Environmental Monitoring Report

Semi-Annual Report

For the Period Covered from July to December 2023

January 2024

Tajikistan: Dushanbe Water Supply and Sanitation Project

Prepared by the Project Implementation group for the State Unitary Enterprise Dushanbevodokanal and for the Asian Development Bank

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Semiannual Environmental Monitoring Report

Project Number: 50347-002 G0612

Reporting period: July – December 2023

Republic of Tajikistan: Dushanbe Water Supply and Sanitation Project

(Financed by Asian Development Bank)

Prepared by the project implementation group with support of SMEC in association with LLC PANASIA LTD for the State Unitary Enterprise “Dushanbevodokanal” and the Asian Development Bank

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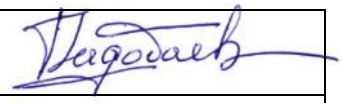
Prepared by	Dilshod DADOBAEV National Environmental Consultant	
Reviewed by	Grzegorz ROKICKI Team Lieder	

January 2024

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Abbreviations

ADB	-	Asian Development Bank
BoQ	-	Bill of Quantity
CW		Civil Works
DVK	-	State unitary enterprise (SUE) ” Dushanbevodokanal”
DSC	-	Design and Supervision Consultant
DMA		district metering area
EA	-	Executive Agency
EMP	-	Environmental Management Plan
EMR	-	Environmental Monitoring Report
EBDC	-	Executive Body of Dushanbe city
GRP	-	Glass Reinforced Plastic
GRM		Grievance Redress mechanism
HG	-	Head of Group
IA	-	Implementing Agency
IEE	-	Initial Environmental Assessment
NRW		Non- revenue water
PIG	-	Project Implementation Group
PMDSC	-	Project Management, Design and Supervision Consultant
SAEMR		Semi-annual Environmental Monitoring Report
SCADA	-	Supervisory control and data acquisition
SEADC	-	State Executive Authority of Dushanbe city
SSEMP	-	Site-Specific Environmental Management Plan
WSS	-	Water Supply and Sanitation

1 INTRODUCTION

1.1 Preamble

1 This report represents the Semi-Annual Environmental Monitoring Review (SAEMR) for Dushanbe Water Supply and Sanitation project. This report is the 8th EMR for the project.

1.2 Headline Information

2 This is the eighth SAEMR prepared for the Dushanbe Water Supply and Sanitation Project. It covers reporting period from July to December 2023 and describes the status of project implementation, activities carried out by the Consultant's team, Project Implementation Group and Contractor with regard to environmental safeguard issues.

3 Contractor for CW-03: Rehabilitation of the south sewage collector had been selected Ludwig Pfeiffer Hoch- und Tiefbau GmbH& Co.KG. The civil works on package CW-03 commenced on 23 February 2021. However, due to certain financial issues within CW-03 Contractor (Ludwig Pfeiffer), this Contractor has suspended works at all sites in December 2021. In order to complete the urgent and unfinished works abandoned by the Contractor (Ludwig Pfeiffer) on package CW-03, upon analyzing the quotations, it was decided to conclude contract CW03-2 with LLC Kangurt-2 for the urgent unfinished works and provide conservation of construction. On 14 November 2022, contract CW03/4, i.e. Lot 4: Rehabilitation of the South Sewage Collector Sections from K56 to K102 with unfinished works – from K56 to K81, from K98 to Connection point (end of the line)", was made with Joint Venture of JSC Tojikgidroelecrtomontaj (TGEM) and Azkompozit LLC for finishing them. The civil works on package CW03/4 commenced in March 2023.

4 The contract for CW-01/1 "(CW-01) Rehabilitation of Water Supply System in Shomansur district Phase 1. Lot 1: Reconstruction of the water intake structure KAF-1" was awarded to "Tojikgidroelectromontaj" (TGEM). The civil works on package CW-01/1 commenced in April 2022.

5 The contract for CW-01/2 "(CW-01) Rehabilitation of Water Supply System in Shohmansur district Phase 1. Lot 2: Construction and rehabilitation of portions of main water pipeline." was awarded to Joint Venture between JSC "Tojikgidroelectromontaj" (Tajikistan) and Azkompozit LLC (Azerbaijan). The civil works on package CW-01/2 commenced in March 2022.

6 The contract for CW-02 "Reconstruction of PS Khovaron, construction of Zebunisso reservoir, and replacement of water distribution network in DMAs A14 and AB15" was awarded to OJSC "TajikSGEM". The civil works on package CW-02 commenced in February 2022 and completed by 30 November 2023.

7 The contract for CW-04/1 "(CW-04) Replacement of water distribution network and installation of measuring devices in DMAs. Lot 1: Replacement of water distribution networks in DMAs A1, A2, A3, and A4 was awarded to "Stroy-Center" LLC. The civil works on package CW-04/1 commenced in October 2022.

8 The contract for CW-04/2 "(CW-04) Replacement of water distribution network and installation of measuring devices in DMAs Lot 2: Installation of measuring devices for DMAs A5, 6, 7, 8, 10, 10-1, 12, 13, C-9, 11, 17 & B-16; and SCADA system for DMA and KAF-1 was awarded to Joint Venture between "Blue Star Group" LLC (Uzbekistan) and LLC "Joint Venture Ittihod Inshoot and Zumrut" (Tajikistan). The civil works on package CW-04/2 commenced in October 2022.

2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES

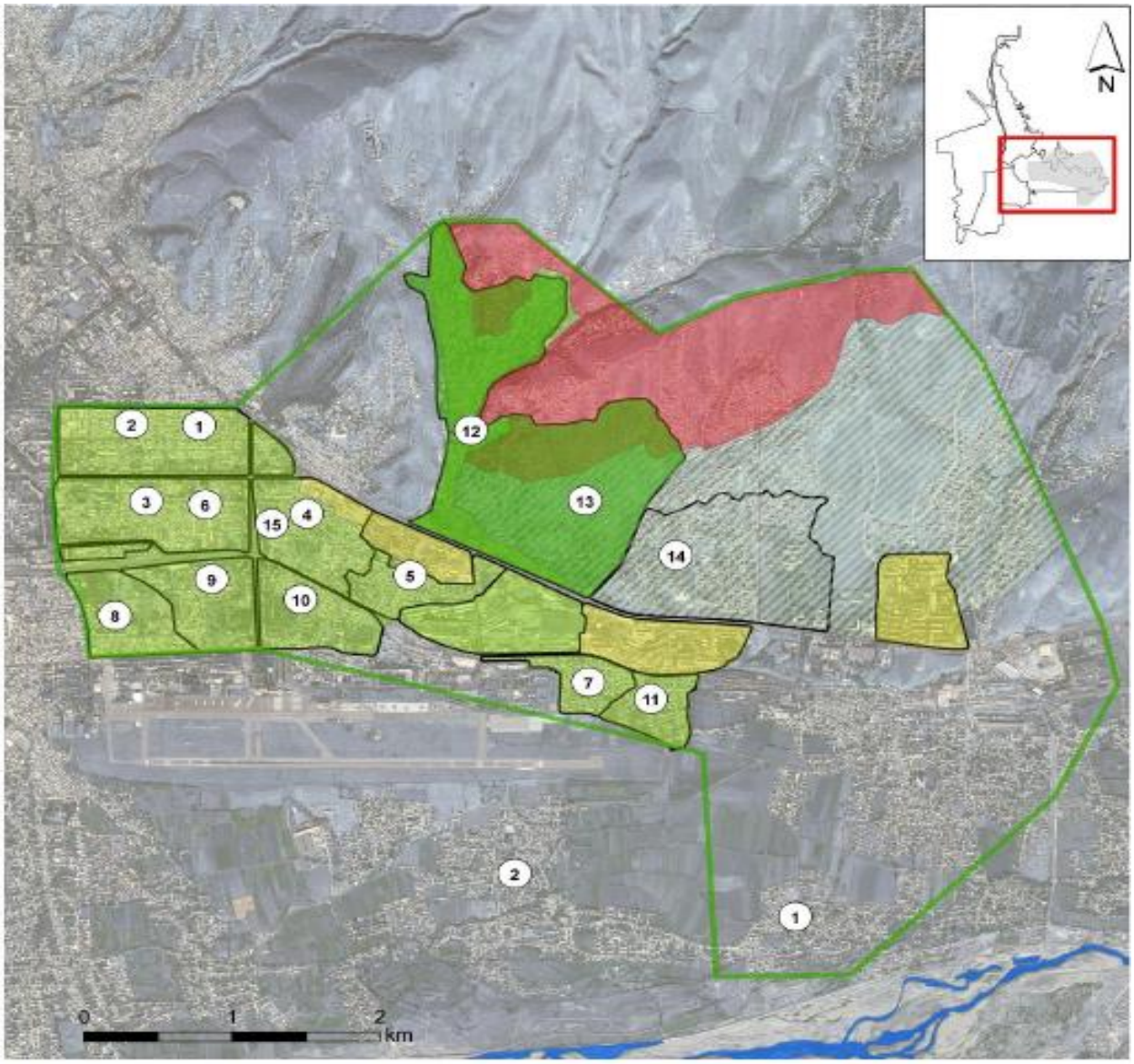
2.1 Project Description

9 The water supply and sanitation systems in Dushanbe have deteriorated over the years due to a combination of age, lack of continued capital investments and lack of proper operation and maintenance. The water supply system is characterized by intermittent operation, high non-revenue water (NRW), low water pressures and low energy efficiency. The expanding urban areas, particularly in the eastern part of the city, are not connected to the water and sewerage system. The lack of public understanding to conserve water as a natural resource combined with low tariffs has led to uncontrolled consumption and wastage of water.

Figure 1. Location of the project

10 The sanitation infrastructure provides only limited coverage within the city and the peri-urban areas. The existing network is in a generally poor condition resulting in potential groundwater pollution and overflows to water bodies and to land. In particular, the south collector sewer is dysfunctional being partly blocked due to poor design and construction leading to critical adverse sanitary and environmental conditions in large areas of the south-eastern part of Dushanbe.

11 The Asian Development Bank (ADB) allocated Grant No. 0612-TAJ in the amount of $41.22 million in accordance with the Financing Agreement for the Dushanbe Water Supply and Sanitation Project (DWSSP). This project is the first ADB-funded project for the SUE "Dushanbevodokanal" (DVK). The scope of work of the allocated grant includes the rehabilitation of water supply, sewerage facilities and the strengthening of the institutional capacity of the SUE "Dushanbevodokanal" to improve its services in the Shohmansur district and the districts located in the southeastern part of the city. Figures below show the detailed location of project sites and area of interventions.



Areas of intervention

- Priority area boundary
- Areas with measures for WS and sewerage networks
- Category A: Old network high NRW areas
- Category B: Areas under scheduling partially rehabilitated
- Category C: Rehabilitation by WB
- Category D: Extension areas, low population density

Shohmansur district of Dushanbe city (mahallas)			
1	Chehov	10	Bedil
2	N Muhammad	11	Chanoro-2
3	Shohmansur-1	12	Karotegin
4	Shohmansur-2	13	Zebunniso
5	Shohmansur-3	14	Hovaron
6	Vosifi	15	Shodi
7	Chanoro-1	**Rudaki district**	
8	Afzali	1	Jamoat Guliston
9	Dilshodi Barno	2	Jamoat Kushteppa (Rossiya)

