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Semi-Annual Environmental Monitoring Report
July 1 – December 31, 2019

Kyrgyz Republic:

CAREC Corridor 3 Improvement Project (Bishkek – Osh road), Phase 4 (km 15.9-61)

Financed by the Asian Development Bank

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Prepared for:
Investment Projects Implementation Group (IPIG) of the Ministry of Transport and Roads of the Kyrgyz Republic

Endorsed by: [*staff name of Implementing agency and signature*]
Submission date: January 2019

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Abbreviations and Acronyms

ADB	-	Asian Development Bank
CAREC	-	Organization of Central Asian Regional Economic Cooperation
CSC	-	Construction Supervision Consultant
EMP	-	Environmental Management Plan
IPIG	-	Investment Project Implementation Group
km	-	kilometer
KR	-	Kyrgyz Republic
MPC	-	Maximum permissible concentration
MPL		Maximum permissible level
MoTR	-	Ministry of Transport and Roads of the Kyrgyz Republic
MoF		Ministry of Finance of the Kyrgyz Republic
SAEPF	-	State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic
SIETS	-	State Inspectorate for Environmental and Technical Safety under the Government of the Kyrgyz Republic
DDPTSSES	-	Department of Disease Prevention and State Sanitary-Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic
TS	-	Technical Specification
CEMWP	-	Construction Environmental Management Work Plan
AP	-	Asphalt Plant
SCP	-	Stone crushing plant
CBP	-	Concrete batch plant

1. INTRODUCTION

1.1 Preamble

1. Roads are essential for the Kyrgyz Republic, in this regard, the Government of the Kyrgyz Republic appealed to the Asian Development Bank (ADB) to assist in funding for the realization of CAREC Corridor 3 (Bishkek-Osh road) Improvement Project, Phase 4.

2. This report is the fifth “semi-annual" environmental monitoring report, covering the ongoing CAREC Corridor 3 (Bishkek-Osh road) Improvement Project, Phase 4, for the period from July to December 2019. The monitoring report contains environmental issues, mitigation and monitoring measures taken by the Contractor and monitored by the EPTISA Construction Supervision Consultant. During the reporting period, the road rehabilitation works included work on reconstruction of six bridges, replacement of culvert pipes, removal of old asphalt, preparation of new road lanes in the eastern and western directions, construction of sidewalks and culvert chutes and tree planting at section 3, as well as operation of asphalt and concrete plants, and the aggregate processing plants.

3. This report documents the progress of work and changes related to the prevention of environmental impacts. The results are based on numerous site visits, conducted by a national environmental specialist from July to December 2019, wherein the focus was on monitoring of compliance with the environmental and safety requirements during the road construction, construction of bridges and culvert pipes, seedling planting, and traffic management.

1.2 Headline Information

4. The Bishkek-Osh road represents about one fourth of international road network in the Kyrgyz Republic, and links the country to Kazakhstan in the north, Uzbekistan and Tajikistan in the south, and the People’s Republic of China in the southeast. The road crosses four of the seven regions of the country and serves about 2 million people. It is the only direct surface link between the southern and northern parts of the country making it crucial for maintaining the country’s social, political, and economic integrity. The Bishkek-Osh road forms part of the CAREC Corridor 3, which runs from the west and south Siberian region of the Russian Federation through Kazakhstan, Kyrgyz Republic, Tajikistan, Afghanistan, and Uzbekistan to the Middle East and South Asia.

5. The CAREC Corridor 3 (Bishkek-Osh road) Improvement project, Phase 4, (Bishkek-Kara-Balta section, 45.1 km long) aims to improve connectivity and market access in the Kyrgyz Republic. The project’s benefits will be efficient movement of freight and passenger traffic along the Bishkek-Osh road, improved safety for both road users and pedestrians, as well as minimizing the environmental impact of the road in terms of noise impact from passing traffic by installing less noisy asphalt- pavement.

Figure 1 Bishkek-Kara-Balta road section, of the Bishkek-Osh Road (Source: Hagler Bailly, Pakistan, 2016)

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

2.1.1 Location of the project site and design

6. The project will improve connectivity between north and south in the Kyrgyz Republic. The project output will be efficient movement of freight and passenger traffic along the Bishkek-Osh road. According to the classification of the ADB Safeguard Policy Statement, the project classified as Category B. Improvement of the Bishkek-Osh road section (Bishkek-Kara-Balta section) will connect important, but densely populated areas, what will ultimately provide better access to services, goods and markets; improve regional connectivity and increase road safety for all road users in general.

7. The project provides for the rehabilitation of 45.1 km of the Bishkek-Osh road. The project site is located between Bishkek and Kara-Balta cities and is located between 15.9 km and 61 km of the Bishkek-Osh road. The existing pavement is asphalt concrete and the paved width is between 15 and 20 m. Shoulder width ranges from 1.5 to 3.0 m. The project road section proceeds westward from km 15.9 to the outskirts of Kara Balta city, and has four, then three lanes, which at km 24 reduced to two lanes. The width of the road pavement of the two-lane section is 8-12 m, with shoulders another 1.5-3.0 m. At km 61, at the roundabout, the Bishkek-Osh road turns to south, and marks the end of the project.

8. The terrain across the site can be classified as a foothill plain with a height of 750-800 m above sea level and steadily gaining altitude southward toward the Tian Shan mountain range.

9. The road reconstruction will meet the laws and norms of the Kyrgyz Republic. This reconstruction will bring the geometric parameters of the road to the required category, becoming a 4-lane highway for the entire length to Kara Balta, increasing the radii of curvatures in the plan and longitudinal profile.

10. In order to improve drainage system, the work includes reconstruction of the degraded culvert system and addition of new cross drainage structures. Existing bridges are being totally replaced. Finally, it will be constructed more than 64 km of sidewalks, 95 new above ground pedestrian crossings, 12 new signaled pedestrian crossings, and six underground pedestrian crossings.

11. Due to the serious resettlement issues and the need to address them before commencement of construction period, such a sequence of construction works was planned, where the works primarily covered those areas where there are no or there are minor resettlement issues.

Table 1 Road sections where the construction work was carried out in 2017

Section No.	Start of the section, km	End of the section, km	Length of the section, km
1	15.900	21.300	5.400
2	35.500	40.580	5.080
3	45,600	51,600	6.000
4	54.200	59.350	5.150

Table 2 Road sections where the construction work was begin in 2018

Section No.	Start of the section, km	End of the section, km	Length of the section, km
5	21+300	35+500	14+200
6	40+580	45+600	5+020
7	51+600	54+200	2+600
8	59+350	60+926	1+576

12. The construction work is being carried out mainly within the existing road right-of-way, thus keeping environmental impacts to a minimum. The Project includes number of consequential activities such as development of borrow pits, operation of asphalt plants and aggregate crushing plants, arrangement of contractor's worker camps and storage sites, etc.

13. According to the Terms of Reference, the road pavement will be designed for an initial design life of 10 years with structural overlay options for 15 and 20 years of design life.

2.2 Project Contracts and Management

Table 3 Project Contracts and Management

Project	Central Asia Regional Corridor 3 (Bishkek-Osh Road) Improvement Project Phase 4
Contractor	China Railway No.5 for Component 1 implementation
Road section:	15.9 km – 61 km, the overall length is 45.1
Donor:	Asian Development Bank.
Contract Sign Date:	28/03/2017
Executive Agency	Ministry of Transport and Roads of the Kyrgyz Republic
Notice to Commence	03/04/2017
Completion Date	April 02, 2020.
Time for Completion – Days	2 years 4 month
Extension of Time – Days	-
Defect Liability Period – Days	365
Contract Amount	USD 70,239,899.29
Minimum Amount of Interim Payment USD (3%)	USD 2,107,196.97
Total Amount of Advance Payment	Maximum 20% of the Accepted Contract Amount less Provisional Sums
Amount of Performance Security	%20 of Accepted Contract Price
Amount of Third-Party Insurance	500,000 USD per occurrence with the number of occurrence unlimited

Periods for submission of insurance a) evidence of Insurance b) relevant policies	14 days 14 days
Delay damages for the Works	0.05% of the Accepted Contract Amount for each lot, which is in delay, per day in USD
Maximum amount of delay damages	10% of the Accepted Contract Amount
Repayment Amortization of Advance payment	10%
Limit of Retention Money	10% of Accepted Contract Amount
Percentage of Retention	5% of Value of Works certified for Payment

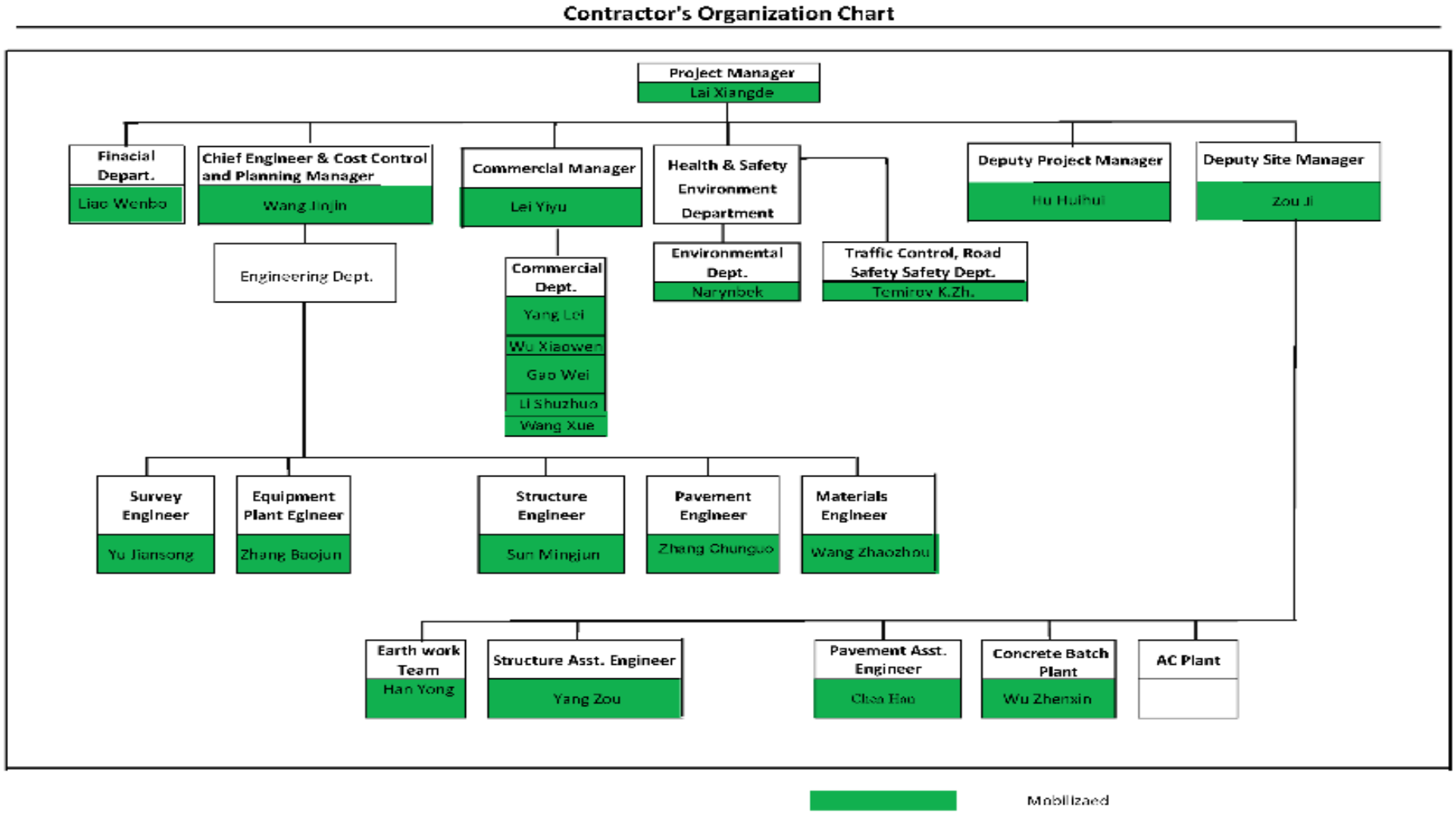

Figure 2 Project Organization structure and Management

Table 4 List of Constultant staff

INTERNATIONAL STAFF	
male	
Highway Engineer/Team Leader	Hakan Nemutlu
Pavement and Materials Engineer	Paolo Cocco
Bridge/Structural Engineer	Sabbir Siddique
Road Safety Specialist	Partha Mani Parajuli
Quality Assurance Engineer	Ruhi Eren Gurcay
Contract Specialist	Serdar Hakkaçırmaz
Environmental Specialist	Geza Teleki
PBM Consultant	Akli Ourad
Climate Change Specialist	Henrikus M. Bosch
female	
Social Development and Resettlement Specialist	Dragica Veselinovich
NATIONAL STAFF	
male	
Highway Engineer/Deputy Team Leader	Yzatbek Toktomambetov
Pavement and Materials Engineer	Abdykerim Kaparov
Bridge/Structural Engineer	Viktor Urlapov
Hydraulic and Drainage Engineer	Vasily Chernyh
Road Safety Specialist	Sadyrallev Shalloobek
Quality Assurance Engineer	Sanjar Satybaldiev
Quantity Surveyor	Edil Shabdanov
Social Development and Resettlement Specialist	Azamat Omorbekov
PBMC Consultant	Nurbek Jumaliev
female	
Environmental Specialist	Tatiana Volkova

2.2.1 Scope of work

14. Design of the project meets standards of Technical Category 1-b (main urban arteries) with the following geometrical attributes:

- Number of lanes – 4 and 6
- Lane width –3,5 - 3,75m;
- Carriageway width – 2x7,5;
- Shoulder width – 3,75м
- Carriageway shoulder breakpoint stabilization – 0,75m
- Axle design weight – 11,5 tones.

15. Over the whole stretch of the project area, the two layers of the asphalt-concrete pavement is 14 cm thick will be placed, the upper one is 5 cm and the lower one is 9 cm thick, with underlying black crushed stone course 9 cm thick.

16. The RoW (Right of Way) width is from 50 to 60 meters. The Project provides for construction and repairing works for the following service facilities and the communications as well as work scope.

Pavement Construction Quantities:

- Wearing course 5cm thick – 46,692m3;
- The same in junctions 5cm thick – 4,169m;
- Binder course 9cm thick – 84,046m3;
- The same on junctions 9cm thick – 7,505m3;
- Asphalt treated base course 9cm thick – 86,906m3;
- Base 15cm thick – 157,257m3;
- Sub-base 28cm thick – 448,920m3;
- Asphalt-concrete course on sidewalks 4cm – 9,754m3;

In addition, it also includes:

- Bridge repairs with widening– 6;
- Minor engineering structures – 548;
- For water diversion, reinforced-concrete chutes – 77661 linear meters;
- Intersections and junctions – 477;
- The project provides for parking lots next to market places – 4;
- Auto pavilions – 114;
- Sidewalks – 81 285 meters;

Road Safety Features:

The Project provides for repair of 4 existing pedestrian underground crossings and construction of 6 new pedestrian underground crossings;

- Marker posts – 515;
- Metallic foot-walk guard rails – 3980 linear m;
- Parapet guard rails – 1158;
- Median railings – 14 887;
- Retaining walls – 3669 linear m;
- Street lights – at 26 intersections.

Reconstruction of the Utilities

- VL-10kV – 43 poles
- VL-0,4kV – 166 poles
- Communication lines –504 posts
- Lighting poles – 2190, length 45km
- Gas casings – 650 linear m

Vegetation Planting

17. Almost throughout the entire length of the project road there are trees planted in both sides, most of which will be cut down in course of the road rehabilitation. In total, 5363 trees will be cut down. As compensation, it is required planting of hardwood seedlings in the ratio of 1:2.

Land Acquisition and Ressetlement Plan

18. The project site passes through densely populated areas. The project provides for the demolition of commercial services, pavilions, billboards, service stations, gas stations, fences and houses that will be affected by the project, in the sections of road widening and sections of construction of new sidewalks. A Resettlement Plan was drawn up, based on which compensation was paid to 106 affected persons, including owners and users of land, business owners, tenants and employees.

2.2.2 Main Organizations Involved in the Project

19. Relevant organizations involved in the project are:

- Ministry of Finance of the Kyrgyz Republic (MOF)
- Ministry of Transport and Roads of the Kyrgyz Republic (MoTR)
- the Implementing agency; and its Investment Projects Implementation Group (IPIG)
- State Agency for Environmental Protection and Forestry (SAEPF)
- State Inspectorate for Environmental and Technical Safety (SIETP)
- Department of Disease Prevention and State Sanitary and Epidemiological Surveillance under the Ministry of Health (DDPSSES)

1. MoTR is responsible for the development of the transport sector, and is the Executing Agency (EA) of the project. MoTR has overall responsibility for the planning, designing, implementation and monitoring of the project. IPIG, works under the MoTR and implements the tasks assigned by MoTR.
2. The Ministry of Finance of the Kyrgyz Republic is the authorized state body responsible for coordinating actions with ADB and other donors on external assistance issues.
3. The State Agency for Environmental Protection and Forestry is responsible for the state policy in the environment sector and coordinating the actions of other state bodies on these issues. Its functions as follow:

   - environmental policy development and implementation;
   - state ecological expertise (Environmental Impact Assessment);
   - issuance of environmental licenses
   - ecological monitoring;
   - provision of environmental information services.

4. The State Inspectorate for Environmental and Technical Safety works in accordance with the Law "On the procedure for conducting inspections of entrepreneurship entities", and carries out supervision procedure on compliance with:

   I. environmental legislation, established rules, limits and norms of environmental management, standards of emissions and discharges of pollutants and waste disposal in the environment;
   II. industrial safety requirements during construction, expansion, reconstruction, technical re-equipment, operation, conservation and liquidation of hazardous production facilities;
   III. the requirements of land legislation;
   IV. safety requirements for operation of equipment and facilities for the storage and distribution of petroleum products and gases, cranes;
   V. requirements of safe operation rules in construction, installation and maintenance of electrical networks and electrical equipment.

5. Department of Disease Prevention and State Sanitary and Epidemiological Surveillance supervises the sanitary and epidemiological welfare of the population, the safety of goods, products, environmental objects and conditions, and the prevention of harmful impact of environmental factors on human health.

Table 5 Main Organizations involved in the project Environmentals Safeguards

No	Organization Name	Role in project	Responsible person for the environmental safeguards	Contacts
1	ADB	Donor		
2	ADB Office in the Kyrgyz Republic	Consultant	Sultan Bakirov	Sbakirov.consultant@adb.org
3	MoTR & it's IPIG	Implementing & Executing Agency	Asylbek Abdygulov	asylbeka@piumotc.kg
4	Eptisa	Consultant	Tatiana Volkova	volkova_ti55@mail.ru
5	The limited liability company "China Railway Engineering Group No. 5»	Contractor's Env. Specialist	Narynbek Myrsaliev	narynbek_m@mail.ru
6	LLC Diversified manufacturing company "Maksat" -	Subcontractor, relocation of water-electric communications	-	
7	LLC "Intelservice"	Subcontractor, Relocation of underground cables	-	
8	LLC "Telstroy"	Subcontractor, Relocation of underground cables	-	
9	LLC Kyrgyz branch of "Kaganat Group"	Subcontractor, work on installing chutes;		
10	Construction company "Bao Feng"	Subcontractor, work on installing trays;		
11	LLC "Ishmer"	Subcontractor, work at the Ak-Suu bridge		

2.3 Project Activities During Current Reporting Period

2.3.1 Road Construction Works

20. During the reporting period works were carried out on removing of old asphalt, leveling, backfilling and comapcting of the roadbed at sections 1, 2, 5. Asphalt is being down in prepared sections.

Figure 3 Removing of old asphalt and unsuitable soil

Figure 4 Lying of asphalt

21. "New Jersey" type parapet fencing and sidewalks were installed on the constructed sections.

Figure 5 Construction of “New Jercey” type parapet fencing



Figure 6 Construction of sidewalks

22. Installation of culvert chutes was carried out.


Fidure 7 Installation of culvert chutes

23. At sections 2 and 5, construction and rehabilitation of underground crossings near vulnerable areas (schools) was carried out. In December, works on construction of canopies at the underground crossings were carried out.


