

# Semi-Annual Environmental Monitoring Report

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Project number: TA-8887 KGZ

Loan number: ADB Loan 3432-KGZ (SF)

Grant number: 0496-KGZ (SF)

## January-June 2024

Kyrgyz Republic: Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2) - Additional Financing Section 1 (Lot 1) "Balykchy - Kochkor km. 0-km. 43", Section 2A (Lot 2) "Kochkor-Epkin (km 62+400-km 89+500)".

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**Approved by:** [Name and signature of Executive Agency staff]

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## Abbreviations

ACP	-	Asphalt Concrete Plant
ADB	-	Asian Development Bank
CAREC	-	Central Asian Regional Economic Cooperation
CBT	-	Concrete Batching Plant
CO	-	Carbon Monoxide
CSC	-	Construction Supervision Consultant
DDPSSSES	-	Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health
dia.	-	diameter
EA	-	Executing Agency
EMP	-	Environmental Management Plan
ES	-	Environment Specialist
NEPS	-	National Environmental Protection Specialist
IA	-	Implementing Agency
IBAT	-	Integrated Biodiversity Assessment Tool
IEE	-	Initial Environmental Examination
IES	-	International Environment Specialist
GC	-	General Contractor
GoKRG	-	Government of Kyrgyzstan
KGZ	-	Kyrgyzstan
km	-	kilometer
KR	-	Kyrgyz Republic
LARP	-	Land Acquisition and Resettlement Plan
LS	-	Left side
lm	-	Linear meter
m	-	Meter
m <sup>2</sup>	-	Square meter
m <sup>3</sup>	-	Cubic meter
masl	-	Meter above sea level
MPC	-	Maximum Permissible Concentration
MPL	-	Maximum Permissible Level
MTOC	-	Ministry of Transport and Communication of KR
MEoC KR	-	Ministry of Economy and Commerce of the Kyrgyz Republic
MNRETS	-	Ministry of Natural Resources, Environment and Technical Supervision
MoCIT KR	-	Ministry of Culture, Information and Tourism of Kyrgyz Republic
MoF KR	-	Ministry of Finance of the Kyrgyz Republic
NRS	-	National Resettlement Specialist
NO <sub>2</sub>	-	Nitrite
pcs	-	pieces
PIU	-	Project Implementation Unit
RS	-	Right side
SCEC	-	State Committee on Ecology and Climate
SCP	-	Stone Crushing Plant
SF	-	Supplemental Financing
SAEMR	-	Semi-annual Environmental Monitoring Report
SDRS		Social Development and Resettlement Specialist
SAEPF	-	State Agency on Environmental Protection and Forestry Agency
SSEMP	-	Site Specific Environment Management Plan
TA	-	Technical Assistance
TOR	-	Terms of Reference
CHHS		Cultural And Historical Heritage Sites

## 1 INTRODUCTION.

### 1.1 Preamble.

Government of Kyrgyz Republic (GoKRG) entered into supplemental loan and grant agreements with Asian Development Bank (ADB) for identification, design, implementation, and construction-supervision of Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2) - Additional Financing Section 1 (Lot 1) "Balykchy - Kochkor km. 0-km. 43", Section 2A (Lot 2) "Kochkor-Epkin (km 62+400-km 89+500)" (The Project).

1. ). The Project is part of North-South Alternate Corridor which is a priority project in Sustainable Development Strategy of GoKRG.

2. Project involves rehabilitation of two road sections: Balykchy section from km 0 to km 43 and Kochkor – Epkin section from km 62+400 to km 89+500. For bidding and construction purposes, Balykchy section is referred to as Lot 1 and Kochkor-Epkin section is referred to as Lot 2. A location map of Project is shown in Figure 1.

3. Project is aimed at improving the socio-economic conditions of Kyrgyz Republic regions through: (i) shortened travel time for movement of people and goods between southern districts of Osh, Batken and Jalalabad and northern districts of Naryn, Issyk-Kul, Chui and Talas; (ii) reduced transport costs due to reduced route and better road conditions; (iii) increased local and international traffic and trade particularly between Kyrgyzstan and Tajikistan; (iv) increased income-generating opportunities for local people; (v) creation of new jobs; (vi) good condition of vehicles; and (vii) reduced transportation costs.



Figure 1. Project Location.

4. Project is classified as environmental "Category B" based on ADB Safeguard Policy Statement 2009 (SPS 2009). Accordingly, an Initial Environmental Examination (IEE) report<sup>1</sup> that include an Environmental Management Plan (EMP) was prepared separately for the two road sections by Ministry of Transport and Communication (MOTC) through an international consulting team. Each IEE contains the recommended environmental management measures and monitoring programs. These aim to ensure that the identified

<sup>1</sup> [https://www.adb.org/sites/default/files/linked-documents/41444-024-ieeab\\_1.pdf](https://www.adb.org/sites/default/files/linked-documents/41444-024-ieeab_1.pdf)

negative environmental and social impacts associated with Project implementation will be avoided or at least minimized to acceptable levels. As recommended in the IEE-EMP, the civil works Contractor prepared a Site-Specific Environmental Management Plan (SSEMP) for each road lot. SSEMP specified how Contractor would ensure compliance with SPS 2009, the IEE-EMP, and applicable laws and regulations of GoKRG. Construction Supervision Consultant (CSC) monitors Contractor's implementation of SSEMP and thus, its compliance with IEE-EMP. Monthly, quarterly, and semi-annual reports are prepared by CSC's environmental specialists and submitted to PIU. Semi-annual report is submitted by PIU to ADB for uploading into ADB website for public disclosure, in line with SPS 2009.

5. This is **ninth** semi-annual" environmental monitoring report covering the period January-June 2024, for CAREC Corridors 1 and 3 Connector Road Project Additional financing for Lot 1 "Balykchy km. 0 - km. 43", Lot 2 "Kochkor-Epkin (km. 64 - km. 89)". Report describes environmental aspects, mitigation and monitoring measures undertaken by Contractor Sinohydro-Powerchina Roadbridge JV and construction supervision consultant Roughton International Ltd. and subconsultant RAM Engineering Associates LLC».

6. Report contains information on conducted works from Contractor and Construction Supervision Consultant. Based on monitoring, inspections from January to June 2024 by CSC's National Environmental Specialist and information received from the Contractor.

## 1.2 Key Information.

7. All contract's major construction works have been completed. Since 1st December 2023 the Defects Notification Period (DNP) and the Performance Based Maintenance Contract (PBMC) began the period during which the Contractor is responsible to remedy any defective work which become apparent and road maintenance. DNP on this project is 36 months period has started. At the same time, the validity period of the PBM includes 5 years, which will end on December 1, 2028. The DNP and PBMC periods operate in parallel. Elimination of identified defects and road maintenance are performed by the contractor in parallel.

8. In 2020, when pegging and setting out design coordinates onsite, identified 1,909 pieces for "forced" cutting, of which: 160 pcs. in Lot 1 and 1749 pcs. in Lot 2. To minimize impacts on green vegetation, a joint control point analysis was conducted by Consultant and Contractor. This reduced the number of trees cut down, preserving 83 trees. Contractor completed tree cutting in 2020. Contractor obtained all necessary permits for cutting. Prior to cutting down trees, the commission conducted a survey of green plantations and obtained all necessary permits from territorial bodies of Environmental Protection Agency: Permit for tree removal No. 000 461 dated November 3, 2020 from Naryn Territorial Department of State Agency for Environmental Protection and Forestry under GoKR. Act of survey of green plantations under GoKR Balykchy No. 006603 dated November 16, 2020, Permit for tree removal from Issyk-Kul Territorial Department of State Agency for Environmental Protection and Forestry under GoKR

9. At the time of preparing the report, compensatory tree planting was completed. A total of 1,602 trees were cut down, and 3,534 trees were planted to replace the cut ones (at a ratio of 1:2).

**for Lot 1 - 240 pieces of weeping willow saplings.**

**Lot 2 - 2134 pieces of seedlings (birch - 300 pieces, weeping willow - 300 pieces, poplar - 950 pieces. vinegar tree - 70 pieces, almonds - 30 pieces, common pine - 100 pieces, Tien Shan spruce - 20 pcs, Elm - 344 pcs.**

In reporting period, an inventory of planted seedlings is:

During previous reporting period, the survival rate of planted seedlings was monitored. According to the monitoring results, the number of seedlings that did not take root/dead amounted to 628 pieces.

In reporting period, 2225 out of 1670 seedlings were planted - compensation planting to replace cut down trees and 581 dead seedlings out of 628 were restored (Photo 1-4). During the reporting period of July-December 2024, monitoring of the survival rate of the planted trees will be carried out.



Photo 1. Lot 2. Poplar trees planted along the project road in 2024.



Photo 2. Lot 2. Ak-Uchuk village, willow tree planted in May 2024.



Photo 3. Lot 2. School in Epkin village. Poplars planted in May 2024



Photo 4. Lot 2. Cholpon village. Tien-Shan spruce trees planted to replace dead pines

**10.** As explained in previous SAEMRs, for Lot 1 and Lot 2, all preparatory activities that are relevant to environmental management were completed by Contractor between 2020 and 2021. These include:

- preparation of SSEMP, Health and Safety Plan, and Covid-19 Prevention and Mitigation Plan. The SSEMP was approved by the MTC KG in October 2020.
- acquisition of permits or approval from the local authorities and State Environmental Protection and Forestry Agency (SEPFA) for development and use of campsites, sites for construction facilities, quarry sites, and spoils disposal sites. Permits were received between September 2020 and May 2021.
- entering into agreement with relevant agencies for solid waste collection, wastewater collection, and hazardous waste collection. Contracts with specialized companies were concluded in 2021 and were renewed every year.
- acquisition of temporary permit for use of the quarry sites from the State Agency for Geology of Subsoil Use №03-5/682
- construction and/or development of the campsites, field offices, asphalt plants, crushing plants, fabrication areas, machinery areas, quarries, scarified asphalt and spoils disposal sites, and auxiliary installations,
- entering into agreement with Laboratory of Chui-Bishkek Territorial Department of State Agency for Environmental Protection and Forestry under GoKRG to carry out instrumental monitoring of

water and atmospheric air quality and with LLC "ProfiLab" for instrumental monitoring of vibration and noise levels in areas of high environmental sensitivity and with socially sensitive receptors along the Project alignment, and in the quarry areas. Contracts with laboratories for instrumental monitoring were concluded in April 2021 and were renewed every year.

11. No major environmental issues arose during reporting period. Small non-compliances observed by CSC's Environmental specialist during project site visits were immediately resolved. No complaints or appeals were received.

12. In reporting period, timely instrumental environmental monitoring of environmental quality components: water, air, noise and vibration level was ensured.

13. The volume of completed construction work as of June 30, 2024 is presented below.

#### Scope of Construction Works.

Work Item	Unit	Quantity (Original Plan)			
		Lot 1	%	Lot 2	%
Tree cutting	pcs	122	100	1480	100
Clearing and Grubbing	ha	37	100	35	100
Excavation	m3	116 485	100	42 823	100
Existing Asphalt Break Up	km	38 597	98	10 833	98
Fill and Embankment	m3	205 306	100	93 725	100
Culverts	set	63	100	51	100
Subgrade	m3	154 700	100	90 010	100
Subbase	m3	220 850	100	125 000	100
Base	m3	91 079	100	61 750	100
Binder	m3	37 883	100	25 750	100
Bridges	set	4	100	1	100
Gabions	pcs	696	100	-	100
Drainage	m	1 569	100	139	100
Parking near markets	Pcs	4	100	2	100
Parapet fence	pcs	1 339	100	946	100
Reconstruction of communication lines			100		100
• Overhead line -10kV	poles	8		22	
• Overhead line - 0.4 kV	poles	-		7	
• Communication line	poles	14		-	
• Lighting poles	pcs	193		337	
• PVC pipes	l.m.	848		820	
Others		Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities	100	Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities	100

## 2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES.

### 2.1 Project Description.

#### 2.1.1 Project Rationale and Project Area.

14. Kyrgyzstan is a mountainous and landlocked country, where regional trade is heavily dependent on roads which dominates Kyrgyzstan's transport system. There is no rail or water transport network while air transport is expensive and not suitable for mass transport and freight.

15. Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2) - Additional Financing Section 1 (Lot 1) "Balykchy - Kochkor km. 0-km. 43", Section 2A (Lot 2) "Kochkor-Epkin (km 62+400-km 89+500)" will connect two major CAREC regional corridors by rehabilitating an existing but

narrow connector road. It is part of the North-South Alternative Corridor, a priority project in the National Sustainable Development Strategy.

**16.** Entire road corridor lies within Northern and Inner Tien Shan Mountain ranges. Route passes through mountains and plains of Issyk-Kul region at altitudes between 700 meters and 3,500 meters above sea level (masl), crossing Chu River valley. Based on Köppen Climate Classification System (BSK), Issyk-kul region has mid-latitude steppe climate which is described as continental with cold winters and hot summers. Difference between mid-summer and mid-winter temperatures can be extreme and areas of permafrost are notable.

**17.** Section 1 (Lot 1), the Balykchy Project section, is 43 km long and runs from east to south-west. It begins at a traffic circle located at the entrance to Balykchy City. Five roads converge at this point, one of which is a section of CAREC road heading south. Lot 1 follows the existing highway up to km 43. The first 29 km of the road is within Tonsky Rayon (District) of Issyk-Kul Region (Province) while the remaining 14 km is within Kochkor Rayon of Naryn Region. The road elevation at km 0 is 1,632masl while the elevation at km 43 is 1,756 masl. Throughout the road section, the elevation ranges from 1,610masl to 1,820masl. Figure 2 shows the general topography of areas traversed by Lot 1.