Figure 2. Project area

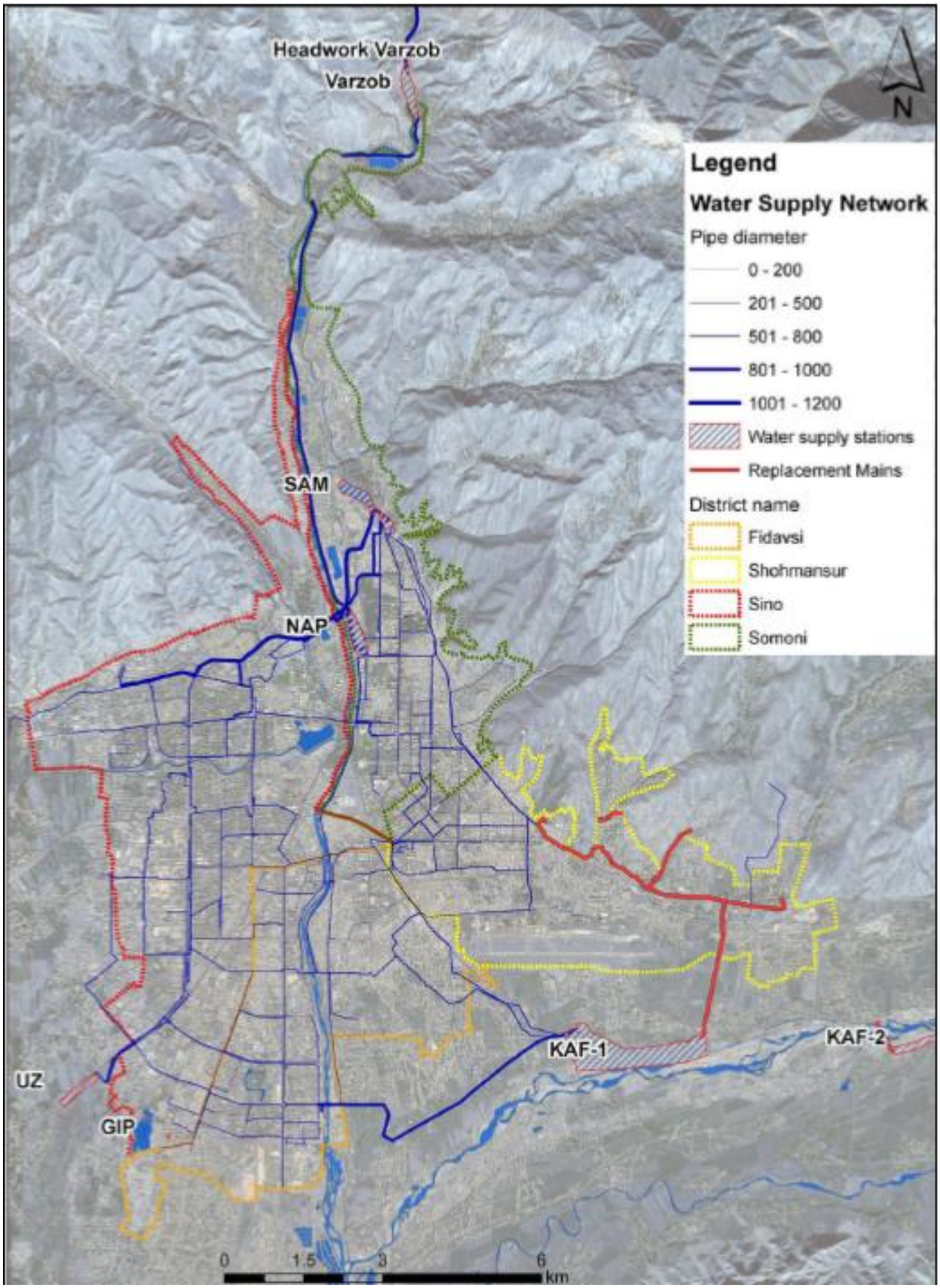


Figure 3. Water supply network in Dushanbe and project district Shohmansur

12 There are following outputs of the project:

Output 1: Climate-resilient water supply and sanitation infrastructure rehabilitated and expanded. This output will be delivered through

(i) rehabilitating 17 wells, 22 pumps and second stage pump stations, water metering, chlorination, and other facilities at Kafernigan I, including the installation of a SCADA system;

(ii) reducing NRW through the rehabilitation of 12 km of transmission main, the establishment of 18 district metering areas (DMAs): with the installation of 42 bulk meters and 5,220 smart meters, and the improvement of 57.5 km of distributional network in six DMAs;

(iii) increasing the reservoir storage capacity to 4,500 m^3 supplying Shohmansur District, supply approximately an additional 2,000 households with drinking water; and

(iv) rehabilitating the South sewage collector of 9.412 km.

Output 2: Sustainable business model and institutional capacity developed. This output will be delivered through prioritized institutional strengthening actions:

(i) a business model for DVK developed that covers technical, operational, and institutional organizational restructuring; and human resources management;

(ii) an accountability and incentive mechanism established, with a performance benchmarking matrix;

(iii) a smart management system enhanced for operational efficiency; asset management; and seamless integration of the customer database, billing, collection, accounting, and reporting;

(iv) an NRW management system operationalized, with the installation of SCADA for new network management practices for the 18 DMAs equipped with flow meters, smart meters for household service connections, active leak detection, and calibration of meters;

(v) institutional, technical, and financial capacity improved; and

(vi) customer care service standards developed and behavior change communication on water conservation and smart metering conducted.

2.2 Project Contracts and Management

13 The project is funded by a grant from the ADB. The Executing Agency is State Executive Authority of Dushanbe city (EA). The Implementing Agency is the State Unitary Enterprise “Dushanbevodokanal” (DVK) with the Project Implementation group (PIG) for DWSSP.

14 The project is consisting of 4 Civil Works (CW) packages:

- Package 1 (CW-01) Rehabilitation of Water Supply System in Shomansur district Phase 1.
  - Lot 1: LOT CW-01/1: Reconstruction of the water intake structure KAF-1.
  - Lot 2: LOT CW-01/2: Construction and rehabilitation of portions of main water pipeline.
- Package 2 (CW-02) for “Reconstruction of PS Khovaron, construction of Zebunisso reservoir, and replacement of water distribution network in DMAs A14 and AB15“
- Package 3 (CW-03) for “Rehabilitation of the south sewage collector”: Ludwig Pfeiffer Hoch- und Tiefbau GmbH& Co.KG completed pipe-laying from K50 to K55 and K94 to K98 before the contract was terminated. Following the termination, a decision was made to split the package into three separate parts:
  - CW-03/2: Finalization unfinished works of Lot 1 and Rehabilitation of the South Sewage Collector Sections from K39 to K50, K81 to·K94, 24meter from K 94.
  - CW-03/3: Rehabilitation of the South Sewage Collector Sections from K1 to K39
  - CW-03/4: Rehabilitation of the South Sewage Collector Sections from K56 to K81, from K98 to Connection point (end of the line).
- Package 4 (CW-04) for “Replacement of water distribution network and installation of measuring devices in DMAs:
  - Lot 1: Replacement of water distribution networks in DMAs A1, A2, A3, and A4
  - Lot 2: Installation of measuring devices for DMAs A5, 6, 7, 8, 10, 10-1, 12, 13, C-9, 11, 17 & B-16; and SCADA system for DMA and KAF-1.”

15 Package 1, Lot 1 (CW01/1) Contract was awarded on 5 November 2021 to a JSC “Tojikgidroelectromontaj” (TGEM), Contractor for CW-01 “(CW-01) Rehabilitation of Water Supply System in Shohmansur district Phase 1. Lot 1: Reconstruction of the water intake structure KAF-1”. The construction works started on April 2022 and scheduled to be completed in May 2023.

16 Package 1, Lot 2 (CW01/1) Contract was awarded on 5 November 2021 to a Joint Venture between JSC “Tojikgidroelectromontaj” and Azkompozit LLC, Contractor for CW-01 “(CW-01) Rehabilitation of Water Supply System in Shomansur district Phase 1. Lot 2: The construction works started on March 2022 and scheduled to be completed in August 2023.

17 Package 2 (CW02) Contract was awarded (on 18 November 2020) to OJSC “TajikSGEM”, Contractor for CW-02 “Reconstruction of PS Khovaron, construction of Zebunisso reservoir, and replacement of water distribution network in DMAs A14 and AB15”. The construction works started on February 2022 and scheduled to be completed in August 2023.

18 Package 3 (CW-03) Contract was awarded on 8 June 2020, to a Ludwig Pfeiffer Hoch- und Tiefbau GmbH& Co.KG, Contractor for CW-03 “Rehabilitation of the South Sewage collector”. The Commencement Date was set on February 2021. However, due to certain financial issues within CW-03 Contractor (Ludwig Pfeiffer), Contract with this Contractor has been terminated. The works to complete so-called “urgent and unfinished works” and conservation of site were awarded to sub-contractor of Ludwig Pfeiffer Hoch- und Tiefbau GmbH& Co.KG - “Kangurt-2” LLC. Finally, Rehabilitation of the South Sewage Collector Sections from K56 to K102 (CW-03/4) was awarded to Joint Venture of JSC Tojikgidroelecrtomontaj (TGEM) and Azkompozit LLC on 14 November 2022. The construction works started on March 2023 and scheduled to be completed in May 2024.

19 Package 4, Lot 1 (CW04/1) Contract was awarded (on 09 June 2022) to “Story-Centr” LLC, Contractor for CW-04/1 “Replacement of water distribution network and installation of measuring devices in DMAs. Lot 1: Replacement of water distribution networks in DMAs A1, A2, A3, and A4”. The construction works started on October 2022 and scheduled to be completed in March 2024.

20 Package 4, Lot 2 (CW04/2) Contract was awarded (on 09 June 2022) to Joint Venture between “Blue Star Group” LLC and LLC “Joint Venture Ittihod Inshoot and Zumrut”, Contractor for CW-04/2 “Replacement of water distribution network and installation of measuring devices in DMAs Lot 2: Installation of measuring devices for DMAs A5, 6, 7, 8, 10, 10-1, 12, 13, C-9, 11, 17 and B-16; and SCADA system for DMA and KAF-1”. The construction works started in October 2022 and scheduled to be completed in April 2024.

21 Summary of civil works contracts and works’ progress is summarized in Table 1. All awarded contracts included EMPs cleared by ADB and conditions of applicable national IEE clearance (listed below). The initial environmental examination report covering entire scope of the project was submitted by the PIG (Dushanbevodokanal) to the State Ecological Expertise (SEE) (Committee for environmental protection under the Government of Tajikistan) on 16.04.2019. The “environmental appraisal/approval” was obtained from SEE on 30.04.2019 (Registration No. 443/15) and shared with the Dushanbe environmental protection department. With the aim of protection and Improvement of environment proposed to comply with following conditions:

- During the mentioned civil works and use of foreseen structures, norms and requirements of legislation of the Republic of Tajikistan in protection and improvement of environment and sanitation rules, along with ecological standards should be considered ,
- During the civil works, the construction and consumption wastes, according to defined orders should be removed to official waste polygons;
- Requirements to the rules and norms of construction SniP 2.06.03-85 and SanPin 2.1.4.004-07 within the implementation of the project should be considered:
- During construction works, the implementation measures, which are foreseen within the project should be conducted in consultations with relevant environmental departments and agencies;
- The supervision should be conducted on civil works and on implementation of environmental management plan:
- Extraction of construction materials should be implemented according to legislation requirements of country and in consultation with authorized bodies:
- Permission documents should be taken with defined orders;
- The produced construction and solid household wastes should be collected in special boxes, and in accordance with defined orders and legislation requirements of the Republic of Tajikistan in the field of wastes treatment, should be placed to official waste landfills:
- Environmental fees should be timely transferred to relevant departments and sectors of Environment Protection of Dushanbe city.

Table 1: Summary of Civil Works Contracts and works' progress

Package	Scope	Contractor	Signed	Approval Date			Environmental personnel		Civil Work			(%) Progress as of	
				SSEMP	HSMP	ERP	Environmental officer	Health and Safety officer	Start	End	DLP	01 Jul 2023	01 Jan 2024
Package 1 (CW-01)	CW-01/1: Rehabilitation of Water Supply System in Shomansur district Phase 1. Lot 1: LOT CW-01/1: Reconstruction of the water intake structure KAF-1.	JSC Tojikgidroelectromontaj (TGEM)	5 Nov 2021	Apr 2022	Apr 2022	Apr 2022	Bahrom Yormatov	Sharif Rafiev	Apr 2022	(May 2024)	Not yet started (365 days)	31%	56%
	CW-01/2: Rehabilitation of Water Supply System in Shomansur district Phase 1. Lot 2: LOT CW-01/2: Construction and rehabilitation of portions of main water pipeline.	Joint venture between JSC TGEM and Azkompozit LLC	5 Nov 2021	Mar 2022	Mar 2022	Mar 2022	Sharipov Ashrafkhon[1]	Sharipov Ashrafkhon	Mar 2022	(Aug 2024)	Not yet started (365 days)	44%	68%
Package 2 (CW-02)	CW-02: Reconstruction of PS Khovaron, construction of Zebunisso reservoir, and replacement of water distribution network in DMAs A14 and AB15.	JSC TajikSGEM	18 Nov 2021	Feb 2022	Feb 2022	Feb 2022	Hasan Sherov	Murodov N	Feb 2022	(Dec 2023)	Not yet started (365 days)	77%	100%
Package 3 (CW-03)	Rehabilitation of the south sewage collector. Lot 1: Contractor completed pipe-laying from K50 to K55 and K94 to K98 before the contract was terminated.	Ludwig Pfeiffer Hoch- und Tiefbau GmbH& Co.KG[2]	8 Jun 2020	Feb 2021	Feb 2021	Feb 2021	Ayub Yorov[3]	Ayub Yorov	Feb 2021	Contract terminated	N/A	N/A	N/A
	CW-03/2 Rehabilitation of the south sewage collector. Lot 2: Finalization unfinished works of Lot 1 and Rehabilitation of the South Sewage Collector Sections from K39 to K50, K81 to·K94, 24meter around K 94.	Kangurt 2 LLC	24 Jan 2022	May 2022	May 2022	May 2022	Ayub Yorov	Ayub Yorov	Jan 2022	Mar (2023)	Not yet started (365 days)	100%	100%

[1] He has expertise both on environment and health and safety.
[2] Contract with Ludwig Pfeiffer Hoch-und Tiefbau GmbH & Co.KG is under termination; works continued by Kangurt-2 LLC.
[3] Same as footnote 1.