Figure 8 Construction and rehabilitation of underground crossings

24. With the onset of hot weather, regular water sprinkling of these areas was arranged, but given the hot weather, there was still dusting on the road. 6 water sprinkling machines were operated on the road.

Figure 9 Road water sprinkling

2.3.2 Construction of bridges and culverts

25. During the reporting period, work continued on the construction of the bridges over the rivers Ak-Suu (work completed by 94%), Sokuluk (work completed by 96.8%) and mudflow canal from the river Ak-Suu (work completed by 98%), Krepostnoy (work completed by 95%) and Jantai canals (work completed by 88.2%). To date construction of the bridges is almost completed and traffic is open along them. The beds of Krepostnoy and Jantai canal were cleared from the clay sediments.

Figure 10 Construction of Ak-Suu bridge

Figure 11 Construction of Sokuluk bridge

Figure 12 Bridge construction at the mudflow canal from the Ak-Suu River

Figure 13 Brdige construction at Krepostnoy canal

26. During the reporting period, work continued on the construction of bridge at Jantai canal.

Figure 14 Brdige construction at Jantai canal

27. During the whole reporting period intensive work continues on the reconstruction of culvert pipes at sections 2, 5, (villages of Aleksandrovka, Sokuluk, Romanovka and Sadovoe).

Figure 15 Construction of culvert pipes

2.3.3 Borrow-pits

28. Originally, 6 sites were allocated for borrow-pits at the project road (Bishkek-Kara-Balta road section, km 15,9 – km 61). The Contractor has obtained all necessary permits for the borrow-pits mining from local authorities, the State Committee for Industry, Energy and Subsoil Use (SCIESU) and the State Agency for Environmental Protection and Forestry (SAEPF). Table 6 provides main information about 6 borrow-pits.

Table 6 Information about borrow-pits

No. of borrow-pit	Stocks (m^3)	Area (ha)	Distance from the road (km)
No.1 «Jelamysh»	242 093	10,77	11
No.2 «Sokuluk -1»	185 000	9,02	3,3
No.3 «Sokuluk -2»	185 000	9,7	7,7
No.4 «Ak-Suu -1»	210 000	11,89	2,5
No.5 «Ak-Suu -2»	850 000	68,19	8,6
No.6 «Kara-Balta»	275 323	73,70	3,5
No.7 «SAZ»	197 600	5,2	14.5

29. Sokuluk-1, Sokuluk-2, Ak-Suu-1, Ak-Suu-2, and Kara-balta borrow-pits belong to self-regenerated category, since they are located in floodplains of rivers that are subject to mudslides.

30. To date, work at the Kara-balta borrow-pit has been suspended, due to the completion of works in the Jayil district.

31. During the conclusion of agreement with Krupskoy aiyl okmotu, on the territory of which Sokuluk-1 and Sokuluk-2 borrow-pits are located, it turned out that when allocating areas for these borrow-pits, the borrow-pit area was overlapped with the area of neighboring adjacent borrow-pit, and therefore mining of Sokuluk-1 borrow-pit was refused, and the area of Sokuluk-2 borrow-pit was reduced to 1.73 ha.

32. After testing the quality of the material of Sokuluk-2 borrow-pit by Quality Assurance engineer and Materials engineer, it was found that the material contains a large amount of humus and it cannot be used for the construction of the roadbed, in this regard, the mining of Sokuluk-2 borrow-pit was suspended. For mining, a Saz borrow-pit was proposed, located on the territory of the Sazskiy ayyl of the Sokuluk district. Currently, works have been completed at the Jelamysh and Ak-Suu1 borrow-pits.

2.3.4 The area of the plant

33. The production site is located at the territory of Sokuluk ayil okmoty, close to Ak-Torpok village. The area belongs to the industrial and communal zone. Total land area - 10 hectares.

Figure 16 Production site

34. The following buildings and structures are located in the site: console control building, stone-crushing plant (SCP), asphalt-bitumen plant (asphalt plant), concrete batch plant (CBP), silos - bin for cement, workers camp, office, eating room, car parking; parking for trucks; storage for fill materials - crushed stone and sand; transformer substation, platform for the installation of garbage containers, concrete cesspit pit for sewage.

Stone-crushing plant

35. Raw materials for production of crushed stone and sand is delivered to the stone-crushing plant from Ak-Suu 2 borrow-pit by dump trucks. Crushing of raw material is carried out in crush lines of crushers. Water sprinkling is done during the crushing, which reduces the emission of inorganic dust by 70%. Sieving is carried out with washing - on vibrocribble screens, transportation is carried out by belt conveyors.

Figure 17 Stone-crushing plant

36. Sand after sieving and washing distributed to spiral classifier, where it is mixed, dehydrated and delivered to the finished product storage. Crushed stone and sand are stored separately in storages.

Concrete Mixing Plant (CMP)

37. Production of concrete is carried out with concrete mixing plant HZS50. Capacity is 50 m3/h. Crushed stone and sand is delivered by motor transport. There are storages for reception and storage of crushed stone and sand at the plant. From the intake hopper crushed stone and sand are delivered to the indoor storage by belt conveyor. There is a separate compartment for sand and crushed stone in the storage. From the storage through the passageway sand and gravel are delivered to the receiving section of concrete mixing plant. The receiving section is equipped with separate storage bins for crushed stone and sand.

Figure 18 Concrete mixing plant

38. Production of concrete involves mixing of cement, sand, crushed stone and water in the necessary proportions. Raw materials for preparation of concrete mix are: cement, ballast, (sand and gravel mix), sand, crushed stone, water.

39. The technological production process of concreted structures includes preparation of concrete mixture and its transportation to construction site, delivery, distribution, laying and compacting it in structure, curing of concrete in setting process. Concrete mix is prepared at concrete mixing plant and delivered as a finished product to construction sites. Transportation of concrete mix from preparation place to place of unloading or directly to concreting section is carried by transit concrete mixer.

40. Washing of transit concrete mixers is carried out directly on a special site. After washing, the waste water enters a three-section sediment tank. Clarified water is used for the watering of the production site. The sediment gravel is reused in production of concrete.

Polygon for production of reinforced concrete products

41. The area of polygon for production of reinforced concrete products is provided for the production of reinforced concrete products. The production sites of the polygon used for the production of welded rebar meshes and carcasses. Cleaning of rebar from cinder and corrosion is performed on special equipment, followed by straightening and cutting to rods of a given length. The bending of the rods is made on the bending machine, where they are given shape. Metallic dust is released during the operation of straightening-cutting machine. To comply with safety requirements, workers were given respiratory protective equipment (masks). However, there have been cases when workers have been careless in using protective equipment. The contractor's safety specialist conducts constant monitoring and talks with workers about the need to use them.

42. Separate rods are connected into grids and carcasses by electric arc welding. Pollutants released during the use of electric arc welding are: welding aerosol, manganese oxides, hydrogen fluoride.

Figure 19 Polygon for production of reinforced concrete products

Asphalt-bitumen plant

43. The plant for the production of asphalt-bitumen mixture with a capacity of 280-320 tons/hour is installed at the territory of the enterprise.

44. The technological production process of asphalt-bitumen mixture is carried out according to the following production scheme and have four sections; bin-loading; dosing, mixing and delivering of finished products.

45. Mineral materials delivered to the plant are unloaded to special sites. Bitumen is supplied to the asphalt mixture production plant in a solid state, on barrels and stored on a specially designated site. Asphalt mixture is prepared in asphalt mixers of forced batch mixing with preliminary drying, heating and dosing of mineral materials.

Figure 20 Aspahlt-bitumen plant

46. Recently, a large number of drums with bitumen have been delivered, which are partially placed on a specially prepared site. A large number of drums are placed on the ground covered with a waterproofing material.

Figure 21 Drums with bitumen and empty drums at the plant area

47. Empty and full drums of bitumen are placed on a specially prepared site. A large number of empty bitumen drums and metal lids have been accumulated (Figure 14) on the site (although not contaminating the ground). The contractor plans to use part of the empty drums as a temporary arrangement in the areas where the work is being done, having previously painted them and covered with reflective tape. The engineer gave the Contractor instructions on the need to dispose unused empty drums. This issue is at the decision stage.

Workers camp

48. Due to the proximity to the main gas pipeline, the relevant services have repeatedly issued orders to relocate the residential sector outside the sanitary protection zone. Once the land plot owner's (Emergency Control Ministry) permission was obtained, the residential area was relocated to a safe distance and placed on the east side of the industrial zone in accordance with safety requirements and hygiene standards.

Figure 22 Workers camp

49. The worker's camp accommodates 50 people. Each room is designed to accommodate two workers. The camp has a kitchen room, equipped place for eating, shower rooms, washbasins, toilets.

50. Sewage water in the new camp, through pipelines, is discharged into an existing septic tank.

51. After a verbal warning about the need for a fire shield equipment, 2 shields were installed in the camp.

52. A warning was also given to remove gas cylinders from the kitchen and place them in metal cabinets on the street, but this warning was ignored.

Figure 23 Fireshield equipment at the camp

Figure 24 Gas cylinders placed at the kitchen room

53. Given that many of the living workers smoke, it is strictly forbidden to smoke in residential premises to comply with elementary fire safety rules. Smoking is allowed only in specific areas, and for this purpose metal bins for cigarette butts were installed. Explanatory conversations are regularly held with the residents about compliance with the rules of living in the camp.

54. Water supply at the production site is carried out from an existing well on the basis of the Agreement No.38 “On the provision of the well for temporary use” dated October 10, 2017. The well was restored to supply the plant with water. The contractor laid a pipeline to the plant. Currently there are no problems with water at the plant.

2.3.5 Workers camp at the villages of Sokuluk and Belovodsk

55. At the worker camps in the villages of Sokuluk and Belovodsk, household waste and sewage from septic tanks are disposed in a timely manner, and all protective measures for sanitary hygiene are observed. Periodic checks are carried out on compliance with environmental requirements. However, both in Sokuluk and in Belovodsk, during the repair and other works, waste is accumulated and not taken out in time, as a result it creates a mess. It is necessary to clean the workplace every day after completion of work.

2.3.6 Tree Management

56. During the reporting period single tree cuttings were carried out in coordination with the services for the relocation of electric and telephone poles. These trees are not additional and are included in the previously defined number of trees that fall under forced cutting. The contractor was warned about the need to plant seedlings instead of cut down trees. Unfortunately, in the period when it was possible to plant of seedlings, there were no prepared road sections where sidewalks and culverts were constructed.

57. In autumn, the first 300 seedlings were planted on the prepared areas.

Figure 25 First planted seedlings

2.3.7 Information about personnel

58. During contract negotiations with the Contractor on the personnel structure for the Bishkek-Karabalta road rehabilitation project, an agreement was reached according to which:

- the structure of management and engineering personnel:
  - 60% - foreign personnel,
  - 40% - local personnel;
- the structure of the workers:
  - 20% - foreign personnel,
  - 80% - local personnel.

59. In 2019, the total number of personnel, including management, engineering, and workers, was:

- as of August 1, 2019, the contractor employed 567 people, including 61 people from China and 506 local residents;
- as of December 1, 2019, the contractor employed 501 people, including 42 from China and 459 local residents.

2.4 Description of Any Project Changes

60. Initially, 6 areas were allocated for borrow-pits on the project road. In particular, Sokuluk-1 and Sokuluk-2 borrow-pits were intended for mining during work on the territory of the Sokuluk district. The contractor has obtained all the necessary permits for the development of these borrow-pits from local authorities: The State Committee for industry, energy and subsoil use and The State Agency for environmental protection and forestry.

61. During the conclusion of agreement with Krupskoy aiyl okmotu, on the territory of which the Sokuluk-1 and Sokuluk-2 borrow-pits are located, it turned out that when allocating areas for these borrow-pits, the borrow-pit area was overlapped with the area of neighboring adjacent borrow-pit, and therefore development of the Sokuluk-1 borrow-pit was refused, and the area of the Sokuluk-2 borrow-pit was reduced to 1.73 ha.

62. After testing the quality of the material of the Sokuluk-2 borrow-pit by the Quality Assurance engineer and Materials engineer, it was found that the material contains a large amount of humus and it cannot be used for the construction of the roadbed, in this regard, the development of the Sokuluk-2 borrow-pit was suspended. For construction works it was necessary to find a new borrow-pit.

63. The Saz borrow-pit was proposed, located on the territory of the Sazskiy ail okrug of the Sokuluk district, the development of which was carried out during the work on the territory of the Sokuluk district.

2.5 Changes to Project design and Construction Method

64. In 2017, the ADB has suspended earth works at section 3 in the village of Petrovka until the winter season, due to complaints received from the local residents about vibration coming from construction equipment during compaction of materials, in particular, from rollers. Complaints were received from 17 homeowners of Central'naya street.

65. The British company MRCL conducted a study of the intensity and transmission of vibration. The purpose of the study was to monitor vibration in different places to determine the magnitude of the risk depending on the distance from the source of vibration and the condition of the house along the 45.4 km of the Bishkek-Kara-Balta road. The focus was on quantifying the impact of compaction using vibration on nearby homes and recommending practical mitigation measures to avoid these impacts and reduce the risk of damage.

66. This study was the starting point for the implementation of the vibration impact contour map.

67. Additional data was also obtained from field measurements of seismic vibrations arising during the operation of the rollers. The literature related to the existing methods for calculating vibrations ranging from preparation and compaction of soil was examined, and there was also documented data, on which threshold levels of vibration damage were established for classes of buildings with low, medium and high risk, on the basis of internationally accepted standard. A vibration modelling report was drawn up.

68. In special vibration study, various options of mitigation were proposed, in particular limitation for vibratory rollers on pre-determined road sections with high vulnerability residential houses and usage of deep trenches to protect vulnerable structures from vibrating compaction. Although the report contains useful limiting parameters for visible and structural damage due to soil vibration, IPIG and EPTISA have found that the most effective and least costly solution was to exclude compaction with vibration at all road sections where there are residential houses.

69. EPTISA's consultant (material engineer) conducted a study to verify the possibility of compaction without vibration. The study was conducted on fill materials, unbound materials and binders.

70. The study has shown that it is possible to compact available materials without vibration using a reasonable number of passes.

71. It was decided not to use vibration in the future during the compaction of materials. Soil compaction works as directed by the ADB (letter dated 23.05.2018) were carried out without vibration at all road sections, except for section km 15.9-19.8 km where there are no settlements. These changes in the accepted construction methods resulted in an increase in the cost of the work performed.

72. In 2019, the Consultant developed a mix design of wearing course that meets the requirements of local standards and the British standard. This mix design also considers the noise reduction requirements recommended in the "Noise Modeling report"

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General description of environmental safeguard activities

73. During the reporting period, regular visual monitoring on compliance with environmental requirements in course of construction works at all road sections was carried out by the EPTISA's national environmental specialists as well as the environmental specialist of the Investment Project Implementation Group (IPIG) under the MoTR KR, as well as the Contractor's environmental specialist.

3.1.1 Road construction works

74. Dust generation has the main impact on the environment during the earthworks. In the road construction sites, water sprinkling of the road, including shoulders was carried out from 7 am to 20 pm without a break for lunch. The contractor has drawn up a schedule for water sprinkling with an interval between watering 30 minutes. Despite the fact that several watering machines were operating on construction sites, the increased air temperature led to increased dust generation on the road.

Figure 26 Increased dust generation at construction sites

75. With decreasing of air temperature and increasing precipitation, dust formation in the roads decreased, but water sprinkling was carried out before the onset of frost.

76. During the construction of culverts, the works on waterproofing with bitumen had significant impact on the environment.

77. Bitumen for waterproofing pipes, bridges and underground passages is melted at the construction site. Given that the Contractor did not provide dry firewood for these purposes, the workers were forced to burn bitumen. As a result, emitted poisonous black smoke has a negative impact on the health of workers and residents of the village. Another warning was issued to the contractor indicating the violation. After conducting explanatory conversations with the Contractor and delivering firewood to the construction sites, the situation improved. Firewood was distributed, and there was less smoke. The contractor was recommended to conduct explanatory work about the rules with specialists responsible for waterproofing works.

Figure 27 Melting of bitumen during waterproofing works

78. Some culverts were left with open trenches, and in the rainy season they filled with water and pose a danger to the residents and pets. The contractor was given instructions and work was carried out on temporary backfill or arranging of temporary fencing of the identified areas.

Figure 28 Violations on the constructed structures

79. In the village of Petrovka, km 45+615, it was found that the headwall of the culvert is located on the sidewalk. The pit formed during the construction of the pipe was not backfilled or fenced. The remaining part of the sidewalk was covered with a pile of construction material, and as a result it blocked the passage to pedestrians, and posed a danger to the life and health of residents of the village. A letter was sent to the contractor on the urgent need to fence the pit and make a passageway for pedestrians on the sidewalk, but the violations were not eliminated within the established time. To eliminate violations, an oral warning was repeatedly given to the Contractor.

80. Despite the regular water sprinkling, some road sections were subject to dusting where the construction of culverts and bridges was carried out.

Figure 29 Dusting in construction sites

81. At km 26+850, during the construction of the culvert, ground water was outcropped. A letter was sent to the contractor that in order to drain ground water from this site, it is necessary to extend the drain ditch, and after completion of construction work, to level the ground. The recommendations were implemented.

Figure 30 Ground water outcropping during the construction of culverts

82. During the reconstruction of bridges and pipes, old reinforced concrete products are accumulated on the road shoulder, which are removed and disposed of as soon as construction is completed. Places for disposal were determined by local authorities.

Figure 31 Waste accumulated during the construction of the bridge

83. Culvert chutes were installed on the constructed sections.

84. Previously installed chutes were overgrown with grass, and filled with construction waste. A letter was sent to the contractor to eliminate the identified violations.

Figure 32 The state of constructed chutes

3.1.2 Bridge construction

85. During the reporting period, work continued on the construction of bridges over the Ak-Suu river, Sokuluk, mudflow canal from the Ak-Suu riverbed, the Krepostnoy canal and Jantai canal.

Figure 33 Construction of Ak-Suu bridge

86. In the construction of the bridge at Krepostnoy canal (km 40.7), the pedestrian bridge was on insufficient condition and posed a danger to pedestrians.

Figure 34 Violations during the construction of a pedestrian bridge at the Krepostnoy canal

87. The construction of the bridge was carried out with gross violations of safety precautions. There were no special means for working at height, ladders, or equipped platforms. The area around the bridge was littered.

Figure 35 Safety violations during the construction of the bridge at the Krepostnoy canal

88. A letter was sent to the contractor with instructions to take measures for elimination of the detected violations. Within the specified time frame, the violations were eliminated. The bridge was covered with a concrete layer. Garbage is removed, a ladder is made to work at height.

89. Appearance of the ground water in the Jantai canal is complicated construction.

Figure 36 Construction of Jantai bridge

90. Construction of the bridge at the Jantai canal (km 24+110) was also carried out with gross violations of safety precautions. There were no special means for working at height. During the specified period, ladders and platforms were installed.

Figure 37 Safety violations during the construction of the bridge at the Jantai canal

91. Construction of the bridge at the Sokuluk river is almost completed. The riverbed on the north side of the bridge has been cleared from construction waste. On the south side of the bridge, bank protection works were carried out and the riverbed was cleared from construction waste.

Figure 38 Construction of Sokuluk bridge

Figure 39 Cleaning the Sokuluk riverbed from construction waste (north side)

Figure 40 Bank protection works at the Sokuluk river (south side)

3.1.3 Borrow-pits

92. During the reporting period, works were carried out in Ak-Suu 2 and SAZ borrow-pits. Work at the Kara-balta borrow-pit is currently suspended, due to the completion of works in Jailskiy district.

93. In the course of monitoring of works at Ak-Suu 2 borrow-pit, it was found that there were carried out works on leveling and preparation of new sites for sand and gravel mix extraction. As necessary, raw materials were shipped for the operation of the crushing plant and the making of reserves at the site. Despite the repeated comments given, the work is carried out with violation of safety precautions. Excavator ships raw materials under itself, standing on the bench.

