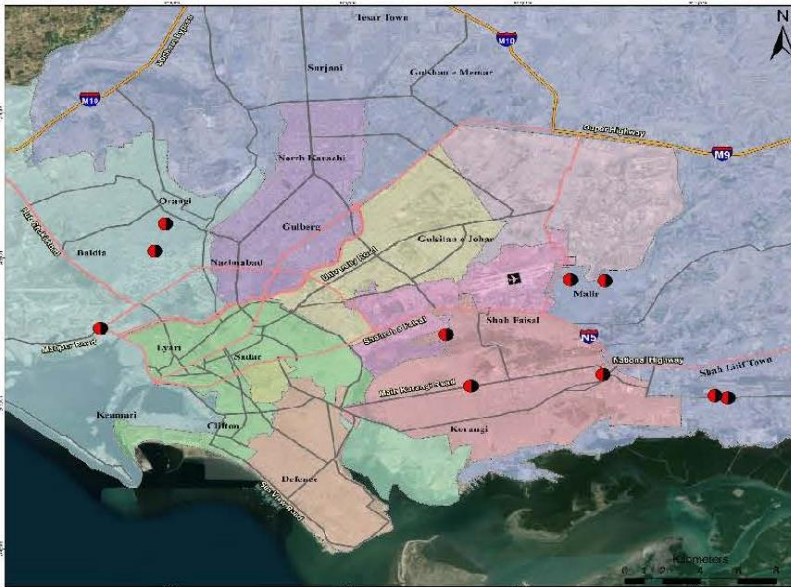




Environmental & Social Screening Report



KARACHI WATER & SEWERAGE SERVICES IMPROVEMENT PROJECT (KWSSIP)

CONSULTANCY SERVICES FOR DESIGN, TENDER
DOCUMENTS, AND SUPERVISION
FOR SUB-PROJECTS OF SOP-I, KWSSIP
Intermittent Chlorination Stations

May 2023



**CONSULTANCY SERVICES FOR DESIGN, TENDER DOCUMENTS AND SUPERVISION
FOR SUB-PROJECTS OF SOP-I, KWSSIP
Intermittent Chlorination Stations**

ENVIRONMENTAL AND SOCIAL SCREENING REPORT

TABLE OF CONTENTS

	<u>Page No.</u>
TABLE OF CONTENTS	i
LIST OF ANNEXURES.....	ii
LIST OF TABLES.....	ii
LIST OF FIGURES	ii
1.1 Overview	1
1.1.1 SOP -1.....	1
1.2 Purpose of Document	2
1.3 Project Location	2
2.1 Description of Project	5
2.2 Hypo-Chlorinator System Design.....	5
3.1 Environmental and Social Screening.....	13
3.1.1 Methodology of Environment and Social Screening Study	13
3.1.2 Environment and Social Issues.....	13
3.1.3 Findings of Environmental Screening	14
3.1.4 Findings of Social Screening	15
3.1.5 Requirement of Further Studies	16

LIST OF ANNEXURES

- Annex - I: Environmental Screening Checklist
 Annex - II: Social Screening Checklist
 Annex – III: Environmental Codes of Practice (ECOPs)

LIST OF TABLES

	<u>Page No.</u>
Table 1. 1: Sub-projects Under Components 2 of SOP-1	2
Table 1. 2: Approved Locations for Intermittent Chlorination Stations	2
Table 2. 1: Summary of Intermittent Chlorination Locations	10
Table 5.1: Findings of Environmental Screening	14
Table 5.2: Categorization Based on Environmental Screening	15
Table 5.3: Initial Findings of Social Screening	15
Table 5.4: Categorization Based on Social Screening	16

LIST OF FIGURES

	<u>Page No.</u>
Figure 1.1: GIS Map of Locations for Intermittent Chlorination Stations	4
Figure 2. 1: Typical Masonry Room for Hypo-Chlorinator System	7
Figure 2. 2: Typical Masonry Room for Hypo-Chlorinator System	8
Figure 2. 3: Hypo-Chlorinator System Schematic.....	9

LIST OF ABBREVIATIONS / ACRONYMS

AED	Anti-Encroachment Drive
ARAP	Abbreviated Resettlement Action Plan
DMA	District Metered Areas
E&SS	Environmental and Social Safeguard
ECOPs	Environmental Codes of Practice
EMF	Environmental Management Framework
GIS	Geographical Information System
GoS	Government of Sindh
KW&SB	Karachi Water & Sewerage Board
KWSSIP	Karachi Water and Sewerage Services Improvement Project
O&M	Operation and Maintenance
PAD	Project Appraisal Document
PAPs	Project Affected Persons
PIU	Project Implementation Unit
RAP	Resettlement Action Plan
SMF	Social Management Framework
SOP	Series of Projects
USD	United States Dollar
WB	World Bank

1. INTRODUCTION

1.1 Overview

The Karachi Water and Sewerage Services Improvement Project (KWSSIP), funded by World Bank (WB) and Asian Infrastructure Investment Bank (AIIB), is an initiative of Government of Sindh (GoS) through Karachi Water and Sewerage Board (KW&SB) to improve water and sewerage services in Karachi. This Project has been appraised to an indicative cost of United States Dollar (USD) 1.6 billion as a Reform Led Investment Program in four overlapping phases to be implemented in a span of 12 years. The Phase 1 of KWSSIP, which is named SOP-1 (Series of Projects 1) has an investment portfolio of USD 100 million. Its implementation is being undertaken by GoS/KWSB through Project Implementation Unit-Karachi Water & Sewerage Services Improvement Project (PIU, KWSSIP) commencing with a number of procurements likely to take place within a short period of time.

KW&SB has conceived KWSSIP in the form of a series of projects (SOPs), which form a long-term program to address the serious water and sewerage service gaps in the rapidly growing city of Karachi. The following SOPs have been planned under KWSSIP:

SOP-1: Focuses on reforms, maintenance and rehabilitation

SOP-2: To scale-up investments

SOP-3: Will focus on increasing water production and financing investments to ensure the additional wastewater created can be treated

SOP-4: Will focus on improving services in informal settlements based on experience gained under the previous projects

Currently, SOP-1 (or KWSSIP-1) is under implementation, whereas the SOP-2 is under preparation.

1.1.1 SOP -1

The SOP1 of KWSSIP has the following three components:

- Component 1- Operational and enabling environment reforms in KWSB
- Component 2- Infrastructure investments
- Component 3 - Project Management and Studies.