Package	Scope	Contractor	Signed	Approval Date			Environmental personnel		Civil Work			(%) Progress as of	
				SSEMP	HSMP	ERP	Environmental officer	Health and Safety officer	Start	End	DLP	01 Jul 2023	01 Jan 2024
	CW-03/2 Amendment : Additional works 1000 meters between K26 to K39, plus from K56 to connection point of K15]	Kangurt 2 LLC	24 Jan 2022	May 2022	May 2022	May 2022	Ayub Yorov	Ayub Yorov	[Apr 2023]	[Feb 2024]	Not yet started (365 days)	40%	97%
	CW-03/3 Rehabilitation of the south sewage collector. Lot 3: Rehabilitation of the South Sewage Collector Sections from K1 to K26	Not yet selected	(Q1 2024)						(Q1 2024)	(Q2 2025)			
	CW-03/4 Rehabilitation of the south sewage collector. Lot 4: Rehabilitation of the South Sewage Collector Sections from K56 to K81, from K98 to Connection point (end of the line)	Joint venture between JSC TGEM and Azkompozit LLC	14 Nov 2022	Mar 2023	Mar 2023	Mar 2023	Sudurov F.	Yormadov B.	Apr 2023	(June 2024)	Not yet started (365 days)	14%	58%
Package 4 (CW-04)	CW-04/1 Replacement of water distribution network & installation of measuring devices in DMAs. Lot 1: Replacement of water distribution networks in DMAs A1, A2, A3, and A4.	LLC “Stroy-Center”	9 Jun 2022	Aug 2022	Sep 2022	Sep 2022	Ulugov F.	Abdulloev D	Oct 2022	(Mar 2024)	Not yet started (365 days)	30%	41%
	CW-04/2 Replacement of water distribution network and installation of measuring devices in DMAs. Lot 2: Installation of measuring devices for DMAs A5, 6, 7, 8, 10, 10-1, 12, 13, C-9, 11, 17 and B-16; and SCADA system for DMA and KAF-1.	Joint venture between between “Blue Star Group” LLC and LLC “Joint Venture Ittihod Inshoot and Zumrut”	9 Jun 2022	Sep 2022	Aug 2022	Aug 2022	Odinaev R	Dusmatov E	Oct 2022	(Jan 2025)	Not yet started (365 days)	42%	88%

Note: The Month/Years in brackets are planned schedule.

DLP=Defects Liability Period, ERP = Emergency Response Plan, HSMP = Health and Safety Management Plan, SSEMP = site-specific environmental management plan

2.2.1 Project environmental management

22 The PIG under DVK set up by Resolution of the Government of Tajikistan for management of the contracts implementation hired Environmental Specialist Mr. Kamoliddin Kholov in October 2019.

23 PMDSC hired National environmental consultant Mr. Dilshod Dadobaev in February 2021 and International environmental consultant Mr. Abu Nahid Munir Uddin in September 2021.

24 Summary of mobilization of environmental personnel for this project is in the Table 2 below.

Table 2: Summary of Environmental Personnel

Environmental Personnel	Allocated PMs	Date of assignment	Name
Environmental Safeguards Specialist under the PIG	Full-time	05 Oct 2019	Kholov Kamoliddin
International Environmental Specialist (IES) under the PMDSC	3 PMs (intermittent)	30 Sep 2021	Abu Nahid Munir Uddin
National Environmental Specialist (NES) under the PMDSC	18 PMs (intermittent)	23 Feb 2021	Dilshod Dadobaev

PIG = Project Implementation Group, PM = person-month, PMDSC = Project Management Support, Design, and Supervision Consultant

Note: According to the IEE report (Table 28), the Project requires (i) a full-time Safeguards Specialist under the Project Implementation Group (PIG), and (ii) 3 person-months (PMs) of International Environmental Specialist (IES) under the Project Management Support, Design, and Supervision Consultant (PMDSC).

25 Project Organization Structure and environmental team are shown in Figure 4.

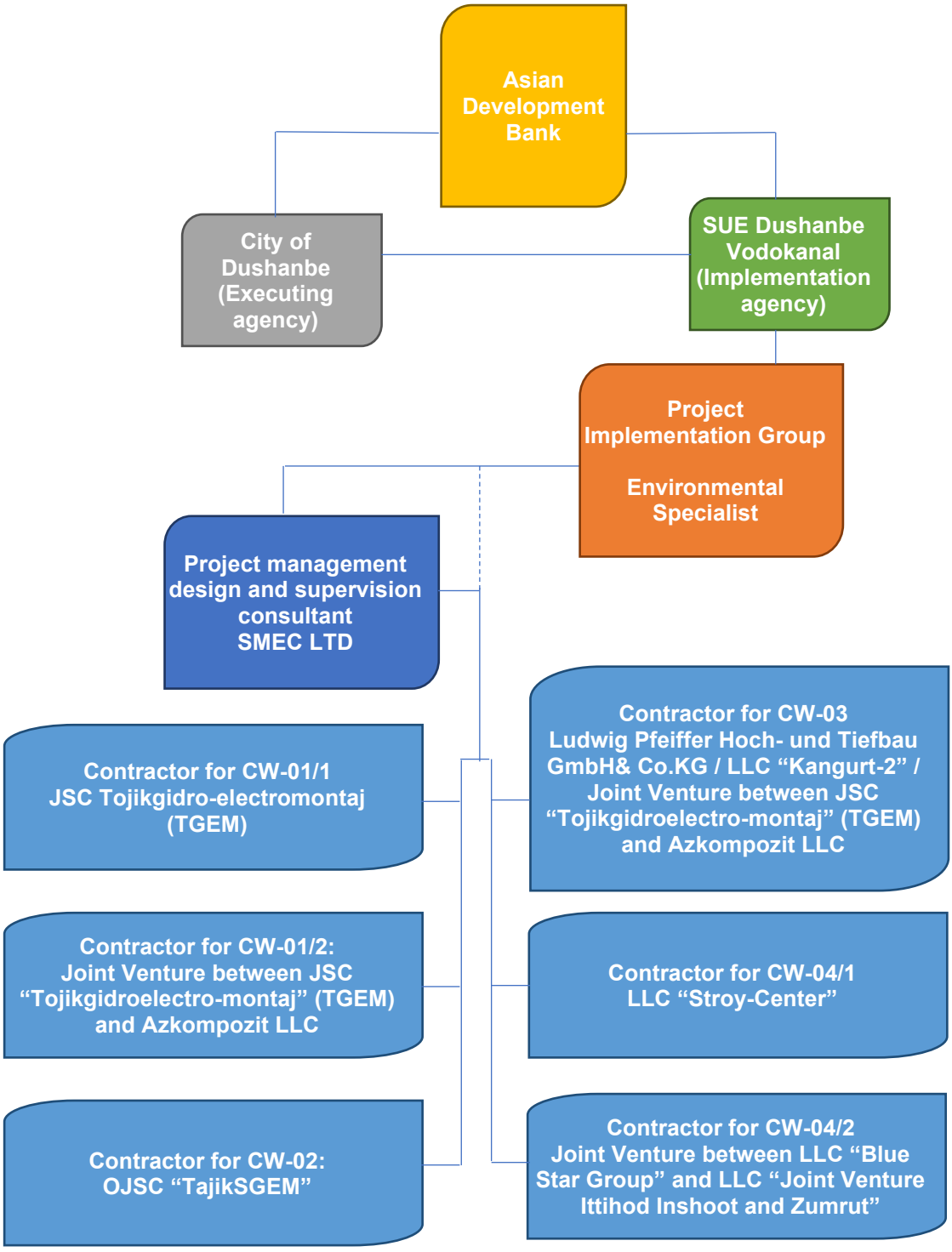


Figure 4. Project Environmental Organization Chart

2.3 Project Activities During Current Reporting Period

2.3.1 Construction works on CW-03-2 Rehabilitation of the south sewage collector section between K26 to K39, plus from K56 to connection point of K15

26 In agreement with ADB, Amendment 3 was concluded with the contractor for additional work involving the laying of pipes with a length of 1000 meters between wells 39 and 26. The contractor Kangurt-2 LLC performed the following works in the reporting period:

- laid pipes D1200mm from K38 to K26 – 1098m,

- installed the wells,
- levelled the area.

Photo 1: Compacting earth at K36, July 2023

Photo 2: Installation of trench wall bracing September 2023

Photo 3: Installation of flume and waterproofing between manholes K1-30-29, November 2023

Photo 4: Restoration of road, December 2022

2.3.2 Construction works on CW-03-4 Rehabilitation of the south sewage collector Sections from K56 to K81, from K98 to Connection point (end of the line)

27 Contractor JSC Tajikgidroelectromontaj started construction works in April 2022. The contractor performed following works in the reporting period:

- Installation of pipes between K98 to connection point (L≈631 m)
- Installation of pipes between K56 to K66 (L≈92 m)
- Installation of pipes between K73 to K94 (L≈363 m)
- Restoration of the road and territory of section between K1-98 to connection point,

Photo 5: Soil compaction, July 2023

Photo 6: Excavation of trenches, September 2023

Photo 7: Installation of trench wall bracing, November 2023

Photo 8: Restoration of road, November 2022

2.3.3 Construction works on CW-02 Reconstruction of PS Khovaron, construction of Zebunisso reservoir, and replacement of water distribution network in DMAs A14 and AB15.

28 Contractor JSC TajikSGEM started construction works in February 2022. The contractor successfully finished all construction work on the subproject by December 2023. The final audit report has been prepared and submitted to ADB for thorough review. The contractor performed the following works in the reporting period:

1. For the construction of 2x2000m3 reservoirs the following works were performed:
   - Landscaping territory of reservoirs
   - Installation of culverts
   - Planting of trees - 66 pcs;

2. Works on PE pipe laying:
   - Installed and tested pipes DN225 – 279m.
   - Installed and tested pipes DN280 – 65m.
   - Installed and tested pipes DN160 – 202 m.
   - Installed and tested pipes DN140 – 109 m.

- Installed and tested pipes DN110 – 211 m
- Installed and tested pipes DN75 – 33 m.
- Installed and tested pipes DN63 – 1674 m.
- Installed and tested pipes DN50 – 4 848,5m.
- Installed and tested pipes DN40 – 5 615 m.
- Installed and tested pipes DN32 – 948 m.
- Installed and tested pipes DN20 – 109092 m
- Set of wells installed;
- Gate valves and tees of different diameters were installed.
- Installation of water cabinet boxes – 235 sets.

3. Construction and installation works on Pump Station Khovaron:
   - Installation of internal electrical networks
   - Landscaping.

Photo 9: Excavation of trenches for pipe laying, August 2023

Photo 10: Tree planting in the territory of reservoir, October 2023

Photo 11: Manual backfilling of trenches, November 2023

Photo 12: Reinstatement of work sites, November 2023

2.3.4 Rehabilitation of Water Supply System in Shomansur district Phase 1. CW-01/1: Reconstruction of the water intake structure KAF-1.

29 Contractor JSC Tajikgidroelectromontaj started construction works in April 2022. The contractor

performed following works in the reporting period:

- Electrical and construction works in the Laboratory and operators' room
- Construction works in Cesspool 55m^3
- Construction works in Wall Fencing
- Construction works in Pumping Stations of 1st lift
- Construction works in TS No.3
- Construction and Electrical works in TS No.1
- Construction and Electrical works in TS No.2
- Construction and Electrical works in TS No.3
- Construction works in progress on Pumping Stations of 2nd lift
- Installation of reinforced concrete supports for a HVL of 6kV
- Pulling wires A-95
- Construction of East Checkpoint.

