moderate	The designs of the project components, including intake structures and transmission mains, will conform to Bangladesh National Building Code, 2006.	Design Build Contractor, and SC
Contractor's Camps	Temporary loss of land and implications of insufficient physical and social management of camps and labor resources	Permanent	Moderate	Temporary construction camps and any auxiliary objects will be located in places adjacent to project sites. The particular place for construction camps and auxiliary objects (vehicle parking lots, storage areas and etc.) will be	Design Build Contractor, and SC

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				determined jointly with local administration authorities	
Construction Materials	Procurement from nonenvironmentally & socially responsible suppliers	Permanent	Moderate	Give preference to goods and services sourced from organizations implementing an EMS (provision in tender documents).	Design Build Contractor, and SC
Spoil Disposal	Improper location and treatment of spoil dumps	Permanent	Moderate	Require Method Statement for spoil disposal, with details of authorization, location, placement, closure etc. (tender documents).	Design Build Contractor, and SC
Cutting of trees	Damage to trees and clearance of vegetation at the project locations	Moderate	moderate	Only trees that will require removal within the proposed construction areas of the sites will be cut. After the finalization of the designs and layout of the project components, the trees within proposed construction areas will be	Design Build Contractor, and SC



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				<p>marked. For trees not proposed to be cut, taking all precautions to protect them from any damage from construction activities, including placement of tree guards will be taken up. The Contractor shall not clear the Site of any structure or mature tree without the prior written permission of the Engineer (DB Contract, Section 6 - DB Part 03A Chapter 3.5)</p>	
Assets/facilities lost, including common property resources and religious structures	Assets/facilities lost, including common property resources and religious structures	Permanent	Moderate	<p>Designs to be worked out to minimize impacts on these assets. Compensation and assistance will be provided in accordance with the provisions of the RP.</p> <p>Designs to ensure crossdrainage through the provision of balancing culverts and sufficient cross-movement, including movement of fishes, shall be done to minimize severance impacts on khals and fish ponds cut across by the alignment.</p>	Design Build Contractor, and SC



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Drinking water availability	Lacking of drinking water availability and water arrangement	Temporary	Moderate	Prior to the initiation of construction activities, the contractor will be responsible for the arrangement of water in every workplace at suitable and easily accessible places for the whole construction period. Sufficient supply of cold potable water should provide and maintain at the construction camps and other ancillary work areas.	Design Build Contractor / SC
	Relocation of utility lines along the	Permanent	Moderate	All utilities and services impacted due to the proposed components should be shifted/relocated,	Design Build Contractor



	transmission mains			with prior approval of the concerned agencies.	
	Sludge management and disposal	Temporary	Moderate	Design of WTP to include sludge-drying beds, and sludge management plan to be prepared.	Design Build Contractor / SC
	Environmental clearance	Temporary	Moderate	The draft EIA should be updated to prepare government's EIA implemented as a single unified document and submitted to DoE as part of environmental clearance requirement. The EC is to obtain prior to the commencement of civil works.	Design Build Contractor / SC / DWASA

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Waste Management and Pollution	Improper disposal of solid and liquid wastes; spills & inadequate clean-up	Permanent	Moderate	Design and prepare Site Waste management plan in accordance with DoE	Design Build Contractor
Construction Phase					
Relocation of utilities	Damage of utility lines	Permanent	Moderate	All utilities and services impacted due to the proposed components will be shifted/relocated, with prior approval of the concerned agencies.	Design Build Contractor, and SC
Health and Safety	Hazards to workers	Temporary	Moderate	Project proponent and financier signal that best practice H&S standards should apply. At every workplace, a readily available first aid unit, including an adequate supply of sterilized dressing	Design Build Contractor, and SC



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				<p>material and appliances, will be provided as per the factory rules. Suitable transport will be provided to facilitate the transfer of injured or ill persons to the nearest hospital. At every workplace and construction camp, equipment and nursing staff will be provided.</p> <p>The contractor will, at his own expense, conform to all anti-malaria instructions given to him by the SC.</p> <p>All relevant provisions of the Bangladesh Labor Act, 2006 and Bangladesh National Building Code, 2006 will be adhered to, concerning the provision of adequate safety measures during construction. The contractor will comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches, and safe means of entry and egress.</p>	
Conflict among the work personnel and labor	Conflict among the work personnel and labor	Temporary	Moderate	Proper work distribution plan with maintenance authority.	Design Build Contractor



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Child labor	Child labor Risk of contractors or subcontractors hiring child labor in the	Temporary	Minor	<ul style="list-style-type: none"> National laws on child labor will strictly followed. No child labor will be allowed by the contractors or subcontractors in any of the project activities. 	Design Build Contractor, and SC
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	construction activities.				
Health and safety	Accident prevention and work safety procedures	Temporary	Moderate	Awareness of workers about hazardous materials and proper handling methods. Warning signs, labels and signals. Provide helmets, safety shoes and other PPE for workers in accordance with accident prevention and work safety procedures	Design Build Contractor

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	Safety measures during construction -First aid -Malaria risk	Temporary	Moderate	<p>At every workplace, a readily available first aid unit, including an adequate supply of sterilized dressing material and appliances, should be provided as per the factory rules. Suitable transport should be provided to facilitate the transfer of injured or ill persons to the nearest hospital. At every workplace and construction camp, equipment and nursing staff should be provided.</p> <p>The contractor will, at his own expense, conform to all anti-malaria instructions given to him by the SC.</p> <p>All relevant provisions of the Bangladesh Labor Act, 2006 and Bangladesh National Building Code, 2006 should be adhered to, concerning the provision of adequate safety measures during construction. The contractor will comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches, and</p>	Design Build Contractor and SC
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				safe means of entry and egress.	
	Conflict among the work personnel and labor	Temporary	Moderate	Proper work distribution plan with maintenance authority.	Design Build Contractor
	Construction Impact	Temporary	Moderate	During construction period pedestrian and vehicle movement and business should be restricted and hampered.	Design Build Contractor

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	Hygiene in the construction camps and sites	Temporary	Moderate	<p>All temporary accommodations should be constructed and maintained in such a fashion that uncontaminated water is available for drinking, cooking, and washing. Safe drinking water in sufficient quantity for the workforce should be provided at the construction site as well as at the construction camps.</p> <p>Adequate toilets, separate for women and men, shall be provided at the construction sites, with septic tanks.</p> <p>Garbage bins should be provided in the camps and regularly emptied, and the garbage disposed of in a hygienic manner. Adequate health care should be provided for the workforce. Unless otherwise arranged for by the local sanitary authority, the local medical health or municipal authorities will make arrangement for disposal of excreta.</p> <p>On completion of the works, all such temporary structures should be cleared away, all rubbish</p>	Design Build Contractor and SC
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				burned, excreta tank and other disposal pits or trenches filled in and effectively sealed off, and the outline site left clean and tidy, at the contractor's expense. The site should be restored to pre-project conditions through the removal of all extraneous material on site.	
	Worker health & safety Risk caused by force majeure	Temporary	Minor	All reasonable precaution should be taken to prevent danger to the workers and the public from fire, flood, drowning, etc. Specifically, the contractor will (i) provide medical and accident insurance for workers; (ii) provide first aid in the construction campsite; and (iii) provide access to hospitals/clinics within the project site that can be accessed in case of emergency by arranging necessary transport for safe carriage of the injured.	Design Build Contractor and SC
	Accident prevention and work safety procedures May loss or injury of human	Temporary	Moderate	• Awareness of workers about hazardous materials and proper handling methods. Warning signs, labels and signals. Provide helmets, safety shoes and other PPE for workers in accordance with accident prevention and work safety procedures	Design Build Contractor and SC

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	River Water Pollution	Temporary	Moderate	Protect river water during construction of WTP. Confined the river water area of to prevent the turbidity, DO level of water.	Design Build Contractor and SC
	Noise and Vibration from construction equipment	Temporary	Moderate	The contractor will ensure (i) regular maintenance of vehicles, equipment, and machinery to keep noise from these at a minimum;	Design Build Contractor and SC
				and (ii) all vehicles and equipment used for construction should be fitted with exhaust silencers. During routine servicing operations, the effectiveness of exhaust silencers should be checked, and if found to be defective, should be replaced.	



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	Temporary measures for construction activities around habitations/ institutional uses	Temporary	Moderate	The contractor will provide the following measures during the laying of transmission mains for sections in the vicinity of habitations and commercial and institutional areas, to minimize access and livelihood disruption: (i) place walkways and metal sheets where required to maintain access across trenches for people and vehicles; (ii) increase workforce in front of critical areas such as institutions, places of worship, business establishments, hospitals, and schools; (iii) consult businesses and institutions regarding operating hours and factoring this into work schedules; and (iv) provide signboards for pedestrians to inform them of nature and duration of construction works and contact numbers for concerns/complaints.	Design Build Contractor and SC
Dust and air quality	Dust Pollution Impact Sources Emissions from construction related traffic and	Temporary	Moderate	The contractor will (i) take every precaution to reduce the levels of dust at construction sites, and not exceeding the pre-project ambient air quality standards; (ii) fit all heavy equipment and machinery with air pollution control devices that are operating	Design Build Contractor and SC



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				correctly; (iii) reduce dust by	
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	machinery. Dust from works, carrying machinery equipment to the site, and traffic from trucks and vehicles. Create nuisance Road damage			spraying stockpiled soil, excavated materials, and spoils; (iv) cover with tarpaulin vehicles transporting soil and sand; and (v) cover stockpiled construction materials with tarpaulin or plastic sheets. Implement measures in Environmental Code of Practice of Air Quality Management. Dust generation will be restricted as much as possible and water sprinkling carried out as appropriate, especially where earth moving and excavation are carries out. Emissions during bore logs digging, equipment and traffic will comply with ADB EHS guidelines and will be monitored. Spray of water is suggested in the road and construction sites	
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				Capacity of truck load should stay below capacity of road	
	Emission from construction vehicles, equipment, and machinery	Temporary	Moderate	All vehicles, equipment, and machinery used for construction should be regularly maintained to ensure that pollution emission levels comply with the relevant requirements of DoE. Copies of conformance should be submitted regularly to the SC.	Design Build Contractor and SC



