

Environmental Monitoring Report

2nd Semi-annual Report
January 2021

Kyrgyz Republic: Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2)-Additional Financing

Prepared by Roughton International Ltd and sub-consultant RAM Engineering Associates LLC for the Ministry of Transport and Roads of the Kyrgyz Republic and the Asian Development Bank.

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Abbreviations

ADB	-	Asian Development Bank
CAREC	-	Organization of the Central Asian Regional Economic Cooperation
CSC	-	Construction Supervision Consultant
EMP	-	Environmental Management Plan
IPIG	-	Investment Projects Implementation Group
km	-	kilometer
KR	-	Kyrgyz Republic
MPC	-	Maximum Permissible Concentration
MPL	-	Maximum Permissible Level
MTR	-	Ministry of Transport and Roads of the Kyrgyz Republic
MoF KR	-	Ministry of Finance of the Kyrgyz Republic
SAEPF	-	State Agency for Environmental Protection and Forestry
SIETS	-	State Inspectorate for Environmental and Technical Safety under the Government of the Kyrgyz Republic
DDPSSES	-	Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic
TOR	-	Terms of Reference
SSEMP	-	Site Specific Environment Management Plan
ACP	-	Asphalt Concrete Plant
SCP	-	Stone Crushing Plant
SCU	-	Solution Concrete Unit
MoCIT KR	-	Ministry of Culture, Information and Tourism of Kyrgyz Republic
OHCH	-	Objects of Historical and Cultural Heritage
IBAT	-	Integrated Biodiversity Assessment Tool

1 INTRODUCTION.

1.1 Preamble.

1. The The Government of the Kyrgyz Republic (GoKRG) requested the Asian Development Bank (ADB) to identify, design and prepare a follow-on loan and/or grant for the CAREC Corridors 1 and 3 Connectivity Improvement Project under Lot 1 "Balykchy km. 0 -km. 43" and Lot 2 "Kochkor – Epkin (km. 64 - km. 89)". The project will improve socio-economic indicators of the Kyrgyz Republic regions: (i) shortened travel time for movement of people and goods from the southern regions to Naryn and Issyk-Kul Oblasts; (ii) reduced transport costs due to reduced route and better road conditions; (iii) increased local and international traffic and movements; (iv) additional income generating opportunities for local residents; (v) creation of new jobs; (vi) good condition of vehicles and (vii) reduced transportation costs.

Figure 1. Schematic layout of Lot 1 (Balykchy km. 0 –43) and Lot 2 (Kochkor – Epkin, km. 64 - 89).



2. The Consultancy Company "Roughton International Ltd., and sub-consultants RAM Engineering Associates LLC" is Construction Supervision Consultant. Company "Sinohydro-Powerchina Roadbridge JV" is General Contractor performing repair and construction works at project sections.

3. This is the **second** "semi-annual" environmental monitoring report covering period July - December 2020 under ongoing CAREC project connecting Corridors 1 and 3, Additional financing, Lot 1 "Balykchy km. 0 -km. 43", Lot 2 "Kochkor - Epkin (km. 64 - km. 89)". It presents environmental aspects, mitigation and monitoring activities undertaken by the Contractor and reviewed by the CSC Roughton International Ltd. and sub-consultant RAM Engineering Associates LLC.

4. This report contains the performed by contractor and CSC. The results are based on the information received from the Contractor for six months report period, as physically observed by the National Environmental Specialist.

1.2 Headline information.

5. CAREC Corridors 1 and 3 Connecting Road Project. Additional Financing *Balykchi km Lot 1. 0 -km. 43*", Lot 2 "*Kochkor - Epkin (km 64 - km 89)*" with a total length of 68 km. More detailed information on the sections is provided below.

6. Section – 1 "*Balykchy km.0 – km.43*" of the road is a 43 km, traversing from east to west. It begins at a traffic circle located at the entrance to the city of Balykchy. Five roads converge at this point, one of which is a section of the project road heading south – east. As a rule, this section follows the existing highway, right up to post km 43. A major part of this section, about 29 km, is located within Issyk-Kul Oblast. While the remaining 14 km are in Kochkor Rayon of Naryn Oblast.

7. According to zoning of "Issyk-Kul" biosphere territory, this section of the corridor "*Balykchy km.0 - km.43*" is located in the zone of "Rehabilitation Zone", i.e. in the zone that includes anthropogenic disturbed territories that require regeneration and re-cultivation measures (Regulation on the "Issyk-Kul" biosphere territory, approved by the Decree of the Government dated January 24, 2000 N 40). The territory of the project section of the road, since its construction in the 1970s, has been under anthropogenic impact for a long time. Separate cordons or observation stations in this section are not installed due to the lack of such necessity. Rare and endangered species included in the Integrated Biodiversity Assessment Tool (IBAT) system and occurring in the biosphere area¹. In this area of the Balykchy section they do not occur, because they live in high mountainous areas. In this regard, rehabilitation work in this project section of the road will not have a potential negative impact on the existing biological resources of the biosphere area, including red-listed species, on species included in the IBAT system.

Figure 2. Layout of project Lot 1 "*Balykchy km.0 - km.43*"



8. Lot 2 "*Kochkor – Epkin*", project road is 25 km long, running from east to west. It begins at the junction of three roads. It crosses Village Kochkor, where the highway Bishkek-Naryn-Torugart serves as a detour for Kochkor Village and this road section. This section follows the existing highway to Epkin village (89 km). The entire Section is located in Naryn Oblast and crosses only one district, namely Kochkor District, Kochkor village being the center.

Figure 3. Layout of project Lot 2 "Kochkor - Epkin (km. 64 - km. 89)".



2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES.

2.1 Project Description.

9. According to the classification of ADB Safeguard Policy Statement 2009 (SPS-2009), the project is classified as category B. 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 not possible for mass transport and becomes expensive for any freight.

10. Implementation of this project will help to connect the southern districts of Osh, Batken and Jalalabad with the northern districts of Naryn, Issyk-Kul, Chui and Talas, which in-turn will be connecting all with regional road corridors that allows: (i) reduce cost of passenger and freight traffic between southern and northern regions by providing direct access; (ii) provide a more direct route between Republic of Kazakhstan and Republic of Tajikistan; (iii) promote trade.

11. The project envisages rehabilitation of the road with the total length of 68 km, of which 43 km are in the Lot 1 "Balykchy km.0 - km. 43" and 25 km on Lot 2 "Kochkor - Epkin (km. 64 - km. 89)".

12. The entire road corridor lies within the Northern and Inner Tien Shan mountain ranges. The route passes through mountain and plain parts of the Issyk-Kul, Naryn regions at an altitude of 700 – 3,500 m above mean sea level, crossing Chu River valley. The entire road corridor belongs to the local steppe climate, which is described as continental with cold winters and hot summers.

