

Environmental Monitoring Report

Project Number: 48424-002
Semestral Report: January–June 2021
September 2021

Kazakhstan: CAREC Corridors 1 and 6 Connector Road (Aktobe–Makat) Reconstruction Project

Prepared by the PMC JSC "KazAvtoZhol" for the Ministry of Investments and Development, Republic of Kazakhstan and the Asian Development Bank.

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In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

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KAZAKHSTAN: RECONSTRUCTION OF “AKTOBE-MAKAT” ROAD CONNECTING THE CAREC 1 AND 6 CAREC CORRIDORS (ROAD SECTION AT KM 160-330)

Prepared by PMC JSC “NC “KazAvtoZhol” for the Committee of Roads of the Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan and the Asian Development Bank

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Environmental Monitoring Report

SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Project No.3416-KAZ

Reporting Period: January-June 2021

REPUBLIC OF KAZAKHSTAN: RECONSTRUCTION OF “AKTOBE-MAKAT” ROAD CONNECTING THE CAREC 1 AND 6 CAREC CORRIDORS (ROAD SECTION AT KM 160-330)

Funded by ASIAN DEVELOPMENT BANK

Prepared by PMC JSC “NC “KazAvtoZhol” with support of DONGSUNG ENGINEERING CJ., LTD / ZS ENGINEERING Construction Supervision Consultant Seoul, Korea / Astana, Kazakhstan for the Committee of Roads of the Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan and the Asian Development Bank

Approved by: PMC JSC “NC “KazAutoZhol”

(PMC employee name) and signature, report submission date

Environmental Monitoring Report

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ABBREVIATIONS

ADB – Asian Development Bank

AP DIA – Administrative Police of Department of Internal Affairs

RTS – Road Traffic Safety

FL – Fuel and lubricants

SHS – Sanitary-Hygienic Standard

RMD - Road Maintenance Depot

CfR – Committee for Roads

KAZh - “NC “KazAvtoZhol” JSC

PMC - Project Manager Consultant

CSC - Construction Supervision Consultant

COVID-19 - Coronaviral infection 2019-nCoV

MIID – Ministry of Industry and Infrastructure Development

RD - Regulatory Document

GCC - General Contract Conditions

EMP- Environmental monitoring programme

EMP– Environmental monitoring plan

PEM – Production Ecology Monitoring (carried out by an accredited laboratory)

EMP – Environmental Management Plan

SSEMP – Site-Specific Environmental Management Plan

SHB – Safety and Health Plan

ACL- Admissible Concentration Limit

MPL – Maximum Permissible Level

ALV - Admissible Limit Value

SAEMR - Semi-Annual Environmental Monitoring Report

RK– Republic of Kazakhstan

RSE - Republic State Enterprise

SPZ - Sanitary Protection Zone

SZ - Settlement Zone

MSW - Municipal Solid Waste

HS - Health and Safety

CAREC- Central Asian Regional Economic Cooperation

1. INTRODUCTION

1.1 Preamble

1. This report is a semi-annual review of environmental monitoring under CAREC Corridors 1 and 6 Connector "Aktobe-Makat" road reconstruction project (section 160-330, Lot 1-3). The report covers first half of 2021 and is the seventh report from the beginning of the project.

1.2. Key information

2. Due to the significant impact of COVID-19 pandemic on all aspects of the project activity: from supply(resources, spare parts for machinery and equipment, material, services and etc.) to the direct work on the site (restrictive measures in all areas of human activity) have affected the work rate on Lot 1, Lot 2 and Lot 3. The work on Lot 2 has not been resumed during the reporting period. The Contractor was unable to resolve the financial difficulties due to which the work was suspended.
3. On Lot 1, the Client approved the Time Extension for 62 days due to COVID-19 and as a result of which the date of completion was changed from 19.05.2021 to 20.07.2021.
4. On Lot 2, from the first half of 2019, there were the work delays, which as a result of measures taken by the Client (conclusion of additional agreement of 29.04.2019) allowed the Contractor to implement the measures for the rate increasing. The Contractor has demonstrated certain performance measures attesting to the reduction of planned work performance delay on the project. This acceleration of work was also continued subsequently in the second half of 2019. However, due to additional work given and the delay of local authority's permission (railway company), the first EOT (Extension of Time) 206 days was given to the Contractor, resulted in the completion date was changed from 27.01.2020 to 20.08.2020. Since the COVID-19 pandemic situation get serious, specifically from March 2020 to August 2020, the quarantine measures introduced in the region negatively affected the work rate on Lot 2 site and led to a situation where construction work was suspended in August 2020 due to the contractor's financial situation associated with problems. The Contractor is currently made significant efforts to resume the works, but site and production site monitoring has shown that work has been suspended until end of 2020. In August 2020, the Client tentatively extended the completion date for Lot 2 until 07.11.2020. The monitoring of work for the first quarter of the current year has shown that the Contractor didn't resume the works from the moment of suspension and on May 24, 2021 the Client sent the written notification of contract termination. The Contract was officially terminated on June 07, 2021. The approval from ADB was received.
5. On Lot 3, the Client approved EOT (Extension of Time) for 57 days due to COVID-19 pandemic and climate conditions of construction season for 2021 and in this connection the completion date was changed from 18.06.2021 to 14.08.2021. Taking into account the time extension, the total project implementation period was 1355 days.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1. Project Description

6. Aktobe-Makat road is a two-lane road of republican significance and was built in 1970-1980. The length of the section is 459 km, basically road has category III/IV, and passes through the territory of Aktobe and Atyrau regions. A complete reconstruction of the pavement with the strengthening of its structure will reduce travel time on the road, fuel consumption of vehicles and cost of vehicles operation on the road, and also increases transport links and economic development of the region. The road will be reconstructed according to the standards for category II in accordance with the national standards of the Republic of Kazakhstan.

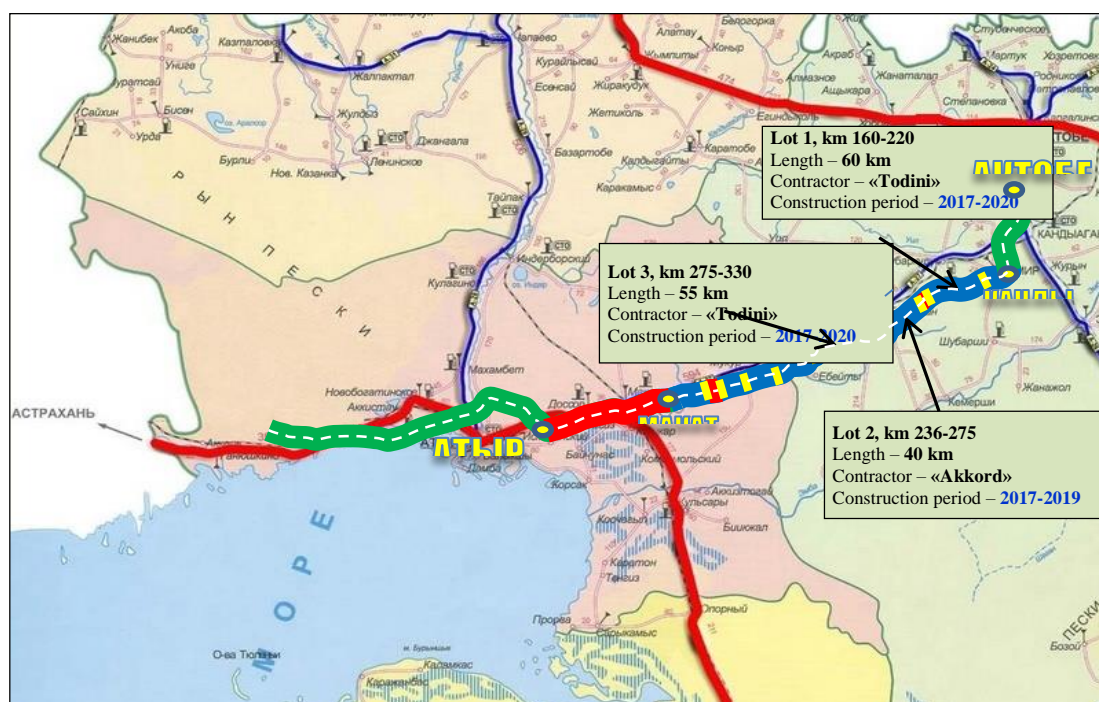


Figure 1. Location of project road

7. The project is funded by the Asian Development Bank (ADB) as the loan 3416. ADB and the Government of the Republic of Kazakhstan jointly finance this project in the ratio of 88% to 12%.
8. The proposed project includes reconstruction of Aktobe-Makat road section km 160 - km 468, including: (i) km 160 - km 330 in Aktobe region; and (ii) km 330 - km 468 in Atyrau region.
9. The length of this project road subject to upgrade and reconstruction is about 299 km of II technical category with an increased level of safety.
10. The entire Aktobe-Makat section, 299 km long, was divided into 7 lots, each of which implies a separate contract for construction work. The road section is divided into the following lots: Lot 1 (Km 160- Km 220), Lot 2 (Km 236- Km 275), Lot 3 (Km 275-Km 330), Lot 4 (Km 330-Km 370), Lot 5 (Km 370-Km 418), Lot 6 (Km 418 –Km 458) and Lot 7 (Km 487 - Km 504). Information on Lot 1, Lot 2 and Lot 3 is reflected within the framework of the presented report. Lot 4, Lot 5, Lot 6 and Lot 7 information is reflected in a separate report.

Table1. Main features of the project

Project components	Lot 1	Lot 2	Lot 3
Contractor	JSC "Todini Costruzioni Generali S.p.A." (Italy).	OJSC "ICIC Akkord" (Azerbaijan).	JSC "Todini Costruzioni Generali S.p.A." (Italy).
Subcontractor approved by the Engineer	Sine Midas Story	-	Sine Midas Story
Location	km 160-220	km 236-275	km 275-330
Length	60,8 km	40,1 km	55,0 km
Road category	II category		
Pavement	Highly Porous Asphalt Concrete Coarse-Grained Porous Asphalt Concrete SMA-20		
Number of lanes	1/1		
Lane width	3,75 meters		
Shoulder width	3,75 meters		
Structures:			
Overpass	-	1	-
RMD	1		1
Bridge	3	1	3
Others:			
Culverts	17	20	18
Box culverts	14	13	4
Rest areas	5	2	4
Bus stops	6	8	2
Designed standards:			
Designed speed	120 km/h		
Width of the right of way	100 METERS		

11. Lot 1: Km160-km220 (Shubarkuduk - Karaulykeldy villages): This section includes reconstruction of the road from category III to category II with a total length of 60, 833 km and construction of one bypass. A detour of Shubarkuduk (km 172+600 to km 181+100), 8.5 km length, will take place along the new rout. Figure 2 below shows the layout of Lot 1.

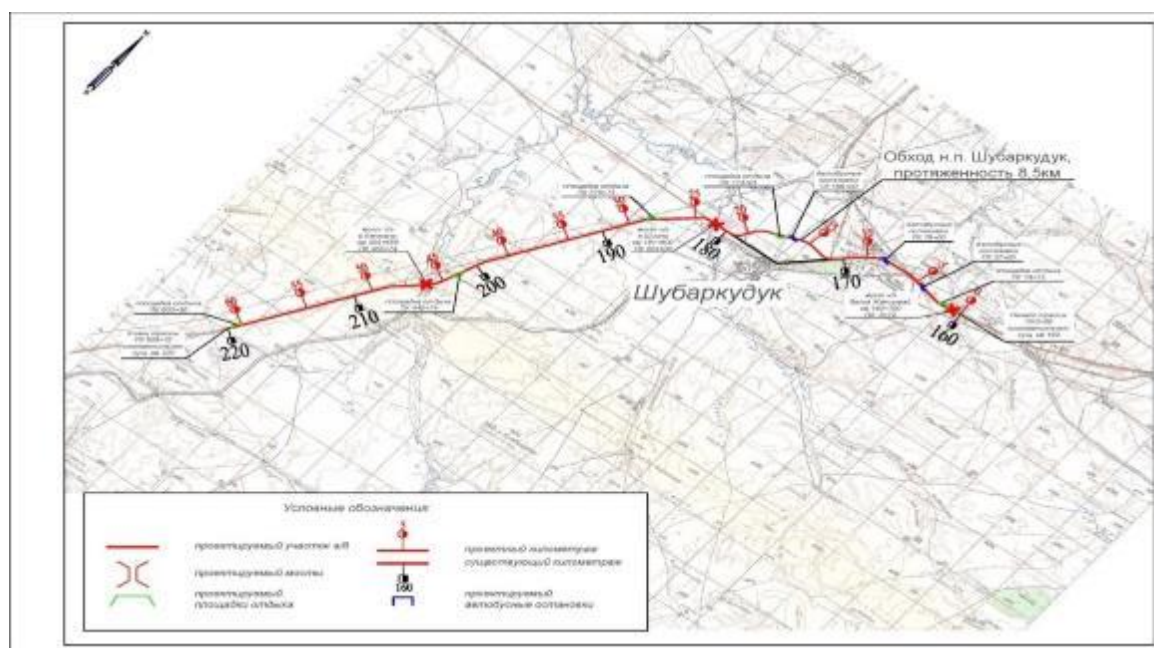


Figure 2. Lot 1 section scheme

12. **Lot 2:** km 236 - km 275 (Karaulkeldy village): This section includes reconstruction of road from category III to category II with a total length of 39 km and construction of one bypass. The bypass of Karaulkeldi (km 236 to km 247) (11.8 km) will pass along a new road. Other parts of this section, the direction of traffic flow coincide with existing pavement with partial slopes from the embankment in straight and curve area. In this section, the project envisages construction of 1 bridge and 1 overpass. The following Figure 3 shows the scheme of the lot 2.



Figure 3. Lot 2 section scheme

13. **Lot 3:** km 275 - km 330 (Zharly village–Nogaity village): This section includes reconstruction of road from category III to category II with a total length of 55 km. Other parts of this section, the direction of traffic flow coincide with existing pavement with partial slopes from the embankment in straight and curve area. Figure 4 below shows Lot 3 section scheme.

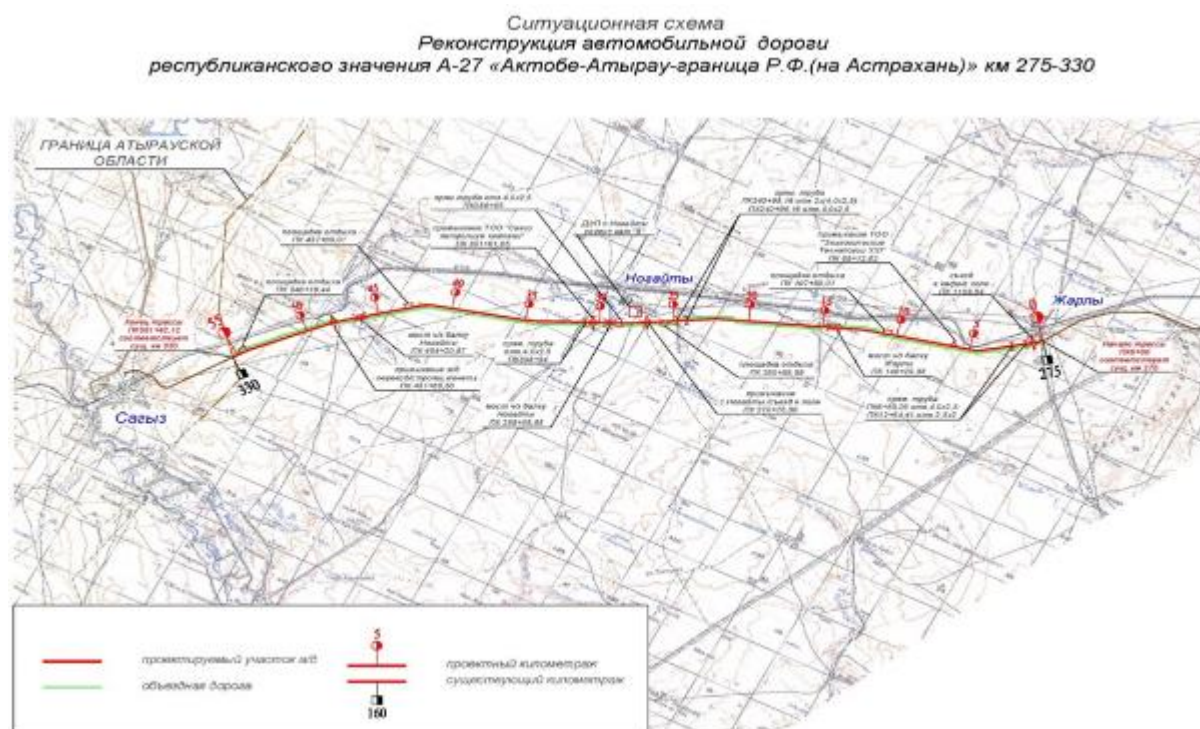


Figure 4. Lot 3 section scheme

2.2. Agreements (contracts) for project implementation and management

14. COR MID concluded an agreement for services with KazAvtoZhol JSC (KAZH) for the provision of Consulting services for project management in accordance with the terms of reference acceptable to ADB and applicable under the laws of the Republic of Kazakhstan. KAZH remains fully staffed throughout Project. The responsible officer for environmental protection and protective measures conducts audits, inspections of the site, interacts with protective measures specialist of the CSC for effective project management in terms of environmental management plans implementation.
15. By the Decree of the President of the Republic of Kazakhstan dated December 26, 2018 No. 806 “On measures of further improvement of public administration system of the Republic of Kazakhstan” in order to increase the efficiency of the public administration system, the Ministry of Investment and Development of the Republic of Kazakhstan was reorganized by transforming it into the Ministry of Industry and Infrastructure Development of the Republic Kazakhstan with the transfer of functions and powers: to the Ministry of National Economy of the Republic of Kazakhstan in the field of formation of the state policy for investment incentives and the Ministry of Foreign Affairs of the Republic of Kazakhstan in the implementation of state policy on investment attraction.