Three sub-projects are included under Components 2 of SOP-1 as given in **Table 1.1** below:

Table 1. 1: Sub-projects Under Components 2 of SOP-1

Sr. No.	Assignment	Project	Target
1	A	Rehabilitation of water supply and sewerage in three low-income areas in Karachi	Provision of water supply and sewerage networks in three low-income communities/ katchi abadis
2	B	Priority water network rehabilitation including operation and maintenance (O&M) Equipment, meters & district metered areas (DMAs) to Reduce non-revenue water (NRW)	Installation of Bulk Flow Meters and intermittent chlorination stations, use of leakage detection equipment and priority water network rehabilitation
3	C	Priority Sewer Network Rehabilitation	Provision of sewerage networks in priority schemes

Environmental and Social Safeguard (E&SS) studies are focused to assess, manage and monitor environmental and social risks and impacts associated with the sub-project. E&S studies are being conducted for SOP 1 (Component-2) KWSSIP in line with World Bank guidelines under the umbrella of Environmental Management Framework (EMF) and Social Management Framework (SMF) for KWSSIP.

1.2 Purpose of the Document

The current report presents findings of environmental and social screening for Intermittent Chlorination Stations, to be installed at existing water pumping stations under Assignment B (Component 2) of SOP-I, KWSSIP.

1.3 Project Location

Fifteen (15) locations for intermittent chlorination stations have been finalized. These locations are given in **Table 1.1**. The Geographical Information System (GIS) Map of locations for Intermittent Chlorination Stations is given in **Figure 1.1** below:

Table 1. 2: Approved Locations for Intermittent Chlorination Stations

Sr. No.	Name of Pump Houses	Sr. No.	Name of Pump Houses
1	Feature Pump House	9	Zia Pump House (4/10-A) Orangi Town
2	Bilal Colony Pump House	10	New Zia Pump House behind Metrovil, Orangi
3	Shah Faisal Colony No.05 Pump house	11	Baldia Town No. 3 Pump House
4	Gulbai Pump House	12	Ajmer Nagri Pump House
5	Model Colony Pump house	13	Nipa Pump House
6	Shaheed Chowk Pump House	14	Kidney Hill Pump House

Sr. No.	Name of Pump Houses	Sr. No.	Name of Pump Houses
7	Cattle Colony Pump House No.8	15	Saleh Muhammad Pump House
8	Cattle Colony Pump House No.5		

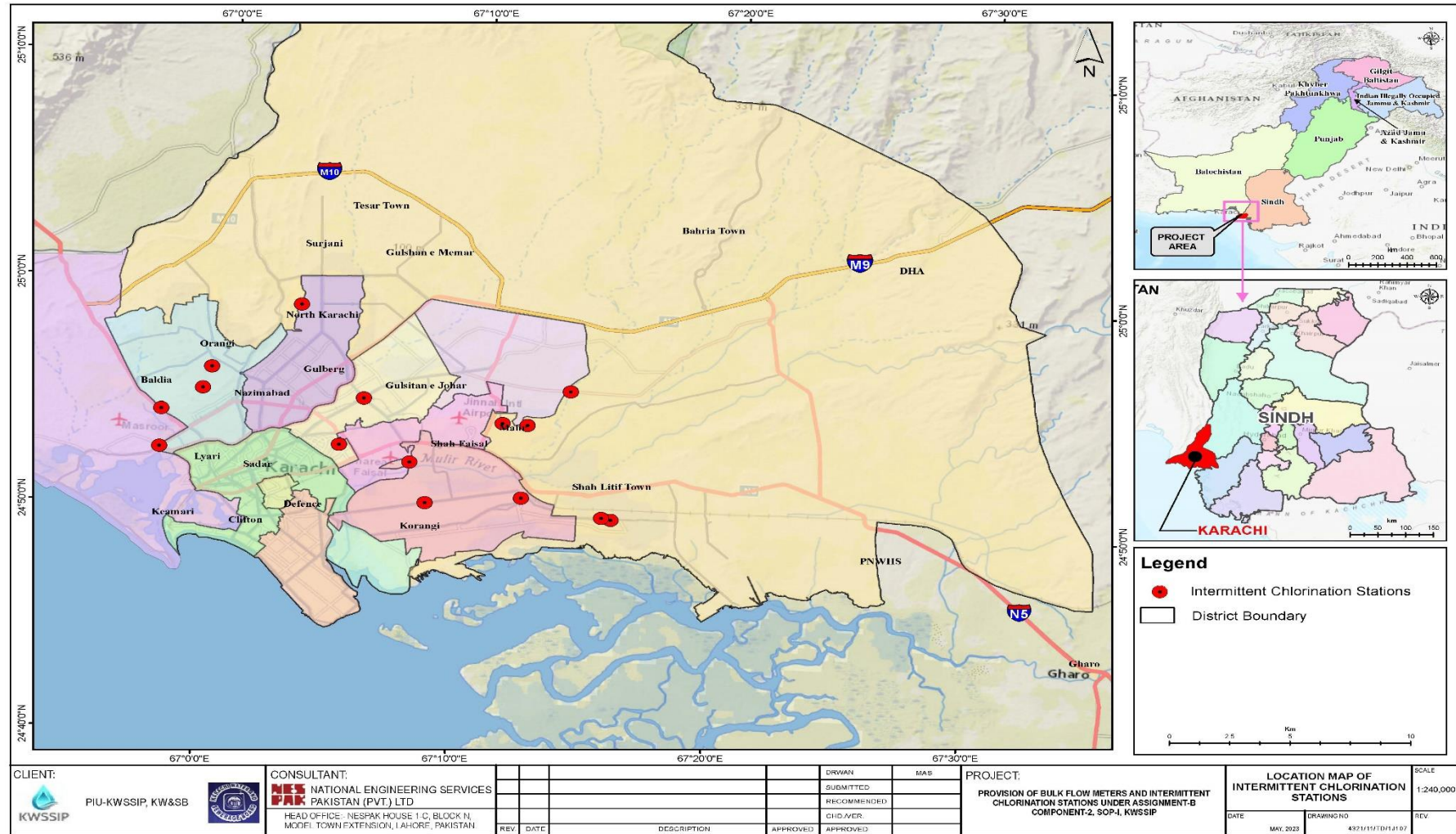


Figure 1.1: GIS Map of Locations for Intermittent Chlorination Stations

2. DESCRIPTION OF PROJECT

2.1 Description of Project

Twenty-nine (29) hypo-chlorinator systems will be required at fifteen (15) locations with fifteen (15) number of chlorinator rooms. It is pertinent to mention that, rehabilitation/ replacement of non-operational pumps and rehabilitation of pump room is not in the scope of this project. Further, number of Chlorinators are worked out on basis of field requirements and in case the non-operational pumps are made functional then the quantity of the hypo-chlorinator systems will be updated accordingly.