13. According to the general characteristics of districts, in accordance with geo-botanical zoning, Tonsky District of Issyk-Kul Oblast (Lot 1) shall be referred to desert steppe with fragments of forests and spruce woods. The flora of Issyk-Kul BR includes about 1,500 plant species, including about 30 species of very important wild medicinal plants. The road section "Balykchy km.0 - km.43" is located in the sanitation zone (i.e. the zone in the anthropogenic disturbed areas) and is characterized by absence of growth of forests, spruce trees and medicinal plants in this area. Project road section is located at 1,632 m (beginning of section) to 1,756 m (end of section) above sea level. Throughout the section elevating difference ranges from 1,610 to 1,820 meters.

14. The territory of Kochkor Raion, Naryn Oblast (Lot 2) is a vast area of agricultural land occupied by crop and livestock production. The Kochkor Valley is bounded by the Kyzart mountain ridges in the north and Karagatty Kyzart in the south. The mountainous region has a very dissected relief with high slopes. The height difference in the valley varies from 1,700 – 2,400 meters, and the tract from 2,400 – 4,502 meters. The area is characterized as wavy and mountainous terrain, which is covered with highly palatable grasses, suitable for grazing. Project road section is located at 1845 m (beginning of section) to 2080 m (end of section) meters above sea level.

15. Reconstruction of road will be carried out in accordance with the Kyrgyz State Standard (SNIP 32-01:2004), with geometrical and structural requirements up to Technical Category II (strip width 3.5 – 3.75 m; width of carriageway 7.00 – 7.50 m; width of shoulder 3.25 – 3.75 m (of which 0.50 m - 0.75 m will be paved). In this way the total road width of 15 m will be achieved. Existing small bridges and culverts will be repaired and/or replaced, side drains and other drainage facilities will be constructed, retaining walls and, if necessary, measures to protect the river will be provided, proper road signs, markings will be provided, bus stops will be built, and one underground crosswalk will be constructed.

16. It is expected that majority of environmental impacts from the rehabilitation project will be directly from construction work and some impacts will occur during operation. These impacts are attributable to increased traffic and high vehicle speeds due to good road surface. In turn, it gives rise to increased gas emissions and noise generation, as well as potentially increased traffic accidents involving pedestrians and vehicles. In addition, there is an increased risk of accidents associated with possible spills of harmful substances. During the feasibility study of the project, following impacts were identified in the IEE study of 2018:

17. Noise, airborne pollutant emissions, as well as vibration, are of particular importance within communities near the project road and in places where sensitive receptors such as schools, hospitals, mosques, etc. are located;

- Impacts on watercourses/ rivers.
- Impacts resulting from quarrying.
- Impacts on soil and vegetation, including forced removal of trees near the project road due to site clearance activities.
- Impacts resulting from rehabilitation of bridges and drainage structures.
- Impacts from asphalt mixing, concrete batching plants and aggregates crushing plants.
- Impacts from contractor work camps.
- Impacts on historical and archaeological sites.

2.2 Project Contracts and Management

18. Key features of this contract and its management descriptions are being presented in the following matrix tables:

Table 1. Project contracts and management.

Project			Improvement of connecting road for Corridors 1 and 3 under CAREC. Additional funding.
Construction	Supervision	Consultant	Roughton International Ltd., and sub-consultants RAM Engineering Associates LLC
Notification for CSC's commencement of work:			20/05/2020
Contractor			Sinohydro-Powerchina Roadbridge JV
Road Sections:			Total length of two road sections - 68 km
Lot 1			«Balykchy km. 0 –km. 43» - 43 km

Lot 2	«Kochkor – Epkin» - 25 km
Donor:	Asian Development Bank
Date of contract	14/02/2017
Executing Agency	Ministry of Transport and Roads Kyrgyz Republic
Issuance of Work Order	22/06/2020
Date of completion	22 June 2022.
Time to finish - days	730 days
Extension - days	-
Warranty period - days	36 months
Contract Amount	
Lot 1 «Balykchy km.0-km.43»	USD 22,671,896.26
Lot 2 «Kochkor-Epkin»	US\$ 17,537,958.57

Figure 4. Project organizational structure and management.

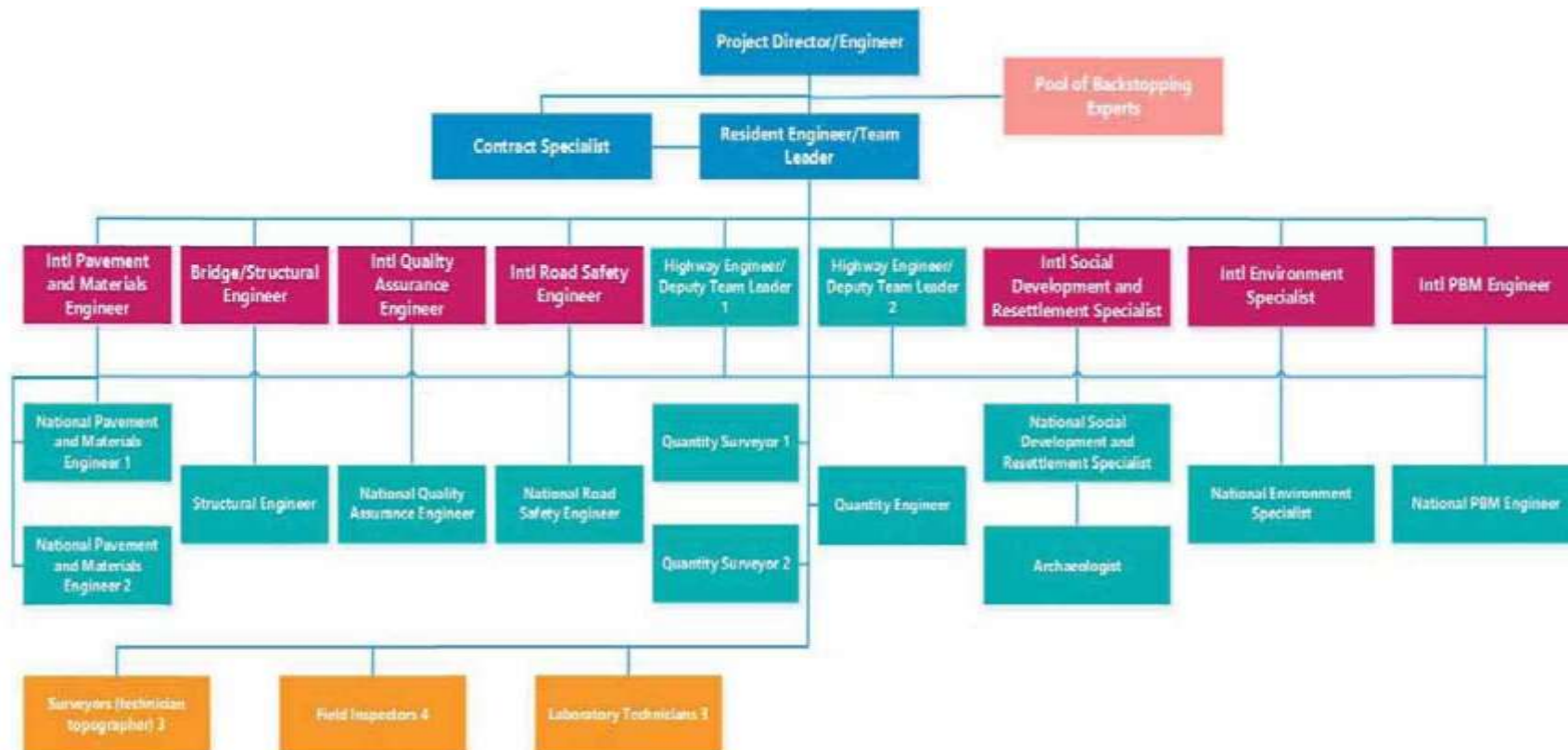


Table 2. Consultant's staff list.

