

Environmental Monitoring Report

Semi Annual Report
April 2021

Uzbekistan: Western Uzbekistan Water Supply System Development Project

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Semi-annual Environmental Monitoring Report

Project Number: 50259-002
Reporting period: July – December 2020

UZBEKISTAN: Western Uzbekistan Water Supply System Development Project

Loan No.3659-UZB
(Financed by the Asian Development Bank)

Environmental Monitoring Review 1

Prepared by Project Coordination Unit (PCU) of “Kommunhizmat” Agency for the Republic of Uzbekistan and the Asian Development Bank.

Endorsed by: Sh. Gulomov, PCU Director

April 2021

ABBREVIATIONS

ADB	–	Asian Development Bank
CSA	–	Agency “Kommunkhizmat”
EA	–	Executing Agency
EMP	–	Environmental Management Plan
ESS	-	Environmental and Social Specialist
GIS	–	Geographic Information System
IEE	–	Initial Environmental Examination
IES	–	International Environmental Expert
MHCS	–	Ministry of Housing and Communal Services
NES		National Environmental Expert
NRW	–	Non-Revenue for Water
O&M	–	Operation and Maintenance
PAM	–	Project Administration Manual
PMC	–	Project Management Consultant
PCU	–	Project Coordination Unit
PDC	–	Pumping Distribution Center
SAEMR	–	Semi – Annual Environmental Monitoring Review
SHC	–	Sodium hypochlorite
SSEMP		Site-specific Environmental Management Plans
QST or Company, or IA	–	“Qoraqalpoq Suv Ta’minoti” LLC (former Suvokova / Vodokanal) – Project Employer
URM		Uzbekistan Resident Mission – ADB
WDN	–	Water Distribution Network
WSS	–	Water Supply and Sanitation
WTP	–	Water Treatment Plant

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1. INTRODUCTION

1.1. Preamble

1. This report represents the Semi – Annual Environmental Monitoring Review (SAEMR) for ADB: Western Uzbekistan Water Supply System Development Project (the Project).
2. This report is the 1st SAEMR for the project and covers July – December 2020 reporting period. The SAEMR describes the compliance of the project and environmental monitoring activities with measures recommended in the Initial Environmental Examination (IEE) report of September 2017.¹ The SAEMR includes
 - a) Review of the project documents and identification of gap;
 - b) Data collected during the reporting period;
 - c) Updated Environmental Management Plan (EMP) (Annex 1);
 - d) Checklist for site inspection.

1.2. Headline Information

3. The Government of Uzbekistan received an ADB's Loan No. UZB-3659 for improvement of existing infrastructure, environmental quality and access to safe drinking water in the Republic of Karakalpakstan (the RK). Loan Agreement was signed between the Republic of Uzbekistan and Asian Development Bank (ADB) on 28 December 2020.
4. Water supply services in the RK are provided by a regional WSS utility, the "Qoraqalpoq Suv Ta'minoti" LLC (the QST). The Company faces considerable challenges in its operational and financial performances as most of its infrastructure is deteriorated, water quality monitoring equipment is obsolete, while the personnel requires institutional and management support in services delivery. Its services are unreliable, leakage losses are high, and water quality is a growing concern. Like other similar utilities in Uzbekistan, the Company is locked in a vicious cycle that requires external intervention to modernize and expand its WSS infrastructure and build its institutional capacity.

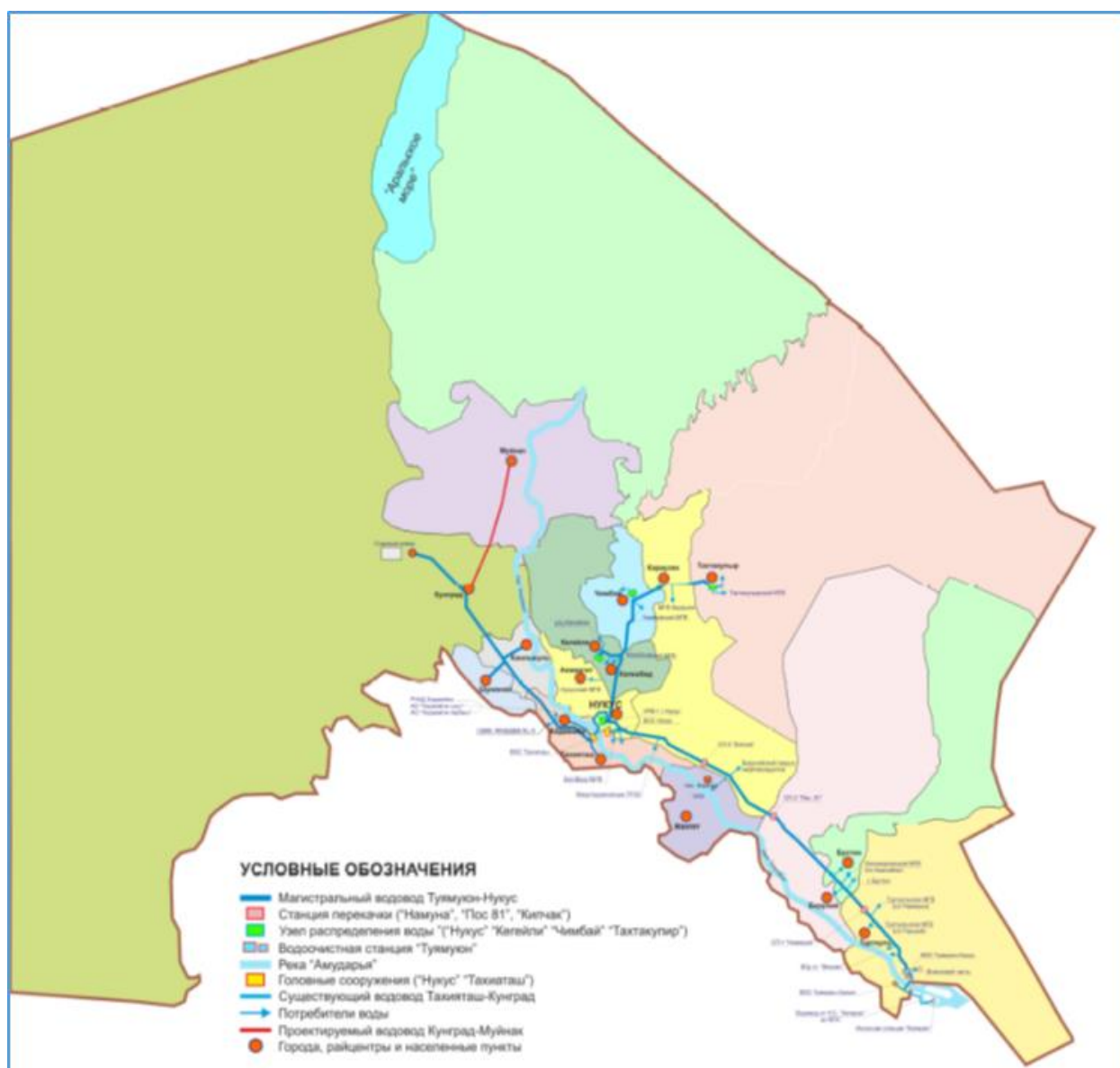
¹ Western Uzbekistan Water Supply System Development Project: Initial Environmental Examination.
https://www.adb.org/sites/default/files/project-documents/50259/50259-002-iee-en_0.pdf

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

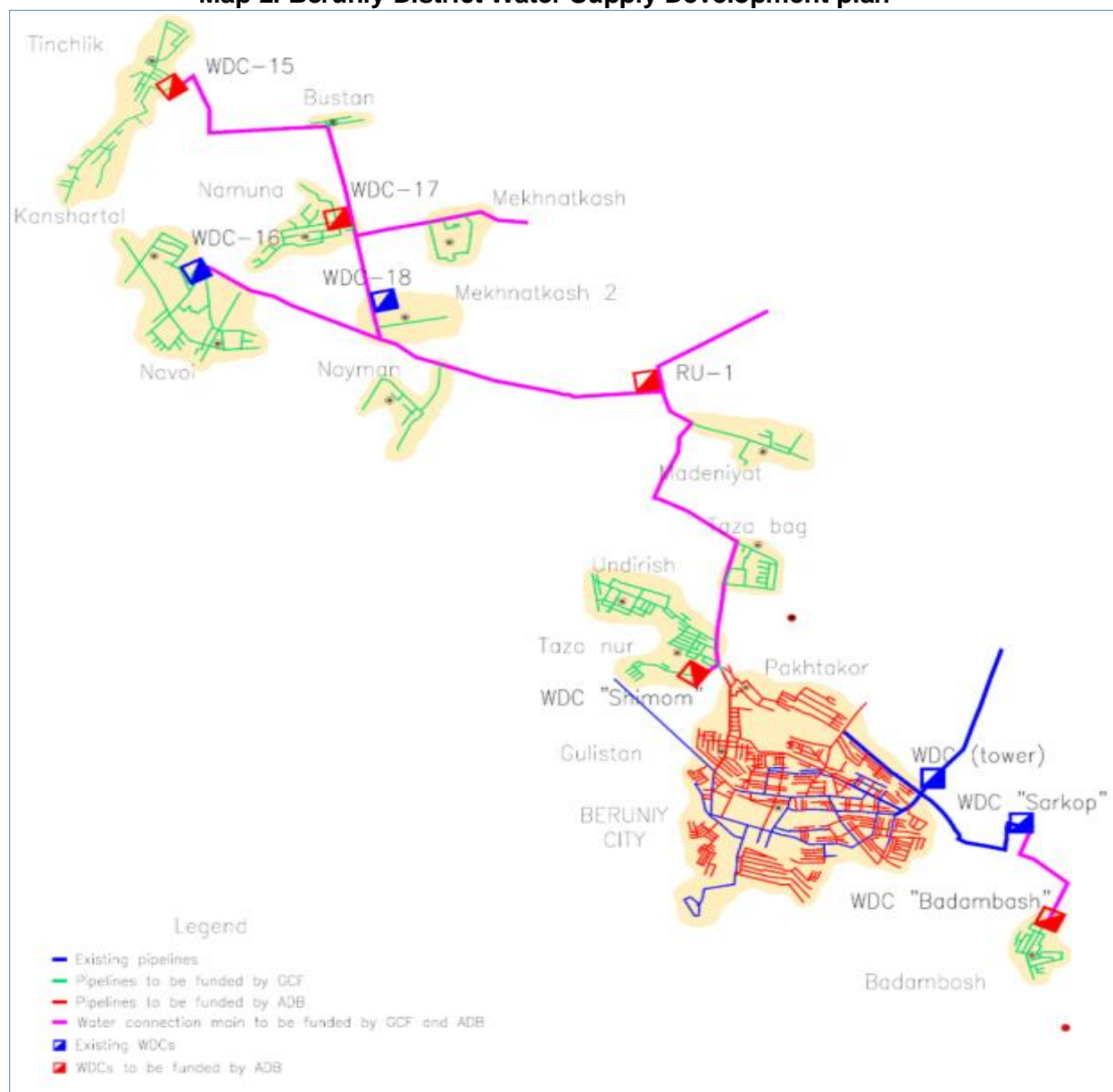
2.1. Project Description

5. Western Uzbekistan Water Supply System Development Project supports the ongoing efforts of the Government of Uzbekistan towards improving the water supply and sanitation services (WSS) in the Republic of Karakalpakstan. The Project is aimed at improving the public health and environment for about 388,000 inhabitants in six districts (Amudarya, Beruniy, Nukus, Karauzak, Kungrad, and Muynak) and 116 rural settlements by providing reliable and safe water supply and improved sewerage and sanitation facilities.
6. The objective of the Project is to enhance service delivery and improve access to safe, reliable, and sustainable water supply services managed on environmentally sound practices. The Project also will focus at increasing operational efficiency of “Qoraqalpoq Suv Ta’minoti” LLC followed by rehabilitation of existing and construction of new water and wastewater infrastructure.
7. The Project will impact on enhancing climate resilience, public health, and living conditions in the RK. The project outcome will be improved WSS infrastructure and services in the Project area with the following two outputs:
 - I. **Output 1: Water supply infrastructure rehabilitated, expanded and upgraded.** This output comprises the (i) construction, rehabilitation and expansion of three water treatment plants; (ii) construction and rehabilitation of approximately 300 kilometers of water mains; (iii) construction of four new water distribution centers and rehabilitation of 24 water distribution centers; (iv) construction and rehabilitation of approximately 900 kilometers of water distribution network; and (v) provision of consumer meters.
 - II. **Output 2: Institutional capacity strengthened.** This output includes (i) formulating performance indicator-based reporting; (ii) establishing a training center; (iii) operationalizing a nonrevenue water control system, geographic information system, and hydraulic modeling; (iv) introducing web-based management and reporting systems; and (v) commissioning a grievance redress mechanism.
8. Location of the Project areas and trunk mains to be constructed and rehabilitation are highlighted in the maps below:

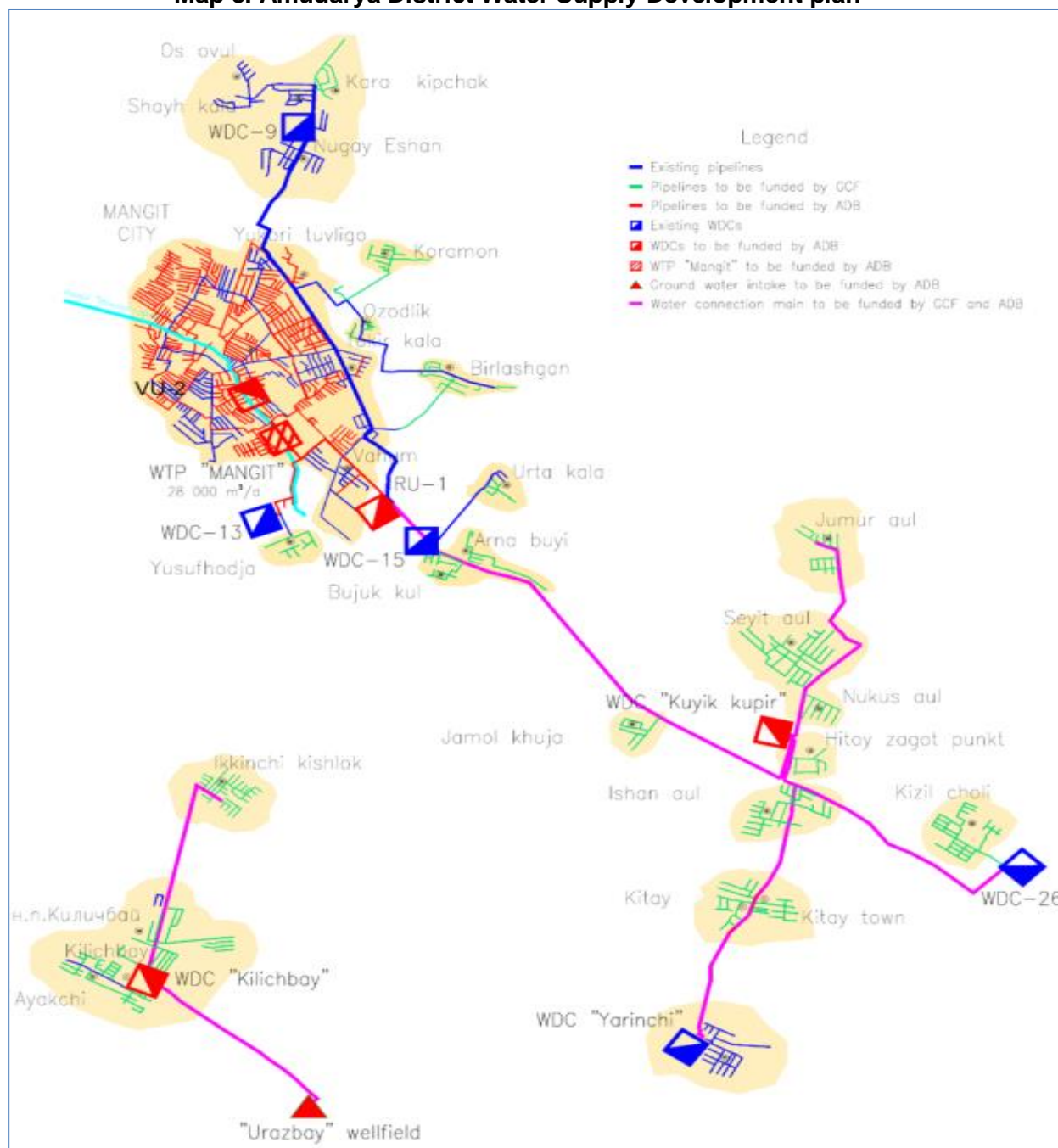
Map 1. Project Area and Layout of the Tuyamuyun-Nukus Main



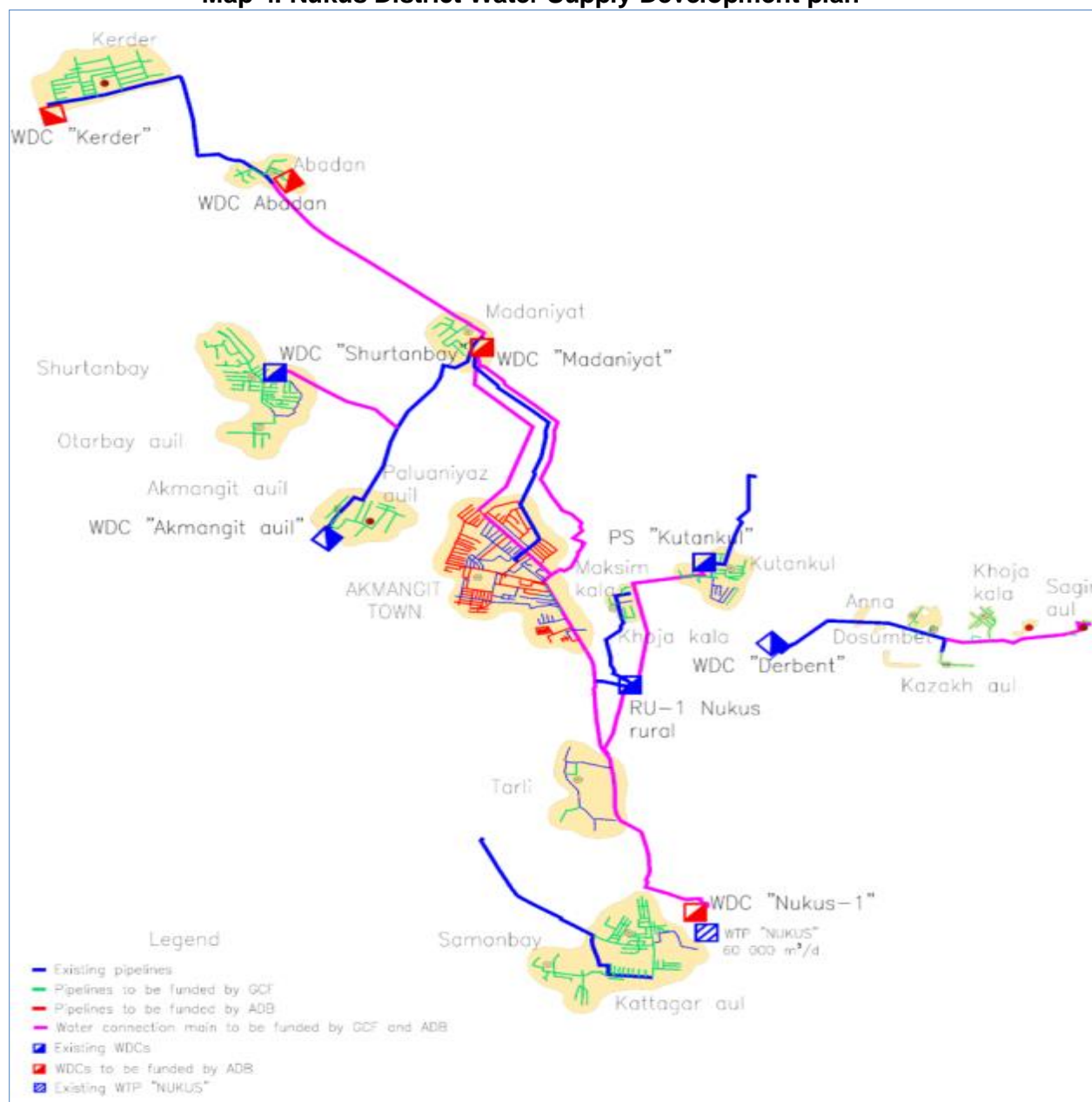
Map 2. Beruniy District Water Supply Development plan



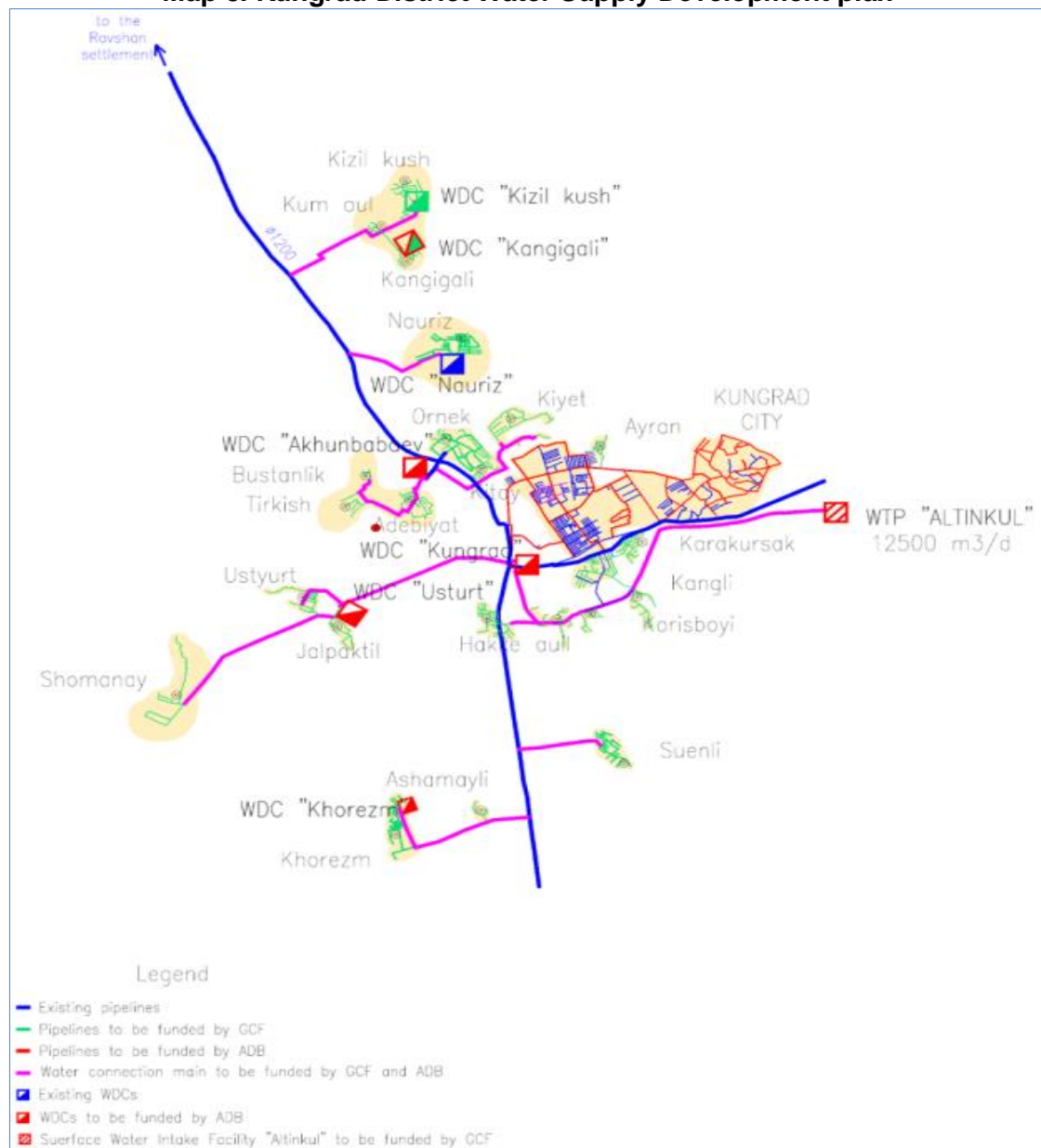
Map 3. Amudarya District Water Supply Development plan