2.2 Hypo-Chlorinator System Design

Mechanical Diaphragm Dozing Pump as Hypo-chlorinator with Chlorine Analyzer will be installed. The major components in hypo-chlorinator system are:

- Mechanical Diaphragm Dozing Pump/ Hypo-chlorinator
- Chlorine Sensor & Analyzer
- Dozing Tank
- Transfer Pump
- Chlorinator Room

Based on above components hypo-chlorination at each location will be carried out as follow:

- All the components will be installed in a designated separate chlorinator room at each location. This chlorinator room will be either of masonry construction or pre-fabricated room. Masonry room will be preferred because of long life, economical and less wear & tear. However, if at any location due to certain constraints masonry room cannot be constructed then pre-fabricated rooms will be placed for installation of hypo-chlorinator system. Typical masonry and pre-fabricated hypo-chlorinator rooms are shown below in **Figure 2.1** and **2.2** respectively.
- In each chlorinator room, mechanical diaphragm dozing pump/ hypo-chlorinator will be installed on a separate concrete pad having two pipes. One pipe will be for dozing/ injecting hypo-chlorite in the water main to be treated whereas, other pipe will be for taking hypochlorite feed from a dozing tank.
- Chlorine sensor will be installed on the water main to be treated. The location of sensor will be after the dozing pipe. It is pertinent to mention that, 10'-12' (3.5m) distance shall be maintained between sensor and dozing pipe so that injected chlorine is dissolved and stabilized in the water. Furthermore, the sensor will be installed after dozing pipe so that if the requisite chlorine is already present in the water, then sensor will sense it and will not allow further dozing and vice versa.
- Chlorine analyzer will be mounted on wall inside the chlorinator room with one signal wire coming from sensor and one signal wire leading to the hypo-chlorinator. In this way the

chlorine sensed by the sensor will be analyzed by the analyzer and accordingly the hypochlorinator will be given signal to work.

- Hypochlorite will be stored in liquid form in a dosing tank inside chlorinator room. As the shelf life of hypochlorite solution is fifteen days therefore dosing tank will be replaced bi-monthly at least which will be a laborious task. In order to avoid this hassle, transfer pump is proposed.
- Transfer pump will be installed on top of the dosing tank. Its function will be to transfer hypochlorite solution from one tank to another tank. Transfer pump will have its suction pipe outside the room whereas, delivery pipe inside the dosing tank on which it will be installed. In this way, hypochlorite will be transferred from new tank to depleted tank without any hassle.