International staff	
Resident Engineer-Team Leader	Mike Neilan
Contract Specialist	Ed Vowles
Social Development and Resettlement Specialist	Nurul Hogue
Environment Specialist	Ayaz Khan
PBM Engineer	Alexandra Spornol
Quality Assurance Engineer	Donald Gater
Road Safety Engineer	Francisco Javier Lopez Delgado
Bridge/Structural Engineer	Andrzej Kozuch
Local staff	
Assistant Engineer -1	Mamatbek Mambetaliev
Assistant Engineer -2	Izat Toktomambetov
Coating and Materials Engineer - 1	Torobek Osmonov*
Coating and Materials Engineer - 2	Taalai Ermatov
Quality Engineer	Eldar Samarkulov*
Bridge Engineer	Victor Urlapov
Road Safety Engineer	Shyloobek Sadyraliev
Volume Engineer	Edil Shabdanov
Tracer by volume - 1	Emil Bayseitov
Tracer by volume - 2	Dastan Tashtanov
Translator - 1	Kanat Abaskanov
Translator - 2	Bakytbek uulu Bakai
Office manager - 1	Ruslan Boronov
Office manager - 2	Nursultan Ishenaliev
BCD Engineer	Nurbek Zhumaliyev
Archaeologist	Kubatbek Tabaldiev
Topographer -1	Rinat Zhumabekov
Topographer - 2	Mayrambek Sabyraliev
Topographer - 3	Dilshat Tajibayev
Site Inspector - 1	Nurbek Omorov
Site Inspector - 2	Emilbek Atambekov
Site Inspector - 3	Ravshan Seyitov
Site Inspector - 4	Erlan Berdibaev
Laboratory Technician - 1	Kanybek Korkombayev
Laboratory Technician - 2	Melis Ayazbekov
Laboratory Technician - 3	Kenzhebek Andakeev
Environmental Protection Specialist	Nasiba Akhmatova
Resettlement Specialist	Svetlana Greenbaum

2.2.1 Volume of work under contract.

19. This road section has been designed according to standards of II-Technical Category (main streets of city importance). The general carriageway specification of the road are displayed as

under:

- number of traffic lanes - 2;
- traffic lane width -3.5 - 3.75 m;
- width of the carriageway - 2x7,5;
- shoulder width - 3,25 m-3,75 m (of which 0,50 m-0,75 m with covering);
- total width of the carriageway - 15 m;
- design axle load - 11,5 tons.

20. A two-layer asphalt-concrete coating with thickness of 14 cm, top layer - 5 cm, bottom layer - 9 cm will be laid throughout the project area.

21. The width of the road right-of-way is 30-60 meters. The project envisages construction and repair of the following engineering structures and communications, as well as parameters of the scope of work.

22. Scopes of work on the laying of roadway are:

- Top pavement layer 6cm - 42505 m³;
- Coarse-grained asphalt at junctions 5cm - 682 m³;
- Leveling layer 9cm - 63633 m³;
- Base thickness 20cm - 152829m³;
- Underlay 25cm - 345850 m³ thickness;
- Asphalt concrete mixture on sidewalks 4cm - 434m³;

In addition, the project provides:

- Bridge repair with widening - 5 pcs;
- Small artificial structures - 113 pcs;
- Underground crosswalk - 1 pc;
- There are 1726 trays for water drainage;
- Parking near markets - 4 pcs;
- Automobile pavilions - 15 pcs;

Elements of road safety:

- Parapet fencing (boots) - 2285 pcs;

Reconstruction of engineering communications

- HV-10kV - 30 poles;
- HV 0.4 kV - 7 poles;
- Communication line -14 poles;
- Lighting poles - 530 pcs;
- PVC pipes - 23114 r/m.

23. Tree Planting. The IEE study has reported standing live green trees on both sides of the road throughout the project sections. Prior to commencement of construction work, number of trees has been determined to be forced cutting and removal is 68 pcs. (including 38 trees on Lot 1 and 30 trees on Lot 2), but in practice, exact number of trees can be determined after completing road

"alignment" works, ie after completion of topographical work, detailed planting design coordinates. As a compensatory measure, new tree seedlings will be planted at a ratio of 1:2 (two trees instead of one).

24. Land acquisition and resettlement plan. The project section is located in close proximity to residential areas. At Lot 2 a bypass is under active consideration. If it gets finalized, the road will be traversing through agricultural lands and demolition of fences and the construction of new sidewalks. A Land Acquisition and Resettlement Plan (LARP) was developed, identifying 40 affected persons, who will be compensated by the project, including land owners and users.

2.2.2 Main organizations involved in the project.

25. Relevant agencies working with project include:

- Ministry of Finance of the Kyrgyz Republic (MoF),
- Ministry of Transport and Roads (MOTR)
- Investment Project Implementation Group (IPIG) under MOTR,
- State Agency for Environmental Protection and Forestry (SESFA)
- State Inspectorate for Environmental and Technical Safety under the Government of the Kyrgyz Republic (SIETS)
- Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic (DDPSSES)
- MOTR is responsible for development of transport sector and is the Executive Agency (EA) for the project. MOTR has overall responsibility for planning, design, implementing and monitoring of the project. IPIG operates under MOTR and performs tasks assigned from MOTR.
- KR MoF is authorized state body responsible for coordination with ADB and other donors regarding external assistance issues.
- *SESFA is leading government agency for environmental protection, which is responsible for government policy in this area and coordinates environmental protection with other government agencies. Its functions include:*
 - development of environmental policy and its implementation;
 - conducting state environmental impact assessment;
 - issuance of environmental licenses;
 - environmental monitoring;
 - environmental information service.
- *SIETS is performed in accordance with the Law "On the procedure for conducting inspections of business entities". SIETS carries out supervision over compliance with established procedure:*
 - I. Environmental legislation, established rules, limits and norms of environmental management, norms of emissions and discharges of pollutants and waste disposal;
 - II. industrial safety requirements during construction, expansion, reconstruction, technical re-equipment, operation, conservation and liquidation of hazardous production facilities;
 - III. requirements of the land legislation;
 - IV. safety requirements for the operation of equipment and means for storage and supply of oil and gas products, hoisting cranes;
 - V. requirements of rules of safe operation during construction, installation and adjustment of electric networks and electrical equipment.
- DDPSSES 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.