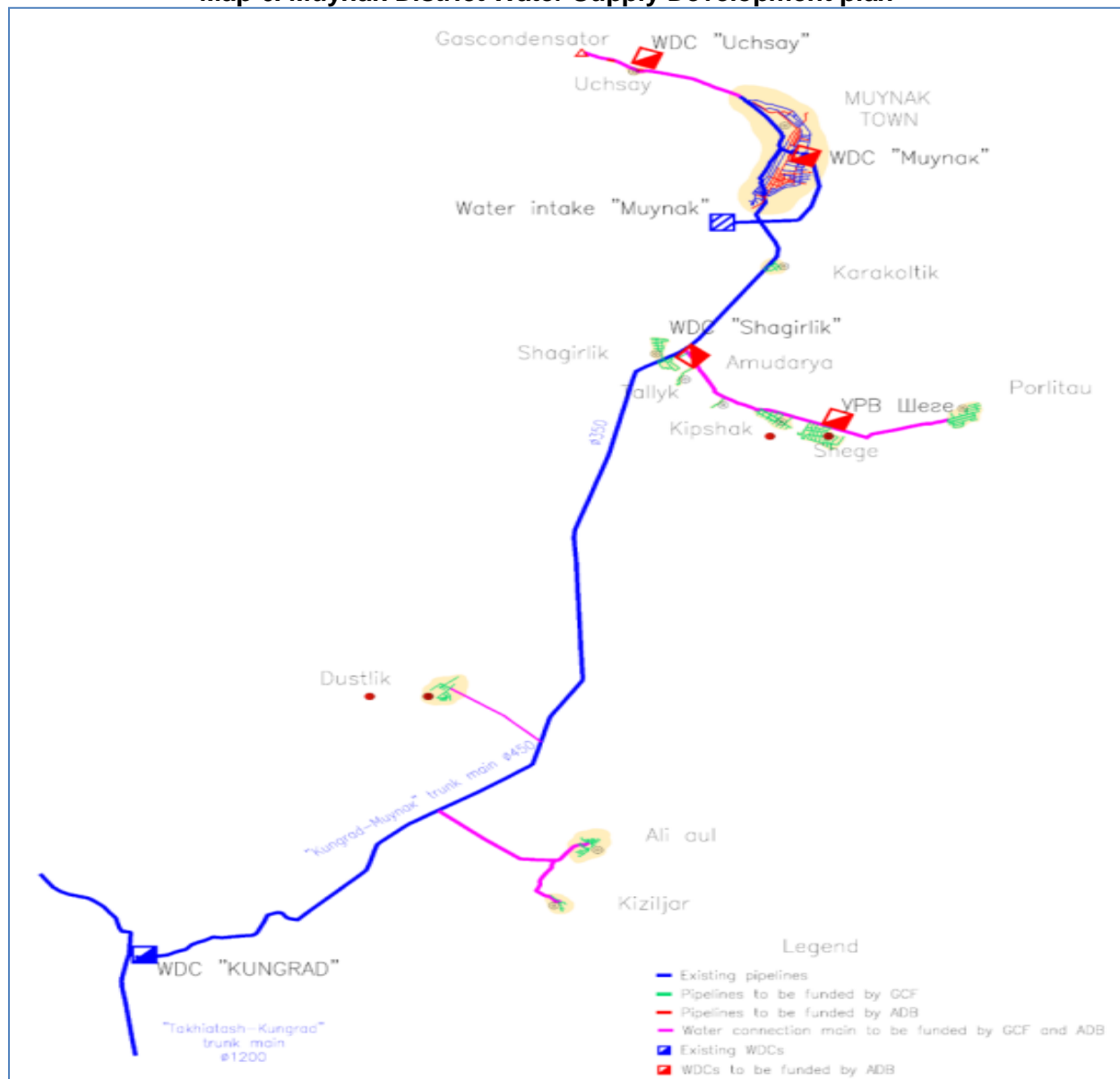
Map 4. Nukus District Water Supply Development plan



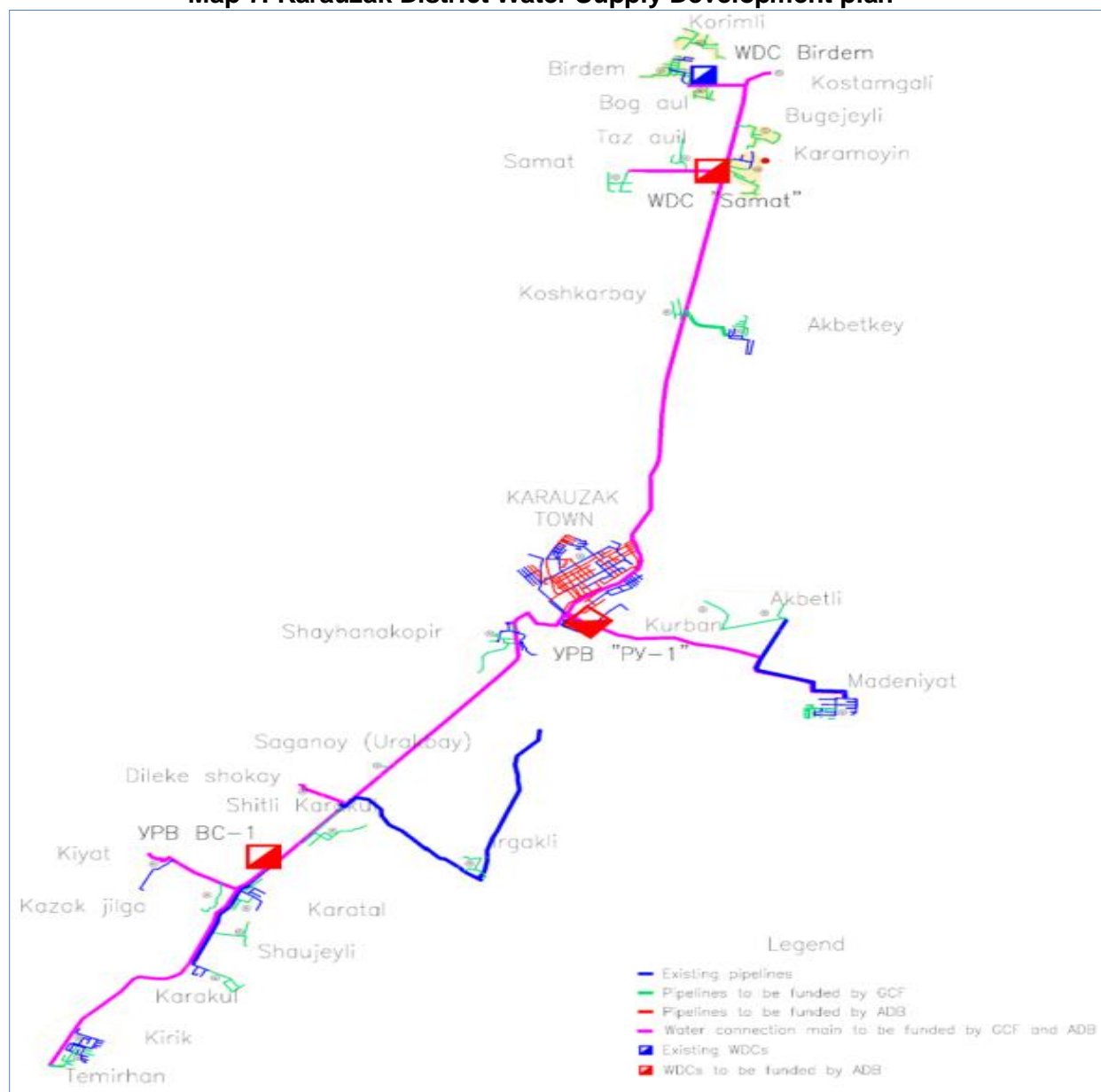
Map 5. Kungrad District Water Supply Development plan



Map 6. Muynak District Water Supply Development plan



Map 7. Karauzak District Water Supply Development plan



9. The Project will finance the rehabilitation and new construction activities indicated in Table 1.

Table 1, Project civil works

Package Number	Contract Name	Planned Construction	Planned Rehabilitation
WU-CW-01	WSS improvement	Water treatment plant (WTP-2) in Mangit city	
		Water distribution center (WDC) «WDC-1»	
		• Clean water reservoir with cap.1000 m ³ -1ea.	• Process lines

Package Number	Contract Name	Planned Construction	Planned Rehabilitation
	in Amudarya district		<ul style="list-style-type: none"> Environment improvement, planting, fencing of the site and gates
		WDC «Kuyuk-Kupir»	
		<ul style="list-style-type: none"> Clean water reservoirs with cap. 2000m³ -2ea. Pump station combined with electrolysis equipment Entrance checkpoint Transformer substation and OHPL 1000 m Process lines On-site power supply networks. Security lighting systems Environment improvement, planting, fencing of the site, gates and access road 	
		Water distribution center «Urazbay»	
		<ul style="list-style-type: none"> Drilling wells 3 ea Pump station of the 1st lift - 3 ea Gathering lines D=300mm, L=450m Environment improvement, planting, fencing of the site and gates 	<ul style="list-style-type: none"> Entrance checkpoint
		Pumping distribution center PDC-18 (WDC «Kilichboy»)	
		<ul style="list-style-type: none"> Entrance checkpoint On-site power supply networks. Security lighting systems On-site power supply networks Environment improvement, planting, fencing of the site and gates 	<ul style="list-style-type: none"> Clean water reservoir with cap. 250m³ -2ea Transformer substation
WU-CW-02	WSS improvement in Beruniy district	Main waterworks (MW) «Beruni» with WDC, a maintenance and operation workshop in the territory of Beruni district center	
		<ul style="list-style-type: none"> Lab and operations control point Maintenance and mechanical workshop Material warehouse with a shed Garage for 2 cars Entrance checkpoint Transformer room On-site power supply networks On-site water pipeline Environment improvement, planting, fencing of the site and gates 	
		Water distribution center (WDC-1)	
		<ul style="list-style-type: none"> Clean water reservoir with cap.2000m³ -2 ea Pump station combined with electrolysis equipment Entrance checkpoint Transformer substation and OHPL 2 lines, 5 km each On-site power supply networks and lighting Process lines Environment improvement, planting, fencing of the site, gates and access road 	<ul style="list-style-type: none"> Clean water reservoir with cap. 250m³ -2ea
		WDC «Shimom»	
		<ul style="list-style-type: none"> Clean water reservoir with cap. 3000m³-2ea 	