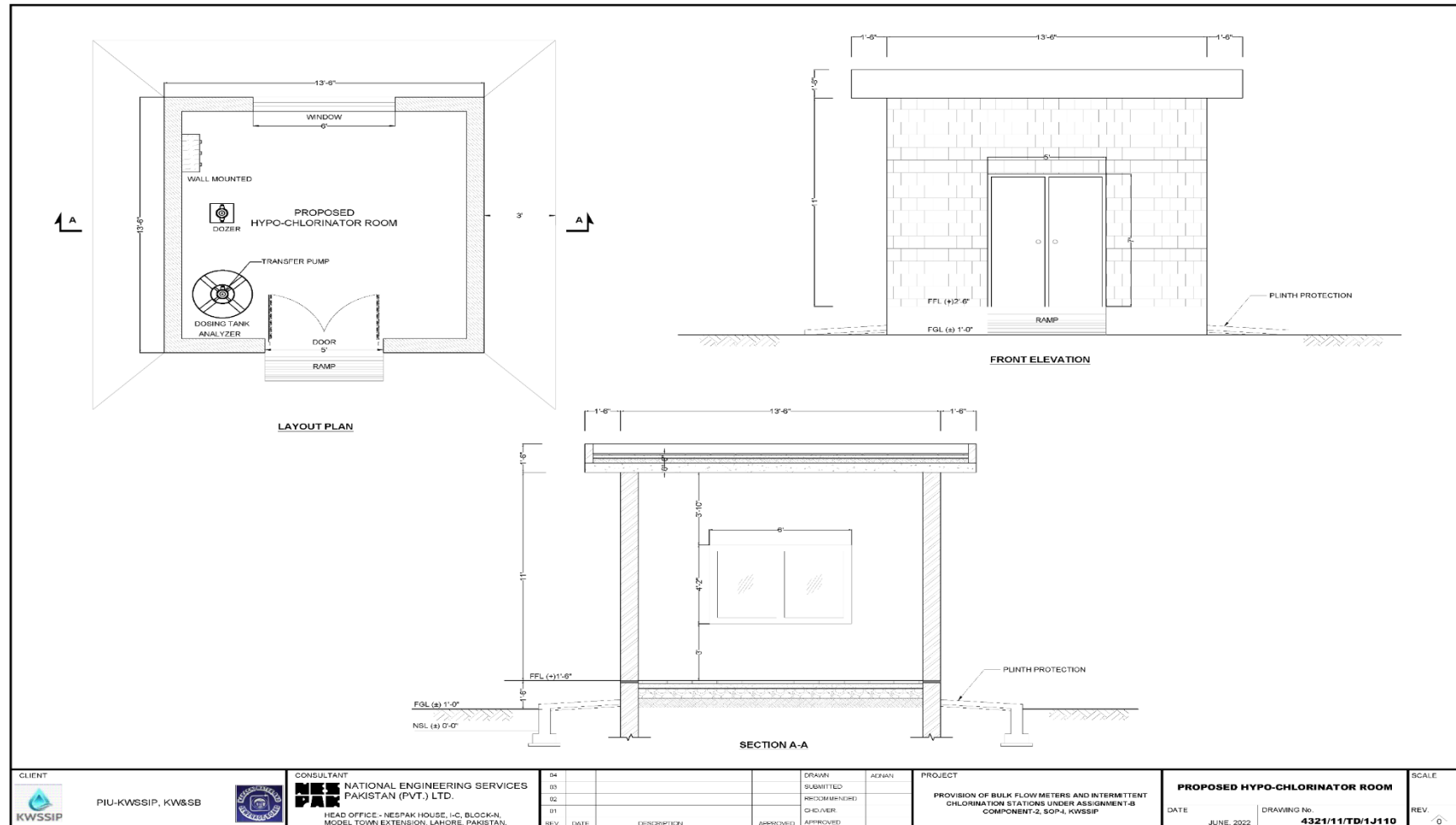


Figure 2. 1: Typical Masonry Room for Hypo-Chlorinator System

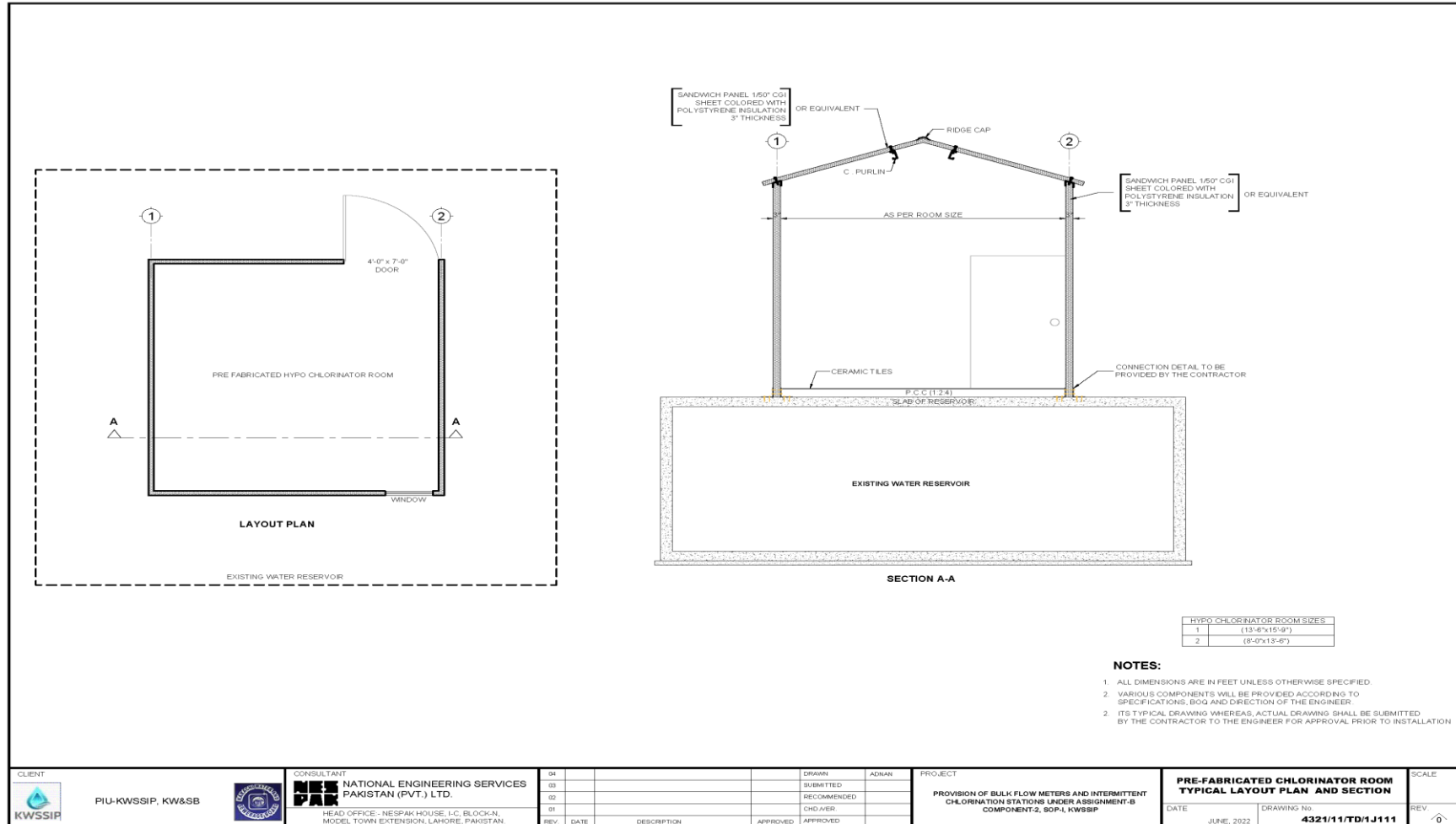


Figure 2. 2: Typical Masonry Room for Hypo-Chlorinator System

Schematic of hypo-chlorinator system is shown in **Figure 2.3**.

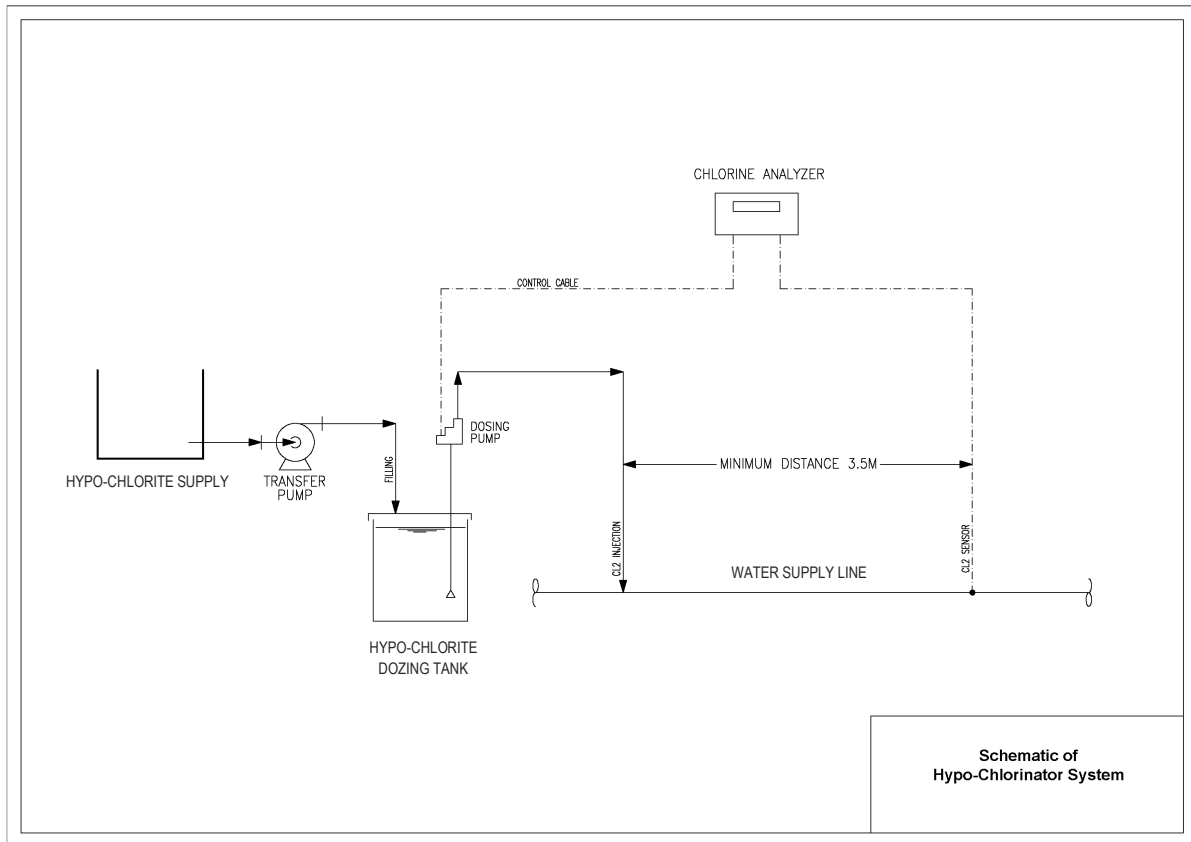


Figure 2. 3: Hypo-Chlorinator System Schematic

Number of hypo-chlorinator systems required, number of chlorinator rooms required, type of chlorinator room required etc. are summarized in **Table 2.2**.