Table 3. Main organizations involved in project and related to environmental protection.

No	Organization	Project activity	Responsible for environmental protection	Contact information
1	ADB	Country Environment Focal	Ninette R. Pajarillaga	npajarillaga@adb.org
2	ADB Resident Mission in the Kyrgyz Republic	National Environmental Consultant	Sultan Bakirov	Sbakirov.consultant@adb.org
3	IPIG under MOTR	Implementing Agency	Abdygulov Asylbek	asylbeka@piumotc.kg
4	Roughton International Ltd., and sub-consultants RAM Engineering Associates LLC.	International Special Environmental Protection Agency	Ayaz Khan	khan.ayaz99@gmail.com
		Local Environmental Protection Specialist	Akmatova Nasiba	nasibamn@hotmail.com
5	Sinohydro-Powerchina Roadbridge JV.	Contractor	Beisheev Isake	isake.beysheev@bk.ru

2.3 Project Activities During Current Reporting Period.

2.3.1 Road Construction works.

26. The following works were carried out at Lot 1 section:

- Road widening. The road widening included roadside clearing and grubbing (volume of work performed 9,9%); cutting of trees under road path (tree feeling 100% completed); excavation of soil (volume of work performed 46%) at sections km.12+220 - km.13+000, km.13+060 - km.13+480, km.13+500 - 13+600; km.20+200 - 20+380. km 13+500 - 13+600; km 20+200 - 20+380.
- Dismantling of the existing bridge km 12+060.



Photo 1. Road widening at km. 12+225 - km. 13+000.

27. The following works were carried out at Lot 2.

Road widening. The road widening included roadside clearing and grubbing (volume of work performed 10,6%); cutting of trees under road path (tree felling 37,8% completed); embankment на km.79+500 - km.80+000 (volume of work performed 4,42%); preparation of existing roadbed: loosening, leveling and compaction with wetting.



Photo 2. Roadside clearing of km. 83+600 - km. 85+000. Topsoil transportation.

2.3.2 Territory of production site.

28. The asphalt bitumen plant and crushing plant on Lot 1 will be located on Balykchy project section km 0 - km 43 at km 16+200, RHS of road at 50 m distance (Figure 5). Contractor initiated procedures of obtaining necessary permits from local authorities and territorial departments of ministries and agencies. The contractor has started preparatory work (terrain planning, site preparation), construction of foundations on which the equipment will be installed.



Figure 5. Location of ACP and SCP production facilities.

2.3.3 Workers' accommodation camp.

29. Contractor's Camp on Lot 1. The site for construction of Contractor's camp on Lot 1 is located on Balykchy project section km 0 - km 43 on km 16+100, on RHS of road at 50 m distance with area of 4.5 ha. All necessary documents/approval from local authorities and approval from State Agency for Environmental Protection and Forestry (SAEPF) obtained.



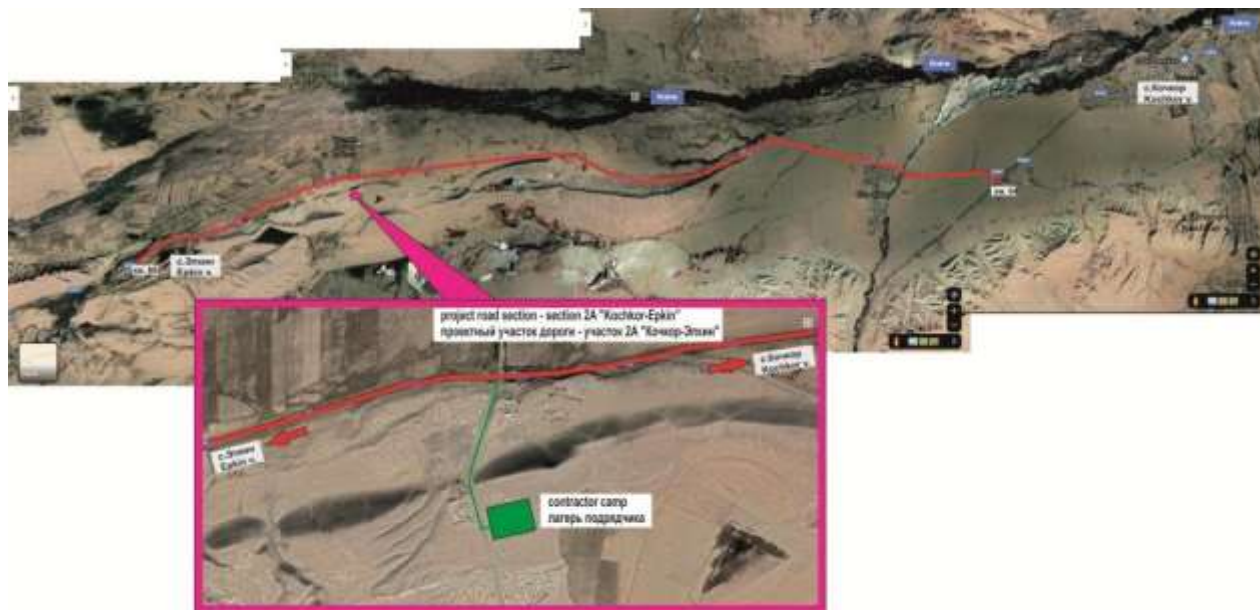
Figure 6. Map of Contractor's camp location on Lot 1.

30. Camp on Lot 2 includes office, medical station, living quarters for workers, construction equipment parking area. During reporting month construction of camp done (living quarters and office premises), and leveling parking area for construction equipment.

31. Contractor's Camp on Lot 2. The contractor's camp for Lot 2 is located on "Kochkor-Epkin" section at km 81, at 250 meters from project section with area of 4.5 ha. All necessary documents/approvals from local authorities and approvals from State Agency for Environmental Protection and Forestry (SESFA) have been obtained. Camp includes office, medical station, living quarters for workers, construction machinery parking area. Each living room has a bathroom and shower room.

32. During reporting following completed: construction and finishing works of living and office premises; construction of a septic tank for sewage disposal.

Figure 7. Map of Contractor's Camp Location on Lot 2.



Photos of Contractor's camp construction and arrangement progress.

Lot 1.



Photo 3-4. Contractor's camp construction progress.



Photo 5. Arrangement of camp.



Photo 6. Preparation of site for equipment parking.

Lot 2.



Photo 7. Location of the Contractor's camp.



Photo 8. Contractor's camp site.



Photo 6 and 10. Living rooms, bathrooms in camp.



Photo 11. Bathroom.