Package Number	Contract Name	Planned Construction	Planned Rehabilitation
		<ul style="list-style-type: none"> • Pump station, combined with a chlorination room • Entrance checkpoint • Transformer substation • On-site power supply networks, security lighting systems • Process lines • Environment improvement, planting, fencing of the site, gates and access road 	
		PDC - 15	
		<ul style="list-style-type: none"> • Electrolysis equipment in the pump station • On-site power supply networks, security lighting systems • Process lines • Environment improvement, planting, fencing of the site, gates and access road 	<ul style="list-style-type: none"> • Clean water reservoir with cap. 250m³-2ea • Pump station • Entrance checkpoint • Transformer room
		PDC - 17	
		<ul style="list-style-type: none"> • On-site power supply networks, security lighting systems • Process lines • Environment improvement, planting, fencing of the site, gates and access road 	<ul style="list-style-type: none"> • Clean water reservoir with cap. 700m³ – 2ea • Pump station • Entrance checkpoint
		WDC “Bodom Bosh”	
WU-CW-03	WSS improvement in Nukus district	<ul style="list-style-type: none"> • Clean water reservoir with cap. 500m³-2ea • Pump station, combined with a chlorination room • Entrance checkpoint • Transformer substation • On-site power supply networks, security lighting systems • Process lines • Environment improvement, planting, fencing of the site, gates and access road 	
		WDC “Madaniyat”	
		<ul style="list-style-type: none"> • Clean water reservoir with cap. 1000m³ -1ea. • Pump station combined with electrolysis equipment • Transformer substation • On-site power supply networks, security lighting systems • Process lines • Environment improvement, planting, fencing of the site, gates and access road • maintenance and operation workshop: • Lab and operations control point • Repair and mechanical maintenance workshops • Warehouse with a shed • Garage for 2 cars 	<ul style="list-style-type: none"> • Clean water reservoir with cap. 1000m³ -1ea.
		WDC “Kerder”	
		<ul style="list-style-type: none"> • Entrance checkpoint • On-site power supply networks, security lighting systems 	<ul style="list-style-type: none"> • Clean water reservoir with cap. 500m³ -2ea

Package Number	Contract Name	Planned Construction	Planned Rehabilitation
		<ul style="list-style-type: none"> Process lines Environment improvement, planting, fencing of the site, gates and access road 	<ul style="list-style-type: none"> Pump station, combined with a chlorination room Transformer substation Process lines
		<p>WDC “Abadan”</p> <ul style="list-style-type: none"> Clean water reservoir with cap. 500m³ -1ea. Entrance checkpoint Security lighting systems Environment improvement, planting, fencing of the site and access road 	<ul style="list-style-type: none"> Clean water reservoir with cap. 500m³ -1ea. Pump station, combined with a chlorination room Transformer substation On-site power supply networks, security lighting systems Process lines
WU-CW-04	WSS improvement in Karauzak district	<p>WDC “RU-1”</p> <ul style="list-style-type: none"> Entrance checkpoint transformer substation and OHPL 10 kW, 1,0 km long Security lighting systems Process lines Maintenance and operation workshop: Lab and operations control point Repair and mechanical maintenance workshops Warehouse with a shed Garage for 2 cars 	<ul style="list-style-type: none"> Pump station Chlorination room Transformer substation On-site power supply networks. Security lighting systems Process lines Environment improvement, planting, fencing of the site, gates and access road
		<p>WDC “VS-1”</p> <ul style="list-style-type: none"> Electrolysis equipment in the pump station Instrumentation and automation Security lighting 	<ul style="list-style-type: none"> Clean water reservoir with cap. 500m³ -2ea Pump station Transformer substation On-site power supply networks. Security lighting systems Process lines
		<p>WDC “Samat”</p> <ul style="list-style-type: none"> Clean water reservoir with cap. 300m³ -1ea Pump station. Electrolysis equipment in the pump station Entrance checkpoint Transformer substation On-site power supply networks. Security lighting systems Process lines Environment improvement, planting, fencing of the site, gates and access road 	<ul style="list-style-type: none"> Clean water reservoir with cap. 2x75 m³
		<p>WDC “Kungrad”</p> <ul style="list-style-type: none"> Pump station combined with electrolysis equipment 	<ul style="list-style-type: none"> Clean water reservoir with cap. 3000m³-2ea Process lines Environment improvement, planting
		<p>WDC “Altinkul”</p> <ul style="list-style-type: none"> Clean water reservoir with cap. 1000m³ -2ea 	
WU-CW-05	WSS improvement in Kungrad district		

Package Number	Contract Name	Planned Construction	Planned Rehabilitation
		<ul style="list-style-type: none"> • Process lines • Environment improvement, planting 	
		WDC-“Ahunbabaev”	
		<ul style="list-style-type: none"> • Clean water reservoir with cap. 500m³-1ea • Entrance checkpoint • Security lighting systems • Environment improvement, planting and fencing, access road 	<ul style="list-style-type: none"> • Clean water reservoir with cap. 250m³ -2ea • Pump station combined with chlorination room • Transformer substation • On-site power supply networks. Security lighting systems • Process lines
		WDC “Khorezm”	
		<ul style="list-style-type: none"> • Entrance checkpoint • Security lighting systems • Environment improvement, planting and fencing, access road 	<ul style="list-style-type: none"> • Clean water reservoir with cap. 500m³ -3 ea. • Pump station combined with chlorination room • Transformer substation • On-site power supply networks. Security lighting systems
		WDC :Ustyurt”	
		<ul style="list-style-type: none"> • Entrance checkpoint • Security lighting systems • Environment improvement, planting and fencing, access road 	<ul style="list-style-type: none"> • Clean water reservoir with cap. 250m³ -3 ea. • Pump station combined with chlorination room • Transformer substation • On-site power supply networks. Security lighting systems
		WDC “Khanjigali”	
			<ul style="list-style-type: none"> • Demolition of the existing tower with cap. 25 m³ • Water tank with cap. 25 m³ -1ea • Pump station • Entrance checkpoint • Process lines • Transformer substation • Security lighting systems • Environment improvement, planting and fencing, access road
		WDC "Kizilkush"	
			<ul style="list-style-type: none"> • Demolition of the existing tower with cap. 25 m³ • Water tank with cap. 25 m³ -1ea • Pump station • Entrance checkpoint • Process lines • Transformer substation • Security lighting systems

Package Number	Contract Name	Planned Construction	Planned Rehabilitation
			<ul style="list-style-type: none"> Environment improvement, planting and fencing, access road
		Kungrad city Operations workshop	
		<ul style="list-style-type: none"> Lab and operations control point Repair and mechanical maintenance workshops Entrance checkpoint Warehouse with a shed Garage for 2 cars Transformer substation On-site power supply networks. Security lighting systems Environment improvement, planting and fencing, access road 	
WU-CW-06	WSS improvement in Muynak district	WDC “Muynak”	
		<ul style="list-style-type: none"> Admin. and amenities building Entrance checkpoint Chlorination room Garage for 2 cars Warehouse with a shed Repair and mechanical maintenance workshops 	<ul style="list-style-type: none"> Lab and operations control point Pump station Reservoir V=2500 m³ Reservoir V=1000 m³; 2 ea Environment improvement, planting and fencing
		WDC- “Uchsay”	
		<ul style="list-style-type: none"> Clean water reservoir with cap. 100m³-2ea Pump station with electrolysis equipment Entrance checkpoint Process lines Transformer substation Security lighting systems Environment improvement, planting, fencing and access road 	
		WDC “Shagirli”	
		<ul style="list-style-type: none"> Clean water reservoir with cap. 100m³-2ea Pump station with electrolysis equipment Entrance checkpoint Process lines Transformer substation Security lighting systems Environment improvement, planting, fencing and access road 	
		WDC “Doslik”	
		<ul style="list-style-type: none"> Clean water reservoir with cap. 200m³-2ea Pump station with electrolysis equipment Entrance checkpoint Process lines Transformer substation Security lighting systems Environment improvement, planting, fencing and access road 	
		Construction of WTP in Mangit city	

Package Number	Contract Name	Planned Construction	Planned Rehabilitation
WU-CW-07	Construction of Mangit WTP	<ul style="list-style-type: none"> • Pump station of the 1st lift • Water pipeline from the 1st lift to the reaction chamber • Reaction chamber • Pump station • Sedimentation basin • Horizontal settlers • Water filter station • Reservoir for washing filters combined with a pump station • Chemicals section • Transformer substation • Process lines • Clean water reservoir with cap. 2000m³ -2 ea • Pump station of the 2nd lift • Electrolysis room (base) • On-site power supply networks, external power supply. Security lighting systems • Entrance checkpoint-2 ea. • Operators' houses 2 ea. • Maintenance and operations workshop: • Lab and operations control point • Repair and mechanical maintenance workshops • Warehouse with a shed • Garage for 2 cars 	
WU-CW-08	Rehabilitation of Tuyamuyun pump station		<ul style="list-style-type: none"> • Pump station for auxiliary needs • Pump station of the 2nd lift • Chlorination room
WU-CW-09	Extension of Takhiatash WTP	<ul style="list-style-type: none"> • Water filter station with cap. 60 000 m³/day • Electrolysis room with cap. 7,5 kg/hour. • Chemicals section 	<ul style="list-style-type: none"> • Pump station of the 1st lift • Sedimentation basin • D=50m 2ea • Pump station of the 2nd lift • Process lines • On-site power supply networks, external power supply. Security lighting systems
WU-CW-10	Non-revenue water Equipment and Operational Control System		

10. The Project activities will address the existing problems of the WSS system in the Project area by modernization of water supply infrastructure. The Project also includes operation and maintenance (O&M) capacity development, corporate development,

GIS and hydraulic modelling activities, which are aimed at improving overall operational performance of the Company.

11. The Project has been classified as Environmental Category B under ADB Safeguard Policy Statement (SPS, 2009) and provides environmental benefits by improving sanitation and providing safe, reliable water supply to urban and rural communities in the Project area. Initial Environmental Examination was carried out in compliance with ADB SPS (2009) and Uzbek environmental legislation.
12. The SAEMR presents the status of the Project implementation, details of compliance with Uzbek environmental regulations and ADB policies, details of compliance with environmental loan covenants, details of complaints received and their redress and the status of compliance with various aspects of EMP as stated in the IEE reports.
13. The IEE has identified local possible adverse environmental impacts likely to be caused during construction and rehabilitation activities. Most potential negative impacts (dust, noise, vibration, and solid waste such as asbestos-containing materials, scrap metals, oil, etc.) will be temporary and can be mitigated to acceptable levels. Effort will be made to (i) protect the sources, (ii) minimize construction pollution and waste, and (iii) limit specific impacts related to the pipeline routes. Overall, according to the findings of the IEE, the Project will have significant positive impacts on the quality of life and environment for beneficiaries and will ensure environmental safeguards for implementing a continuous, reliable water supply, and adequate sanitation facilities.