**18.** Kochkor-Epkin road section (Lot 2) is 25 km long and runs from east to west. It begins at junction of three roads (km62+400) in Kochkor town where Bishkek-Naryn-Torugart Highway serves as a detour for Kochkor town and this road section. Road follows existing highway and ends at km89+500 in Epkin. Entire road section is within Naryn oblast and crosses only Kochkor Rayon. Kochkor is center of Kochkor Rayon of Naryn oblast.

**19.** Areas surrounding the roadway are vast agricultural lands used for crop and livestock production. Kochkor has rolling and mountainous terrain which is covered with grasses suitable for grazing. Kochkor Valley is bounded by Kyzart mountain ridges on north and Karagatty Kyzart on south. Mountainous region has a very dissected relief with high slopes. Elevation in valley ranges from 1,700masl to 2,400masl. Road elevation at km 62+400 (beginning of ot 2) is 1,845masl while the elevation at km 89+500 (end of Lot 2) is 2,080masl. Elevation along entire road section ranges from 2,400masl to 4,502masl. Figure 3 shows general topography of areas traversed by Lot 2.

**Figure 2. Topographical Map of Areas Traversed by Lot 1.**

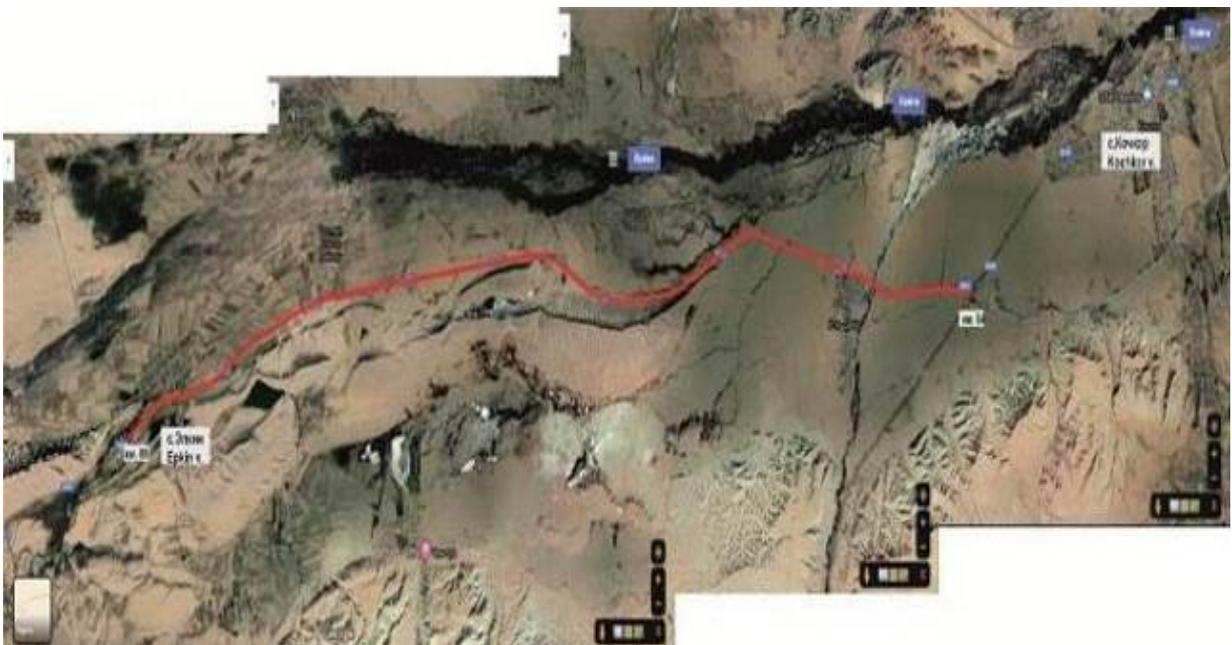


Figure3. Topographical map of Areas Traversed by Lot 2



### 2.1.2 Basic Project Information.

20. Basic information concerning the Project loan, consulting services and construction contracts are summarized in Table 1.

**Table 1. Basic Project Information.**

Item	Description
Project Name	Kyrgyz Republic: CAREC Corridors 1 and 3 Connecting Road Project, Phase 2 (Additional Financing)
Funding Agency	Asian Development Bank
Project References	Project number: TA-8887 KGZ Loan number: ADB Loan 3432-KGZ (SF) Grant number: 0496-KGZ (SF)
Executing Agency (EA)	Ministry of Transport and Communication of the Kyrgyz Republic (MOTC)
Implementing Unit	Project Implementation Unit (PIU) under MOTC
Construction Supervision Consultant (CSC)	Roughton International Ltd., and RAM Engineering Associates LLC
Date of CSC contract	14/02/2017
Notification for CSC's work commencement	20/05/2020
Civil Works Contractor	Sinohydro-Powerchina Roadbridge JV
Approved subcontractors	<ul style="list-style-type: none"> <li>• Arek Story LLC</li> <li>• Balkchi Trans LLC</li> <li>• Shera Trans LLC.</li> <li>• Jungalsuukurulush Open Joint Stock Company</li> </ul> In 2021 Shera Trans was replaced by Kyrgyzgidrospecestroy LLC as a consortium partner with Zhagalmay LLC
Road Sections covered by Contract	Total length of two road sections - 68 km
Lot 1	Balykchy - 43 km
Lot 2	Kochkor – Epkin - 25 km
Notice to commence works	22/06/2020
Completion date (original)	22/06/2022
Completion date (Revised)	21 June 2023
Time to finish – days	730 days
Extension - days	First extension (delay due to COVID-19) 365 days
Warranty period - days	36 months
Contract Amount	
Lot 1	USD 22,671,896.26
Lot 2	US\$ 17,537,958.57

### 2.1.3 Scope of construction works and technical specifications.

21. Project was designed in accordance with Kyrgyz Highway Standard (SNIP 32-01:2004), with geometrical and structural requirements up to Technical Category II (main streets of city importance). Lane width 3.5m – 3.75m; width of carriageway 7.00m – 7.50 m; width of shoulder 3.25m – 3.75m (of which 0.50m - 0.75m will be paved). Average total road width is 15m. Road rehabilitation includes repair or replacement of existing small bridges and culverts, construction of side drains and other drainage facilities, construction of retaining walls for river protection where needed, provision of road signs and road markings, and construction of bus stops and one underground crosswalk. Scope of works is summarized in Table 2 while the technical specifications are summarized in Table 3.

**Table 2. Scope of Construction Works.**

Work Item	Unit	Quantity (Original Plan)	
		Lot 1	Lot 2
Tree cutting	pcs	30	38
Clearing and Grubbing	ha	37	35
Excavation	m3	116 485	42 823
Existing Asphalt Break Up	km	38 597	10 833
Fill and Embankment	m3	205 306	93 725
Culverts	set	63	51
Subgrade	m3	154 700	90 010
Subbase	m3	220 850	125 000
Base	m3	91 079	61 750
Binder	m3	37 883	25 750
Bridges	set	4	1
Gabions	pcs	696	-
Drainage	m	1 569	139
Parking near markets	Pcs	4	2
Automobile pavilion	pcs	8	11
Parapet fence	pcs	1 339	946
Reconstruction of communication lines			
• Overhead line -10kV	poles	8	22
• Overhead line - 0.4 kV	poles	-	7
• Communication line	poles	14	-
	pcs	193	337
• Lighting poles	l.m.	848	820
• PVC pipes			
Others		Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities	Tree planting Archaeological survey and monitoring Removal of bus stops Environmental monitoring Auxiliary facilities

\* Note: Increased to 1704 trees based on actual survey

**Table 3. Technical Specifications.**

Item	Specification	Remarks
Number of traffic lane	2	
Traffic lane width	3.5m to 3.75m	
Width of carriageway	2 x 7.5m	
Shoulder width	3.25m to 3.75m	Of which, 0.5m to 0.75m should have covering
Total width of carriageway	15m	
Design axle load	11.5 tons	
Width of the road right-of-way	30m to 60m	
Road Pavement		
• Top pavement (SMA) layer	6 cm thickness; vol. 42,505 m <sup>3</sup>	
• Coarse-grained asphalt at junctions	5 cm thickness vol. 682 m <sup>3</sup>	
• Leveling layer	9 cm thickness; vol. 63,633 m <sup>3</sup>	
• Base course	20cm thickness; vol. 152,829 m <sup>3</sup>	
• Sub-base course	25cm thickness; vol. 345,850 m <sup>3</sup>	
• Asphalt concrete mixture on sidewalks	4cm thickness; vol. 434 m <sup>3</sup>	

#### 2.1.4 Summary of Identified Negative Impacts of Project Implementation.

**22.** Based on IEE reports for Lot 1 and Lot 2, majority of negative environmental impacts arising from project implementation will occur during construction phase, but some impacts will occur during operation phase.

**23.** Identified potential negative impacts during Project construction phase include:

- noise and vibration
- generation of dust and air emissions from earthworks and from the operation of vehicles, construction equipment, concrete batching plants, asphalt batching plants and rock crushing plants
- impacts on water courses (siltation, deterioration of water quality)
- impacts of quarrying (removal of vegetation, changes in landscape, soil erosion/landslide, degradation of soil quality)
- impacts on soil due to removal of trees and vegetation
- Impacts resulting from rehabilitation of bridges and drainage structures,
- Impacts from operation of campsites, and
- Impacts on historical and archaeological sites

**24.** Identified negative impacts during Project operation phase include:

- increase in gas emissions
- increase in noise levels
- increase in traffic accidents involving pedestrians and vehicles, and
- increased risk of accidents associated with possible spills of harmful substances attributable to increased traffic and high vehicle speeds due to good road surface.

**25.** Satisfactory management of noise, airborne pollutant emissions, and vibration are of particular importance to communities near the road and in places where sensitive receptors such as schools, hospitals, mosques, etc. are located.

## **2.2 Project Contracts and Management.**

### **2.2.1 Project Management.**

**26.** The Borrower and Project Executing Agency (EA) for Kyrgyz Republic is Ministry of Transport and Communication (MOTC). Project Implementation Unit (PIU) under MOTC is implementing agency directly responsible for overseeing execution of contracts, financial management, and for ensuring compliance with loan conditions. PIU is supported by Construction-Supervision Consultant (CSC), Roughton International Ltd., and Sub-consultants RAM Engineering LLC. CSC supervises civil works to ensure quality and progress of works in accordance with construction contracts. CSC is also responsible for ensuring Project's compliance with ADB's social and environmental safeguards. Construction of project roads is being undertaken by Joint Venture Sinohydro Corporation Ltd – Power China Road Bridge Group Co. Ltd. (Sinohydro-Powerchina Roadbridge JV) which was awarded the contracts for both Lot 1 and Lot 2. Sinohydro-Powerchina Roadbridge JV, General Contractor (GC) is supported by local subcontractors approved by PIU (Arek Stroy LLC).

**27.** Other agencies involved in Project include Ministry of Finance (MOF), Ministry of Natural Resources, Environment and Technical Supervision (MNRETS), and Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of Ministry of Healthcare (DDPSES).

**28.** Functions, roles, and/or responsibilities of entities involved in Project management are summarized in Table 4. Table 5 lists names and contact numbers of persons involved in social and environmental safeguards implementation

**Table 4. Functions, Roles, and Responsibilities of Entities involved in Project Management.**

Agency/Entity	Function/Roles/Responsibilities
Asian Development Bank	Lending institution. Provides financing for Project and ensures Project implementation follows ADB project cycle. Provides project management support to MOTC and PIU. Monitors Project implementation through regular missions. Provides workshops and seminars for staff of EA, PIU, CSC and Contractor on project management, procurement, contracting of consulting services, disbursement, accounting, and financial management, and on social and environmental safeguards.
Ministry of Finance of the Kyrgyz Republic	Authorized state body responsible for coordination with ADB and other donors regarding external assistance issues.
Ministry of Transport and Communication of KR	Responsible for development of transport sector and is EA for project. MOTC has overall responsibility for planning, design, implementing and monitoring of project. PIU operates under MOTC and performs tasks assigned from MOTC.
Project Implementation Unit	Implementing agency directly responsible for supervising contracts implementation, financial management, and for ensuring compliance with loan conditions, including social and environmental safeguard requirements.
Ministry of Natural Resources, Environment and Technical Supervision	Lead Government Environment Protection Agency is responsible for governmental environment policy and coordinates with other governmental agencies. Functions include: <ul style="list-style-type: none"> <li>– development of environmental policy and implementation;</li> <li>– carrying out state environmental expertise;</li> <li>– issuing environmental licenses;</li> <li>– environmental monitoring;</li> </ul> supervision of compliance with environmental legislation, established rules, limits and norms of natural resource use, standards for emissions and discharges of pollutants and waste disposal in natural environment;
	Lead Government Environment Protection Agency is responsible for governmental environment policy and coordinates with other governmental agencies. Functions include: <ul style="list-style-type: none"> <li>– development of environmental policy and implementation;</li> <li>– carrying out state environmental expertise;</li> <li>– issuing environmental licenses;</li> <li>– environmental monitoring;</li> <li>– supervision of compliance with environmental legislation, established rules, limits and norms of natural resource use, standards for emissions and discharges of pollutants and waste disposal in the natural environment;</li> </ul>
Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health	Supervises sanitary and epidemiological well-being of population, safety of goods, products, environmental facilities and conditions, prevention of harmful impact of environmental factors on human health
Construction Supervision Consultant	Supervises construction works to ensure quality and progress of works in accordance with construction contracts. CSC is also responsible for ensuring Contractor’s compliance with ADB’s social and environmental safeguards.
General Contractor	Responsible for execution of construction works and all works covered by construction contract in accordance with technical specifications. Also responsible for implementation of ADB social and environmental safeguards as specified in contract agreement with IA.
Subcontractors	Execution of construction works covered by sub-consultancy agreement with GC in accordance with technical specifications. Subcontractors are also responsible for implementation of ADB social and environmental safeguards in same manner as GC

## 2.2.2 Management of Social and Environmental Aspects.

29. ADB has designated a Country Environmental Focal Person and a team of resident social and environmental specialists to monitor Project compliance with ADB’s social and environmental safeguards. ADB team conducts site visit missions regularly during Project implementation to check social and environmental conditions. They also provide trainings to staffs of EA, IA, and CSC on environmental, health and safety aspects.