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	Environmental pollution / human health	Temporary	Moderate	Due consideration should be given to material storage and construction sites such that it doesn't cause any hindrance to daily traffic	Design Build Contractor and SC
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	Stockpiling of construction materials, excavated earth/spoil from trenches			<p>movement. The contractor will (i) consult with implementing agency on the designated areas for stockpiling of clay, soils, gravel, and other construction materials; (ii) avoid stockpiling of earth fill, especially during the rainy season, unless covered by tarpaulins or plastic sheets; (iii) prioritize reuse of excess spoils and materials in the construction works; and (iv) protect surface water bodies from any source of contamination, such as oily wastes, debris, and spoils that will degrade its quality.</p> <p>Excavated material shall not enter surface waters, surface water banks or impede flows - in particular, the following shall be done:</p> <p>do not dump material in surface waters, at river banks or in flooding areas, in case rivers have been blocked remove the material</p>	
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	Movement of construction vehicles Oil spillage, grease and lubricant	Temporary	Moderate	The movement of construction materials and equipment, to the extent possible, should be plan along major roads, with the exception of access roads to the site. In the event of movement of construction vehicles and equipment on the narrow roads, strengthening of these roads should be carried out, and timing of movement of heavy vehicles worked out to avoid peak hours and night-time, and to ensure minimal disturbances to the communities and the	Design Build Contractor and SC
				resident population along these roads. Maintenance should be conducted at safe distance from watercourses so that no oil spills can enter the water. Contaminated soil should be excavated and disposed properly in a confined place outside inundation areas	

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	Contamination of soil and groundwater quality			The soil contaminated with drilling mud should be avoided For effluents to be discharged from work place, camps, and offices, treatment arrangements such as retention ponds and septic tanks should be incorporated in the facility designs.	Design Build Contractor and SC
Air pollution (SPM, PM2.5, PM10, SOx, NO2 and CO) Impairment of air quality may have an impact on geotechnical investigation workers, local residents and surrounding environment Air pollution generates from exhaust of	Adverse impact to flora, fauna, human health & surrounding	Temporary	Moderate	-Drilling and transport vehicles shall move only indesignated areas and roads. -Water dry drilling areas and access roads to reduce dust emissions -Minimize traffic in villages and other residential areas -Reduce vehicle speed in drilling areas and access roads to 10 km/h -Machines and vehicles must be regularly examined and maintained to comply with requirements of technical specifications	Contractor, MDSC,
engines.					

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Spoil Disposal	Improper location and treatment of spoil dumps	Permanent	Moderate	Dispose of spoil only at designated sites and by approved methods; methods must consider topsoil conservation and quality, long-term soil stability against shrinking and swelling, erosion and flood waters	Design Build Contractor
Dust	Dust nuisance or hazard at construction sites and surroundings (Dust generates due to stone crushing, equipment staging yards/areas, material storage areas, excavated material disposal areas, uncontrolled emission of solid airborne particulate matter from any source other than combustion, etc.).	Temporary	Moderate	Spray water exposed surfaces and access routes in dry season to prevent dust nuisance	Design Build Contractor

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Occupational health, safety and, fire safety	Harm to laborers	Temporary	Moderate	The scope of works includes the occupational health and labor safety measures, consistent with effective rules and provisions, prevention of incidents and occupational diseases, as well as improvement of working	Design Build Contractor
				conditions. The primary fire -fighting equipment will be provided at construction site.	



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Air quality	<p>Air pollution (SPM, PM2.5, PM10, SOx, NO2 and CO)</p> <p>Impairment of air quality may have an impact on geotechnical investigation workers, local residents and surrounding environment</p> <p>Air pollution generates from exhaust of engines.</p> <p>During Gi bore logs work</p> <p>Emission from drilling vehicle and machine</p>	temporary	moderate	<p>Drilling and transport vehicles shall move only in designated areas and roads.</p> <p>Water dry drilling areas and access roads to reduce dust emissions</p> <p>Minimize traffic in villages and other residential areas</p> <p>Reduce vehicle speed in drilling areas and access roads to 10 km/h</p> <p>Machines and vehicles must be regularly examined and maintained to comply with requirements of technical specifications</p> <p>Repair and maintain access roads, as necessary</p>	Design Build Contractor and SC
	Noise and Vibration from construction equipment	Temporary	Moderate	The contractor will ensure (i) regular maintenance of vehicles, equipment, and machinery to keep noise from these at a minimum; and (ii) all vehicles and equipment used for construction will be fitted	Design Build Contractor and SC



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				with exhaust silencers. During routine servicing	
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				operations, the effectiveness of exhaust silencers will be checked, and if found to be defective, will be replaced.	
	Temporary measures for construction activities around habitations/ institutional uses	Temporary	Moderate	The contractor will provide the following measures during the laying of transmission mains for sections in the vicinity of habitations and commercial and institutional areas, to minimize access and livelihood disruption: (i) place walkways and metal sheets where required to maintain access across trenches for people and vehicles; (ii) increase workforce in front of critical areas such as institutions, places of worship, business establishments, hospitals, and schools; (iii) consult businesses and institutions regarding operating hours and factoring this into work schedules; and (iv) provide signboards for pedestrians to inform	Design Build Contractor and SC

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				them of nature and duration of construction works and contact numbers for concerns/complaints.	
	Environmental pollution / human health Stockpiling of construction materials, excavated earth/spoil from trenches	Temporary	Moderate	Due consideration will be given to material storage and construction sites such that it doesn't cause any hindrance to daily traffic movement. The contractor will (i) consult with implementing agency on the designated areas for stockpiling of clay, soils, gravel, and other construction materials; (ii) avoid stockpiling of earth fill, especially during the rainy season, unless covered by tarpaulins or plastic sheets; (iii) prioritize reuse of	Design Build Contractor / SC

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				<p>excess spoils and materials in the construction works; and (iv) protect surface water bodies from any source of contamination, such as oily wastes, debris, and spoils that will degrade its quality.</p> <p>Excavated material shall not enter surface waters, surface water banks or impede flows - in particular, the following shall be done:</p> <p>do not dump material in surface waters, at river banks or in flooding areas, in case rivers have been blocked remove the material</p>	
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	Improper movement of construction vehicles, Oil spillage, grease and lubricant	Temporary	Moderate	<p>The movement of construction materials and equipment, to the extent possible, will be plan along major roads, with the exception of access roads to the site. In the event of movement of construction vehicles and equipment on the narrow roads, strengthening of these roads will be carried out, and timing of movement of heavy vehicles worked out to avoid peak hours and night-time, and to ensure minimal disturbances to the communities and the resident population along these roads.</p> <p>Maintenance will be conducted at safe distance from watercourses so that no oil spills can enter the water.</p> <p>Contaminated soil should be excavated and disposed</p>	Design Build Contractor and SC
				properly in a confined place outside inundation areas	



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	Contamination of soil and groundwater quality	Temporary	moderate	The soil contaminated with drilling mud should be avoided For effluents to be discharged from work place, camps, and offices, treatment arrangements such as retention ponds and septic tanks will be incorporated in the facility designs.	
	Archaeological property chance findings	Permanent	Moderate	In the event of an archaeological chance find at the construction site, the contractor will prevent workmen or any other persons from removing and damaging any chance find artifacts and will, immediately upon discovery thereof, inform the SC of such discovery and carry out the SC's instructions for dealing with the same, awaiting which all work will be stopped for 100 m in all directions from the site of discovery.	Design Build Contractor and SC



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	Loss of access to residents, businesses, and institutions during construction.	Temporary	Moderate	The contractor will provide safe and convenient passage for vehicles and pedestrians through diversions to and from side roads, and property access connecting the project roads. The contractor will ensure that (i) the construction works do not interfere with the convenience of the public or access to, use, and occupation of public or private roads, or any other access to properties, whether public or private. Temporary access to	Design-Build Contractor and SC
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				properties adjacent to the construction site will be provided through the construction of ramps with concrete slabs for use of pedestrians and light vehicles; (ii) in critical areas such as institutions, operating hours are factored into work schedules and workforce is increased for speedy completion; (iii) advance information on works to be undertaken including appropriate signage, is provided; and (iv) the diversion is done in coordination with the traffic police division for necessary rerouting of traffic and traffic management.	
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	Damages to utilities and services during construction	Permanent	Moderate	The contractor will be required to: (i) plan for immediate attendance by the service providers to any damages to utilities during construction; (ii) replace (or compensate for) public and private physical structures damaged due to construction or vibration; and (iii) provide prior public information about the likely disruption of services. In consultation and with support from DWASA, the contractor will provide alternative arrangements for water supply in the event of disruption beyond a reasonable time, for instance, through tankers.	Design-Build Contractor and SC
	Compensation • Loss or impairment of private			• written compensation arrangement and consent between property owner and contractor	
	property				