2.2. Project Contracts and Management

14. The Agency “Kommunhizmat” - the Executing Agency (EA) under the Ministry of Housing and Communal Services (MHCS), the Project Coordination Unit (PCU), “Qoraqalpoq Suv Ta’minoti” LLC (QST) - the Implementing Agency (IA), are wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB.
15. The PAM provides overview of key stakeholders involved in the Project and their tasks for environmental management (Table 2).

Table 2. Main organizations involved in project environmental safeguards

Main organizations	Project Management Roles and Responsibilities
ADB	<ul style="list-style-type: none"> ▪ ADB staff is responsible for supporting implementation including compliance by CSA of their obligations and responsibilities for project implementation in accordance with ADB’s policies and procedures.
“Kommunhizmat” Agency under MHCS	<ul style="list-style-type: none"> ▪ Agency “Kommunhizmat” is the Executing Agency (EA) for the Project. It will be responsible for procurement, contract management, financial management, project administration, and safeguards compliance and reporting.

Main organizations	Project Management Roles and Responsibilities
QST	<ul style="list-style-type: none"> ▪ The QST will be the Implementing Agency (IA) for the Project. It will be (i) the employer in all contracts under the project, (ii) the owner of all constructed and rehabilitated facilities, (iii) the holder of the advance account, and (iv) responsible for the preparation of the project financial statements and entity financial statements. ▪ QST will hire full-time environmental Specialist who will be in charge for implementation of EMP and ensure compliance with national environmental requirements. Along with implementation mitigation measures indicated in EMP, he/she will responsible for in-time development and submission environmental reports to Statistical Committee of Uzbekistan and State Nature Protection Committee; obtaining and timely updating permissions on discharge waste water, exhausted gases in air and disposal of solid wastes; special permission on water use.
PCU	<ul style="list-style-type: none"> ▪ The PCU will be responsible for implementation of EMP to comply with ADB's safeguards requirements and environmental national regulations. ▪ Ensure the bidding documents of PMC and Contractors include all tasks as described in the approved EMP. ▪ Supervise the PMC and Contractors in EMP implementation for overall compliance with SPS 2009 requirements and project environment-related legal covenants. ▪ Ensure all necessary government permits and license, including ecological expertise opinion, for all civil works will be obtained. ▪ Approve SSEMPs which will be prepared by the Contractors and endorsed by the PMC. ▪ With assistance of the PMC, prepare, submit to the EA and ADB, and disclose semi-annual environmental monitoring reports on ADB website and in UZB. ▪ Report in a timely manner to ADB of any non-compliance or breaches with ADB safeguard requirements and take corrective actions promptly. ▪ Update the IEE in case of technical design changes or unanticipated impacts. ▪ Establish a Grievance Redress Mechanism (GRM) after the project effectivity and act as the GRM secretary to make sure that the GRM is operational to effectively handle environmental and social concerns of project affected persons. ▪ Build up and sustain institutional capacity in environmental management.
PMC	<ul style="list-style-type: none"> ▪ The PMC is tasked with specific responsibility to assist PCU in ensuring safeguard compliance of civil works – with particular emphasis on the monitoring of implementation of EMP through the Contractors SSEMP and related aspects of the project. ▪ Provide guidance for the implementation of the EMP during the pre-construction and construction periods. ▪ Throughout the Projects Construction phase PMC shall continually monitor the Contractors actions. This will be achieved through weekly inspections of the Contractors environmental performance by PMC's national environmental specialist throughout the construction period. ▪ It is required that the IES provides a short training program to the PCU safeguard person and Contractors EO prior to the start of construction to

Main organizations	Project Management Roles and Responsibilities
	<p>develop their knowledge and understanding of the environmental, social, health and safety aspects of the Project.</p> <ul style="list-style-type: none"> ▪ The PMC contract is signed with JV Korea Water Resources Corporation, Global Business Services Ltd. and Hankuk Engineering Consultants Co., Ltd. The PMC team includes IES and NES, who were mobilized on the Project.
Contractors	<ul style="list-style-type: none"> ▪ Contractors will be responsible for implementing mitigation measures. Within 30 days after contract award and prior to commencing any physical works, Site-specific Environmental Management Plans (SSEMPs) will be developed by the Contractors under the guidance of the PMC, and be endorsed by PMC before submission to PCU for approval. ▪ The SSEMP is the document that the Contractors shall prepare outlining how he intends to implement the EMP and ensure that all of the mitigation and monitoring is completed according to the implementation arrangements specified in this EMP. SSEMPs will be needed for major environmental issues and most critical sites relating to sensitive receptors. During construction, the Contractors must retain the expertise of a full-time Environmental Officer (EO) to implement and continually update the SSEMPs, and to report on the implementation of mitigation measures throughout the contract period. ▪ The Contract “WU-CW-08” is awarded to Obi Hayot Inginiring (Uzbekistan) on 30 November 2020 and is subject to approval by ADB.
State Committee of the Republic of Karakalpakstan on the Ecology and Environment Protection	<ul style="list-style-type: none"> ▪ State Committee of the Republic of Karakalpakstan on the Ecology and Environment Protection will be also involved in the process of project implementation and further operation. ▪ The Committee will review local Environmental Assessment and approve it if complies with national requirements. Moreover, requirements indicated in Environmental Appraisal will be mandatory for implementation and it will be monitored by inspectors from district branches of the Committee. Representatives of the Committee will also participate into the handover process as member of State Acceptance Commission.
Certified laboratory	<ul style="list-style-type: none"> ▪ Under the guidance and approval from the PMC, a certified laboratory to be hired by contractor to perform instrumental monitoring for environmental quality such as air, noise, vibration, water, etc. ▪ Schedules, parameters, locations are indicated by the Project EMP and shall be endorsed by the PMC.

16. In addition to the above organizations, Sanitary and Epidemiological Welfare and Public Health Service of Uzbekistan (Service) is responsible for instrumental monitoring of environmental and public health situation, including ambient air, water, soil, working conditions, noise, vibration, etc. It was established on 27 July 2020 by Presidential Decree No. PP-4790 “On measures on organization of Sanitary and Epidemiological Welfare and Public Health Service” (<https://lex.uz/ru/docs/4914450>). Monitoring and control of the environmental and public health conditions in the Project area are responsibilities of Sanitary and Epidemiological Welfare and Public Health

Service of the Republic of Karakalpakstan. The Service is equipped with the state-of-the-art laboratory equipment allowing to perform tests required by the Project.

17. List of the key Project stakeholders and their contacts:

Table 3 Key Project stakeholders and their contacts

Project stakeholder	Key personnel	Contact details
PCU	Mr. Sherzod Gulomov Director	Tel.: (998) 712352678 E-mail: adbpcuucsa@gmail.com
	Ms. Sayyora Tillyakhodjaev Environmental Specialist	Tel.: (998) 712352678 E-mail: adbpcuucsa@gmail.com
	Mr. Jetkerbay Kidirbaev Regional Coordinator	E-mail: adbpcuucsa@gmail.com
JV Korea Water Resources Corporation, Global Business Services Ltd. and Hankuk Engineering Consultants Co., Ltd.	Mr. Yun Bae Kang Team Leader	Tel.: +82 31 420 5826 E-mail: yunyoung027@hanmail.net
	Ms. Laly Sattarova International Environmental Specialist	Tel.: (998) 712350064 E-mail: laly@gbs.uz
	Mr. Khibir Sabirov National Environmental Specialist	Tel.: (998) 712350064 E-mail: info@gbs.uz
Contractor “WU-CW-08”: Obi Hayot Injining (Uzbekistan)	A. Sharipov Director	Tel: (998) 974441016 E-mail: obihayot-engineering@mail.ru

18. During the reporting period, the PMC conducted site visits, held regular daily/weekly/monthly meetings with (1) Design Engineer on terms of reference (detailed engineering designs) for the civil works packages being developed, (2) PCU on various Project-related issues, including procurement support, and (3) MHCS on updating the project progress so far.
19. First civil works contract WU-CW-08 “Rehabilitation of Tuyamuyun 2nd lift pumping station” was signed with Obi Hayot Injining (Uzbekistan) on 30 November 2020. The contract is a subject to ADB approval.

Table 4. Summary of Civil Works Contracts

Package	Scope	Contractor	Signed	Civil Work Started	Civil Work Ends
WU-CW-01	WSS improvement in Amudarya district	At designing stage			

Package	Scope	Contractor	Signed	Civil Work Started	Civil Work Ends
WU-CW-02	WSS improvement in Beruniy district	At designing stage			
WU-CW-03	WSS improvement in Nukus district	At designing stage			
WU-CW-04	WSS improvement in Karauzak district	At designing stage			
WU-CW-05	WSS improvement in Kungrad district	At designing stage			
WU-CW-06	WSS improvement in Muynak district	At designing stage			
WU-CW-07	Construction of Mangit WTP	At designing stage			
WU-CW-08	Rehabilitation of Tuyamuyun pump station	Obi Hayot Inginiring (Uzbekistan)	30 November 2020	Not started	15 months
WU-CW-09	Extension of Takhiatash WTP	At designing stage			
WU-CW-10	Non-revenue water Equipment and Operational Control System	At designing stage			

2.3. Project Activities During Current Reporting Period

20. First civil works contract was signed with Obi Hayot Inginiring (Uzbekistan). However, as of 31 December 2020, the civil works have not started yet. During the reporting period, the PMC's IES (1) updated EMP considering ADB's and National Regulation regarding COVID-19 pandemic; (2) reviewed the draft contract No. "WU-CW-08"; (3) provided recommendations on COVID mitigation measures in "Technical specifications" Section of bidding documents for the next civil works contracts.

2.4. Description of Any Changes to Project Design

21. No changes.

2.5. Description of Any Changes to Agreed Construction Methods

22. No changes.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1. General Description of Environmental Safeguard Activities

23. IEE for the Project was prepared in September 2017 and was published on ADB's website: (<https://www.adb.org/projects/documents/uzb-50259-002-iee-0>). The IEE provides details of regulatory framework governing QST's ("Qoraqalpoq Suv Ta'minoti" LLC, former Suvokova/Vodokanal – Project Employer) activities and environmental management in the Project area. The report also includes the Project's environmental profile describing physical conditions, water resources, biodiversity, soils, socio-economic conditions and cultural heritage and how they will be impacted by the various project stages. Anticipated environmental impacts of the Project at pre-construction, construction and operation stages are detailed in IEE.
24. During the reporting period, no any civil works and corresponding environmental activities were undertaken. The first contract for civil works is a subject to ADB approval. The environmental safeguards measures to be undertaken by project stakeholders are specified in IEE.

3.2. Site Audits

25. Have not been done since construction activities have not been started yet.

3.3. Issues Tracking (Based on Non-Conformance Notices)

26. Have not been done since construction activities have not been started yet.

3.4. Trends

27. Have not been done since construction activities have not been started yet.

3.5. Unanticipated Environmental Impacts or Risks

28. The COVID-19 outbreak represents significant health and safety risks that were not anticipated at project appraisal stage and is not reflected in the project's safeguards instruments, most importantly the EMP. The PMC specialists identified the unanticipated risks and impacts under the project, and accordingly updated EMP (Annex 1).

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1. Overview of Monitoring Conducted during Current Period

29. Have not been done since construction activities have not been started yet.

4.2. Trends

30. *Not yet applicable.*

4.3. Summary of Monitoring Outcomes

31. *Not yet applicable.*

4.4. Material Resources Utilisation

32. *Not yet applicable.*

4.5. Waste Management

33. *Not yet applicable.*

4.6. Health and Safety

4.6.1. Community Health and Safety

34. *Not yet applicable.*

4.6.2. Worker Safety and Health

35. *Not yet applicable.*

4.7. Training

36. There is a tentative program of environmental trainings for PCU, QST (Suvokova) and Contractors' staff in IEE (**Table 4**).