30. MOTC has designated an officer to take charge of matters relating to social and environment aspects of Project.

31. CSC has in its team an International Social Development and Resettlement Specialist (SDRS), National Environmental Protection Specialist (NEPS), National Resettlement Specialist (NRS), and National Archeologist. SDRS is responsible for monitoring and reporting on progress of resettlement activities and status of compliance with social safeguards. NEPS is responsible for preparing SAEMR reports, and providing monitoring and supervision functions regarding Contractor’s compliance with the environmental safeguards reflected in IEE-EMP and SSEMP. They also provide guidance to environmental staff of Contractor on rectification of environmental non-compliance issues. Contractor has designated a national Environmental Specialist (ES) who is mainly responsible for implementation of Contractor’s SSEMP commitments. Contractor’s ES is also responsible to supervise instrumental monitoring of noise, vibration, water quality, and air quality which Contractor has sub-constructed to an accredited laboratory.

32. Table 5 lists names and contact information responsible of project’s social and environmental management.

**Table 5. Contact Information of Persons responsible of Social and Environmental Management.**

No	Organization	Designation	Name	Contact information
1	ADB	Country Environment Focal	Lizandro C. Racoma	<a href="mailto:lracoma@adb.org">lracoma@adb.org</a>
2	ADB Resident Mission in Kyrgyz Republic	National Environmental Consultant	Sultan Bakirov	<a href="mailto:Sbakirov.consultant@adb.org">Sbakirov.consultant@adb.org</a>
3	PIU under MOTC	PIU Environmental Officer	Abdygulov Asylbek	<a href="mailto:asylbeka@piumotc.kg">asylbeka@piumotc.kg</a>
4	Roughton International Ltd., and sub-consultant RAM Engineering Associates LLC.	National Environmental Protection Specialist	Akmatova Nasiba	<a href="mailto:nasibamn@hotmail.com">nasibamn@hotmail.com</a>
5	Sinohydro-Powerchina Roadbridge JV.	Contractor’s National Environmental Specialist	Beisheev Isake	<a href="mailto:isake.beysheev@bk.ru">isake.beysheev@bk.ru</a>

## 2.2.3 Construction-Supervision Consultant’s Team.

33. Roughton International, Ltd. and Sub-consultants RAM Engineering LLC, as construction supervision consultant are mainly responsible for ensuring Main Contractor and its subconsultants are carrying out works in accordance with contract conditions and technical specifications. CSC is also responsible for ensuring Project’s compliance with ADB’s social and environmental safeguards. CSC’s organizational structure is shown in Figure 4. List of staff as of 30<sup>th</sup> December 2023 is shown in Table 6.

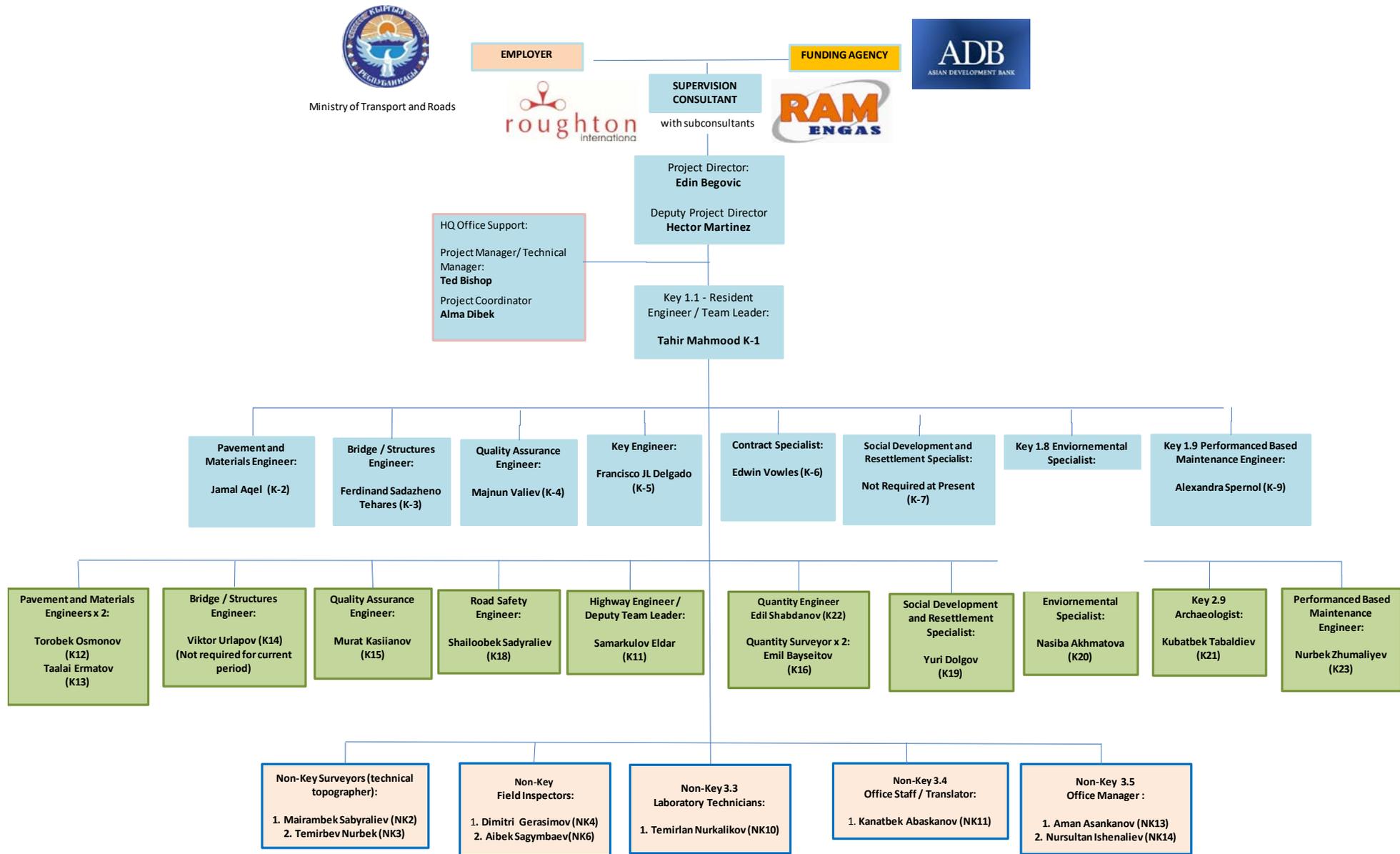


Figure 4. Organizational Structure of the Construction Supervision Consultant.

**Table 6. List of Consultant's Staff.**

<b>International staff</b>	
Project Director	Edin Begovich
Resident Engineer-Team Leader	Tahir Mahmood
Contract Specialist	Ed Vowles
PBM Engineer	Alexandra Spernol
Road Safety Engineer	Francisco Javier Lopez Delgado
<b>Local staff</b>	
DTL	Eldar Samarkulov
Pavement and Materials Engineer – 1	Torobek Osmonov
Quality Engineer	Murat Kasianov
Road Safety Engineer	Shailoobek Sadyraliev
Quantity Engineer	Edil Shabdanov
Office manager – 1	Aman Asankanov
Office manager – 2	Nursultan Ishenaliev
PBM Engineer	the replacement procedure is underway
Topographer – 2	Mayrambek Sabyraliev
Topographer – 3	Temirbaev Nurbek
Site Inspector – 2	Sagymbaev Aibek
Site Inspector – 3	Dmitrii Gerasimov
Laboratory Technician	Temirlan Nurkalikov
National Environmental Specialist	Nasiba Akhmatova
Resettlement Specialist	Yuri Dolgov

## **2.3 Project Activities During Current Reporting Period.**

### **2.3.1 Road construction works.**

**34.** Road construction was completed on Lot 1 in the previous reporting period.

**35.** During road construction period the following scope of work was performed:

- **Clearing and grubbing.** Works cover 37 ha under initial project and completed- 100 %.
- **Excavation.** Amounted of soil excavation is 37,489 m<sup>3</sup>. Total work implementation from beginning of the project to December 2023 was 110%.
- **Removing existing asphalt.** In 2023, asphalt removal work on the project road section of 43 km was 100% complete.
- **Backfill and earthen embankment:** from project implementation start to December 2023, the fulfillment of works amounted to - 124 %.
- **Subgrade.** Earth bed construction of 42.92 km and includes paving and compaction of 399,940 m<sup>3</sup>. Total execution of works from the project start to report period start 100 %.
- **Subbase:** Subbase works are carried out on a total road length of 42.92 km and include laying and compaction of 260,095 m<sup>3</sup> of subbase material, 39,245 m<sup>3</sup> on shoulders and 220,850 m<sup>3</sup> on the main road. The overall execution of works since project start at the beginning of the reporting period is 100%.

- **Base.** Base course works with total length of 42.92 km include paving and compaction of 92,737 m<sup>3</sup> of base course material. Total completion of works since the beginning of the project implementation at the beginning of the reporting period - 100%.
- **Binder:** Project involves paving and compaction of binder course on 42.92 km with a total volume of 38,390 m<sup>3</sup>. Total completion of works since the beginning of the project implementation at the beginning of the reporting period - 100%.
- **SMA Asphalt Pavement:** Project involves paving and compaction of asphalt on 42.9 km of road with total volume of 25,339 m<sup>3</sup>. Total completion of works since the beginning of the project implementation at the beginning of the reporting period - 100%.
- **Culverts:** Project involves construction of 63 culverts. Culverts' construction was 100% completed.
- **Bridge.** Project includes the construction of one bridge at km 12+063, which was completed in the first half of 2023.

**36.** Main works performed in the reporting period (Photo 5-22): installation of parapets, poles and permanent road signs, cleaning of the project road, cutting of slopes, earth works on sidewalk construction, works on asphaltting of sidewalks. The scope of works is shown in Table 7.



Photo 5. Lot 1. Sprinkling of sand-salt mixture against icing, January 2024.



Photo 6. Sprinkling of mixture against icing, km.14+000. January 2024.



Photo 7. Lot 1. Installation of permanent road signs, km 11+400. January 2024.



Photo 8. Lot 1. Installation of parapets at km 39+000 March 2024.



Photo 9. Lot 1. Installation of parapets km. 37+540. March 2024.



Photo 10. 36+000-38+000 RHS slope cutting. March 2024.



Photo 11. Construction and leveling of sand cushion 36+530-36+820 RHS. March 2024.



Photo 12. Installation of parapet foundation 34+680-34+905 RHS. March 2024.



Photo 13. Lot 1. Road marking km 3-6. April 2024.



Photo 14. Parapet installation, km.41 April 2024.



Photo 15. Lot 1, km 22+575, culvert cleaning. April 2024.



Photo 16. Cleaning of culvert, km 33+869, April 2024.



Photo 17 . Concreting of parapet joints at 41+920-42+095 LHS. May 2024.



Photo 18. Lot 1. Clearing of subgrade for sidewalk km 1+200-1+300 LHS. May 2024.



Photo 19. Lot 1. Installation of roadside posts 18+500 RHS June 2024.



Photo 20. Lot 1. Sidewalk. Earthworks, km. 2+500 LHS. June 2024.



Photo 21. Preparation of sidewalk embankment km 0+600-0+750 LHS. June 2024.



Photo 22. Installation of signal poles at km 14+000-19+000 BS. June 2024.