94. In many places, the development depth was exceeded by 2-3 m from the design depth. Letter was sent to the contractor with indication of violations, and on the need to bring the parameters of the development into line with the design, compliance with safety precautions and terms of elimination of the identified violations. The contractor carried out leveling works in order to bring the depth of the borrow-pit development in line with the requirements of the design.

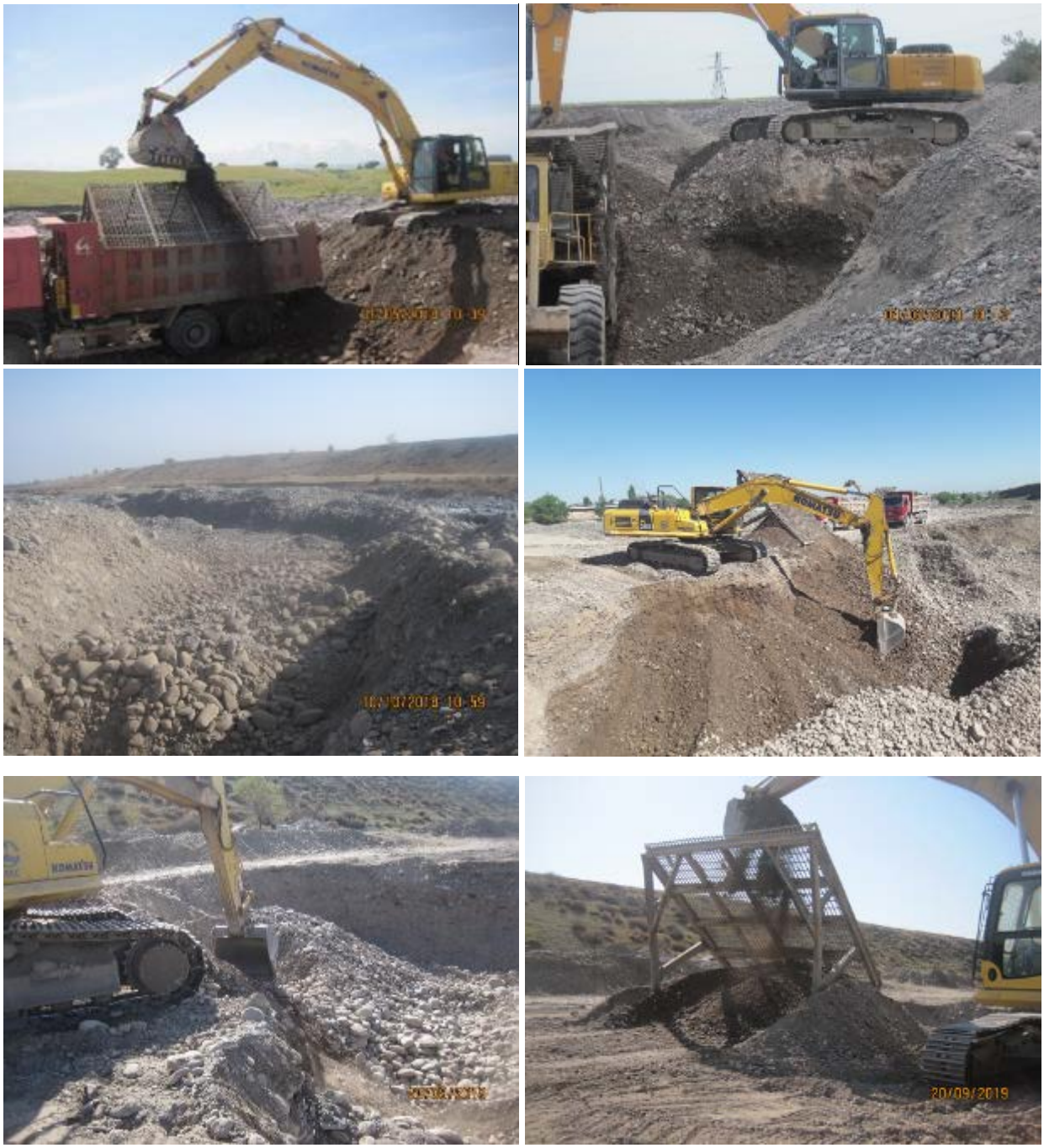

Figure 41. Mining of Ak-Suu 2 borrow-pit

95. Currently works have been completed on Jelamysh and Ak-Suu 1 borrow-pits. Since 2018, several letters have been sent to the contractor with the requirements for the development of the plan for the reclamation of Jelamysh borrow-pit. The last was sent on 23.09.19. Now, gullies and steep slopes at the Jelamysh borrow-pit can pose a danger to the local residents and pets.

96. In October, Contractor has concluded an agreement for the development of the borrow-pit reclamation plan. The development of the reclamation plan was completed in December 2019,

and the plan is currently being approved. The reclamation works at Jelamysh borrow-pit will be started in favorable weather conditions.

97. The Ak-Suu1 borrow-pit is self-regenerated borrow-pit. And reclamation plan is not required.

Figure 41 Jelamysh borrow-pit before mining

Figure 42 Jelamysh borrow-pit after mining

3.1.4 Production sites

98. During the monitoring of work on the territory of the production site, it was found that dusting occurs during the operation of the stone crushing plant due to a breakdown of the watering system. In this period the stone-crushing plant operates without water sprinkling, polluting the plant's territory and the area adjacent to the plant. Several non-compliance letters were sent to the Contractor, but the violation continued. The contractor explained the situation by frequent breakdown of the watering system (clogging of spray nozzles) and breakdowns on pipelines. The contractor promised to prevent the recurrence of such violations and, if necessary, to repair the water sprinkling system immediately. This issue will be monitored by the Consultant during the next construction season in 2020

99. Whereby the requirements of the general conditions of the Contract - Technical Specifications clause 1.2.10 (j) were violated: "Crushing plants should only work with dust control devices".

Figure 43 Dusting in the stone crushing plant

100. Bitumen leakages were also found at the area of asphalt plant. Comments are made to the contractor about identified leakages which are not eliminated in a timely manner. The consultant constantly monitors the condition of storage sites for drums with bitumen.

101. Despite the fact that bitumen pollution is local issue, however, it does not become less dangerous, given that the plant is located in the riverbed of the AK-Suu river, on a pebble bed, which is characterized by a high filtration coefficient. Soil contamination with bitumen is inevitably accompanied by the entry of large amounts of different chemical substances into the underground aquifer, causing damage to the environment. In this regard, the contractor has been given clear instructions on the need for immediate clearance of areas of bitumen leakages. This issue is under constant control of the Consultant.

Figure 44 Bitumen leakages at the asphalt plant

102. Initially, identified bitumen leakages were not collected and removed, but only backfilled with soil, which is unacceptable. After the following warnings, the bitumen was collected. No further bitumen leakages were observed.

103. During the operation of the plant, all the soil around the containers with chemicals must be protected with an impermeable protective coating from leakage and spills of hazardous materials.

104. The contractor was recommended to protect the soil around the containers with chemicals from leakage and spills of hazardous materials with an impermeable protective platform. These recommendations were taken into account and implemented by the Contractor.

Before After

Figure 45 Impervious protective platform around the chemical storage containers

105. Despite the regular trainings conducted by the Contractor's safety specialist, safety violations/non-compliances are observed at the site where reinforced concrete products are manufactured. Warnings about preventing such violations are ignored.

Figure 46 Violations of safety precautions at the site of production of reinforced concrete structures

3.1.5 Tree management

106. It was planned to start planting seedlings instead of cut down trees in the autumn 2018, but, given that no culverts and sidewalks were completed at any construction site, no seedlings were planted. The contractor was repeatedly warned about the need to start planting seedlings.

107. Eptisa's environmental specialist together with the Contractor's environmental specialist are examined seedlings in several nurseries located in the Chuy region. The most high-quality and suitable seedlings were seedlings of the Peasant Farm "Pitomnik Zherdevyh". Contractor was repeatedly informed orally and in writing about the need to start planting seedlings in the near future. The first 100 seedlings were planted at the prepared site in the village of Petrovka on October 22 at km 46 + 500.

Figure 47 Seedlings planted in autumn 2019

108. In early November, an additional 200 seedlings were purchased. Originally it was supposed that seedlings will be planted in the village of Poltavka km 53 + 200-km 54+200, but during conversation with locals it was revealed that in this territory regular grazing of cattle is made and seedlings can be destroyed. A letter was sent to the contractor with recommendations to choose another place for planting seedlings. In the first half of November, before the onset of cold weather, another 200 seedlings (birch, 2 species of willows, Catalpa) were planted at km 47 on the north side along the sidewalk. Watering of saplings is carried out.

3.1.6 Construction works

109. Waste reinforced concrete is being generated in the road shoulder during the reconstruction of bridges and culverts, and is not always taken out in a timely manner.

110. Areas for placement of old reinforced concrete products were determined together with the local authorities. The same areas can be used for removed unsuitable soil.

111. Verbal and written warnings were constantly given to the Contractor about the need to remove all construction waste from the road shoulder. The contractor gave an explanation, after which it was agreed that the removal of construction waste from the project site will be carried out as it accumulates.

Figure 48 Construction waste on the road

112. Local authorities initially proposed more than 200 secondary roads to be provided with the waste asphalt. The Contractor's specialists conducted a preliminary analysis of all roads proposed by the local authorities (ayil okmoty), eliminating those roads to remote from the main road. Roads that did not meet these requirements were removed from the list.

Figure 49 Old asphalt removal

113. The problem of crushing old asphalt to the size of 20x20 remains unsolved. Not crushed old asphalt is taken out to fill rural streets proposed by local authorities. Partially asphalt and unsuitable soil, at the request of the owners, is taken to private land plots oriented / intended for commercial use. The owners level the private plots themselves. The levelling of streets after backfilling is carrying out by Contractor's bulldozer and loader, but the quality of backfilling and leveling of these streets does not always meet the established requirements. Uncrushed pieces of asphalt remain on the road shoulder. There are uncrushed asphalt pieces on the road shoulders also. Contractor is given instructions to correct the identified defects.

114. With the start of road construction works at sections 1, 2, 5, 6 in 2019, it was decided to remove the old asphalt for backfilling existing internal and field roads at the request of aiyl okmotu. Prior to the start of the work, approvals were obtained from local and environmental authorities for the use of removed asphalt on rural roads. At the request of the city hall of Shopokov, all the streets of the Yntymak residential area were completely backfilled with old asphalt and leveled. A lot of work has been done to improve the internal roads of the whole residential area.

Figure 50 Old asphalt taken out to the area of Yntymak residential area at the request of residents and representatives of the city hall of Shopokov

115. At section 5, local residents and representatives of the aiyl okmotu represented by the head of the Alexandrovka aiyl okmotu, appealed to the Contractor with a letter to take out the old asphalt to the production areas of this aiyl aimak, explaining that they need this old asphalt for patching roads inside the village of Alexandrovka. Therefore, the old asphalt in the village of Alexandrovka was taken out and stored on specially designated places. In the future, this asphalt will be used as necessary for the improvement of streets.

116. The old asphalt from the village of Sadovoe was taken to the road leading to the military unit of the Ministry of emergency situations. It was found that some tree trunks were filled when the old asphalt was leveled. A letter was sent to the contractor indicating the violations and the issue was resolved within the specified time frame.

Before

After

Figure 51 Old asphalt on the rural streets and field roads

117. The old asphalt in the village of Belovodskoe was taken to the streets specified by the local administration.

118. Also, old asphalt was taken out to field roads. The old asphalt was not taken out to the wetlands. A letter was received from the ADB stating that in order to avoid harm to the health of local residents, it is forbidden to give old asphalt to local residents for their own use. This requirement has been met and will be monitored in the next construction season.

119. Production waste is also generated during the road construction. These are old tires, empty drums of bitumen. According to the Contractor's information the drums will be sent to the plant for reuse.

Figure 52 Storage of empty bitumen drums and lids

120. In the camp of Belovodskoe village, a large number of old car tires are stored on the camp site. It is necessary to take measures for their removal and disposal. If there is no possibility of recycling, Contractor should involve a specialized company. The contractor explains that the issue of old tires will be resolved by April 2020. The contractor is looking for a specialized company that can take out the accumulated tires for the further disposal.

Figure 53 Storage of old tires in the Belovodskoye

3.1.7 Workers camps in the villages of Sokuluk and Belovodskoe

121. At the worker camps in the villages of Sokuluk and Belovodsk, household waste and sewage from septic tanks are disposed in a timely manner, and all protective measures for sanitary hygiene are observed. Periodic checks are carried out on compliance with environmental requirements. However, both in Sokuluk and in Belovodsk, during the repair and other works, waste is generated and not taken out on time, as a result it creates a mess. It is necessary to clean the workplace every day after completion of work.

3.2 Site Audits

Table 7 Monitoring of construction sites in July 2019

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	01.07	Volkova T.	Monitoring of construction sites	Increased dust generation was observed at the stone crushing plant. A warning was given to the Contractor
2	03.07	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Construction of the bridge at Krepostnoy canal has started
3	05.07	Volkova T.	Monitoring of construction sites	A verbal warning was given to the Contractor about the need to remove construction waste
4	08.07	Volkova T.	Monitoring of construction sites	On the asphalt plant area, there are large leakages of bitumen to the ground. A letter was sent to the Contractor about the detected violation.

5	10.07	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Increased dust formation was observed on the road. A warning was given to the Contractor
6	12.07	Volkova T. Myrsaliev N.	Together with the contractor's environmentalist visiting nurseries for seedling selection	Visiting nurseries to select seedlings for planting on the road in the fall
7	15.07	Volkova T.	Joint visit with the DSSES laboratory. Water sampling.	Water samples were taken from the Sokuluk river and Ak-Suu river. There is a lot of water in rivers.
8	17.07	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Dusting was observed at the stone crusher on the asphalt plant area.
9	19.07	Volkova T.	Monitoring of construction sites	Bitumen leaks on the asphalt plant area have not been removed, only filled with sand
10	22.07	Volkova T. Myrsaliev N.	Joint visit with Profilab LLC laboratory	Noise and vibration measurement
11	26.07	Volkova T.	Monitoring of construction sites	Violations in the disposal of old asphalt on the road of the Ministry of emergency situations. A letter was sent to the Contractor about the detected violation.
12	29.07	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Bitumen leaks on the asphalt plant area have been removed
13	30.07	Volkova T.	Site visit of ADB and MoTR specialists	Participation in a meeting held by ADB specialists
14	31	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Visit of SAZ borrow-pit

Table 8 Monitoring of construction sites in August 2019

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	01 .08	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Meeting with the Contractor. Discussion of environmental issues.
2	06.08	Volkova T.	Joint visit with SAEPF laboratory	Air and surface water samples were taken
3	12.08	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Barrels with bitumen were delivered to the plant area. And placed on the ground on a thick plastic film
4	14.08	Volkova T.	Monitoring of construction sites	Monitoring of the Ak-Suu bridge construction.
5	16.08	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring of the bridge construction at the Krepostnoy canal. Construction waste issue.
6	19.08	Volkova T.	Monitoring of construction sites	Monitoring of the construction of the bridge at Krepostnoy canal. The problem with compliance with safety precautions during the construction of the bridge. A letter was sent to the Contractor about the detected violation.
7	21.08	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Dusting on a stone crusher at the asphalt plant. Meeting with the Contractor. Discussion of environmental issues.
8	23.08	Volkova T.	Monitoring of construction sites	Participation in the interdepartmental commission on the complaint of a resident of the village of Sadovoye
9	26.08	Volkova T.	Monitoring of construction sites	Monitoring the status of previously constructed culverts and chutes. Violations were detected. A letter was sent to the Contractor about the detected violation.
10	29.08	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring of disposal of old asphalt in the village of Alexandrovka

Table 9 Monitoring of construction sites in September 2019

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	04.09	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	The issue of not removed waste from construction sites on the road. A letter was sent to the Contractor about the detected violation.
2	06.09	Volkova T.	Monitoring of construction sites	Monitoring of construction sites. Preparation of the report for August.
3	09.09	Volkova T.	Monitoring of construction sites	Strong dust formation in the stone crusher at the asphalt plant area. Meeting with the Contractor. Discussion of environmental issues
4	13.09	Volkova T.	Monitoring of construction sites	Monitoring of the bridge construction at the Krepostnoy canal.
5	16.09	Volkova T.	Monitoring of construction sites	Visit of the proposed sites for storage of old asphalt in the village of Alexandrovka.
6	18.09	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	The issue of not removed waste from construction sites on the road. A letter was sent to the Contractor about the detected violation.
7	20.09	Volkova T.	Monitoring of construction sites	Visit of Ak-Suu 2 borrow-pit. Violations in the development of the borrow-pit. A letter was sent to the Contractor about the detected violation.
8	23.09	Volkova T.	Monitoring of construction sites	Construction waste on the road has been removed.
9	24.09	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring of construction sites. Together with the Contractor's environmentalist
10	25.09	Volkova T.	Monitoring of construction sites	Monitoring of the bridge construction at the Krepostnoy canal.
11	27.09	Volkova T.	Together with the contractor's environmentalist visit of nurseries for selection of seedlings	Visit of the nursery "Zherdev sad" in order to select seedlings for planting on the road in the fall

Table 10 Monitoring of construction sites in October 2019

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	03.10	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring of construction sites. Together with the Contractor's environmentalist
2	04.10	Volkova T.	Monitoring of construction sites	Site visit to asphalt plant and Ak-Suu 2 borrow-pit. Violations in the development of borrow-pit.
3	07.10	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	The removal of old asphalt from the site at the village of Alexandrovka is underway
4	09.10	Volkova T.	Monitoring of construction sites	Monitoring the status of previously constructed culverts and chutes. Violations were detected. A letter was sent to the Contractor about the detected violation.
5	14.10	Volkova T.	Monitoring of construction sites	Monitoring the bridge construction at the Sokuluk river.
6	16.10	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Meeting with the Contractor. Discussion of environmental issues
7	18.10	Volkova T.	Monitoring of construction sites	Visual monitoring of the Jelamysh borrow-pit. A letter was sent to the Contractor about the need to develop a plan for reclamation of the borrow-pit.
8	21.10	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring the site for the proposed planting of seedlings.
9	22.10	Volkova T.	Monitoring of construction sites	The first 100 seedlings were planted at the prepared site in the village of Petrovka on October 22, at km 46 + 500.
10	23.10	Volkova T.	Monitoring of construction sites	Visit of ADB and MoTR specialists to construction sites. Participation in meetings
11	25.10	Volkova T.	Monitoring of construction sites	Meeting with the Contractor. Discussion of environmental issues following the visit of ADB specialists.

12	27.10	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring the bridge construction at the AK-Suu and Sokuluk rivers. Construction waste was not rremoved from the riverbeds. The Contractor has been warned.
13	26.10	Volkova T.	Monitoring of construction sites	Violations were detected at the Ak-Suu 2 borrow-pit and during the bridge construction at the Jantai canal.
14	30.10	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites.
15	31.10	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	The iissue of production waste: old tires, empty barrels of bitumen. The contractor has been notified.

Table 11 Monitoring of construction sites in November 2019

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	01.11	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring the bridge construction at the Jantai canal. Ground water is being outcropped and pumping is required.
2	05.11	Volkova T.	Monitoring of construction sites	Site visit to the village of Poltavka, where it is planned to plant seedlings at km 53+200 – 54+200. The site does not meet all the requirements. There is need to define a new site. A letter was sent to the Contractor.
3	07.11	Volkova T.	Monitoring of construction sites	Monitoring the construction of a culvert at km 26+850. There is an outcropping of ground waters, it is required to divert ground waters in places of relief lowering and to level the adjacent territory.
4	11.11	Volkova T.	Monitoring of construction sites	200 seedlings were planted in the village of Petrovka. Packages from seedlings were not removed, they remained at the site. A verbal warning was given to the Contractor.
5	13.11	Volkova T.	Monitoring of construction sites	Meeting with the chief sanitary doctor of the Moskovskiy district. It is necessary to conduct laboratory surveys of the quality of drinking water in the village of Sadovoye in the place

				of relocation of water supply networks. km 33+500-34+500
6	15.11	Volkova T.	Monitoring of construction sites	Monitoring the construction of a bridge at the Jantai canal. Ground water complicates the construction
7	18.11	Volkova T.	Monitoring of construction sites	Monitoring the construction of culverts and sidewalks in the village of Petrovka
8	20.11	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring the construction of a bridge at the Jantai canal. Safety violations were noted during the work at height. A letter was sent to the Contractor
9	22.11	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring of all construction sites. The issue of construction waste on the road. The contractor has been notified.
10	27.11	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring of all construction sites.
11	29.11	Volkova T.	Monitoring of construction sites	Monitoring the construction of bridges that are being built on the road. A letter was sent to the Contractor for the detected violations.