16. Regional representative from the Employer on the site is the Aktobe Branch of JSC "NC "KazAvtoZhol" A list of the main organizations included in the project and related to protective measures for environmental protection (Environmental Safeguards) is presented below in Table 2.

Table 2. List of organizations and contacts of experts related to the project Environmental Protection Measures

Organization	Representative	Contact data
ADB HQ Project department/group	Armine Yedigaryan	ayedigaryan@adb.org
ADB office in RK	ADB RETA Consultant Malika Babadzhanova	mbabadjanova1.consultant@adb.org
Committee for Roads	Kasenov Nurtlek	Nur-Sultan 010000/ Transport tower/ Kabanbai Batyr st. 32/1 8 705 226 07 16 n.khasenov@mid.gov.kz
Aktobe branch of JSC "NC "KazAvtoZhol""	Mahambetov Marat Branch director	Aktobe, Maresieva st. 89, room No. 301 +7 701 566 31 44 aktobekrti@mail.ru
CSC DONGSUNG ENGINEERING CJ., LTD/ LLP "ZS ENGINEERING "	Imbarova Sara Environmental and safeguards measures specialist	+7 701 362 36 12 aktobe_kns1@mail.ru
JSC "Todini Kostruktioni Generali S. p. A." (Italy) for lot 1 and lot 3	Urais Hasan Environmental specialist Nugymanov Amanserik - Lot 1 HSE Specialist Igemberdiev Yuldash Lot 3 HSE Specialist	8 701 956 59 86 todini_aktobe@todini.it +7 747 792 56 05 +7 777 124 46 66

17. The project is divided into 3 sections. Lot 1 (Km 160-220) and Lot 3 (Km 275 - 330) were awarded to the Contractor JSC "Todini Costruzioni Generali S.p.A." (Italy). Lot 2 (Km 236-275) was awarded to the OJSC "ICIC Akkord" (Azerbaijan).

Table 3. Information about Contractors contracts

Contractors name	Contract No.	Section (km)	Length (km)	Contract Signing Date	Work commencement date	Completion date
JSC "Todini Costruzioni Generali S.p.A." (Italy)	№ 001-ADB/CW-2017	160-220	60	07.09.2017	28.11.2018	20.07.2021 (1330 days) ¹
OJSC "ICIC Akkord" (Azerbaijan)	№ 002-ADB/CW-2017	236 -275	39	16.08.2017	28.11.2017	07.11.2021 (1074 days)

JSC "Todini Costruzioni Generali S.p.A." (Italy)	№ 003- ADB/CW- 2017	275-330	55	07.09.2017	28.11.2018	14.08. 2021 (1355 days) ²
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18. The Figure 5 below shows the organization chart of interaction between the structures of the Project

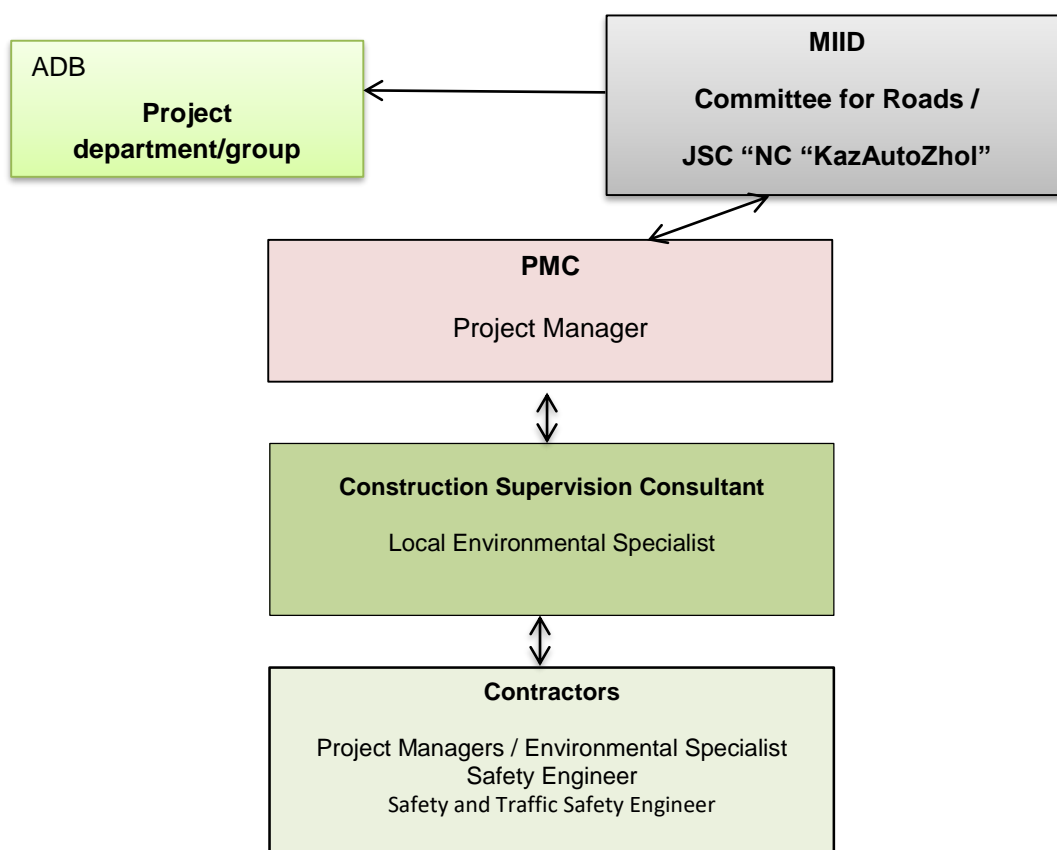


Figure 5. Organization chart of project coordination on environmental issues

¹The Engineer's letter Ref No. ATB1-2442 dated 18.05.2021 for the contract extension approval

²The Engineer's letter Ref No. ATB1-2466 dated 31.05.2021 for the contract extension approval

2.3 PROJECT ACTIVITIES DURING CURRENT REPORTING PERIOD

19. The following types of work were performed on Lot 1 during the reporting period: the passage of vehicles is open from 06.11.2020. Bypass road on PK0+00 - 82+00, PK 83+00+00 - 130+00, PK 208+00 -376+00, PK 376+00-424+87, 424+87- 450+00, PK 453+00-458+00, PK 469+00-471+00, PK 471+00-608+33. Site clearance: 27 pipe culverts are dismantled; the bridges on PK5+41, PK 223+06.16, PK 455+86 are repaired. The guard rails are being installed since 05/05/2021. The stair approaches along the slope have been installed. Engineering networks and structures (water supply and sewerage) in ROE have been completed. ROE works such as administrative building with a heating point, entry control point, workshops, and warehouses have been completed.

20. 3 specialists were involved in the project for «Todini Costruzioni Generali S.p.A.» during the reporting period on Lot 1 as of June 30, 2021. 81 people perform the work in the subcontracting company.

21. Table 4 below provides data on the status of construction work for the reporting period on Lot 1.

Table 4. Status of construction work for the reporting period for Lot 1

Contractor & section	Type of work	unit	total in the contract	executed in 2017-2019	executed in 2020	% of execution	Balance
Todini Lot 1 (km160 -220)	Cost	Mln.tg	12 773 13 352 481 816,08 ¹	10 076,79	184,69	80%	20
	Binder course	km	60,8	60,8	-	100%	-
	Base course	km	60,8	60,8	-	100%	-
	Subbase	km	60,8	60,8	-	100%	-
	Additional layer (geotextile)	km	60,8	60,8	-	100%	-
	Earthwork	Thous. m3	1 477,87	1461,87	16 000	100%	-
	Pipe culverts	pcs	34	34	-	100%	-
	Bridges and overpasses	pcs	3	2,70	0,03	90%	0,27
	ROE	pcs	1	0,69	0,01	70%	0,3
	% implementation of construction works	%	100	80,0	6,0	86%	14%

³ According to the approved Variation Orders № 1,2,3,4

22. On Lot 2, no work was carried out during the reporting period. During the reporting period for Lot 2 according to the status as of June 30, 2021, there is no Contractor's personnel on the site, the construction town is mothballed, there is security. Table 5 below presents data on the status of construction works by status as of 31.12.2020.

Table 5. Status of construction work for the reporting period for Lot 2 Contractor: SPIK AKKORD (km 236-275)

type of work	unit	total in the contract	executed in 2017-2019	executed in 2020	% of execution	Balance
cost	mln tg	8 012,31	5 834,25	338,87	77,05%	22,95%
Binder course	km	39,99	33,03	2,28	88,3%	11,7%
Base course	km	39,99	34,50	1,88	91,0%	9,0%
Subbase	km	39,98	34,89	2,46	93,4%	6,6%
additional layer (Geotextile)	km	39,98	34,95	2,68	94,1%	5,9%
Earthwork	thou m3	1 657	1 541	77,59	97,7%	2,3%
Culvert	pcs	33	33,00	0,00	100,0%	0,0%
bridges and overpasses	pcs	2	1,78	0,16	96,6%	3,4%
% execution of construction works	%	100	72,82%	4,23%	77,05%	22,95%

23. For Lot 3, the following types of construction work were carried out: arrangement of wearing course from SMA at the section PK 0 + 00 along PK 442 + 60. Maintenance of a temporary bypass road, profiling and dust suppression at PK 244 + 00 - 270 + 00 and 230 + 00 - 289 + 00, PK 300 + 00 - 350 + 00, PK 524 + 00 - 551 + 40, PK 290 + 00 - 318 + 00; PK 365 + 00 - 380 + 00; PK318 + 00 - 342 + 20; PK342 + 20 - 370 + 60 PK370 + 60 - 420 + 80; PK496 + 00 - 512 + 00; PK420 + 80 - 470 + 00. For ROE: block work in the repair workshop, plumbing work, completion of the underground storage tank construction work.

24. 5 workers were mobilized for work on Lot 3 according to the status as of June 30, 2021 during the reporting period. The subcontractor has mobilized 90 people. Table 6 below shows data on the status of construction work for the reporting period on Lot 3.

Table 6. Status of construction work for the reporting period for Lot 3

Contractor & section	type of work	unit	total in the contract	executed in 2017-2019	executed in 2020	% of execution	Balance
Todini Lot 3 (km 275-330)	cost	mln tg	11 811,0	10 212,24	711,85	92,5	7,5
	Wearing course	Km	55,142	11,06	44,08	100	-
	Binder course	km	55,142	55,142	0	100	-
	Base course	km	55,142	55,142	0	100	-
	Subbase		55,142	55,142	0	100	-

	additional layer (geotextile)	km	55,142	55,142	0	100	-
	Subgrade	thou m ³	1293,18	1247,62	45,8	100	-
	Culvert	pcs	22	22	0	100	0
	bridges and overpass	pcs	3	2,64	0,14	93	7
	ROE	pcs	1	0,48	0,245	72,5	27,5
	% execution of construction works	%	100	60,2	25,5	85,7	14,3

2.4 Description of Any Design Changes

25. During the reporting period, the situation with the COVID 19 pandemic in Kazakhstan was unfavorable. The Ministry of Health introduced zoning of the territory according to the degree and level of the pandemic. Since the territory of the project (Aktobe region) has become a red zone (meaning alarming and subject to strict quarantine measures and restrictions), from April 22, 2021, the Order of the Chief State Sanitary Doctor of Aktobe region No. Aktobe region, and a warning was given about various restrictions / prohibitions, that is, the fulfillment of the criteria for restrictions and work permits. In addition, on May 6, 2021, Resolutions were issued for the Aktobe region No. ПГСВ-with the requirements for the mandatory preservation of restrictions and permits: laboratory examination of workers for the detection of COVID-19 using the PCR test and allow entry / exit with a negative result. This protocol naturally led to the reduced access for key personnel and workers to the site.
26. In the case of the material supply to Lot 1 and Lot 3, there were difficulties in communication and transportation for testing materials and the process of issuing certificates. Also, the climatic conditions of the 2021 construction season prevented the contractor from starting work as major remaining work, such as shoulder reinforcement, guardrail posts installation and soil excavation for road sign installation, are to be commenced after confirmation of the dryness and rigidity of the soil. The required soil condition was established 22 days later than the average for the last 3 years in the region.
27. The Engineer has considered the claims and found it necessary to reach agreement on the extension of time for 62 days to implement the project on Lot 1 and 57 days on Lot 3.

2.5 Description of Any Changes in Approved Construction Methods

28. During the reporting period, the following changes were not made. The changes done during previous period have been approved and implemented in the production plans of work in the process of construction works. For Lot 1 and Lot 3, change affected the pavement construction. The contractor used crushed stone C4 and geotextile instead of the designed material. This change was agreed and approved by the Employer and the Engineer. For Lot 2, three changes were made during the previous reporting period:
1. Due to the fact that soils from borrow pits in this area are not suitable for additional layer stabilization, the Engineer recommended to exclude cement and Roadzyme from the additional base layer.
 2. Due to the absence of a temporary bypass road in the design documents and drawings, the Engineer agreed for construction within the right-of-way, maintenance and traffic safety of additional 3,660 m of a temporary bypass road according to the EMP of this site. There is no need to plan mitigation measures, since during the inspection of the site for the bypass road

in the right-of-way, no new problematic objects and entities, that should be further considered, were identified.

3. At the request of local residents, it became necessary to build an additional cattle creep at CH 106+40. The temporary bypass road and cattle creep have been constructed and available to stakeholders.

3 ENVIRONMENTAL PROTECTION ACTIVITIES

3.1. General Description of the Environmental Protection Activities (environmental protective measures)

29. During the reporting period, there were no changes in the organizational structure of the Contractor for Lot 1 and Lot 3. The environmental specialist has been mobilized to the site since September 2020 with an intermittent work schedule. This work format is associated with the quarantine introduced in the region.
30. Contractors, in conditions of severe restrictions on both movement and production work, were able to ensure acceptable monitoring of compliance with the environmental policy of their companies, as well as the implementation of measures provided for in the EMP. The laboratories with which contracts were signed for industrial environmental monitoring were able to arrive in Lot 1 and Lot 3 in April, May and June of this year.
31. According to the contractual obligations, Contractor's environmental specialists on the sites adhere to all the requirements of the environmental aspects of the contract, in particular, requirements of the General Contract Conditions, such as 4.7. Setting out, 4.8. Safety procedures, 4.13. Rights of way and facilities, 4.18. Environmental Protection, 6.7. Health and safety. Due to the remote work of an environmental specialist on Lot 1 and Lot 3, safety and protective measures specialists provided this work at their sites.
32. During the reporting period, CSC carried out inspections on Lot 1, Lot 2 and Lot 3. An environmental audit was carried out to eliminate non-conformances previously issued for Lot 1, Lot 2 and Lot 3 PEM reports were reviewed. For Lot 1 and Lot 3, 4 monthly PEM reports are submitted except of November and December, when the measurements were not done due to the restricted access to the site by the quarantine requirements. For Lot 2 there were no any PEM reports due to the work suspension on this site.
33. The contractors applied relevant measures according to the instructions of the Chief sanitary doctor of the Republic of Kazakhstan to reduce the number of employees by transferring at least 80% of employees to a remote work format. The contractors' environmental specialists worked in a remote work format. At the sites, Headquarters were formed to ensure preventive measures and appropriate coordinators were appointed responsible for providing resources for personal protection (masks, gloves, disinfectants, soap and detergents), for carrying out preventive and disinfecting measures on the territory of construction camps and construction sites.
34. COVID-19 prevention guidelines were provided to assist these individuals. Contractors conducted awareness campaigns among workers on the importance of adherence to preventive measures and social distancing. Posters in languages that are applicable at the sites are installed in living quarters and workplaces. PMC introduced daily monitoring of statistics on the provision of Contractors with personal protective equipment (masks, gloves, disinfectants, etc.) with preventive measures and recorded cases of diseases. To collect and analyze information from the sites, a daily and weekly report form was developed with the CSC and implemented. HS specialists and medical personnel from the sites were involved in this monitoring. All these measures allowed the Contractors to prevent the spread of COVID-19 pandemic to the sites. During the reporting period, there were no cases of COVID-19 among the Contractors' personnel.

3.2 Site inspections

35. During the reporting period, the Engineer conducted field visits to carry out measures for EMP and HSE on 04/21/21 and 05/12/2021, the audit results are presented below in Table No. 7. For Lot 2, the data were not received since work on the site was suspended by the official letter dated August 11, 2020.