Table 2. 1: Summary of Intermittent Chlorination Locations

Sr. No.	Name of Pump House	Location		District	Town	Pumps	Operational Pumps	Head	Flow	Motor	Hypo Chlorinator System	Chlorinator Room	Type of Room
		Latitude	Longitude			Nos.	Nos.	ft	GPM	Hp	Nos.	Nos.	
1	Feature Pump House	24.849617	67.204886	Korangi	Landhi	7	6	180	750	60	02	01	Masonry
2	Bilal Colony Pump House	24.843076	67.142074	Korangi	Landhi	2	2	180	750	60	02	01	Masonry
3	Shah Faisal Colony No.05 Pump house	24.872617	67.130261	Korangi	Shah Faisal	1	1	120	600	40	01	00	Space available in Pump room
4	Gulbai Pump House No.1	24.876192	66.965942	Karachi West	Kemari	3	2	150	1950	60	01	01	Prefabricated
	Gulbai Pump House No.2					3	3	150	1950	60	04	01	Prefabricated
5	Model Colony Pump house	24.904014	67.189428	Malir	Malir	2	1	180	750	60	02	01	Masonry
6	Shaheed Chowk Pump House	24.903386	67.205897	Malir	Malir	3	2	180	750	60	01	01	Masonry
7	Cattle Colony Pump House No.8	24.836373	67.264292	Malir	Bin Qasim	3	1	180	750	60	01	01	Masonry

Sr. No.	Name of Pump House	Location		District	Town	Pumps	Operational Pumps	Head	Flow	Motor	Hypo Chlorinator System	Chlorinator Room	Type of Room
		Latitude	Longitude			Nos.	Nos.	ft	GPM	Hp	Nos.	Nos.	
8	Cattle Colony Pump House No.5	24.837558	67.258158	Malir	Bin Qasim	7	2	250	750	60	01	01	Masonry
								200	650	40			
9	Zia Pump House (4/10-A) Orangi Town	24.936161	66.996889	Karachi West	Orangi	6	5	200	1000	100	02	01	Masonry
10	New Zia Pump House behind Metrovil, Orangi Town	24.920392	66.991868	Karachi West	Baldia	3	2	410	800	150	02	01	Masonry
11	Baldia Town no 3 Pump House	24.90411	66.96547	Karachi West	Mahajir Camp	5	4	250	850	100	02	01	Masonry
12	Ajmer Nagri Pump House	24.98483	67.05241	Karachi Central	New Karachi	8	2	280	2500	220	03	01	Masonry
							3	250	2000	200			
							2	180	750	60			
13	Nipa Pump House Station	24.91791	67.09772	Karachi East	Gulshan-e-Iqbal	4	3	200	1400	125	02	01	Masonry

Sr. No.	Name of Pump House	Location		District	Town	Pumps	Operational Pumps	Head	Flow	Motor	Hypo Chlorinator System	Chlorinator Room	Type of Room
		Latitude	Longitude			Nos.	Nos.	ft	GPM	Hp	Nos.	Nos.	
14	Saleh Muhammad Pumping Station	24.92941	67.23255	Karachi East	Gaddap	03	02	250	850	100	01	01	Masonry
15	Kidney Hill Pumping Station	24.88232	67.08341	Karachi East	Gulshan-e Iqbal	5	2	250	2000	200	02	01	Masonry
							2	180	750	60			
Total											29	15	

3. SCREENING OF SUBPROJECT

3.1 ENVIRONMENTAL AND SOCIAL SCREENING

Environmental and Social Screening was carried out for the subproject to categorize it based on perceived environmental and social impacts due to execution of project activities.

Sub-projects under KWSSIP have a prior requirement of screening which is based on three categories; viz., nature of the project, size of the project and location of the project that is sensitive area criteria. Based on this assessment, sub-projects with potentially significant environmental/ social issues are identified at an early stage for detailed Environmental/ Social impacts assessment.

3.1.1 Methodology of Environment and Social Screening Study

Following methodology was adopted for Environmental and Social Screening:

- Review of literature, policies and project related documents;
- Site visits; and
- Screening checklist

3.1.2 Environment and Social Issues

A. Environmental Issues

The proposed intermittent chlorination stations shall be built within the premises of existing pumping stations. There is adequate space available for material stockpiling, construction camp, movement of machinery and labors within the premises, which will not create social issues. However, minimal environmental issues are anticipated which will have limited, site-specific impacts reversible in nature. Most of the environmental impacts are expected during construction period of the project. There are no sensitive areas like specially protected areas or threatened or endangered endemic species in the project area.

Presence of Eco-sensitive Features/ Natural Habitats

No eco-sensitive features or natural habitats were identified in the project area.

Clearance of Vegetation

No trees shall be cut due to proposed project interventions.

Disruption to Traffic and Visitors

The project activities will not create disruption for traffic and visitors as the project activities will be executed within the premises of existing pumping stations.

Noise & Dust

Incongnizant quantity of dust and slight increase in noise level is expected due to subproject activities.

Health & Safety of Workers

Health risks and worker's safety problems may result at the workplace if the working conditions provide an unsafe and/or unfavorable working environment. Health and safety issues are also associated with the operation of construction machinery and equipment, which may cause minor and severe injuries to workers. Handling of chemicals, especially sodium hypochlorinate, can be a serious hazard and need to be handled with care.

B. Social Issues

Availability of Land

The proposed site is under the ownership of KW&SB within the premises of existing water pumping stations.

Anti-Encroachment Drive (AED)

The project appraisal document (PAD) for KWSSIP outlines that any of the sub-project involving AED after October 2018 shall not be financed. However, as stated earlier, the project site is within the premises of existing water pumping stations and does not require AED screening.

Access issues

The access will not be affected and people will not face any problems in traveling to their workplaces, business points or also to the religious and cultural sites.

3.1.3 Findings of Environmental Screening

A summary of findings of Environmental Screening are given in **Table 5.1: Findings of Environmental Screening**. For detailed checklists please refer to **Annex-I**.

Table 5.1: Findings of Environmental Screening

Screening Parameters	Present/ Not Present
Presence of Eco Sensitive Receptors	x
Clearance of Vegetation	x
Water Pollution	x
Flooding	x
Noise & Dust	✓
Disruption to Traffic and Visitors	x

Screening Parameters	Present/ Not Present
Damage to Existing Infrastructure	x
Health & Safety Issues	✓

Legend:

- ✓ = Impact triggers due to project activities
 x = Impact does not trigger due to project activities

A. Categorization Based on Environmental Screening

The sub-project activities are categorized in **Table 5.2** based on the findings of Environmental Screening.

Table 5.2: Categorization Based on Environmental Screening

Categorization	Studies Required
C	Environmental & Social Screening

3.1.4 Findings of Social Screening

Summary of findings of Social Screening are given in **Table 5.1: Findings of Environmental Screening**. For detailed checklists please refer to **Annex-II**.