Table 12 Monitoring of construction sites in December 2019

No.	Date	Auditors name	Propose of audit	Summary of any significant findings
1	02.12	Volkova T. Myrsaliev N.	Monitoring of construction sites together with the contractor's environmentalist	Monitoring the construction of culvert chutes and sidewalks at sections 7 and 8.
2	04.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. Collecting information for a semi-annual report
3	06.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. Construction of the Jantai bridge
4	09.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. The issue of construction waste on the road.

5	11.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. Bank protection works on the Sokuluk river
6	13.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. Construction of the Jantai bridge
7	16.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. Construction of culvert pipes
8	18.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. Site visit to the plants
9	20.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. Collecting information for a semi-annual report
10	25.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. Bank protection works on the Sokuluk river and the Jantai canal
11	27.12	Volkova T.	Monitoring of construction sites	Monitoring of all construction sites. Bank protection works on the Sokuluk river and the Jantai canal

3.3 Issues Tracking (based on list of non-compliance)

Issues Tracking (based on list of non-compliance)

During the reporting period, in case of detection of environmental issues, an orally warning was initially given to the Contractor with an indication of the deadline. In case the Contractor did not eliminate the identified environmental issues, a letter was sent. Basically, all issues were fixed in a timely manner.

Table 13 Report of non-compliance with the environmental requirements (July – December 2019)

	The issue of non-compliance, defined by EPTISA (e)	CEMWP Number and date of notification EPTISA	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of EPTISA Inspection	Status as of December 2019 (Date and Detail)
1	**Asphalt plant area**	**CEMWP № 2.9.4** EP-CR5-HN-1109 dd 09.07.2019	Annex 5 Waste Management Plan	There were leakages of bitumen to the ground on the asphalt plant area. Bitumen must be removed from the ground.	Leaked bitumen was collected. Littered material was partially used during patching on the road	**Closed**	21.07.2019 Packages with bitumen were partially removed on a polyethylene litter and covered with polyethylene. The contractor plans to finish the work
			Annex Dust Control Plan	Periodic dusting during operation of the stone crushing plant due to breakdowns of the watering system (spray nozzles, pipeline)	The contractor promised to prevent such cases and to carry out repairs immediately	**Not resolved**	This issue will be monitored during the next construction season in 2020.
2	**Old Asphalt disposal**	**CEMWP № 2.6.1**. EP-CR5-HN-1144, dd 26.07.2019	Annex 7. Old Asphalt Management Plan	The removed asphalt is taken out to country road. A large amount of asphalt has been taken out to the road and is not levelled. Tree trunks are filled up	Contractor leveled old asphalt and cleared tree trunks from asphalt. Contractor's Letter CAREC-G0067 dd 31.07.19	02.08.2019 Eptisa monitored the implementation of measures taken. **Closed**	Roads backfilled with old asphalt are leveled.
3	**Construction waste disposal issue**	**CEMWP № 2.6.2.** EP-CR5-HN-	Annex 5 Waste	A large amount of reinforced concrete waste has been	Removal of reinforced concrete waste has been started.	02.08.2019	During construction work, new waste is

	The issue of non-compliance, defined by EPTISA (e)	CEMWP Number and date of notification EPTISA	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of EPTISA Inspection	Status as of December 2019 (Date and Detail)
		1145, dd 26.07.19	Management Plan	accumulated on the road generated during the dismantling and construction of culvert pipes	Contractor's Letter CAREC-G0066 dd 31.07.19	Eptisa monitored the implementation of measures taken **Closed**	accumulated on the road Contractor obliged to collect waste as it accumulates and availability of equipment
4	**Health and safety hazard:**	**CEMWP 2.9.3** EP-CR5-HN-1147 dd 29.07.2019	Annex 3 Plan for Safety, Health and Hygiene	Gas cylinders with liquefied gas are installed on the paver, which, under the influence of sunlight, can lead to irreversible consequences	Contractor's Letter CAREC-G0074 dd 05.08.19 The contractor claims that the gas cylinders are high-strength.	09.08.2019г Eptisa conducted monitoring. Cylinders are standard, and are dangerous. **Not resolved**	Currently, the temperature has become lower, the risk of explosion of cylinders is low. The instruction was not implemented. A re-inspection will be carried out at the beginning of the construction season in 2020.
			Annex 3 Plan for Safety, Health and Hygiene	There is a systematic failure to comply with the safety precautions on the part of the contractor's workers	The contractor plans to conduct additional training for workers at the beginning of the construction season in 2020	During the project site monitoring, there were noted systematic non-compliances with safety precautions on the part of the contractor's workers during the construction of bridges, on the stone crushing plant. Additional training is required for workers at the beginning of the construction season in 2020	This issue will be monitored throughout 2020.

	The issue of non-compliance, defined by EPTISA (e)	CEMWP Number and date of notification EPTISA	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of EPTISA Inspection	Status as of December 2019 (Date and Detail)
						Not resolved	
5	**Health and safety hazard:**	**CEMWP 2.9.3** EP-CR5-HN-1168 dd 19.08.2019	Annex 3 Plan for Safety, Health and Hygiene	During the construction of the Krepostnoy bridge when working at height, safety precautions were violated. Also, the temporary bridge is dangerous for pedestrians	Contractor's Letter CAREC-G0095 dd 21.08.19 The bridge is repaired. For works at height the ladder is arranged	23.08.19 Eptisa monitored the implementation of measures taken **Closed**	Currently construction of the bridge is completed
6	**Health and safety hazard:**	**CEMWP 2.9.3** EP-CR5-HN-1176 dd 27.08.2019	Annex 3 Plan for Safety, Health and Hygiene	The culvert headwall locates on the sidewalk. The pit is not fenced and is a danger to pedestrians.	Contractor's Letter CAREC-G0105 dd 29.08.19 The pit is backfilled. The sidewalk has been cleared and temporary fences have been arranged	02.09.19 Eptisa monitored the implementation of measures taken **Closed**	The pit is filled up. The sidewalk is cleared
7	**Construction waste disposal issue**	**CEMWP № 2.6.2.** EP-CR5-HN-1184, dd 05.09.19	Annex 5 Waste Management Plan	A large amount of reinforced concrete waste has been accumulated on the road generated during the dismantling and construction of culverts	Contractor's Letter CAREC-G0119 dd 12.09.19 Removal of reinforced concrete waste has been started.	13.09.19 Eptisa monitored the implementation of measures taken **Closed**	During construction work, new waste is accumulated on the road Contractor obliged to collect waste as it accumulates and availability of equipment.
8	**Construction waste disposal issue**	**CEMWP № 2.6.2.** EP-CR5-HN-1185, dd	Annex 5 Waste Management Plan	On the road near the Ak-Suu bridge a large amount of waste generated during the dismantling and	The contractor took out reinforced concrete waste. The ground was leveled.	16.09.19 Eptisa monitored the implementation of measures taken. **Closed**	A place where previously a large amount of waste was stored is in satisfactory condition

	The issue of non-compliance, defined by EPTISA (e)	CEMWP Number and date of notification EPTISA	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of EPTISA Inspection	Status as of December 2019 (Date and Detail)
		09.09.19		construction of the bridge. A large amount of soil has been accumulated			Contractor obliged to collect waste as it accumulates and availability of equipment.
9	**Ak-Suu 2 borrow-pit**	**CEMWP № 2.2.1** **CEMWP № 2.9.3** EP-CR5-HN-1202 dd 23.09.19	Annex 14 Borrow Pit Management Plan Annex 3 Plan for Safety, Health and Hygiene	The depth of development of gravel materials (5 and more meters) exceeds the design 2 meters. The development of gravel by excavator is carried out with violation of safety regulations. Reminder was sent on the need to develop plan for the Jelamysh borrow-pit reclamation	Contractor Letter CAREC-G0140 27.09.19 Design development depth agreed to a depth of 5.95 m So far nothing has been done.	Design development depth does not exceed agreed **Done** **The plan has been developed. It is on approval process**	Design development depth not exceeded The plan has not yet been done.
10	**Construction waste disposal issue**	**CEMWP № 2.6.2.** EP-CR5-HN-1198, dd 18.09.19	Annex 5 Waste Management Plan	A large amount of waste has accumulated in the road construction sites	Contractor's Letter CAREC-G0133 23.09.19 Reinforced concrete waste is being removed.	09.25.19 there is waste on the road **Closed**	New waste is constantly accumulated on the road Contractor obliged to collect waste as it accumulates and availability of equipment.
11	**Construction waste disposal issue**	**CEMWP № 2.6.2.** EP-CR5-HN-1223, dd	Annex 5 Waste Management Plan	On the road, at km 50 + 700, the culvert is blocked with construction waste	Contractor's Letter CAREC-G0159 dd 11.10.19 Culvert chutes cleared	13.10.2019 Chute cleared from construction waste	Chute is cleared from construction waste

	The issue of non-compliance, defined by EPTISA (e)	CEMWP Number and date of notification EPTISA	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of EPTISA Inspection	Status as of December 2019 (Date and Detail)
		08.10.19			from construction waste	**Closed**	
12	**Seedlings planting**	**CEMWP № 2.5.1** EP-CR5-HN-1233, dd 14.10.19		About the need to plant seedlings at km 46 + 450	100 seedlings were planted	22.10.19 Seedlings were planted **Closed**	100 seedlings were planted
13	**Construction waste disposal issue**	**CEMWP № 2.6.2.** EP-CR5-HN-1229, dd 09.10.19	Annex 5 Waste Management Plan	large amount of waste has been accumulated at the Belovodsky	Contractor's Letter CAREC-G0167 dd 17.10.19 Waste was partially removed	21.10.19 Waste partially removed **Not resolved**	31.10.19 Waste was partially removed
14	**Seedlings planting issue**	**CEMWP № 2.5.1** EP-CR5-HN-1265, dd 05.11.19		Originally it was supposed that seedlings will be planted in the village of Poltavka km 53 + 200-km 54+200, but during conversation with locals it was established that in this territory regular grazing of cattle is made and seedlings can be destroyed.	In the first half of November, before the onset of cold weather, 200 seedlings (birch, 2 species of willows , Catalpa) were planted at km 47 on the north side along the sidewalk. Watering of saplings is carried out.	11.11.19 the quality of planting seedlings was inspected. Recommendations for elimination of defects during planting are given. **Closed**	Seedlings are planted and are in satisfactory state
15	**Safety violations during the construction of the Jantai bridge**	**CEMWP № 2.9.3.** EP-CR5-HN-1287, dd 18.11.19	Annex 3 Plan for Safety, Health and Hygiene	Construction works on the Jantai bridge (KM 24 + 110) are carried out with gross violations of safety. There are no special means for work at height	Contractor's letter CAREC-G0199 dd 20.11.19 Safety measures have been taken when performing work at height	22.11.19 the quality of work was inspected **Closed**	Construction of the bridge is completed

	The issue of non-compliance, defined by EPTISA (e)	CEMWP Number and date of notification EPTISA	Applicable Guide on Best Practices (No.)	Specific issue and location	Actions taken by the Contractor (specify)	Results of EPTISA Inspection	Status as of December 2019 (Date and Detail)
16	**The issue of groundwater in construction**	**CEMWP № 2.4.2.** EP-CR5-HN-1266, dd 06.11.19	Annex 7 Water Quality management plan	During the construction of a culvert at km 26 + 850, groundwater was outcropped. In order to drain groundwater from this section, the drainage ditch needs to be extended. After completion of construction work, it is necessary to remove all excess soil and level the site.	After the completion of construction works, the site was levelled. The drainage ditch is extended.	15.11.19 the quality of work was inspected. All recommendations have been implemented **Closed**	Construction of culvert pipe is completed

Table 14 Corrective Action Plan

No. of NCR in Table 13	Date of submission	Description of non-compliance	Corrective action required	Responsibility	Performance date of corrective actions
1	EP-CR5-HN-1109 dd 09.07.2019	Periodic dusting during operation of the stone crushing plant due to breakdowns of the watering system (spray nozzles, pipeline)	The contractor should constantly monitor the state of watering systems (spray nozzles, pipeline)	The contractor promised to prevent such facts and carry out repairs immediately	This issue will be monitored during the next construction season in 2020.
4	EP-CR5-HN-1147 dd 29.07.2019	Gas cylinders with liquefied gas are installed on the paver, which, under the influence of sunlight, can lead to irreversible consequences	The contractor claims that the gas cylinders are high-strength. Supporting documents are required	The contractor's environmental specialist should provide supporting documents for high-strength gas cylinders	A re-inspection will be carried out at the beginning of the construction season in 2020.
4	EP-CR5-HN-1147 dd 29.07.2019	There is a systematic failure to comply with the safety precautions on the part of the contractor's workers during bridge construction and in the stone crushing plant	The Contractor's safety specialist should constantly monitor compliance with safety precautions by the contractor's workers.	The contractor plans to conduct additional training for workers at the beginning of the construction season in 2020	A re-inspection will be carried out at the beginning of the construction season in 2020.
13	EP-CR5-HN-1229, dd 09.10.19	Large amount of production waste has been accumulated at the Belovodsky	The contractor's environmental specialist should constantly monitor the timely removal of waste	The contractor plans to remove the waste by the spring 2020	31.10.19 The waste has been partially removed

3.3.1 Overview and description of issues tracking during the current period

122. During the reporting period, EPTISA's (construction supervision Consultant) national environmental specialist conducted regular monitoring of compliance with the requirements of the EMP and CEMWP during construction work on the Bishkek-Kara-Balta road section. The specialist visited the site more than 70 times. Some visits were conducted jointly with the Contractor's environmental specialist. The CEMWP prepared by the contractor was used as a checklist.

123. Environmental specialists of IPIG MoTR conducted separate inspections focusing on specific issues, such as safety during construction work, local complaints, and seedling planting.

Issues tracking

124. During the reporting period, the main focus was on the following issues:

- Disposal of construction waste;
- The violation of safety precautions, occupational safety and health;
- Planting seedlingss;
- Violations in the construction of bridges and culverts;
- Borrow-pit mining and management;
- Material's manufactoring plant (bitumen leakages);
- Disposal of old asphalt;
- Monitoring of environmental components.

Summary of issues tracking

125. During the reporting period, if environmental issues were identified, the Contractor was initially warned verbally, and if the issue was not resolved within the specified time frame, letters were sent, including the definition of mitigating measures that should be applied to solve the identified issue.

126. In July - December 2019, 21 non-compliance issues were reported and 17 of them were resolved during the reporting period. The issues noted in the letters are mostly repeated in each reporting period. The contractor should consider the shortcomings in managing these issues in the further work.

Table 15Summary of Issues Tracking Activity for Aurrent Period

Non-Compliance	July - December 2019	Total
Total	19	**19**
Significant & Resolved	17	**17**
Unresolved	2	**2**

Pending	1	**1**
Chronic and Unadressed	0	**0**
Minor Issue	0	**0**

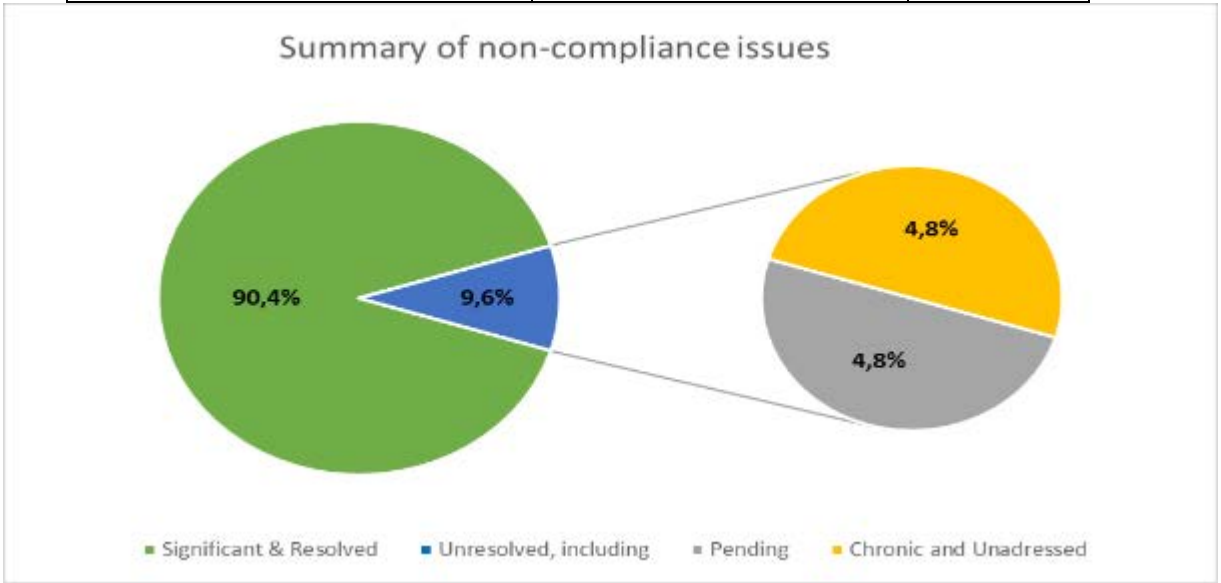

Figure 54 Summary of non-compliance issues

Trends

127. The number of non-compliance letters in 2019 was less than in 2018. This is due to the fact that most of the identified non-compliance was discussed verbally with the Contractor. The implementation date was discussed, and if the violation was not resolved on time, a letter was sent. The reason for the large number of non-compliance issues is that, although a specific issue was resolved within a specified period, a similar non-compliance was repeated in the future, such as, for example, in relation to the management of unsuitable reinforced concrete waste, safety violations during construction work

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

128. In order to monitor environmental components such as air quality, surface water quality, noise impact and vibration impact during construction at the Bishkek –Kara-Balta road section, in 2019 requests were sent to several laboratories, and rates for laboratory studies were analyzed.

129. Based on the analysis of the cost of laboratory studies, the following laboratories were selected.

130. In 2019, the consultant transferred the environmental monitoring functions to the Contractor. Based on the analysis of the cost of laboratory studies and the Consultant's recommendations, the following laboratories were selected:

- **Air Quality:** Environmental Monitoring Department of SAEPF under the KRG;
- **Surface Water Quality:** Laboratory of the Department of disease prevention and state sanitary and epidemiological control of the KR;
- **Noise impact:** Private laboratory LLC «ProfiLab»;
- **Vibration impact:** Private laboratory LLC «ProfiLab».
- After conclusion of the agreements, applications were submitted for the measurement of vibration and noise levels at construction sites and for sampling of water and air.

4.1.1 Noise and vibration monitoring

131. On July 26, 2019, noise and vibration levels were measured at 7 points.

132. Measurements were conducted using a digital integrating noise level meter of class 1 OCTAVA-101A. Measurements were conducted in accordance with GOST 23337-2014 Interstate standard. Noise "Methods for measuring noise in residential areas and in residential and public buildings»

133. According to the results of instrumental measurements, the vibration level during operation of the equipment (when the roller is operating without vibration) is from 88 to 135 dB, and when its off is from 74 to 108 dB. Background vibration is from 73 to 95 dB. Minor excess of background levels is within acceptable level.