Table 7. Site visits information (Dates of visiting: 21.04.2021, 12.05.2021)

Indicator code	Name and highlights	Findings on Lot 1	Findings on Lot 3
D1	EMP and site-specific environmental plans	In work on the site. No adjustments or changes. Industrial environmental monitoring was carried out by the environmental laboratory, instrumental measurements were carried out on April 23, 2021, May 25, 2021, June 29, 2021	
D2	Availability of the Health and Safety Plan (HSE), the introduction of corrective actions: measures to prevent spread and prevention of the Coronavirus COVID-19 pandemic.	The environmental specialist is absent on the site due to the remote form of work. Responsibility for the implementation of measures for HSE is assigned to the safety specialist and medical personnel. Medical personnel have been appointed responsible for the prevention of COVID 19. Disease prevention posters are displayed in the living quarters. The pictograms warning of the danger are posted around the town. Hand processing areas have been organized, cleaning and processing schedules for the office, canteens and residential part of camp have been posted.	
D3	Availability of emergency plans and corrective actions	There is a plan on the site. The instructions are fully developed. Verbal recommendations issued for the emergency plan have been followed by the contractor. In particular for effective communication with the local health department (SES), the contact data should be posted in prominent places for contacting emergency situations.	
I1	Readiness and resource availability of medical centers	The medical center is organized in Zhaksymai production base and in the residential camp. A medical center in the residential area is available. Resource availability is moderate. In public places, there are graphic posters about the prevention of coronavirus, HIV / AIDS, STDs / STIs.	A medical center is available for staff. The availability of medicines is poor. Applications for medicines have not been processed since December. Poor provision of personal protective equipment (medical masks, gloves, antiseptics) The medical staff constantly monitors compliance with sanitary-hygienic and epidemiological measures. In crowded places, there are graphic posters about the prevention of coronavirus, HIV / AIDS, STDs / STIs.
I2	Sanitary and hygienic condition of the camp, dining rooms, places of residence, common areas, sanitary and hygienic premises, provision of soap and detergents	The order and cleaning regime is kept in dormitories (twice a day with disinfectants) There are soap and detergents in places for sanitary and hygienic purposes (sinks in the toilet, in the canteen) and disinfectants are installed. A quartz lamp is installed in the cooking room. Instructions for handling dishes are posted in the washing shop. Disinfectants are available. The washing staff are instructed in the handling of cutlery and utensils.	Adequate disinfectants are provided in the dormitory and in the canteen. The technical staff observes the frequency of cleaning the premises and processing the surfaces of tables and furniture. Instructions for handling dishes are posted in the washing shop. Disinfectants are available. The washing staff are instructed in the handling of cutlery and utensils. A quartz lamp is installed in the cooking room.

P1	Knowledge of the algorithm of actions by medical personnel when symptoms of the corona virus COVID-19 are detected.	Satisfactory	Satisfactory
P3	Recommendations, instructions, notes on nonconformities	<ul style="list-style-type: none"> Measures for environmental protection on the bridges construction work site: <ul style="list-style-type: none"> to prevent pollution of water sources; continuous monitoring of work on artificial structures to exclude pollution of water sources. Restore the provision of monthly reports of the environmental specialist on the implementation of the EMP. 	<ul style="list-style-type: none"> Dust suppression throughout the site. Increase the frequency of dust suppression. Restore the provision of monthly reports of the environmental specialist on the implementation of the EMP.
EE1	The presence of negative manifestations from the local population	no	no

D - Documents, plans, etc., I - site infrastructure, P - processes, actions, EE- external environment

** - data on Lot 2 were collected remotely with assistance of the environmental specialist and safety and road safety specialist*

36. Under the conditions of introduced quarantine measures in the region, the contractors on Lot 1 and Lot 3 have demonstrated their commitment to continue the compliance with measures to ensure the environmental and social safety of the project and the external environment.

3.3 Issues Tracking (Based on Non-Compliance Notifications)

37. During the audit of the sites in April and May of the reporting period, work was noted to eliminate previously identified inconsistencies. Inconsistencies in categorization revealed in the previous period were classified as insignificant as they occurred due to the weakening of monitoring and control by the responsible persons. So for Lot 1, the following inconsistencies previously identified were eliminated in the current reporting period: local soil contamination in Zhaksymai production base in the repair shop area, fire shields were completed and liquid waste from the plant area is removed by a specialized company.

38. For Lot 3, the inconsistencies identified in the previous period were eliminated: contamination of the area for fuel and lubricants and the fire shield was completed. Adequate control over the observance of safety measures and protective measures is ensured.

39. Also on Lot 1 and Lot 3, the attention of environmental specialists was drawn to the compliance with the schedule of dust suppression in the areas where intensive construction work is performed, as well as compliance with the deadlines for submitting monthly reports by the contractor's environmental specialists. During the reporting period, no environmental reports were provided. PEM reports from the independent laboratory are submitted for the April, May and June.

40. According to the register of complaints and appeals for Lot 1, Lot 2 and Lot 3, during the reporting period, there were no appeals and complaints regarding non-compliance with environmental guarantees. Since the beginning of the implementation of the Project by its status as of June 30, 2021, 5 applications have been received for Lot 1. 2 requests, one in 2017 and another in 2018 for additional information about the project, 3 requests in 2018 regarding violations in the field of labor relations between an employee and a contractor. They are all closed. There were no complaints or appeals for Lot 2. For Lot 3, 1 appeal was registered on July 11, 2018 regarding dustiness at the site. The complaint has been processed. During the reporting period, no complaints or appeals were received. There are no open complaints and appeals on the Project. Appendix 9 provides detailed information in the grievance register.
41. During the reporting period, no inconsistencies with environmental standards of activity were recorded on Lot 1 and Lot 3. Table 8 below provides the environmental issues information during the reporting period. Data for the previous period of the report are shown in Table 8.1

Table 8. Environmental Tracking Summary Report for the current period from the beginning of the project on Lot 1, Lot 2 and Lot 3

Total number of issues on the project	30
Number of Open Issues	0
Number of Closed Issues	30
Closing percentage	100%
Open Issues for the Reporting Period	0
Closed Issues for the Reporting Period	0

Table 8.1. Data for previous period 2nd half of 2020

Total number of problems on the project	5
Number of Open Issues	0
Number of Closed Issues	5
Closing percentage	100%
Open Issues for the Reporting Period	0
Closed Issues for the Reporting Period	5*

* - regarding discrepancies for Lot 3, contamination of the area for fuel and lubricants and incompleteness of the fire shield; for Lot 1: local contamination of the area for fuel and lubricants, incomplete fire shields and liquid production waste.

42. Compared to the previous period (second half of 2020), there is a positive dynamic in the number of inconsistencies. In the previous period, 5 inconsistencies were noted; in the current reporting period not a single inconsistency was registered except for minor points that are eliminated in the working order: instructions for monitoring the dust suppression process on Lot 3 and at Lot 1 monitoring the implementation of protective measures when working on artificial structures, in particular on bridges.

3.4 Trends

43. During the reporting period, during the monitoring and audit of construction sites, no complaints from the population regarding non-compliance with environmental protection measures were

registered. Inconsistencies of the previous period were eliminated by the Contractors at all sites promptly. Corrective actions were taken immediately and written reports were provided with photographs of the results of the actions taken. In general, there is a positive dynamic in timely response to the elimination of inconsistencies and violations.

3.5 Unforeseen environmental impacts or risks

44. During the reporting period, COVID-19 is viewed as an unanticipated impact and risk to the community and workers. Contractors' personnel wear mask, gloves, helmets and working wear, but not all the time. CSC advised the Contractor to monitor its workers on wearing the full set of PPE.
45. The Contractors developed Occupational Health and Safety Plan as part of its SSEMP which includes, inter alia, corresponding measures on prevention of the spread of COVID-19. The Contractor's SSEMP also includes Emergency Management Plan

4. RESULTS OF ENVIRONMENTAL MONITORING 4.1. Overview of monitoring conducted during the reporting period

46. This section will show information only for Lot 1 and Lot 3. For Lot 2, no work on the EMP was carried out due to termination of the contract with the Contractor. The main applicable standards of the air quality standards include:
- hygienic standards of the Republic of Kazakhstan (maximum permissible concentration (MPC) of pollutants in the ambient air of populated areas in accordance with the order of the Minister of National Economy of the Republic of Kazakhstan No. 168 dated February 28, 2015);
 - standards for ambient air quality in accordance with EU Directive 2008/50/EC (On the quality of ambient air and measures for its purification in Europe);
 - WHO guidelines for ambient air quality (2005) and additional WHO guidelines and assessments related to air pollutants.
47. Criteria for impacts on ambient air quality are more stringent than those specified in the EHS Guidelines. According to national standards, exposure to minor intensity is considered exposure associated with an increase in airborne contaminants of less than 10% MAC, while as a general rule, the EHS Guidelines suggest a level of 25% of applicable air quality standards in order to maintain future opportunity for further sustainable development in this air basin.
48. The main regulatory and methodological documents that guided the work on dosimetry monitoring on the sites are: SETORB-2019 "Sanitary and Epidemiological Requirements for Ensuring Radiation Safety". Order of the Ministry of Health of the Republic of Kazakhstan No. KR DSM-97 dated 26.06.2019
49. The impact of noise was assessed in accordance with the normative acts in force in Kazakhstan MSN 2.04-03-2005 "Protection against noise"; • Order of the Minister of National Economy of the Republic of Kazakhstan "On Approval of Hygienic Standards for Physical Factors Influencing Human" dated February 28, 2015 No. 169. Threshold values according to the Guidelines for noise in residential areas, World Health Organization (WHO), 1999 not applicable as there are no residential areas in the immediate vicinity of the project.
50. The works on production monitoring of environmental protection at the construction sites for Lot 1 and Lot 3 were carried out by the Testing Laboratories "East-Eco" LLP within the framework of the concluded contract No. 109-1 / 11 / F-M dated 05.01.2020, which has a certificate KZ. T.05.0302 dated 22.10.2018 for a period until 22.10.2023, confirming the existence of conditions necessary for performing measurements in the area of activity assigned to the laboratory: conducting analytical control of indicators of pollutants in the working area, atmospheric air and sources of emissions into the atmosphere, surface, natural waters, and analysis of soil and physical factors.
51. Laboratory's activities are regulated by environmental guidelines and regulations, health and hygiene standards, requirements, lists of maximum permissible concentrations, estimated safe exposure levels, maximum permissible discharges and emissions of harmful substances operating in the Republic of Kazakhstan. Works on production monitoring were performed in accordance with the Environmental Code of the Republic of Kazakhstan dated January 9, 2007 No. 212-III. Contractors carried out primary monitoring in accordance with the sampling and measurement points approved by the CSC Engineer. On Lot 1 and Lot 3, measurements were carried out on April 24-25, 2018, on Lot 2: May 23-24, 2018. Data on measurements and laboratory tests are presented in the first semi-annual report of 2018 and recorded as indicators obtained prior to the start of construction work.

52. On the sites Lot 1 and Lot 3, instrumental measurements and laboratory studies were carried out in the places of construction work in the context of monthly indicators. Based on the laboratory test protocols, conclusions were drawn on the impact on the environment and the need for mitigating measures to reduce the negative impact.
53. Reconstruction of the road (construction works) according to sanitary rules No. 237 dated March 20, 2015 is not classified. Unclassified objects in accordance with the Environmental Code of the Republic of Kazakhstan belongs to category IV. The base camp for the period of construction works belongs to the III class of danger according to the sanitary rules, and to the II category under the Environmental Code of the Republic of Kazakhstan.
54. Contractors Lot 1, Lot 2 and Lot 3 keep internal records, form and provide periodic reports on the results of industrial environmental monitoring in accordance with the requirements established by authorized bodies in the field of environmental protection on the basis of the Environmental Code of the Republic of Kazakhstan (Article 133. Accounting and Reporting on industrial environmental control). Lot 1 and Lot 3, the PEM reports for April, May and June were submitted.
55. Impacts are recorded by environmental specialists and monitored by the activities described in the SEMP. In accordance with the SEMP and along with the Environmental Monitoring Plan, Contractors on Lot 1 and Lot 3 performed measurements and monitoring of air quality, soil, noise, vibration and socio-cultural resources. Results of monitoring based on laboratory measurement reports are presented below in the relevant sections.

4.1.1. Environmental measurements on Lot № 1

4.1.1.1 Noise and vibration

56. On lot 1, measurements of vibration and noise level were carried out in accordance with the approved scheme of sampling points. Figure 6 below shows a diagram with sampling points and measurements of vibration and noise levels.

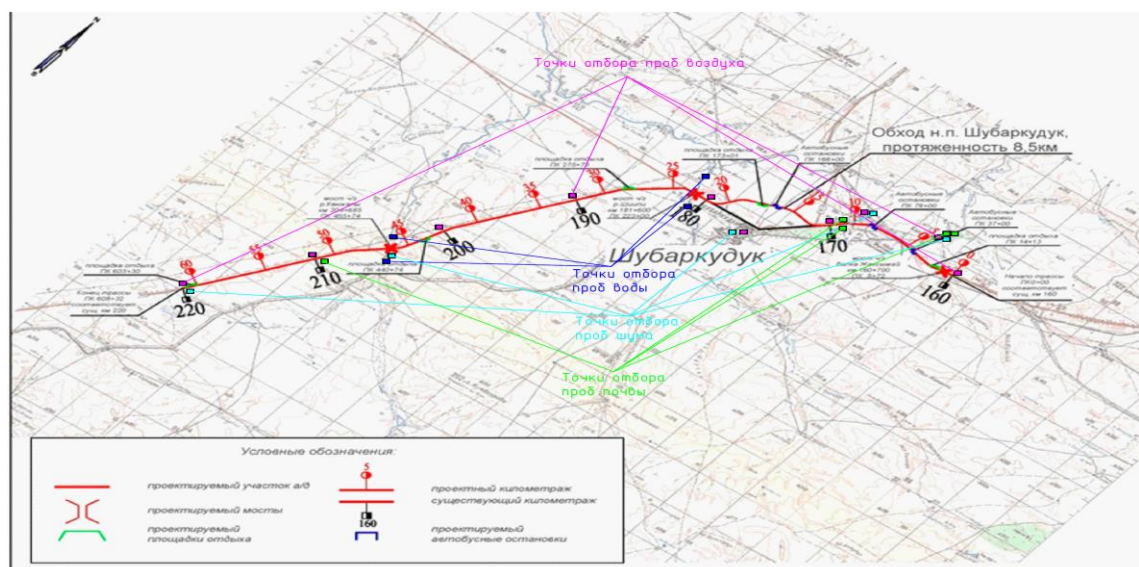


Figure 6: Water sampling points, noise and vibration measurements, soil sampling on Lot 1

57. Dynamics of changes in noise and vibration on Lot 1 areas during the reporting period are represented by instrumental measurements for the period April, May and June. The main regulatory and procedural documents that guided the work on monitoring noise and vibration are:

- i. Order No. 169 of 02/28/2015. "Hygienic standards to the physical factors affecting the person."
- ii. GOST 31319-2006 (EN-14253:2003) Vibration. Measurement of general vibration and assessment of its impact on humans;
- iii. GOST12.1.0.12-90 Vibration safety;
- iv. GOST12.1.003-83- Noise. General requirements of safety;
- v. Order No. 169 of 02/28/2015. "Hygienic standards to the physical factors affecting the person."

58. National standard (GN Order No. 169 dated February 28, 2015) determines MPL of noise level on the construction area of 80 dBA and for operator work in laboratories, asphalt plant- 90 dBA, and MPL in residential areas - 60 dBA. This report adopts the IFC standard with a threshold of 55 dBA, so this threshold is considered as the strictest threshold for monitoring. Figures 7, 8 and 9 below show the data from the protocols of measurements carried out by the laboratory during the period of April, May and June.