Photo 13: Concreting of the cable channels, October 2023

Photo 14: Installation of main beams for a pumping station of 2nd lift, December 2023

Photo 15: Installation of the formworks of the hatch, July 2023

Photo 16: Installation of the transformer, November 2023

2.3.5 Rehabilitation of Water Supply System in Shomansur district Phase 1. CW-01/2: Construction and rehabilitation of portions of main water pipeline.

30 Contractor Joint venture JSC Tajikgidroelectromontaj and LLC Azkompozit started construction

works in March 2022. During the reporting period, the Contractor carried out earthworks and installation of GRP pipes at following sections.

- Installation of 102m long 2d-700mm pipes on section No.1
- Installation of Tunnel-Driveway under the Ayni road on section No.3
- Excavation work and installation of 94m long d-400mm pipes on section No.6
- Restoration of the asphalt concrete pavement on section No.6
- Excavation work and installation of 589m long d-600-400 mm pipes on section No.8
- Restoration of the asphalt concrete pavement in a length of 798m on section No.8
- Restoration of the paving slabs in a length of 1004m at the section No.7 on Ayni Street.
- Restoration of the asphalt concrete pavement on section No.3
- Excavation work and installation of 240m long d-600-400mm pipes on section No.8
- restoration of the paving slabs in a length of 314m at the section No.7 on Ayni Street.
- Excavation work and installation of d-600-400mm pipes in a length of 1281m in section No 5.
- Excavation work and installation of d-219mm PE pipes in a length of 386.5m in section No 5.
- Excavation work and installation of d-600mm pipes in a length of 320m in section No 7.

Photo 17: Soil compaction, August 2023

Photo 18: Laying Asphalt on Ayni road – Section No.3, August 2023

Photo 19: Manual backfilling of trenches for pipes, November 2023

Photo 20: Excavation works, November 2023

2.3.6 Construction works on CW-04/1: Replacement of distribution network in DMAs

A-1, A-2, A-3, A-4.

31 Contractor LLC Stroy Center started construction works in October 2022. During the reporting period, the Contractor carried out earthworks and installation of GRP pipes at following sections.

- Installed PE pipes d225 in DMA A2 - 1216 meters
- Installed GRP pipes d450mm in in DMA A3 – 353 meters.
- Installed PE pipe d225 in DMA A3 -207 meters
- Installed PE pipes d280 in DMA A4 – 560 meters.
- Installed 37 set of round wells WK 3 in DMA A4
- Installed 3 set of rectangular wells in DMA A2
- Installed 6 set of rectangular wells in DMA A1
- Installed 11 sets of round wells in DMA A-2.
- Installed GRP pipes d400mm in in DMA A1 – 173 meters.
- Restored 759 meters of the asphalt/concrete pavement in DMA A-2.
- Restored 974,5 meters of the sidewalk in DMA A-4.

Photo 21: Reinstatement of work sites, July 2023

Photo 22: Manual excavation works, August 2023

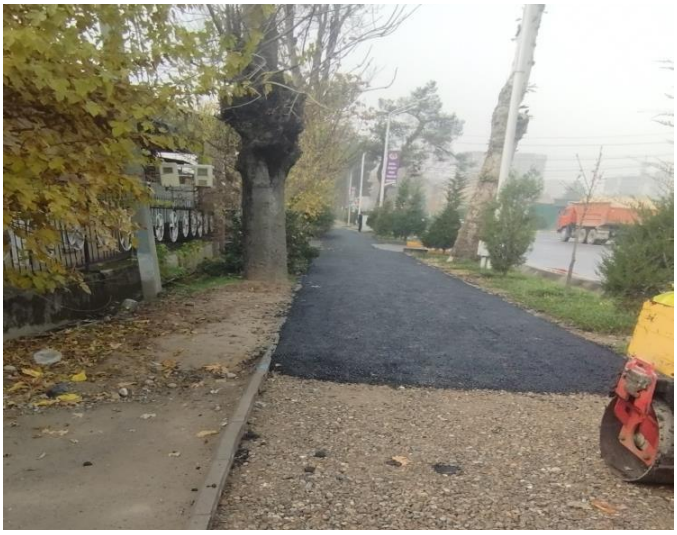


Photo 23: Works on restoration of pavement on N.Muhammad Street (A-1), December 2023

Photo 24: Works on restoration of asphalt cover on 2 passage of Ayni Street, December 2023

2.3.7 Construction works on CW-04/2: Installation of measuring devices for DMAs A5, 6, 7, 8, 10, 10-1, 12, 13, C-9, 11, 17 and B-16; and SCADA system for DMA and KAF-1.

32 Contractor Joint venture LLC ITTIHOD INSHOOT and LLC ZUMRUT started construction works in October 2022. During the reporting period, the Contractor carried out earthworks and installation of GRP pipes at following sections.

1. Works on laying the water pipes:
    - Dismantling old pipes and installation of GRP pipes DN600: 76m.
    - Dismantling and installation of reinforced concrete sewerage wells: 2 sets.
    - Restoration of an existing canal
2. Zone A-6.7: laying of polyethylene pipes D=250mm and laying of polyethylene pipes D=160mm in total 398 meters
3. Restoration of sidewalks and landscaping of the project area in zones A5, A6-7, A10-1, A8.

Photo 25: Pipe Installation, August 2023

Photo 26: Restoration of green spaces, August 2023

Photo 27: Excavation works, November 2023

Photo 28: Restoration of the asphalt-concrete pavement, December 2023

2.4 Changes in project design

33 No changes in project design were done in the reporting period.

2.5 Description of Any Changes to Agreed Construction methods

34 No changes to agreed construction methods were done in the reporting period.

3 ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General Description of Environmental Safeguard Activities

35 The Project management design and supervision Consultant (PMDSC) is responsible to carry out day-to-day management of project execution. Environmental specialist of PMDSC jointly with Environmental specialist of PIG conducted regular supervision of the construction works regarding implementation of environmental safeguards requirements and, in particular, for oversight and reporting on the Contractor's performance in the implementation of the EMP/SSEMP. International Environmental specialist visited all construction sites, and he gave advice on improving monitoring and interaction with contractors and people affected by the project.

36 Activities carried out by Environmental consultants during the monitoring period are provided in Table 3 below.

Table 3: Environmental Safeguards Activities Carried out During Reporting Period (January – June 2023)

Environmental Safeguard Activities
PIG's environmental specialist - Participation in preparation of Environmental Monitoring Report - Ensured interaction with government agencies and organizations - Conducted site visits, to audit the implementation of SSEMP and EMP - Audit of the implementation of corrective actions by the set deadlines.
PMDSC's international environmental expert (Abu Nahid Munir Uddin) - Review of Semiannual Environmental Monitoring Report
PMDSC's national environmental expert (Dilshod Dadobaev) - Conducting site visit on the project site - Review of all documents and reports regarding the integration of environmental protection measures including contractor's environmental action plan - Ensuring the construction methods proposed by the contractor like SSEMP for carrying out the works are satisfactory and environmentally friendly - Inspection of contractor's construction equipment - Ensuring the safety of the works, property, personnel, and general public - Preparation of Semi Annual Environment Monitoring Report (SAEMR), - Ensuring the corrective actions are implemented by the deadline. - Conducting trainings for Contractors on HSE

3.2 Site Inspections

37 The primary goal of inspections and audits is to promote and enforce sound environmental practices in project operations, while also facilitating the establishment of effective governance and efficient environmental management in day-to-day activities. These inspections and audits are crucial for ensuring that projects are in compliance with environmental regulations and standards.

38 During these inspections and audits, environmental specialists visit project sites to assess various aspects of environmental management. They evaluate the implementation of safeguard requirements. In total, 48 site visits were conducted to assess compliance with environmental regulations. These visits involved thorough inspections of project sites, interviews with project staff, and reviews of documentation related to environmental management. Overall, the implementation of safeguard requirements was deemed satisfactory.

39 However, it is important to note that inspections and audits are not just about identifying non-compliance. They also serve as a tool for learning and improvement. The findings from these visits can be used to identify areas where additional training or resources may be needed, or where changes in procedures or practices can lead to better environmental outcomes.

40 Photos below illustrate part of findings from the site inspections.

Photo 29: CW-04 Lot 1: The area has been restored after laying pipes, July 2023

Photo 30: CW-03/4: Preparations for laying asphalt, workers equipped with PPE, July 2023

Photo 31: CW-03/2: Removal of dismantled old pipes, a signal man has been appointed, August 2023

Photo 32:CW-01 Lot 2: Measures were implemented to regulate traffic while laying pipes across Ayni Street, August 2023

Photo 33: CW-01 Lot 1: Working at height on cable installation, the worker is equipped with PPE in accordance with the plan for works at height, November 2023

Photo 34: All sites are equipped with first aid kits

41 During inspections, several non-compliant issues, such as problems with the fencing and debris on the site, have been identified. To address the related concerns, certain mitigation measures have been proposed and it has been ensured that the contractors promptly implemented corrective actions to resolve these issues.

No	Issue	Mitigation measures	Status
1.	**Date 13 September 2023** CW-02: Observed some construction waste stored on the ground at site	Remove constrution waste and clear area	**Resolved** **15 September 2023** Construction waste removed
2	**Date 14 November 2023** Installed fencing around an unclosed well is unsatisfactory**.**	Install barriers and reflective warning signs	**Resolved** **14 November 2023** Fencing improved

Photo 35: Some construction waste observed in the construction site, 13 September 2023

Photo 36: All waste removed, 15 September 2023

Photo 37: Fencing not satisfactory, November 2023

Photo 38: Fencing improved, 15 November 2023

3.3 ADB's Environmental Safeguards Review Mission (ESRM)

42 ADB's ESRM was conducted by ADB consultant on 27 November 2023. The ESRM identified some environmental issues (Table 5). PIG, Contractor and PMDSC (SMEC ltd.) agreed to ensure that all corrective actions proposed during the ESRM (Table 5) would be implemented by 31 December 2023. Based on the results of the implementation of corrective actions, a report on the implementation of corrective actions was prepared (see Annex 1).

Photo 39: Safeguards review mission, 27 November 2023

Table 4: Issues identified by Environmental Safeguards Review Mission

SN	Agreed Action	Responsibility	Due Date	Action Taken
1	Engage a full-time national health and safety (H&S) specialist under the project's construction supervision consultants;	P.I.G. and Construction Supervision Consultant	31 January 2024	In order to carry out this corrective measure, we have prepared an addendum to our Contract. Once the variation is authorized, the Consultant will quickly hire a highly qualified and certified specialist in Health and Safety.
2	Improve implementation of environmental mitigation measures and health and safety measures at the construction site of CW-01/1 per approved contractor's site-specific environment management plan and H&S plan, respectively;	P.I.G. and Contractor	Immediately; Report to be submitted to ADB by 31 December 2023	**Resolved** The contractor implemented environmental and safety measures on the construction site, ensuring protection and well-being.

SN	Agreed Action	Responsibility	Due Date	Action Taken
3	Improve waste management and require contractors to remove excess materials, litter and trash from the site on daily basis;	P.I.G. and Contractor	Immediately; daily records to be maintained by contractor; photo-documentation of sites to be included in the SAEMRs	**Resolved** A meeting was held with contractors to discuss cleaning up the storage area. The area was cleaned subsequently.
4	Submit post-construction environmental audit report for completed civil works contracts	P.I.G.	15 January 2024	**Under progress** The audit report has been completed and is ready to be submitted before the deadline.
5	Require supervision consultant's national environment specialist to provide trainings on environmental safeguards to P.I.G., contractors, and subcontractors	P.I.G. and Construction Supervision Consultant	1st session by 31 December 2023; and thereafter on regular basis Every quarter	**Resolved** On December 27, 2023, the staff of P.I.G and the contractor received training from the Environmental consultant of PMDSC.
6	Submit SAEMR covering period from July to January 2023	P.I.G.	31 January 2024	**Under progress** Semi-annual Environmental report will be submitted on time

3.4 Issues Tracking (Based on Non-Conformance Notices)

48 **Ошибка! Источник ссылки не найден.** summarizes implementation Status of Corrective Actions proposed in the reporting period. All issues from the previous period were closed during the previous monitoring period (by 30 June 2023).

3.5 Trends

49 Some trends can be identified from the previous SAEMRs. The following table shows the number of issues identified in each period and the percent of closed issues at the end of the period.