Figure 55 Measurement of vibration and noise

Table 16 Vibration Monitoring Results dd 26.07.2019

Location	Type of vibration		Sound Level (dBA)
	Transport	Technologic	
Latitude 42°51'56; longitude 74°21'02, Gavrilovka village, in front of the store "Berezka" (north-west side)			
Background vibration at a distance of 26 m from the road	+		**93 (X) 92 (Y) 94 (Z)**
Latitude 42°51'14, longitude 74°12'38, Aleksandrovka village			
Background vibration at a distance of 41 m from the road	+		**94 95 95**
Км 37+071, Sadovoe village			
Background vibration at a distance of 5 m from the road	+		**73 74 73**
Latitude 42°50'52, longitude 74°09'48, Sadovoe village, north side of the road at a distance of 5 m from the road			
When roller and grader are operating		+	**94 92 92**
When roller and grader are not operating	+		**76 75 74**
Latitude 42°50'47, longitude 74°09'32, Sadovoe village, (underground passage) at a distance of 3 m from the road			
When roller is operating		+	**90 88**

			89
When roller is not operating	**+**		**78** **76** **75**
Latitude 42°50'48, longitude 74°09'31, Sadovoe village (north side of the road) at a distance of 28 m from the road			
When bulldozer is operating		**+**	**135** **133** **134**
When bulldozer is not operating	**+**		**105** **108** **106**
Latitude 42°50'40, longitude 74°09'11, Sadovoe village, "Sudarushka" store, north side, at a distance of 5 m from the road			
When excavator is operating		**+**	**114** **113** **113**
When excavator is not operating	**+**		**92** **91** **90**

Figure 56 Noise and vibration measuring points

Table 17 Noise monitoring results dd 26.07.2019

Location			Sound level (dBA)
Latitude 42°51'56; longitude 74°21'02, Gavrilovka village, in front of the store "Berezka" (north-west side)			
Background noise at a distance of 26 m from the road			78
Latitude 42°51'14, longitude 74°12'38, Aleksandrovka village			
Background noise at a distance of 41 m from the road			73
Км 37+071, Sadovoe village			
Background noise at a distance of 5 m from the road			83
Latitude 42°50'52, longitude 74°09'48, Sadovoe village, north side of the road at a distance of 5 m from the road			
When roller and grader are operating			85 70 MPL 15 excess
When roller and grader are not operating			80 70 MPL 10 excess
Latitude 42°50'47, longitude 74°09'32, Sadovoe village, (underground passage) at a distance of 3 m from the road			
When roller is operating			87 70 MPL 17 excess

When roller is not operating			80 70 MPL 10 excess
Latitude 42°50'48, longitude 74°09'31, Sadovoe village (north side of the road) at a distance of 28 m from the road			
When bulldozer is operating			84 70 MPL 14 excess
When bulldozer is not operating			81 70 MPL 11 excess
Latitude 42°50'40, longitude 74°09'11, Sadovoe village, "Sudarushka" store, north side, at a distance of 5 m from the road			
When excavator is operating			86 70 MPL 16 excess
When excavator is not operating			82 70 MPL 12 excess

134. At the time of the measurements, the background noise level at the measurement points, at a distance of 5 -41 m from the edge of the road, when vehicles were moving, was 73-83 dBA, where the MPL level is 70 dBA. When the construction equipment is operating, the excess of the sanitary norm is from 14 to 17 dBA, when the construction equipment is off, the excess of the sanitary norm is from 8 to 12 dBA. Sanitary standards 2.2.4/2.1.8.562-96 «Noise at work places in premises, in residential public buildings and on the territories of residential buildings».

135. In order to study the impact of noise on the local population and its mitigation measures, prior to the start of road construction work, a Noise Modeling was conducted according to the instructions of the ADB. One of the methods to reduce the negative impact of noise on the local

community was noise-reducing asphalt. Currently, the project specialists have developed a mix design of noise-reducing asphalt for this project, which will be laid as wearing course in the roadbed.

4.1.2 Monitoring of surface water

Determination of the concentration of pollutants in water bodies

136. On 6 August 2019, experts from the Environmental Monitoring Department of the Chui-Bishkek-Talas Territorial Administration of the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic took surface water samples at construction sites. Monitoring of surface water quality is carried out in order to determine suspended substances and oil products in water bodies where construction work is being carried out at the time of sampling. During laboratory surveys, the following methodologies were used no.16 "Methods for determining harmful substances in the water of water bodies" approved on 25.04.2000. The applied methodologies are approved by the state standard of the Kyrgyz Republic. Surface water quality monitoring data are shown in Table 17.

137. Water samples were taken in the Sokuluk river (south and north sides of the bridge) and in the Jantai canal. There was no water in the AK-Suu river at the time of sampling.

Table 18 Surface water monitoring data at the Bishkek-Kara-Balta road section, August 2019

Name of ingredients	UoM	Point Analysis Data			MPC (max. permissible concentration)		Regulation document
		184 Sokuluk river, before the bridge	185 Sokuluk river after the bridge	186 Jantai canal	+	++	
Suspended material	mg/l	19,6	5,6	83,6	**Increasing 0,25/0,75**		ПНДФ 14.1:2:3.110-97
Oil products	mg/l	0,002	0,003	0,0031	**0,05**	**0,3**	ПНДФ 14.1:2:4.128-98

138. According to the results of chemical analysis, the water in all selected points does not exceed the MPC for water bodies of the cultivated and household category for all the determined ingredients.

Figure 57 Water sampling in the Sokuluk river

Figure 58 Water sampling points on the Sokuluk river

Figure 59 Surface water sampling point on the Jantai canal

4.1.3 Air quality monitoring

Determination of the concentration of pollutants in atmospheric air

139. On August 6, 2019, specialists from the Environmental Monitoring Department of the Chui-Bishkek-Talas Territorial Administration of the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic took air samples in the area where road equipment operates (village of Sadovoye, km 39 + 925 (176), village of Sadovoye km 37 + 020 (177), village of Aleksandrovka km 33 + 125 (178).

Figure 60 Air Sampling Points

Figure 61 Air quality monitoring

140. Laboratory studies were conducted in accordance with the" Guideline for the control of atmospheric pollution " RD 52.04.186-89, approved by the State Standard Agency of the Kyrgyz Republic. The results of the monitoring are shown in Table 18.

Table 19 Current atmospheric air quality within 100 m of the impact corridor in July 2018 (mg / m3)

Name of ingredients	UoM	Sampling points						MPC Max.lev.
		176 Sadovoe km 39+925	MPC excess	177 Sadovoe км 37+020	MPC excess	178 Aleksandrovka km 33+125	MPC excess	
sulphur dioxide	Mg/m³	0,013±0,0033	-	0,016±0,004	-	0,013±0,0033	-	0,5
nitrogen dioxide	Mg/m³	0,078±0,02	-	**0,117±0,029**	**1,4**	0,069±0,017	-	**0,085**
carbon monoxide	Mg/m³	0,8±0,16	-	1,3±0,26	-	0,6±0,12	-	5,0
suspended materials (dust)	Mg/m³	0,265±0,053	-	0,356±0,071	-	0,364±0,073	-	0,5

141. The excess of MPC by 1.4 times for nitrogen dioxide in the village of Sadovoye (37 + 020 km) is unambiguously caused not only by exhaust from working road equipment. An excess of nitrogen dioxide concentration in the air is possible due to emissions from passing vehicles. Near the road there are also a number of different business entities engaged in various activities. These excesses were noted earlier in the background concentrations of pollutants in the air before the start of construction work.

4.2 Trends

142. During the 2020 construction period, it is planned to monitor the quality of air, surface water quality, noise impact and, if necessary, vibration in the areas where construction work will take place.

4.3 Grievances of local residents

143. During the 2019 construction season, grievances were received from local residents regarding the impact of construction work on their houses. To address the issue of grievances received, the State Institute of Earthquake Engineering and Engineering Design of the State Agency for Architecture, Construction and Housing and Communal Services under the Government of the Kyrgyz Republic (SIoEEED of SAACHCS under GKR) was engaged to conduct an engineering survey and obtain a competent opinion. Also, a visit was conducted by the District Interdepartmental Commission (GRG at

the local level), which includes specialists from the district architecture, environmental inspectorate, district state administration, the Ministry of Emergency Situations of the Kyrgyz Republic, IPIG, Contractor, Consultant, etc. Below is the summary information:

Table 20 Grievances of local residents

№	Applicant's name and address	Date of receipt	Reasons for the complaint	Activities carried out	Status, decision based on the results of the complaint review
1	V.G. Semchenko 117 Centralnaya str, Petrovka ayil okmoty, Moskovskiy district	24.04.2019	Asked to make repairs in her house as there were cracks due to the work of construction equipment	A survey of a residential building was carried out by specialists of SIoEEED of SAACHCS under GKR. The results of the survey (a copy of the report) were provided to the applicant.	According to the results of the SIoEEED of SAACHCS under GKR it was found that the foundation is strip without deepening to the depth of freezing of the soil, there is no waterproofing of the foundation, there is no blind area for drainage of meltwater from the building, to avoid the penetration of meltwater into the foundation, which is a violation of SNiP requirements. Soil moistening of the foundation reduces bearing capacity and entails an uneven subsidence of the building. In addition, the applicant did not give the opportunity to conduct a visual inspection of her house before the start of construction work and this does not allow to determine the cause of the cracks; it should also be considered that the compaction work was carried out without vibration. The commission decided that the complaint of Semchenko is not substantiated. The case is closed.

2	Zholdoshev S. / Naralieva A. Moscow district, Petrovka village, st. Central'naya 57	14.05.2019	as a result of construction a drainage pipe (culvert and gas) due to the operation of the excavator, new cracks began to increase and appear in the house	A survey of a residential building was carried out by specialists of SIoEEED of SAACHCS under GKR. The results of the survey (a copy of the report) were provided to the applicant.	According to the results of the survey SIoEEED of SAACHCS under GKR there is no exact conclusion that the construction works are the cause of cracks, but there are facts that actual technical condition of the residential building did not comply with the current standards and rules for earthquake-resistant construction before the start of construction works. The applicant was provided with documents, control form for monitoring road construction works filled in by the inspector, which confirmed that all work is carried out without vibration, and in this case, during the construction of the culvert, vibration is not used at all. The contractor carried out backfilling works using concrete mortar. The Commission came to the decision that the complaint is not substantiated. The case is closed.
3	Zulpueva Z. Zhayyl district, village of Poltavka, st. Central'naya 129	13.06.2019	cracks began to increase in the house as a result of the work of rollers on asphalt laying	A survey of a residential building was carried out by specialists of SIoEEED of SAACHCS under GKR. The results of the survey (a copy of the report) were provided to the applicant.	According to the results of the survey SIoEEED of SAACHCS under GKR there is no exact conclusion that the construction works are the cause of cracks, but there were violations of the SNiP during construction and the use of materials during construction.

					The Commission came to the decision that the complaint of Zulpuyeva was not substantiated. The case is closed.
4	Zhunushalieva Zh Moscow district, Petrovka village, st. Central'naya 5	17.06.2019	the appearance and increase of cracks in her house as a result of construction work on laying of asphalt layers	On 26.06.2019, a GRG at the local level carried out an on-site Commission survey of the house and buildings. As a result of the Commission visit, according to the owner of the house, it was found that the cracks began to appear around 2010. During the inspection of the house, there were no traces of the appearance of new cracks or an increase in old cracks, the owners of the house noted that they had previously received money (loan) from the Ministry of Emergencies of the Kyrgyz Republic as a result of the recognition of this house as dilapidated.	The Commission came to the decision that the complaint of Junushalieva not substantiated. The case is closed.
5	Jumabekova E.K., Moscovskiy district, Sadovoye village, Sovetskaya St., 407, apt. 3	15.08.2019	the appearance of cracks and subsidence of the wall leading to the bathroom as a result of the work of road-construction equipment	On August 15, 2019, a survey was conducted by the interdepartmental district commission of the apartment building where the applicant's apartment is located. As a result of the examination, it was revealed that there are no cracks or damage in the structure of the house. The crack and subsidence of the wall leading to the bathroom most likely occurred due to damage to the drainage or sewer system	The Commission came to the decision that the complaint of Jumabekova not substantiated. The case is closed.

				leaving under the floor. In addition, adjacent apartments were examined (an apartment located on one floor next door and an apartment located above the applicant's apartment). As a result, no cracks or deformations were detected in the adjacent apartments. The applicant was provided with documents confirming that the work was carried out without using vibration,	
6	Bektashova G.A. . Moscow district, Petrovka village, 42 Centralnaya St.	12.09.2019	the appearance of cracks due to the work of road construction equipment	On September 24, 2019, a survey was conducted by the interdepartmental district commission of the applicant's apartment building. Comparisons of available photographs taken before the start of construction work were carried out, the presence of new cracks was not fixed. Also, the commission noted a violation of SNiP during the construction of a house. The applicant was provided with documents confirming the non-use of vibration during the operation of the equipment.	The Commission came to the decision that the complaint of Bektasheva not substantiated. The case is closed.

4.4 Summary of project outcome

144. When analyzing the results of the monitoring, it is necessary to take into account that the project road section is located in a densely populated area with a large flow of vehicles. Therefore, when analyzing the environmental impact of construction work, it is necessary to take into account background levels.

145. Having analyzed the data of the monitoring results, it can be noted that, given the data of the background levels, construction work does not have a significant impact on the environment.

146. The problem in organizing and conducting monitoring is the insufficient number of laboratories in the region. To conclude agreements for monitoring environmental components, the same state laboratories are offered, which carry out both private and state orders, with an insufficient number of personnel. In this regard, it is necessary to arrange in advance about each visit to the sampling site and sometimes wait several weeks. It was easier to work with the private laboratory of Profilab LLC, whose employees were available when necessary.

4.5 Material/Resources Utilization

147. The utilisation of electricity, water and any other materials were not included in the CEMWP for monitoring.

4.6 Waste Management

148. During construction, a large amount of waste is generated, including both construction and household waste.

Construction waste

149. Reinforced concrete construction waste is generated during the dismantling of bridges and culverts.

Figure 62 Construction reinforced-concrete waste

150. Initially, construction waste was promptly taken out to the designated RMU-9 sites for the storage of old reinforced concrete products. With the increase of construction work, the allocated sites could not store all the waste, and there was a problem with determining where to store reinforced concrete waste. In the spring of 2019, together with the local authorities, places were determined for the placement of old railway products. Removed unsuitable soil can be taken out to these places.

151. Oral and written instructions are constantly given to the Contractor about the need to remove all construction waste from the road shoulders.

Old asphalt

152. The problem of crushing old asphalt to a size of 20x20 remains unresolved, therefore, with the beginning of road works, the problem of its disposal arose. Considering the fact that there is no equipment in the villages for leveling large pieces of old asphalt, there was a problem of removing the old asphalt that was not crushed to the filling of rural streets proposed by local authorities. Partially removed asphalt was taken out at the request of residents for the construction of embankments on private sites. The owners leveled the private plots themselves. Asphalt was not taken to wetlands.

153. Later, by agreement with the local authorities, it was proposed to take out the old asphalt to the streets proposed by the local aiyl okmotu. Currently, the old asphalt is taken out to backfill rural streets and field roads. Planning and leveling is carried out by the Contractor. The problem is that large pieces of uncrushed asphalt remain on the shoulders of backfilled roads. Places are noted where, after the backfilling and leveling, uncrushed pieces of asphalt remain on the roadsides. The contractor is instructed to address the identified defects.

154. During the reporting period, 65051.12 m3 of old asphalt was removed and taken out during construction works. 128805.2102 m3 of unsuitable soil was also removed.

155. The contractor's specialist Nursultan Alimbekov is responsible for the disposal of old asphalt.

Figure 63 Old asphalt removed from the roadbed

156. Streets on the territory of four okmotu villages were backfilled in during the reporting period. The list of streets is shown in Table 19.

Table 21 List of streets backfilled with old asphalt in 2018

Location	District name	Name of person responsible	Approval date	Road width	Road length
Name of road				**m**	**km**
Lugovaya	Moskovskiy district Sadovoe a/o	M. Doletkulov.	24.05.18 No.482	4	0,95
Stepnaya				4	0,3
D. Bednogo				4	0.5
Ukrainskaya				4	0,5
Octyabrskaya	Moskovskiy district Aleksandrovskiy a/o	I. Bagi	24.05.18 No.482	4	0.9
Masanchina				4	1.3
Kirgizskaya				4	2.5
Komosomolskaya				4	1,2
Pochtovaya				4	0,7
Tatarskaya				4	0.3

Футбольная	Sokuluk district Gavrilovskiy a/a	Chinarbekov N.	22.06.18 No.805	4	0.5
Zabaikalskaya				4	0.8
Pushkina				4	0.3
Pionerskaya				4	1.2
Olimpiyskaya				4	0.9
Lenina	Moskovskiy district Belovodskiy a/o	Eshaliev K.	30.04.19 No.805	4	0.4
Zheleznodorozhnaya				4	0.8
Shkolnaya				4	0.5
Leningradskaya				4	0.3
Gorkogo				4	0.35
Road along the field	Moskovskiy district Sadovoe a/o	M. Doletkulov	24.05.18 No. 482	4	3.0

Waste at the area of asphalt plant

157. During the production of asphalt, waste is generated on the territory of the asphalt plant. Most of these are empty drums of used bitumen. Empty drums are stored in the plant area. Currently, a large number of used drums and metal lids have been accumulated on the territory, which must be disposed of. According to the Contractor, empty drums that have not been dented during use are returned to the bitumen manufacturer's plant. The remaining drums are partially used during roads construction work, partially sold to the local community.

Figure 64 Waste at the asphalt plant area

Figure 65 Waste drums and metal lids from the drums

158. In Belovodskoe, a large number of old car tires are stored in the area of the plant. It is necessary to take measures for their removal and disposal. If there is no possibility of disposal, Contractor should involve a specialized company.

Figure 66 Production waste at the Belovodskoe

159. A letter was sent to the contractor about the removal of waste.

Household waste

160. Household waste is mostly accumulated in the workers' camps. Both solid and liquid household waste is accumulated.

161. Solid household waste consists of paper and plastic packaging materials, cardboard, dry waste, plastics and glass containers, as well as food waste, the latter pre-collected in plastic bags. Liquid household waste is waste water from residential premises and kitchens.

162. Solid household waste is collected unsorted in garbage containers with a capacity of 1m3 and is taken out weekly by Sokuluk and Moscovskiy utility plants, with which service contracts have been concluded. During the reporting period, about 231 m3 of solid waste was removed. Liquid household waste water accumulates in septic tanks, is pumped out to 3.5 m3 tankers owned by district waste transportation companies, and is taken to district wastewater treatment plants. During the reporting period, 721 m3 of household waste was removed.

Table 22 Acounting list for disposal of household solid waste (garbage) in the second half of the year

Locality	**Year and Month**	**Number of garbage bins, sewage tank-loads**		**Disposal Cost (Som)**
		solid	liquid	
Sokuluk	July	28 garbage bins	50 sewage tank loads	**53700**
Belovodskoe	July	- / -		**-**
		Total:		**53700**
Sokuluk	August	26 garbage bins,	49 sewage tank loads	**52050**
Belovodskoe	August	42 garbage bins.		**13860**
		Total:		**65910**
Sokuluk	September	22 garbage bins	31 sewage tank loads	**35150**

Belovodskoe	September	21 garbage bins		**6600**
		Total:		**41750**
Sokuluk	October	30 garbage bins	51 sewage tank loads	**55350**
Belovodskoe	October	21 garbage bins		**6600**
		Total:		**61950**
Sokuluk	November	20 garbage bins	25 sewage tank loads	**29250**
Belovodskoe	November	21 garbage bins		**6600**
		Total:		**35850**
Total:		231 garbage bins, 206 sewage tank loads or 231 m³ household solid waste and 721 m³ household sewage		**259160**

4.7 Health and Safety

4.7.1 Workers health and safety

163. In March 2019, Contractor hired an OHS specialist. During the reporting period this specialist regularly monitors the occupational health and deal with improving the working conditions of workers of the Chinese Railway Engineering Group Company No. 5 in the Kyrgyz Republic.

164. The company's workers were regularly trained, instructed, and checked for knowledge. Inspection visits were carried out on a regular basis. Identified violations were eliminated on the spot. The constant and timely provision of workers with workwear and protective equipment is monitored.

165. Based on inspection visits, recommendations are given for improving the safety of work on construction sites and areas.