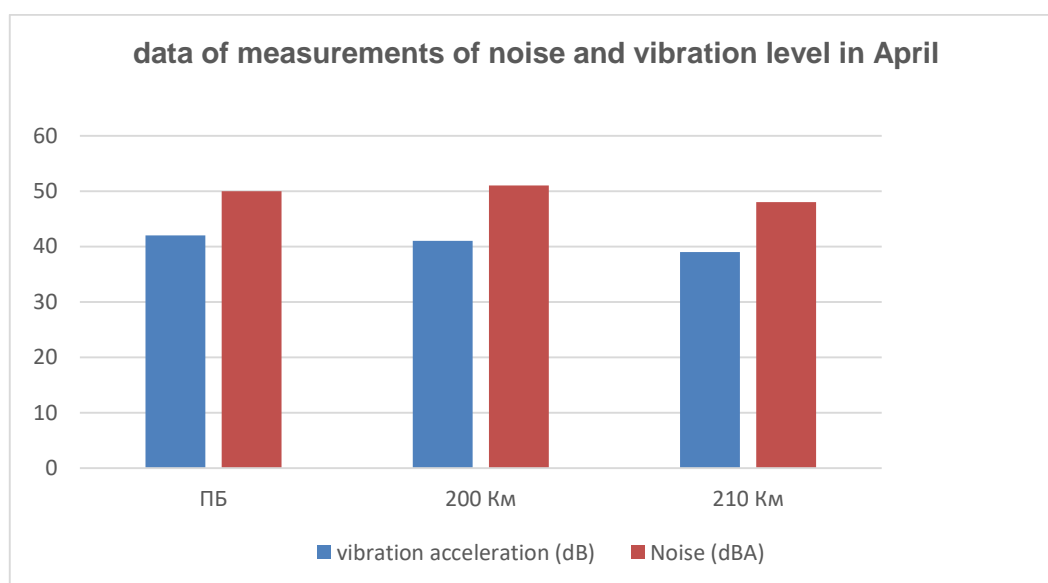


Figure 7: The data for the noise and vibration levels measurement in April 2021

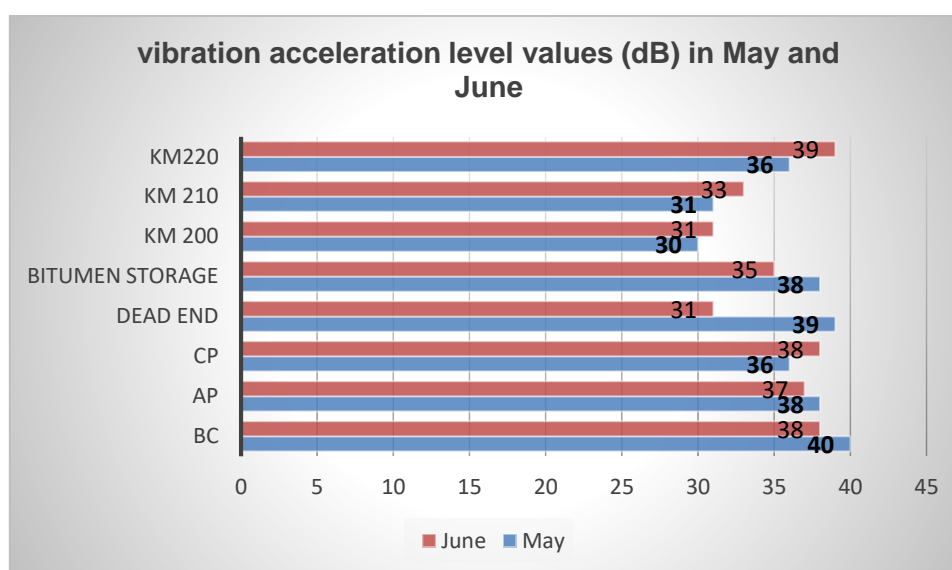


Figure 8: Vibration level in May and June 2021

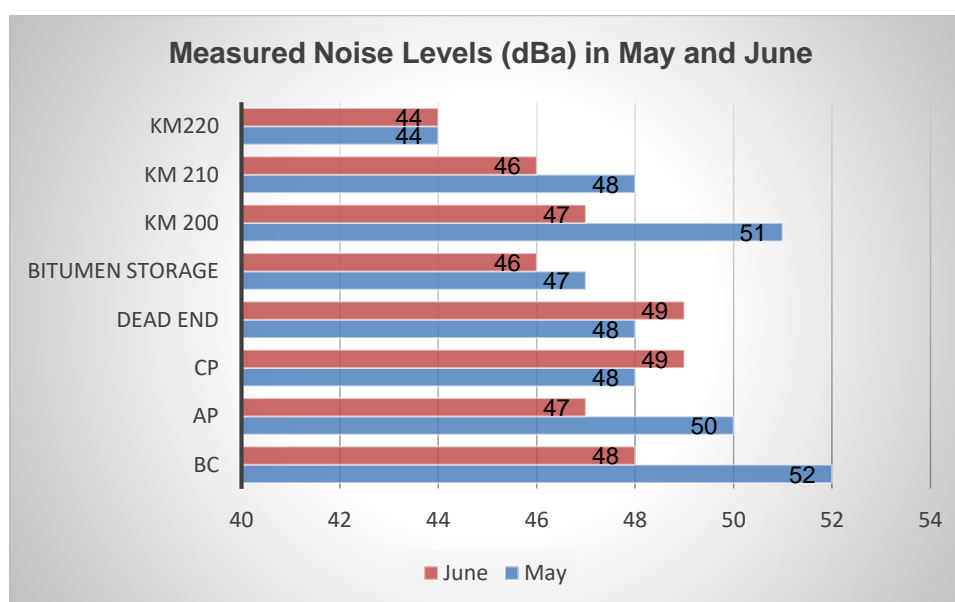


Figure 9: Noise level in May and June 2021

59. With an admissible level of 80 dBa for workplaces of drivers of road-building equipment (this PDU is taken from Appendix 2 to the order of the Minister of National Economy of the Republic of Kazakhstan "On the approval of Hygienic standards for physical factors affecting a person" dated February 28, 2015 No. 169 "Remote control of sound pressure, sound levels equivalent sound levels for the main most typical types of work activities of workplaces") the highest value is equal to 52.0 dBa at the site of the production base in the month of May and the lowest within the value of 44.0 dBa in May and June months at the site of Km 220. These figures are below the state standard and the IFC threshold.
60. The specified data from the protocols of the laboratory show that the noise level from the working construction mechanisms does not exceed the MPL (80 dBa) of the state standard at all points of measurement. Consequently, they do not have a negative impact on the health of working personnel. The ecologist at the site monitored the observance of the spatial and temporal framework of noise exposure.

61. In terms of vibration acceleration on this Lot 1, no excess of the permissible equivalent level of vibration acceleration of 95 dB recorded at the measurement points. All measurements at the indicated points of the diagram in Fig. 6 were recorded by the measurement protocols in the range of 30-42 dB. These values of the vibration acceleration level indicate that on Lot 1 site there is no negative impact both on the environment and on the health of the personnel on the site.

4.1.1.2 Soil

62. Instrumental measurements were carried out in accordance with the following regulatory and methodological documents: GN Order No. 452 of 06/25/2015 Hygienic standard for environmental safety (soil) and GOST 12071-2014 Soils. Selection, packaging, transportation and storage of samples. Soil sampling was carried out according to GOST 28168-89 Soils. Sampling.

63. Soil samples were taken in April from two points in Zhaksymai Production Base at Km 168 from two points, from the road sections at Km 200 and 210. Since the active phase of construction work, soil samples were taken in addition to the above points in April at Km 160, Km 170, Km 180, Km 190 and Km 220. Laboratory data are presented in Appendix No. 1. The results of analyzes of soil samples show that the magnitude of the negative impact on the surrounding soil cover at the border of the SPZ is assessed in aggregate by indicators, excluding oil products, as low, the area of impact on vegetation corresponds to the local scale, the duration of the impact is constant for the period of construction work.

64. According to the hygienic standards for environmental safety (in particular for the soil), approved by the order of the Minister of National Economy of the Republic of Kazakhstan dated June 25, 2015 No. 452, the soils of Lot 1 can be assessed as safe since MPCs have not been exceeded for all determined pollution indicators excluding calcium content. According to the protocols of instrumental measurement of radiological indicators, the level of contamination with radioactive substances is defined as the natural level.

65. During the reporting period, on Lot 1 the excavation work was not carried out in 10 quarries. Rehabilitation work is performed in the quarry No. 1. The information presented in the previous semi-annual report for all quarries has the previous status without changes in the reporting period.

Table No. 9. Information on borrow pits on Lot 1 site by status as of June 30, 2021

№	Name	KM/CH	Location		Reserves		extracti on	Recultiva tion
			left	right	area, ha	quantity, thousand m ³		
1	Borrow pit 1	29+36		218	3,99	104,9	12,0	90%
2	Borrow pit 2	49+59	1033		4,99	126,5	11,1	0%
3	Borrow pit 3	73+61		188	3,99	104,9	17,3	90%
4	Borrow pit 4	146+94		403	3,99	104,9	38,2	90%
5	Borrow pit 5	203+47		745	15,9	406,8	75,7	90%
6	Borrow pit 6	294+05	1038		15,9	406,8	118,0	90%
7	Borrow pit 7	351+20	319		3,95	104,0	85,0	90%
8	Borrow pit 8	391+46	1010		15,9	422,5	128,2	0%
9	Borrow pit 9	466+32		162	3,99	104,9	18,9	90%
10	Borrow pit 10	556+75		148	3,99	100,9	75,1	50%

4.1.1.3 Water quality

66. The main regulatory and methodological documents that guided the monitoring of natural waters in the Shiyeli rivers at Km 181 + 600, the Kenzhaly river Km 204 + 500: ND No. 209 dated March 16, 2015 Water sampling was carried out in accordance with GOST ST RK GOST R 51592-2003 "Water. General requirements for sampling"². Analyzes were performed in accordance with approved standards. Water sampling was carried out in the reporting period from the Shieli and Kenzhaly rivers in April, May and June of the reporting period.
67. According to the laboratory data of the Measurement Protocols (Appendix No. 2) for the indicator: Total hardness in the samples taken from the Kenzhaly River, an excess of the primary measurements was noted. But they do not exceed the MPC. Figure 10 below shows the dynamics of changes.

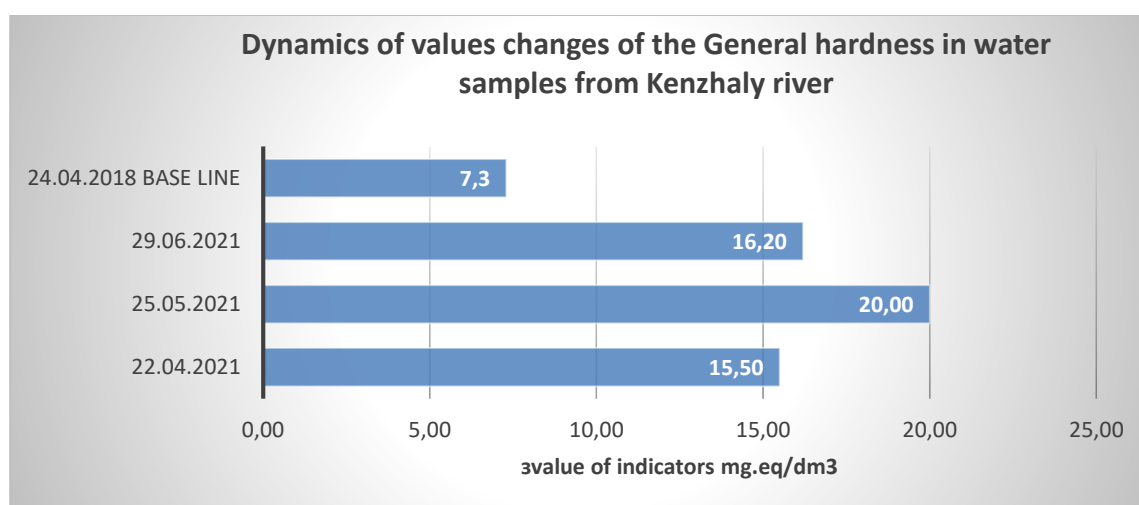


Figure 10. Dynamics of the total water hardness values in the river Kenzhaly

68. The source of the increase in hardness in the Kenzhaly river is primarily associated with the influence of groundwater, which, as a rule, has a higher hardness than surface water. Since no impacts from the Project took place. The contractor takes out all his waste in accordance with the concluded contracts for utilization and placement at a special landfill. Along the Shiyeli river, the content of harmful substances, chlorides and sulfates, does not exceed the permissible concentration⁴ for livestock watering.
69. For the rest of all indicators, the level of pollution does not exceed the maximum permissible concentration for each of the determined indicators obtained during baseline analysis. Laboratory analysis data are presented in Annex No. 2.

4.1.1.4 Air quality

70. The main applicable ambient air quality standards include:
- hygienic standards of the Republic of Kazakhstan (maximum permissible concentration (MPC) of pollutants in the ambient air of populated areas in accordance with the order of the Minister of National Economy of the Republic of Kazakhstan No. 168 dated February 28, 2015);
 - standards for ambient air quality in accordance with EU Directive 2008/50 / EC (On the quality of ambient air and measures for its purification in Europe);

^{2 4} Zarubina R.F. 3-35 Analysis and improvement of the natural water quality. Part 2. Methods for natural water quality assessment : 2011, p. 65.

- WHO guidelines for ambient air quality (2005) and additional WHO guidelines and assessments related to air pollutants.
71. Measurements of air pollution level on Lot 1 site were carried out in accordance with the approved sampling scheme. Measurements were carried out at section km 200-210 according to the following indicators: Inorganic dust, suspended solids at the asphalt plant and concrete plant, Nitrogen dioxide, Sulfur dioxide, Carbon monoxide, Formaldehyde, Hydrocarbons C12-C19, Hydrogen sulfide. Laboratory measurement results are presented in Annex No. 3.
72. The obtained laboratory data for the reporting period in all samples show no excess of the level of air pollution for all indicators at all points. Do not exceed the values obtained before the start of construction work and maximum permissible concentration.
73. The analysis of the industrial environmental monitoring of the atmospheric air on the road reconstruction sites showed that the instrumental measurements carried out in April, May and June 2021, the highest maximum and average concentrations of pollutants for all analyzed substances do not exceed the sanitary and hygienic standards. -permissible concentrations (MPC m. r.), established for populated areas. The average concentrations of nitrogen dioxide, nitrogen oxide, sulfur dioxide, carbon monoxide in the surveyed area are within the permissible limits, the concentration of inorganic dust 70-20% SiO₂ does not exceed the established standard in industrial and residential areas.
74. According to national standards, exposure of minor intensity is considered exposure associated with an increase in airborne pollutant concentration of less than 10% MPC, while as a general rule, the EHS Guidelines suggest a level of 25% of applicable air quality standards to ensure that preserve for the future the possibility of further sustainable development in this air basin.

4.1.2 Environmental measurements on Lot 3

75. On Lot 3, the instrumental measurements were carried out by a certified laboratory, which carried out these works on Lot 1, since there is only one contractor for these lots. All regulatory and methodological approaches are the same as those applicable for Lot 1.

4.1.2.1 Noise and vibration

76. Measurements on the level of noise and vibration were carried out at the following points: ACP, Production base "Nogayty", railway deadend, BSU section, km 275, km 285, km 300, km 310, km 320. Based on the results of measurements for the reporting period there was no excess of MPD. Analysis of the data from the Measurement Protocols shows that the sound level in July was recorded within the range of 47dBA - 57dBA, in August - 46dBA - 55dBA, in September - 46dBA - 59dBA, in October - 47dBA - 55dBA. These values do not exceed the permissible sound level of 80 dBA. Vibration acceleration values are fixed within 38 dB - 51 dB with an admissible equivalent vibration acceleration level - 95 dB.