Table 7: Scope of Work for Lot 1

No	Description	Unit rate	Per project	Completed	Incomplete	% Incomplete work	Notes
1	Reinforced concrete chutes	m	1611	0	1611	0%	
2	Reinforced concrete parapets	pcs	2697	2592	105	96%	Parapet installation works are in progress
3	Signal posts	pcs	1105	502	603	45%	Completed km.18 - km.38
4	Road signs	pcs	271	263	8	97%	Berms not completed
5	Road markings	m	146894	127400	19494	87%	Not completed km.0-km.3
6	Bus stops	pcs	14	0	14	65%	Lining, asphalt and benches not completed
7	Sidewalk	m	4702	0	4702	10%	Curbs installed 2200m from km.0-km.1+300
8	Road exits	pcs	45	2	43	65%	34 pcs subbase, 3 pcs base, 2 pcs asphalt
9	Lighting	pcs	193	0	193	10%	Cable laying completed and 15pc foundations completed
10	Road culverts at exits	pcs	6	0	6	0%	Works have not started
11	Railway crossing km1+300	set	1	0,25	0,75	75%	Work on the installation of RHS safety barrier in progress
12	Traffic light km2+700	set	1	0	1	0%	
13	Toilet	pcs	2	0	2	0%	
14	Road shoulders	km	86	70	16	81%	C km0-km3 not completed

37. Lot 2 the following works were carried out at the beginning of the reporting period:

- **Clearing and grubbing.** Original project covers 35 ha of works. Clearing and grubbing works are 100% complete as of the beginning of the reporting period.
- **Excavation:** This item includes the excavation and disposal of unsuitable soil resulting from rock excavation and road construction. Total excavation for project is 9,045 m<sup>3</sup>. Excavation volume at the beginning of the reporting period amounted to 25,587 m<sup>3</sup>. The total fulfillment of works since the beginning of the project implementation at the beginning of the reporting period amounted to 124 %.
- **Removal of Existing Asphalt.** At the beginning of current reporting period, old asphalt had been removed from entire 27.1 km project site.
- **Fill and embankment:** Project involves work amount of 93,725 m<sup>3</sup>. Works under the Project have been completed. The total volume of works completed since the beginning of the Project at the beginning of the reporting period amounted to 142,523 m<sup>3</sup> - 152%;
- **Subgrade:** Project's excavation works to be carried out with total length of 27.1 km in the amount of 90,010 m<sup>3</sup>. As of the beginning of the reporting period, 100 % of subgrade works were completed.
- **Subbase:** Subbase works are carried out on a total road length 27 km and include installation and compaction of 152,626 m<sup>3</sup> of subbase material; 26,220 m<sup>3</sup> for shoulders and 126,516 m<sup>3</sup> for the main road. The overall execution of works has been completed and since the beginning of the project implementation at the beginning of the reporting period amounted to 100%.
- **Base.** Base course requirement according to original project is 62,300 m<sup>3</sup>. Base layer works are 100% complete as of the beginning of the reporting period.
- **Binder:** Binder and wearing course paving and compaction on road with a total length of 27.1 km and a volume of 62,300 m<sup>3</sup>. Binder course works 100% complete as of the beginning of the reporting period.
- **Reinforced Concrete Pipes.** Project involves the construction of 45 culverts. Construction of 45 culverts was completed in previous reporting period.
- **Bridge:** Project involves construction of bridges at km 65+410, km 68+044, km 86+261 and km 88+795. Bridge construction was 100% complete at the beginning of the reporting period.

38. Main works performed in the reporting period (Photos 23-39): installation of parapets, posts and permanent road signs, sanitary cleaning of the project road, cutting of slopes, earth works on sidewalk construction, works on asphaltting of sidewalks, arrangement of stops, planting of saplings. The scope of works performed in the reporting period is shown in Table 8.



Photo 22. Clearing of roadway from materials, km 66+400. January 2024.



Photo 23. Sanitary cleaning of project road km 89+500. February 2024.



Photo 24. Slope cutting km. 80+600 LHS. February 2024.



Photo 25. Installation of road sign km 86+410 LHS. March 2024.



Photo 26. Construction of pipe inlet reinforcement, km.88+692. March 2024.



Photo 27. Concrete pouring for slope reinforcement km 64+860. April 2024.



Photo 28. Installation of curbs for sidewalks, km. 86-87. April 2024.



Photo 29. Application of edge markings km 85+000+86+000. April 2024.



Photo 30. Installation of signal posts km 73+000-76+000 BS, May 2024.



Photo 31. Welding of parapets km 88+860-88+790 RHS. May 2024.



Photo 32. Installation of sidewalk curbs km 69+850-70+000 LHS. May 2024.



Photo 33. Construction of a sidewalk in Kok-Zhar v. June 2024.



Photo 34. Installation of bus stop roof frame 78+010 RHS. June 2024.



Photo 35. Sidewalk paving at km 86+570-87+000 LHS. June 2024.



Photo 36. Kok-Jar v. Seedlings for planting. April 2024.



Photo 37. Kok-Jar v. Planting of saplings. April 2024.



Photo 38. Planted seedlings. Stadium of Kok-Jar v. April 2024.



Photo 39. Seedlings planted in Ak-Uchuk v. May 2024.

Table 8: Scope of Work for Lot 2

No	Description	Unit rate	Per project	Completed	Incomplete	% Incomplete work	Notes
1	Reinforced concrete chutes	m	471	276	195	59%	
2	Reinforced concrete parapets	pcs	1423	1415	8	99 %	Installation of parapets is in progress
3	Signal posts	pcs	720	225	495	31%	Installed from km71 - km86
4	Road signs	pcs	232	212	20	91%	Berms not completed
5	Road markings	m	94526	77446	17080	82%	Remaining within settlements
6	Bus stops	pcs	13	0	13	55%	10pc completed 60% 3pc completed 30%
7	Underground crosswalk	pcs	1	0,9	0,1	90%	Lighting and shed not completed
8	Sidewalk	m	7367	275	7092	65%	95% kerbs installed Base is 55% complete
9	Exits with asphalt surface	pcs	90	1	89	1%	1pc asphalt, 7pc base, remaining completed to subbase
10	Entrances without asphalt	pcs	63	20	43	32%	remaining completed to subbase
11	Lighting	pcs	337	96	241	28%	Cable installation and installation of 200pcs of foundations completed
12	Tree planting	pcs	3408	3270	138	96%	
13	Restoration of dead trees	Pcs.	628	581	47	93%	
14	Barrier fencing	m	158	0	158	0%	
15	Curbs	kilometre	54,2	22	32,2	41%	

### 2.3.2 Other Works.

39. Aside from activities involving the major road work items, during current reporting period, Contractor carried out following activities to support project operations and to fully comply with other contractual obligations as stipulated in contract and technical specifications.

- Maintenance of project information sign boards, safety sign boards, and other safety warning devices for traffic, worker safety, and public safety (Photos 51-52)
- Compliance with the ADB safeguard policy; the relevant laws and regulations of the Kyrgyz Republic on health, safety, and environmental protection; the IEE-EMP; and the Contractor's SSEMP (see Section 3 and Section 4).
- Monitoring of air quality (noise, vibration, air pollutants), water quality and soil quality (See Section 4.3)
- Operation and maintenance of soil and aggregate quarries (See Section 4.4)
- Operation and maintenance of spoils disposal sites (See Section 4.5)
- Keep record of complaints and grievances

**Contractor's Campsite and Facility Area for Lot 1. (Balykchy-Kochkor 00+00 to 43+00).**

40. Contractor's Production Base and Camp dismantling, which started in December 2023, was completed in January 2024 (Photos 40-44). Reclamation of land parcels used for the Production Base and Residential Camp were completed in January and handed over to the landowner in February (Attachment 1. Photo Acceptance Certificate dated February 16, 2024).



Photo 40. Lot 1. Camp in process of completing dismantling. January



Photo 41. Camp area on Lot 1 in the process of dismantling facilities as of 01/29/24.



Photo 42. Parking of machinery at Lot 1.



Photo 43. Lot 1. Production base

**Contractor's Campsite and Facility Area for Lot 2.**

41. Contractor's Camp Lot 2 is located at Section 2A "Kochkor-Epkin" 81 km, 250 meters from the project site, area 4.5 ha (Figure 7). All necessary documents/approval from local authorities and approval of the state environmental authorities have been received (Letter to the aiyl okmotu of Cholpon aiyl aimag on allocation of land plot no. 310 dated 27.05.2020 Decision of the session of deputies of the VI convocation of Cholpon aiyl kenesh No. 35/4 dated 12.06.2020 on allocation of the land plot for temporary use for camp and production base, Permit of Naryn territorial department of EP No. 45 dated 17.08.2020 Letter No. 02-4/553 dated 17.08.2020).

42. Camp site is fenced and landscaped with tree planting. Within camp site are located: office, medical unit with a doctor and first aid facilities, living premises for the Contractor's personnel, construction equipment parking area, canteen with a kitchen block. Accommodation for international and national staff

and workers who do not reside in the area has a capacity of 45 persons. Each living room has a bathroom and a shower room. During the reporting period, the sanitary condition of the camp, accommodation and work areas was in good condition (Photos 44-51)

**43.** Emergency and firefighting measures are available. Fire extinguishers and fire boards are strategically distributed outside buildings, and rooms inside buildings are equipped with automated fire extinguishing systems. Various informational materials about COVID-19 and fire safety, emergency response is placed around buildings. During reporting period sanitary condition of camp space, living and working facilities were in good condition.

**Figure 5. Location of Lot 2 Contractor's Campsite and Facility Areas.**



*Lot 2 site area with crushing plant in the foreground and Contractor's camp in the background.*



Photo 44. Sanitary condition of Residence Camp complies with sanitary requirements. 29.01.2024



Photo 45. Condition of the Contractor's office parking area complies with sanitary requirements.



Photo 46. Contractor's camp. Kitchen. 12.03.2024.



Photo 47. Contractor's camp. Kitchen. 21.06.2024.



Photo 48. Contractor's camp. Canteen. March



Photo 49. Contractor's camp. Sanitary condition of sanitary facilities is satisfactory. March.



Photo 50. Living accommodations at Contractors Camp. June

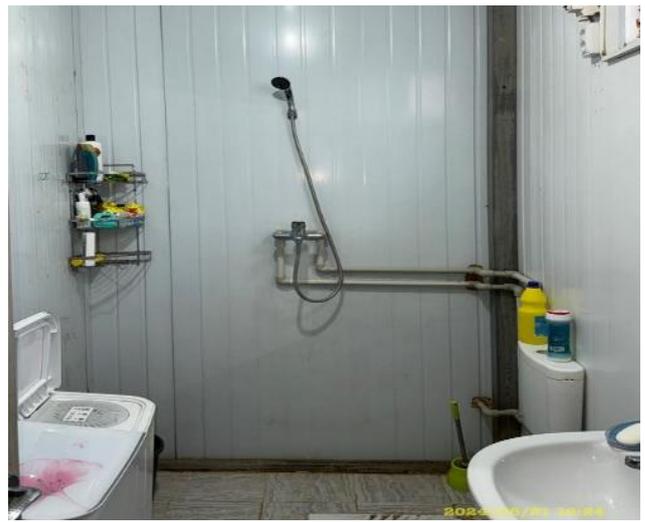


Photo 51. Bathroom in living room. June

**Personnel information.**

44. During reporting period, total number of Main Contractor and Subcontractor personnel averaged 332, mostly locals. Main Contractor signed contracts with following subcontractors approved by Engineer:

- Arek Construction LLC (Contractor's letter dated June 20, 2020)
- Shera Trans LLC (Contractor's letter dated August 6, 2020) – completed their cooperation with main Contractor on July 2023
- Zhumgal Suu Kurulush OOO (Contractor's letter dated 5 July 2021) completed their cooperation with main Contractor on July 2022

45. Table 9 provides a summary of Contractor's personnel information.

**Table 9. Contractor's Personnel.**

Personnel	Contractor SINOHYDRO	
	Local (Lo 1, Lot 2)	Foreign
Administrative/ Engineer/ Technician	16	16
Operators and drivers	22	
Skilled workers	99	
Unskilled labor	8	
Others	15	
<i>Subtotal</i>		
<b>TOTAL</b>	<b>178</b>	

## **2.4 Description of Changes in Project Design.**

46. No design changes in this reporting period.

## **2.5 Description of changes in agreed methods of construction.**

47. No changes have been made to construction methods.

## **3. ENVIRONMENTAL SAFEGUARD ACTIVITIES.**

### **3.1 General Description of Environmental Safeguard Activities.**

48. All environmental safeguard activities of Contractor are based on approved SEMP (for Lot 1 approved in October 2020, for Lot 2 approved in November 2020). Contractor's Environmental Protection Specialist (EPS) is primarily responsible for the implementation of Contractor's environmental protection commitments as specified in SEMP. Contractor's Project Manager provides necessary resources and management support to put all relevant plans into action. Among others, the safeguard activities of the Contractor include: (i) securing all needed environmental permits for the temporary use of some land, and for the installation and operation of the Contractor's facilities; (ii) consultations and dialogues with local communities to explain about the project activities and to resolve public grievances. The Contractor's environmentalist routinely conducts dialogues with local communities during site inspections to clarify project activities and resolve public complaints; (iii) carrying out monitoring by the contractor's and consultant's environmental specialist, of the construction sites and facilities to ensure that the conditions are in accordance with the ADB SPS 2009, IEE-EMP, SEMP, government regulations, and best management practices; (iv) implementation of corrective actions that may be recommended by the CSC NEPS; (v) supervision of sampling and testing of ambient pollution indicators; (vi) implementation of social, health and safety requirements; (vii) keeping daily logs and maintaining records of all environmental activities; and (viii) preparation of environmental reports.

49. CSC NEPS monitors Contractor's compliance with IEE-EMP and SEMP during construction stage through ocular site visits and audits of the Contractor's logbooks and records. Site visits are usually done together with Contractor's ES so that instructions for correction of non-compliances can be clearly and immediately explained for prompt action. CSC-NEPS also participates in air and water sampling and noise and vibration monitoring.