Photo 12-13. Medical Unit in camp.

33. Tree management. During reporting period, contractor together with consultant carried out work on alignment of road axis and roadbed boundaries (including road slope) and determined number of trees falling under "forced" felling. Contractor obtained all necessary permits from State Environmental Protection Agency (SAEPF) and State Technical Inspectorate (SIETS) of Kyrgyz Republic. Cut trees handed over to aiyl okmotu, and Act of handover drawn up.

34. At Lot 1 section the number of trees to be cut down totaled 160 pcs. During reporting period cutting was completed, and actual number of felled trees was 122 pcs.



Photo 14. Lot 1. Section of road km. 1+813 photo on LHS before felling and Photo 15. on RHS after felling.

35. At Lot 2, number of trees to be cut was 1,064, bushes - 685 pcs. During reporting period, 661 trees cut. During reporting period, 661 trees were cut.



Photo 16. Lot 2. Section after tree cut.

36. As stipulated by local legislation, IEE (June 2017), compensation for replacement of felled trees will be made at a ratio of 1:2 (two trees will be planted instead of one felled tree). Sections for

planting new trees will be identified and agreed with Aiyl Okmotu at completing stages of project section main construction works.

37. **Staff information.** In view of COVID-19 situation in KR, Contractor could not mobilize in full capacity its personnel at project site because of limited air service and restrictions moving people through land border crossing.

38. During reporting period, contractor mobilized 105 employees where 7 are foreign personnel (management staff, engineer, office manager) and 98 local personnel including sub-contractors involved at project section. The following is a breakdown of local Contractor and subcontractor personnel involved on project section.

Personnel	Contractor SINOHYDRO	Arek Stroy LLC	Balykchy-trans LLC
Engineer/Technician	10	13	4
Operators and drivers	13	11	6
Qualified labor	7	3	2
Unskilled labor force	10	22	2

2.4 Description of Any Changes to Project Design.

39. No changes were made to the project.

2.5 Description of Any Changes to Agreed Construction methods.

40. No changes were made in construction methods.

3 ENVIRONMENTAL SAFEGUARD ACTIVITIES.

3.1 General Description of Environmental Safeguard Activities.

41. At Contractor's request, MOTR received from State Committee for Industry, Energy and Subsoil Use temporary permissions for development of 12 quarries. Contractor obtained necessary permits from local governments and approval from territorial departments of State Committee on Environmental Protection and Forestry. However, after discovery of ancient cemeteries (Ak-Bel burial grounds) on two sites (quarry at km 81+400 and km 84+400) allocated for quarry, which are archaeological monuments. Use of these quarries is prohibited. If necessary, Contractor will continue to look for additional sites for quarries in 2021. Given presence historical and cultural heritage in project area, archaeologist from Roughton International Ltd. and sub-consultant RAM Engineering Associates LLC will further inspect all suitable quarry sites.

42. The local contractor specialist, during the reporting period, carried out the work of obtaining permits from the local authorities, monitored the project site for compliance with the SSEMP requirements. Together with a representative of the consultant, he conducted a joint visit to the project site.

3.2. Construction site monitoring.

43. Construction work in reporting period started from October 21, 2020. Visual monitoring of construction sites conducted monthly by Environmental Engineer jointly with Contractor's ecologist: starting in September, dates of inspections of sites illustrated in table below.

Table 4. Date of inspections on Project section.

№	Date	Auditor name	Propose of audit	Summary of any significant findings
August				
1	27.08.2020	Ahmanova N. Beisheev I. Tabaldiev K. (archaeologist)	Acquaintance (first visit) with the site Lot 1 Balykchy km 0-43	Acquaintance with the project road and the terrain, with the objects located along the route of the road, with the areas allocated for quarries.
2	28.08.2020	Ahmanova N. Tabaldiev K. (archaeologist)	Acquaintance (first visit) with the site Lot 2 Kochkor-Epkin km.64-89	Acquaintance with the project road and the terrain, with the facilities located along the road route, with the areas allocated for quarries, for the placement of an asphalt plant, a crusher, a contractor's camp.
September				
3	14.09.2020	Ahmanova N. Tabaldiev K. (archaeologist)	Acquaintance with archaeological burials on Lot 2	Acquaintance with the location of archaeological burials and preparation for archaeological excavations at Lot2.
October				
4	14.10.2020	Ahmanova N. Beisheev I.	Lot 2. Monitoring the construction progress of the Contractor's camp	Inspection of the septic tank for receiving wastewater at the construction stage. Working with a contractor on documents
5	28.10.2020	Ahmanova N. Beisheev I.	Monitoring of the construction site Lot 1 and the construction progress of the construction camp	Land work has begun at km 12 + 100. On the job site, introduced the employees and workers of the Subcontractor to the main mitigation measures for environmental protection
November				
6	5.11.2020	Ahmanova N. Beisheev I.	Lot 1. Monitoring of the construction site and the construction progress of the Contractor's camp	Provided advice on the organization of accounting for solid waste and production waste. At the work site, I familiarized the employees and workers of the Subcontractor with the main mitigation measures for environmental protection.
7	6.11.2020	Ahmanova N. Beisheev I.	Lot 2. Monitoring of the construction progress of the Contractor's Camp and the construction site.	Construction work has begun. Provided advice on the organization of accounting for solid waste and production waste.

8	11-12.11.2020	Ahmanova N. Beisheev I.	Counting trees falling under deforestation on Lot 2	
9	13.12.2020	Ahmanova N. Beisheev I.	Counting trees falling under deforestation on Lot 1	
10	24.12.2020	Ahmanova N. Beisheev I.	Meeting in the city of Cholpon-Ata, Issyk-Kul territorial administration of the State Agency for Environmental Protection and Forestry, the issue of laboratory research	The issue of conducting instrumental environmental monitoring (the possibility of a territorial laboratory located in the city of Cholpo-Ata), environmental quality components and environmental regulatory payments was discussed
11	02.12.20220	Ahmanova N. Beisheev I.	Lot 2. Monitoring of construction site, Contractor's Camp, archaeological site	
12	04.12.2020	Ahmanova N. Beisheev I.	Lot 1. Monitoring of the construction site and the progress of the construction of the camp	

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

44. No problems observed. Small amount of work on the part of the contractor.

3.4 Trends.

45. No problems observed. Given the lack of scope of work in January - June 2020, as well as the insignificant amount of work in July-December 2020, there is no way to identify trends in issues.

3.5 Unanticipated Environmental Impacts or Risks.

46. The project sites have historical and cultural heritage sites located along the road. By order of Ministry of Transport and Roads of Kyrgyz Republic, Research Institute "Kyrgyz Restoration" prepared draft of security zones for historical and cultural heritage sites, approved by Ministry of Culture, Tourism, and Information of Kyrgyz Republic. Copies of cultural heritage sites protection zone plans submitted to Construction Supervision Consultant and Contractor to study and organize work of marking protection zones and to excavate the cultural heritage sites located 50 meters from the project road.