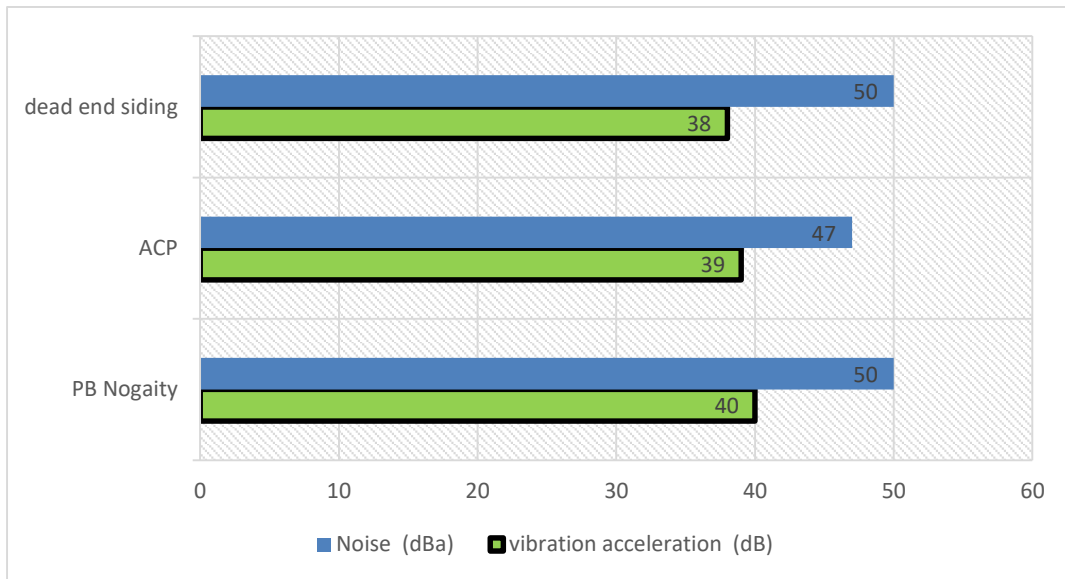


Figure 11. Results of measurements of vibration and noise level in April 2021

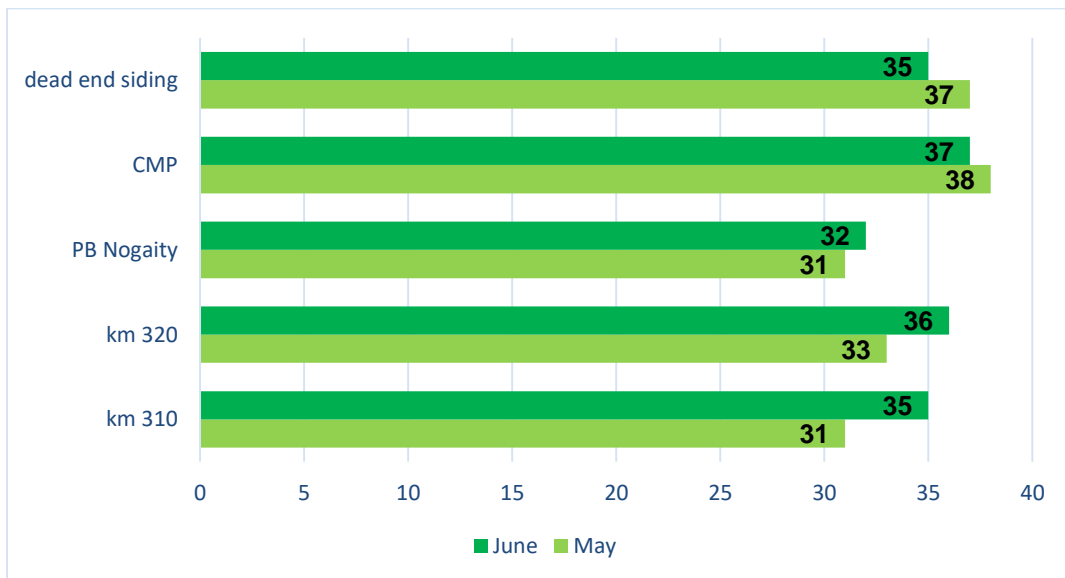


Figure 12. Results of vibration level measurements in May and June 2021

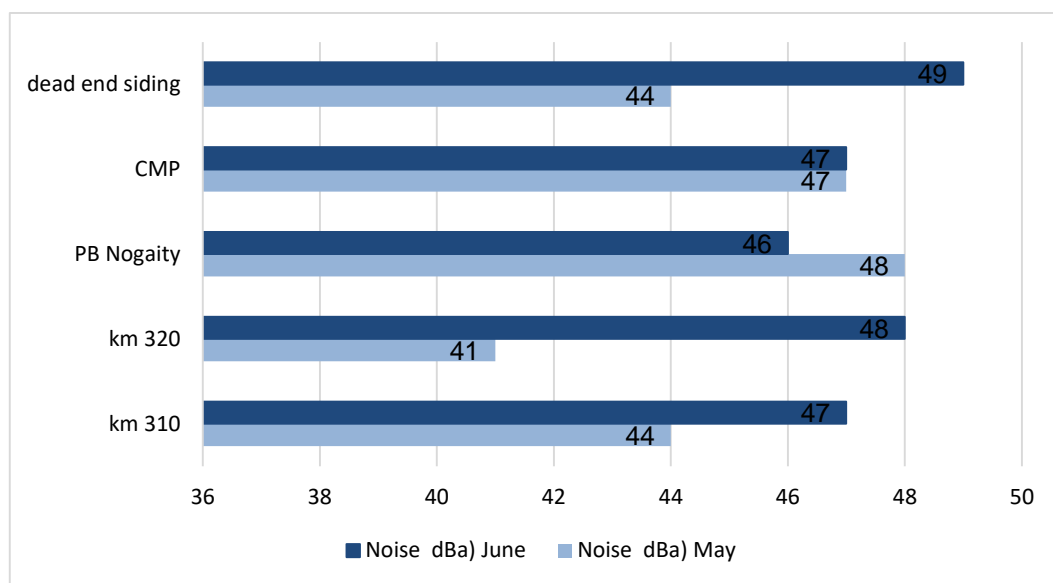


Figure 13. Results of noise level measurements in May and June 2021

4.1.2.2. Soil

77. Instrumental measurements of soil pollution were carried out at the following points: Nogayty Production Base Km 301, road sections Km 275, Km 285, Km 300, Km 310, km 310 and Km 330. Appendix No. 5 presents the PEM reports data for July, August, September and October of current year. An analysis of the data shows that at all controlled points for the reporting period has no MPC exceeded. The magnitude of the negative impact on the surrounding soil cover at the border of the SPZ is assessed as low, while the area of impact on vegetation corresponds to the local scale, the duration of the impact is not constant.

78. No excavation works were carried out from open pits during the reporting period. At quarries No. 11, 13 and 15, reclamation was carried out according to the work plans for the quarries. Below in table No. 10. Status data as of June 30, 2021.

Table 10. Information about borrow pits on Lot 3 (status as of June 30, 2021)

№	Name	KM/PK	Location	Reserves		Excavation in the 2nd half of 2019 thous, m3	Excavation the 1st half of 2020 thous, m3	Works in the 1st half of 2021
			left	Area thous. ha	Quantity, m ³			
1	Borrow pit 11	51+95	270	8	203,6	120,6	-	100% recultivation
2	Borrow pit 12	125+64	491	15,9	422,5	111,5	5	-
3	Borrow pit 13	161+50	285	3,99	100,9	135,6	-	100% recultivation
4	Borrow pit 14	244+83	357	4,02	101,6	125,3	-	-
5	Borrow pit 15	304+79	285	3,99	153,9	195,7	-	100% recultivation
6	Borrow pit 16	354+69	276	3,99	104,9	145,8	-	-
7	Borrow pit 17	404+22	194	16	409,4	122,7	-	-
8	Borrow pit 18	478+12	1340	15,9	406,8	182,4	-	-
9	Borrow pit 19	522+16	313	3,98	104,6	949,0	20,3	-
Total				75,77	223,13	2088,6	25,3	

4.1.2.3. Water quality

79. Within the framework of industrial environmental control, monitoring of water resources in Ayryk, Zharly and Nogayty beams on this section of the road was not carried out due to the lack of water in them in April, May and June.

4.1.2.4. Air quality

80. Monitoring of atmospheric air pollution was carried out in the areas where construction work was performed during the reporting period: Km 300; Km 310; Km 320, ABZ, Railway dead end. Appendix No. 6 presents data from the PEM report for April, May and June. Analysis of data from the PEM report on atmospheric air pollution shows that at all points of measurements, no excess of MPC was recorded for all determined indicators. According to the results of observations, in general, for all areas of Lot 3, the air condition was assessed as consistently good. No deterioration in air quality was noted.

4.2 Trends (general direction)

81. During reporting period, no negative environmental impacts were noted on atmospheric air, soil, water resources, vibration and noise, the health of the persons affected by the project, as well as flora and fauna.
82. Environmental specialists on the sites were unable to fully carry out their work in accordance with the developed system for managing the project's environmental impact. During the reporting period, no work was carried out on environmental training within the project among engineers and workers due to the strengthening of quarantine measures. Enlightenment was carried out through visualization: the design of stands in crowded places.

4.3 Summary of monitoring results

83. Submitted reports on PEM from Lot 1 and Lot 3, information in monthly reports on environmental protection for Lot 2, as well as observations and audits indicate absence of negative impact of construction work on the environment. The content of pollutants (water, soil, air, PAP health) noise and vibration do not exceed MAC. The measures taken by the contractors to reduce environmental impact are sufficient. The activities of the Contractors exert an acceptable load on the environment.
84. The analysis of the work performed to bring the environmental protection activity into the compliance with the norms, rules and requirements is generally assessed as satisfactory. The work was carried out in accordance with the EMP. Detailed information is presented in Table 11 below.

Table 11. Environmental Compliance Monitoring on Lot 1 and Lot 3

№	Location	Issues	Recommended Action	Implementations / Compliance	Fulfillment status
1	Road site	Use of safe tools (goggles, gloves, overalls, helmet, safety shoes, etc.) by workers / engineers.	Availability of safe tools in the base camp and on the construction site.	Safe tools are provided to workers and engineers as needed	Corresponds on Lot 1 and Lot 3
2	Base camp	Water supply	Provide water for drinking and for domestic use, presence of sinks for washing in showers, toilets, in the kitchen	Facilities provided. Communications connected to the camp	Provided on Lot 1 and Lot 3

			and dining room. Cross control and uninterrupted supply of drinking water		
3		Sanitation and Hygiene	Providing toilets and flushing water in showers. Transportation to septic tanks for processing and disposal	Base camp is provided and observed.	Provided on Lot 1 and Lot 3
4		Kitchen and dining room	Providing adequate ventilation, taps and hygiene of places for receiving preparation and eating, storage of products	On Lot 3 and Lot 2, the construction of its own dining room and outsourcing of food services and catering services of a third party. On Lot 1, a complex with all conditions rented from local resident	Lot1 has its own canteen, and rent of premises with provision of catering and cleaning services are provided on Lot 3
5		Drainage in base camp	Provision of water drainage in the camp. Avoid accumulation of water inside the camp.	The complex rented on Lot 1 has all necessary connections to the tap system Lot 2 and Lot 3 have a drainage and wastewater system	Corresponds on Lot 1 and Lot 3
6		Solid waste and waste	Location of bins and urgent modernization of waste disposal pits, cover and control on the territory of the base camp.	Lot 1 rented a complex of buildings of a local resident, with provision of export and disposal. Fire shields provided on production base of all sections. Monitoring the implementation of the waste management plan in all areas.	Provided on Lot 1 and Lot 3
7	Quarry / borrow pit territory	Material collection comply with legislation of the Republic of Kazakhstan on environmental protection	Reclamation measures for quarries according to the Quarry Management Plan	For all careers until the end of the project	The reclamation work on the sites is at the stage of mechanical methods.
8	Firefighting equipment in base camp, office.	Firefighting equipment should be located in the base camp and in the office.	Locate firefighting equipment in a visible place so that it can be used in case of emergency.	In all infrastructures of the camp and the production base	Provided on Lot 1 and Lot 3

9	Movement of transport and equipment in the base camp.	Excessive dust pollution in the camp and noise environmental pollution as a result of traffic on the camp and site.	Equipment must be used at the construction site and shift camp in accordance with its environmental standards regarding noise.	In the residential area of the base camp, at the production base	done on Lot 1 and Lot 3
10	ACP	Provision of PPE, provision of LPP on demand and dairy products, Dust suppression in the territory and in warehouses	Compliance with safety standards and requirements, ensuring compliance with FIDIC conditions, Contractual obligations	Provision of PPE, dust suppression schedule controlled	done on Lot 1 and Lot 3

4.4. Use of Material Resources

4.4.1. Current period

The resources use during the reporting period on Lots 1, 2 and 3.

Table 12. Amount of used resources for the 1st half of 2021

Resources	Lot 1	Lot 3
Electricity, kWh	229 197	320 875
Natural gas, thn m ³	490,7	0
Drinking water, m ³	3000	3000
Water for technical needs, m ³	3240	2250

4.4.2 Cumulative use of resources

85. For Lot 1 and Lot 3, electricity consumption in the first half of the year is approximately at the level of the previous period. Natural gas consumption in Lot 1 increased 2 times more than in the previous period. Consumption of industrial water for Lot 3 increased by 4 times due to the need to increase dust suppression and for production needs for asphalt laying. The contractor continued its efforts to maintain control over the use of electricity to prevent waste of resources. For drinking water and industrial water, there is also a decrease in consumption volumes, which is associated with a reduction in costs and constant monitoring of use.

4.5 Waste management

86. Waste management is organized by Contractors according to the developed Site-specific EMP. On Lot 1 site - generation of household waste is caused by production base "Zhaksymay" located on Km 168. Contractor's laboratory, CBP, ACP, railway dead end, and bitumen pit are located on the territory of this base. Waste from this area is stored on a specially organized site for temporary storage with subsequent export to disposal through the involvement of specialized companies. Removal of household waste from this base is carried out by "Technology XXI Century LLP" on the basis of contract No. 02/05-18 dated May 2, 2018. Monitoring shows that on these sites the schedule for the removal of solid waste and industrial

waste is observed. During the reporting period, 0.3 tons of solid waste were removed. The waste was transported from the town by the owner of the complex, which is included in the lease agreement and the provision of services for the removal of solid waste and liquid waste.

87. For Lot 3: at the Production Base "Nogayty" (km 301) there is a rotational camp with the infrastructure of the residential part, offices, canteen, Contractor's laboratory, CBP, ACP, railway dead end, workshops. According to the management plan, the town has organized places for temporary storage of solid waste with subsequent removal to the landfill. Removal of solid waste from this base is carried out by Technology XXI Century LLP on the basis of an extended contract No. 02 / 05-18 dated May 2, 2018. The indicated volumes are 0.6 tons were transported by LLP "Technologies XXI century" and placed at landfill of Baiganinsky district.

4.5.1 Current period

88. During the reporting period, waste management Contractors followed prescribed clauses in the EMP in terms of infrastructure management. Due to lack of special landfills in the places where the project road is being implemented, contractors disposed solid waste to the Baiganinsky district landfill.

Table 13. Information on removal of household waste for first half of 2021 - Lot 1 and Lot 3

No	Waste	Unit	Waste classification	Quantity	Method of waste disposal
1	Solid waste	ton	Non-hazardous	0,3	Removal to the landfill by specialized company
2	Solid waste	ton	Non-hazardous	0,6	Removal to the landfill by specialized company

4.5.2 Cumulative Waste production

89. The composition of the total generation of waste for Lot 1 and Lot 3 is only solid municipal waste. During the reporting period on Lot 1, a specialized company transported 0.3 tons of solid waste. With Lot 3 - 0.6 tons. The contractor did not provided other data.

4.6 Health and safety

4.6.1 Community health and safety

90. The measures are being implemented on the sites according to SHB. In addition, COVID 19 Prevention Guidelines were provided to Contractors through a webinar hosted by ADB on April 5, 2021. To prevent the spread of COVID 19, the Contractors provided an irreducible supply of PPE: medical masks, gloves, antiseptics. Constant monitoring of cleaning and treatment of premises and work surfaces with antiseptic agents. Places for meals and offices are organized based on physical distance. The information boards display posters and posters about the rules for handling hands, compliance with preventive measures and measures for symptoms of the disease.
91. HS specialists informed about the observance of preventive measures, as well as the need to undergo vaccination in order to create collective immunization on the site in daily briefings for company employees, especially for workers from among local residents.

92. The Contractor has provided safe conditions for the population to move along the project road. During the reporting period, 4 accidents were recorded for Lot 1:

- On February 8, 2021 at about 17:30 local time on 170 km of the road an accident occurred with the participation of vehicles Lada Priora with plate number KZ 051DNA04 and LADA Kalina with plate number H891BC102rus. The place of the accident: an area opened for the traffic, road, the surface in the place of the accident is even, without pits and bumps, the visibility is good. During the accident, the weather conditions were good, no precipitation. There are no victims in the road accident. Contractor's letter No. 029/2 dated 10.02.2021;
- On March 4, 2021, at approximately 10:00, an accident occurred at km 172 - a collision of two Volkswagen Vento vehicles with plate number kz361HYA04 and a Lada Granta with plate number T838UE163 rus. 4 people with non life-threatening minor injuries were taken to the local central hospital in Shubarkuduk. The place of the accident - open for the movement of vehicles, the road surface is even, without pits and bumps, visibility was unlimited. Letter from the Contractor No. 045/2 dated 03/04/2021;
- On May 15, 2021 at about 01:00 local time at the exit, on PK 128 + 78 (km 172), an accident occurred with the participation of the Daewoo Nexia vehicle with plate number B072YX159. The driver of the TS Asabayev D.S., born in 1987, ignored the warning road signs: 40 km / h, overtaking is prohibited, a sharp turn, direction of turn, signal columns, did not take action to reduce the speed on a turn, drove straight and allowed a rollover ... As a result of the accident, the driver and two minor passengers received minor bruises that did not require hospitalization, 1 passenger (female born in 1974) with multiple fractures was taken to the Temir Central Regional Hospital in Shubarkuduk. Road conditions: an open area for traffic, road signs are installed according to the scheme agreed with the APD RP of Aktobe region. Weather conditions at the time of the accident: +27 0C, it was clear. The condition of the pavement and subgrade: smooth, clean, without pits, bumps and other defects. According to the certificate issued by the police major, deputy head of Temir district police department: a case was initiated on this fact under Part 2 of Art. 345 of the Criminal Code of the Republic of Kazakhstan and terminated due to the reconciliation of the parties: the driver with the victim;
- On May 24, 2021 at about 09:00 local time on PC 350 + 00 (km 195), an accident occurred with the participation of Renault Duster vehicles with plate number 411DPA04 and KAMAZ with plate number D789BVM. The driver of Renault Duster (driving in the direction from Atyrau to Aktobe) drove into the oncoming lane and made a collision with a KAMAZ truck. As a result of the accident, 1 person, the passenger of the Renault Duster vehicle died at the scene of the accident, the ambulance doctors who arrived stated his death; 1 passenger of Renault Duster vehicle (woman) was hospitalized in serious condition in the Temir Central Regional Hospital in Shubarkuduk; the remaining 5 people (including the driver and passenger of the KAMAZ cargo vehicle) were taken to Temir Central District Hospital in Shubarkuduk and released home after a thorough examination and first aid. Road conditions: an open area for traffic, road signs are installed according to the scheme agreed with the APD RP of the Aktobe region. Weather conditions at the time of the accident: +30 0C, no precipitation, visibility without restrictions. The condition of the pavement and subgrade: smooth, clean, without pits, bumps and other defects. According to the certificate issued by the deputy head of the police department of the Temir district, police major: a criminal case was initiated and transferred to the court under part 3 of Article 345 of the Criminal Code of the Republic of Kazakhstan.