50. During reporting period, 2,225 seedlings were planted on Lot 2, including 100 birch trees, 249 weeping willow trees, 665 poplar trees, 748 Karagach trees, 445 turpan tal trees. Cholpon aiyl okmotu provided planting of 26 Tien Shan spruce trees to replace the dead pine trees. Site inspections by NEPS were conducted jointly with Contractor's ES. When environmental problems are observed, Consultant notifies Contractor verbally or in writing to correct the violations within a specified period. Meetings and/or orientations for staff who commits violations and those responsible for EMP and SEMP are conducted to explain the violations and suggestions for improvement.

### **3.2. Site Audits.**

51. Between January and June 2024, NEPS visited project sites 14 times. CSC NEPS and Contractor jointly conducted visual and environmental quality monitoring. In addition, the PIU conducted separate monitoring of the project site. The PIU environmental specialist made about 20 visits. The scope of work and results of site inspections are summarized in Table 10. Selected photos of activities and results are presented in photo (52).

**Table 10. Dates of project site inspections.**

	Date	Auditor's names	Purpose of audit	Brief information on any important audit remarks.	Measures done by contractors
<b>January</b>					
1	29.01.2024	Akhmatova N. Beisheev I.	Monitoring of SSEMP implementation by Contractor for Lot 2.  Visual monitoring of all construction sites, waste dumps, and quarries	Visual monitoring of construction sites, production bases, unsuitable soil dumps and quarries. It was recommended to ensure reclamation of lands used for the bypass road on Lot 1 sections located at: km 14+900, km.18+300, km. 31, km. 34+220, km.34+646, km.35+210, km.36+102, km.36+490, km.37+050, km.37+540, km.37+700, km.38+380, km.42+582.	The contractor will begin reclamation of bypass road sections in spring 2024.
2	30.01.2024	Akhmatova N. Beisheev I.	Monitoring of SSEMP implementation by the Contractor for Lot 1, during the works specified in Table 7.	Visual monitoring of construction sites, production bases, unsuitable soil dumps and quarries.	The contractor will continue to promptly clear the site of construction and other debris.
<b>February</b>					
3	20.02.2024	Abdygulov A. Beisheev I.	Visual monitoring of all construction sites	Visual monitoring of construction sites It was recommended to ensure reclamation of borrows areas	The contractor will also begin reclamation of dump sites and prepare a borrow pits reclamation plan for subsequent submission to the district commission. Reclamation work will continue throughout 2024
<b>March</b>					
4	06.03.2024	Abdygulov A. Beisheev I.	Visual monitoring of all construction sites		
5	12.03.2024	Akhmatova N. Beisheev I.	Monitoring		
6	26.03.2024	Abdygulov A. Beisheev I.	Visual monitoring of all construction sites		

7	28.03.2024	Akhmatova N. Beisheev I.	Monitoring of seedlings on Lot 2.	Inspection of the condition of the planted seedlings.	Provide timely care for planted seedlings
8	29.03.2024	Akhmatova N. Beisheev I.	Monitoring of reclamation of bypass roads	Monitor the Contractor's remediation of SSEMP non-compliances that have occurred.	
<b>April</b>					
9	24.04.2024	Akhmatova N. Beisheev I.	Site inspection of Lot 1	Monitor the Contractor's remediation of SSEMP non-compliances that have occurred.	
10	25.04.2024	Akhmatova N. Beisheev I.	Monitoring of planted seedlings on Lot 2.	Inspection of the condition of planted seedlings. It is necessary to water the seedlings in time to prevent them from drying out.	
11	30.04.2024	Abdygulov A. Beisheev I.	Visual monitoring of all construction sites	Visual monitoring of reclamation of bypass road sections	The contractor will begin reclamation of bypass road sections in spring 2024.
<b>May</b>					
12	06.05.2024	Abdygulov A. Beisheev I.	Visual monitoring of all construction sites		
13	16.05.2024	Akhmatova N. Beisheev I.	Monitoring of SSEMP performance by the Contractor for Lot 2	Visual monitoring of all construction sites, dumping sites, quarries	Speed up to preparing borrow pits reclamation plan
14	28.05.2024	Akhmatova N. Beisheev I.	Monitoring of SSEMP implementation by the Contractor for Lot 2.	Visual monitoring of all construction sites, dump sites, quarries	

15	29.05.2024	Akhmatova N. Beisheev I.	Monitoring of planted seedlings on Lot 2.	Inspection of the condition of planted seedlings. It is necessary to water the seedlings in time to prevent them from drying out.	Provide timely care for planted seedlings. In September 2024, monitoring of established seedlings will be carried out.
16	30.05.2024	Akhmatova N. Beisheev I.	Monitoring of SSEMP implementation by the Contractor on Lot 2		
<b>June</b>					
17	06.06.2024	Abdygulov A. Beisheev I.	Visual monitoring of all construction sites		Speed up reclamation of bypass roads. Provide timely care for planted seedlings. Continue to promptly clear the site of construction and other debris.
18	17.06.2024	Abdygulov A. Beisheev I.	Visual monitoring of all construction sites		
19	20.06.2024	Akhmatova N. Beisheev I.	Site inspection on Lot 1 and Lot 2	Visual inspection of all construction sites. There were no non-compliances. Full reclamation of bypass roads was not ensured	Speed up reclamation of bypass roads
20		Akhmatova N. Beisheev I.	Monitoring of SSEMP implementation for Lot 1 with the Contractor's ecologist	Visual monitoring of all construction sites, dumping sites, quarries.	
21	20.12.2023	Akhmatova N. Beisheev I.	Monitoring of SSEMP implementation for Lot 2 with the Contractor's ecologist	Visual monitoring of all construction sites, spoil dumps and quarry sites	

**Photos of monitoring in the reporting period**



Photo 52. Lot 1. Quarry km. 9+000 Quarry slopes are brought to a safe condition. March



Photo 53. Lot 1. Quarry km. 16+600 pit slopes are brought to a safe condition. March



Photo 54. Lot 2. Production base. Parking lot is in satisfactory condition. January



Photo 55. Lot 2. Production base's cleaning. February



Photo 56. Lot 1. Cleaning project road.

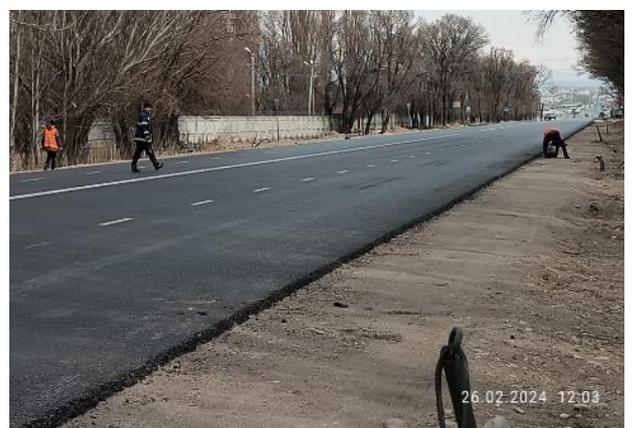


Photo 57. Lot 1. Clearing of the project road



Photo 58. Lot 1. Technical reclamation of the bypass road section atkm 37. March



Photo 59. Lot 1. Technical reclamation of the bypass road site at km 33. March



Photo 60. Lot 1. Technical reclamation of the bypass road section km.34+646. March



Photo 61. Lot 2. Production base Crusher plant. June



Photo 62. Spoil dump km. 62+520 LHS before reclamation



Photo 63. Spoil dump at km. 62+520 LHS after reclamation June 2024.



Photo 64. Bypass road km.14+900 RHS. January



Photo 65. Bypass road km.14+900 RHS. June



Photo 66. Lot 1. Production base territory. Garbage storage does not meet environmental requirements. January



Photo 67. Lot 1: Production base's territory. The area has been cleared of debris. February



Lot 2. Photo 68. Cholpon v. Condition of sumai seedlings. June 2024.



Lot 2. Photo 69. Cholpon village. Condition of pine seedlings. June 2024.



Photo 70. Lot 2. Sports. school, Kok-Jar v.village. Planted birch trees.



Photo 71. Kok-Jar village. A willow tree on the site of a sports school. May



Photo 72. Lot 2. Planted saplings, in April 2024, along the project road km.79+180-81+140.



Photo 73. Guarding planted saplings along the project road . April



Photo 74. Lot 2. Cholpon v. Watering of seedlings.



Photo 75. Lot 2. Watering of seedlings planted along the project road



Photo 76. Poplar planted in the school site in Chekildek v.

### **3.3 Non-Compliances Tracking (Based on Non-Compliance Notices).**

**52.** If non-compliance is identified during site visit, the CSC shall initially give a verbal instruction to the Contractor, clearly stating suggestions for immediate correction. For issues that are not immediately corrected, the CSC shall send a follow-up letter to formalize the instruction with a deadline date for correction. If Contractor is unable to correct the noncompliance by deadline, the issue is carried forward to next notice of noncompliance. A new deadline date is assigned by the CSC if Contractor has a valid reason for delaying the corrective action. Issues are tracked and their status is included in monthly, quarterly, and semi-annual environmental reports of CSC. Similarly, Contractor shall track the status of Notices of Non-Compliance issued by CSC and include status in the monthly reports submitted to the CSC.

#### **3.3.1 Contractor's activities to eliminate SSEMP non-compliances.**

**53.** During reporting period, the implementation of mitigating environmental measures can be assessed as satisfactory: non-compliances occurred in terms of contamination of production base's territory with oil wastes. There were recommendations on the need to reclaim land allocated for bypass roads and to increase the frequency of watering in hot weather.

**54.** Table 11 lists the status of non-compliances/violations/recommendations identified during site visits from July to December 2023.

**Table 11. Contractor's activities to correct SSEMP non-compliances.**

No п/п	Comments, non-compliances, recommendations	Corrective measures (CM)	Due dates	Status of previous execution of the CM/ Timeframe for elimination of non-compliances
<b>Lot - 1</b>				
1	Bypass roads on Lot 1.	Ensure reclamation of sites used for bypass roads located at: km.18+300, km.21+430, km.24+430, km.24+492, km.26+330, km.26+720, km. 31, km. 34+220, km.34+646, km.35+210, km.36+102, km.36+490, km.37+050, km.37+540, km.37+700, km.38+380, km 42+582	Deadline October 2024.	In process.
<b>Lot - 2</b>				
2	Dumping of garbage on the territory of the production base in violation of environmental requirements (Photo 66).	Ensure that the area is cleared of debris	Deadline 8 February	Complete

#### Summary of non-compliances based on current period notifications.

Total number of non-conformities	2
Number of closed non-conformities	2
Inconsistencies, in the process of elimination	
Percentage of closed items	100 %
Non-conformities discovered during reporting period	2
Non-conformities closed during the reporting period	2
Percentage of closed items	100 %

#### Summary of non-compliances for the previous reporting period.

Number of open non-conformities	5
Number of closed non-conformities	4
Inconsistencies, in the process of elimination	1
Percentage of non-conformities closed	80 %

### 3.4 Trends.

55. During previous reporting period 5 non-conformities were noted. Of these, 4 have been resolved, and 1 non-conformance is in process as it should have been resolved in this reporting period. The non-conformance is related to non-completion of works on reclamation of bypass roads on Lot 1.

56. In the reporting period, the number of identified nonconformities was 2, of which 2 was eliminated.

57. Based on information from the current and previous monitoring periods, there is a trend towards increased responsibility of the Contractor in environmental protection issues, there is a decrease in the number of previously identified non-compliances by the Contractor. In general, the number of identified non-compliances in the reporting period decreased compared to the previous period. The only non-compliance that is in the process of elimination is the started works on reclamation of land plots allocated for bypass roads, which were 80% completed in the reporting period and extended until October 2024.

### 3.5 Unanticipated Environmental Impacts or Risks.

58. There were no unexpected environmental impacts or risks during reporting period.

#### 4. RESULTS OF ENVIRONMENTAL MONITORING.

##### 4.1. Overview of Monitoring Conducted during Current Period.

59. Instrumental monitoring was carried out in accordance with Monitoring Plan for Quality of Environmental Components (water, air, noise, vibration), reflected in SSEMP. Socially sensitive receptors and objects of increased environmental sensitivity are listed in Table 12.

**Table 12. Sensitive receptors at Project Sites.**

Lot 1	Lot 2
<ul style="list-style-type: none"> <li>• Balykchy town. High road, beginning of the section km 0 + 000 - 0 + 300</li> <li>• Tash-Sarai village, km. 11+000</li> <li>• Chu river, Tash –Sarai village (bridge), km 11+500</li> <li>• Irrigation ditch, km 12+055</li> <li>• Chu river, gauging station, bridge, km 42+600</li> <li>• Production base km 16+600</li> </ul>	<ul style="list-style-type: none"> <li>• Kok-Jar village at km 65+985</li> <li>• Chekildek village 70+003L</li> <li>• Epkin village, next to mosque km 86+540</li> <li>• Production base at km 81+500</li> <li>• Joon-Aryk River km 65+410</li> <li>• Sazdyn Suusu river km 86+261</li> <li>• Mukandyn suusu river km 68+044</li> <li>• Kok-Jar River cemetery km 68+000</li> <li>• Cemetery Chekildek village km 69+800</li> <li>• Cemetery Cholpon village km 82+800</li> </ul>

60. Instrumental monitoring of noise and vibration levels is being carried out by a specialized laboratory "ProfiLab". The instrumental monitoring carried out is aimed at determining the parameters: CO, NO<sub>2</sub>, SO<sub>2</sub>, Dust concentration, Noise level, Vibration level

61. Sampling and laboratory analyses of air and water quality are conducted by the Department of Environmental Monitoring (DEM) under the Ministry of Natural Resources, Environment and Technical Supervision of KR was completed. The instrumental monitoring carried out is aimed at determining the parameters: Transparency Petroleum products; BOD 5; Suspended substances.