Table 5: Trends on issues as per semiannual monitoring reports

SAEMR Number and period	Unsolved Issues from previous periods	No of issues identified in the period	Total	No of issues Closed	% of issues Closed
1st SAEMR, January-June 2020	0	0	0	0	0%
2nd SAEMR, July-December 2020	0	7	0	0	0%
3rd SAEMR, January-June 2021	7	8	15	12	80%

4th SAEMR, July-December 2021	3	11	14	8	60%
5th SAEMR, January-June 2022	1	4	5	5	100%
6th SAEMR, July-December 2022	0	4	4	4	100%
7th SAEMR, January-June 2023	0	9	9	9	100%
8th SAEMR, January-June 2023	0	8	8	7	90%

3.6 Unanticipated Environmental Impacts or Risks

50 During the reporting period, COVID-19 is viewed as an unanticipated impact and risk to the community and workers. There were no major delays during the monitoring period due to the COVID-19 related consequences. No cases of COVID-19 among workers, PIG and PMDSC staff were reported during the monitoring period.

51 The Contractors developed Occupational Health and Safety Plan as part of its SSEMP which includes, inter alia, corresponding measures on prevention of the spread of COVID-19. The Contractor's SSEMP also include Emergency Management Plan.

52 Wearing masks are not mandatory in Tajikistan since March 2022.

53 At a meeting on May 4, 2023, the International Health Regulations Committee discussed the decreasing number of COVID-19 deaths and hospitalizations, as well as the high levels of immunity to the virus. They concluded that it is time to manage the pandemic in the long-term, despite some remaining uncertainties. The WHO Director-General accepted the position of IHR and declared that COVID-19 is no longer a global health emergency.

4 RESULTS OF ENVIRONMENTAL MONITORING

54 During the specified reporting period, we did not receive any complaints or concerns from individuals or stakeholders regarding air quality, dust or noise. This indicates that there were no noticeable issues or problems related to the air quality or noise within the monitored area. Therefore, the absence of any complaints or concerns suggests that the air quality in the monitored area was satisfactory and did not raise any noticeable issues. It is important to note that the environmental monitoring plan, which guides our monitoring activities, does not include specific measurements for air quality when there are no complaints or concerns raised by individuals or stakeholders.

4.1 Water quality monitoring

55 All works in riverbed and near water courses are completed. Therefore, no water quality samples taken in the reporting period.

4.2 Air quality monitoring

56 Air quality measurements were not conducted during the reporting period due to the absence of any air quality complaints received.

4.3 Noise monitoring

57 Noise measurements were not conducted during the reporting period due to the absence of any air quality complaints received.

4.4 Flora and fauna monitoring

58 Monitoring of fauna is not foreseen for this Project according to IEE/EMP. All works take place within the localized urban area.

59 66 seedlings were replanted under package CW02.

60 No tree felling was carried out on other components.

4.5 Waste Management

4.5.1 Current Period

61 The Contractor has liaised with Local Administration for disposal of construction waste. The waste management meets the requirements on collection point for household waste. The household wastes are taken by agreement with municipalities of Dushanbe to designated city landfill. There is agreement with Dushanbe municipal service authorities on disposal of construction waste in landfill located in mahalla Chorbog.

62 During reporting period in total for ongoing subprojects around 2.3 tons of household wastes have been disposed at designated landfill.

4.6 Health and Safety

63 The Contractors took all precautions at all construction sites for health and safety of the workers and the people of the surroundings in accordance with the Health and Safety Plan submitted by the Contractor and approved by the Dushanbe Environmental Protection Department, after the approval of PIG, following the review and approval of PMDSC. Health and Safety measures are continuously applied, maintained and monitored by the health and safety manager of the Contractor and Environmental and social staff of the PMDSC and the PIG. No accidents or incidents have been

recorded during the period.

4.6.1 Community health and safety

64 The territories of all construction sites are mostly fenced, appropriate informational and warning signs are installed. During reporting period, no incidents occurred that led to community health and safety issues, including traffic accidents.

4.6.2 Workers' health and safety

65 Health and Safety measures were continuously applied, maintained and checked by the health and safety managers of Contractors and monitored by the Environmental and social guarantee staff of the PMDSC and the PIG. No accidents or incidents have been recorded during the period.

66 The Contractor assumed the following obligations:

- Implementing and adhering to all health and safety measures and protocols as outlined by the project management team.
- Providing necessary training and resources to workers to ensure they are aware of and able to follow safety procedures.
- Regularly monitoring and inspecting the work area for any potential hazards or risks.
- Reporting any accidents, incidents, or near-misses immediately to the project management team.
- Taking appropriate corrective actions to address any identified safety issues or concerns.
- Ensuring that all workers have access to personal protective equipment (PPE) and that it is used correctly.
- Complying with all relevant health and safety laws, regulations, and standards.
- Conducting regular safety meetings and toolbox talks to communicate and reinforce safe working practices.
- Coordinating with other contractors and subcontractors to ensure a cohesive approach to health and safety on the project.
- Providing documentation and records of safety inspections, training, and incident reports as required.

67 Overall, the contractor is responsible for creating and maintaining a safe working environment for their employees and ensuring that all necessary precautions are taken to prevent accidents or incidents from occurring.

4.6.3 Construction camps

68 No separate construction camp was established for the components because all workers are local. The offices of Contractors are arranged in sleeping-cars.

4.7. Summary of Monitoring Outcomes

69 The monitoring of the works is progressing well and follows the requirements of EMP. The Consultant has made efforts based on the findings of the monitoring period to train the Contractors' environmental staff and ensure that the project is implemented in a manner that is compliant with the environmental requirements of the project.

70 Status of compliance with related covenants on environmental safeguards in the Project's Grant Agreement signed between Republic of Tajikistan and ADB on 29 November 2018[4] is summarized in

[4] ADB. Grant Agreement (Special operations) for Grant Dushanbe Urban Water Supply and Sanitation project (29 November 2018): https://www.adb.org/sites/default/files/project-documents/50347/50347-002-grj-en.pdf

Table 6.

Table 6: Grant Agreement Compliance Status

Schedule	Paragraph	Covenant	Compliance Status
3	3	Environment The Recipient shall, or shall cause DVK, through SEADC, to, not award any Works contract which involves environmental impacts until: a) each of ADB and the State Committee on Environment of the Recipient has granted the final approval of the IEE; and b) the Recipient has incorporated, or has caused DVK, through SEADC, to incorporate, the relevant provisions from the EMP into the Works contract.	Complied Provisions of EMPs are included to the works contract. The "environmental appraisal/ approval" was obtained from SEE on 30.04.2019 (Registration No. 443/15)
3	9	Environment The Recipient shall ensure, or shall cause DVK, through SEADC, to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Recipient relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set forth in the Safeguards Monitoring Report or corrective action plan.	Complied. Ongoing. DVK ensures that preparation and design will comply with Environmental Safeguards requirements and applicable laws and regulations of Tajikistan. DVK/ PIG has appointed the Environmental Safeguards Specialist to ensure compliance. .
3	13	Human and Financial Resources to Implement Safeguards Requirements The Recipient shall make available or cause SEADC to make available necessary budgetary and human resources to fully implement the EMP and the RP.	Complied. There are ES hired by PIG, IES and NES hired by PMDSC. Project IEE reflects indicative cost for EMP implementation and human resources
3	14	Safeguards–Related Provisions in Bidding Documents and Works Contracts The Recipient shall ensure, or shall cause DVK, through SEADC, to ensure, that all bidding documents and contracts for Works contain	Complied. Ongoing.

Schedule	Paragraph	Covenant	Compliance Status
		provisions that require contractors to: a) comply with the measures relevant to the contractor set forth in the IEE, the EMP and the RP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in the Safeguards Monitoring Report or corrective action plan; b) make available a budget for all such environmental and social measures; c) provide Recipient, through DVK, with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP and the RP; d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.	IEE, EMP and RP included to the bidding documents All parties allocated budget for social and environmental measures implementation No unanticipated risk discovered during reporting period Pre- construction photolog prepared Rehabilitation activities will be carried out as the work is completed
3	15	Safeguards Monitoring and Reporting The Recipient shall, or cause DVK, through SEADC to do the following: a) submit semiannual Safeguards Monitoring Reports to ADB within 1 month after the reporting period at the end of each half of the calendar year, and disclose relevant information from such reports to	Complied. a) Last semi-annual environmental monitoring report (covering January to June 2022) was submitted and disclosed on ADB website[5] and at the DVK website in Russian[6] in November 2021 b) COVID-19 HSMP and ERP were prepared by

[5] Semiannual environmental monitoring report (January-June 2022) disclosed at ADB web-site: https://www.adb.org/projects/documents/taj-50347-002-emr-4

[6] Semiannual environmental monitoring report (January-June 2022) disclosed at DVK website: http://okd.tj/wp-content/uploads/2023/10/polugodovoj-otchet-pervaya-polovina-2023g.-2.pdf The report disclosed in Russian language because all affected people well understand Russian)

Schedule	Paragraph	Covenant	Compliance Status
		affected persons promptly upon submission*;* b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP and the RP (including, without limitation, as a result of any change of design, baseline or other current conditions), promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP or the RP promptly after becoming aware of the breach.	Contractor of all packages as part of its SSEMP; no COVID-19 cases were identified among the workers during the monitoring period. Suspension of CW-03 civil works by the Contractor in December 2021 was considered as an unanticipated impact, whereupon in the beginning of January 2022 a detailed description of the event was presented to the ADB, along with mitigation and management measures to avoid any environmental impacts, incorporated in a separate photoreport in January 2022 c) No breach.
3	17	Labor Standards, Health and Safety The Recipient shall ensure, or shall cause DVK, through SEADC, to ensure, that the core labor standards and the Recipient's applicable laws and regulations are complied with during Project implementation. The Recipient shall, or shall cause DVK, through SEADC, to include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: a) comply with the Recipient's applicable labor law and regulations and incorporate applicable workplace occupational safety norms; b) do not use child labor; c) do not discriminate workers in respect of employment and occupation; d) do not use forced labor; e) allow freedom of association and effectively recognize the right to collective bargaining; and	Complied. Ongoing. PDMSC combined with PIG monitoring to comply with standards PDMSC combined with PIG monitoring. Workers code of conduct prepared PDMSC combined with PIG monitoring. PDMSC combined with PIG monitoring.

Schedule	Paragraph	Covenant	Compliance Status
		f) disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors engaged under the Project and to members of the local communities surrounding the Project area, particularly women.	PDMSC combined with PIG monitoring.
3	18	Labour Standards, Health and Safety The Recipient shall, or shall cause DVK, through SEADC, to strictly monitor compliance with the requirements set forth in the foregoing paragraph and provide ADB with regular reports.	Complied. Ongoing.

71 Status of compliance with the Project EMP attached to IEE is summarized in **Ошибка! Источник ссылки не найден.** and 12.

Table 7: Implementation Status of EMP during the construction period for packages (CW-01/1, CW-01/2, CW-02, CW-03/1, CW-03/2, CW-04/1 and CW-04/2)

Subject	Mitigation / Management Measure	Compliance Status	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
Air Quality	Implementation of the Air Quality Management Plan	Yes. Ongoing.		
	No equipment using any fuel that may produce air pollutants, including mobile generators, will be installed without consent of the Engineer.	Yes		
	Construction equipment will be maintained to a good standard and fitted with pollution control devices which will be regularly monitored by the Engineer.	Yes		
	No burning of debris or other materials will occur on the site.	Yes		
	The Contractor will ensure that material stockpiles will be located in sheltered areas and be covered with tarpaulins or other such suitable covering to prevent material becoming airborne.	Yes		
	All trucks used for transporting materials to and from the sites will be covered with canvas tarpaulins, or other acceptable type cover (which will be properly secured) to prevent debris and/or materials from falling from or being blown off the vehicle(s).	Yes		
	Effective use of water sprays will be implemented (e.g., carry out watering for dust control at least 3 times a day: in the morning, at noon, and in the afternoon during dry weather with temperatures of over 25°C, or in windy weather).	Yes		
	Avoid overwatering as this may make the surrounding muddy). All water used for controlling dust will be free of odor and pollution.	Yes		
Pipelines	Deep excavations in unstable soils will be shored by the Contractor, and below grade construction brought to grade quickly, then excavations closed.	Yes. Ongoing.		
	Surface soils will be temporarily graded-to-drain and protected as necessary to reduce erosion and sediment runoff.	Yes. Ongoing		

Subject	Mitigation / Management Measure	Compliance Status	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
	Minimize the period of time that a segment of excavation is kept open by not allowing trenching to outpace pipe laying by more than a day or so. Trenches will be back- filled and ground leveled after installation of piping.	Yes. Ongoing		
	Place only bedding and pipe materials at the location that will be used within the next few days work, well out of the line of traffic. Clean up and remove from the site any excess spoil, wood used for shoring and construction materials upon completion of the segment. Compact soil in trench and clean surrounding pavement areas to reduce blowing dust.	Yes		
	Provide temporary bridging across the trench at entries to residences and businesses. Otherwise, provide tape barriers to reduce the possibility of an accident.	Yes		
	Once work is complete on a segment, pavement surfaces and masonry works (curbs, abutments, stairs, drains, drives, etc.) will be repaired and returned to original condition. All roadway surfaces will be repaired as construction progresses; bid packages will contain a unit bid price for roadway repair, and for repair of any other facility, structure or surface that is likely to be damaged in quantity during construction.	Yes		
	The construction approach will minimize the time that any one segment is under construction or roadway/walkway left unrepaired to reduce the construction impact, done by limiting the length of open trench to 100 m or less.	Yes		
	The public will be barred from construction areas, and excavations will be fenced and sign posted. Workers will not be allowed to enter trenches deeper than waist height unless they are properly shored.	Yes		
	Pipelines are laid after the harvest in order to minimize impacts to crops and livelihoods.	Yes		
	The Contractor will strictly follow his Traffic Management Plan (TMP).	Yes. Ongoing.		