Table 5. Tentative program of trainings

No.	Name of training	Time	Recipients	Organizer
1	Overall EMP implementation, Environmental Monitoring Reports preparation	Prior commencement of the civil works	PCU ESS Specialist	PMC
2	SEMP implementation	Prior commencement of the civil works	Contractors workers	Contractor's Environmental Specialist with support of PMC
3	Handling and disposal of hazardous materials	Before starting respective works	PCU ESS Specialist,	PMC

No.	Name of training	Time	Recipients	Organizer
			Contractors, workers	
4	On occupational health and safety	Regularly during construction and operation period	Contractors, workers, QST staff	Contractor's Environmental Specialist with support of PMC, QST safety Engineer
5	Handling and disposal chemicals from water quality laboratories of Suvokova	Regularly during operation phase	Staff of existing and new water quality laboratories	QST

37. PMC will deliver training on EMP, site inspection procedure, and COVID-19 mitigation measures to contractor and PCU upon approval of first civil works contract by ADB.

5. FUNCTIONING OF THE SSEMP

5.1. SSEMP Review

38. As per IEE after contract award and prior to commencing any physical works, Site-specific Environmental Management plans (SSEMPs) will be developed by the Contractors under the guidance of the PMC before commencement of construction activities, and will be endorsed by PMC before submission to PCU for approval. As part of the SSEMP, following Topic Specific EMPs need to be prepared by Contractors, endorsed by PMC and approved by PCU:
- (i) Earthworks Management Plan
 - (ii) Topsoil Management Plan
 - (iii) Excavated Soil Management Plan
 - (iv) Waste Management Plan (hazardous, construction, domestic waste)
 - (v) Tree Planting and Landscaping Management Plan
 - (vi) Traffic Management Plan
 - (vii) Labor/Construction Camp Management Plan
 - (viii) Health and Safety Plan
 - (ix) Emergency Response Plan
 - (x) Asbestos containing materials Management Plan
- and other management plans, as required.
39. Due to COVID-19 pandemic, Construction Contractor is requested to prepare a specific COVID-19 risk management plan (as part of the health and safety plan (HSP) and emergency response plan (ERP)) showing what type of arrangements and measures the contractor will take to address this risk. The HSP and ERP are standard elements of the SSEMP, which should be updated addressing COVID-19 health risks. Broadly, the steps in this process include:
- The HSP and ERP should be aligned with any relevant government regulations and guidelines on COVID-19 prevention and control, or in the absence of these, aligned with international good practice guidelines;
 - The contractors' HSP and ERP should be reviewed by the Engineer and environmental specialists of the supervision consultant and PCU;
 - The implementing agency will then advise the executing agency on approval of these plans.
 - The preparation/implementation status of the plans will be reported to ADB through SAEMRs.

6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1. Good Practice

40. *Not yet applicable.*

6.2. Opportunities for Improvement

41. *Not yet applicable.*

7. SUMMARY AND RECOMMENDATIONS

7.1. Summary

42. Since the construction activities have not started yet, the bidding process for selection one Contractor is completed and civil works expected to be started in February 2021. At that stage it is important to ensure timely submission of SSEMPs including Topic Specific EMPs in accordance with IEE.

7.2. Recommendations

43. Ensure that selected Contractor appointed Environmental, Health and Safety Specialist who will be in charge for implementation/supervision of EMP at construction sites.
44. Contractor(s) shall not start civil works without submission of SSEMPs including Topic Specific EMPs as indicated in IEE to PMC for review and to PCU for approval.
45. Ensure that PMC's environmental specialist supervises SSEMP implementation by Contractor(s) and timely inform PCU on all observed non-compliances.
46. Prior starting construction works related to demolishing existing buildings, PMC's Environmental Specialist jointly with Contractor's Environmental Specialist have to examine all building on presence of asbestos materials. In case of their presence, to develop Asbestos Management Plan as it is indicated in EMP.
47. Ensure that bidding documents for construction contracts include environmental, health and safety requirements and EMP.
48. The Contractor "Obi-Hayot Engineering" LLC will prepare the SSEMPs before commencement of construction activities – in Jan-Feb 2021.

8. ANNEXES

Annex 1. ENVIRONMENTAL MANAGEMENT PLAN

Impact	Mitigation measure	Responsibility	Cost
Pre-construction stage			
Selection of inefficient water treatment technology	<ul style="list-style-type: none"> Design WTP and develop water treatment technology considering quality of raw water and national water quality regulation OzDSt 950-2011 “Drinking Water. Hygienic requirements and quality control”. 	Design institute, Kommunhizmat, PCU	
Pollution of water sources due to improper established sanitarian zone	<ul style="list-style-type: none"> Ensure sanitarian zones for ground and surface water intakes are comply with national regulation: KMK 2.04.02-97 “Water supply. External networks and facilities” (1997), para 10.8. 	Design institute, Kommunhizmat, PCU	
Absence of environmental experts in PMU	<ul style="list-style-type: none"> Ensure that Environmental Experts with appropriate education is hired and involved in the project since the stage of bidding documents preparation. 	Kommunhizmat, PCU, PMC’s Environmental Specialist	ES is part of PCU with appropriate budget
Lack of proper environmental requirements	<ul style="list-style-type: none"> IA in assistance of Project Management Consultant’s (PMC) environmental specialist shall ensure inclusion of environmental provisions (including EMP) in the bidding documents and the contracts. Ensure that list of required permissions and approvals per Uzbek legislation is included in bidding documents and responsible for receiving such permission is identified. 	PCU, PMC’s Environmental Specialist PCU, PMC’s Environmental Specialist PCU, Environmental Specialist	No cost required
Improper assessment of bidders’ environmental capacity	<ul style="list-style-type: none"> Ensure participation of environmental expert in bid evaluation. Ensure that awarded Contractors have proper environmental capacity, staffing and budget for EMP implementation. 	UCSA, PCU	No cost is required

Impact	Mitigation measure	Responsibility	Cost
Non-compliance with relevant national environmental legislation requiring mandatory environmental assessment and obtaining permission	<ul style="list-style-type: none"> ▪ Prepare ZVOS (environmental assessment per national environmental legislation) and submit it to Provincial Nature Protection Committee for revision and approval. ▪ Include the findings of environmental assessment into the final EMP. ▪ Receive permission on Special Water Use for Water Treatment Plants. 	QST	Will be financed from the QST budget
Generation of different potential environmental impacts due to changes in design, layout	<ul style="list-style-type: none"> ▪ Update or prepare a new IEE in compliance with ADB SPS (2009). 	PCU with PMC	Included in the PMC contract
Non-compliance with national and international requirements during the bidding for procurement of machinery and equipment	<ul style="list-style-type: none"> ▪ Procure goods in compliance with ADB Prohibited Investment Activities List provided in Appendix 5 of the Safeguard Policy Statement (2009). ▪ Include environmental requirements in bidding documents for purchase of machinery and equipment. Ensure that procured vehicles are met “Euro 3” exhaust emission standard as defined by national regulations². 	Kommunhizmat, PCU with PMC	No cost is required

² Resolution of President of RUz “On measures for further development of production at the Samarkand automobile plant and renewal automobile park”, dated from December 14, 2006

Impact	Mitigation measure	Responsibility	Cost
Improper SEMP and SEMP development	<ul style="list-style-type: none"> Prepare Site-specific Environmental Management Plans (SEMPs), within 30 days after contract award and prior to commencing any physical works, under the guidance of the PMC, and approve it by PCU. Prepare Traffic Management Plan, Waste Management Plan, and Hazardous Waste Management Plan by Contractors, review them by PMC and approve by PCU. 	Contractors shall develop SEMPs PMC shall review and PCU shall approve	Included in the Contractors budget
Health and safety risks occurred due to lack of awareness and non-compliance with national and international legislation related to COVID-19	<ul style="list-style-type: none"> Ensure that Contractors' activities are met the requirements of national Public Health Regulation No. 0372-20 "Temporary sanitary rules and norms for organizing the activities of public and private sector organizations in the COVID-19 pandemic"³. Prepare COVID Management Plan as part of Health and Safety Plan (HSP) and Emergency Response Plan (ERP), review COVID Management Plan by PMC and approve by PCU. 	Contractors shall implement PCU and PMC shall monitor implementation	Included in the Contractors budget
Construction stage			
Air pollution	<ul style="list-style-type: none"> Regularly water the construction sites and roads inside settlements during dry season. Cover transported bulk materials. Limit speed for vehicles when driving inside settlements. 	Contractors shall implement PCU and PMC shall monitor implementation	Included in the Contractors budget 10000 USD for installation of noise and dust protection screen. Total USD

³ <https://www.minzdrav.uz/documentation/detail.php?ID=62259>

Impact	Mitigation measure	Responsibility	Cost
	<ul style="list-style-type: none"> ▪ All vehicles must comply with technical requirements and have to pass regular inspection per local regulations⁴. ▪ Prohibit open burning of solid wastes generated particularly from labor camps and construction activities. ▪ Restrict demolition activities during period of high winds or when the winds blow dust towards nearby communities. ▪ Pipe laying works on streets with width less than 2 meters must be carried out manually. 		60000 for 6 contractors
Noise and vibration	<ul style="list-style-type: none"> ▪ Install acoustic screen during construction works at the WDC# 17 (Beruny district) and WDC in Birdem settlement (Karauzyak district). The screens must ensure that the noise level in the school does not exceed 35 dB. ▪ Install acoustic screen during construction works at the Muynak WDC, KyzylKush and Khorezm WDCs in Kungrad, Mangit Water treatment plant (Amudarya district) to ensure that the noise level in the area adjacent to nearby houses is no more than 70 dB. ▪ Limit speed ▪ Schedule construction to minimize the multiple use of the equipment and machines with extra noise near settlements. ▪ Use Personal Protective Equipment (PPE) by workers involving in demolishing and construction works. 	<p>Contractors shall implement</p> <p>PCU and PMC shall monitor implementation</p>	<p>Included in the Contractors budget</p> <p>The same screen could be used</p>

⁴ "O'z DSt 1057:2004 Vehicles. Safety requirements for technical conditions" and "O'z DSt 1058:2004 Vehicles. Technical inspection. Method of control".