62. In reporting period: final instrumental measurements of noise and vibration levels and laboratory studies of water and air quality in June 2024 were carried out (Photos 77-82).

63. The results of the analyses carried out did not reveal any deviations/exceedances. According to instrumental measurements and laboratory tests, air quality components (Annex 1). and water quality components (Annex 2) are within the MPC normative values



Photo 77. Lot 1. Balykchy, Roundabout. Measurements of noise and vibration levels. June



Photo 79. Lot 2. Noise and vibration measurements. v. Kok-Zhar.

Photo 78. Lot 1. Air quality measurements. Tash-Rabat v.



Photo 80. Lot 2. Air Quality Measurements. CSU.



Photo 81. Lot 2. Water sampling of the Kok-Jar r.



Photo 82. Lot 2. Water sampling of the Zhar-Korundu r.

#### 4.2. Trends.

64. Based on the data of current and previous instrumental monitoring, it is noted that no deviations from the MPC were recorded. The data show that the construction work performed does not have a significant impact on the environment, and to some extent improved the situation. In particular, the content of dust particles in the air and water, as well as the presence of background noise and vibration levels within the MPC. A tendency to increase the responsibility of the Contractor in environmental protection issues is noted, the frequency of previously identified non-conformities on the part of the Contractor is reduced.

65. In reporting period Contractor ensured instrumental quality monitoring in accordance with SSEMP.

#### 4.3. Summary of Monitoring Outcomes.

66. During this reporting period the Contractor's performance is evaluated as satisfactory. Contractor timely ensured reclamation of land plots used for construction of production sites and construction camp on Lot 1 and handing them over to the owners. Only one non-compliance could not be completed by the deadline. CSC will continue to work closely with Contractor and subcontractors to maintain Project compliance with environmental safeguards.

67. Within the reporting period, instrumental measurements of noise and vibration levels of environmental components (air, water) were made once in June, corresponding to the stage of monitoring after completion of construction works.

68. According to the results of instrumental studies of air quality, water quality and noise and vibration levels, it can be concluded that upon completion of construction works there is no harmful impact on the environment of the site, as the concentrations of substances in water and air are within the established MPCs and MPLs for the determined components.

#### 4.4 Material Resources Utilization.

##### 4.4.1 Current period.

##### Water Resources

69. Contractor's requirements for drinking water in camps, offices, and worksites are brought from local suppliers by containers of five (5) gallons. For water requirements for domestic water supply, batching plants, equipment maintenance areas, and fabrication areas, Contractor developed spring sources near campsites (Lot 2). Water is pumped from spring to water tanks and distributed by a pipeline to faucets.

70. To provide water for dust suppression, Contractor obtained permission from local authorities to intake water from following sources listed in Table 11. Water consumption was insignificant as the road construction was completed in the previous reporting period

- Letter of consent of Kok-Jar village administration No. 319 dated July 21, 2020
- Letter of consent of Cholpon village administration No. 405 dated June 20, 2020.

**Table 13. Water Source Intake Points Lot-1 and Lot-2.**

No	Water source	GPS coordinates
<i>For Lot 1</i>		
1	Orto-Tokoi reservoir	N 42* 12.765 E 075* 30.966
2	Orto-Tokoi reservoir	N 42* 18.315 E 075* 54.123
3	Orto-Tokoi reservoir	N 42* 17.739 E 075* 55.975
4	River Chu	N 42* 21.882 E 076* 03.894
5	River Chu	N 42* 22.324 E 076* 04.886
6	River Chu	N 42* 23.207 E 076* 05.868
7	River Chu	N 42* 23.831 E 076* 05.939
<i>For Lot 2</i>		
1	Joon-Aryk	N 42* 10.394 E 075* 25.194
2	Mukandyn Suusu	N 42* 10.394 E 075* 39.708
3	Chekildektin Suusu	N 42* 11.852 E 075* 37.128
4	Sazdyn Suusu	N42*09.753 E075*23.393
5	Sazdyn Suusu	N42*09.798 E075*23.576
6	Tarmal Saz	N42*11.266 E075*34.744

##### Filling Materials and Aggregates.

71. Soil and aggregates needed for filling, embankment, subgrade, and subbase works are obtained from quarries near road alignment. Before developing and mining the land, Contractor obtained necessary permits from respective owners and from local and national government authorities that have jurisdiction over identified quarry sites.

72. As of the end of June 2024, the Contractor owns 21 quarries for construction materials, the main contract expires on July 15. The Contractor plans to begin quarry reclamation work and complete it by the end of 2024. However, taking into account that within the framework of the current project there are savings the MOTC KG are planned to be used for the major repairs of individual sections of roads located in the

project area. Most likely, individual quarry sections will not be transferred to the district commission, since an additional volume of inert material will be required. Table 12 shows the characteristics of these quarries.

During reporting period, quarries at km.5+500, km.16+600, and km.34+240 on Lot 1 and quarries at km.75+400 and km.81+300 on Lot 2 were being developed. 75+400 and km.81+300 on Lot 2. During quarry development requirements on mitigation of negative environmental impact were fulfilled: watering of rock mass, access roads.

At the time of preparation of the report, the contractor had started work on the reclamation of quarries. Currently, the Contractor is working on the development of the "Quarry Reclamation Project", a contract was concluded for the development of this project. In accordance with the Legislation of the Kyrgyz Republic, the "Quarry Reclamation Project" will undergo a Technical and Environmental Expertise.

**Table 14. Characteristics of Quarries.**

№	Location		Volume (m3)	Land Area (ha)	Distance from the road	Yes/no development was in progress
	Station	Village				
Lot 1						
№1	km. 5+500		600 000	5,09	430 m	Yes
№2	km. 7+100		164 000	4,1	122 m	Depleted
№3	km. 7+200		195 200	4,88	122 m	Depleted
№4	km. 9+000	Boz-Barmak	380 000	7,6	25 m	Depleted
№5	km. 16+600		1 744 000	43,6	42 m	Depleted
№6	km. 16+600		51 000	12,84	42 m	Depleted
№7	km. 16+600		113 000	2,83	42 m	Depleted
№8	km. 19+360		66 500	22,16		Depleted
№9	km. 20+600		65 600	1,64	120 m	Depleted
№10	km. 22+700		380 000	9,5	37 m	Depleted
№11	km. 26+800		488 000	12,2	80 m	Depleted
№ 12	km. 34+240		245 600	6.14	325 m	Depleted
№ 13	km. 39+450		164 000	4.1	520 m	Depleted
№ 14	km 43+400		124 000	3.1	40 m	Depleted
Lot 2						
№15	km. 71+500		-	5,2	5 m.	Depleted
№16	km. 75+400		108 000	2,7	30 m.	No
№ 17	km.81+200		-	5,6	50 m	No
№18	km 81+400		375 000	7,5		Yes
№19	km 81+400		305 000	6,1		No
№ 20	km. 86+000	Epink	85 000	2,0	20 m	Depleted
№ 21	km. 89+093		105 145	0.77		Depleted

**Concrete, Asphalt, and Reinforcing Steel Bars.**

**73.** The cement, asphalt and reinforcing steel bars needed for fabrication or construction of culverts, concrete pipes, bridges retaining walls and other concrete structures are obtained from approved commercial sources.

**Fuel, Lubricants, Acetylene.** Fuel requirements for the heavy equipment, machineries and vehicles are supplied by gasoline stations near the project sites, either pumped into the Contractor's cylindrical tank installed near the fabrication areas or by the drums. These are stored in Contractor's fuel storage area. Lubricants and acetylene are supplied also from commercial sources within locality.

**Cumulative Resource Utilization.**

**74.** Since the start of the project at the beginning of the reporting period, the Contractor has removed from the quarries 459,507 m3 of fill/rock/composite materials for Lot 1 and 487,444 m3 of these materials for Lot 2. As of this reporting period, the Contractor has no records or breakdown of actual water use (potable, domestic, batching plants, site watering and production areas, equipment washing areas, etc.). The Contractor has 5 water trucks for irrigation of work sites, which are used under Lot 2. Water is also used for technological purposes: for preparation of concrete mixes at the concrete batching plant and for production needs: washing of the concrete batching plant after completion of the technological process of concrete mix preparation and washing of concrete mixer tanks.

#### 4.5 Waste management.

75. After major and secondary road reconstruction works the following wastes were generated:

- **unusable soil**
- **removed old asphalt and demolished concrete slabs**
- **domestic solid waste (biodegradable and non-biodegradable) from the kitchen, dining areas, offices and camps**
- **wastewater and solid waste generated by personnel at construction camp**

76. The spoils and scarified asphalt are disposed in Project's disposal sites. Contractor has all necessary permits from relevant state agencies (aiyl okmotu, territorial environmental authorities) for disposal of unusable soil and old asphalt concrete in old pits in accordance with Landfill Plan, agreed with the Department of Environmental Protection of SCER KR. Table 13 shows utilization of soil disposal sites while Table 14 - scarified asphalt disposal sites.

77. In reporting quarter, technical levelling of spoil dumps on Lot 1, located at km. 36+400, km.38+600, km. 40+200 (Photos 71-73)

78. Technical levelling of old asphalt dumps on Lot 1 located at km. 7+00 (Photos 67-68) and Lot 2 spoil dumps at km. 70+180 (photos 92-93) and km. 62+520 BS (Photos 94-96, 99-100).

*Lot 1. Km. 12 + 000 (letter of consent of Kok-Moynok village administration No. 465 of 10.16.2020. Permit of the Issyk-Kul territorial administration of the State Agency for Environmental Protection and Forestry for disposal of waste in the environment No. 005952 dated 19.10.2020, No. 005967 dated 20.05.2021).*

*Lot 2. Km. 80 + 900 and km 89 + 090 (Permit of the Naryn Territorial Department of Environmental Protection No. 02-4 / 682 dated 03.11.2020, Letter of consent of Cholpon village administration No. 662 dated 29.10.2020, Permit of Kochkor Forestry Development Department Forest ecosystems No. 02-2 / 71 dated 27.04.2021).*

Table 15. Characteristics of unusable soil disposal area.

№	Location		Distance from the road (m)	Spoil capacity			Spoil quantities m <sup>3</sup>	As of June 30 2024,	Assessment of conditions and compliance to environmental protection measures
	Station	Village		(LS/RS)	Area, m <sup>2</sup>	Height m			
<b>Lot 1</b>									
1	km 12+100	Tash-Sarai	100 (LS)	12500	4	50 000	24544	Activity is completed	Satisfactory. Leveled
2	km 40+360	-	30 (LS)	10645	2,1	22 015	4489	Activity is completed	Satisfactory. Leveling required
<b>Lot 2</b>									
3	km 71+640		410 (LS)				918		Satisfactory. Leveled.
4	km 71+860		1(RS)				2632		Satisfactory. Leveled.
5	km 80+900		29(LS)				2207		Satisfactory. Leveled.
6	km 89+090		<b>RS</b>				3049		Satisfactory. Leveled.
7	70+180		400(LS)				11704		Satisfactory. Leveled soil.
8	km 71+640	-	12 (LS)	3850	4	5 401	14691	Active	Satisfactory. Soil is spread and levelled.
9	km 71+860	-	12 (LS)	2069	4	8 278	8758	Active	Satisfactory. Soil is spread and levelled.
10	km 80+900	-	70 (LS)	4200	3	12 600	12000	Active	Satisfactory. Leveled
11	km 89+090	-	60m (RS)	12000	1,8	21 800	18000	Active	Satisfactory. Soil is spread and levelled

**Table 16. Characteristics of old scarified asphalt dump sites**

№	Location		Distance from the road (m)	Spoil capacity			Disposed Quantity m <sup>3</sup>	As of June 30 2024,	Assessment of conditions and compliance to environmental protection measures
	Station	Village	(LS/RS)	Area, m <sup>2</sup>	Height m	Capacity (m <sup>3</sup> )			
Lot 1	km 7+000	50 (RS)	10 400		62 862	21000	21000	Activity completed	Technical reclamation performed
	km 20+100	50 (RS)	48 700		33 902	9000	9000	Activity completed	Technical reclamation performed
	km 21+260	-	50 (RS)	48 700		80 374	10500	Activity completed	Technical reclamation performed
	km 32+720	-	150 (LS)	4 100	3,0	16 000	11500	Activity completed	Satisfactory. Old asphalt spread and leveled. Spoil has been reclaimed.
	km 38+660	-	545 (LS)	26 100	3,0	78 535	3500	Activity completed	Technical reclamation has been carried out
	km 40+200	-	141 (LS)	9 000	1,4	12 461	4500	Activity completed	Technical levelling has been carried out
	Km 40+360		106400			4500			Old asphalt distributed and levelled.
Lot 2	km 70+180	-	400 (RS)	18 800	4,4	82 784	11000	Activity completed	Technical reclamation carried out
	km 89+090	-	80 (RS)	12 000	1,8	21 800	22000	Activity completed	Satisfactory. Old asphalt is spread and leveled.

79. Solid domestic waste is removed (photos 83) and placed in municipal landfill in Balykchy and v. Cholpon. Wastewater is transported to treatment facilities of Balykchy in accordance with contract with municipal enterprise Balykchy - "Gorvodokanal".