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	Clearing of construction camps and restoration	Temporary	Moderate	The contractor will prepare site restoration plans for approval by the SC. The plan will be implemented by the contractor prior to demobilization. On completion of the works, all temporary structures will be cleared away, all rubbish burned, excreta or other disposal pits or trenches filled in and effectively sealed off, and the site left clean and tidy, at the contractor's expense. The site will be restored to preproject conditions through the removal of all extraneous material on site. During the site clearance and earthwork, it the necessary to be careful about the following:	Design Build Contractor and SC
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	Quarry/borrow pit operations	Permanent	Moderate	Responsibility of the contractor to- (i) obtain approval of implementing agency if new quarries and borrow sites are necessary (ii) store stripped materials as not to disrupt natural drainage and protect them to prevent erosion and migration of soil particles into surface waters; (iii) provide temporary ditches and/or settling basins to collect run-off water and to prevent erosion and contamination of surface water; (iv) plant exposed areas with suitable vegetation at the earliest opportunity and prevent ponding of water through temporary drains discharging to natural drainage channels; (v) restore sites after	Design-Build Contractor and SC
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				<p>construction activities by stabilizing contours and slopes, spreading stripped materials to promote percolation and re- growth of vegetation, and draining any standing water. Land utilized for quarry sites access roads will also restored, and (vi) ensure adequate safety precautions during transportation of quarry material from quarries to the construction site (vii) Ensure all employee and labor covered by proper PPE and safety net program. Vehicles transporting the material will cover to prevent spillage.</p>	
	Disposal of bituminous wastes / construction waste / debris / cut material	Temporary	Moderate	For project components involving demolition of structures, the contractor will prepare and implement a waste management plan. Safe disposal of the extraneous material will be ensured in the pre-identified disposal locations. To enable minimization of waste disposal and do this in an environmentally safe manner, the waste management plan will (i) recover used oil and lubricants and reuse or remove from the site; (ii) manage solid waste according to the following preference hierarchy:	Design Build Contractor and SC

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				reuse, recycle, and dispose of in designated areas;	
	Stripping, stocking, and preservation of topsoil	Permanent	Moderate	The topsoil from productive agricultural lands at the intake site, borrow areas, and areas to be permanently covered will be stripped to a specified depth of 150 mm and stored in	Design-Build Contractor and SC

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				<p>stockpiles. The stockpile will be designed such that the slope does not exceed 1:2 (vertical to horizontal), and the height of the pile will be restricted to 2 m. Stockpiles will not be surcharged or otherwise loaded, and multiple handling will be kept to a minimum to ensure that no compaction will occur. The stockpiles will be covered with gunny bags or tarpaulin. It will be ensured by the contractor that the topsoil will not be unnecessarily trafficked, either before stripping or when in stockpiles. Such stockpiled topsoil will be returned to cover the disturbed area and cut slopes.</p>	
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	Use of explosive materials	Permanent	Moderate	<p>Except as may be provided in the contract or ordered or authorized by the SC, the contractor will not use explosives.</p> <p>The contractor will, at all times, take every possible precaution, and will comply with appropriate laws and regulations relating to the importation, handling, transportation, storage, and use of explosives and will, at all times when engaged in blasting operations, post sufficient warning flagmen. The contractor will carry out the use of explosive materials only after obtaining written approval of the SC of the procedures to be followed.</p>	Design-Build Contractor and SC
	Material handling at site	Temporary	Moderate	<p>All workers employed for mixing asphaltic material, cement, concrete, etc. will be provided with protective</p>	Design Build Contractor and SC
				<p>footwear and goggles. Workers engaged in welding works will be provided with welder's protective eye shields. The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions.</p>	

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Soil and water pollution	Soil and water pollution due to fuel, lubricants, and construction waste	Temporary	Moderate	<p>The fuel storage and vehicle cleaning area will be stationed such that runoff from the site does not drain into the water bodies/ponds abutting the construction sites.</p> <p>Oil interceptors will be provided at construction vehicle parking areas, vehicle repair areas, and workshops, ensuring that all wastewater flows into the interceptor prior to its discharge. All work sites will be cleaned and restored to pre-project conditions.</p> <p>Discharge standards promulgated under Schedule 10, standards for waste from industrial units or projects waste will be strictly adhered to.</p>	Design Build Contractor and SC
Operation phase					
Pipeline route along agricultural land	Possible waterlogging	Permanent	Moderate	Canalization of water through the internal Canals and rivers	Design Build Contractor and SC
	Survival of trees, maintenance, of landscaping, and the green buffer zone	Permanent	Moderate	Proper care will be taken to increase the survival rate of saplings, like regular watering, pruning, provision of tree guards, provision of manure for better nourishment, etc., including timely replacement of perished saplings.	Design Build Contractor

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	Environmental conditions	Permanent	Moderate	Design Build Contractor will undertake seasonal monitoring of air, water, noise, and soil quality through an approved monitoring agency. The parameters to be monitored, frequency and duration of monitoring, as well as the locations to be monitored will be as per the monitoring plan prepared.	Design Build Contractor
	Occupational health and safety at the water transmission main	Permanent	Moderate	Design Build Contractor will establish procedures and systems to maintain sound occupational health and safety for the personnel at the various facilities, including the use of PPE, provision of training on occupational health and safety to all workers, etc. To address environmental risks, during the operation of the facilities, DWASA will develop and implement an emergency action plan, which will include training and systems on emergency response systems and procedures.	Design Build Contractor

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	Management of sludge at the treatment plant	Permanent	Moderate	During operation of the WTP, physical and chemical sludge will generate. This drinking water treatment sludge usually contains colloidal alum hydroxides, colloidal or dissolved organic matter, clay, silt and microorganisms. It should not contain heavy metal and toxic chemicals. After dehydration and drying the sludge is proposed to use as fill material for lowlands as reclaimed land for public parks, roadsides, golf courses, lawns and home in nearby areas after	Design Build Contractor
				analysing characteristics of the sludge if it doesn't contain any toxic chemical. The disposal of the alum sludge is proposed at the landfill site of Dhaka at Matuail, about 10 km from the proposed WTP if it is not possible to use as fill material after confine.	

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	Effective maintenance of the sludgedrying beds at the WTP	Permanent	Moderate	DWASA will ensure regular maintenance of the sludgedrying beds at the WTP. Utilization of dried sludge for horticultural/ agricultural purposes, as suitable, should be carried out. Disposal of alum sludge should be at the sanitary landfill site in Dhaka. Reuse of sludge should be explored after testing to meet government safety standards.	Design Build Contractor
	Management of solid waste at the treatment plant	Permanent	Moderate	A waste collection system should be in operation to handle solid wastes, oily rags, and used fuel and lube oil filters in a leak-proof container that should be stored and disposed of at the landfill site, to ensure effective management of solid wastes at the treatment plant site.	Design Build Contractor

Table 7 : Construction Stage Environmental Monitoring Plan

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Responsibility	Cost and Source of Funds
Construction disturbances, nuisances, public and worker safety	All work sites	Implementation of dust control, noise control, traffic management, and safety measures. Site inspection checklist to review	Weekly during construction	Supervising staff and safeguards specialists	No costs required
Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Responsibility	Cost and Source of Funds



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		implementation is appended at Appendix-N			
Ambient air quality	According to IEE 2013	SPM PM10, PM2.5 NOx, SO2, CO	Once before start of construction Quarterly (except monsoon season) during construction (2-year period considered), 24hour monitoring	Contractor	part of construction costs
Ambient noise	(same as air quality monitoring)	Day time and night time noise levels (24 hours)	Once before start of construction Quarterly (except monsoon, during construction)	Contractor	Part of construction costs

4. COVID-19 PREVENTION GUIDELINES কভিড -১৯ প্রতিরোধের নির্দেশিকা

In line with the recent pandemic of COVID-19, GWTSNC reminds that our priority is to protect project sites employees, contractors and the public as well as to limit the spread of the virus further, would like to advise all stake holders to implement prevention and control measures in their respective facilities to stop the COVID-19 from entering and spreading within and outside their facilities. কভিড -১৯ -এর সাম্প্রতিক

মহামাভরুর সাথে সামঞ্জস্য রকমে ভিডিওটিউটিএসএনভস স্মরণ কভরথে রে রে প্রকথের কমমচারী, ঠিকার এবং িনসাধারণক সুরক্ষা রেগোর পাশাপাশ িাইরাথসর ভবস্তারথক আরও সীভমি করা আমাথের কাথে অগ্রাভধকার পাে, প্রতিথরাধ ও ভনেল্লন প্রতিো বাস্তবানে করার িনয সমস্ত রেকথহাল্ডারথের পরামশম রেগো োথি কভিড -১৯ িাথের ফ্যাভসভিটির ভিথির এবং বাইথর সংিমন ও ভবস্তার ররাধ করথি পাথর।



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1. Safety Precautions: ভিরোপত্তোমূলক সিকে িোাঃ

- Restrict/Reduce the number of visitors in the facility. ভ্রমনােীথের ফ্যাভসভিটিথি সংেয়া কমাথনা/সীভমি করা।
- Evaluate the Travel history of all people before allowing them to visit your facility. ফ্যাভসভিটিথি প্রথবথশর সম্মভি প্রোথনর পৃথবম সকথির ভ্রমন ইভিহাস মূিযােন করা।
- A person coming from other countries shall undergo 14 days' quarantine period before visiting your facility অনয রেশ রেথক আসা বযভি ফ্যাভসভিটিথি প্রথবথশর পৃথবম ১৪ ভেথনর রকাে়োরান্টাইন সমে অভিবাত্হি করথব
- All employees/visitors Body Temperature will be checked at their Facility's Main Entrance/Door/Gate. ফ্যাভসভিটিথি প্রধান প্রথবশ পথে/েরি/রেট এ সর্কি কমমচারী/ভ্রমনােীর শারীভরক িাপমাত্রা পরীক্ষা করথি হথব
- Any employees/visitors with Symptoms of Cough, Runny Nose, Fever and Headache shall be restricted from entering the project site and will be recommended for further Healthcare evaluation. কাভশ, সভেম, জ্বর এবং মাে়াবযো িক্ষন ধারী রেথকান কমমচারী/ভ্রমনােী প্রথিক্ট সাইথট প্রথবশ করথি পারথব না এবং পরবী স্বাস্থ্য পরীক্ষার িনয পাঠাথনা হথব।
- Face Masks and Hand Gloves shall be provided as mandatory PPEs for all employees/visitors রফসমাস্ক এবং হািথমািা িযাবশযক ভপভপই ভহথসথব সর্কি কমমচারী/ভ্রমনােীথের প্রোন করথি হথব।