Subject	Mitigation / Management Measure	Compliance Status	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
	Where practical roads shall remain open at all times.	Yes		
	If any diversions are required, they shall be outlined in the TMP.	Yes		
	Where tree cutting occurs on public land the Contractor will follow the CEP approved procedures for tree cutting.	Yes. Ongoing.		
	Where practical the Contractor shall remove existing trees and replant them within the vicinity of the pipeline so as to cause minimal impact.	Yes. Ongoing.		
	Where this is not possible the Contractor shall discuss with CEP alternative locations for the re-planting of the trees.	Yes		
	Where trees will be cut, they shall be replaced on a 3:1 basis. The replaced trees shall be the same as the trees cut. The Contractor will be responsible for maintaining the trees for a six-month period. If any of the trees die within this period, the Contractor will replace the tree on a 1:1 basis.	Yes		
	Pipelines can be disinfected through chlorination. Initial chlorine concentrations shall be made high enough (about 50 mg/l) to overcome the chlorine demand of contaminants.	Yes. Ongoing.		
	Chlorination is repeated until residual chlorine is one mg/l, after which the structure is flushed out before being placed into use.	Yes, Ongoing		
	Installation contracts shall include a bid item for disinfection of installed piping.	Yes, ongoing		
	Spoil material from pipeline trenches around petrol stations will be tested for soil contamination before final disposal. The final disposal locations will be determined based on the results of the soil sampling. Any spoil material classified as hazardous will be disposed of at appropriately licensed facilities.	Yes No pipelaying works conducted near petrol stations		
Electrical equipment	If oil containing transformers are chosen they will require containment measures to built around them to collect any leak of transformer oils (110% of the volume of the oil in the transformer).	Yes Construction of bunds designed		

Subject	Mitigation / Management Measure	Compliance Status	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
	The containment area, or 'bund' shall comprise an impermeable base backfilled with a layer of clean, washed stone free of dirt and fines, averaging 2-4cm in size to help limit the impact of any fires.	Yes Construction of bunds designed		
Waste Management	Implementation of the Waste Management Plan	Yes. Ongoing.		
	Where possible, surplus materials will be reused or recycled.	Yes. Ongoing.		
	Oil and fuel will be stored in mobile bunds to contain spillage (the bund will be able to contain at least 110% of the volume of the largest storage tank within the bund).	Yes. Ongoing.		
	Spill kits will be provided at all construction sites where fuel and oil is stored and used.	Yes. Ongoing.		
	Waste, both hazardous and non-hazardous, shall be collected and disposed of by a licensed waste management contractor.	Yes. Ongoing.		
	The Contractor will keep copies of the waste management company's licenses on file at his site office.	Yes		
	The Contractor shall also keep a record of the waste volumes and types removed from the site and the waste transfer notes provided by the waste management contractor.	Yes		
	Suitable number and sized waste containers will be provided at each site for organic waste, hazardous waste and non-hazardous wastes.	Yes		
	The Contractor will be responsible for the preparation and implementation of a method statement for the safe removal, storage and disposal of asbestos containing materials from the site. The statement will follow international best practice, for example, HSE A14 – Asbestos Essentials. Asbestos materials shall only be disposed of at a hazardous waste landfill site.	Yes No ACM found in the sites		
	Regarding waste spoil material from the Zebunisso reservoir:			

Subject	Mitigation / Management Measure	Compliance Status	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
	- Spoil material will be stored within the site boundary and constructed as low, flat elongated stockpiles where possible and no greater than two meters in height.	Yes		
	- Stockpiles shall not be located close to steep slopes.	Yes		
	- Stockpiles shall only be allowed on DVK owned land, i.e. within the site boundary.	Yes		
	- Stockpiles shall not be located within 50 meters of any water course.	Yes		
	- Erosion and sedimentation controls will be erected. between the stockpiles and downslope areas.	Yes		
	- During dry periods stockpiles will be watered to reduce dust impacts.	Yes Watering plan prepared		
	- A maximum of 200 m2 of spoil material will be allowed on site at any time.	Yes		
	- Spoil material from excavation works at the reservoirs will be removed to a licensed landfill.	Yes		
	- All trucks transporting spoil to offsite locations shall be covered with tarpaulins before leaving the site.	Yes		
	- Traffic associated with spoil generation will be managed in accordance with mitigation measures outlined in the Traffic Management Plan.	Yes		
OHS	Implementation of the OHS Plan.	Yes. Ongoing.		
Noise	Works will be scheduled to coincide with periods when people would least likely be affected; work hours and workdays will be limited to less noise-sensitive times. Hours of work will be approved by the Engineer having due regard for possible noise disturbance to the local residents or other activities. Construction activities will be strictly prohibited between 10 PM and 7 AM in the residential areas. When operating close to sensitive areas (within 250 meters) such as medical facilities and schools, the Contractor's hours of working shall be limited to 8 AM to 6 PM;	Yes. Ongoing.		

Subject	Mitigation / Management Measure	Compliance Status	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
	Use temporary noise barriers while working in sensitive locations in case accidence of allowable limits is expected. Placing the barrier close to the source proves to be effective.	Yes. Ongoing		
	Give notice as early as possible to sensitive receptors for periods of noisier works such as excavation. Describe the activities and how long they are expected to take. Keep affected neighbours informed of progress.	Yes. Ongoing		
	Within normal working hours, where it is reasonable to do so: o schedule noisy activities for less sensitive times. o provide periods of respite from noisier works (for example, periodic breaks from jackhammer noise).	Yes. Ongoing		
	The weekend/evening periods are important for community rest and recreation and provide respite when noisy work has been conducted throughout the week. Accordingly, work will not be scheduled during these times.	Yes. Ongoing		
	All mechanical plant is to be silenced by the best practical means using current technology. Mechanical plant, including noise-suppression devices, will be maintained to the manufacturer's specifications. Internal combustion engines are to be fitted with a suitable muffler in good repair.	Yes. Ongoing		
	Fit all pneumatic tools with an effective silencer on their air exhaust port.	Yes. Ongoing		
	Install less noisy movement/reversing warning systems for equipment and vehicles that will operate for extended periods, during sensitive times or in close proximity to sensitive sites. Occupational health and safety requirements for use of warning systems must be followed.	Yes. Ongoing		
	Turn off plant when not being used.	Yes. Ongoing		
	All vehicular movements to and from the site to only occur during the scheduled normal working hours, unless approval has been granted by the Engineer.	Yes. Ongoing		

Subject	Mitigation / Management Measure	Compliance Status	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
	Where possible, no truck associated with the work will be left standing with its engine operating in a street adjacent to a residential area.	Yes. Ongoing		
	Provision of noise protection kits such as ear plug, earmuff, for workers who are working in the area with noise level is higher than 85 dB(A).	Yes. Ongoing		
River crossing/ Hydrology	The Contractor shall limit pier works to the low flow period in the Varzob (October to February).	Yes. Ongoing.		
	Ensure no waste materials are dumped in the river, including re-enforced concrete debris.	Yes. Ongoing.		
	Place mobile generators more than 20 meters from the river.	Yes		
	Ensure that no wet concrete waste is dumped in the river.	Yes		
	Ensure that no hazardous liquids are placed within 10 meters of the river.	Yes		
	Ensure that workers are provided with correct PPE including hi-vis life vests.	Yes. Ongoing.		
	During piling works ensure that pumped water is filtered through a silt trap before being discharged to the river.	Yes		
	Provide areas where concrete mixers can wash out leftover concrete without polluting the environment. This may be in the form of a lined settling pond.	XX		
	Undertake works outside of fish spawning periods.	Yes		
	Provide portable toilets at bridge construction sites to prevent defecation by workers into the river.	Yes		
PCR	The structures identified in Table 20 shall be rehabilitated in consultation with the representatives in charge of the cemeteries.	Yes. Ongoing.		
	Any trees cut will be replanted on a 1:3 basis.	Yes		

Table 12: Implementation Status of EMP during the pre-construction period for package CW-03/4

Subject	Mitigation / Management Measure	Compliance Status	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
General Environmental Management	Preparation of an SEMP to include: - Waste Management Plan	Yes		
	- OHS Plan	Yes		
	- Traffic Management Plan.	Yes		
	- Air Quality Management Plan.	Yes		
	- Noise Management Plan.	Yes		
	- Spill Response Plan.	Yes		
	- Hazardous Materials Management Plan.	Yes		
	- Chance Find Procedure.	Yes		
	In addition, the Contractor will be responsible for the preparation of the following site-specific plan: - River Crossing Construction Plan.	Yes		
General Design	Design of all sanitation components shall be based on international standards such as European standards and ISO or DIN norms under due consideration of local guidelines where available such as SniP and GOST. The design of the Project shall follow the Sanitation Construction Principles proposed by the PPS and set out in Section C.2.3.	Yes		
Earthquakes	Materials for new pipes and joints linking pipe segments should have a high earthquake resistance. They must at least adhere to the current earthquake building standards (SniP).	Yes		
Soils	Ensure the potential impacts of loess soils are considered during the design phase.	Yes		

4.7 Grievance Redress mechanism functioning

72 The contractors have set up field offices at the site where people can find out more about the work being done on the project. The contractor periodically communicated to the public, through public consultation and notice boards, the scope and schedule of construction as well as certain construction activities that may cause disruptions and access restrictions. Noticeboards and signs were provided in Tajik language. During this period, one complains with regard to environmental situation caused by the project were received.

4.7.1 Received complaints

73 The project has received a complaint from the residents of Nisor Muhammad Street regarding the work carried out under Contract CW-04/1. The concern raised by the residents is that the sidewalk, where the pipe was installed, has not been restored to its original or improved condition as promised before the work commenced.

74 The contractor was instructed to immediately begin restoration of the site following the completion of the pipe installation. This instruction was given to ensure that the sidewalk would be returned to its original or improved condition as initially promised.

75 We have instructed the contractor to prioritize the completion of the sidewalk and access to houses restoration. We have also emphasized the importance of adhering to the agreed-upon specifications and ensuring that the sidewalk is restored to a satisfactory level.

Photo 40: Condition of sidewalks before restoration

Photo 41: Condition of sidewalks before restoration

Photo 42: Work process to restore sidewalks and ensure unimpeded access to houses.

Photo 43: Restored sidewalks

4.8 Training

76 PDMSC and PIG have collaborated to deliver regular EHS refresher training to the Contractor's EHS Officer and Site Managers.

Photo 44: Process of training session

77 The training session for PIG staff, led by the PMDSC Environmental Consultant, focused on enhancing environmental safety requirements and reinforcing safety precautions at the site. The training was attended by a diverse group of specialists, ensuring that all project personnel were well-informed and equipped to maintain a safe working environment.

78 The consultant provided an overview of environmental safety regulations and guidelines, stressing the importance of compliance to avoid legal consequences and harm to the environment. Specific safety precautions were discussed, including waste management, pollution prevention, and hazardous material handling. Emergency response procedures were also addressed, emphasizing the need for swift and effective action.

79 Practical examples and case studies were used to illustrate the consequences of non-compliance and reinforce the importance of safety protocols. The trainer explained the purpose and components of a site-specific Environmental Management Plan (SSEMP), highlighting the goals and targets that should be set for environmental performance.

80 Regular review and updating of the SSEMP were emphasized to maintain effectiveness and align with evolving environmental requirements. Overall, the training contributed to creating a safer and more sustainable working environment for all project personnel.