Table 5.3: Initial Findings of Social Screening

Screening Parameters	Present/ Not Present
Land Acquisition	x
Loss of Shelter	x
Loss of Agriculture	x
Loss of crops, trees and fixed assets	x
Loss of Business/Livelihood	x
Loss of Sources of Income	x
Dislocation of People	x
Restriction of Access	x
Indigenous Peoples	x
Anti-Encroachment Drive	x

Legend:

- ✓ = Impact triggers due to project activities
 x = Impact does not trigger due to project activities

A. Categorization Based on Social Screening

The sub-project activities are categorized in **Table 5.4** based on the findings of social screening:

Table 5.4: Categorization Based on Social Screening

Categorization	Studies Required
C	Environmental & Social Screening

3.1.5 Requirement of Further Studies

The project activities are of minor nature and there are no serious threats associated with its various activities. Health and safety issues are probable but mostly related to the operational stage of the project. Hence, further environmental assessment studies are not required. However, Environmental Codes of Practice (ECOPs) attached as **Annex – III** must be adopted to ensure safety of environment, workers and the community.

According to World Bank Operational Policy, OP 4.12 (Involuntary Resettlement), a subproject will be considered a Category C project if the number of Project Affected Persons (PAPs) is zero and hence does not require RAP/ARAP.

Annex – I
Environmental Screening Checklist

ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

Project Name: Karachi Water and Sewerage Services Improvement Project (KWSSIP)				
Subproject location (area/district/site): Different water pumping stations (15 sites)				
Subproject scope of work: Intermittent Chlorination Stations: 29 Nos. chlorination stations shall be installed at 15 sites. The project nature and impacts are similar therefore a combined checklist has been prepared.				
Implementing Agency: PIU - KWSSIP				
Date of screening: April 2023				
Responsible agency: KW&SB				
Sr. No.	Screening Criteria	Assessment of Impact	Explanation	Mitigation Measures
ENVIRONMENT				
1	Will the subproject create significant/limited/no environmental impacts?	No	The intermittent chlorination stations shall be installed within the premises of existing water pumping stations.	N.A
2	Is there any likelihood that the impacts are beyond the site boundary, or the impacts occurring during project implementation are beyond the planning area? Are such significant adverse environmental impacts considered irreversible? Please briefly describe:	No	The project influence will be localized in nature and will not cross the boundary of project area.	N.A
3	Does the sub-project involve any significant change or degradation to the critical/ non-critical natural habitats?	No	No critical/ non critical natural habitats are present within and near the project area.	N.A
4	Is the subproject in an eco-sensitive area or adjoining an eco-sensitive area or monument? (Yes/No) If Yes, which is the area? Elaborate impact accordingly.	No	The sub project activities will be executed within the boundary of existing water pumping stations.	N.A
5	Will the proposed project result in significant greenhouse gas emissions?	No	The installation of intermittent chlorination stations will not result in greenhouse emissions.	N.A
6	Is the proposed project likely to directly or indirectly increase environmental and social	No	Any of the project activities will not be vulnerable to climate change.	N.A

Annex - I

	vulnerability to climate change now or in the future (also known as maladaptive practices)?			
7	Will the sub-project cause			
	<ul style="list-style-type: none"> • Clearance of vegetation/ tree-cover/other 	No	No vegetation or tree cover is present in the project area.	N.A
	<ul style="list-style-type: none"> • Direct discharge of construction run-off, improper storage and disposal of excavation spoils, wastes and other construction materials adversely affecting water quality and flow regimes. 	No	No construction run-off shall be generated.	N.A
	<ul style="list-style-type: none"> • Flooding of adjacent areas. 	No	The sub project activities will not cause flooding of adjacent areas.	N.A
	<ul style="list-style-type: none"> • Improper storage and handling of substances leading to contamination of soil and water. 	Limited	Mishandling of chemicals for chlorination may result in contamination of water and soil within project area boundary.	<ul style="list-style-type: none"> • Use of MSDS • Personnel should be trained to use chemicals
	<ul style="list-style-type: none"> • Elevated noise and dust emission. 	No	Project activities will not cause noise and dust emissions.	N.A
	<ul style="list-style-type: none"> • Disruption to traffic and visitor's movements. 	No	Sub project activities will be executed within the boundaries of existing water pumping stations.	N.A
	<ul style="list-style-type: none"> • Gas emissions 	No	No gases emissions are envisaged to be emitted during construction and operation of the sub-project.	N.A
	<ul style="list-style-type: none"> • Other, specify. 			
8	Does the subproject involve any prior clearance from the State Forest Department for either the conversion of forest land or for tree-cutting? (Yes/ No). If yes, which?	No	The project area is not the property of state forest land and it does not house any natural or manmade forest.	N.A
CULTURAL HERITAGE				

Annex - I

9	Will the subproject create significant/limited/no cultural properties impacts	No	No cultural properties shall be damaged due to proposed project activities.	N.A
	<ul style="list-style-type: none"> Involve significant excavations, demolition, movement of earth, flooding or other major environmental damages. 	No	No project activity shall cause demolition and damage to any of the cultural property	N.A
	<ul style="list-style-type: none"> Is located within or in the vicinity of a recognized cultural property conservation area or heritage site. 	No	No recognized heritage site is available in the project area.	N.A
	<ul style="list-style-type: none"> Is designed to support the management or conservation of a cultural property. 	No	The project does not support the management and conservation of any cultural property.	N.A
	<ul style="list-style-type: none"> Other, specify. 			
10	Does the subproject involve any prior clearance from the Archeology Department for either the conservation or management of heritage sites or vicinities? (Yes/ No). If yes, which?	No	No recognized heritage or Archeological site is present in the project area.	N.A
HEALTH AND SAFETY				
11	Does the sub-project involve siting sanitation treatment facilities close to human settlements	No	No treatment facilities are Required for proposed project.	N.A
12	Would the proposed project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No	Any of the project activity shall not increase the vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions.	N.A

Annex - I

13	Would the project cause increase in public health risks to contagious diseases or transmission (e.g. HIV/AIDS, Malaria, etc.) for project workers or communities in the project area, as a result of a change in living and working conditions?	No	There would be no interactions among the community and workforce as the project activities shall be executed within the boundaries of existing water filtration plants.	N.A
14	Will the proposed project require additional health services?	No	The project activities will be limited in an area and only require basic first aid facilities at the contractors' camps.	N.A
SOCIAL				
16	Will the subproject create significant/limited/no social impacts?	No	The project activities will be limited in an area and only require basic first aid facilities at the contractors' camps.	N.A
	<ul style="list-style-type: none"> Land acquisition resulting in loss of income from agricultural land, plantation or other existing land. 	No	The project does not involve land acquisition.	N.A
	<ul style="list-style-type: none"> Impact on livelihood and economic activity. 	No	The project activities shall be executed within the boundaries of existing water filtration plants.	N.A
	<ul style="list-style-type: none"> Land acquisition resulting in relocation of households. 	No	No households shall be relocated.	N.A
	<ul style="list-style-type: none"> Any reduction of access to traditional dependent communities (to areas where they earn for their primary or substantial livelihood). 	No	The project activities will not restrict access of the community.	N.A
	<ul style="list-style-type: none"> Any displacement or adverse impact on tribal settlement(s). 	No	No tribal community is present in the project area.	N.A
	<ul style="list-style-type: none"> Adverse impacts to women, including economic and safety concerns. 	Yes	The women may face harassment issues during construction due to labor influx.	Contractor shall ensure that such incidents are not occurred by developing awareness among the labours.
	<ul style="list-style-type: none"> Impact on 	No	No infrastructure shall be affected.	N.A