Photo 83. Lot 2. Removal of Solid Waste from the Contractor's Camp. February



Photo 84. Lot 2. Removal of liquid waste from Contractor's camp. June

#### 4.5.1 Current period.

80. At the beginning of the reporting period, the total amount of unsuitable soil was 166,068 m<sup>3</sup>; 66552 m<sup>3</sup> from Lot 1 and 99546 m<sup>3</sup> from Lot 2. All materials were delivered to the soil stockpile sites as indicated in Table 13.

81. By the beginning of the reporting period, the total volume of scraped asphalt from Lot 1 was 388,732 m<sup>3</sup>. The materials are disposed of at approved landfills as shown in Table 14. The total volume of scarified materials from Lot 2 was 12,583 m<sup>3</sup>.

82. Solid domestic waste Lot 2 is transported from the construction camp to the city landfill Cholpon aiyl okmotu. The volume of solid domestic waste for the reporting period under Lot 2 amounted to 1,500 kg.

83. Volume of discharged wastewater from Lot 2 - 222.5 m<sup>3</sup>. Wastewater is transported to the treatment facilities of Balykchy in accordance with the contract with the municipal enterprise of Balykchy - "Gorvodokanal". Balykchy municipal enterprise "Gorvodokanal".

#### Cumulative Waste Generation.

84. Major part of waste generated is soil and cut asphalt, as mentioned above. Cumulative volume of industrial waste from the beginning of the Project implementation to the beginning of the reporting period is 401,315 m<sup>3</sup>. The cumulative volume of municipal solid waste generated because of the Project was 61.8 tn.

## **4.6 Health and safety.**

### **4.6.1 Community health and safety.**

**85.** During this reporting period, there were no incidents or accidents related to construction activities that affected public health and safety. Warning signs and information boards were installed at the work sites.

**86.** During the reporting period, no road accidents were recorded. Road signs were installed along the entire length, road markings were laid.

### **4.6.2 Health and safety of workers.**

**87.** During this reporting period, there were no accidents or other diseases among Contractor's working personnel. The Contractor's workers' accommodation camp on Lots 2 are maintained in good condition and comply with hygienic and sanitary standards. Good living conditions have been created for workers. Contractor provided workers with disinfectants, antiseptics and personal protective equipment (masks, respirators, and gloves), also disinfectants and antiseptics were installed in all public places.

**88.** The contractor has a specialist in Safety Engineering. This specialist conducts training on compliance with safety engineering requirements. Safety engineering training is conducted as needed. Mandatory training is conducted for new workers arriving at the site.

**89.** That following information posters were posted and maintained at the Contractor's camp for Lot 1 and Lot 2:

- Structure of the safety management organization. Responsible persons and their contact information.
- Information posters on protective measures against COVID-19, safety precautions, first aid.
- Fire shields and fire extinguishers installed.

## **4.7. Trainings**

**90.** During the reporting period of training, the Consultant did not conduct training. This is partly due to a decrease in the number of workers, as well as a smaller volume of work. For the whole period of the project implementation to date 7 trainings on environmental protection and 4 trainings on safety have been conducted

## **5. FUNCTIONING OF THE SSEMP.**

### **5.1 SSEMP Review.**

**91.** Review and approval of the SSEMPs were completed in 2020. MoTC KR approved SSEMP for Lot 1 in October 2020 and for Lot 2 in November 2020. SSEMP is effective. The envisaged mitigation measures are relevant and do not require changes. Contractor can implement the established SEMP requirements. In line with IEE recommendations, each SSEMP includes 14 separate annexes:

1. Emergency Management Plan
2. Grievance redress mechanism
3. Occupational safety, health and hygiene plan
4. Construction camp management plan
5. Construction waste management plan

6. Noise management plan
7. Water quality management plan
8. Air quality management plan
9. Tree management plan
10. Dust control plan
11. Land Protection Management Plan
12. Plan of environmental protection during the construction and reconstruction of bridges
13. Quarry Management Plan
14. Plan for the prevention and control of COVID-19.

**92.** A plan to prevent the spread of COVID-19 was developed additionally considering the current epidemiological situation.

**93.** During construction works, the Contractor has ensured implementation of mitigation measures for the environmental impacts of construction works in accordance with the SSEMP of the following Plans:

Lot-1:

Emergency Management Plan

Grievance redress mechanism

Occupational safety, health and hygiene plan

Construction camp management plan

Construction waste management plan

Noise management plan

Water quality management plan

Air quality management plan

Dust control plan

Land Protection Management Plan

Plan of environmental protection during the construction and reconstruction of bridges

Plan for the prevention and control of COVID-19.

Lot-2:

Emergency Management Plan

Grievance redress mechanism

Occupational safety, health and hygiene plan

Noise management plan

Water quality management plan

Air quality management plan

Dust control plan

Land Protection Management Plan

Plan of environmental protection during the construction and reconstruction of bridges. Following Plans are in the process of implementation. The following Plans will be implemented after completion of the Contract, namely:

Quarry Management Plan: In reporting period by the Contractor works on technical levelling and bringing quarry sides to a sustainable safe condition on both Lots. Quarries' reclamation and handover to the Commission will be completed by October 2024.

Construction Camp Management Plan In the reporting period, dismantling of the production base and the Subcontractor's Camp and reclamation of these sites were completed on Lot 1 and the reclaimed sites were handed over to the Commission.

Contractor's Camp and production bases dismantling, reclamation handover on Lot 2 to the Commission shall be accomplished by October 2024.

Construction Waste Management Plan.

Lot 1 - Plan has been implemented in full, i.e. construction waste, solid waste, unsuitable soil after production base and Camp dismantling, has been removed and disposed of/placed in accordance with the concluded Contracts with specialized organizations, specially designated places/dumps.

For Lot 2 - implementation of the Construction Waste Plan is in process and will be completed by October 2024.

Tree Management Plan (TMP):

In the reporting period, compensation planting of saplings to replace those cut down by the Project and compensation planting of trees to replace dead trees on Lots 1 and 2 was provided.

**94.** The SSEMP and plans were developed taking into account the possibility of fulfilling the specified requirements by the Contractor. Based on the existing practice, insufficient and timely fulfillment of the specified requirements by the Contractor is noted. In previous reporting periods (at the beginning of the project), recurring non-conformities were noted, as well as their untimely elimination. However, each non-conformity should be considered separately. Since individual non-conformities identified are a consequence of misunderstanding of the Contractor's management, some are a consequence of misunderstanding of the personnel. It can be noted that after the Consultant conducted training on this issue, the contractor takes the necessary corrective measures to improve the situation and prevent these facts from recurring in the future.

## **6. GOOD PRACTICES AND OPPORTUNITY FOR IMPROVEMENT.**

### **6.1 Good Practices.**

**95.** An example of "Good Practice" is high level and promptness of interaction between ADB, PIU, Consultant and Contractor in implementing ADBs Safeguards Policy Statement and the requirements of SSEMP when burial site was discovered during construction works, in the previous reporting period.

**96.** The planting of saplings to replace the dead ones was ensured.

**97.** Contractor ensured technical leveling of the all worked-out quarries site and bringing the sides of the quarries to a stable position, technical leveling of unsuitable soil and old asphalt dumps. Upon receipt of the Quarry Reclamation Design, reclamation of the quarries will be completed in full in accordance with the design documentation

**98.** Unused quarries were transferred under the Act of Transfer to Owners (Annex 1).

## **6.2 Opportunities for Improvement.**

**99.** The CSC recommends inclusion of the following activities to improve the current practices:

- Complete reclamation of lands allocated for: bypass roads, quarries, dumps, production bases and transfer them to the owners of the land with preparation of Acceptance Act in accordance with the requirements of legal regulations of KR until October 2024.
- Ensure inventory of planted seedlings in the next reporting period.

## **7. SUMMARY AND RECOMMENDATIONS.**

### **7.1 Summary.**

**100.** In general, based on results of monthly inspections and monitoring of construction sites, the Contractor has satisfactory performance in mitigating and preventing negative environmental impact of works. Most of the identified violations and non-compliances were eliminated by Contractor within established deadlines.

**101.** There is a positive dynamic: Contractor has ensured technical leveling of worked-out quarries' territory and stabilizing quarry's sides to a stable position. Upon receipt of the Quarry Recultivation Project, quarries' reclamation will be fully completed in accordance with project documentation and reclaimed quarries and spoil sites will be handed over to the landowners. Contractor made commission transfer of lands used for production base of Apshpalt Plant, CSU, Contractor's camp on Lot 1; transfer of sites for quarries km. 7+500, 36+560, 33+000 (Annex 1).

### **7.2 Recommendations.**

**102.** The CSC recommends proceeding with suggestions for improvement listed in Section 6.2.



**Annex 1 Results of air instrumental monitoring.**

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
<b>LOT 1</b>							
<b>70. Balykchy town 0+000 km</b>  Latitude 42°27'09 Longitude 76°09'37''	Dec 2015 (baseline)		0,022±0,004	0,05±0,006	0,29±0,07	43,1	92,4
	June 2021 (baseline)	0,4±0,08	0,082±0,021	0,008±0,002	0,073±0,015	68	96
	Aug 2021 (baseline)					65	97
	Oct 2021 (baseline)		0,135±0,24	0,085±0,01	<0,2	79	91
	Dec 2021 (baseline)		0,164±0,03	0,05	0,228±0,057	70	95
	April 2020 (baseline)					66	98
	June 2020 (baseline)	<0,05	0,15±0,03	0,325±0,057		66	96
	August 2022					70	91
	September 2022	0,7±0,14	0,081	0,138	0,164		
	October 2022					73	94
	April 2023					69	97
	June 2023	0,9±0,18	0,079±0,14	0,078±0,009	0,159±0,040		
	July 2023	1,0±0,2	0,043±0,008	0,012±0,001	0,163±0,041	67	89
	October 2023	1,4±0,28	0,070±0,013	0,018±0,002	0,157±0,039	69	80
December 2023	1,67±0,25	0,062±0,004	0,205±0,006	0,29±0,07	71	78	
June 2024	0,2±0,31	0,069±0,013	0,017±0,002	0,142±0,031	74	93	
<b>71. Tash-Sarai village 11+000 km</b>  Latitude 42°22'14 Longitude 76°04'53''	Dec 2015 (baseline)		0,027±0,005	<0,05	<0,26	40,2	91,7
	June 2021 (baseline)	0,2±0,08	0,025±0,0063	0,004±0,001	0,4±0,08	57	87
	Aug 2021 (baseline)					65	88
	Oct 2021 (baseline)		0,09±0,016	<0,05	<0,2	70	92
	Dec 2021 (baseline)		0,053	<0,05	0,228±0,05	68	92
	Apr 2022						62
	Jun 2022		0,04±0,01	<0,05	0,2±0,05		66

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	August 2022					70	88
	September 2022	0,12	0,06	0,149	0,246		
	October 2022					64	85
	April 2023					55	101
	June 2023	1.1±0,22	0,078±0,014	0,088±0,011	0,246±0,062		
	July 2023	2.1±0,42	0,050±0,009	0,008±0,001	0,245±0,061	65	93
	October 2023	0,3±0,22	0.070±0,013	0,018±0,002	0.157±0,039	61	84
	December 2023	1,67±0,25	0,062±0,004	0,205±0,006	0,29±0,07	50	88
	June 2024	1,4±0,28	0,051±0,011	0,010±0,001	0.127±0,082	58	95
<b>72. Production base (Asphalt plant, crushing plant) Quarry km 16+600</b> Latitude 42°22'14 Longitude 76°04'53'' <b>Asphalt Plant</b> <b>Rock Crusher</b>	June 2021 (baseline)	0,7±0,14	0,033±0,0083	0,006±0,0015	0,012±0,0024	62	93
	Aug 2021						90
	Oct 2021		0,05	<0,05	0,25	65	94
	Dec 2021		0,087	<0,05	0,19	58	87
	Apr 2022		0,07±0,01	<0,05	0,25	61	93
	Jun 2022		0,04	<0,05	0,35	58	84
	June 2022	0,07±0,01	<0,05	0.25	58	84	
	June 2022	0,04	<0.05	0.35			
	August 2022					61	91
	September 2022	0,5	0,07	0,27	0,49		
	October 2022					57	89
	April 2023					61	92
	June 2023	2.1±0,42	0,076±0,014	0,067±0,008	0,246±0,062		
	July 2023	1,4±0,28	0,062±0,011	0,010±0,001	0.327±0,082	59	96
	October 2023	0,4±0,38	0,059±0,011	0,033±0,004	0,314±0,079	60	95
December 2023	0,1±0,07	0,017±0,001	0,02±0,004	0,106±0,079	35	63	

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	June 2024	Карьер не активен					
<b>Quarry km 7+100</b> Latitude 42°40'60 Longitude 76°09'32''	June 2021 (baseline)					58	90
	Aug 2021					50	91
	Oct 2021					47	77
	Dec 2021					70	90
	Apr 2021	Quarry not active					
	June 2021	Quarry not active					
<b>Quarry 9+000</b> Latitude 42°38'89 Longitude 76°09'86''	June 2021 (baseline)					46	90
	Aug					49	90
	Oct 2021					47	77
	Dec 2021					62	94
	Jun 2022					53	66
	August 2022					68	90
	October 2022					51	84
	April 2023					66	69
	June 2023	1.1±0,42	0,053±0,014	0,036±0,008	0,16±0,062		
July 2023 - December 2023	Quarry not active						
<b>Quarry km 26+800</b> Latitude 42°29'36 Longitude 76°09'94''	June 2021 (baseline)					51	85
	Oct					54	87
	Dec 2021		0,02	0,05	0,2	52	91
<b>Quarry km34+240</b>	April 2022					58	86
	June 2022					64	87
	August 2022					63	89
	October 2022					61	88
	April 2023					53	90