Photo 45: Process of training session

81 An online training on screening and categorization was conducted by the Safeguard consultant of TJRM on November 17, 2023. Training on Screening and Categorization of ADB projects involves learning about the process of evaluating and categorizing projects that are proposed for funding by the Asian Development Bank (ADB). This training is essential for staff members involved in project identification, appraisal, and approval within the ADB.

82 The training covered the following topics: Introduction to ADB's project screening and categorization process. Project screening criteria. About the different project categories used by ADB, such as category A (high-risk projects with significant environmental and social impacts), category B (moderate-risk projects with limited environmental and social impacts), and category C (low-risk projects with minimal environmental and social impacts). The training session also embraced the ADB's environmental and social safeguards policies and their role in project screening and categorization. Case studies and practical exercises have been considered. At the end a reminder on the project documentation and reporting has been made.

83 The training on screening and categorization of ADB projects equipped participants with the knowledge and skills required to effectively evaluate and categorize projects in line with ADB's strategic priorities and environmental and social safeguards policies.

84 The next training session delivered by the Safeguard consultant on of TJRM focused on the requirements for the Final Audit Report in the ADB's SPS 2009. Participants learned about key aspects of the report's content and received a checklist for thorough review. The training enhanced their understanding of ADB's safeguard guidelines and provided practical tools for compliance.

Photo 46: Process of training session

5 FUNCTIONING OF THE SSEMP

5.1 SSEMP Review

85 The contract for Rehabilitation of the South Sewage collector was awarded to Ludwig Pfeiffer Hoch und Tiefbau GmbH& Co on 8 June 2020. The contractor submitted initial version of the SSEMP on 15 February 2021. The SSEMP was finally approved by the Dushanbe Environmental Protection Department, after the approval of PIG, following the review and approval of PMDSC on 23 February 2021 before the commencement of civil works.

86 The contractor of CW-03 had financial difficulties which did not allow him to complete the work on the project. Therefore, the contract with Ludwig Pfeiffer Hoch und Tiefbau GmbH& Co is under termination. To complete the so-called “urgent works”, which have been making the situation critical, and certain unfinished works in sensitive locations, the two contracts were concluded respectively for the aforementioned works with subcontractor - LLC “Kangurt-2” on 24 January 2022 and on 17 May 2022. During the execution of urgent works, the LLC “Kangurt was operating under the management of Ludwig Pfeiffer, and consequently under the umbrella of (following) Ludwig’s SSEMP. The SSEMP of LLC “Kangurt-2” according to its second contract (i.e., of May 2022) for unfinished works has been received and approved in May 2022, before they started the works. Similarly, the addendum for SSEMP of LLC “Kangurt-2” according to the amendment ot its second contract (i.e. of April 2023) for additional works has been received and approved in April 2023, before they started the works.

87 The contract for CW-01/1 “(CW-01) Rehabilitation of Water Supply System in Shomansur district Phase 1. Lot 1: Reconstruction of the water intake structure KAF-1” was awarded to JSC “Tojikgidroelectromontaj” (TGEM). The SSEMP was finally approved by the Dushanbe Environmental Protection Department, after the approval of PIG, following the review and approval of PMDSC on 23 February 2021, before the commencement of civil works.

88 The contract for CW-01/2 “(CW-01) Rehabilitation of Water Supply System in Shohmansur district Phase 1. Lot 2: Construction and rehabilitation of portions of main water pipeline.” was awarded to Joint Venture between JSC “Tojikgidroelectromontaj” (TGEM) and Azkompozit LLC. The SSEMP was finally approved by the Dushanbe Environmental Protection Department, after the approval of PIG, following the review and approval of PMDSC on 23 February 2021, before the commencement of civil works.

89 The contract for CW-04/1 “(replacement of water distribution network and installation of measuring devices in DMAs. Lot 1: Replacement of water distribution networks in DMAs A1, A2, A3, and A4. was awarded to LLC “Stroy-Center”. The SSEMP was finally approved by the Dushanbe Environmental Protection Department, after the approval of PIG, following the review and approval of PMDSC on 29 August 2022, before the commencement of civil works.

90 The contract for CW-04/2 Replacement of water distribution network and installation of measuring devices in DMAs. Lot 2: Installation of measuring devices for DMAs A5, 6, 7, 8, 10, 10-1, 12, 13, C-9, 11, 17 and B-16; and SCADA system for DMA and KAF-1. was awarded to Joint venture between “Blue Star Group” LLC and LLC “Joint Venture Ittihod Inshoot and Zumrut”. The SSEMP was finally approved by the Dushanbe Environmental Protection Department, after the approval of PIG, following the review and approval of PMDSC on 12 September 2022, before the commencement of civil works.

91 The contract for CW-03/4 “Rehabilitation of the south sewage collector. Lot 4: Rehabilitation of the South Sewage Collector Sections from K56 to K81, from K98 to Connection point (end of the line) was awarded to Joint venture between JSC TGEM and Azkompozit LLC. The SSEMP was finally approved by the Dushanbe Environmental Protection Department, after the approval of PIG, following the review and approval of PMDSC on 10 March 2023, before the commencement of civil works.

Table 8: Status of SSEMPs for reporting period from January to June 2023

Package	Status	Note
CW-03/1 and CW-03/2 Rehabilitation of the South Sewage collector	SSEMP received and approved by PIG in February 2021 before commencement of civil works	Scan letter from PIG with approval

	SSEMP for continuing works by LLC Kangurt-2 received and approved by PIG in May 2022 Addendum to SSEMP for additional works by LLC Kangurt-2 received and approved by PIG in April 2023	of SSEMP is in place
CW-01/1 Rehabilitation of Water Supply System in Shomansur district Phase 1. Lot 1: Reconstruction of the water intake structure KAF-1	SSEMP received and approved by PIG in April 2022 before commencement of civil works	Scan letter from PIG with approval of SSEMP is in place
CW-01/2 Rehabilitation of Water Supply System in Shohmansur district Phase 1. Lot 2: Construction and rehabilitation of portions of main water pipeline	SSEMP received and approved by PIG in March 2021 before commencement of civil works	Scan letter from PIG with approval of SSEMP is in place
CW-02 Reconstruction of PS Khovaron, construction of Zebunisso reservoir, and replacement of water distribution network in DMAs A14 & AB15	SSEMP received and approved by PIG in February 2022 before commencement of civil works	Scan letter from PIG with approval of SSEMP is in place
CW-04/1 “replacement of water distribution network & installation of measuring devices in DMAs. Lot 1: Replacement of water distribution networks in DMAs A1, A2, A3, and A4	SSEMP received and approved by PIG in August 2022 before commencement of civil works	Scan letter from PIG with approval of SSEMP is in place
CW-04/2 Replacement of water distribution network and installation of measuring devices in DMAs. Lot 2: Installation of measuring devices for DMAs A5, 6, 7, 8, 10, 10-1, 12, 13, C-9, 11, 17 and B-16; and SCADA system for DMA and KAF-1	SSEMP received and approved by PIG in September 2022 before commencement of civil works	Scan letter from PIG with approval of SSEMP is in place
CW-03/4 “Rehabilitation of the south sewage collector. Lot 4: Rehabilitation of the South Sewage Collector Sections from K56 to K81, from K98 to Connection point (end of the line)	SSEMP received and approved by PIG in March 2023 before commencement of civil works	Scan letter from PIG with approval of SSEMP is in place

6 CONCLUSIONS AND RECOMMENDATIONS

92 To maintain proper control over the construction site's environment, an environmental consultant conducted monitoring activities. Site visits occurred approximately three times per week to ensure compliance. Effective measures were taken to mitigate any negative impacts and protect the environment. In terms of health and safety, the Contractor provided their staff with all necessary sanitary conditions, drinking water, personal protective equipment (PPE), fire-protection equipment, and enforced safety rules. Yet, some issues, such as a lack of available PPE, first aid supplies, footbridges, and fences at certain construction sites, were identified. However, these concerns were addressed by the Contractors after receiving warnings from environmental safeguards specialists at PMDSC and PIG.

93 Environment and safety issues arising in the reporting period and corrective actions taken are summarized in Table 9. The 2 non-conformance issues noted in the reporting period are fully resolved.

Table 9: Issues identified during the monitoring period

SN	Agreed Action	Responsibility	Due Date	Action Taken
1	Engage a full-time national health and safety (H&S) specialist under the project's construction supervision consultants;	P.I.G. and Construction Supervision Consultant	31 January 2024	In order to carry out this corrective measure, we have prepared an addendum to our Contract. Once the variation is authorized, the Consultant will quickly hire a highly qualified and certified specialist in Health and Safety.
2	Improve implementation of environmental mitigation measures and health and safety measures in the construction site of CW-01/1 per approved contractor's site-specific environment management plan and H&S plan, respectively;	P.I.G. and Contractor	Immediately; Report to be submitted to ADB by 31 December 2023	Resolved The contractor implemented environmental and safety measures on the construction site, ensuring protection and well-being.
3	Improve waste management and require contractors to remove excess materials, litter and trash from the site on daily basis;	P.I.G. and Contractor	Immediately; daily records to be maintained by contractor; photo-documentation of sites to be included in the SAEMRs	Resolved A meeting was held with contractors to discuss cleaning up the storage area. The area was cleaned subsequently.
4	Submit post-construction environmental audit report for completed civil works contracts	P.I.G.	15 January 2024	Under progress The audit report has been completed and is ready to be submitted before the deadline.
5	Require supervision consultant's national environment specialist to provide trainings on environmental safeguards to	P.I.G. and Construction Supervision Consultant	1st session by 31 December 2023; and	Resolved On December 27, 2023, the staff of P.I.G and the contractor received

SN	Agreed Action	Responsibility	Due Date	Action Taken
	P.I.G., contractors, and subcontractors		thereafter on regular basis	training from an environmental consultant on PMDSC.
6	Submit SAEMR covering period July to January 2023	P.I.G.	31 January 2024	Under progress Semi-annual Environmental report will be submitted in time
7.	Date 13 September 2023 CW02 Observed some construction waste stored on ground	Contractor CW02	20 September 2023	Resolved 15 September 2023 Construction waste removed
8	Date 14 November 2023 Installed of fencing around an unclosed well is unsatisfactory.	Contractor CW04 Lot 2	17 November 2023	Resolved 14 November 2023 Fencing improved

Annex 1: Corrective measures implementation report

Corrective Measures Implementation Report

Project Number: 50347-002 G0612

Republic of Tajikistan: Dushanbe Water Supply and Sanitation Project

(Financed by Asian Development Bank)

Prepared	Environmental specialist Dilshod Dadobaev	

December 2023

Preamble

As part of the mission ADB conducted a site visit to Dushanbe Water Supply and Sanitation Project on 27 November 2023 to review environmental safeguards compliance and performance of contractors and supervision engineers as per ADB SPS requirements, site-specific environmental management plan (SSEMP) implementation and contract provisions on environment, health, and safety (EHS).

ADB environmental safeguard specialists:

- Ms. Ninette Pajarillaga, Senior Environment Specialist, Portfolio, Results, Safeguards and Gender Unit (CWOD-PSG), CWRD, Mission Leader
- Firuz Safarov, Environmental Specialist
- Mr. Davron Isaev, National Environment Specialist (RETA Consultant)

were accompanied by PIG director as well as project team leader and national environmental staff of the supervision consultant (SMEC) and contractors for each civil works package on-site.

The purpose of this report is to provide information on the status of corrective actions in response to deficiencies identified during the site visit. The table below provides a summary of the corrective actions and their status.