93. For Lot 2, the section of the road PK 130-PK 401 is open for the movement of vehicles. From 16.11.2020, the Contractor concluded the agreement with "Meray and K" LLP for the winter maintenance of the road at section Km 236-Km 275. During the reporting period, at the section 1 road accident was recorded:

- On March 16, 2021 at 16:30 at km 249.7 an accident occurred with the participation of two vehicles of the Lada Largus brand with plate number 711MTA06 and a VAZ 2115 vehicle with plate number U816RU102. The driver of the ATS Lada Largus, unable to control the steering, made a collision with the ATS VAZ 2115, driving in the oncoming lane. There are no casualties.
94. For Lot 3, the total length of the completed bypass road open for traffic has not changed and is 55 km. The width of the bypass road meets the requirements and is 9 m. Along the entire length of the bypass road, temporary road signs with a yellow background and signal columns are installed, corresponding to the approved scheme with the APD of the Department of Internal Affairs of Aktobe on April 17, 2018.
95. During the reporting period, as part of the maintenance of the road, the bypass road was backfilled with milled material from PK 349 + 00 to PK 352 + 00. The bypass road was profiled from PK 272 + 00 to PK 551 + 00. Maintenance of road safety signs was ensured. Due to worsening weather conditions (blizzard, snowstorm, ice), traffic restrictions for vehicles were made on 03/17/2021, 03/18/2021, 03/20/2021. In the period from March 16 to March 26, 2021, 19 units were cleared of snow and debris. culverts and 3 units. cattle drive. Necessary work has been completed to clear three bridge structures. In the period from March 24 to March 27, work was carried out to restore drainage channels at PK 6 + 89, PK 43 + 39, PK 74 + 32, PK 93 + 20, PK 355 + 99.
96. Since the beginning of the asphalt placement work, the movement of vehicles in the work area was carried out along the bypass road, taking into account the installation of all necessary temporary road signs and a traffic controller. For dust suppression on the bypass road, 2 units of water tank truck were used in April. 16 units of road signs installed in winter time were dismantled in April. By April 15, the artificial structures (culverts, cattle creeps, bridges) were completely cleared of snow and other debris. By the end of April, vehicles traffic was again restored on the asphalt road from PK 5 + 00 to PK 551 + 00.
97. On May 1, 2021 the following temporary road signs were installed for traffic on the bypass road from PK 0 + 00 to PK 5 + 00: 1.23 road works, 3.24 (60) maximum speed limitation, 3.20 overtaking prohibited, 3.24 (40) limitation maximum speed, 3.1 entry prohibited, 5.32.3 directions of detour, 1.31.2 direction of turn, 1.31.4 direction of turn, 5.32.2 directions of detour. 05/08/21, 05/12/21, 05/22/21 the technical means of traffic regulation were updated from PK 0 + 00 to PK 551 + 00. The protective tapes on culverts and cattle passages have been corrected.
98. 1 accident was recorded on Lot 3 During the reporting period:
- On June 18, 2021 at about 10:35 am. local time at km 278 there was an accident involving 2 vehicles. ATC: HOWO with plate number 253SCA04 and KAMAZ with plate number 252NAZ04. When overtaking KAMAZ vehicle, a tanker was disconnected, and the HOWO vehicle following it collided with a tanker loaded with crude oil. As a result of the collision, the disconnected tank car toppled over to the side of the road, and a crude oil product spilled onto the roadside and cuverts. The drivers of both vehicles did not receive any injuries and did not need medical assistance. The place of the accident is an area open to traffic, the surface is even, without pits and bumps; unlimited visibility; weather conditions at the time of the accident are clear, no precipitation, +30 0C. The oil-contaminated soil was removed from the accident place by the carrier IE "Azamat Dauren" under the supervision of the Contractor's safety specialists and disposed at special landfill (as per information of the Department of Emergency Situations in Baiganin district). After cleaning the territory, representatives of the Akimat of Zharly rural district of Baiganin district came to the place of spill and accepted the remediation work.



Fig. 14. Lot 3 km 278 accident place. 18.06.21.



Fig. 15. Lot 3 km 278 place of accident after cleaning up oil product spill. 04.10.2021

99. Table 14 below provides a summary of all incidents that have occurred on the project since the beginning of the road construction. A total of 18 accidents were registered, as a result of which 11 were injured and 1 death. All accidents occurred as a result of ignoring safety signs by drivers.

Table 14. Statistics on incidents and accidents from the beginning of the project

Type	Lot 1	Lot 2	Lot 3
Traffic accident	12	2	4
Accident	0	0	0
Disability	0	0	0
Downtime due to incident	0	0	0
Total:	12	2	4

100. It should be noted that the abovementioned accidents on Lot 1 and Lot 3 occurred through the fault of the drivers themselves, who ignored the speed limit signs prohibiting entry to the project road and one case of malfunction of the trailer part of the vehicle. Monitoring of each incident showed that safety signs were installed on the site in accordance with the approved plan to ensure safe traffic. According to the project, road safety issues are monitored in accordance with the approved Road Safety Plans (agreed with the CSC and the State Traffic Police). Based on the results of the investigation of the circumstances of the road traffic accidents, the authorized body recognized that the traffic accidents are associated with non-compliance with traffic rules in terms of speed limits and compliance with the distance and measures when overtaking moving vehicles.
101. For Lot 2, no road accidents were registered on the site during the reporting period. Road safety is provided by Aktobe branch of "NC KazAvtoZhol" JSC. Road safety monitoring is carried out by the Engineer.

4.6.2 Workers Health and safety

102. Health and safety conditions at the workplace are regulated by the Law "On the Safe Use of Machinery and Equipment" 3 No. 305-III 3RK, July 21, 2007, Fire Safety Regulations No. 1077 dated October 9, 2014 and other regulatory legal acts.
103. Compliance with safety measures on the construction sites is also checked in a timely manner by the relevant responsible persons of the contractors. The appropriate investigations were carried out on the facts of the incidents, as well as additional briefings among employees. To ensure safety for the population, contractors at the sites carried out work in accordance with the orders of the Chief Sanitary Doctor of the Republic of Kazakhstan. Medical personnel, together with health and safety specialists, were involved in the organizational work to form a resource base for the implementation of preventive measures to prevent the spread of COVID 19.
104. During the reporting period, Contractors conducted activities in accordance with approved road safety management plans. Timely supervision and accompanying advice from the CSC Road Safety Engineer made it possible to ensure safety of road users and Contractor's personnel. During periods of the audit, relevant work was done by the Contractors for the installation of safety signs, widening of temporary roads, patching, preparation for carrying out activities for the winter maintenance of roads. Hazardous areas are marked with warning signs.
105. Briefings on safety and road safety are conducted daily with all working personnel, including driver's staff, operators of special equipment before departure to the site. Explanatory conversations are held with the workforce, directly at workplaces, on the rules and observance of safety and safe working methods.
106. The contractors have developed appropriate COVID-19 virus prevention measures. The health and safety plans include measures recommended by the local health department: strict control of outside visits to the town, observance of the mask regime, provision of personal protective equipment: medical masks, gloves, antiseptics. The thermometry procedures are performed several times during the day, observance of a physical distance of at least 1.5 meters in living quarters, in the canteen, sending personnel to remote work format. Control of room cleaning and surface treatment with disinfectants. Information and educational work among the personnel of companies and the design of medical stands with the actualization of visual information in the languages used in interpersonal communication of the personnel. In sanitary and hygienic places (sinks, showers, laundries, toilet rooms, etc.), soap, detergents and disinfectants are installed. A sufficient amount of disinfectants is provided in the catering units for the treatment of devices and instruments.
107. On the whole, the unprecedented measures taken allowed contractors to preserve health of their workers.

4.7 Trainings

108. Training on EMP-related issues, on-site monitoring, regular health and safety instructions, HIV / AIDS awareness issues and the COVID 19 pandemic are conducted on-site by HS specialists and medical personnel. In the course of the audit, CSC and PMC drew the attention of the contractor's environmental specialist to fixing indicators of the environmental protection measures implementation and advised on how to identify potential risks of negative impact on the environment and the environment of the activities of the population. And also pay attention to the risks associated with the spread of COVID 19.

5. FUNCTIONING OF SSEMP (SITE-SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN)

5.1 Review of SSEMP

109. SSEMP of Lots 1 and 3 in the reporting period were not changed. The activities announced in the SSEMP were carried out by the contractors and in the proper order and quality.
110. The analysis of the work of environmental specialists of contracting organizations shows that during the reporting period they performed a sufficient amount of work on the site to ensure the implementation of the EMP. The environmental specialists on Lot 1 took measures to eliminate inconsistencies. For Lot 3, the ecologist ensured the maintenance of the achieved result in the elimination of comments on violations on the area of local gas station. Subsequent inspections showed that there were no violations on the site.
111. For Lot 1 and Lot 3, environmental specialists were able to organize field trips for laboratory staff and carry out instrumental measurements in April, May and June 2021.
112. Table 15 below shows the implementation status of the corrective action plan, recommended for the January-June 2021.

Table 15. Implementation status of the Corrective Action Plan, recommended for period January-June 2021

Actions	Time-frame	Responsible	Action status
Personnel mobilization on Lot 2 and reactivation of the camp	28.02.2021	Project Manager, Lot 2	Not done.
Elimination of inconsistencies on Lot 3 Local contamination, instructing the gas station operator, providing the control by security specialists, refurbish the fire shield at the gas station.	31.03.2021	Environmental specialist of the site	Done
Develop a final EMP for all three sites which will reflect measures for the reconstruction and restoration of areas used for temporary use (construction camps, production sites, storage of materials, etc.)	15.06.2021	The Contractors' ecologists	Not done
Train subcontractors and service providers on environmental issues and EMP activities	Monthly	Environmental specialists and medical staff of all lots	Done Informational work on Prevention HIV AIDS STIs / STDs, COVID 19. Completed 24-25 March 2021. The informational lecture is conducted by medical staff and distributed brochures related to HIV AIDS; On Lot 1, the lecture was held in small groups with the observance of physical distance: March 24, 2021, April 18, 2021,

			May 12, 20121, June 8, 2021. It was held on March 18 and May 21, 2021 on Lot 3.
Post-construction environmental audit	30.07.2021	CSC jointly with PMC	Not done New date to conduct: for Lot 1 - September 30, 2021, for Lot 2 - November 2021, Lot 3 - September 30. 2021 year

Table 16. Corrective Action Plan July-December 2021: Implementation Status

Issues	Actions	Responsible	Planned date
Resumption of work on Lot 2 section	Mobilization of personnel for Lot 2 and resumption of camp activities	Project manager, Lot 2	September 1, 2021
Compliance with deadlines for submitting monthly reports on EMP activities	Submission of monthly reports of the contractor's environmental specialists on EMP activities	Contractor's environmental specialist	By the 10 th day of each month
Compliance with the schedule of dust suppression in areas where intensive construction work is underway	Preparation of a dust suppression schedule in accordance with construction work plans and coordination with the water sprinkler supply section	Environmental specialist and head of mechanical service	Depending on weather conditions
Restoration of construction sites	Post-construction environmental audit with filling up a checklist	CSC together with PMC	Lot 1 - October 30, 2021, Lot 3 - October 30, 2021
	Restoration of temporarily use sites (construction camps, construction sites, materials storage, etc.)	Contractor	November 2021
	Develop the final EMP for Lot 1, Lot 2 and Lot 3	Contractor's environmental specialist	November 2021

5.2 Advanced methods (good practices)

113. On Lot1 and Lot 3: the practice of proper interaction with the local people is applied. Contractors formed good communication with local public. Contractors assisted local communities in providing personal protective equipment during the COVID 19 pandemic. This practice allowed the GRM to operate effectively at all sites. Not a single appeal was recorded on the sites. All issues are resolved on the site in a working order.

5.3 Opportunity for improvement

114. At the moment, such areas for this construction project have not been identified.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

115. The general approach followed for the Project is to use the most stringent standards in case of differences between international norms and the legislation of the Republic of Kazakhstan. In accordance with the IFC general environmental, health and safety guidelines, when host country regulations differ from the levels and measures presented in the guidelines, projects are expected to apply the most stringent requirements. In most cases, national RK standards are more stringent than EU and WHO standards, and therefore they were used in the impact assessment procedure.
116. Application of effective protective measures while implementation of project includes following:
- Removal and disposal of construction waste was carried out in accordance with work plans, with the provision of protective measures. All air emissions were within the permissible limits. Instrumental measurements did not show that the permissible limits were exceeded. In general, the ecologist at the Lot 1 and Lot 3 sites provided the necessary remote monitoring and periodic visits to the sites and ensured an effective environmental plan management system, given the difficult period in connection with the introduction of restrictive measures of the COVID 19 pandemic.
 - Proper planning of construction works, which allowed the Contractor not to accumulate a large amount of equipment in small areas, especially in sensitive areas. Constant adjustment of the work schedule of waters sprinkler machinery, taking into account all factors affecting the process of dust generation;
 - Organizational structure that allows the environmental management system to work effectively. The organizational structure of contractors includes vertical and horizontal interactions and employees of line structures (headmen, foremen, etc.) are involved in this process. In the absence of an environmental specialist on the site, these communication links were able to ensure the required level of implementation of the EMP measures, with the exception of Lot 2, where the contract was terminated by the Client;
 - The continuation of joint activities with local executive bodies (akimat, employees of the APD RP) in the form of joint patrols allowed to relieve the tense situation associated with unauthorized opening of the road, which could provoke road accidents and incidents.
117. Work to ensure occupational safety and health for the population was carried out in the necessary and sufficient volumes, which made it possible to prevent the implementation of risks in this area. No cases of spread of COVID 19 were recorded. Contractors on the sites applied adequate measures to prevent the spread of diseases.
118. The contractors took adequate measures to ensure road safety, road maintenance, but it was not possible to avoid the road accidents on the site. During the reporting period, 4 accidents were registered for Lot 1, 1 accident for Lot 2, and 1 accident for Lot 3. 11 road accident participants were taken to the medical institutions. Fatality -1. The accident data is not influenced by the Project itself.
119. Specialists in protective measures: environmental specialists remotely, and health and safety engineers, road safety engineers, medical personnel directly on the sites provided conditions to prevent infection and prevent the spread of coronavirus on the sites, which made it possible to continue construction work without loss of personnel.

6.2 Recommendations

120. To revise the Management Plan for the rotational camp as part of the EMP and make adjustments to the measures for observance of safety and environmental standards and rules on Lot 2 during the activities to restore the life support of the construction camp.

**Table 16. Corrective Action Plan for July-December 2021:
Execution status**

Issues	Actions	Responsible	Planned date
Resumption of work on the site Lot 2	Mobilization of personnel for Lot 2 and the resumption of camp activities	Project Manager, Lot 2	September 1, 2021
Meeting deadlines for monthly reports submission on EMP activities	Submission of monthly reports by the contractor's environmental specialists on EMP activities	Contractor's environmental specialist	By 10th of the month following the reporting month
Compliance with dust suppression schedule in areas with intensive construction works	Preparation of a dust suppression schedule in accordance with work execution plans and coordination with a water sprayer supply section	Environmental specialist and chief of mechanical service	Depending on weather conditions
Restoration of construction sites	Post-construction environmental audit with filling in a checklist	CSC jointly with PMC	For Lot 1 – October 30, 2021 For Lot 3 – October 30, 2021
	Restoration of sites used for temporary use (construction camps, production sites, storage of materials, etc.)	Contractor	November 2021
	Develop the final EMP for Lot 1, Lot 2 and Lot 3	Contractors' Environmental Specialists	September 2021

Annex 1.

Results of laboratory tests of soil contamination on Lot 1

Carried out by the testing laboratory of "IST-EKO" LLP on the basis of an agreement with the Contractor dated 29.03.2021 No. 96

Points Selection / measurements	Name of determined indicators	Before Project beginning 24.04.2018	23.04.2021	25.05.2021	29.06.2021
km 160	pH units	7,87	Not determined	7,32	7,28
	Dense residue %	0,147		0,074	0,070
	Petroleum products(mg / kg)	0,01		69,2	73,75
	Chlorides(Mmol / 100 g)	0,05		0,15/0,005	0,10/0,004
	Sulphates(Mmol / 100 g)	0,462		0,220/0,011	0,221/0,011
	Calcium(Mmol / 100 g)	0,4		0,75/0,015	0,88/0,018
	Magnesium(Mmol / 100 g)	0,16		0,075/0,0092	0,5/0,061
	Carbonates(Mmol / 100 g)	0,0			
	Bicarbonate(Mmol / 100 g)	0,98		0,55/0,034	0,50/0,031
km 170	pH units	7,82	Not determined	7,15	7,21
	Dense residue %	0,150		0,079	0,079
	Petroleum products(mg / kg)	0,02		48,3	42,0
	Chlorides(Mmol / 100 g)	0,15		0,25/0,009	0,28/0,010
	Sulphates(Mmol / 100 g)	0,452		0,170/0,008	0,163/0,008
	Calcium(Mmol / 100 g)	0,7		1,75/0,035	105/0,030
	Magnesium(Mmol / 100 g)	0,6		0,5/0,0061	0,38/0,0046
	Carbonates(Mmol / 100 g)	0,08			
	Bicarbonate(Mmol / 100 g)	26,0		0,35/0,0211	0,45/0,027
km180	pH units	7,20	Not determined	7,7	7,63
	Dense residue %	0,250		0,074	0,082
	Petroleum products(mg / kg)	0,021		54,6	51,5
	Chlorides(Mmol / 100 g)	0,06		0,2/0,007	0,3/0,011
	Sulphates(Mmol / 100 g)	0,450		0,12/0,006	0,128/0,006
	Calcium(Mmol / 100 g)	1,12		1,0/0,020	0,13/0,023
	Magnesium(Mmol / 100 g)	5,05		0,85/0,010	0,63/0,0076
	Carbonates(Mmol / 100 g)	0,0		Not found	Not found
	Bicarbonate(Mmol / 100 g)	18,0		0,5/0,031	0,55/0,034
km190	pH units	7,22	Not determined	7,51	7,48
	Dense residue %	0,250		0,069	0,062
	Petroleum products(mg / kg)	0,024		51,9	49,75
	Chlorides(Mmol / 100 g)	0,06		0,3/0,011	0,33/0,012
	Sulphates(Mmol / 100 g)	0,440		0,25/0,012	0,224/0,011
	Calcium(Mmol / 100 g)	15,5		0,75/0,015	0,75/0,015
	Magnesium(Mmol / 100 g)	0,0		Not found	Not found
	Carbonates(Mmol / 100 g)	0,0		Not found	Not found
	Bicarbonate(Mmol / 100 g)	18,0		0,5/0,031	0,4/0,024
km 200	pH units	7,22	7,66	7,33	7,45
	Dense residue %	0,250	0,055	0,073	0,084
	Petroleum products(mg / kg)	0,024	41,25	45,3	43,7
	Chlorides(Mmol / 100 g)	0,06	0,28/0,010	0,30/0,011	0,3/0,011
	Sulphates(Mmol / 100 g)	0,440	0,180/0,009	0,21/0,010	0,218/0,010
	Calcium(Mmol / 100 g)	15,5	0,75/0,015	1,0/0,020	1,25/0,025
	Magnesium(Mmol / 100 g)	0,0	0,0	0,65/0,008	0,75/0,0092
	Carbonates(Mmol / 100 g)	0,0	0,0		