2. Workplace Safety Practices: কমেস্বরল ভিরোপত্তোর চচে ো

- Reduce the working hours in the facility. ফ্যাভসভিটিথি কমম ঘন্টা কমাে
- Social Distancing (minimum of 2 meters) shall be maintained between every person inside the facility ফ্যাভসভিটিথি ভিিথর প্রথিযক বযভি রেথক সামাভিক দূরত্ব (নূযনিম ২ ভমটার) বিে রােথি হথব।
- Meetings, Conferences and Gatherings shall be completely avoided. ববঠক, সিা এবং সমাথবশ সম্পূনম এভিথে চিথি হথব।
- Face Masks and Gloves shall be made mandatory PPEs throughout the day and to be monitored regularly to protect employees from exposure. রফসমাস্ক এবং হািথমািা িযাবশযক ভপভপই ভহথসথব সমগ্র ভেনবযাপী বাধযামূিক করা হথব এবং ভনেভমি িে়োরভক করথি হথব োথি কমমচারীরা সংিভমি না হে।
- Avoid Physical contact with each other (Shaking Hands, Hugging, Kissing, etc.). এথক অপথরর সাথে শারীভরক সংস্পশম এভিথে চি়ন
- Confine yourself within your workplace boundaries. কমমস্থথির সীমানা মথধয ভনথিথক আবদ্ধ রাে়ন।

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g. Avoid roaming around sites without any valid reasons. উপস্থিতির কারণে সাইট ঘুরাঘুমানের এড়াতে চিন।

3. Hygienic Practices: স্বাস্থ্যবিধি চর্চা:

- Provide Sufficient Hand Wash and Sanitizers in prominent places at the facility. উপস্থিতির স্থান পেমান্ত হ্যান্ডওয়াশ এবং স্যানিটাইজার প্রদান করুন।
- Wash Hands often with soap and water for at least 20 seconds. প্রায়শই হাত সাবান পান্ডন ভেতে ২০ সেকেন্ড ধরে ধোঁ কন।
- Avoid Touching your Eyes, Nose and Mouth without washing your hands. রচাে, নাক এবং মুে হাি না ধুখে স্পশম করা রেথক ভবরি োকুন।
- Use hand sanitizer (70% Alcohol-based) if soap and water are not available. সাবান এবং পান্ডন না োকথি স্যানিটাইজার ব্যবহার করুন।
- Cover coughs and sneezes with tissues or bent elbow. কাভশ এবং হাতচ টিশ্য বা কনুইথের িাি ভেতে রেথক ভেন।

4. Cleaning and Disinfection of Facilities: ফ্যাবসভলটি পডরস্কার ও জীি়োমুক্তকরি:

- Carry out Cleaning, Sanitization and Disinfection programs in the facility, on a regular basis. প্রতিভনেি পডরস্কার, পেঃডনস্কাশন ও িীবানুমুকিরন রপ্রাগ্রাম চাি়ি রােুন।
- All common areas of workplace and movements shall be disinfected. Disinfection areas of the facility are listed below, but not limited to: কমমথস্কত্র ও চািখির েন ড্রাকাগুভি িীবানুমুকিরথি হথব। ফ্যাবসভলটির িীবানুমুকিরন ড্রাকার িাভিকা ভনথচ রেগে হি, ভকন্তু সীমাক্ক নেঃ
 - Administration Area - office room, meeting room, conference room, reception, etc. প্রশাসভনক ড্রাকা-অভফস কক্ষ, ববঠক কক্ষ, সিা কক্ষ, অিযরেনা হিযাভে।
 - Office Equipment — desktop PC, laptop, tablet, desk, chair, etc. অভফস সরঞ্জাম-রডকটপ ভপভস, িযাপটপ, টযাবথিট, রডক্ক, রচোর হিযাভে।
 - Regular Access / Touch Units — doors, windows, rails, switches, buttons, etc. প্রিযহ অভিেমন/স্পভশমি ইউভনট-েরি, িানািা, হািেভন, সুইচ, বাটন হিযাভে
 - Welfare facilities - restroom, dining room, toilets, washrooms, first aid stations, etc. ওথেথিফোর ফ্যাবসভলটি-ভবশ্রামোর, োবারঘর, রশৌচোর, সািঘর, প্রােভমক ভচভকটসার রেশান হিযাভে
 - Workshops - machinery, equipment, tools, panel board, control switches, working platforms,

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etc. কারোনা-রমভশনপত্র, সরঞ্জাম, েন্দ্ৰাংশ, পযাথনি রবাডম, ভনেব্লক সুইচ, কাথির স্থান হিয়াভে।



- Warehouse — storage area, handling equipment, racking system, loading/unloading bay, etc. পণযাোর-সংরক্ষন ড্রাক, হযাভন্ডভিং সরঞ্জাম, ররভকং ভসথেম, উঠাথনা নামাথনা োভি হিয়াভে
- c. Selection of cleaning and disinfection solutions should be primarily based on the safety and efficacy of the product and surface to be cleaned and/or disinfected. পভরক্ষার এবং িবানুনাশক দ্রবয ভনবমাচন প্রােভমকিাথব ভনর্দমষ্ট পণয এবং পৃথের পভরক্ষার এবং / বা িবানুমুি হণোর িনয ভনরাপে এবং কােমকাভরির উপর ভিভি কথর হণো উভচি।
- d. All the facilities shall develop an Infectious Disease Preparedness and Response plan/procedure, that includes the Cleaning, Sanitizing and Disinfecting process of surfaces exposed to infection সমস্ত ফযাভসভিটিগুভি একটি সংিামক ররাে প্রস্তুভি এবং প্রভিভিো পভরকেনা / পদ্ধভি ভবকাশ করথব, োর মথধয সংিমথণর বাভহি পুেণ্ডভির পভরক্ষারকরণ, সযাভনটাইভিং এবং িবানুনাশক প্রভিো অন্তিম ি রথেথে।

5. Transportation: পভরিহি:

- a. Common Staff Transports Vehicle & Buses, before and after each trip, shall be properly disinfected. কমন োফ পভরবাহী োনবাহন ও বাসগুভি প্রভিবার োিাোথির আথে এবং পথর সঠিকিাথব িবানুমুি করা হথব।
- b. Disinfection of vehicles shall include all seats, belts, handles, etc. and distribution vehicle/truck. োনবাহন িবানুমুিকরথনর মথধয সমস্ত আসন, রবল্ট, হযাথন্ডি হিয়াভে এবং ভবিরণ োনবাহন / ট্রাক অন্তিম ি োকথব।
- c. Social distancing shall be followed in passenger's transport, for each trip. Only One Person shall be permitted to sit on each row/seat. প্রভিবার োিাোথি োত্রী পভরবহথন সামাভিক দূরত্ব অনুসরণ করা হথব। প্রভিটি সাভর / আসথন রকবি একিন বযভিথক বসার অনুমভি রেণো হথব।
- d. Face masks shall be mandatory for passengers while travelling because social distancing will be less than 2m. োত্রীথের িনয মাস্ক পরা বাধযামূিক হথব কারণ সামাভিক দূরত্ব ২ ভম এর ভনথচ হথব
- e. Face Masks and Hand Gloves shall be provided as mandatory PPEs for all employees/visitors. সর্কি কমমচারী \ভ্রমনাোীথের িনয বাধযামূিক ভপভপই সরবরাহ করথি হথব

6. General Symptoms of COVID-19:

- Headache: মাোবযো
- Breathing difficulty: শ্বাসকষ্ট

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- Fever: জ্বর
- Loss of smell and taste: ঝেঁক ও স্বাদে কথম োগো

- Runny nose: সন্ভেম
- Dizziness: ভিমুভন

- Sore throat and cough: ংবযো এবং কাভশ

ককোভিড-১৯ এর সোংোরি লক্ষিসমূহাঃ

7. Reporting: ভররপোটিে টাঃ

Any employees developing the above Symptoms, with a Travel History to affected countries, shall be advised to take immediate Medical/Healthcare evaluation.

আান্ত রেশগুভিথি ভ্রমথনর ইভিহাস সম্বভিি রকানও কমমচারীর মথধয উপথরর িক্ষনগুভি প্রকাশ রপথি িাংক্ষভগক ভচভকংসা / স্বাস্থ্যথসবা মূিযােন করার পরামশম রেগো হথব।

COVID-19 suspected and positive cases must be reported to the GWTNSC Project site management

COVID-19 সথেহিনক এবং ভনভিি রকসগুভি অবশযই GWTNSC প্রকথের সাইট মযাথনিথমন্টথক িানাথি হথব

- GWTSNC Security Managers +880-1714-110353
- GWTSNC HSE Manager +880-1313-404996