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	June 2023	2,0±0,3	0,06±0,014	0,04±0,008	0,15±0,06		
	July 2023	1,1±0,22	0.050±0,009	0.015±0,002	0,18±0,021	76	90
	October 2023					75	89
	December 2023					43	75
	June 2024	Quarry not active					
<b>LOT 2</b>							
<b>73. Kok-Jar village km 65+985</b> Latitude 42°19'17 Longitude 75°65'33''	December 2015 (baseline)		<0,02	<0,05	<0,26	57	90
	June 2021 (baseline)	0,3±0,06	0,018±0,0045	0,003±0,0008	0,012±0,0024	51	88
	Aug (baseline)					49	83
	Oct (baseline)		0,042	<0,05	<0,2	63	90
	Dec (baseline)		0,167	005	0,347	53	94
	Apr 2022						64
	Jun 2022		0,069±0,013	<0,05	0,2		64
	August 2022					66	90
	September 2022	0,5	0,053	0,122	0,164	57	92
	October 2022						
	April 2023					68	94
	June 2023	2,1±0,42	0,074±0,013	0,092±0,011	0.159±0,040		
	July 2023	1,2±0,24	0,052±0,009	0,209±0,025	0.163±0,041	64	91
	October 2023	0,4±0,4	0,061±0,011	0,023±0,003	0.157±0,039	66	89
	December 2023	1,3±0,06	0,078±0,0045	0,04±0,0008	0,012±0,0024	43	82
June 2024.	1,5±0,3	0.040±0,007	0.006±0,001	0.163±0,041	64	94	
<b>74. Chekildek village km 70+003</b> Latitude 42°19'44 Longitude 75°60'80''	December 2015 (baseline)		0,023±0,004	<0,05	0,028±0,07	68,1	91,1
	June 2021 (baseline indicators)	0,3±0,06	0,018±0,0045	0,003±0,0008	0,103±0,021	56	85
	Aug (baseline)					59	94

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	Oct (baseline)		<0,02	<0,05	<0,2	62	91
	Dec (baseline)		0,072	<0,05	0.27	60	96
	April 2022						70
	Jun 2022		0,025	0,03	0,18		68
	August 2022					65	88
	September 2022	0,4	0,067	0,133	0,41		
	October 2022					69	92
	April 2023					60	96
	June 2023	0,1	0,074	0,058	0,159		
	July 2023	1,5±0,3	0.040±0,007	0.006±0,001	0.163±0,041	67	95
	October 2023	0,4±0,42	0.050±0,009	0,011±0,001	0,236±0,059	69	83
	December 2023	2,7±0,68	0,072	0,23	0,17	48	81
	June 2024	0,85	0,03	0,06	<0,2	61	90
<b>76. Production base Quarry 81+200</b> Latitude 42°18'50 Longitude 75°47'84''	December 2015 (baseline)						
	June 2021 (baseline)	0,5±0,1	0,016±0,004	0,004±0,001	0,109±0,022	83	98
	Aug 2021	0,4				72	84
	Oct 2021	0,6	0,078	0,155	3,24±0,81	74	84
	Dec 2021	0,85	0,02	0,05	<0,2	65	93
	April 2022						80
	Jun 2022		0,03±0,004	<0,05	0,4		45
	August 2022					69	90
	September 2022	0,18	0,05	0,142	0,246		
	October 2022					70	88
	April 2023					66	97
	June 2023	2,11	0,076	0,067	0,238		

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	July 2023	1,5±0,3	0.051±0,009	0.083±0,009	0.245±0,061	72	85
	October 2023	0,3±0,44	0,055±0,010	0.015±0,003	0.236±0,059	70	83
	December 2023	0,2±0,01	0,006±0,003	0,001±0,001	0,009±0,001	48	65
	June 2024					67	93
<b>Epkin village km 86+000 east side of the road</b> Latitude 42°10'24 Longitude 75°25'21''	June 2021 (baseline)					46	88
	Aug 2021					53	88
	Oct 2021	0,88	0,028	<0,5	0,02	61	83
	Dec 2021	0,92	0,056	<0,05	0,308	65	89
	April 2022						62
	June 2022		0,04±0,01	<0,05	0,25		56
	August 2022						
	September 2022	1,3	0,062	0,163	0,164		
	October 2022						
	April 2023					63	90
	June 2023	2,1	0,077	0,076	0,189		
	July 2023	2.0±0.4	0.043±0.008	0.018±0,002	0.163±0.041	63	93
	October 2023	0,3±0,44	0.063±0,011	0,005±0,001	0.157±0.039	49	78
	December 2023	1,4±0,52	0,075±0,005	0,023±0,002	0,043±0,026	46	73
June 2024	0,2±0,31	0,042±0,010	0.015±0,003	0.236±0,059	56	92	
<b>Quarry km. 71+500 north side of the road</b> Latitude 42°18'83 Longitude 75°58'95''	Aug 2021						52
	Oct 2021						67
	Dec 2021		0,012	0,05	0,347		69
	April 2022						66
	June 2022						70
	August 2022						

Location of the monitoring site	Monitoring period	CO mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>	SO <sub>2</sub> mg/m <sup>3</sup>	Dust concentration, mg/m <sup>3</sup>	Noise level, dB	Vibration level
<b>Regulatory maximum permissible concentration of pollutants</b>		<b>5</b>	<b>0.085</b>	<b>0.5</b>	<b>0.5</b>	<b>80</b>	<b>112</b>
	October 2022						
	April 2023					60	89
	June 2023	0,1	0,06	0,04	0,19		
	July-December 2023	Quarry not active					
<b>Quarry 75 + 400 near the house st. Orkoshov M, 30</b>  Latitude 42°19'27 Longitude 75°54'45''	Aug 2021					52	98
	Oct 2021					67	83
	Dec 2021		0,012	0,05	0,347	69	90
	April 2022					67	83
	June 2022					53	88
	August 2022					64	90
	October 2022					59	87
	April 2023					56	80
	June 2023	1,1	0,078	0,088	0,4		
	July 2023	1,5	0,06	0,09	0,31	61	90
	October 2023	0,3	0,04	0,07	0,15	65	84
	December 2023	0,6	0,07	0,14	0,03	46	79
June 2024	Quarry is not active						

\* No environmental vibration level standards are provided.

**Annex 2. Results of laboratory tests of surface water quality.**

Sampling location	Selection period	Transparency, cm	Petroleum products	BOD <sub>5</sub> , mO <sub>2</sub> /dm <sup>3</sup>	Suspended substances, mg/l	Notes
<b>maximum allowable concentration for water reservoirs of domestic category</b>		<b>Not less than 20</b>	<b>0,05* / 0,3**</b>	<b>3* / 2-4**</b>	<b>Increase 0,25/0,75</b>	
<b>Lot 1</b>						
148. Chu river	December 2015 (background)	41	<0,05			
	June 2021 (background)	24	0,012	1,3	3,2	
	October 2021 (construction work in progress)	24	0,07	1,29	0,8	
	December 2021.	15	0,066	2,0	13	
	June 2022	13	0,03	2,3	15	
	September 2022	45	0,0155	0,64	<3,0	
	June 2023	43	<0,005	0,87±0,226	3,20±0,96	Background measurements
	July 2023	37	<0,005	1,95±0,22	3,20±1,08	
	October 2023	47	<0,005	2,87±0,75	2,80±0,84	
	June 2024	49	<0,005	2,6±0,75	1,50±0,72	
149. Irrigation canal	June 2021 (background)	26	0,02	2,5	3,0	
	October 2021 (construction work in progress)	25	0,15	1,23	0,6	
	December 2021	There was no water				
	June 2022	14	0,02	2,3	11	The work was carried out
	September 2022	43	0,0155	0,28	<3,0	

	June 2023	43	0,0351±0,012	2,66±0,692	4,00±1,20	Natural background
	July 2023	39	<0,005	1,87±0,486	3,20±0,96	
	October 2023	49	<0,005	1,87±0,49	2,80±0,84	
	June 2024	There was no water				
150. Chu River, Hydropost. Orto-Tokoi Reservoir km. 42+600	December 2015 (background)	37	<0,05	0,3	3,0	Background measurements 2015
	June 2021 (background)	23	0,017	1,1	3,4	
	October 2021	22	0,04	0,3	0,8	
	December 2021	20	0,048	3,2	18,0	
	June 2022	24	0,01	2,8	16,0	
	September 2022	45	0,0125	0,63	<3,0	
	June 2023	42	0,06 ±0,021	0,82±0,213	3,60±1,080	Natural background
	July 2023	38	<0,005	1,19±0,309	4,00±1,2	
	October 2023	48	<0,005	2,93±0,76	2,40±0,72	
	June 2024	50	<0,005	2,6±0,75	1,50±0,72	
<b>Lot 2</b>						
151.Joon-Aryk River. km.65+410	December 2015 (background)	40	<0,05			Background measurements 2015
	June 2021 (background)					

		>50	0,03	1,4	1,4	
	October 2021	40	0,04	1,24	0,6	
	December 2021	13,4	0,05	1,4	18,4	
	June 2022	12	0,03	1,2	20	
	September 2022.	37	0,095	2,54	<3,0	
	June 2023 over the bridge under the bridge	There was no water				
	July 2023 over the bridge	41	<0,005	2,19±0,65	3,70±0,54	
	under the bridge	39	<0,005	2,19±0,65	3,70±0,54	
	October 2023 over the bridge	46	<0,005	2,74±0,71	2,80±0,84	
	under the bridge	46	<0,005	2,78±0,72	2,80 ±0,84	
	June 2024 over the bridge	42	<0,005	3,20±0,64	2,65±0,226	
	under the bridge	42	<0,005	3,20±0,64	2,65±0,226	
152. Sazdyn-Suusu river. km. 86+261	June 2021 (background)	39	0,026	0,3	3,0	
	October 2021.	>50	0,07	0,46	7,6	
	December 2021.	18	0,062	1,5	15,2	

	December below the bridge	17,1	0,045	1,4	27,2	
	June 2022.					
	Before the bridge	15	0,04	1,9	17	
	After the bridge	14,5	0,04	1,7	15	
	September 2022.	24	0,085	0,87	<3,0	
	June 2023					The background concentration of suspended solids was increased by 2 mg/l, with the permissible 0.75
	over the bridge	30	<0,005	0,68±0,177	2,8	
	under the bridge	29	<0,005	1,16±0,302	4,80±1,44	
	July 2023					
	over the bridge	37	<0,005	2,54±0,66	4,00±1,22	
	under the bridge	41	<0,005	2,98±0,25	3,89±0,51	
	October 2023					
	over the bridge	47	<0,005	1,89±0,49	3,20±0,96	
	under the bridge	47	<0,005	1,94±0,50	3,20±0,96	
	June 2024					
	over the bridge	49	<0,005	2,89±0,31	2,98±0,74	
	under the bridge	49	<0,005	2,89±0,31	2,95 ±0,74	
153.Mukandyn-Suusuu river. Km.68+044	June 2021 (background)	10	0,026	1,1	20	
	October 2021	38	0,06	2,2	12	
	December 2021	1,0	0,064	1,4	70	
	June 2022	12	0,03	1,8	25	

	September 2022	45	0,0125	0,63	<3,0	
	June 2023					
	over the bridge	43	<0,005	0,68±0,177	3,60±1,080	Background concentration of suspended solids is increased by 1, 2 mg/l, with the permissible 0.75
	under the bridge	37,7	<0,005	1,16±0,302	5,20±1,560	
	July 2023					
	over the bridge	40	<0,005	1,94±0,504	4,40±1,32	
	under the bridge	38	<0,005	3,02±0,78	3,60±1,08	
	October 2023					
	over the bridge	46	0,016±0,006	3,35±0,87	5,60±1,68	
	under the bridge	46	0,017±0,006	3,42±0,89	5,60±1,68	
	June 2024					
	over the bridge	43	<0,005	1,38±0,124	2,60±1,080	
	under the bridge	43	<0,005	1,26±0,102	2,20±1,051	
154.Zhar-Korundu river. km. 88+795	June 2021 (background)	39	0,022	2,5		
	October 2021	35	0,04	3,8	0,4	
	December 2021 above road	14,2	0,05	4,6	26	
	Below the road	2,5	0,042	2,3	30	
	June 2022.					
	before the bridge	18	0,02	2,18	20	
	after the bridge	15	0,025	2,0	17	

September 2022	19	0,015	1,19	<3,0	
June 2023					The background concentration of suspended solids was increased by 3.2 mg/l, with an allowable 0.75
over the bridge	31	<0,005	0,68±0,177	2,8	
under the bridge	33,5	<0,005	1,16±0,302	6,00±1,80	
July 2023					
over the bridge	42	<0,005	1,53±0,398	3,6±1,08	
under the bridge	39	<0,005	2,4±0,104	2,80±0,75	
October 2023					
over the bridge	48	0,019±0,007	2,83±0,74	2,80±0,84	
under the bridge	48	0,021±0,007	2,90±0,75	2,80±0,84	
June 2024					
over the bridge	45	<0,005	2,03±0,15	2,71±0,09	
under the bridge	45	<0,005	2,03±0,15	2,83±0,04	