	Bicarbonate(Mmol / 100 g)	18,0	0,35/0,021	0,4/0,024	0,48/0,029
km 210	pH units	7,78	7,06	7,98	7,75
	Dense residue %	0,250	00,057	0,045	0,055
	Petroleum products(mg / kg)	0,024	33,0	59,1	53,0
	Chlorides(Mmol / 100 g)	0,06	0,25/0,009	0,25/0,009	0,3/0,011
	Sulphates(Mmol / 100 g)	0,439	0,163/0,008	0,180/0,008	0,15/0,007
	Calcium(Mmol / 100 g)	0,49	0,5/0,010	0,5/0,010	0,63/0,013
	Magnesium(Mmol / 100 g)	0,0	00,25/0,0031	0,5/0,006	0,5/0,006
	Carbonates(Mmol / 100 g)	0,04	0,0		
	Bicarbonate(Mmol / 100 g)	28	0,45/0,027	0,2/0,012	0,3/0,018
km 220	pH units	7,86	Not determined	7,42	7,35
	Dense residue %	0,260		00,161	0,142
	Petroleum products(mg / kg)	0,021		43,8	42,25
	Chlorides(Mmol / 100 g)	0,06		0,25/0,009	0,35/0,012
	Sulphates(Mmol / 100 g)	0,438		0,163/0,008	0,144/0,007
	Calcium(Mmol / 100 g)	0,50		0,75/0,015	0,63/0,013
	Magnesium(Mmol / 100 g)	0,0		0,75/0,0092	0,63/0,076
	Carbonates(Mmol / 100 g)	0,03			
	Bicarbonate(Mmol / 100 g)	26,0		0,6/0,037	0,55/0,034
Production Base "Zhaksymay" Point 1	pH units	7,80	7,35	7,12	7,2
	Dense residue %	0,144	0,152	0,094	0,093
	Petroleum products(mg / kg)	0,01	48,5	54,3	49,2
	Chlorides(Mmol / 100 g)	0,04	0,23/0,008	0,22/0,008	0,23/0,008
	Sulphates(Mmol / 100 g)	0,282	0,302/0,014	0,275/0,013	0,263/0,013
	Calcium(Mmol / 100 g)	0,9	2,25/0,045	2,0/0,040	2,25/0,045
	Magnesium(Mmol / 100 g)	0,9	0,5/0,0061	0,50/0,061	0,25/0,031
	Carbonates(Mmol / 100 g)	0,0	0,0		
	Bicarbonate(Mmol / 100 g)	0,08	0,40/0,024	0,45/0,027	0,40/0,024
Production Base "Zhaksymay" Point 2	pH units	7,67	7,42	7,14	7,35
	Dense residue %	0,150	0,144	0,068	0,058
	Petroleum products(mg / kg)	0,01	53,75	62,4	59,7
	Chlorides(Mmol / 100 g)	0,06	0,20/0,007	0,20/0,007	0,200/0,007
	Sulphates(Mmol / 100 g)	0,288	0,210/0,010	0,198/0,009	0,250/0,010
	Calcium(Mmol / 100 g)	1,8	1,75/0,035	1,38/0,028	1,5/0,010
	Magnesium(Mmol / 100 g)	0,8	0,5/0,0061	Not found	Not found
	Carbonates(Mmol / 100 g)	0,0	0,0	Not found	Not found
	Bicarbonate(Mmol / 100 g)	0,08	0,50/0,031	0,4/0,024	0,5/0,031

Annex № 2

Laboratory test result for water pollution, Lot 1 section

Carried out by the testing laboratory of "IST-EKO" LLP on the basis of an agreement with the Contractor dated 29.03.2021, № 96

Sampling points	Name of pollutants	MPC standard	Primary results 24.04.2018	23.04.2021	25.05.2021	29.06.2021
Shieli river	pH (units pH)	6,0-9,0	8,34	7,83	8,0	7,78
	Dry residue(mg / dm3)	Not more than 1500	41,50	1448,0	1448,0	1411,0
	Water insoluble matter(mg / dm3)	Not standardized	20	1354,0	1721,0	1698,0
	Chlorides(mg / dm3)	Not more than 350	2 835,0	341,67	348,0	336,7
	Ammonia nitrogen(mg / dm3)	Not standardized	9,05	0,38	0,45	0,39
	Petroleum products(mg / dm3)	Not more than 0.1	0,06	0,04	0,09	0,07
	Total hardness (mg.eq / dm3)	Not standardized	7,5	15,50	20,0	16,2
	Calcium(mg / dm3)	Not standardized	560	196,0	242,0	208,0
	Magnesium(mg / dm3)	Not standardized	564	68,4	94,8	69,6
	Sulphates(mg / dm3)	Not more than 500	878	495,36	388,11	452,92
	Nitrates(mg / dm3)	Not more than 45	0,223	< 0,003	< 0,003	<0,003
	Nitrite(mg / dm3)	Not more than 3.3	0,672	0,52	0,63	0,55
	Iron(mg / dm3)	Not more than 0,3	1,75	0,06	0,08	0,05
	Chromium(mg / dm3)	Not more than 0.05	00	< 0,025	< 0,025	<0,025
	Total phosphorus(mg / dm3)	Not standardized	0,0	2,26	2,32	2,48
	APAV(mg / dm3)	Not standardized	0,07	0,20	0,18	0,21
Shieli river	pH (units pH)	6,0-9,0	7,86	7,83	7,62	7,51
	Dry residue(mg / dm3)	Not more than 1500	41,38	697,0	668,0	682,0
	Water insoluble matter(mg / dm3)	Not standardized	13,0	423,0	411,0	425,0
	Chlorides(mg / dm3)	Not more than 350	182,4	133,3	152,0	166,7
	Ammonia nitrogen(mg / dm3)	Not standardized	6,93	0,61	0,57	0,64
	Petroleum products(mg / dm3)	Not more than 0.1	0,04	0,05	0,063	0,070
	Total hardness (mg.eq / dm3)	Not standardized	6,4	5,30	5,60	5,0
	Calcium(mg / dm3)	Not standardized	78,0	66,0	80,0	62,0

	Magnesium(mg / dm3)	Not standardized	30	24,0	19,20	22,8
	Sulphates(mg / dm3)	Not more than 500	272	256,02	215,04	262,55
	Nitrates(mg / dm3)	Not more than 45	0,254	< 0,1	< 0,1	< 0,1
	Nitrite(mg / dm3)	Not more than 3.3	0,072	0,004	0,006	0,005
	Iron(mg / dm3)	Not more than 0,3	1,12	< 0,04	< 0,04	<0,04
	Chromium(mg / dm3)	Not more than 0.05	0,0	<0,025	< 0,025	<0,025
	Total phosphorus(mg / dm3)	Not standardized	0,0	3,54	3,27	3,45
	APAV(mg / dm3)	Not standardized	0,02	0,05	0,07	0,09

Annex 3

Results of measurements of atmospheric air, Lot 1
 performed by the testing laboratory of "IST-EKO" LLP on the basis of an agreement with the
 Contractor dated 29.03.2021, № 96

Sampling points	Name of pollutants	Actual concentration Initial measurement before beginning of the Project, 24.04.2018, mg/m ³	MPC standard, mg/m ³	Concentration of substances during measurement period, mg/m ³		
				23.04.2021	25.05.2021	29.06.2021
km 200	Inorganic dust 70-20%	0,065	0,3	< 0,05	< 0,05	< 0,05
	Nitrogen dioxide NO ₂	0,062	0,2	0,0481	0,0477	0,0483
	Sulfur dioxide SO ₂	n/a	0,5	< 0,025	< 0,025	< 0,025
	Carbon monoxide CO	1,5	5,0	< 1,5	< 1,5	< 1,5
	CH ₂ O formaldehyde	0,0014	0,051	< 0,0015	< 0,0015	< 0,0015
	Hydrocarbons C ₁₂ -C ₁₉	0,099	1	< 0,5	< 0,5	< 0,5
	Benzene, C ₆ H ₆	0,067	0,3	< 0,05	< 0,05	< 0,5
	Xylene C ₈ H ₁₀	0,083	0,2	< 0,1	< 0,1	< 0,1
	Methylbenzene C ₅ H ₆ -CH ₃	0,4	0,6	< 0,3	< 0,3	< 0,03
	Hydrogen sulfide, H ₂ S	n/a	0,008	< 0,0004	< 0,004	< 0,004
Km 210	Inorganic dust 70-20%	0,067	0,3	< 0,05	< 0,05	< 0,05
	Nitrogen dioxide NO ₂	0,064	0,2	0,0493	0,0486	0,0489
	Sulfur dioxide SO ₂	n/a	0,5	< 0,025	< 0,025	< 0,025
	Carbon monoxide CO	1,6	5,0	< 1,5	< 1,5	< 1,5
	CH ₂ O formaldehyde	0,0013	0,051	< 0,0015	< 0,0015	< 0,0015
	Hydrocarbons C ₁₂ -C ₁₉	0,1	1	< 0,5	< 0,5	< 0,5
	Benzene, C ₆ H ₆	0,069	0,3	< 0,05	< 0,05	< 0,05
	Xylene C ₈ H ₁₀	0,085	0,2	< 0,1	< 0,1	< 0,1
	Methylbenzene C ₅ H ₆ -CH ₃	0,3	0,6	< 0,3	< 0,3	< 0,3
	Hydrogen sulfide, H ₂ S	n/a	0,008	< 0,004	< 0,004	< 0,004
PB Zhaksymay ACP	Suspended material		0,3	< 0,075	< 0,075	< 0,075
	Nitrogen dioxide NO ₂	0,0315	0,2	0,0477	0,0466	0,0474
	Sulfur dioxide SO ₂	n/a	0,5	< 0,025	< 0,025	< 0,025
	Carbon monoxide CO	1,5	5,0	Not found	1,75	1,76
	CH ₂ O formaldehyde	0,0014	0,051	< 0,0015	< 0,0015	< 0,0015
	Hydrocarbons C ₁₂ -C ₁₉	0,1	1	< 0,5	< 0,5	< 0,5
	Hydrogen sulfide, H ₂ S	n/a	0,008	< 0,004	< 0,004	< 0,004

Annex № 4

Summary data from environmental monitoring checklists
 Environmental monitoring checklist

Lot 1

Checklist for Lot 1 site inspection		
Date of site visit: 21.04.2021 12.05.2021	Engineer's representative: Imbarova Sara Contractor's representative: Nugymanov Amanserik – SH and TS Engineer Gordov Vasiliy- Production Base head	Engineer's ref.No. Contractor's ref.No.
Weather Conditions:		
Work currently in progress:		
The problems related to environment	Possible reasons	Proposed measures to reduce the risk

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
Contractor's base camp						
1	Arrangement of septic tanks and timely cleaning of contents	<input type="checkbox"/>				Septic tanks are cleaned daily
2	All wastewater is sent to septic tanks or service water tanks	<input type="checkbox"/>				Control by the environmental specialist on the ACP site
3	All the dangerous liquids stored in a prescribed place on an impermeable base with effluent collection			<input type="checkbox"/>		
4	Solid hazardous materials are stored in a safe place in the work areas	<input type="checkbox"/>				Concrete specialized sites are organized, barriers were installed for the storage of hazardous materials in accordance with the requirements.
5	Drains accumulate in the drainage system and are disposed of by the Contractor	<input type="checkbox"/>				According to the EMP

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
6	All vehicles entering and leaving the base camp are subject to control	<input type="checkbox"/>				Mechanic and OHS inspector
7	Local communities and organizations are informed of the construction schedule and any noise-raising activities on a regular basis through workers and other activities	<input type="checkbox"/>				Communication by telephone during the reporting period, Monthly meetings in Akimat canceled due to the quarantine
8	Open containers for storage of materials are covered with canopies	<input type="checkbox"/>				Containers are installed with covers
9	Open burning is prohibited	<input type="checkbox"/>				constant monitoring is provided by security specialists
10	Fire Fighting equipment <ul style="list-style-type: none"> ▪ Sand bucket and shovel ▪ Foam extinguisher ▪ Protective covering 	<input type="checkbox"/>	<input type="checkbox"/>			Replacing fire extinguishers according to marks on fire extinguishers. Monitoring by security specialists.
11	Access of other people to the town is prohibited by the installation of fencing and security organizing	<input type="checkbox"/>				At the gate is the checkpoint, the contract with the security company. An instruction has been developed for the procedure for admission to the site in connection with quarantine in the region
12	All employees are provided with personal protective equipment (PPE)	<input type="checkbox"/>				it is required to form an irreducible supply of PPE: medical masks, gloves, antiseptics. And also medicines
13	Smoking is prohibited except in Smoking rooms	<input type="checkbox"/>				Repairing territory has a designated smoking area.
14	Relevant road signs and warning signs on the site and in hazardous areas	<input type="checkbox"/>				According to traffic safety plans
15	Drinking water is provided to all employees from commercial and licensed sources.	<input type="checkbox"/>				OHS specialist controls the norms in accordance with the season
16	Protective clothes of all employees are washed on a daily basis	<input type="checkbox"/>				Protective clothes of employees are washed as necessary according

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
						to the requirements and standards
17	All employees are provided with three meals a day	<input type="checkbox"/>				All residents in the construction camp. Local workers are provided with a hot lunch and drinking water.
18	Canteen with sanitary conditions in base camp	<input type="checkbox"/>	<input type="checkbox"/>			Sanitary days are held. For Lot 1, instructions were issued to eliminate violations in the commodity neighborhood, on the processing of devices
19	First-aid posts and first-aid kit in base camp and in the working areas	<input type="checkbox"/>				First aid kits are replenished as needed. The records of requests for medical care is kept
20	Health of all employees is under control of the doctor in base camp, and the corresponding services are provided, monthly medical examinations are also carried out	<input type="checkbox"/>				In the medical point installed video surveillance for the daily control of the workers and maintained the daily log of the medical examination (Alcotest, pressure, etc.).
21	The whole area is cleared, there is no excess waste, except for designated areas for waste disposal	<input type="checkbox"/>				Base camp territory is cleaned daily from the excess of solid waste, and stored in the designated area. Instructions have been issued for alignment according to the waste work plans (as part of the project EMP)
22	Providing a place for rest in base camp	<input type="checkbox"/>				There are rest rooms
23	Child labour (below 15 years)	<input type="checkbox"/>				Not applicable on site
Production site						
1	The bitumen and chemical materials warehouse is located away from the watercourse and the dam walls are impenetrable and can contain 110% of the tank volume	<input type="checkbox"/>				

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
2	Liquid waste from the asphalt plant are kept in the established tank and they emptied specialised suction equipment ≤MTTSTH≥ Lyman	<input type="checkbox"/>				Export by a specialized company for disposal has been organized. Reuse of liquid waste for dust suppression.
3	Bitumen is stored in a specialised place and bent in concrete to a volume of 110%	<input type="checkbox"/>				Bitumen pit is concreted Used periodically
4	Solid waste from the asphalt plant is stored at the designated places and disposed of in accordance with approved procedures	<input type="checkbox"/>				With the periodic export for disposal on landfill
5	The area of the plant is engraved for the purpose of reducing dust	<input type="checkbox"/>				
6	The area of the plant is watered for the purpose of reducing dust	<input type="checkbox"/>				According to the schedule of dust control
7	The plant cannot discharge wastewater into any watercourse; impervious concrete pools will be built to receive such water	<input type="checkbox"/>				Concreting of a pit for pumping out and re-using waste for dust suppression completed
8	All workers of asphalt, concrete plant and crusher are provided with protective masks	<input type="checkbox"/>				All provided with masks and overalls.
9	All workers of asphalt, concrete plant and crusher use protective masks	<input type="checkbox"/>		<input type="checkbox"/>		Employees were instructed to improve production culture and work safety
10	Sands and fractions for concrete and asphalt are stored in a wet and covered place	<input type="checkbox"/>				
11	In asphalt, concrete plants and crushers there are fire-fighting equipment	<input type="checkbox"/>				Fully understaffed
12	Plant or equipment causing high levels of vibration are built properly, maintained and managed accordingly	<input type="checkbox"/>				In accordance with technical regulations
13	River/canal fenced for the protection of water resources		<input type="checkbox"/>			No need