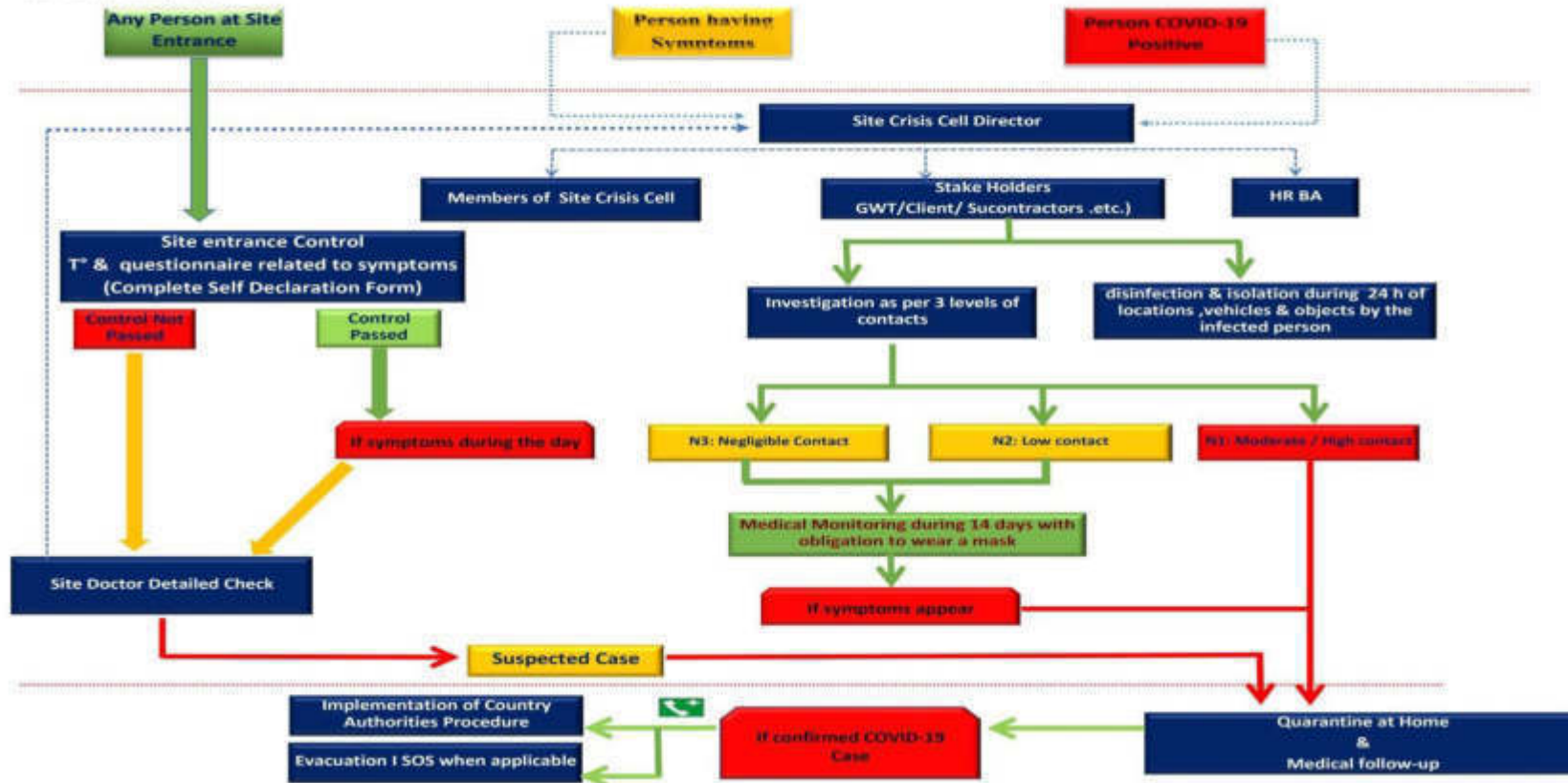
 	Design and Build Intake, Raw Water Pipeline, and 500 MLD Water Treatment Plant at Gandharbpur under Dhaka Environmentally Sustainable Water Supply Project (DESWSP)	Document Number : B-001464-GWT-EN-G00-MP-0011	
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FIG. 1: COVIDE CASE HANDLING Flow Chart

COVID CASE HANDLING



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FIG.2: Prevention Recommendations



CORONAVIRUS (COVID19) 新冠病毒

Preventive Measures 预防措施






A Joint Venture of SUEZ INTERNATIONAL & OTV-VEOLIA

GWTSNC is taking reasonable precautions to prevent the spread of Coronavirus

Coronavirus (COVID19) is a GLOBAL Pandemic



Symptoms 症状



Know how the coronavirus spreads. 新冠怎么传染?

- Respiratory droplets of infected person 飞沫传播**
আক্রান্ত ব্যক্তির শ্বাসতন্ত্রের কণা (হাঁচি, কাশি)
- Contact with live animals 动物可能会传染人**
জীবিত প্রাণীদের খালি হাতে স্পর্শ করা

Take steps to protect yourself 保护自己的几个方法

- Wash your hands frequently for 20 seconds.**
勤洗手，每次不少于20秒
কমপক্ষে ২০ সেকেন্ড আগনার হাত পানি দিয়ে প্রায়শই ধুয়ে নিন
- Wear a facemask when you are visiting a public place**
去公众区域戴口罩
জনসমাগম স্থানে গমনের সময় ফেস মাস্ক ব্যবহার করুন
- Keep a minimum distance of one meter from other people**
和其他人保持至少1米的距离
অন্য ব্যক্তি থেকে ন্যূনতম ১ মিটার দূরত্ব বজায় রাখুন
- Avoid hugs and physical contact**
见面问候时不要有身体类接触
আনিসন এবং শারীরিক স্পর্শ পরিহার করুন
- Avoid touching your eyes, nose, or Mouth with unwashed hands**
未洗手前禁止触摸眼睛、鼻子、口腔
চোখ, নাক বা মুখ অপরিষ্কার হাত দিয়ে স্পর্শ করবেন না

- If you feel sick stay at home – stay at home and consult a physician**
发现自己体温不正常就居家隔离观察并上报项目安全部门
অসুস্থ অনুভব করলে গৃহে অবস্থান করুন
- Cough or sneeze into the crease of your elbow and use disposable tissue.**
咳嗽打喷嚏时用肘部遮挡，并使用一次性纸巾
আপনার কনুই আর ডাজ এ হাচি এবং কাশি দিন
- Clean and disinfect frequently touched surfaces daily.**
每日清洁和消毒你经常触碰的物体表面
নিত্য ব্যবহৃত আসবাবগুলো প্রতিদিন ডানোডাবে পরিষ্কার করুন
- Avoid busy public area**
避开拥挤的公众场所
জনসমাগম স্থান পরিহার করুন
- While you are having any symptom mentioned above immediately consult doctor**
当您有症状时立即咨询工地总承包医生
উপরে উল্লিখিত কোনো লক্ষণ দেখা দিলে অবিলম্বে ডাক্তারের পরামর্শ নিন

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SELF Declaration FORM ভিজস্ব ক োষণো ফমে

This COVID-19 declaration form is intended for any person entering to site. It applies to those who: সাইট প্রবেশকারী রেখকান বযভির উথেথশয এই রকাভিড-১৯ রঘাষণা ফমম। এটি িাথের রক্ষথত্র প্রথোিয োরা:



- 1) were contaminated by the COVID-19 virus or had the symptoms কভিড -১৯
িাইরাস দ্বারা দূভষি ভেি বা এর িক্ষণ ভেি
- 2) have been in a country at risk or
ি়ুঁ ভকপূণম একটি রেথশ ভেি বা
- 3) have been in the vicinity of an infected person to register in the group database.
গ্ৰুপ ডাটাথবথস ভনবন্ধথনর িনয রকানও সংিাভমি বযভির সংস্পথশম রথেথেন।
- 4) New joiner or who have Joined site after a leave/holiday/gap of considerable time.
নি ন রোেোনকারী বা োরা েুটির পথর / েুটির ভেন / ভনর্দমষ্ট সমথের বযবধাথন সাইটটিথি রোেোন কথরথেন।

This information, which is treated confidentially by GWT SNC, makes it possible to assess the evolution of the epidemic within the company and to set up the necessary prevention and protection measures. This declaration should, in no way, exclude other existing information systems: HR/Health and Safety/Management.

এই িেয, ো GWT SNC রোপথন পভরমান কথর, সংস্খার মথধয মহামারীটির অবস্খা মুিযােন এবং প্রথোিনীে প্রভিথরাধ ও সুরক্ষা বযবস্খা স্খাপন সম্ভব কথর। এই রঘাষণাথক রকানও উপাথে অনয ভবেযমান িেয ভসথেমগুভি বাে রেগো উভচি নে: এইচআর / স্বাস্থ্য ও সুরক্ষা / বযবস্খাপনা

All details including International and Domestic Travel needs to be include as follows:
আন্তিম াভিক এবং আযন্তরীণ ভ্রমথনর ভবস্তাভরি ভববরণ ভনন্মভিভেি উপাথে অন্তিম ি করা প্রথোিন:

1. Details of the cities / countries visited since last 14 days? েি ১৪ ভেন রেথক রে শহরগুভি / রেশ পভরেশমন করা হথেথে িার ভবশে?

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_____ 2. Are you suffering from any of the following symptoms? আপভন
ভক ভনমভিভেি রকানও িক্ষণ ভনথে িুেথেন?

Fever: জ্বর:	Yes হ্যা	No না
Cough: কাভশ:	Yes হ্যা	No না
Respiratory distress (Shortness of breath): শ্বাসকষ্ট	Yes হ্যা	No না
Muscle Pain রপশী বযো	Yes হ্যা	No না
Diarrhea ডােভরো -উেরামে	Yes হ্যা	No না
Loss of smell েক্ না পাণ্ডো	Yes হ্যা	No না
Cold ঠান্ডা িাোো	Yes হ্যা	No না
Sore throat েিাে বযো	Yes হ্যা	No না

3. Do you have a travel history to China, Hong Kong, Republic of Korea, Italy, Iran, Japan, France, Spain, UK, USA and other Covid-19 affected countries on or after Dec 08, 2019? If yes, then mention the country:
আপনার ভক চীন, হংকং, রকাভরো, হিভি, ইরান, িাপান, ফ্রান্স, রস্পন, েুরিািয
এবং অনযানয রকাভিড -১৯ প্রিভবি রেশগুভি 08 ই ভডথসম্বর, ২০১৯ এর পথর ভ্রমণ
করার ইভিহাস রথেথে? েভে হযা়, িথব রেশটির নাম উথেে করুন:

. Yes হ্যা No না

4. Have you contacted with people having such travel history? If yes than mention Travel history and relation with the person (Father, mother, siblings, spouse and children): আপভন ভক এই িািিীে ভ্রমণ

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ইভিহাসসর সাথে রোোথোে কথরথেন? েভে হযা় িার রচথে ভ্রমথণর ইভিহাস
এবং রসই বযভির সাথে সম্পথকম র কো উথেে করুন (ভপিা, মা, িাইথবান, স্ত্রী এবং
সন্তাথনরা):

5. Have you • Yes হ্যা No না already been diagnosed as contaminated with Covid-19? আপভন ইভিমথধয রকাভিড -১৯-এ আিন্ত ভহসাথব ভনণীি হথেথেন?