166. On August 16, 2019, an accident occurred at the AK-Suu bridge (15.9 km – 61 km). The workmen Shamenov Askarbek Beishenbekovich was injured. The reason was the insufficient control of labor discipline of workers by the foreman. The worker received all necessary emergency assistance from the company's management. Internal and external investigations were conducted. Also, measures were taken to eliminate the causes of accidents in the future, namely, an extraordinary training session was held with the discussion of this accident among all workers of the company.

167. In September, an extraordinary safety training session was held for all workers of the company. In total, 549 workers participated.

168. Introductory trainings are regularly conducted for newly hired workers.

169. During the reporting period, several joint visits were conducted by the local environmental specialist of Eptisa and the Contractor's OHS specialist. The briefings were conducted at the construction sites.

Figure 67 Conducting training and checking the knowledge of the company's workers

170. But, despite regular training of workers, safety violations are regularly noted, especially when working at height, during the construction of underground passages and bridges. The contractor was recommended to check the knowledge of workers on occupational safety and health requirements and, if necessary, to re-instruct them.

Figure 68 Working at height without personal protective equipment

171. Violations were also noted during operation of crane. The workers were in the area where the crane was operating. These violations were noted both at the site of production of reinforced concrete structures, and during the construction of bridges and underpasses. A verbal warning was issued, but violations continued.

Figure 69 Safety violations when crane operates

4.7.2 Community health and safety

172. No community health and safety issues related to project activities were recorded during the reporting period.

173. Road Safety:

174. The road safety consultant regularly visits the Bishkek-Kara-Balta road section and conducts survey. According to the results of which letters were sent about non-compliance regarding the elimination of road safety issues. Traffic accidents on the road caused not due to the fault of the Contractor or in traffic conditions. There are cases of road accidents, but they were caused by the drivers themselves due to non-compliance with speed limits, non-compliance with the distance between cars, etc. In this regard, we do not specify information about accidents, since they are not related to the conditions and consequences of the project.

175. For example, only if the accident caused due to the fault of the Contractor, the traffic police will send an official document about it, which will indicate whose fault the accident occurred.

176. In order to ensure the safety of pedestrians, especially schoolchildren, the project provides for the repair of 4 existing and construction of 6 new underground passages on the road. Underground pedestrian passages are the safest option for pedestrian traffic. Currently, the construction of five underground passages is almost completed. Adults and schoolchildren are currently crossing the road through underground passages.

Figure 70 Underground passage near the school in the Sadovoe village

4.8 Trainings

Figure 71 Conducting safety training session for Chinese and local workers

177. There were no planned seminars during the reporting period.

178. Eptisa's national environmental specialist regularly give consultations to the Contractor's workers. Also, the Contractor's OHS specialist regularly conducted training sessions, briefings, and knowledge checks of the company's workers in the workplace.

5.FUNCTIONING OF THE CEMWP

5.1 CEMWP review.

179. The Construction Environmental Management Work Plan (CEMWP) is a form prepared by the Contractor based on the EMP and designed to encourage the Contractor to read the EMP and rethink the requirements that need to be met. The EMP describes the various activities proposed under this Project that are designed to prevent, minimize, or compensate environmental impacts that occur as a result of the Project. The mitigation measures provided in the CEMWP are sufficient, effective and acceptable. The CSC has prepared 14 annexes to the CEMP that address all major specific potential environmental impacts.

180. The Contractor's Environmental Specialist - Myrsaliyev Narynbek, implements the construction mitigation measures. Eptisa's Environmental Specialist - Tatyana Volkova, supervises the Contractor's compliance with the environmental requirements. In case of any violations revealed, Eptisa warns the Contractor orally or in writing about the need to eliminate this violation within the specified period.

181. During the reporting period, the main focus was on the following issues:

- Disposal of construction waste;
- Disposal of old asphalt;
- The violation of safety precautions, occupational safety and health requirements;
- Planting seedlings;
- Violations in the construction of bridges and culverts;
- Borrow-pit mining and management;
- Materials manufactoring plant (bitumen leakages);
- Monitoring of environmental components.

182. Currently, the main issue of CEMWP implementation remains planting seedlings instead of cut trees. Considering our climatic conditions, it is better to plant seedlings in the autumn, in November. But by the scheduled time, the Contractor had not completed work on the construction of sidewalks and replacement of communications on the site planned for planting seedlings. Only 300 seedlings were planted during the reporting period. Since the project road section passes through settlements where, given the road expansion, there is little space for planting new seedlings, and since construction work is planned to be completed in 2020, it is necessary to decide where and when the remaining seedlings will be planted. 10,000 seedlings are required since according to the EMP, 2 saplings should be planted for each tree cut down.

6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practice

183. The mitigation measures provided in the CEMWP are sufficient, effective and acceptable.

6.2 Opportunities for Improvement

184. The contractor should be more responsible for environmental issues. Contracotr should remove construction waste in a timely manner without constant reminders, spray water in construction sites, as well as in borrow-pit and stone-crushing plants, and be more responsible to issues of worker safety and health protection.

7. SUMMARY AND RECOMMENDATIONS

7.1 Summary

185. During the reporting period, the Contractor mainly implemented the necessary environmental measures during the construction work. However, there were cases when some Contractor's specialists ignored the recommendations of EPTISA.

186. Until now, the issue of crushing old asphalt has remained unresolved. Currently, the old asphalt is taken out for backfilling of rural streets. During the reporting period, streets in four ayil okmotu were backfilled. Since the villages do not have the necessary equipment for leveling large pieces of old asphalt, the Contractor level it with its own equipment. The problem is that large pieces of broken asphalt remain on the shoulders of backfilled roads and the Contractor has to level the same section several times, spending additional time and fuel on it.

187. Construction reinforced concrete waste accumulated during the dismantling of bridges and culverts was initially taken out in a timely manner to the designated by RMU-9 places for the storage old concrete products. With the increase in the volume of construction work, there was a problem with determining where to store reinforced concrete waste. In the spring of 2019, places were found for storing construction waste. But, despite this, every time it was necessary to remind about the need to remove the accumulated waste on the road.

188. The contractor does not supervise the structures that have already been built. Some culverts left with open trenches that fill with water during the rainy season and pose a danger to the local community and pets. Previously constructed trays are overgrown with grass, and filled with construction waste.

189. Despite the repeated comments the work at the Ak-Suu 2 borrow-pit was carried out with violation of safety precautions. Excavator ships raw materials under itself, standing on the bench. During the work there also was an excess of the development depth of 2-3 m from the design depth.

190. Since 2018, several letters have been sent with instructions to develop a reclamation plan of Jelamysh borrow-pit. In October, the Contractor concluded an agreement for the development of borrow-pit reclamation plan.

191. Some measures, such as dust control, were insufficient. Despite repeated warnings, dusting occurs on the production site during the operation of the stone crushing plant. The stone crushing plant operated mainly without water spray, polluting the plant's area and the surrounding places, causing harm to health and the environment. Several non-compliance letters were sent to the contractor, but the violation continued. All Eptisa's warnings were ignored. The contractor explained the situation with breakdowns on pipelines.

192. Currently, planting seedlings instead of demolished trees remains a problem. The contractor underestimates the importance of this activity. For now, after multiple warnings, 300 seedlings have been planted, and according to the requirements of the EMP, more than 10,000 seedlings must be planted.

193. The north side of the Sokuluk riverbed, where the bridge was built, has been cleared of construction waste, and the south side must be cleared of excess soil when the bank protection works will be completed.

194. The south side of the AK-Suu riverbed, where the bridge was built, has not been cleared of excess soil. In 2020, construction work will continue, with the construction of retaining walls that serve as side walls at the entrance and exit of water from under the bridge.

195. Violations of safety and health precautions by workers were found during the supervision of construction works. Such as working at a height without personal protective equipment and appropriate equipment, working under the boom of a crane, the lack of protective helmets, respirators, the lack of special shoes during welding, and etc.

196. Despite the fact that starting from April 2019 the Contractor was warned about the transfer of responsibility for laboratory environmental monitoring, the Contractor's management did not understand this issue and only after repeated warnings, the monitoring begins belatedly.

197. The bitumen leakage issue on the asphalt plant is almost eliminated. The contractor purchased the bitumen in metal drums, which are placed on an impermeable platform. At the same time, there is a problem of disposal empty drums from used bitumen. And the issue of disposal of used tires, which have accumulated a large number, has not been solved.

7.2 Recommendations

198. Given the fact that during the construction period, the Contractor does not always eliminate the violations in the specified time, and EPTISA is not able to take any measures other than suspension of work, it is necessary to develop additional penalties to force the Contractor to implement the necessary environmental measures without repeated warnings and to prevent negative consequences in advance. This will help to reduce the number of non-compliance letters and complaints from the community.

199. In 2020, it is necessary to conclude timely agreements with laboratories for timely laboratory monitoring.

200. OHS specialist should monitor all workplaces on a daily basis, especially on construction sites where bridges, underpasses, and culverts are being constructed. Currently, the monitoring is carried out insufficiently since there is no vehicle available for the specialist. Given that all construction work on the project site should be completed during 2020, the contractor plans to involve more workers, the contractor will need to conduct additional lectures on the non-proliferation of HIV / AIDS for the new involved working staff

201. To date, installation of culverts and the construction of sidewalks has been completed on some road sections and in the spring, seedlings can be planted on these sections.

202. The contractor should organize constant care and watering of seedlings. And assign responsible persons for care.

203. In 2020, it is necessary to reclamate Jelamysh and Saz borrow-pits after the completion of their development.

204. The riverbeds of the Sokuluk and Ak-Suu rivers must be cleaned from excess soil.

205. The Contractor's environmental specialist should regularly monitor the condition of seedlings that have already been planted, and the condition of structures that have already been built, such as culverts and chutes. Also avoid filling the trunks of growing trees with unsuitable soil or old asphalt.

APPENDIX 1 PBMC COMPONENT

Project Number: **PBMC/BO/Phase 4/1**

Grant: **Credit 3056/grant 0366-KGZ:**

Reporting period: **July 2019 - December 2019**

KYRGYZ REPUBLIC:
«REHABILITATION AND IMPROVEMENT OF THE CORRIDOR CENTRAL ASIAN REGIONAL DEVELOPMENT COOPERATION 3 (BISHKEK – OSH ROAD), PHASE 4, KARA-BALTA-SUUSAMYR (km. 61-129)»
(Funded by Asian Development Bank)

The Contractor: LLC «Mostdorstroy»

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Abbreviations

ADB	-	Asian Development Bank
EMMP	-	Environmental Management and Monitoring Plan
ES	-	Environmental Specialist
GKR	-	Government of Kyrgyz Republic
MoTR KR	-	Ministry of Transport and Roads of the Kyrgyz Republic
PBMC	-	Performance-based Maintenance Contract
PC	-	Public Consultations
PIC	-	Project Implementation Center
PMC	-	Project Management Center
SEE	-	State Ecological Expertise
GCC	-	General Contract Conditions
SHW	-	Solid Household Wastes
IPIG	-	Investment Projects Implementation Group
CEMWP	-	Construction Environmental Management Work Plan

INTRODUCTION

1 Preamble

1. This report presents a semi-annual review of environmental monitoring (SAEMR) for the rehabilitation and improvement of the Central Asian Regional Economic Cooperation Corridor 3 (Bishkek-Osh road), Phase 4, Performance-based maintenance contract, Kara-Balta-Suusamyr section (km. 61-129 km)
2. The purpose to sign a Contract is to ensure a physical condition of the roads that is acceptable to road users during the entire term of the contract.

2 Basic Information

3. CAREC Corridor 3 Improvement project, Bishkek-Osh road: Kara-Balta-Suusamyr section, km 61- км 129, financed by a loan from the Asian Development Bank (ADB) Kyrgyz Republic (KR).
4. The road plays an important role in transport system of Kyrgyzstan, being only road that is open for transport movement during the all year, and which connects the northern part of the country with the capital Bishkek and southern part of country with the second largest city Osh. Therefore, good maintenance and operation of the road section to ensure the free flow of vehicles at any time of the year is crucial for the political and economic life of the Kyrgyz Republic.
5. The project road section is located mainly in the Chui intermountain valley, at the bottom of the mountains. The Kara-Balta-Suusamyr road determines the location in the latitudinal direction. The height of the project road varies from 800 m above sea level in Kara-Balta to 3,300 m in Suusamyr, at the entrance to the tunnel.
6. The project road is located in a high-risk seismic zone (9-point) and in combination with high soil erosion on steep slopes and extensive grooves per km. 97 - km.129 represents a constant environmental problem associated with the sliding of slopes due to landslides and earthquakes.
7. The project road is in a semi-arid zone, with a protracted cold season. Frosts in the mountainous region starts in October and hold on until the end of May. Annual precipitation along the project area is about 450 mm. In the mountainous area of the project site, the number of winter events (snowfall) is 60 days.
8. Land utilization in the impact zone of the Kara-Balta-Suusamyr road section, in particular, at the beginning of the project road section has an agricultural purpose. In the area of Kara-Balta, such crops as wheat, fodder and industrial crops, various types of vegetables, such as potatoes, bell peppers, carrots, watermelons, eggplant, and fruit plantations like apple and apricot are mainly cultivated.
9. In the mountainous region, human activity is limited to breeding horses and sheep. The landscape is changing closer to the steppes, the soil is covered with grass and low shrubs, such as saxaul. Chia is a common grass with whitish reeds like a reed, it is also a common type of grass.
10. The road corridor covered by the PBMC (Kara-Balta-Suusamyr) does not interfere with any watercourses, wetlands or other sensitive areas.

11. Sensitive zones - The project road section does not pass over, through or near any established sensitive ecological zones. The existing road passes through the village of Sosnovka, whose population is about 5,000 people. Since the road does not create a new traffic flow, new security measures are not provided, except to improve compliance with speed limits and ensure road sections. A speed limit of 40 km / h has been established inside the village, which should be observed even after the completion of road repairs.

12. In the Kara-Balta town, Sosnovka village and until the end of the project site, the existing road crosses the Kara-Balta river 22 times. Crossings across the river are carried out by bridges. According to the Decree of the Government of the Kyrgyz Republic dated September 7, 2009 No. 561 "On Fishery Development and Use of Natural and Artificial Reservoirs in the Kyrgyz Republic", the Kara-Balta River belongs to fishery reservoirs. In other words, there is fish in the river and, most likely, the river is a place for recreational fishing. This category of river is assigned a level of protection that prohibits the maintenance of the development of aggregates near the river, the construction of obstacles, dams or the movement of water vehicles that hinder the movement of fish. Therefore, no work is carried out near the Kara-Balta River, except for works on erosion protection to minimize sediment load in the river.

13. In the course of rehabilitation of roadside drain ditches, the diversion of surface water, in order to prevent the entry into the river, is carried out on a roadside area covered with grass, which makes it possible not to pollute the river, which is a habitat for fish.

3. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

3.1 Project description

14. Performance-based maintenance contract, the Kara-Balta-Suusamyr section to the Too-Ashuu tunnel (km 61 - km 129). CAREC 3 Transport Corridor Improvement Project (Bishkek-Osh Road), Phase 4. Engineering and construction supervision is carried out by EPTISA Servicios De Ingeniería S.L./ Eptisa Muhendislik / RAM.

15. To ensure the smooth passage of vehicles on this route as needed, year-round proper maintenance and minor repair works are carried out.

16. In the course of maintenance of the site, road pavement repair works are carried out, road safety is ensured, road signs are replaced, drainage structures are maintained, roadside plants are monitored, bridges are repaired, slopes are reinforced, winter maintenance is provided, and the road surface is maintained in different weather conditions.

17. The total budget for the implementation of this component is 296,914 350 KGS.

18. Outside the existing carriage way and shoulders, work is not carried out. New construction or modification of the plan is not envisaged.

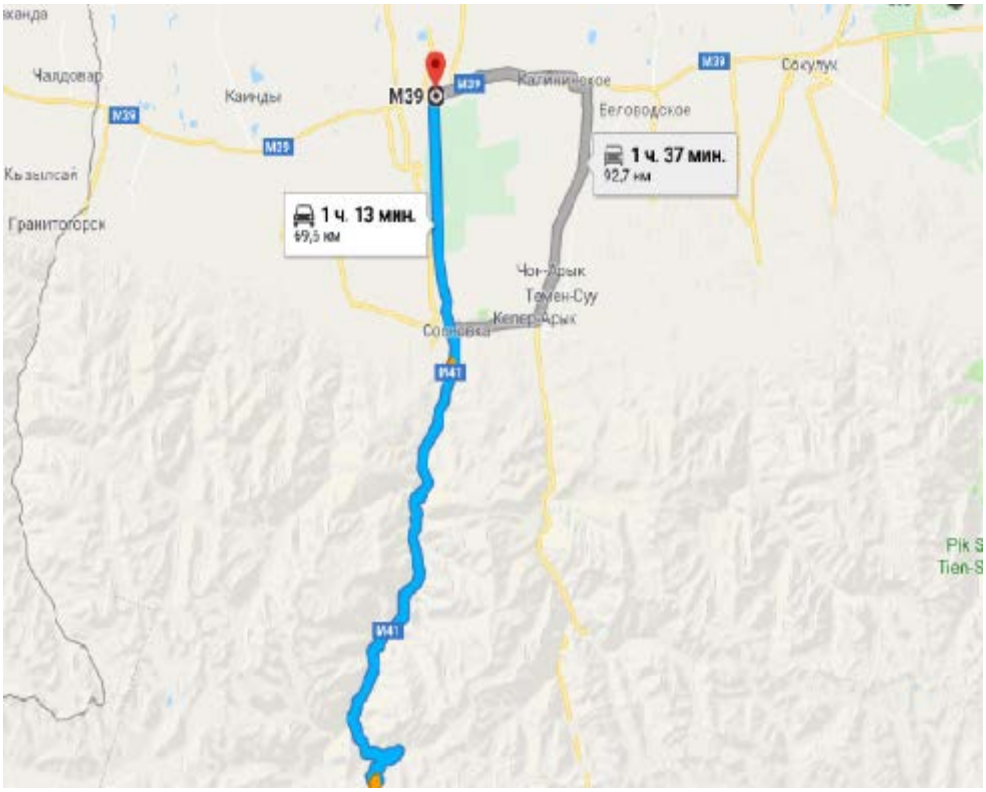


Figure- 1 The Kara-Balta-Tunnel road section

19. Basing sites for workers and construction equipment are located in 2 places.

    Sosnovka village km 80 / number of workers - 19 people
    Tunnel km. 118 / number of workers - 10 people.

20. Both on the 1st and 2nd bases the territory is rented from the Road Maintenance Unit №9 for the location of equipment and workers who will live in this territory, in rooms with the necessary conditions for living. In winter, preventive maintenance works are carried out to clean the roads from snow cover, as well as to fill the ice cover with sand and salt, the amount of material used is provided in the report on the fact.

Supply of materials for construction and repair works.

21. Asphalt and bitumen are supplied from the asphalt plant located in the Sokuluk district, Novopavlovka village, Vzletnaya rural settlement.