47. During reporting period, Contractor engaged archaeologist Mr. Kunbolot Akmatov, Historical Ph.D. for excavation of cultural heritage sites. Engagement is done in accordance with KR Law "On protection and use of historical and cultural heritage" No. 91 dated July 26, 1999 and the Regulation "On the archaeological field committee, the order of archaeological field research and reporting scientific documentation of National Academy of Sciences of KR 2014" that are developed by Kyrgyz Restoration Institute. Mr. Kunbolot Akmatov in accordance with legislation of Kyrgyz Republic received "Open Sheet Form № 4 - for the right to conduct emergency excavations

of monuments in an emergency condition or under the threat of destruction during economic development or natural disasters".

48. In November-December 2020, a group of archaeologists led by archaeologist Kunbolot Akmatov at km. 77 to km. 78+200, conducted excavations of funerary structures (burial mounds) located near the road in the area of Tarmal-Saz (Buguchu I). According to the Project of protection zones of cultural heritage sites, 4 mounds were supposed to be excavated; in fact, 6 mounds were excavated. Two burial mounds were revealed in the course of research work during excavations. Human bones and fragments of clay vessels were found in the mounds. A burial in a stone box with a niche was found in one of the barrows. All finds were recorded, an inventory was made, and then they will be sent to the Laboratory of Archaeology and Ethnography of the State Kyrgyz-Turkish University "Manas" to determine the age of the excavated burials and restoration of ceramic artifacts.

49. Below on plan with green circles marked mounds included in approved project of protection zones of cultural heritage sites, yellow circles mark two mounds found during the excavations.

Figure 8. Location map of OHCH "Buguchu" (Lot 2).



Photos of archaeological excavations on Lot 2.



Photo 17-18. Tarmal-Saz (Buguchu) cemetery. Progress of archaeological excavations.

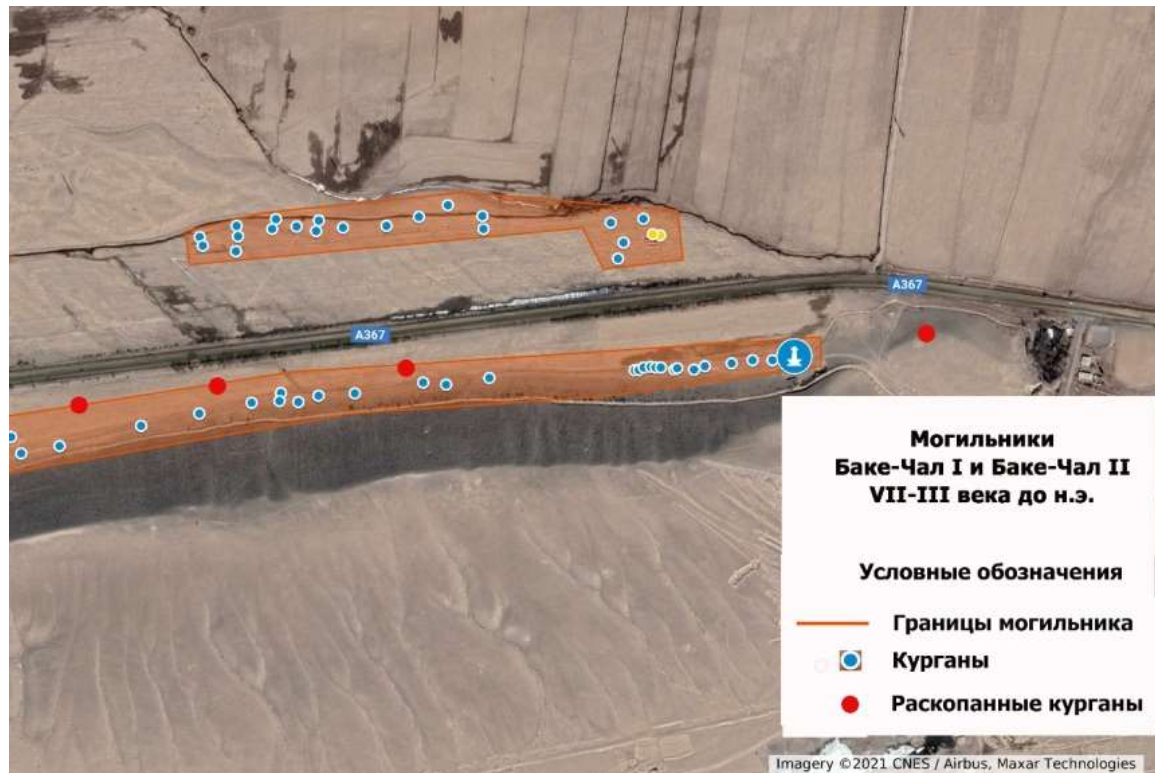


Photo 19. Ak-Bel II cemetery. Human Bones.

Photo 20. Ak-Bel II cemetery. Clay vessels.

50. In addition, archaeologist during detailed study of project road section at km 75+600, km 76+250 - km 76+800 (Bake-Chal I and Bake-Chal II burials) identified historical and cultural heritage sites located within 50 meters. Four burials were excavated. During excavations of mound at km 75+600 (Bake-Chal I burial mound), one burial was excavated. It contained partially preserved anatomical shape of adult skeleton and fragment iron knife. During excavations of mounds at km 76+250 - km 76+800, (Bake-Chal II cemetery) three burials found. In these burials found scattered human bones, fragments of clay vessel and fragments of gold foil.

Figure 9. Location map of Bake Chal I cemetery, Bake Chal II cemetery (Lot 2).



51. Based on initial reports of archaeological survey prepared in 2018, given presence sites with OHCH in project area, and to preserve them, consultant archaeologist conducted additional surveys under quarries sites.

52. At quarry sections km.81+400 and km.84+400, ancient cemeteries (Ak-Bel cemeteries) representing archaeological monuments were discovered, given that use of these sites was prohibited.

53. At planned quarry section km.81+200 (Ak-Bel II cemetery) 10 burial mounds were excavated. In the burials the skeleton and scattered human bones, sheep bones, clay vessels and their fragments found. All finds recorded, an inventory made and sent to Laboratory of Archaeology and Ethnography of t State Kyrgyz-Turkish University "Manas" to determine age of excavated burials and restoration of ceramic products. At present time, all sites planned for quarries have been surveyed for cultural heritage monuments. As a result, we were able fully preserve the areas where there were archaeological monuments in form of ancient cemeteries (burial grounds with mounds).

Figure 10. Location map of the Ak-Bel II cemetery (Lot 2).



54. At final stage, archaeologist surveyed beginning of Lot 2 "Kochkor-Epkin", where earlier fragments of clay vessels found. As projected construction of traffic interchange (connection of Bishkek-Naryn-Torunart road and internal road of Kochkor village) is planned at beginning of project site. At place of future traffic circle, 6 pits with dimensions of 1.5x1.5 m and depth up to 1.5 m were laid. Testing 4 pits have not revealed cultural layers, while one of testing pits contained a thin layer of charcoal and ash, but no finds in it. So, planned project construction can continue.