• Yes হ্যা No না

6. Have you been in contact with co-workers since the symptoms appeared? িক্ষণগুভি রেো রেোর পর রেথক আপভন ভক সহকমীথের সংস্পথশম এথসথেন?

• Yes হ্যা No না

7. If yes, precise where and with whom (most complete list required): হ্যা হথি, রকাোে এবং কার সাথে িা
েোেেোিাথব ভি়েুন (পভরপূনম িাভিকা ভেথি হথব)

8. Have you travelled to any Covid-19 affected area of Bangladesh? please mention আপভন ভক বাংিাথেথশর রকাভিড-১৯ আিন্ত রকান ত্রিকা ভ্রমন কথরথেন? অনুগ্রহ পূবমক উথেে করন

9. Other important information to communicate:
প্রথেে অনযানয গুরুত্বপূনম িেযঃ

Name:নাম

Signature স্বাক্ষর & Date:িাভরে

Summary সৌরসটরক্ষপ

Actions ভি়োকিপ	Short Description রোট ভববরণ
<p>1. Office sanitization অভফস পভরচ্ছনি</p>	<ul style="list-style-type: none"> ✦ Clean all the common areas of the building/office premises including toilets are cleaned after each use & entrance areas sterilized রশৌচাের সহ িবন / অভফস প্রাঙ্গথনর সমস্ত সাধারন ত্রিকা প্রভিবার বযবহাথরর পথর পভরক্ষার করুন & প্রথবশমুে িীবানুমুি করুন ✦ Pantries are closed পযাভিগুভি বন্ধ রােুন ✦ Provide single use and disposables for employees সকি কমীর িনয এক বারই বযবহার ও পভরিযাে দ্রবযাভে প্রোন করুন
<p>2. Entrance health checks প্রথবশকাথি স্বাস্থ্য ভনরীক্ষা</p>	<p>Ensure that anyone entering the building/office including staff and visitors all undergo temperature screening & checks োফ এবং ভ্রমনকারী সহ রে রকউ ভবভন্দং / অভফথস প্রথবশ করথেন িাপমাত্রা পরীক্ষা করা ও নীভরক্ষা করা ভনভিি করুন</p> <ul style="list-style-type: none"> ✦ Ill employees and those showing signs are prohibited from coming to work অসুস্থ কমমচারী এবং োথের িক্ষন প্রকাভশি িাথের কাি করথি আসা ভনভষদ্ব
<p>3. Provision of masks & hand sanitizers মাস্ক ও হযাল্ড রসভনটাহীর প্রোন</p>	<p>All employees/visitors are mandated to wear masks at all times in the building/office from entry. Non-compliance will lead to denial of entry to building/office সমস্ত কমমচারী / ভ্রমনকারীথের প্রথবথশর সমে রেথক ভবভন্দং অভফথস সবমো মাস্ক পরথি বাধয। অপারেিা প্রকাশকারী ভবভন্দং / অভফথস প্রথবথশর অথোেয বথি ভবথবচয হথব</p> <ul style="list-style-type: none"> ✦ Hand sanitizers to be installed হযাল্ড সযাভনটাহীর প্রোন করা হথব
<p>4. Physical Distancing of Minimum 2 meters নূযনিম 2 ভমটার শারীভরক দূরত্ব</p>	<ul style="list-style-type: none"> ✦ Ensure the minimum 2-meter distancing measure is maintained in all common areas, office room, meeting room, conference room, reception, dining room, First aid station etc. ✦ ভনভিি করুন রে সমস্ত সাধারন ত্রিকা, অভফস কক্ষ, সিা কক্ষ, কনফাথরস কক্ষ, সংবধমনা, ডাইভনং রুম, প্রােভমক ভচভকতসা রকন্দ্র হিযাভেথি নূযনিম ২ ভমটার দূরত্ব বিাে রােো হে।
<p>5. Offices working Hours অভফথসর কমমচিকাকিীন</p>	<ul style="list-style-type: none"> ✦ Building and office hours not to exceed 8 hours' daily ভবভন্দং এবং অভফথসর কমমসমে প্রভিভেন ৮ ঘন্টার রবভশ ন হগে ✦ Minimize meetings and ensure no more than 10 people in a meeting with minimum 2 m social distancing maintained ববঠকগুভি সংভক্ষপ্ত করুন এবং নূযনিম ২ ভম সামাভিক দূরত্ব বিাে ররথে একটি ববঠথক ১০ িথনর রবভশ িিক না হে ভনভিি করুন

	<ul style="list-style-type: none">✦ No gatherings permitted✦ রকান সমাথবথশর অনুমতি রনই
6. Communication রোোথোে	<ul style="list-style-type: none">✦ All restrictions must be communicated to employees and visitors সমস্ত ভবভধভনথষধ কমমচারী এবং েশমনােীথের কাথে অবভহি করথি হথব✦ Isolation room to be provided for suspect cases.✦ সথেহিনক ররােীর রক্ষথত্র আইথসাথিশান কক্ষ প্রোন করা হথব

Failure to report or hide the Suspected cases shall result in strict disciplinary measures to be taken by the project management

সথেহিনক রকসগুভি ভরথপাটম বা আিাি করথি বযেম হথি প্রকে বযবস্থাপনা কিম ক কথঠার
আইনানুেে বযবস্থা গ্রহণ করা হথব

Thank you in advance for your support and cooperation.

আপনার সমেমন এবং সহথোভেিার িনয অগ্রীম ধনযবাবে।

10 COVID-19 Sanitary Rules

Gandharbpur Water Treatment SNC

SUEZ OTV VEOLIA

A Joint Venture of SUEZ INTERNATIONAL & OTV-VEOLIA

M M
MOTT
MACDONALD



All responsible! সবাই দায়বদ্ধ!

General prevention সাধারণ প্রতিরোধ

01



If I exhibit symptoms (temperature or other), I don't go to work, inform my manager and I contact my referring doctor. I will be evaluated and tested according to the local medical protocols.

যদি আমি লক্ষণগুলি (জ্বাশমায়া বা অন্য) প্রদর্শন করি তবে আমি কাজ করতে যাই না, আমার ম্যানেজারকে অবহিত করি এবং আমি আমার রেফারিং ডাক্তারের সাথে যোগাযোগ করি। স্থানীয় মেডিকেল প্রোটোকল অনুসারে আমার মূল্যায়ন ও পরীক্ষা করা হবে।

02



If I am diagnosed by the doctor as COVID-19 positive, I will inform my manager to trace and warn the people I have been in contact with.

যদি আমি ডাক্তার দ্বারা COVID-19 পজিটিভ হিসাবে নির্ণয় করা হয় তবে আমি আমার ম্যানেজারকে আমার পরিচিত ব্যক্তিদের সন্ধান এবং সতর্ক করবে জানাব।

03



If I am at high risk of developing severe illness due to COVID-19, I can inform my manager or my referring doctor so that my working conditions can be assessed for my protection, while respecting confidentiality of my information.

যদি আমি COVID-19-এর কারণে গুরুতর অসুস্থ হওয়ার ঝুঁকিতে আছি তবে আমি আমার ম্যানেজার বা আমার রেফারিং ডাক্তারকে অবহিত করতে পারি যাতে আমার উৎসাহের গোপনীয়তার প্রতি শ্রদ্ধা রেখে আমার কাজের পরিবেশটি আমার সুস্থতার জন্য মূল্যায়ন করা যায়।

04

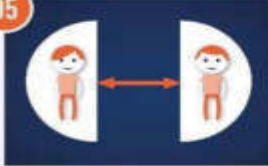


I respect the organizational set up and rules, health pathways, telecommuting, operating procedures, assigned time slots, travel instructions.

আমি সংগঠনিক সেটআপ এবং নিয়মগুলি সম্মান করি: স্বাস্থ্য পথ, টেলিযোগাযোগ, অপারেশন প্রসিডি, নির্ধারিত সময় স্লট, ভ্রমণের নির্দেশাবলী।

Measures Barriers প্রতিরোধমূলক ব্যবস্থা

05



I limit social contacts and physical interactions to a minimum. I organize my work to avoid physical travel and face-to-face meetings.

আমি সামাজিক যোগাযোগ এবং শারীরিক মিথস্ক্রিয়াকে সর্বনিম্ন সীমাবদ্ধ করি। শারীরিক ভ্রমণ এবং মুখোমুখি সভাগুলি এড়াতে আমি আমার কাজের আয়োজন করি।

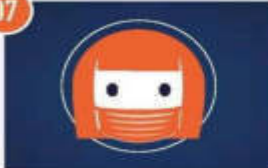
06



I respect social distance at all times: during operations but also in changing rooms, office elevators, meeting rooms, catering area and pedestrian traffic areas.

আমি সর্বদা সামাজিক দূরত্বকে সম্মান করি: অপারেশনের সময় কিন্তু কক্ষ, অফিস, লিফট, স্টোর, ক্যাটারিং অঞ্চল, পথচারী ট্রাফিক অঞ্চলগুলিতে পরিবর্তন করে।

07



I wear a mask according to the instructions related to my activity. I safely dispose it according to instructions provided to prevent the spread of contamination.