    Sand - "Bashkarasu" Borrow-pit, PE Japaraliev
    Concrete - Kara-Balta concrete plant

Table - 1. Volume of main construction works

№	**Name of works**	**Unit**	**Done**
1	Replacement of pipelines / culverts + backfilling	m	43
2	Reconstruction/repair of head walls of drainage cannel	U	3
3	Repair of concrete for pipes	m^3	15
4	Patching and local repair	m^2	1567,2
5	Sealing cracks and sealing joints	m	14000
6	Surface treatment of RSF (Rough Surface Finish)	m^2	45000
7	Manual and mechanical removal of all rockfalls and unstable materials on or near the carriageway.	m^3	1000
8	Thermoplastic white marking with reflective materials, standard width, full or jerky	m^2	1006,45

3.2 Project Contracts and Management

Table- 2. Project Contracts and Management

Project		**Project to improve the CAREC transport corridor 3 (Bishkek-Osh road), Phase 4Result-based contract. Plot of Kara-Balta-Suusamyr (km.61-129,5)-CAREC/C3/P4/ICB/WC2 Component 2**
Contractor	**:**	**LLC «Mostdorstroy»**
Section:	**:**	**61 km – 129,5 km, total length – 68,5 km**
Donor :		**Asian Development Bank**
Contract date		**18/12/2017**
Executive body	:	**Ministry of Transport and Roads of the Kyrgyz Republic**
Notification of the start of work		**05/01/2018**
Date of completion	:	**January,1 2021**
Time for completion-days	:	**36 months**
Extension-days	:	**-**
Warranty period - days	:	**180 days**
Contract amount	:	**Kyrgyz som 296,914 349.28**
Total prepayment amount	:	**10% of the accepted amount of the contract**
Performance Guarantee Amount	:	**%15 of the accepted amount of the contract**

Works included:

22. Road maintenance works throughout the road section include the following:

-Winter road maintenance (November-December): Preparation for winter service in accordance with the winter service plan, placement of supports and the preparation and operation of winter service places; Winter patrols excessive snow cleaning. Snow clearing of the road surface using

salt and placement of abrasive material and anti-icing liquid to achieve the required level of service during the winter season - 900 km
- Cleaning the roadway and roadsides (by a grader, loader). 61-129 km in the winter season. The roadside was constantly cleared of snow, and grading of the carriageway was also carried out. - 121-129 km

Figure-2. Winter road surface cleaning

- Filling the road with sand (mechanical and manual) 61-129.5 km.

Figure-3. Sand bedding of the road

- Cleaning roads from rubbish and rockfalls. 81-129.5 km. Constantly patrolling the road, cleaning and cleaning the road from rockfalls and debris.

Figure-4. Cleaning roads from rubbish and rockfalls

- current maintenance of pavement (patching, filling cracks, cleaning); Section 78 km-121 km

Table - 3. Patching – 1567m^3

Patching		
Section	**Waste material**	**Dump**
78km-121km	Existing asphalt after felling.	Sosnovka village dump

Figure-5. Current pavement repair

23. Cleaning and repair of drainage facilities - In total, there are 96 culverts on the site that facilitate the flow and drainage of water from one side of the road to the other, on a slope. In the summer, these structures are free of water and repairs were carried out there without affecting the seasonal watercourse. Pipes are prefabricated concrete pipes that are cleaned by hand. For the repair work of each building, a small amount of material (about 20-50 kg) is required, which is mixed manually or with the help of a small concrete mixer, applied and finished finally manually. All pipes are placed in earthen / soil ditches. The job consists of removing dirt and debris to ensure an unhindered flow of water. Cleaning of culverts 61-129 km (96 pcs)

24. Replacement of pipelines / culverts. Cleaning along parapets

- cleaning and repair of structures; Garbage treatment 61-129.5 km.

Table - 4. Culvert Cleaning

Culvert cleaning		
Section		**Amount**
61+00km 129+00	Cleaning of garbage. Partly completely clogged.	96pcs

Figure – 6. Culvert replacement

Figure -7. Garbage collection along the road

25. *Vegetation control* - On the road sections along the road corridor with green spaces that interfere with the maintenance / service of the road or require their removal.
26. On flat roads between km 61 and km 85 (between Kara-Balta and Sosnovka) the road is on a small embankment about 0.5-1m high, next to agricultural land. There are dirt roads, berms and slopes covered with natural vegetation. Cause of the climate and types of mountain flora, vegetation, as a rule, does not grow above 30 cm, which does not require any intervention. In places where grass height exceeds this value, grass is mowed by hand, by contractors or owners of adjacent fields. Such vegetation is usually used as animal feed. Herbicides are not used there.
27. Rehabilitation of bridges is not provided.

4.ENVIRONMENTAL ACTIVITIES

4.1 General description of environmental measures

28. In accordance with clause 24 of the General Conditions of Contract (GCC), the Work Execution Program includes a Health and Safety Management Plan. The aim of the Health and Safety Management Plan is to create a responsible attitude towards occupational health and safety and compliance with existing regulations.

29. During the reporting period, regular visual monitoring of compliance with environmental requirements during construction work in all road sections was carried out by the local environmental specialist EPTISA, the environmental specialist of the Investment Project Implementation Group of the MoTR KR, and the environmental specialist of the Contractor. Given that during the reporting period mainly there were road maintenance works, instrumental monitoring was not conducted.

4.2 Environmental safeguard measures

30. The EMP provides a description of the various measures proposed by the project, which are intended to prevent, mitigate or compensate for the negative environmental impacts that may arise as a result during realization of project. At the end of each month, a report is submitted according to the Construction Environmental Management Work Plan (CEMWP)

4.3 Emergency procedures and contingency plan

31. The work program includes emergency procedures and the Contingency Plan, which establishes the roles, activities and procedures for specific types of emergencies presented in contingency plans that close roads. Emergency procedures and the Emergency Action Plan are prepared by the Contractor and agreed with the Project Manager and other stakeholders. The Contractor presented the “Emergency Procedures and Contingency Plan”, which was approved by the consultant and the Contractor commenced work accordingly.

4.4 Traffic management plan

32. The work program includes a traffic management plan. The traffic management plan determines the traffic management procedures at the work sites and during winter weather events. The traffic management plan was developed by the Contractor and agreed with the Project Manager. The traffic management plan is submitted by the contractor and approved.

33. Contractor's camp is located at 81 km. Kara-Balta – Sususamyr road. In the camp there is a dining room, office, and sleeping places for Contractor’s employees. The camp is provided with clean drinking water, sinks and trash cans are installed. Fire-fighting accessories are installed in the required places. Opposite the camp there is a parking for cars and equipment of the contractor. Storage areas are located at the back of the camp and there is enough storage space.

4.5 Audit of construction sites

Table – 5. Audit of construction sites

№ p/p	Date	Full name of auditors	Audit's purpose	Summary of any important audit notes
1	05.07	B. Sydykbekova – the Contractor's environmental specialist, together with the project manager - Maksat uulu Iskeder.	Compliance with environmental standards, compliance with standards for the summer maintenance of the road.	It is noted that the summer maintenance of the road is respected. Garbage and rockfalls were cleaned at a site of 61-129.5 km.
2	19.08	B. Sydykbekova – the Contractor's environmental specialist, together with the project manager - Maksat uulu Iskeder.	Compliance with environmental standards, compliance with standards for winter road maintenance.	It is noted that for road safety purposes, road signs are installed. Garbage and stones are being cleaned (61-129km).
3	23.09	B. Sydykbekova – the Contractor's environmental specialist, together with the project manager - Maksat uulu Iskeder.	Compliance with environmental standards, compliance with standards for winter road maintenance, road safety.	Garbage and stones are being cleaned in the area of 61-129.5 km.
4	23.10	B. Sydykbekova - the Contractor's environmental specialist, together with the project manager - Maksat uulu Iskeder	Compliance with environmental standards, road safety.	Road filling was performed mechanically and manually (61-129km)
5	25.11	B. Sydykbekova - the Contractor's environmental specialist, together with the project manager - Maksat uulu Iskeder	Compliance with environmental standards, road safety.	Road filling was performed mechanically and manually (61-129km)

4.7 Unanticipated environmental impacts of risks

34. At sections km 86.9 – 88.7 and km 98, rockfalls often occur due to heavy rains. A large rockfall occurred in July 2018. Boulders that fell on the road with parapet damage were noted. Also, in this area there are large pieces of rock hanging over the road that pose a threat of spalling and falling onto the road, and posing a danger to passing vehicles. It should also be noted that a high-voltage line passes next to this section. A Commission was created with the participation of the Ministry of emergency situations to survey this area in order to decide how to eliminate this threat. It was decided that in order to eliminate this threat, it is necessary to carry out drilling and blasting operations, for which it is necessary to involve a specialized company. So far, despite repeated letters to the Ministry of emergency situations and the MoTR, the issue remains unresolved. Small rockfalls also often occur on the road, fallen stones are regularly cleaned by the Contractor.

Figure -8. Rockfall hazard

5.RESULTS OF ENVIRONMENTAL MONITORING

5.1 Review of the monitoring conducted during the reporting period
Instrumental monitoring of the environment

35. According to the IEE/EMP instrumental measurements of water, air and noise parameters are not provided. Environmental impact of pollutants is not expected.

Water quality monitoring

36. According to the IEE/EMP, instrumental measurements of water quality are not provided for this Project. The project has no impact on water bodies, as all works will be carried out at a sufficient distance from water sources.

Air quality monitoring

37. According to the IEE/EMP, instrumental measurements of air quality are not provided for this Project.

38. There were no significant dust emissions during the reporting period. Emissions from trucks during the transportation of cement, gravel and concrete were minimal, the movement of trucks was limited (except for the transportation of equipment to the site).

Noise and vibration monitoring

39. Regular monitoring of noise and vibration is not envisaged for this Project according to the IEE/EMP. However, workers wear ear protectors if necessary.

5.2 Waste Management

40. Removed old asphalt was reused for unpaved shoulders, as a material for patching with compaction and backfilling of internal roads in Sosnovka and Monoldor villages, on request from local authorities.

41. Cleaning and repair of drainage structures - There are 69 culverts on the site, which facilitate water drainage from one side of the road to the other, in a slope. In summer, these structures are free of water, and here you can carry out repair work without affecting the seasonal water flow. Pipes that are prefabricated concrete pipes will be cleaned by hand Small concrete repairs may be required at the pipe outlets (in case of scouring) or inside the pipes (at the joints between the links). For the repair work of each facility, a small amount of material (about 20-50 kg) will be needed, which will be mixed manually or using a small concrete mixer, applied and finally finished manually. All cuvettes are earth / soil cells. The job consists of removing dirt and debris and eventually leveling to ensure the unobstructed flow of water. If the culverts are not serviced, they can become clogged, leading to filling, flooding of the road surface, erosion and possibly road jams. Therefore, this work has a positive impact.

42. Repair works on bridges is mainly related to safety, i.e. restoration of safety barriers after accidents or collisions. Work in the river beds should be limited to clearing the watercourse from debris that, if released into the water stream, can lead to congestion, spillage and erosion. Concrete repair works are not included in the scope of work of a maintenance / maintenance contractor, however, they can sometimes be carried out after an emergency, if for example structures are damaged due to sudden floods or accidents.

5.3 Health and Safety

5.3.1 Health and Safety of local community

43. The traffic management plan has been agreed with the authorities of the Main Directorate for Road Safety of the Ministry of Internal Affairs of the Kyrgyz Republic. The recording will be kept at the construction camp office. The contractor's workers are familiar with the traffic management plan, and the shift Manager/chief engineer is also responsible for compliance with and implementation of this plan.

5.3.2 Occupational health and safety of workers

44. Workers are provided with all necessary equipment, as well as basic training on the use of protective clothing and personal protective equipment. Workers are provided with PPE such as: vests, hard hats, gloves, shoes. Safety Instruction held in the camp, there is a log of registration. No night works.

45. The contractor's camp is located on the area leased from RMU-9. Work camps are equipped with sanitizing sanitary products and drinking water. The camp has containers for collecting solid waste, which is taken out by a local company in accordance with the concluded agreement. Waste water is collected in the existing sewer, the collector is cleaned by RMU-9. Agreements have been drawn up with local governments for the removal of solid waste. There are no hazardous materials on the territory of the construction camp.

APPENDIX 2

Protocols of monitoring conducted

ПРОФИЛАБ
оперативная лаборатория

Certificate of Accreditation №KG 417/КЦА.ИЛ.065 dated «02» February 2018

Valid before «02» February 2022. The scope of accreditation on the website: www.kca.org.kg

THE PROTOCOL OF VIBRATION MEASUREMENT

№19 dated «26 » July 2019

1. Legal person, individual entrepreneur or natural person, where the measurements are conducted:

«China Railway No.5, Engineering Group Co. LTD» Company

(name, registered address)

2. The object where the measurements are conducted: **Bishkek-Osh road (15.9-61 km)**

(name, actual address)

3. The basis for the measurement: **Contract № 37**

4. Name of measuring instruments and information on state verification:

Name of measuring instrument	Number	Certificate of verification		Verified before
		number	date	
Ecophysics - 110A	**№AB 130044**	**№ 1895**	**02.05.2019**	**02.05.2020**

5. Regulatory documentation on measurement methods, according to which the measurements were carried out: **GOST 31191.1-2004 «Vibration. Measurement of total vibration and evaluation of its impact on humans. Requirements for conducting measurements in the workplaces».**

6. Regulatory documentation on norms: **SN 2.2.4/2.1.8.566-96 «Industrial vibration, vibration in rooms, residential and public buildings»**

7. The sources of physical factors and their characteristics: **company's vehicles**

8. Environmental condition: **Temperature 32° C**

Humidity 35%

atmospheric pressure 690 mm mc

9. room sketch

10. Date of measurements: 22.06.2019 time 9:30-13:00

Measurement results:

№	Place of measurement	Type of vibration					axis	Sound pressure levels in dB in octave band centre frequencies in Hz								level of sound (dBA)	Permissible by standards (dBA)	Excess (dBA)
		general			local													
		Transport	Transport-technological	technological				1	2	4	8	16	31,5	63	125			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	Latitude 42°51'56; longitude 74°21'02, Gavrilovka village, in front of the store "Berezka" (north-west side)																	
1	Background vibration at a distance of 26 m from the road																	
		+					X									93		
							Y									92		
							Z									94		
2	Latitude 42°51'14, longitude 74°12'38, Aleksandrovka village																	
	Background vibration at a distance of 41 m from the road																	
		+					X									94		
							Y									95		
							Z									95		
3	Км 37+071, Sadovoe village																	

	Background vibration at a distance of 5 m from the road																	
		+					X									73		
							Y									74		
							Z									73		
	Latitude 42°50'52, longitude 74°09'48, Sadovoe village, north side of the road at a distance of 5 m from the road																	
4	When roller and grader are operating																	
				+			X									94		
							Y									92		
							Z									92		
5	When roller and grader are not operating																	
		+					X									76		
							Y									75		
							Z									74		
	Latitude 42°50'47, longitude 74°09'32, Sadovoe village, (underground passage) at a distance of 3 m from the road																	
6	When roller is operating																	
				+			X									90		
							Y									88		
							Z									89		
7	When roller is not operating																	
		+					X									78		
							Y									76		
							Z									75		

	Latitude 42°50'48, longitude 74°09'31, Sadovoe village (north side of the road) at a distance of 28 m from the road																	
8	When bulldozer is operating																	
				+			X									135		
							Y									133		
							Z									134		
9	When bulldozer is not operating																	
		+					X									105		
							Y									108		
							Z									106		
	Latitude 42°50'40, longitude 74°09'11, Sadovoe village, "Sudarushka" store, north side, at a distance of 5 m from the road																	
10	When excavator is operating																	
				+			X									114		
							Y									113		
							Z									113		
11	When excavator is not operating																	
		+					X									92		
							Y									91		
							Z									90		

Authorized representative of the object, present during the measurements:

Full name Myrsaliev N., Volkova T.

Position 1) env/specialist of Contractor; 2) Environmental Specialist

Signature _____

	Position	Full name	Signature
Measurements conducted by	Head of dep.	Amanova N.T.	

The protocol is drawn up in two copies, 1 copy is issued to whom it may concern, the 2 nd copy remains in the laboratory.

Note: The results of the Protocol correspond to the time of measurements.

Reprint of the Protocol without the permission of the head of the laboratory is prohibited.

End of Protocol

Conclusion on the results of measurements:

According to the results of instrumental measurements, the level of vibration when company's equipment is operating is from 88 to 135 dB. When they its not operating is from 74 to 108 dB

Background vibration ranges from 73 to 95 db.

Note: Vibration level other than residential and work places is not rated.

Sanitary inspector of LLC «ProfiLab» Zh. T. Arzykulov

Environmental monitoring Department of the Chui-Bishkek territorial administration of the state Agency for environmental protection and forestry under the government of the Kyrgyz Republic

720005, Bishkek, 34 Baitik – Baatyra str. Tel.: (996-312)54-07-65, fax: 54-07-66

Protocol

analysis of atmospheric air samples

no. 176-178

1. Name of the enterprise, agency (applicant):

   Chui region, Bishkek-Kara-Balta road

2. Sampling location;

   176 – Sadovoe village, km39+925 of Bishkek-Kara-Balta road

   177 – Sadovoe village, km 37+020 of Bishkek-Kara-Balta road

   178 – Aleksandrovka village, km 33+125 of Bishkek-Kara-Balta road

3. Sampling purpose: determination of the concentration of pollutants in atmospheric air
4. Who took the samples: Chief specialist Abdyldaeva A.N.
5. Date and time of sampling: 06.08.2019; from 9:30 am to 12:00 pm
6. Nature of sampling: single
7. Method of sampling:

   Gas analyzers: 1.310 A operating manual ИРМБ 413312.016. РЭ
   К-100 operating manual ИРМБ 413416.100;
   Н-320 operating manual ИРМБ 413312.003-10(20)
   Dust analyzer DUSTTRAK 8533

8. Dates of sampling: 06.08.-09.08.2019

Name of ingredients	UoM	Sampling points						MPC Max.lev.
		176 Sadovoe km 39+925	MPC excess	177 Sadovoe км 37+020	MPC excess	178 Aleksandrovka km 33+125	MPC excess	
sulphur dioxide	Mg/m³	0,013±0,0033	-	0,016±0,004	-	0,013±0,0033	-	0,5
nitrogen dioxide	Mg/m³	0,078±0,02	-	**0,117±0,029**	**1,4**	0,069±0,017	-	**0,085**
carbon monoxide	Mg/m³	0,8±0,16	-	1,3±0,26	-	0,6±0,12	-	5,0
suspended materials (dust)	Mg/m³	0,265±0,053	-	0,356±0,071	-	0,364±0,073	-	0,5

"MPC of pollutants in the atmospheric air of populated areas" Resolution of the government of the Kyrgyz Republic No. 201 of April 11, 2016

Conclusion: according to the results of survey in the selected samples of atmospheric air No. 176-178, an excess of the MPC for nitrogen dioxide was found to be 1.4 times higher

Environmental monitoring Department of the Chui-Bishkek territorial administration of the state Agency for environmental protection and forestry under the government of the Kyrgyz Republic

720005, Bishkek, 34 Baitik – Baatyra str. Tel.: (996-312)54-07-65, fax: 54-07-66

Passport For Sample

1. Name of the enterprise, agency (applicant):

   Chui region, Bishkek-Kara-Balta road

2. Sampling location;

   1 – Sadovoe village, km39+925 of Bishkek-Kara-Balta road

   2 – Sadovoe village, km 37+020 of Bishkek-Kara-Balta road

   3 – Aleksandrovka village, km 33+125 of Bishkek-Kara-Balta road

3. Sampling purpose: determination of the concentration of pollutants in atmospheric air
4. Nature of sampling: single
5. Environmental condition: clear weather
6. Sampling conditions:
7. Sampling date: 06.08.2019; from 9:30 am to 12:00 pm
8. Method of sampling: 1. РД 52.04.186-89 “guidelines for monitoring air pollution”
   GOST 33007-2014 gas-cleaning and dust-collecting equipment. methods for determining the dust content of gas and dust stream. general technical requirements and control methods

Environmental monitoring Department of the Chui-Bishkek territorial administration of the state Agency for environmental protection and forestry under the government of the Kyrgyz Republic

720005, Bishkek, 34 Baitik – Baatyra str. Tel.: (996-312)54-07-65, fax: 54-07-66

Protocol

Analysis of water samples

No.184-186

Name of the enterprise, agency (applicant):
Bishkek-Osh road, Bishkek-Kara-Balta section

Sampling location:
184 – Sokuluk river, before the bridge

185 – Sokuluk river, after the bridge

186 – Jantai canal

Sampling purpose: monitoring of water quality
Who took the samples: Chief specialist Zholchubekova G.K.
Date and time of sampling: 06.08.2019
Date(s) of surveys conducted: 07 – 10.08.2019

Name of ingredients	**UoM**	**Point Analysis Data**			**MPC (max. permissible concentration)**		**Regulation document**
		184 Sokuluk river, before the bridge	**185 Sokuluk river after the bridge**	**186 Jantai canal**	**+**	**++**	
Suspended material	mg/l	19,6	5,6	83,6	**Increasing 0,25/0,75**		ПНДФ14.1:2:3.110-97
Oil products	mg/l	0,002	0,003	0,0031	**0,05**	**0,3**	ПНДФ14.1:2:4.128-98

According to the results of chemical analysis, the water in all selected points does not exceed the MPC for water bodies of the cultivated and household category for all the determined ingredients

Head of department T.Sadykbekova

Cheif specialist G. Zholchubekova

Quality manager K. Sarybaeva

Rules for the protection of surface waters of the Kyrgyz Republic dated March 14, 2016 No. 128

+ List of MPC for fishery water use

++List of MPC for drinking and cultural and household water use

Environmental monitoring Department of the Chui-Bishkek territorial administration of the state Agency for environmental protection and forestry under the government of the Kyrgyz Republic

720005, Bishkek, 34 Baitik – Baatyra str. Tel.: (996-312)54-07-65, fax: 54-07-66

Passport for Sample (water)

1. Name, location: Bishkek-Osh road, Bishkek-Kara-Balta road section; CAREC Corridor 3 Improvement project
2. Sampling location:

1 – Sokuluk river, before the bridge

2 – Sokuluk river, after the bridge

3– Jantai canal

3. Sampling purpose: monitoring of water quality
4. Nature of sampling: single
5. Environmental conditions: sunny
6. Date of sampling: 06.08.2019
7. Method of sampling: GOST 31961-2012 “Water. General requirements for sampling. ПНД Ф 12.15.1-08 Guidelines for sampling for wastewater analysis”

ПРОФИЛАБ
оперативная лаборатория

Аттестат аккредитации №KG 417/КЦА.ИЛ.065
от «02» февраля 2018 г. действителен
до «02» февраля 2022 г.
Область аккредитации на сайте:
www.kca.org.kg

ОсОО «ПрофиЛаб»
г. Бишкек, ул. Т. Молдо
60А-каб. 319
тел.0312325067
сот.0701005051, 0558210187
e-mail: profilab.ltd@mail.ru

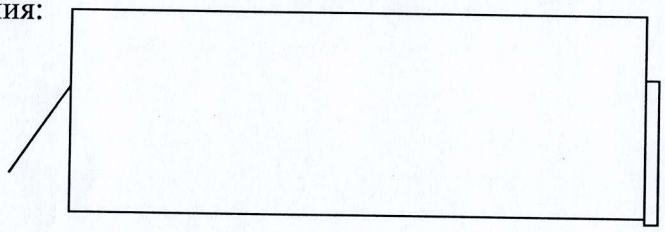
ПРОТОКОЛ ИЗМЕРЕНИЯ ВИБРАЦИИ

№19 от «26 » июля 2019 г.