Impact	Mitigation measure	Responsibility	Cost
	<ul style="list-style-type: none"> ▪ Inform population about anticipated works. 		
Pollution of surface and ground water	<ul style="list-style-type: none"> ▪ Project sites and labor camps shall be 100 m away from water resources. ▪ Store oil, fuels and lubricants on a sealed surface, away from water resources ▪ Refueling, oil replacement or vehicle maintenance shall be banded at the area within 50 m from water streams. ▪ Implement an ecofriendly solid and hazardous waste management, disposing them promptly. Wastewater and solid wastes shall not be released into water streams. ▪ Topsoil stripped material shall not be stored where natural drainage will be disrupted. ▪ Water samples will be taken and analyzed based on the baseline monitoring results obtained in the preconstruction stage. 	<p>Contractors shall implement</p> <p>PCU and PMC shall monitor implementation</p>	Included in the Contractors budget
Soil contamination	<ul style="list-style-type: none"> ▪ The top soil of about 30 cm depth shall be removed and stored separately during excavation work, and after the construction of the main trunk the same soil shall be replaced on the top, in unpaved areas. ▪ The excess top soil and earth remained after construction of new WDCs will be used at other project sites or disposed at the places prior approved by local government authorities and Nature protection committee. ▪ To minimize soil compaction, movement of all type techniques will be allowed only through identified assess roads; ▪ Contractors will be required to use only authorized carriers with getting all necessary permissions per respective national legislation. 	<p>Contractors shall implement</p> <p>PCU and PMC shall monitor implementation</p>	Included in the Contractors budget

Impact	Mitigation measure	Responsibility	Cost
	<ul style="list-style-type: none"> Remove the existing sludge from the territory of WTPs and ensure timely disposal of sludge which will be excavated during construction. 		
Hazardous materials	<ul style="list-style-type: none"> All transformers produced before 1994 have to be carefully handled and disposed without pouring oil and avoiding oil leakage. All transformers have to be labeled with sign “Content PCB” and disposed in accordance with “Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Polychlorinated Biphenyls (PCBs), Polychlorinated Terphenyls (PCTs) or Polybrominated Biphenyls (PBBs)” (Basel Convention). Notification on presence of such equipment will be sent to State Nature Protection Committee and Sanitarian Epidemiological Station for their further actions. Waste Management Plan for the construction sites with demolishing works shall be developed by Contractor, reviewed by PMC and approved by PCU. The Plan has to include information about type of generating wastes, procedure of their collection and disposal. Used oil shall be collected into containers placed at the concreted sites and disposed to national oil company designated for accepting and treatment of used oils. Refueling vehicles and changing oils must be carried out in specially designated and properly equipped places. Emergency facilities have to be at the place for elimination of accident of oil spills. Prior to commencement of rehabilitation works at the WDCs, EO with NES or IES of PMC will conduct vision observation of old buildings and structures for the presence of asbestos materials. If such materials are available, the Contractors shall 	<p>Contractors shall implement</p> <p>PCU and PMC shall monitor implementation</p>	Included in the Contractors budget

Impact	Mitigation measure	Responsibility	Cost
	develop a detailed “Asbestos Management Plan” (Appendix 11 of IEE).		
Non-hazardous materials	<ul style="list-style-type: none"> ▪ Segregate wastes on recyclable and non-recyclable wastes. ▪ Sell recyclable wastes to relevant organizations (paper, scraps, and accumulators) and timely dispose of non-recyclable wastes to the landfill, determinate by local hokimyats. ▪ Provide hydro isolated septic tank for collecting wastewater at the camp sites and bio toilets for workers at the construction sites and timely dispose wastewater to the local wastewater treatment plants. 	<p>Contractors shall implement</p> <p>PCU and PMC shall monitor implementation</p>	Included in the Contractors budget
Losses of trees and crops, losses of income due to impact on business	<ul style="list-style-type: none"> ▪ Construction new WDCs should be done exactly within marked area; ▪ Conduct a preliminary survey together with Contractor and respective representative of Provincial Nature Protection Committee (PNPC) to define trees for cutting down and payments in accordance with CMR # 290 dated from 2014. ▪ Conduct joint revision of the project sites with representatives of inspectors from relevant district branches of Goskompriroda to identify number of cutting bushes and trees, if any, and to pay compensation. This measures shall be implemented prior to civil works on transmission main to be constructed between Amudarya-Kipchak and Shege-Porlitay settlements in Muynak district, distribution network in Mangit city, Amudarya district. ▪ Green WDCs as part of the project design. ▪ Inform community in advance about planning works. ▪ Schedule and conduct civil works in the way to minimize period with limited access to enterprises and closing roads. 	<p>Contractors shall implement</p> <p>PCU and PMC shall monitor implementation</p>	<p>Included in the Contractors budget</p> <p>Cost of cutting down trees (non-fruit) and bushes is USD 900 for about 3 ha USD</p>

Impact	Mitigation measure	Responsibility	Cost
	<ul style="list-style-type: none"> ▪ Provide safe access to affected properties. 		
Health and safety issues	<ul style="list-style-type: none"> ▪ Contractor and PMC will inform population about anticipated works in the settlement in advance. ▪ Contractors will require to develop a Traffic Management Plans with clear indication routes of vehicles' movements, placement special signs, and speeding allowance inside of the settlements and schedule transportation activities by avoiding peak traffic periods. ▪ The Traffic Management Plans will be approved by Traffic Police and disclosed to local communities prior commencement of construction works on respective sites. ▪ Clear signs will be placed at construction sites in view of the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations etc. and raising awareness on safety issues. ▪ Contractor will require to install temporary bridges and effectively organize works, which will allow avoid unreasonable delaying of construction works; ▪ All construction sites will be properly lightened and fenced; ▪ Development of Site Specific Plans for campsites; ▪ After completion works all roads shall be rehabilitated at least up to condition of pre-construction stage. ▪ Develop a detailed Health and Safety Plan considering COVID-19 mitigation measures. ▪ Carry out regular awareness campaigns among work staff, including specific hazards associated with the spread of HIV/AIDS and COVID-19. ▪ Provide PPE and training on its proper use (e.g., masks, disposable gowns, and disposable gloves or heavy-duty gloves that can be disinfected). Provide face or eye protection 	<p>Contractors shall implement</p> <p>PCU and PMC shall monitor implementation</p>	Included in the Contractors budget

Impact	Mitigation measure	Responsibility	Cost
	<p>(medical mask) during cleaning that generate splashes (e.g., washing surfaces).</p> <ul style="list-style-type: none"> ▪ Enhance hand hygiene – regular handwashing with soap and water or use of alcohol-based hand rub – before entering and after leaving enclosed machinery, vehicles, confined spaces, and before putting on and after taking off PPE. ▪ Take all the mitigating actions possible to reduce the risk of transmission between workers, clients or customers, contractors, and visitors such as scheduling staggered activities, minimizing face-to-face and skin-to-skin contacts, placing workers side-by-side or facing away from each other rather than face-to-face, assigning staff to the same shift teams to limit social interaction. ▪ Provide monthly report of illness, diseases and injuries. ▪ After completion works all roads shall be rehabilitated at least up to condition of pre-construction stage. 		
Construction camps	<ul style="list-style-type: none"> ▪ Develop Separate Site Specific EMP for labor/construction camps (or part of general SEMP). ▪ SEMP for labor/construction camps will describe waste collection and disposal procedure, set up of camp facilities (such as a storage place for construction materials and techniques if any, laundry and toilets, access roads). ▪ If washing equipment and vehicle is planning to be conducted at the labor/construction camp's site, appropriate wastewater treatment facilities have to be organized on the camp and respective permissions on water intake and waste water disposal need to be received by Contractors from Nature Protection Committee. 	<p>Contractors shall implement</p> <p>PCU and PMC shall monitor implementation</p>	Included in the Contractors budget

Impact	Mitigation measure	Responsibility	Cost
	<ul style="list-style-type: none"> Undertake daily health prescreening of employees/workers, especially for COVID-19 symptoms (e.g., mandatory regular no contact temperature check). Provide safe and adequate living conditions for workers, such as dining rooms, toilets, shower rooms etc. Enough space should be provided for every employee/worker staying in the barracks to ensure that social distancing are adequately implemented. This can be achieved either by providing additional space/facilities or by having occupants work (and sleep) in shifts. Enhance cleaning and disinfection of objects and surfaces that are touched regularly, including all shared rooms, surfaces, floors, bathrooms, and changing rooms. Contractors shall instruct all the workers to act in a responsible manner. After completion works, construction camps. 		
Archeological heritages: Chance of finding heritage	<ul style="list-style-type: none"> Excavation and other works must be suspended immediately. Area with possible heritage shall be fenced with fencing tape. A designated focal point from a local administration (khokimiyat) needs to be informed and invited for assessment of potential heritage and undertaken necessary actions. Civil works at the finding place could be recommenced after obtaining permission from the focal point. 	<p>Contractors shall implement</p> <p>PCU and PMC shall monitor implementation</p> <p>Representative from Khokimiyat assists in assessment and undertakes necessary actions</p>	No cost
Construction sites and areas used for construction camps without proper	<ul style="list-style-type: none"> After completion of the main construction Contractor shall provide full reinstatement of the construction and camp sites by bringing them to its primary condition. 	Contractors shall implement	Included in the Contractors budget

Impact	Mitigation measure	Responsibility	Cost
cleaning and reinstatement works	<ul style="list-style-type: none"> Remove all rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required. All disrupted utilities shall be restored and affected structures shall be rehabilitated /compensated. The area that previously housed the construction camp shall be checked for spills of substances such as oil, paint, etc. and shall be cleaned up. All hardened surfaces within the construction camp area shall be ripped, all imported materials shall be removed. PMC will conduct post-construction audit during defect liability period to make sure that construction sites and camps are properly cleaned and restored to pre-project conditions before acceptance of works and before hand-over them to QST and local khokimiyats. 	<p>PCU and PMC shall monitor implementation</p> <p>State Nature Committee accepts works</p>	
Operation phase			
Impact on air	<ul style="list-style-type: none"> Design of pump station and WDCs shall be done to ensure compliance with national and IFC's standards on noise and vibration level for public and worker places. Assess working conditions once in three years according to the relevant national legislation. During maintenance works periodically water down temporary roads on site. Immediately replace defective equipment and remove it from the work site. 	QST	Included on QST operational costs
Impact on water resources	<ul style="list-style-type: none"> Conduct awareness program on proper and timely wastewater disposal for population in the project area. Prohibit discharge chemicals residual into water stream without treatment. The chemicals utilization procedure is specified in local regulation – OzDSt 950-2011 "Drinking 	QST	<p>Included on QST operational costs</p> <p>Under the state program</p>

Impact	Mitigation measure	Responsibility	Cost
	<p>Water. Hygienic requirements and quality control” has to be implemented”.</p> <ul style="list-style-type: none"> ▪ Consider a development of a program on improving wastewater collecting and disposal. 		
Impact on soil	<ul style="list-style-type: none"> ▪ Timely and proper dispose sludge excavated from clarifiers to the drying ponds. ▪ Avoid collection sludge next to clarifiers. ▪ Make sure that the volume of water withdrawn from the wells corresponds to that established in the FS and confirmed in the permission for special water use. 	QST	Included on QST operational costs
Health safety	<ul style="list-style-type: none"> ▪ Equipment suppliers shall provide emergency measures as part of operation manual supported the equipment. ▪ Provide required facilities for storage of chlorine gas, SHC in well ventilated rooms, washing facilities, etc. ▪ Apply special marking for containers with chemical agents. ▪ Use vehicles with increased safety measures for transportation. ▪ Develop and apply a leak detection procedure. 	QST	Included on QST operational costs

Annex 2. ENVIRONMENTAL MONITORING PLAN

Mitigation measures	Parameter to be monitored	Location	Frequency	Responsibility	Standards	Cost
Construction Stage						
Air quality	NO _x , SO ₂ , CO Dust	Construction sites located within settlements	monthly, and if complaints received during construction works	Contractor will hire certified laboratory to conduct analysis	Hygienic norms. List of Maximum Allowable Concentrations (MACs) of pollutants in ambient air of communities in the Republic of Uzbekistan including Annex 1. <u>SanR&N RUz No.0179-04</u> ⁵	Included in Contractor's contracts. 6 sites during 12 months plus Takhiatash and Tuyamuyun WTPs. 20 USD per one analysis. Total - 1480 USD.
Noise level	Noise level	1. Construction sites with demolishing works 2. Living houses located next to construction sites	monthly, and if complaints received during construction works	Contractor	1. "Sanitarian Norms of allowed level of noise at the construction sites" SanR&N №0120-01 2. SanR&N No.026709 Sanitarian Rules and Norms on providing allowed noise level into the living building, public building and territory of living areas ¹⁵	Included in Contractor's contracts. 1 devise for noise measurements for 12 contractors, 300 USD per Unit. Total - 3600 USD