Findings	Required Action	Responsibility	Timing (Target Dates)	Description of Resolution and Timing (Actual)
CW 01/01 Reconstruction of the water intake structure KAF-1.				
1. The SSEMP and H&S Plan are not followed at the construction site for CW01/1 Reconstruction of the water intake structure KAF-1.	To provide adequate and durable construction ladders for the workers at the site, instead of unsafe wooden ones currently in use.	Contractor OJSC TGEM. PIG and PDMSC to monitor.	15 December 2023	**Resolved, 13 December 2023** The wooden ladder removed from site. Instead of wooden ladders installed steel ladders controlled by Contractor's HSE engineers. By PDMSC Consultant controlled all ladders and scaffolds in the site. Photo (2-3)
	To remove all excessive excavation materials at least 1.5 meters away from all edges of the construction pit.		15 December 2023	**Resolved, 13 December 2023** All excavated material removed Photo (4-8)
	To install hard barricades around the construction site.		15 December 2023	**Resolved, 13 December 2023** Hard barricades around the trench installed by the contractor Photo (4-8)
	To equip the workers with the necessary PPE for working at heights and in enclosed spaces.		15 December 2023	**Resolved, 13 December 2023** All workers equipped and wear PPE Photo 9
	To ensure that SSEMP and H&S Plan are implemented fully.		15 December 2023	**Resolved, 13 December 2023**
2. No proper H&S monitoring at the for CW01/1.	To mobilize PDMSC H&S local specialist at the construction site for CW01/1.	PDMSC	15 December 2023	**Resolved, 13 December 2023** A HSE specialist from PDMSC was present at the CW01/1 site until all the issues were resolved. As per the work plan, the HSE specialist will continue to visit the CW01/1 site three days a week. PMDSC and PIF HSE Specialists regularly conduct onsite training to Contractors' HSE Engineers Photo (10-11)

3. Hard barricades are installed to close to the construction pits (CW-03/2)	To reinstall/add additional sections to barricades, insuring required distance from the edges of the construction pits.	Contractor LLC Kangurt-2. PIG and PDMSC to monitor.	15 December 2023	**Resolved, 1 December 2023** The contractor has successfully dug all the trenches and completed the pipe laying work. (Photo 12)
4. Materials (pipes) stores along the construction site for CW-03/2	To remove materials from the site.	Contractor LLC Kangurt-2. PIG and PDMSC to monitor	15 December 2023	**Resolved, 28 November 2023** The contractor has successfully removed the material from the site. (Photo 13)
5. Household waste is scattered around the site for CW-03/2 (workers used gloves, plastic bags, bottles, etc.)	To improve waste management practices at the site	Contractor LLC Kangurt-2. PIG and PDMSC to monitor	15 December 2023	**Resolved, 28 November 2023** The contractor has successfully removed all waste from the site. (Photo 13)
6. Barricades around the construction pit near the gas station are not installed properly, CW01/2	To install proper hard barricades.	Contractor OJSC TGEM. PIG and PDMSC to monitor.	15 December 2023	**Resolved, 13 December 2023** The contractor has installed hard barricades around the trench in a proper manner. Photo (14-17)
7. AF CW 04 – Well rings are stored on streets without fences.	To enhance safety measures, it is recommended to install sturdy barricades and prominent warning signs around the well ring storage area. Additionally, it is crucial to organize a meeting with the residents to raise awareness about the importance of keeping children away from the well ring storage area.	Contractor OJSC TajikSGEM. PIG and PDMSC to monitor.	15 December 2023	**Resolved, 13 December 2023** Well rings generally removed from streets and consecrated in one area. Hard barricades around the well ring storage area installed by the contractor. PMDSC and PIG specialists conducting meetings with residents to raise about the importance of keeping children away from the well ring storage area. Photo (7-8)

Annex 1: Photo documentation

CW01/01 – Lack of barricades on construction of construction Pumping station in KAF-1

Photo 47: Site visit to KAF-1, 27 November 2023

Photo 48: Unsafe wooden ladder 27 November 2023

Photo 49: Steel safe ladder provided by contractor

Photo 50: Before implementation corrective measures

Photo 51: Excavated materials removed, rigid fences are installed along the entire length of the pit

Photo 52: Rigid fences are installed along the entire length of the pit

Photo 53: On the side of the reservoir where work is not possible, a protective mesh is installed to prevent rolling into the pit

Photo 54: On the side of the reservoir where work is not possible, a protective mesh is installed to prevent rolling into the pit

Photo 55: Workers equipped with PPE and wear it

Photo 56: Training on ADB Safeguards to CW01/1 HSE engineers

Photo 57: Training on ADB Safegurds for CW02 HSE Engineers

Photo 58: CW03/2 All open trenches backfilled

Photo 59: Construction site cleared from materials and waste

Barricades around the construction pit near the gas station are not installed properly, CW01/2

Photo 60: Before corective action, not properly installed fenceing

Photo 61: Additional fences installed

Photo 62: Additional fences installed

Photo 63: Additional fences installed

AF CW 04 – Well rings are stored on streets without fences.

Photo 64: Before implementation Corrective action, well ring stores in streets without fencing

Photo 65: Well rings collected to one area and storage area fenced with rigid fenses

Photo 66: The well rings collected to one area and storage area fenced with rigid fenses

Photo 67: Before implementation Corrective action, well ring stores in streets

Photo 68Photo 13: Well rings collected from streets

Photo 69: Well rings collected from streets

Photo 70: Safeguard team of PIG and PMDSC conducting awareness meeting with residents

Photo 71: Safeguard team of PIG and PMDSC conducting awareness meeting with residents

Photo 72: Safeguard team of PIG and PMDSC conducting awareness meeting with residents

DUWSSP

THE ATTENDANCE SHEET/РЎЙХАТИ ИШТИРОКЧИЁН

Consultations/ Машварати маслиҳатӣ

CW-AF-04/2

Jamoat/Ҷамоат Ховарон

Villiges, Mahalla/ Деха, Махалла Дехаистаравшан

Data/ Таърихи рӯз 06.12.23

№	Name/Ному насаб	Address/Суроға	Signature/Имзо
1.	Холов Ж	ГРП	
2.	Хадиев Д	SMEC	
3.	Ҳакимов Ф	ГРП	
4.	Мамадалиев И	ГРП	
5.	Хабибуллоева И	SMEC	
6.	Отаджанова З	SMEC	
7.	Мирзоева А ИЖТ	SMEC	
8.	Ходжаев Сафаралӣ	раиси ҷамоат	
9.	Сайфуллоев С	н.н.м	
10.	Ғиёзов И	куратори ҷамоат	
11.	Ҳакимова Д	Ховарон кв 4	
12.	Холмуродова З	кв 4	
13.	Каримова	кв 3	
14.	Ашева Х	кв 4	
15.	Раҳимов Ш	кв 4	
16.	Сафаров И	кв 3	
17.	Шарафходжаев Ш	кв 3	
18.	Ҷӯраева Т	кв 3	
19.	Хайдаршоев А	кв 4	
20.	Ҷонмуродов Ҷ	кв 2	
21.	Ғозиев Иззет	кв 4	
22.	Ашуров О	кв 4	
23.	Тиллоев З	кв 4	
24.	Мухтарова Ф	кв 3	
25.	Шарипов С	кв 3	
26	Мирзоев И	кв 3	

DUWSSP

THE ATTENDANCE SHEET/РЎЙХАТИ ИШТИРОКЧИЁН

Consultations/ Машварати маслиҳатй

CW-AF-04/2

Jamoat/Ҷамоат Рабодон

Villiges, Mahalla/ Деха, Махалла Деҳмисо

Data/ Таърихи рўз 06.12.23

№	Name/Ному насаб	Address/Суроға	Signature/Имзо
1.	Тухсанов М	кӯр 4	
2.	Гаров Юсуф	кӯр 4	
3.	Комров Б	кӯр 4	
4.	Муродова Д.	кӯр 4	
5.	Сафарова С	кӯр 4	
6.	Сафаров М	кӯр 4	
7.	Мухторшоев С	кӯр 4	
8.	Сирова Г	кӯр 4	
9.	Сурурова М	кӯр 4	
10.	Сафарова Т	кӯр 4	
11.	Саидова С	— 1 —	
12.	Шарипова М	кӯр 4	
13.	Гаибова М	— 1 —	
14.	Сафарова Д	— 1 —	
15.	Ерматова З	— 1 —	
16.			
17.			
18.			
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20.			
21.			
22.			
23.			
24.			
25.			

Photo 73: Attendance sheets

Corrective Measures Implementation Report

Project Number: 50347-002 G0612

Republic of Tajikistan: Dushanbe Water Supply and Sanitation Project

(Financed by Asian Development Bank)

Prepared	Environmental specialist Dilshod Dadobaev	

December 2023

Preamble

As part of the mission ADB conducted a site visit to Dushanbe Water Supply and Sanitation Project on 27 November 2023 to review environmental safeguards compliance and performance of contractors and supervision engineers as per ADB SPS requirements, site-specific environmental management plan (SSEMP) implementation and contract provisions on environment, health, and safety (EHS).

ADB environmental safeguard specialists:

- Ms. Ninette Pajarillaga, Senior Environment Specialist, Portfolio, Results, Safeguards and Gender Unit (CWOD-PSG), CWRD, Mission Leader
- Firuz Safarov, Environmental Specialist
- Mr. Davron Isaev, National Environment Specialist (RETA Consultant)

were accompanied by PIG director as well as project team leader and national environmental staff of the supervision consultant (SMEC) and contractors for each civil works package on-site.

The purpose of this report is to provide information on the status of corrective actions in response to deficiencies identified during the site visit.

Introduction

As stated in the Aide Memoir prepared by the ADB Safeguard Mission, a key corrective measure proposed was the implementation of training sessions on environmental safety measures for PIG (Project Implementing Group), contractors, and subcontractors. These training sessions was conducted by the National Environmental Specialist and Supervisory Consultant.
The objective of this training is to raise awareness and enhance understanding among all parties involved in the project regarding the importance of environmental safety. By providing comprehensive training, participants will be equipped with the necessary knowledge and skills to effectively implement environmental safeguards throughout the project's lifecycle.
To ensure the effectiveness of the safeguard trainings, two training sessions were conducted. These sessions aimed to equip participants with the necessary knowledge and skills to identify and prevent potential risks and hazards in the workplace.

Training on Final Audit Report

The first training session focused on the requirements of SPS 2009 ADB for the preparation of the Final Audit Report. The training conducted by ADB Safeguard Consultant Davron Isaev. The training was specifically designed for the Environmental Protection Engineer of the PIG and the Environmental Protection Consultant of the PMDSC.
The training session covered essential aspects related to the content of the Final Audit Report, emphasizing the key information that must be included. Participants were provided with a detailed checklist for the final audit, ensuring that all necessary components are thoroughly reviewed and evaluated.
By attending this training, participants gained a deeper understanding of the SPS 2009 ADB requirements and how to effectively prepare a Final Audit Report. The training not only enhanced their knowledge but also equipped them with practical tools to ensure

compliance with ADB's safeguard guidelines.

Training on environmental safeguards

The second training session, led by the PMDSC Environmental Consultant, was a comprehensive and interactive session aimed at enhancing environmental safety requirements and reinforcing safety precautions at the site. The training was attended by a diverse group of specialists, including P.I.G. specialists, engineers, sociologists, monitoring managers, procurement specialists, and contractors' site supervisors. This diverse representation ensured that all project personnel were well-informed and equipped with the necessary knowledge and skills to maintain a safe and sustainable working environment.

To start the session, the consultant provided an overview of the environmental safety regulations and guidelines that must be followed at the site. This included detailed explanations of both local and international laws, as well as industry best practices. The

consultant stressed the importance of compliance with these regulations to avoid legal consequences and potential harm to the environment.

The training then delved into specific safety precautions that should be implemented at the site. This covered a wide range of topics, including waste management, pollution prevention, and hazardous material handling. The consultant emphasized the significance of proper waste disposal techniques, such as recycling and proper storage of hazardous materials.

Additionally, the training addressed emergency response procedures in the event of environmental incidents. This involved educating participants on how to identify potential risks, promptly report incidents, and implement immediate corrective actions. The consultant highlighted the importance of swift and effective response to minimize environmental damage and protect the health and safety of all individuals on-site.

To enhance the training experience, practical examples and case studies were incorporated to illustrate real-life scenarios. This allowed participants to better understand the potential consequences of non-compliance and reinforced the need for strict adherence to safety protocols.

Another topic discussed during the training session was the importance and components of a site-specific Environmental Management Plan (SSEMP). The trainer explained that an EMP is a document that outlines the strategies, procedures, and protocols to be implemented at a specific site to minimize and manage environmental impacts. The trainer emphasized the following key points about site-specific SSEMPs:

1. Purpose: The SSEMP serves as a roadmap for managing environmental risks and impacts associated with a project or activity at a specific site. It helps ensure compliance with environmental regulations, promotes sustainable practices, and protects the environment.

2. Environmental Objectives and Targets: This section outlines the goals and targets that the project aims to achieve in terms of environmental performance. These objectives should be specific, measurable, achievable, relevant, and time-bound (SMART). They provide a clear direction for environmental management efforts.

The trainer also emphasized the importance of regularly reviewing and updating the SSEMP to maintain its effectiveness and ensure it aligns with evolving environmental requirements. Conducting periodic reviews allows for the identification of areas that need improvement, fostering continuous enhancement in environmental performance.

Overall, the second training session led by the PMDSC Environmental Consultant successfully expanded participants' knowledge of environmental safety requirements and safety precautions at the site. By emphasizing compliance with regulations and ADB SPS 2009, implementing safety measures, and promoting active engagement, this training contributed to creating a safer and more sustainable working environment for all project personnel involved.