1. Юридическое лицо, индивидуальный предприниматель или физическое лицо, где производятся измерения: **Компания China railway №5, Engineering Group Co Ltd**
(наименование и юридический адрес)
2. Объект, где производятся измерения: **Автодорога Бишкек – Кара-Балта (15,9-61 км).**
(наименование, фактический адрес)
3. Основание для проведения измерения: **Договор №37**
4. Наименование средств измерений и сведения о государственной поверке:

Наименование средства измерения	Номер	Свидетельство о поверке		Поверено до
		номер	Дата	
Экофизика - 110А	**№АВ 130044**	**№ 1895**	**02.05.2019 г.**	**02.05.2020 г.**

5. Нормативная документация на методы измерений, в соответствии с которой проводились измерения: **ГОСТ 31191.1-2004 «Вибрация. Измерение общей вибрации и оценка ее воздействия на человека. Требования к проведению измерений на рабочих местах».**
6. Нормативная документация на нормы: **Санитарные нормы 2.2.4./2.1.8.566-96. «Производственная вибрация в помещениях, жилых и общественных зданий».**
7. Источники физических факторов и их характеристики: **Автомашины корпорации**
8. Условие окружающей среды: **Температура: 32°С**
Влажность: 35%
Атмосферная давления: 690 мм рт.ст.
9. Эскиз помещения:



10. Дата измерений: 22.06.2019г. Время 9.30-13.00.

Результаты измерений:

№	Место измерений	Вид вибрации					Ось	Уровни звукового давления в дБ в октавных полосах со среднегеометрическими частотами в Гц								Уровень звука (ДБА)	Допустимая по нормам (ДБА)	Превышение (ДБА)
		общая			локальная													
		Транспортная	Транспортно-технологическая	технологическая				1	2	4	8	16	31,5	63	125			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	широта: 42º 51′56; долгота: 74º21′02.																	
	с.Гавриловка, напротив магазина «Березка». (северо-западная сторона)																	
1	Фоновая вибрация	+					X									93		
	на расстоянии 26 м						Y									92		
	от дороги						Z									94		
	широта: 42º 51′14; долгота: 74º12′38., с. Александровка																	
2	Фоновая вибрация	+					X									94		
	на расстоянии 41м						Y									95		
	от дороги						Z									95		
	с. Садовое. КМ 37+071																	
3	Фоновая вибрация	+					X									73		
	на расстоянии 5м						Y									74		
	от дороги						Z									73		
	широта: 42º 50′52; долгота: 74º09′48.																	
	с. Садовое. северная сторона дороги, на расстоянии 5 м от дороги																	
4	В режиме работы			+			X									94		
	вальсового катка						Y									92		
	и грейдера						Z									92		
5	При выключенном	+					X									76		
	режиме вальсового						Y									75		
	катка и грейдера						Z									74		
	широта: 42º 50′47; долгота: 74º09′32																	
	с. Садовое (подземный переход) на расстоянии 3 м от дороги																	
6	В режиме работы			+			X									90		
	вальсового катка						Y									88		
							Z									89		
7	При выключенном	+					X									78		
	режиме вальсового						Y									76		
	катка						Z									75		
	широта: 42º 50′48; долгота: 74º09′31																	
	с. Садовое (северная сторона дороги) на расстоянии 28 м от дороги																	
8	Во время работы			+			X									135		
	бульдозера						Y									133		
							Z									134		
9	При выключенном	+					X									105		
	режиме бульдозера						Y									108		
							Z									106		

Результаты измерений:

№	Место измерений	Вид вибрации					Ось	Уровни звукового давления в дБ в октавных полосах со среднегеометрическими частотами в Гц								Уровень звука (ДБА)	Допустимая по нормам (ДБА)	Превышение (ДБА)
		общая			локальная													
		Транспортная	Транспортно-технологическая	технологическая				1	2	4	8	16	31,5	63	125			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	широта: 42º 50′40; долгота: 74º09′11.																	
	с.Садовое., магазин «Сударушка». (северная сторона) на расстоянии 5 м от дороги																	
10	Во время работы			+			X									114		
	экскаватора						Y									113		
							Z									113		
11	При выключенном	+					X									92		
	режиме						Y									91		
	экскаватора						Z									90		

Уполномоченный представитель объекта, присутствующий при проведении измерений:
фамилия, имя, отчество 1) Мырсалиев Н. 2) Волкова Т
должность 1) инженер эколог подрядчика 2) эколог
Подпись

Должность	ФИО	Подпись
Начальник ОЛ	Аманова Н. Т	

Протокол составляется в двух экземплярах, 1 экземпляр выдается по месту требования, 2-й экземпляр остается в лаборатории.

Примечание: Результаты протокола соответствуют на момент проведенных измерений.
Перепечатка протокола без разрешения начальника лабораторией запрещена.

Конец протокола

Заключение по результатам замеров: **По результатам инструментальных замеров уровень вибрации во время работы автомашин компании составляет от 88дБ до 135дБ, а при выключенном режиме составляет от 74 до 108 дБ.**
Фоновая вибрация составляет от 73 до 95 дБ.
Примечание: уровень вибрации кроме жилых и рабочих мест не нормируется.

Санитарный врач: подпись **Арзыкулов Ж. Т** ФИО

м.п.

Протокол действителен до «26» июля 2020 г.

Срок хранения _3_ года

КЫРГЫЗ РЕСПУБЛИКАСЫНЫН ӨКМӨТҮНӨ КАРАШТУУ КУРЧАП ТУРГАН ЧӨЙРӨНҮ КОРГОО ЖАНА ТОКОЙ ЧАРБАСЫ БОЮНЧА МАМЛЕКЕТТИК АГЕНТТИКТИН ЧҮЙ-БИШКЕК АЙМАКТЫК БАШКАРМАЛЫГЫНЫН ЭКОЛОГИЯЛЫК МОНИТОРИНГ БӨЛҮМҮ

ОТДЕЛ ЭКОЛОГИЧЕСКОГО МОНИТОРИНГА ЧУЙ -БИШКЕКСКОГО ТЕРРИТОРИАЛЬНОГО УПРАВЛЕНИЯ ГОСУДАРСТВЕННОГО АГЕПТСТВА ОХРАНЫ ОКРУЖАЮЩЕЙ СРЕДЫ И ЛЕСНОГО ХОЗЯЙСТВА ПРИ ПРАВИТЕЛЬСТВЕ КЫРГЫЗСКОЙ РЕСПУБЛИКИ

720005, г. Бишкек, ул. Байтик Баатыра, 34 тел. (996-312) 54-07-65, факс: 54-07-66

ПАСПОРТ НА ПРОБУ

1. **Наименование, адрес объекта:** Чуйская область автодорога «Бишкек- Кара- Балта»
2. **Место отбора проб:** 1. с. Сарово, 39+ 925 км автодороги; 2. с. Сарово, 37+ 020 км автодороги; 3. с. Александровка, 33+ 125 км автодороги
3. **Цель отбора:** Определение концентрации загрязняющих веществ в атмосферном воздухе
4. **Характер отобранных проб:** разовый
5. **Условия окружающей среды:** ясная
6. **Условие отбора проб:**
7. **Дата отбора проб:** 06. 08. 2019г, с 9[30] – 12[00]
8. **Метод отбора проб:** *1.РД 52.04.186-89 "Руководство по контролю загрязнения атмосферы". 2.ГОСТ 33007-2014 Оборудование газоочистное и пылеулавливающее. Методы определения запыленности газовых потоков. Общие технические требования и методы контроля*

Представитель ОЭМ (должность, фамилия) Гл.в. спец. А-Азиз Абдыдаев А-А.

Госинспектор (должность, фамилия)

Представитель предприятия (должность, фамилия) эколог Подрядчика Н. Жарсалиев

КЫРГЫЗ РЕСПУБЛИКАСЫНЫН ӨКМӨТҮНӨ КАРАШТУУ КУРЧАП ТУРГАН ЧӨЙРӨНҮ КОРГОО ЖАНА ТОКОЙ ЧАРБАСЫ БОЮНЧА МАМЛЕКЕТТИК АГЕНТТИКТИН ЧҮЙ-БИШКЕК АЙМАКТЫК БАШКАРМАЛЫГЫНЫН ЭКОЛОГИЯЛЫК МОНИТОРИНГ БӨЛҮМҮ

ОТДЕЛ ЭКОЛОГИЧЕСКОГО МОНИТОРИНГА ЧУЙ-БИШКЕКСКОГО ТЕРРИТОРИАЛЬНОГО УПРАВЛЕНИЯ ГОСУДАРСТВЕННОГО АГЕНТСТВА ОХРАНЫ ОКРУЖАЮЩЕЙ СРЕДЫ И ЛЕСНОГО ХОЗЯЙСТВА ПРИ ПРАВИТЕЛЬСТВЕ КЫРГЫЗСКОЙ РЕСПУБЛИКИ

720005, г. Бишкек, ул. Байтик-Баатыра 34 тел. (996-312) 54-07-65, факс: 54-07-66

ПРОТОКОЛ
АНАЛИЗА ПРОБ АТМОСФЕРНОГО ВОЗДУХА
№ 176-178

1. **Наименование предприятия, организации (заявитель):**
Чуйская область
автодорога «Бишкек - Кара- Балта»

2. **Место отбора проб:**
176- с. Садовое, 39+925 км. автодороги «Бишкек- Кара- Балта»;
177- с. Садовое, 37+020 км. автодороги «Бишкек- Кара- Балта»;
178- с. Александровка, 33+125 км. автодороги «Бишкек- Кара- Балта».

3. **Цель отбора проб:** *Определение концентрации загрязняющих веществ в атмосферном воздухе*

4. **Кем отобраны пробы:** *главным специалистом Абдылдаевой А.Н*
5. **Дата и время отбора проб:** *06.08.2019г., с 9ч.30мин.- 12ч.00мин.*
6. **Характер отобранных проб:** *разовый*
7. **Метод анализа:**
   1. *Газоанализаторы: 310А руков. по эксплуатации ИРМБ 413312.016. РЭ;*
   К-100 руков. по эксплуатации ИРМБ 413416.100;
   Н-320 руков. по эксплуатации ИРМБ 413312.003-10(20);
   Анализатор пыли DUSTTRAK 8533.

8. **Даты проведения испытаний:** *06.08.- 09.08.2019г.*

Наименование ингредиентов	Ед. изм.	Данные анализа по точкам автодорога «Бишкек - Кара- Ба…»						ПДК макс. раз. мг/м³
		176	Прев. ПДК макс. раз.	177	Прев. ПДК макс. раз.	178	Прев. ПДК макс. раз.	
Диоксид серы	мг/м³	*0,013±0,0033*	-	*0,016±0,004*	-	*0,013±0,0033*	-	**0,5**
Диоксид азота	мг/м³	*0,078±0,02*	-	*0,117±0,029*	**1,4**	*0,069±0,017*	-	**0,085**
Оксид углерода	мг/м³	*0,8 ±0,16*	-	*1,3 ±0,26*	-	*0,6 ±0,12*	-	**5,0**
Взвешенные вещества (общ.пыль)	мг/м³	*0,265±0,053*	-	*0,356±0,071*	-	*0,364±0,073*	-	**0,5**

ГН «ПДК загрязняющих веществ в атмосферном воздухе населенных мест».
Постановление Правительства КР № 201 от 11 апреля 2016г.

Заключение: *По результатам испытаний в отобранных пробах атмосферного воздуха* ***№ 176-178*** *обнаружено превышение ПДК* $_{макс.раз.}$ *по диоксиду азота в* ***1,4*** *раза.*

Заведующий отделом **Т. Садыкбеков**

Главный специалист **А. Абдылдаева**

Управляющий по качеству **К. Сарыбаева**

Исполнитель **не несет ответственности**, если проба отобрано самим заказчиком
Перепечатка протокола без разрешения испытательной лаборатории **запрещена**
Протокол испытаний касается **только образцов**, подвергнутых испытаниям

КЫРГЫЗ РЕСПУБЛИКАСЫНЫН ӨКМӨТҮНӨ КАРАШТУУ
КУРЧАП ТУРГАН ЧӨЙРӨНҮ КОРГОО ЖАНА ТОКОЙ ЧАРБАСЫ БОЮНЧА
МАМЛЕКЕТТИК АГЕНТТИКТИН ЧҮЙ – БИШКЕК АЙМАКТЫК
БАШКАРМАЛЫГЫНЫН ЭКОЛОГИЯЛЫК МОНИТОРИНГ БӨЛҮМҮ

ОТДЕЛ ЭКОЛОГИЧЕСКОГО МОНИТОРИНГА
ЧУЙ- БИШКЕКСКОГО ТЕРРИТОРИАЛЬНОГО УПРАВЛЕНИЯ ГОСУДАРСТВЕННОГО
АГЕНТСТВА ОХРАНЫ ОКРУЖАЮЩЕЙ СРЕДЫ И ЛЕСНОГО ХОЗЯЙСТВА ПРИ
ПРАВИТЕЛЬСТВЕ КЫРГЫЗСКОЙ РЕСПУБЛИКИ

720005, г. Бишкек, ул. Байтик- Баатыра, 34 тел. (996-312) 54-07-65, факс: 54–07-66

ПРОТОКОЛ
АНАЛИЗА ПРОБ ВОДЫ

№ 184-186

1. **Наименование предприятия, организации (заявитель):** *Автодорога Бишкек-Ош, участок Бишкек-Кара-Балта.*

2. **Место отбора проб:**
   184- р. Сокулук, выше моста;
   185- р.Сокулук, ниже моста;
   186- Канал Жантай.

3. **Цель отбора проб:** *Проверка качества воды*

4. **Кем отобраны пробы:** *Гл.спец. Жолчубековой Г.К.*

5. **Дата и время отбора проб:** *06.08.2019 г.*

6. **Дата(ы) проведения испытаний:** *07.-10.08.2019г.*

Наименование ингредиентов	Ед. изм.	Данные анализа по точкам			ПДК		НД
		184	*185*	*186*	+	++	
Взвешенные вещества	мг/л	*19,60*	*5,6*	*83,60*	**Увел. 0,25/0,75**		ПНД Ф 14.1:2:3.110-97
Нефтепродукты	мг/л	*0,002*	*0,003*	*0,0031*	**0,05**	**0,3**	ПНД Ф 14.1:2:4.128-98

По результатам химического анализа вода во всех отобранных точках не превышает ПДК для водоемов культурно-бытовой категории по всем определяемым ингредиентам.

Заведующий отделом **Т. Садыкбеков**

Главный специалист **Г. Жолчубекова**

Менеджер по качеству **К. Сарыбаева**

Правила охраны поверхностных вод Кыргызской Республики от14 марта 2016 год № 128
+Перечень ПДК для рыбохозяйственного водопользования
++Перечень ПДК хозяйственно-питьевого и культурно-бытового водопользования

++Гигиенические нормативы Предельно допустимые концентрации химических веществ в воде водных объектов хозпитьевого и культбытового водопользовании, Постановление Правительства КР от 11 апреля 2016г. №201

Исполнитель **не несет ответственности**, если проба отобрана самим заказчиком
Перепечатка протокола без разрешения испытательной лаборатории **запрещена**
Протокол испытаний касается **только** образцов, подвергнутых испытаниям

КЫРГЫЗ РЕСПУБЛИКАСЫНЫН ӨКМӨТҮНӨ КАРАШТУУ
КУРЧАП ТУРГАН ЧӨЙРӨНҮ КОРГОО ЖАНА ТОКОЙ ЧАРБАСЫ БОЮНЧА
МАМЛЕКЕТТИК АГЕНТТИКТИН ЧҮЙ – БИШКЕК АЙМАКТЫК БАШКАРМАЛЫГЫНЫН
ЭКОЛОГИЯЛЫК МОНИТОРИНГ БӨЛҮМҮ

ОТДЕЛ ЭКОЛОГИЧЕСКОГО МОНИТОРИНГА
ЧУЙ- БИШКЕКСКОГО ТЕРРИТОРИАЛЬНОГО УПРАВЛЕНИЯ ГОСУДАРСТВЕННОГО АГЕНТСТВА
ОХРАНЫ ОКРУЖАЮЩЕЙ СРЕДЫ И ЛЕСНОГО ХОЗЯЙСТВА ПРИ ПРАВИТЕЛЬСТВЕ
КЫРГЫЗСКОЙ РЕСПУБЛИКИ

720005, г. Бишкек, ул. Байтик- Баатыра, 34 тел. (996-312) 54-07-65, факс: 54-07-66

ПАСПОРТ НА ПРОБУ
(ВОДА)

1. **Наименование, адрес объекта:** Автодорога Бишкек – Ош; участок Бишкек-Карабалта. Реабилитация и усовершенствование транспортного коридора ЦАРЭС-3.
2. **Место отбора проб:** 1-ф. Сокулук, выше моста; 2-ф. Сокулук ниже моста; 3- канал Жантай.
3. **Цель отбора:** Проверка качества воды
4. **Характер отобранных проб:** разовый
5. **Условия окружающей среды** облачно
6. **Дата отбора проб:** 06. 08. 2019 г.
7. **Метод отбора проб:** *ГОСТ 31861-2012 «Вода. Общие требования к отбору проб»; ПНД Ф 12.15.1- 08 Методические указания по отбору проб для анализа сточных вод*

Представитель ОЭМ главный спец. Г. Шорк Жомубекова О.К.
(должность, фамилия)

Госинспектор
(должность, фамилия)

Представитель предприятия эколог. Подрядчика Жаксылыкова Н.
(должность, фамилия)