Annex - I

	infrastructure (roads, water supply, any other type of infrastructure)			
	<ul style="list-style-type: none"> Possible conflicts with and/or disruption to local community and/or visitors. 	No	No interactions with the community.	N.A
	<ul style="list-style-type: none"> Health risks due to unhygienic conditions at workers 'camps. 	No	Minor construction camps may be established with very few workforce.	<ul style="list-style-type: none"> COVID-19 SOPs must be strictly followed Sanitation plan must be devised and implemented to ensure cleanliness Waste products must not be dumped openly to avoid attraction of mosquitoes and disease vectors
	<ul style="list-style-type: none"> Safety hazards during construction. 	No	The construction activities are minor and does not involve dangerous activities.	N.A
	<ul style="list-style-type: none"> Other, specify. 			
OVERALL ASSESSMENT				
o Subproject is declined				
o Subproject is accepted				The project is accepted.
o Subproject is classified as environmental Category A and requires an in-depth Environmental and Social Impact Assessment.				
o Subproject is classified as environmental Category B and requires an Environmental and Social Management Plan.				
o Subproject is classified as environmental Category C and does not require any further studies.				The subproject is categorized as Category C

Annex – II
Social Screening Checklist

Karachi Water and Sewerage Services Improvement Project (KWSSIP)

Social Screening & Categorization Form (SSCF)

1. **Project Name:** Karachi Water and Sewerage Services Improvement Project (KWSSIP)

2. **Sub-Project Area:** Intermittent Chlorination Stations

3. **Project Scope of Work (list the major interventions:** The project involves Installation of Chlorination Stations.

4. **Project Location /Administrative Boundary:** Karachi

5. **Will any land acquisition be required for the proposed project activity?**

YES _____ NO

If YES, please provide the following information:

(i) **Is the site known?** YES NO _____

If YES, please provide details:

Within the premises of existing water pumping stations.

(ii) **Is ownership status and current usage of land to be acquired known?**

YES NO _____

If YES, please provide details

Owned by KW&SB

(iii) **Will the existing Right of Way be used for the project works?**

YES NO _____

If YES, please provide details: The Chlorination stations will be installed within the boundaries of existing water pumping stations.

(iv) **Please state the type of losses expected due to the project development: Please provide details based on the responses provided above.**

Loss of shelter and residential land?	Yes _____	No <input checked="" type="checkbox"/>
Loss of Agricultural and other productive assets?	Yes _____	No <input checked="" type="checkbox"/>
Losses of crops, trees and fixed assets?	Yes _____	No <input checked="" type="checkbox"/>
Loss of Livelihood?	Yes _____	No <input checked="" type="checkbox"/>
Loss of sources of income and means of livelihood?	Yes _____	No <input checked="" type="checkbox"/>

Please provide details based on the responses provided above.

No structures, businesses/ livelihood, crops, trees and sources of income shall be affected by the proposed project activities.

6. Will the proposed project activity require dislocation of people?

YES _____ NO

If YES, please mention the estimated number of people to be displaced and provide details of whether they are poor, female headed households or vulnerable to poverty risks?

7. Will the project activity cause the people to lose or restrict access to communal facilities?

YES _____ NO

If YES, please provide details

8. Will access to land and resources owned communally or by the state be restricted?

YES _____ NO

9. Is the sub-project area being affected by the Anti-Encroachment Drive in Karachi?

YES _____ NO

10. Will any indigenous people be impacted by the project activity?

YES _____ NO

11. Any estimate of the likely number of persons that will be affected by the Project?

None of the people will be affected

Project Category Recommendation

It is recommended that based on the available project information and subsequent analysis, the project should be placed in (please tick one):

Category 'A' _____ Category 'B' _____ Category 'C'

Please provide an explanation to justify the Categorization above.

The project activities do not have social issues and no PAPs have been identified within the project area of influence.

Social Screening Categorization:

Number of PAPs \geq 200, Category A

Number of PAPs < 200, Category B

Number of PAPs = 0, Category C

Annex – III
Environmental Codes of Practice (ECOPs)

Environmental Codes of Practice

1. Rationale of this ECOPs

This Environmental Codes of Practice (ECOPs) sets out standards and procedures for managing the potential environmental impacts associating with the minor construction activities for Intermittent Chlorination Stations under Assignment-B, Component-2 of SOP-1 for KWSSIP. The environmental impacts associated with this small civil work are considered to be minor, temporary and reversible, and readily managed with good practices during implementation. The ECOPs lay out outline simple rules and procedures regarding identification, monitoring and mitigation of those environmental impacts. The ECOPs shall be included in all relevant contracts.

2. Environmental Screening and Assessment

During construction, the potential impacts include dust and solid waste generation associated with minor civil work activities. These impacts are small, and localized and can be mitigated by incorporating good civil work practices, including proper housekeeping measures, proper material storage and disposal of solid waste, and pollution control.

In addition, to ensure environmental sanitation and safety during operation, it is requested that the design for chlorination stations shall be in line with the quality standards including appropriate ventilation, trash bin, lighting, fire extinguisher, eye-wash facilities and toilet facilities etc.

3. Project ECOP Implementation Arrangements

a. *The Project Implementation Unit (PIU) – KWSSIP*

The PIU-KWSSIP will be responsible for over-sighting the implementation of project. During implementation, the PIU is responsible for ensuring that the ECOPs will be incorporated in the bidding document and complied by contractors. The PIU has ultimate responsibility in the event of non-compliance with the ECOP during construction.

b. **The Contractor**

The Contractor, has the responsibility of establishing and maintaining contact with the PIU or delegated agencies and local residents and keeping them informed of construction matters likely to affect them. The Contractor and any agents or Sub-Contractors will be contractually required to comply with the requirements as specified in the ECOPs. The Contractor will responsible for implementation of the ECOPs, including workplace safety, and will ensure adequate resources are available for the implementation of the ECOPs throughout the construction period.

The Contractor has a duty to inform local residents likely to be affected by such activities at least 14 days prior to undertaking the works, as well as applying for the appropriate permits and licenses.

4. Construction Activities and Environmental Rules for Contractors

a. Management of Construction Site

This part describes basic requirements for all Contractors carrying out minor construction activities. It will be included in all construction contracts of the civil works. The Contractor is required to minimize, as far as reasonably practicable, any adverse environmental impact of their construction activities.

Prohibitions

The following activities are prohibited on or near the project site:

- (a) Cutting of trees for any reason outside the approved construction area;
- (b) Illegal dumping of demolition material and debris.
- (c) Use of unapproved toxic materials, including lead-based paints, asbestos, etc.;
- (d) Disturbance to anything with architectural or historical value;
- (e) No burning of waste
- (f) Use of alcohol by workers.