⁵ National standards is complies with international IFC standards

Mitigation measures	Parameter to be monitored	Location	Frequency	Responsibility	Standards	Cost
Water quality	1. Visual monitoring of surface water on existence oil film and turbidity. 2. Oil products, dry residual, pH, ammonia, SO ₄	Water bodies located next to construction sites (points 1 and 3)	1. Visual during each visit of construction site (at least weekly). 2. Monthly and per complaints from people	1. Contractor 2-3. Contractor will hire certified laboratory to conduct analysis	1. Absence of oil films on the water bodies surface. 2-3. "Sanitarian requirements for development and approval of maximum allowed discharges (MAD) of pollutants discharged into the water bodies with waste waters". <u>SanR&N No 0088-99</u>	Included in Contractor's contracts. 12 points during 12 months. 50 USD per one measurement. Total – 7200 USD.
Oil from transformers (10 samples)	Presence of PCBs in oil from transformers	WDCs	Once before dismantling	PMC	Apply <i>Beilstein Method</i> as described in Environmental and Social Management Framework for Uzbekenergo "Modernization and Upgrade of Transmission Substations"	500 USD for one analysis, 10 samples are total 5000 USD.
Operation Stage						
Air quality	Noise level	Pump stations	1. Ones per three years as part certification of work places 2. Per complaints from people on noise disturbance due to work of pump station	QST	1. "Sanitarian Norms of allowed level of noise at the construction sites" SanR&N №0120-01. 2. SanR&N No.026709 Sanitarian Rules and Norms on providing allowed noise level into the living building, public building and territory of living areas.	Cost is included into the annual budget of QST
Water quality	Monitoring in accordance with 13.060.20. Drinking water. O'z DST 950:2011 – Drinking water. Hygienic requirements and quality control.					Cost is included into the annual budget of QST
Soil	Monitoring timely disposal of sludge generating during the operation of WTPs					Cost is included into the annual budget of QST

Annex 3. SAMPLE ENVIRONMENTAL SITE INSPECTION CHECKLIST

ENVIRONMENTAL SITE INSPECTION CHECKLIST

Project No.:	50259-002
Project:	Western Uzbekistan Water Supply System Development Project
Mission No.	
Monitoring Date:	
Monitoring Time:	
Weather:	
Mission Participants:	1. 2. 3. n.

Site Details

Site Name:	
Contract No.	
Contract Period	
Contractor	
Brief description of works to be done under the Contract	
Location	<p>Within the boundaries of the settlement: · Yes · No</p> <p>..... ° ' N, ° ' E</p> <p>Address:</p> <p>.....</p> <p>Distances to the neighboring buildings and land users:</p> <p>North · South · West · East ·</p>
Land ownership: <small>[Copies of documents attached]</small>	<p>Land plot: · Ownership of the Company · Right to use / rent</p> <p>Cadastral documents: · Available · Unavailable</p>
Stage of the Project:	· Pre-construction · Construction · Operation · Post-closure
Permits / Licenses:	<p>Permit for construction: · Available · Unavailable · Not required</p> <p>Permit to operate: · Available · Unavailable · Not required</p> <p>Other:</p> <p>..... · Available · Unavailable</p> <p>..... · Available · Unavailable</p>

FINDINGS

I. Notable environmental and social achievements on site during the reporting period

No.	Activities	Description	Period

II. Summary of major environmental and social challenges and issues faced on site during the reporting period

Interview of contractor's personnel

No.	Challenges/ Issues / Incidents	Description	Period
1	Spills on site	· Yes · No	
2	Fire on site	· Yes · No	
3	Explosion on site	· Yes · No	
4	Unplanned emissions on site	· Yes · No	
5	Ecological damage / destruction dedicated to the site	· Yes · No	
6	Failure of systems of emissions or effluent treatment on site	· Yes · No	
7	Legal/administrative notice of violation dedicated to the site	· Yes · No	
8	Penalties dedicated to the site	· Yes · No	
9	Litigation dedicated to the site	· Yes · No	
10	H&S Incidents on site [Injuries, ill-health, etc.]	· Yes · No	
11	Property damage dedicated to the site	· Yes · No	
12	Labor unrest or disputes on site	· Yes · No	

No.	Challenges/ Issues / Incidents		Description	Period
13	Local community concerns dedicated to the site	· Yes · No		
14	Complaints dedicated to the site	· Yes · No		
15	Protest	· Yes · No		
16	Negative media attention to the site	· Yes · No		
17	Chance cultural finds on site	· Yes · No		
18	Other	· Yes · No		

Interviewed Contractor's Personnel and Other Persons:

No.	Contractor's Employee	Position	Date	Signature
1.				
2.				
3.				
4.				
5.				
n				

III. Observation

No.	Monitoring Items	Observations	Comments [specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions]
I. Air Pollution Monitoring			
1.	Are the construction sites watered to minimize dust generated?	· Yes · No	
2.	Are stockpiles of dusty materials (e.g. cement) covered or watered?	· Yes · No	
3.	Cement debagging process undertaken in sheltered areas	· Yes · No	
4.	Are all vehicles carrying dusty loads covered/watered over prior to leaving the site?	· Yes · No	
5.	Are demolition work areas watered (e.g. trimming activities by using breaker)?	· Yes · No	
6.	Are dusty roads paved and/or sprayed with water?	· Yes · No	
7.	Are dust controlled during percussive drilling or rock breaking?	· Yes · No	
8.	Are plant and equipment well maintained (any black smoke observed, please indicate the plant/equipment and location)?	· Yes · No	
9.	Is dark smoke controlled from plant?	· Yes · No	
10.	Are there enclosures around the main dust-generating activities (e.g. grout mixing)?	· Yes · No	
11.	Hoarding provided along boundaries and properly maintained (any damage /opening observed,	· Yes · No	

No.	Monitoring Items	Observations	Comments [specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions]
	please indicate the location).		
12.	Are speed control measures applied (e.g. speed limit sign)?	· Yes · No	
13.	Others (please specify)	· Yes · No	
II. Water Pollution Monitoring			
14.	Is water discharge permission valid?	· Yes · No	
15.	Is wastewater treatment system being used and properly maintained on site? (e.g. desilting tank)	· Yes · No	
16.	Are there any wastewater discharged to the drainage system? Is the wastewater being treated?	· Yes · No	
17.	Are all manholes on-site covered and sealed?	· Yes · No	
18.	Are sandbags/earth bund adopted to prevent washing away of sand/silt and wastewater to drains, public road and footpath?	· Yes · No	
19.	Are vehicles and plants cleaned before leaving the site?	· Yes · No	
20.	Are wheel washing facilities well maintained to prevent overflow, flooding sediment?	· Yes · No	
21.	Is the public road/area around the site entrance and site hoarding kept clean and free of muddy water?	· Yes · No	
22.	Others (please specify)	· Yes · No	
III. Noise Control			
23.	Is the construction works carried out during restricted hours?	· Yes · No	

No.	Monitoring Items	Observations	Comments [specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions]
24.	Are information on timeframe of noisy activities posted around the site for nearby communities?	· Yes · No	
25.	Do air compressors and handheld breakers have valid noise emission labels (NEL)?	· Yes · No	
26.	Any noise mitigation measures adopted (e.g. use noise barrier/screen)?	· Yes · No	
27.	Are silenced equipment utilized?	· Yes · No	
28.	Others (please specify)	· Yes · No	
IV. Waste Management			
29.	Is the site kept clean and tidy (e.g. litter free, good housekeeping)?	· Yes · No	
30.	Are separate chutes used for inert and non-inert wastes?	· Yes · No	
31.	Are separated labelled containers / areas provided for facilitating recycling and waste segregation?	· Yes · No	
32.	Are construction wastes /recyclable wastes and general refuse removed off site regularly?	· Yes · No	
33.	Are construction wastes collected and disposed of properly by licensed collectors?	· Yes · No	
34.	Are chemical wastes, if any, collected and disposed of properly by licensed collectors?	· Yes · No	
35.	Does chemical waste producer license covers all major chemical wastes produced on site?	· Yes · No	

No.	Monitoring Items	Observations	Comments [specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions]
36.	Are chemical wastes properly stored and labelled?	· Yes · No	
37.	Are oil drums and plants/equipment provided with drip trays?	· Yes · No	
38.	Are drip trays free of oil and water?	· Yes · No	
39.	Is there any oil spillage? Cleanup the contaminated soil immediately?	· Yes · No	
40.	Is litter, foam or other objectionable matters in nearby water drain/sewer cleaned?	· Yes · No	
41.	Are there any asbestos-containing materials on the site?	· Yes · No	
42.	Are asbestos wastes handled accordingly?	· Yes · No	
43.	Others (please specify)	· Yes · No	
V. Storage of Chemicals and Hazardous Materials			
44.	Are chemicals stored and labelled properly?	· Yes · No	
45.	Are proper measures to control oil spillage during maintenance or to control other chemicals spillage (e.g. provide drip trays)?	· Yes · No	
46.	Are spill kits / sand / saw dust used for absorbing chemical spillage readily accessible?	· Yes · No	
47.	Others (please specify)	· Yes · No	
VI. Protection of Flora, Fauna and Historical Heritage			
48.	Are disturbance to terrestrial flora minimized (e.g. plants to be preserved)?	· Yes · No	
49.	Are disturbance to terrestrial fauna	· Yes · No	

No.	Monitoring Items	Observations	Comments [specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions]
	minimized (if rare species identified)?		
50.	Any historical heritage exists on site? If yes, ensure appropriate measures taken to preserve it	· Yes · No	
51.	Others (please specify)	· Yes · No	
VII. Resource Conservation			
52.	Is water recycled wherever possible for dust suppression?	· Yes · No	
53.	Is water pipe leakage and wastage prevented?	· Yes · No	
54.	Are diesel-powered plants and equipment shut off while not in use to reduce excessive use?	· Yes · No	
55.	Are energy conservation practices adopted?	· Yes · No	
56.	Are metal or other alternatives used to minimize the use of timber?	· Yes · No	
57.	Are materials stored in good condition to prevent deterioration and wastage (e.g. covered, separated)?	· Yes · No	
58.	Others (please specify)	· Yes · No	
VIII. Emergency Preparedness and Response			
59.	Does the Contractor have Environmental Engineer in its team?	· Yes · No	
60.	Does the Contractor have Health and Safety Engineer in its team?	· Yes · No	
61.	Are fire extinguishers / fighting facilities properly maintained and not expired? Escape not blocked / obstructed?	· Yes · No	

No.	Monitoring Items	Observations	Comments [specify location, good practices, problem observed, possible cause of nonconformity and/or proposed corrective/preventative actions]
62.	Are accidents and incidents reported and reviewed, and corrective and preventive actions identified and recorded?	· Yes · No	
63.	Does the contractor have a nurse on his team?	· Yes · No	
64.	Is there daily health prescreening of employees (i.e. no contact temperature check, interview employees for fever, cough, shortness of breath, colds, sore throat, muscle pains, loss of smell and taste, etc.)?	· Yes · No	
65.	Are there any existing cases of COVID-19?	· Yes · No	
66.	Are there any suspected cases of COVID-19?	· Yes · No	
67.	Are there enough space for employees in barracks in order to maintain social distancing?	· Yes · No	
68.	Are PPE available for all employees?	· Yes · No	
69.	Are washing and disinfection stations available on the site?	· Yes · No	
70.	Others (please specify)	· Yes · No	

Name
.....

Position

Signature

Name
.....

Position

Signature