Figure 11. Location map of finds of ceramics and ring-shaped structures and location of pits (red line indicates road line, right-of-way area 32-33 meters).



55. In January 2021, archaeologist (K. Akmatov) will complete archaeological research and excavations scientific report, which to be sent to MCIT KR. As per archaeologist's conclusion on Lot 2 "Kochkor-Epkin" every question on preservation of monuments of historical and cultural heritage are resolved. After review and approval of archaeologist's report, a written permit from the KR MCIT and a copy of scientific report will be submitted to Contractor and MOTR in first half of February 2021.

56. Regarding Lot 1 "Balykchy km.0-km.43", according to draft protection OHCH zones approved by MCIT it is necessary to excavate 4 mounds. However, an additional detailed study revealed four more sites. Archaeological work of Lot 1 "Balykchy km.0-km.43" will be resumed in spring 2021. As a standard rule, permits (open sheets) to begin archaeological work are issued by National Academy of Sciences of Kyrgyz Republic and MCIT from March each year. According to paragraph 4.4. "Procedure for conducting archaeological excavations", archaeological excavations should be conducted in a time of year favorable for fieldwork. Conducting open ground works when soil temperature is below 0 degrees Celsius is unacceptable.

4. RESULTS OF ENVIRONMENTAL MONITORING.

4.1 Overview of Monitoring Conducted during Current Period.

57. No instrumental monitoring conducted during reporting period. Construction works, due to current situation with COVID-19, were started only end of October 2020. Contractor together with Consultant carried out works to engage a laboratory to carry out instrumental monitoring of environmental quality. Nearest laboratory could provide instrumental environmental quality monitoring services is located in Bishkek, but due to its scheduled workload until the end of 2020, it declined to provide services in 2020. Therefore, contractor will contract with laboratory for 2021 and instrumental monitoring scheduled for February-March 2021.

4.2. Trends.

58. Given start of physical work in reporting period, there is not enough information to determine trends.

4.3. Summary of Monitoring Outcomes.

59. Air Quality. Instrumental air quality monitoring was not conducted on Lot 1 and 2A, as there were no construction activities at sensitive receptor sites during reporting period.

60. Water Quality. On Lot 1, the removal of bridge was carried on km. 12+060 at intersection of irrigation canal and road. Works were carried out during period when irrigation canal did not have water flow.

4.4 Material Resources Utilisation.

4.4.1 Current period.

61. During reporting period, water was used for hydro-irrigation during excavation works and dust suppression on all sections exposed to dust formation on Lot 1 and Lot 2A. On Lot 2A, quarry at km.75+400 was developed.

4.4.2 Cumulative Resource Utilisation.

62. During reporting period, MOTR received from the State Committee for Industry, Energy and Subsoil Use (SCIEN) temporary permit #03-6/11101 dated 04.12.2020 for 6 additional quarry sites located at Lot 1. Contractor has obtained all necessary documents/approvals from local authorities, and from SAEPP to develop these quarries. Table 5 shows the main characteristics of the quarries.

Table 5: Characteristics of quarries.

No. quarry	Stocks (m3)	Area (Ha)	Distance from the road
No. 1 km . 7+100	164 000	4,1	122 m .
No. 2 km . 7+500	450 000	18	20 m .
No. 3 km . 9+000	380 000	7,6	25 m .
No. 4 km . 11+300	76 000	1,9	50 m
No. 5 km . 16+600	1 744 000	43,6	42 m
No. 6 km . 20+600	65 600	1,64	120 m
No. 7 km . 33+000	609 000	20,3	25 m .
No. 8 km . 22+700	380 000	9,5	37 m
No. 9 km . 26+800	488 000	12,2	80 m
No. 10 km . 75+400	225 000	4,5	30 m .

63. Contractor agreed with local authorities' sources (points) for water intake for dust suppression measures.

- Letter of consent from Aiyl Okmotu of Kok-Zhar Aiyl aimak #319 dated July 21, 2020.

- Letter of consent from Aiyl Okmotu of Cholpon Aiyl aimak #405 dated June 20, 2020.

Table 6. Sources for water intake Lot 1 "Balykchy - km.43".

No.	Water Sources.	GPS coordinates.
1	Orto-Tokoy reservoir	N 42* 12.765 E 075* 30.966
2	Orto-Tokoy reservoir	N 42* 18.315 E 075* 54.123
3	Orto-Tokoy reservoir	N 42* 17.739 E 075* 55.975
4	Chu river	N 42* 21.882 E 076* 03.894
5	Chu river	N 42* 22.324 E 076* 04.886
6	Chu river	N 42* 23.207 E 076* 05.868
7	Chu river	N 42* 23.831 E 076* 05.939

Table 7. Sources for water intake Lot 2 "Kochkor-Epkin".

No.	Name of reservoir	GPS coordinates.
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

4.5 Waste Management.

64. The following wastes will be generated during main and auxiliary economic activities of road reconstruction:

- unusable soil;
- removed old asphalt concrete pavement;
- wastewater and solid domestic waste generated during living of personnel in construction camp

65. During reporting period, contractor obtained necessary permits from relevant government agencies (aiyl okmotu, territorial environmental protection agencies) and signed agreements with municipal enterprises of Balykchy city and Kochkor village on disposing the unusable soil disposal site in local environment.

Lot 1. km. 12+000 (letter of consent from aiyl okmotu of Kok-Moinok aiyl aimak #465 dated 16.10.2020. Issyk-Kul Territorial Department of SAEPF Permit No.005952 dated 19.10.2021 for waste disposal in the environment).

Lot 2A. km. 80+900 and km.89+090 (Permit of Naryn Territorial Department of Environmental Protection No.02-4/682 dated 03.11.2020. Letter of consent from aiyl okmotu of Cholpon aiyl aimak #662 dated 29.10.2020).

Table 8: Disposal sites.

Disposal sites	Area, m ²	Distance from road
km 12+000	12500	100 m LHS
km 80+900	4200	70 m LHS
km 89+090	12000	60 m RHS

66. The used asphalt is planned to be utilized for improving secondary village roads. However, if there is need to obtain spoil sites for disposal of old asphalt, this will be agreed with local authorities and coordinated with territorial SAEPF offices.

67. Solid domestic waste will be disposed at municipal landfill in Balykchy and Cholpon cities. Wastewater will be taken to treatment facilities of Balykchy city and Kochkor village.

4.5.1 Current period.

68. During reporting period soil wastes on Lot 1 section happen when widened road at km. 12+220 - km13+000 LHS; km. km 13+060 - km13+480 LHS. Unsuitable soil was disposal site at km. 12+000. Hazard class of unusable soil is V. Volume of waste unusable soil reached 14399 m³.