Working hours: Core working hours will be from 0800 to 1800 on weekdays and 0800 to 1300 on weekend. Individual site requirements which differ from the above will be considered on a site-by-site basis. Noisy operations shall not take place outside these hours without prior approval from the PIU and/or delegated agencies and local authorities.

Good housekeeping: The Contractor will follow a 'good housekeeping' policy at all times. This will include, but not necessarily be limited to the following: Ensure considerate site behavior of the Contractor's staff; Prohibit open fires; Ensure that appropriate provisions for dust control and road cleanliness are implemented; Remove rubbish at frequent intervals, leaving the site clean and tidy; Remove food waste; Frequently inspect, repair and re-paint as necessary all site hoardings to comply with the local conditions and local regulations, all flying post/ board is to be removed as soon as reasonably practicable and within 24 hours of notice; Maintain toilet facilities and other welfare facilities for its staff;

Public information and site access: As a minimum, the Contractor will provide public information on the site program (start and finish dates), plus the telephone for public contacts and/or requests especially during the school year. Any un-authorized entry to or exit from the sites should be control as much as possible.

Site layout and facilities: Location of site huts, office accommodation, toilets and welfare facilities should be accommodated within the boundaries of the site.

Emergency Procedures: The Contractor will ensure that emergency procedures are developed to facilitate effective actions in case of medical/fire emergency as well as environmental pollution (major spillage of gasoline, used oil, and/or toxic chemicals, etc.). The emergency procedure will

contain emergency phone numbers and the method of notifying the statutory authorities. Contact numbers for the key staff of the contractor will also be included.

Fire prevention and control: All construction sites and associated accommodation or welfare facilities will have in place appropriate plans and management controls to prevent fires. The site fire plans will be prepared and will have due regard to the GoS regulations. During operation and maintenance of equipment and vehicles, the Contractor will ensure that its workers are well aware of the procedures and have enough knowledge to comply with them. The specification of non-combustible materials, products and packaging will be pursued wherever reasonably practicable. The project will also have to comply with GoS requirements as may be appropriate at specific sites.

Operation of equipment: The Contractor must take all reasonable precautions to ensure that equipment is operated in a manner so as not to cause safety risk and/or nuisance to surrounding residents and occupiers. Operations of crane and other large equipment will have to be closely supervised. Permission may be required as per GoS regulations.

Clearance of the construction site after completion: On completion of the works the Contractor will clear away and remove all materials and rubbish and temporary works of every kind. The site will be left clean and in a condition to the satisfaction of the PIU and/or delegated agencies.

5. Management of Environment and Sanitation

a. Nuisance, Dust and Noise Control

To control nuisance, dust and noise in the construction sites the Contractor should:

- (a) To the extent possible, maintain noise levels associated with all machinery and equipment at or below 90 db.
- (b) In sensitive areas (including residential neighborhoods, hospitals, etc.) more strict measures may need to be implemented to prevent undesirable noise levels. Minimize production of dust and particulate materials at all times, to avoid impacts on surrounding families and businesses, and especially to vulnerable people (children, elders).
- (c) Place dust screens around construction areas, fencing should be provided along the boundary so that the emissions do not affect the immediate neighbors, paying particular attention to areas close to housing, commercial areas, and recreational areas.
- (d) Spray water periodically as needed on construction areas, especially at site located near residential area
- (e) Apply proper measures to minimize disruptions from vibration or noise coming from construction activities.

b. Disposal of Construction Waste

The Contractor shall establish and enforce daily site clean-up procedures, including maintenance of adequate disposal facilities for construction debris.

Debris generated due to the demolition of the existing structures shall be suitably reused, to the extent feasible. The disposal of remaining debris shall be carried out only at sites identified and

approved by local authorities. The contractor should ensure that these disposal sites: (a) are not located within designated forest areas; (b) do not impact natural drainage courses; Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas. Dispose in authorized areas all of garbage, metals, used oils, and excess material generated during construction, incorporating recycling systems and the separation of materials. In the event any debris or silt from the sites is deposited on adjacent land, the Contractor shall immediately remove such debris and restore the affected area to its original state to the satisfaction of the PIU and/or delegated agencies and local communities.

c. *Water quality*

The Contractor must take all the efforts to prevent wastes (solid and liquid) discharge into all rivers and canals and to protect surface and groundwater from pollution and other adverse impacts including changes to water levels, flows and general water quality. Whenever possible, the Contractor must minimize the amounts of wastewater that need to be discharged and find alternative means of disposal. Liquid spills of lubricant, fuel and oil within the site should be attended at the earliest in order to minimize land & groundwater contamination. The Contractor will ensure that any seepage and wastewater arising from the works must be collected and discharged via a settlement tank. Water drainage must be designed to avoid stagnant conditions that could create bad smell and unsanitary condition in the construction area and surrounding environment.

d. *Workforce and Workers; Sanitation*

The Contractor should whenever possible locally recruit the majority of the workforce and shall provide appropriate training as necessary.

The Contractor shall not allow the use of fuel wood for cooking or heating at the construction site or surrounding area.

The Contractor shall ensure that site offices, depots, and workshops are located in appropriate areas. Clean and well-maintained toilets should be made available.

Clean water shall be adequately provided for workers by the Contractor.

e. *Safety during Construction*

The Contractor's responsibilities include the protection of every person and nearby property from construction accidents. The Contractor shall be responsible for complying with all government safety requirements and any other measures necessary to avoid accidents, including the following:

- (a) Notice signs/board shall properly be installed at the construction sites
- (b) If school children are in the vicinity, include traffic safety personnel to direct traffic during school hours;
- (c) Conduct safety training for construction workers prior to beginning work;

- (d) Provide necessary personal protective equipment and clothing (goggles, gloves, respirators, dust masks, hard hats, steel-toed and –shanked boots, etc.,) for construction workers and enforce their use;
- (e) During emergencies of any kind, suspend all work.

f. Community Relations

To enhance adequate community relations the Contractor shall:

- (a) Inform the local authorities and community about construction and work schedules, interruption of services, traffic detour routes and provisional bus routes, as appropriate.
- (b) Limit construction activities at night. When necessary, ensure that night work is carefully scheduled and the community is properly informed so they can take necessary measures.

g. Physical Cultural Property Chance-finds Procedures

If the Contractor discovers archeological sites, historical sites, remains and objects the Contractor shall:

- (c) Stop the construction activities in the area of the chance find;
- (d) Delineate the discovered site or area;
- (e) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the Directorate of Archeology take over;
- (f) Notify the supervisory Engineer who in turn will notify the responsible local authorities immediately (within 24 hours or less);
- (g) Responsible local authorities, would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
- (h) Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage;
- (i) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities; and
- (j) Construction work could resume only after permission is given from the responsible local authorities concerning safeguard of the heritage.