আমি আমার ক্রিয়াকলাপ সম্পর্কিত নির্দেশাবলী অনুসারে একটি মুখে পড়ে থাকি। দূষণের বিস্তার রোধে প্রদত্ত নির্দেশাবলী অনুসারে আমি সুরক্ষিত এটিকে নিষ্পত্তি করি।

08



I cough and sneeze into my elbow or into disposable tissue. I avoid touching my face.

আমি কাশি এবং আমার কনুই বা একবার ব্যবহারযোগ্য টিসু মধ্যে হাঁচি, আমি আমার মুখ স্পর্শ এড়িয়ে।

09



I wash my hands regularly with soap and warm water for 20 seconds or disinfect them with hydroalcoholic gel.

আমি 20 সেকেন্ডের জন্য নিয়মিত সাবান এবং উষ্ণ জল দিয়ে আমার হাত ধোই বা হাইড্রো অ্যালকোহলিক জেল দিয়ে তাদের জীবাণুমুক্ত করি।

10



I regularly disinfect my workstation and tool. GWTSNC regularly disinfects common areas (changing rooms, toilets, handles, control access keypads, etc.).

আমি নিয়মিত আমার ওয়ার্কস্টেশন এবং সরঞ্জামগুলিকে জীবাণুমুক্ত করি। জিডব্লিউটিএনএসএন নিয়মিত সাধারণ অঞ্চলগুলি (ঘর, টয়লেট, হ্যান্ডেলগুলি, নিয়ন্ত্রণ অ্যাক্সেস কীপ্যাড ইত্যাদি) জীবাণুমুক্ত করে।

I demonstrate the respect of these measures within the company, to my subcontractors and my customers. I consult with my colleagues and my management if I face difficulties in the application of these rules in order to collectively find solutions. The respect of these rules outside my workplace and working hours allows me to continue to protect myself, my colleagues and my family.

আমি সংস্থার মধ্যে, আমার সাবকন্ট্রাক্টর এবং আমার গ্রাহকদের কাছে এই ব্যবস্থাগুলির সম্মান প্রদর্শন করি। সম্মিলিতভাবে সমাধানগুলি সম্মান করতে যদি আমি এই বিধিগুলি প্রয়োগে অসুবিধার সম্মুখীন হই তবে আমি আমার সহকর্মীদের এবং আমার পরিচালনার সাথে পরামর্শ করি। আমার কর্মক্ষেত্র এবং কাজের সময়গুলির বাইরে এই বিধিগুলির সম্মান আমাকে নিজেকে, আমার সহকর্মীদের এবং আমার পরিবারকে রক্ষা করা চা�িবে যেতে সহায়তা করে।

SAUW Semi-Environmental Monitoring Report Review – Information Log

Instructions: Provide information based on SEMR submitted by Project Management Unit (PMU). This log sheet will serve as record of the review findings, comments, and/or further actions. A copy of the SEMR log sheet should be (i) provided to PMU for their record; (ii) attached to the SEMR to be disclosed on ADB website; (iii) used as reference for review of next SEMRs; and (iv) inputted in the SARD Safeguards Compliance Tracking System.

Project title:	BAN: Dhaka Environmentally Sustainable Water Supply Project		
Loan Number:	3051	Project Number:	42173-013
Overall Project and Objectives	<p>Dhaka Environmentally Sustainable Water Supply Project (DESWSP) is the part of Water Supply Sector Development Program in Dhaka Metropolitan Area and jointly financed by Asian Development Bank (ADB) and the Government of Bangladesh (GoB). The aim of the Project is to improve the water supply network of Dhaka city by forming District Metering Areas (DMAs); rehabilitation of water lines; and replacement of service connections.</p> <p>The objective of the project is to improve health and quality of life and to reduce scarcity of drinking water in the project area by providing access to adequate, sustainable safe water supply facilities. Specific task of the project is to improve the overall distribution network in the project area to ensure 24/7 water supply line with pressure 1 bar (10m). Also, the water supply system will run with system lossless than 15% in the DMA areas. Each DMA will be hydraulically isolated from other DMA. Reliable source of safe drinking water should be established in the DMA.</p>		
Approved Categorization	X	Category A	Category C
		Category B	FI
Loan Effectivity Date:	23 February 2015	Frequency of Reporting	Semi-annual
Project Officer	Ms. Momoko Tada	Project Analyst	Mr. Felix Emmanuel Golez
Reporting Year	2020	Coverage Period	X
			1 st SEMR of the year
			2 nd SEMR of the year
Date of PMU submission to ADB		23 September 2020 18 October 2020	Date of ADB's feedback/comment to PMU 08 October 2020 03 November 2020

Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
A. Project Safeguards Team (check loan agreement and PAM requirements)				
PMU ¹	Project Safeguards Team (ICB 2.7)	Complied	None	
PIU ²		E-mail address and contact numbers provided in the report.		
Consultants	PMU: Md. Saidur Rahman PIU: Md. Kauser Hossen Md. Shakil Kawser			
Others (e.g. auditor, external monitoring team, etc)	Consultant-Environmental Inspector: Parthoprotim Paul			

Commented [A1]: PMU to provide detailed response. This log sheet will be attached to the SEMR and disclosed on ADB website.

¹ PMU – project management unit

² PIU – project implementation unit

Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
	<p>Project safeguards team (Intake Water, raw water pipeline, WTP, treated water pipeline and distribution network)</p> <p>PMU: Md. Saidur Rahman Consultant: Md. Mahmudul Hasan Rahat (Environmental Inspector)</p> <p>MDSC: Thomas Balling (International Environmental Specialist) Syed Muhammad Latic (National Environmental Specialist)</p> <p>Contractor: Nwokedi Uchiefuna (HSE Manager GWTSNC)</p> <p>Figure 1.2 Project Organization Chart</p>			
B. Overall Project and Subproject Description (summarize number and type of packages) ³				
Number of Packages with civil works (check if consistent with latest procurement plan)	<p>The submitted report provided description on the components of the following:</p> <ul style="list-style-type: none"> -Package ICB 2.7 -Package 1 -Package 2 -Package 3.1 -Package 3.2 -NCB Package 4.1 <p>Part A: Section II</p> <p>It was mentioned that due to the pandemic, all field work have been stopped from</p>	Complied	None	

Commented [A1]: PMU to provide detailed response. This log sheet will be attached to the SEMR and disclosed on ADB website.

³ DB/DBO – design-build or design, build, and operate or where contractor will finalize the detailed engineering design; civil works contract – enough details of the package is known and used as basis for bid/contract’s Technical Specification

Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
	March 25 and was resumed on 1 st June 2020.			
Number of DB/DBO packages and status (see footnote 3)	<p>Four DBO packages</p> <p>(i) P1; (ii) P2; (iii) P3.1; and (iv) P3.2.</p> <p>P1-contract awarded to Suez of France. Contractor mobilized mid May 2019.</p> <p>Other packages are not yet awarded.</p>	Complied	None	
Number of civil works packages and status (see footnote 3)	<p>One civil works contract (ICB 2.7) -ongoing works for DMAs 615 and 616.</p> <p>Information provided in Part A-Section 2 Overall project and subproject/package progress and status.</p> <p>Status of NCB Package 4.1 discussed in Table 1-List of DTWs to be constructed/replaced and works on June 30 2020</p>	Complied	None	
IEEs cleared for awarded packages?	<p>Draft and updated IEEs of ICB 2.7 were reviewed and cleared by ADB.</p> <p>Draft IEE for Package 1 during loan processing cleared and disclosed in ADB website</p> <p>Table II.2 Status of Environmental Documents</p>	Complied	None	
Safeguard documents disclosed on project website?	Updated IEEs of ICB 2.7 and draft and updated IEEs of all packages are disclosed in ADB website.	Complied	Reminder for continuous monitoring and implementation:	

Commented [A1]: PMU to provide detailed response. This log sheet will be attached to the SEMR and disclosed on ADB website.

Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
	Most of the safeguard documents are listed in the PMU's website (www. DESWSP-DWASA.com)		PMU to ensure that all safeguard reports -updated and final IEEs and SEMRs can be accessed from the Project's website.	
SEMR information on package-wise implementation phase (bidding, on-going, construction, completed, under operation, others)	Information provided in the report Part A (Section II): Status of project implementation of ICB 2.7 Status of the project implementation of DTWs for NCB Package 4.1 Table 1 (page 46) Part B (Table 1.1):Status of project implementation of Packages 1, 2, 3.1 and 3.2	Complied	None	
C. Status of compliance with statutory clearances (check IEE for the complete list, summarize the findings for each package – obtained/under application and if obtained, specify validity period)				
Environmental Clearance (EC)	Appendix E-Environmental Clearances. Renewal of Environmental Clearance Certificate. Valid unit 10 December 2020	Complied	None	
Forest Clearance	List of no objection certificate provided in Part B, Table II.4	Complied	Reminder. PMU to ensure that the required permits/clearances are secured prior to civil works.	
No Objection Certificate/Letter				
Site location clearance				
Permit/Consent to Construct (or equivalent)				
Permit/Consent to Operate (or equivalent)				
Road-cutting permit				
Utilities shifting permit				
Tree-cutting permit				
Others (specify)				
D. Status of Compliance with loan covenants (verify items in SEMR with the project's loan agreement)				
Procurement of goods, works and consulting services (Schedule 4, Item 7)	Information provided in Part B, Table II.3	Complied	None	

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Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
Safeguards environment (Schedule 5, Item 5)				
Human and financial resources to implement safeguards requirements (Schedule 5, Item 9)				
Safeguards-related provisions in bidding documents and works contracts (Schedule 5, Item 10)				
Safeguards monitoring and reporting (Schedule 5, Item 11)				
Prohibited list of investments (Schedule 5, Item 12)				
Labor standards, health and safety (Schedule 5, Item 13)				
E. Contractors Compliance with Environmental Safeguards Requirements				
Appointment of Environment, Health and Safety (HSE) and/or nodal person	Part B, Table II.1 Information on Safeguard Team. Contractor: Nwokedi Uchefuna- HSE Manager GWTSNC	Complied	None	-
Submission of site-specific EMPs	On-going compliance	On-going compliance Package NCB 4.1 -Table 1-List of DTW to be constructed/Replaced and work status on June 30 2020 (p. 46 Some of the DTW to be commissioned did not submit Site-specific EMP to PMU. Example: (a) Rajuk Quarter Water Pump, West Malibag, Malibag, Dhaka. (b) Maruf Market Water Pump, Malibag, Dhaka.- <i>jetting work ongoing</i>	Reminder. PMU to ensure that the contractors of DTW should submit SEMP prior to civil works/construction activities.	-

Commented [A1]: PMU to provide detailed response. This log sheet will be attached to the SEMR and disclosed on ADB website.

Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
		(c) Khilgaon 7 No. Water Pump, Khilgaon, Dhaka.		
Submission of SEMP implementation report (<i>specify in comments frequency – daily, weekly, monthly or quarterly basis</i>)	On-going compliance	On-going compliance	Reminder. PMU to ensure that the contractors should submit updated SEMP based on changes on detailed design, if any.	-
Site verification by PMU, PIU, or consultants (<i>verification report should be attached to the SEMR</i>)	Part A Appendix 1: Photo documentation Appendix 2: Incident report for Human Appendix 3: Incident report for utility Appendix 4: Water spray details Appendix : EHS Inspection report Part B Appendix A: Findings of P1 site inspection. Appendix F: Air Quality and Dust suppression Appendix G: Noise and Vibration Appendix H: Water Quality	Complied	None	-
SEMR compliance matrix on mitigation measures implementation (matrixes are based on approved SEMP)	Part A, Section III. Status and EMP implementation per sub-project package Part B, Section III-Information on the Progress and Quality control	Complied	Reminder. For the submission of the next SEMR, kindly use the matrix of the approved SEMP in the discussion on the compliance of EMP implementation.	-
Other information				-

Commented [A1]: PMU to provide detailed response. This log sheet will be attached to the SEMR and disclosed on ADB website.

Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
F. Environmental Monitoring based on EMP				
Rationale	Part II, Section IIA- Environmental Monitoring work coordination	Complied	None	
Parameters to be monitored are commensurate to the impacts, mitigation measures, and project/subproject/package	Part II, Section IV- Environmental Management and Monitoring	Complied	Reminder. PMU to ensure that baseline air quality monitoring should be done prior to civil works.	
Sampling locations identified and appropriate				
Sampling frequency identified and appropriate				
Sampling collection and analysis are in accordance with internationally-accepted practices				
Standards and performance indicators are compliant with ADB SPS requirements ⁴ (provide justification if less stringent standards are used)				
G. Environmental monitoring results (narrative based on presented results)				
Visual inspection (refer to EMP tables in the IEE where visual inspections are required to determine if there are environmental impacts)	Information provided.	On-going compliance	Reminder. PMU should ensure that the contractor implements the monitoring measures/environmental monitoring plan in the IEE.	
Air quality results	It was mentioned in the report that no-third-party air quality measurements were taken although MDSC has reminded GWT several times. GWT did implement air quality monitoring on his own. The contractor also applied water spray to mitigate dust (Appendix G. Air quality monitoring could not be conducted by independent Consultant as originally intended due to COVID19 risk.			
Water quality results				
Noise level results				
Others				

Commented [A1]: PMU to provide detailed response. This log sheet will be attached to the SEMR and disclosed on ADB website.

⁴ ADB SPS (Appendix 1 para 33) requires projects to apply pollution prevention and control technologies and practices consistent with international good practices as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines (<https://www.ifc.org/ehsguidelines>). These standards contain performance levels and measures that are normally acceptable and applicable to projects. When host country regulations differ from these levels and measures, the borrower/client will achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the borrower/client will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented ADB SPS.

Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
	<p>Noise monitoring has not been implemented by subcontractor (Enviro Consultants) during the reporting period due to COVID19 issue, but by GWT itself. (Appendix H)</p> <p>Water quality survey was conducted by the firm Onushandhani Creeds Limited of Mohakhali, Dhaka on behalf of DWASA from January to June. Due to COVID-19 outbreak, the survey was not done from February to May. (Appendix I)</p>			
H. Consultations and/or FGDs during the reporting period				
Number	<p>Two consultations done during the reporting period to solicit input from stakeholders, including elected representatives, residents at the project location and project affected persons:</p> <p>15 March 2020 16 March 2020</p> <p>Details of consultation meetings provided in Appendix B.</p>	On-going compliance	Reminder. PMU to ensure that meaningful consultations should be continuously conducted during project implementation.	
Reason/s for consultations/FGDs				
Number of participants				
Number of female participants				
I. Trainings, Workshops, Seminars during the reporting period				
Number	<p>Training on H&S: 24 February 2020</p> <p>Environmental training: 28 and 29 January 2020</p>	Complied	None	
Topics				
Number of participants				
Number of female participants				

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Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
	Table IV.2-Environmental training/Summary of trainings Attendance sheets provided in Appendix C			
J. Grievance Redress Mechanism				
GRM per PAM or IEE/EARF established	Part B- Section D Grievance Redress Mechanism Table II.5 Grievance Resolution Process Figure II.3 Grievance Redress Mechanism	Complied	None	
GRM notified via publication or notice boards	Information provided in Section E- Formation of Environmental Safeguard GRC for Gandharpur Water Treatment related works under DESWSP (22 August 2019)	Complied	None	
GRM members identified GRM members have capacity to address project-related complaints <i>(detailed information on capacity development of GRM members such as trainings, workshops, briefings, etc should be attached in the SEMR)</i>	Part B-Section E-Grievance Redress Committee members in PMU GRC Composition for Package 1 provided in Section E	Complied	None	
Number of meetings conducted <i>(attach minutes of the meeting)</i>	A meeting was conducted on 27 January 2020. Minutes of meeting and participants list are in Appendix D.	No English translation provided for the minutes of meeting.	For immediate action. Kindly provide the English translation of the summary/highlights of the grievance redress committee meeting. English translation of the GRC meeting provided in the revised report.	PMU has provided translation of MoM Complied
K. Complaints Received <i>(detailed information on nature of complaints, summary and status of resolution)</i>				
Number of complaints	Seventeen (17) grievances and complaints have been discussed and addressed.	No English translation provided for the minutes of meeting.	For immediate action. Kindly provide the English translation of the summary/highlights of the	PMU has provided translation of 17 grievances Complied

Commented [A1]: PMU to provide detailed response. This log sheet will be attached to the SEMR and disclosed on ADB website.

Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
	All issues are related to resettlements and none on environmental issues		grievance redress committee meeting. English translation of the GRC meeting provided in the revised report	
Nature (provide summary of issues/concerns)	All issues are related to resettlements and none on environmental issues			
Major issues/concerns (specify)	It was mentioned in the report that no major issues identified.	On-going compliance	Reminder. PMU and MDSC to continuously monitor the strict implementation of environmental mitigation measures and health and safety measures during civil works.	
Corrective Action to be implemented, timeline, responsible person/s, and budget are clearly specified	On-going compliance	On-going compliance		
M. Status of Corrective Action Plan from Previous Reporting Period (list all and provide status)				
	It was mentioned in the report that no major issues identified.			
N. Appendixes				
Photos included?	Yes			
Summary of consultations included?	Yes	Complied	None	
Copies of environmental clearances and permits included?	Yes	Complied	None	
Site EMPs (attach sample?)	No	Provide sample EMPs prepared by the contractor of Package 1.	For immediate action. Provide sample site-EMPs prepared by the contractor of Package 1.	Three site specific EMPs have been provided by the contractor for intake, raw water pipeline and WTP (Appendix K) Complied

Commented [A1]: PMU to provide detailed response. This log sheet will be attached to the SEMR and disclosed on ADB website.

Item	Findings in the SEMR	Comments	Action/s Required	Response by PMU
			SEMP provided in the revised report. Guidelines for the prevention of COVID-19 included in the SEMP.	
Checklists?	Yes	Complied	None	
Others	Copies of noise and water quality monitoring.	Complied	None Reminder. It was observed that the field survey forms were not signed by DWASA PMU representative. PMU to closely supervise/monitor the environment quality monitoring.	

Commented [A1]: PMU to provide detailed response. This log sheet will be attached to the SEMR and disclosed on ADB website.

O. Review and clearance for disclosure- CLEARED for DISCLOSURE

The submitted report requires revisions prior to clearance and disclosure in ADB website. PMU is kindly requested to (i) submit the revised report based on the required immediate actions in the SEMR log sheet; and (ii) submit the SEMR log sheet with PMU's response.

Summary of Required Action/s:

1. GRM Minutes of Meeting (Appendix D). Provide an English translation of the summary of the minutes of meeting.- **DONE**

Recommendations for the submission of the next SEMR.

1. **Environmental Quality Monitoring report.** Include the Bangladesh standards for air, noise, and water quality in presenting the monitoring results and provide a short discussion on the interpretation of data and results.
2. **Submission of site-specific EMP.** Some of the DTW to be commissioned did not submit Site-specific EMP to PMU. PMU to ensure that the contractors of DTW should submit SEMP prior to civil works/construction activities.
3. **EHS Checklist.** The corrective actions included in the checklist should clearly specify the timeline (*for the completion of the corrective measures*) and responsible person/s assigned to implement such measures.
4. PMU to ensure that health and safety protocols in the prevention of COVID-19 should be strictly implemented in the office and construction sites.

Reference	Status/Remarks
	1. Recorded as submitted
	2. Revised report cleared for disclosure in ADB website.