69. The solid waste was generated during construction of workers' camp. Solid waste belongs to hazard class IV and is disposed in Balykchy municipal landfill. Solid waste in Lot 2A is transported from construction camp to Cholpon aiyl okmotu municipal landfill.

4.5.2. Cumulative Waste Generation.

70. The following wastes were generated by Project during reporting period:

- unusable soil waste on Lot 1, was removed to agreed landfill sites;
- Solid domestic waste on Lot 1 and Lot 2A, were taken to authorized landfill of Balykchy Municipal Enterprise "Tazalyk".

4.6 Health and Safety.

4.6.1. Community Health and Safety.

71. During reporting period, there were no construction-related incidents or traffic accidents that could lead to public health and safety problems.

4.6.2 Worker Safety and Health.

72. During reporting period, there were no accidents or illnesses among Contractor's workforce.

73. In September 2020, the contractor prepared a COVID-19 Response, Prevention, and Mitigation Plan, which approved by Consultant and MOTR. Contractor has circulated copy of plan among all employees, and provided copy to subcontractors for further organizing and implementing recommendations in the plan.

74. Contractor provided workers with disinfectants, antiseptics, and personal protective equipment (masks, respirators, gloves). At Lot 1, construction of Contractor's camp has not yet been completed.

75. At Lot 2, construction and furnishing of Contractor's camp is completed in December 2020. In each living room there are conditions for personal hygiene: there is a bathroom with a shower, personal hygiene products. The room for medical station was equipped: organized "entrance" and daily temperature control with registration in logbook. Contract was signed with district hospital in Kochkor. Kochkor District Hospital has a contract for provision of medical services.

4.7. Training.

76. During the reporting period, there were no separate trainings for the contractor's personnel. One of the reasons was the epidemiological situation in the country. However, the Consultant's local ecologist, together with the Contractor's ecologist, during the joint monitoring at the work sites, conducted individual trainings / clarifications / consultations for individual contractor and subcontractor workers on the issue of mitigating the impact of construction work on the

environment and social environment.

5 FUNCTIONING OF SSEMP.

5.1 Review of SSEMP.

77. Contractor has prepared and submitted the SSEMP for Construction Supervision Consultant review. SSEMP for Lot 1 approved by MOTR in October 2020, and for Lot 2 in November 2020. In addition, as required by IEE, Contractor has prepared 14 separate annexes:

1. Emergency management plan;
2. Mechanism for handling complaints;
3. Occupational safety, health and hygiene plan;
4. Life management plan for the construction camp;
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 suppression plan;
11. Land protection management plan;
12. Environmental protection plan for bridge construction and reconstruction;
13. Quarry Management Plan.
14. COVID-19 Prevention and Avoidance Plan.

The COVID-19 prevention and containment plan further developed in view of epidemiological situation

78. In course of construction works, Contractor ensured implementation of mitigation measures for impact of construction works on environment in accordance with SSEMP:

- Removing topsoil and storing it in cavalier;
- Removal of unusable soil from excavations to disposal sites, ensuring that soil is stored and leveled at specially designated and agreed locations. All necessary permits for placement of disposal sites on part of Contractor have obtained.



Photo 21-22. Lot 2. Condition of territory under disposal site of unusable soil km 12+060 on left side of road: photo left - before storage and photo right - after storage and leveling of unusable soil

- Places of animal crossing are marked; road signs and bypass roads installed.

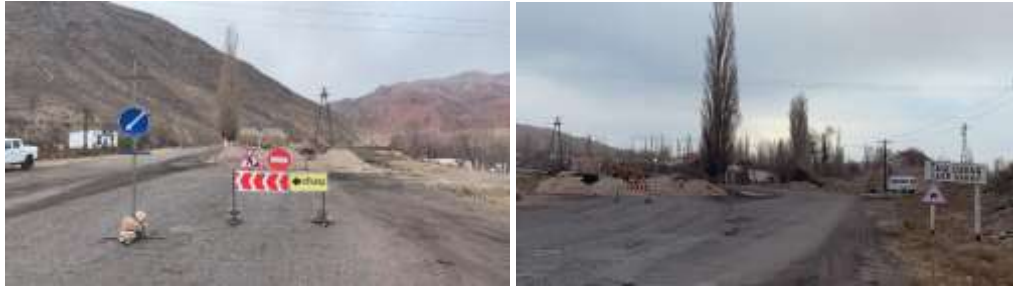


Photo 23-24. Lot 1. Road signs, detour road, animal crossing point sign on km 12+060

- There was no contamination of construction work area, soil disposal sites and Contractor's camp with oil spills.
- Contracts concluded with Municipal Enterprise for removal and disposal of solid waste.
- Timely removal of waste from construction sites: reinforced concrete structures after dismantling of bridge and bus stops, which transferred to Road Maintenance Department of Balykchy. The Act of Transfer was drawn up.
- Dust suppression was carried out at all sites subject to dust formation.
- During development of open pit at Kochkor-Epkin 2A site at km. 75+400, Contractor performed works on drawing/marketing borders of open pit in field. Visually, no dust emission was observed during development of open pit.



Photo 25. Lot 2. Kochkor-Epkin km.80+500;



Photo 26. Lot 2. Pit at km 75+400

6 GOOD PRACTICES AND OPPORTUNITY FOR IMPROVEMENT.

79. Based on the experience of other implemented and ongoing projects in Kyrgyz Republic, one of important aspects for successful completion of construction works is to ensure communication with local population and representatives of aiyl okmotu. Taking this into account, contractor's staff together with Engineer should interact more closely with local population for prompt resolving emerging issues.

6.1 Good practices (good practices).

80. Considering presence of objects of historical and cultural heritage (OHCH) located in vicinity of project road, when new construction season 2021 starts it is necessary to organize and conduct trainings for contractor's workers. This provides "minimum" knowledge to contractor's staff on objects of historical and cultural heritage, and necessary measures to avoid impacts on objects during construction works.

6.2 Opportunities for improvement.

81. Given beginning of physical works in reporting period, there is not enough information.

7 SUMMARY AND RECOMMENDATIONS.

7.1 Summary.

82. Based on results of monthly inspections and monitoring of construction sites, we should note positive work of Contractor in terms of implementation of measures to mitigate and prevent negative impact of works on environment. However, it should be considered that large-scale works have not started, contractor plans to start full-scale construction works in spring 2021. During next reporting period, consultant will conduct environmental monitoring, based on results of which it will be possible to draw further conclusions.

7.2 Recommendations.

83. Considering that full-scale work on the project site has not started, there is not enough information to make recommendations. At the moment, the consultant is taking the initiative to conduct training for the contractor's staff on archaeological sites. This training is planned to be held in March 2021, in order to provide a small (basic) level of knowledge to the contractor's personnel on archaeological sites (what measures must be taken to preserve archaeological sites, what is it for, etc.).