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
GAS STATION						
1	Refueling will be strictly controlled and allowed only at the gas station and workshop	<input type="checkbox"/>				
2	Space for storage tanks of fuel protected, and they are impermeable, tank cover closed	<input type="checkbox"/>				
3	Gas station equipped with fire-fighting equipment to be checked weekly	<input type="checkbox"/>				The inspection schedule is being observed. Continuous monitoring by TB is required The fire shield is not completed, there is no control from the side of OHS specialist
4	The gas station has warning signs	<input type="checkbox"/>				Absent
5	The gas station is equipped with a special basket for excess waste	<input type="checkbox"/>				Absent
Contractor's workshop and car wash						
1	Liquid hazardous materials are stored in the designated place in workshop	<input type="checkbox"/>				The area is concreted
2	Solid hazardous materials are stored in the designated place in the workshop	<input type="checkbox"/>				
3	There are special containers for the collection of used petroleum products and hydraulic fluids	<input type="checkbox"/>				Provided in places of possible spill
4	The used petroleum products are collected in a concreted canister with a volume of up to 110% and the canisters are cleaned in accordance with the approved procedures	<input type="checkbox"/>				
5	The workshop is equipped with a drainage system	<input type="checkbox"/>				
6	Each transport is inspected and maintained on an ongoing basis	<input type="checkbox"/>				Chief mechanic under the supervision of a OHS specialist
7	All construction equipment complies with European Standards and is		<input type="checkbox"/>	<input type="checkbox"/>		

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
	equipped with modern noise suppression equipment					
8	The noise suppression equipment of all equipment is checked and maintained in accordance with the approved procedures		<input type="checkbox"/>	<input type="checkbox"/>		There is no such equipment available. Schedule of work in the objects with high noise and vibration levels introduced
9	All workshop workers are provided with welding equipment and personal protective equipment	<input type="checkbox"/>				
10	All technical water is collected in the concreted tank and the tank is cleaned in accordance with the approved procedures	<input type="checkbox"/>		<input type="checkbox"/>		Performed in April 2020
The Project Roads						
1	All the roads targeted for construction work watered with the water truck	<input type="checkbox"/>				The intensity of irrigation and the number of water carriers have been increased, and constant monitoring of transit areas near settlements has been ensured
2	On the project road in appropriate places there are flags for the passage of cattle, sheep and other animals	<input type="checkbox"/>				warning signs in areas for cattle creep are installed
3	Sections of culverts and bridges, equipped with safety tapes and twisting signs	<input type="checkbox"/>				
4	Fencing and access control services are installed at all workplaces where it is necessary	<input type="checkbox"/>				
5	Storage of waste of any type, as well as Parking of transports is not allowed at a distance of 100 m from any flow (including drainage or irrigation facilities)	<input type="checkbox"/>				
6	Work areas and hazardous areas are equipped with all relevant road signs and warning signs	<input type="checkbox"/>				

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
7	Construction machinery and plants are properly maintained to reduce gas emissions	<input type="checkbox"/>				According to the schedule of PEM are monitoring emissions
8	Noise control measures in special facilities	<input type="checkbox"/>				PPE provided: ear plugs
Borrow pits						
1	Quarries are provided with temporary drainage	<input type="checkbox"/>				Excavation from quarries are not performed
2	200 m from the nearest settlements, all construction work stopped from 22: 00 to 6: 00 a.m.	<input type="checkbox"/>				Excavation from quarries are not performed
3	Crushed stone of all size are extracted only from approved quarries	<input type="checkbox"/>				Excavation from quarries are not performed
4	Extraction of crushed stone fraction is carried out in 100 m from the river or watercourse					No fact
5	Stack does not exceed 3 m in height	<input type="checkbox"/>				Excavation from quarries are not performed
6	All open-body vehicles are used for the transportation of materials with possible dust formation, designed for these purposes with well-chosen folding bodies	<input type="checkbox"/>				The control of the senior mechanic
7	During the construction works the volume of noise is limited according to national standards	<input type="checkbox"/>				
8	Materials with possible dust formation do not load exceeding the level of folding bodies and close with a clean tarpaulin	<input type="checkbox"/>				
9	All vehicles, production equipment and devices comply with Euro exhaust emission standards		<input type="checkbox"/>			Equipment rented from villagers does not meet the standards
10	All temporary acquired lands are restored		<input type="checkbox"/>	<input type="checkbox"/>		Upon completion of construction works. Reclamation of 80% of the planned work volume was carried out at quarry No. 1

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
11	All material residues and contaminated land are collected and disposed of in accordance with approved procedures	<input type="checkbox"/>				Executed in response to Engineer comments
12	During the delivering and using materials, it is watering	<input type="checkbox"/>				Control by the environmental specialist
13	Any direct sites damaged as a result of a dump of soil, are restored to an original look	<input type="checkbox"/>				
14	The riverbanks are protected from the contractor's materials storages or temporary stacks	<input type="checkbox"/>				
15	The negative effects or disruption due to construction work is monitored, with an acceptable level in accordance with the standards	<input type="checkbox"/>				Control by the ecologist and project Manager
16	Access road to quarries, quarries, borrow pits and traffic conditions are serviced according to the approved standards	<input type="checkbox"/>				Excavation from quarries are not performed
17	Draining and draining water, avoiding flooding or causing damage to other works or services causing erosion	<input type="checkbox"/>				
Flora and Fauna						
1	Trees and shrubs that are outside the construction site, but within the road reserve, are usually protected from damage	<input type="checkbox"/>				
2	None of the ancient trees were cut down during the construction works					On the territory of the construction site there are no ancient plantations
3	Cutting is not carried out without the prior permission of the relevant local authorities	<input type="checkbox"/>				During the reporting period, there is no need to cut down plantations
4	Trees and bushes are cut down and removed only if they interfere with the necessary temporary or permanent work					Trees and bushes do not interfere with construction, so cutting down is not required
5	Construction work is not carried out on the construction sites of the bridge during the harvest (specify Yes or No		<input type="checkbox"/>			The construction of bridges does not affect the cultivation and

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
	construction work in the transition, specify the date)					harvesting, as they are located in remote places.
6	Construction on river sections occurs only during low flow to minimize pollution	<input type="checkbox"/>				

Annex 5

Laboratory test results of for soil contamination, Lot 3

performed by the testing laboratory of "IST-EKO" LLP on the basis of an agreement with the Contractor dated 29.03.2021, № 96

Points Selection / measurement	Name of determined indicators	Before Project began 24.04.2018	23.04.2021	25.05.2021	28.06.2021
km 275	pH units	7,80	Works were not performed	7,12	7,21
	Dense residue %	0,257		0,092	0,104
	Petroleum products(mg / kg)	0,020		36,2	40,2
	Chlorides(Mmol / 100 g)	0,07		0,15/0,005	0,17/0,006
	Sulphates(Mmol / 100 g)	0,448		0,92/0,044	0,99/0,047
	Calcium(Mmol / 100 g)	0,50		0,5/0,010	0,6/0,012
	Magnesium(Mmol / 100 g)	0,0		0,75/0,0092	0,65/0,008
	Carbonates(Mmol / 100 g)	0,0		Not found	Not found
	Bicarbonate(Mmol / 100 g)	27,0		0,4/0,024	0,5/0,031
km 285	pH units	7.30	Works were not performed	7,6	7,45
	Dense residue %	0.215		0,083	0,082
	Petroleum products(mg / kg)	0.027		42,3	45,3
	Chlorides(Mmol / 100 g)	0.251		0,45/0,016	0,40/0,014
	Sulphates(Mmol / 100 g)	0.453		0,31/0,015	0,27/0,013
	Calcium(Mmol / 100 g)	0.86		0,75/0,015	0,7/0,014
	Magnesium(Mmol / 100 g)	0.70		0,5/0,0061	0,55/0,007
	Carbonates(Mmol / 100 g)	0.072		Not found	
	Bicarbonate(Mmol / 100 g)	56.0		0,5/0,031	0,55/0,034
km300	pH units	7,32	Works were not performed	7,7	7,63
	Dense residue %	0,279		0,116	0,124
	Petroleum products(mg / kg)	0,017		54,1	63,45
	Chlorides(Mmol / 100 g)	0,09		0,3/0,011	0,35/0,012
	Sulphates(Mmol / 100 g)	0,470		1,28/0,061	1,25/0,060
	Calcium(Mmol / 100 g)	0,78		1/0,020	1,25/0,025

	Magnesium(Mmol / 100 g)	1,6		0,5/0,006	0,5/0,006
	Carbonates(Mmol / 100 g)	0,2		Not found	Not found
	Bicarbonate(Mmol / 100 g)	28,0		0,3/0,018	0,35/0,021
km 310	pH units	6.40	7,67	7,78	7,14
	Dense residue %	0.223	0,104	0,128	0,105
	Petroleum products(mg / kg)	0.021	51,5	30,8	36,4
	Chlorides(Mmol / 100 g)	0.238	0,35/0,012	0,25/0,009	0,20/0,007
	Sulphates(Mmol / 100 g)	0.420	0,664/0,032	1,08/0,02	0,99/0,047
	Calcium(Mmol / 100 g)	0.72	1,0/0,020	0,75/0,015	0,5/0,010
	Magnesium(Mmol / 100 g)	0.69	0,50/0,06	0,75/0,0092	0,8/0,001
	Carbonates(Mmol / 100 g)	0.082	Not found	Not found	Not found
	Bicarbonate(Mmol / 100 g)	50.0	0,55/0,034	0,7/0,043	0,65/0,040
km 320	pH units	7,20	7,31	7,51	7,42
	Dense residue %	0,250	0,082	0,118	0,110
	Petroleum products(mg / kg)	0,017	35,5	44,4	47,6
	Chlorides(Mmol / 100 g)	0,08		0,35/0,012	0,30/0,01
	Sulphates(Mmol / 100 g)	0,462	0,383/0,018	0,79/0,038	0,74/0,036
	Calcium(Mmol / 100 g)	0,71	06/0,013	1,75/0,035	1,6/0,032
	Magnesium(Mmol / 100 g)	1,1	0,75/0,0092	0,5/0,006	0,6/0,007
	Carbonates(Mmol / 100 g)	0,08			
	Bicarbonate(Mmol / 100 g)	32,0	0,50/0,031	0,45/0,027	0,40/0,024
km 330 primary measureme on 28.05.2	pH units	7,99	Works were not performed	7,03	7,20
	Dense residue %	0,15		0,071	0,068
	Petroleum products(mg / kg)	50,0		35,2	43,9
	Chlorides(Mmol / 100 g)	0,52/0,185		0,20/0,009	0,18/0,006
	Sulphates(Mmol / 100 g)	2,65//0,127		0,361/0,017	0,35/0,017
	Calcium(Mmol / 100 g)	1,35/0,028		0,75/0,015	0,65/0,013
	Magnesium(Mmol / 100 g)	0,73/0,009		0,7/0,009	0,7/0,009
	Carbonates(Mmol / 100 g)	0,0			
	Bicarbonate(Mmol / 100 g)	0,20/0,012		0,35/0,021	0,38/0,023

PB Nogaity 1 point	pH units	7,33	7,51	7,26	7,1
	Dense residue %	0,194	0,054	0,058	0,051
	Petroleum products(mg / kg)	0,028	46,15	50,0	48,75
	Chlorides(Mmol / 100 g)	0,253	0,10/0,004	0,2/0,007	0,10/0,004
	Sulphates(Mmol / 100 g)	0,471	0,268/0,013	0,205/0,010	0,210/0,010
	Calcium(Mmol / 100 g)	0,82	0,5/0,010	0,5/0,010	0,5/0,010
	Magnesium(Mmol / 100 g)	0,75	0,75/0,0092	0,55/0,007	0,50/0,006
	Carbonates(Mmol / 100 g)	0,090	Not found		
	Bicarbonate(Mmol / 100 g)	68,0	0,30/0,018	0,4/0,024	0,35/0,021
PB Nogaity 2 point	pH units		8,01	7,99	7,75
	Dense residue %		0,072	0,082	0,078
	Petroleum products(mg / kg)		57,75	60,0	57,75
	Chlorides(Mmol / 100 g)		0,30/0,011	0,32/0,011	0,30/0,011
	Sulphates(Mmol / 100 g)		0,361/0,017	0,297/0,014	0,255/0,012
	Calcium(Mmol / 100 g)		1,0/0,020	1,13/0,023	1,25/0,025
	Magnesium(Mmol / 100 g)		0,25/0,0031	0,25/0,0031	0,25/0,0031
	Carbonates(Mmol / 100 g)		Not found	Not found	Not found
	Bicarbonate(Mmol / 100 g)		0,35/0,021	0,5/0,031	0,45/0,027

Annex 6

Results of measurements of atmospheric air, Lot 3
 performed by the testing laboratory of "IST-EKO" LLP on the basis of an agreement with the
 Contractor dated 29.03.2021 № 96

Sampling points	Name of pollutants	Actual concentration Initial measurement before beginning of the Project 24.04.18 mg/m ³	MPC standard, mg/m ³	Concentration, mg/m ³		
				23.04.2021	25.05.21	28.06.21
ACP section	Suspended particles	Not determined	0,3	<0,075	Works were not performed	Works were not performed
	Nitrogen dioxide NO ₂	n/d	0,2	0,0451		
	Sulfur dioxide SO ₂	1,6	0,5	<0,025		
	Carbon monoxide CO	0,0012	5,0	1,75		
	Formaldehyde CH ₂ O	0,2	0,051	<0,0015		
	Hydrocarbons C12- C19	n/d	1	<0,5		
	Hydrogen sulfide, H ₂ S	0,0401	0,008	<0,004		
CBP section	Suspended particles	No measurements	0,3		<0,075	<0,075
	Nitrogen dioxide NO ₂		0,2		0,0482	0,0476
	Sulfur dioxide		0,5		<0,025	<0,025
	Carbon monoxide		5,0		1,83	1,79
	Formaldehyde CH ₂ O		0,051		<0,0015	<0,0015
	Hydrocarbons C12- C19		1		<0,5	<0,5
	Hydrogen sulfide, H ₂ S		0,008		<0,004	<0,004
Railway dead end	Suspended particles		0,3	< 0,075	<0,075	<0,075
km 310	Inorganic dust 70-20%	0,068	0,3	< 0,05	<0,05	<0,05
	Nitrogen dioxide NO ₂	0,069	0,2	0,0468	0,0489	0,0481
	Sulfur dioxide	n/d	0,5	< 0,025	<0,025	<0,025
	Carbon monoxide	1,6	5,0	< 1,5	<1,5	<1,5
	Formaldehyde CH ₂ O	0,0012	0,051	< 0,0015	< 0,0015	<0,0015
	Hydrocarbons C12- C19	0,13	1	< 0,5	< 0,5	<0,5
	Benzene, C ₆ H ₆	0,074	0,3	< 0,05	< 0,05	<0,05

	Xylene C ₈ H ₁₀	0,088	0,2	< 0,1	< 0,1	<0,1
	Methylbenzene C ₅ H ₆ -CH ₃	0,2	0,6	< 0,3	< 0,3	<0,3
	Hydrogen sulfide, H ₂ S	n/d	0,008	< 0,004	< 0,004	<0,004
km 320	Inorganic dust 70-20%	PB	0,3	< 0,05	<0,05	< 0,05
	Nitrogen dioxide NO ₂	0,071	0,2	0,0474	0,0496	0,0481
	Sulfur dioxide	n/o	0,5	< 0,025	<0,025	< 0,025
	Carbon monoxide	1,7	5,0	< 1,5	<1,5	< 1,5
	Formaldehyde CH ₂ O	0,0013	0,051	< 0,0015	<0,0015	< 0,0015
	Hydrocarbons C ₁₂ -C ₁₉	0,13	1	< 0,5	<0,5	< 0,5
	Benzene, C ₆ H ₆	0,075	0,3	< 0,05	<0,05	< 0,05
	Ксилол C ₈ H ₁₀	0,089	0,2	< 0,1	<0,1	< 0,1
	Метилбензол C ₅ H ₆ -CH ₃	0,3	0,6	< 0,3	<0,3	< 0,3
	Hydrogen sulfide, H ₂ S	n/o	0,008	< 0,004	<0,004	< 0,004

Annex 7

Summary data from environmental monitoring checklists
 Environmental monitoring checklist

Lot 3

Checklist for Lot 3 site inspection		
Date of site visit: 21.04.2021 12.05.2021	Engineer's representative: Imbarova Sara Contractor's representative:	Engineer's ref.No. Contractor's ref.No.
Weather Conditions:		
Work currently in progress:		
The problems related to environment	Possible reasons	Proposed measures to reduce the risk

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
Contractor's base camp						
1	Arrangement of septic tanks and timely cleaning of content	<input type="checkbox"/>				Septic tanks are cleaned daily
2	All wastewater is sent to septic tanks or service water tanks	<input type="checkbox"/>				Control by the environmental specialist on the ACP site
3	All the dangerous liquids stored in a prescribed place on an impermeable base with effluent collection			<input type="checkbox"/>		
4	Solid hazardous materials are stored in a safe place in the work areas	<input type="checkbox"/>				Concrete specialized sites are organized, barriers were installed for the storage of hazardous materials in accordance with the requirements.
5	Drains accumulate in the drainage system and are disposed of by the Contractor	<input type="checkbox"/>				According to the EMP
6	All vehicles entering and leaving the base camp are subject to control	<input type="checkbox"/>				Mechanic and OHS inspector

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
7	Local communities and organizations are informed of the construction schedule and any noise-raising activities on a regular basis through workers and other activities	<input type="checkbox"/>				Communication by telephone during the reporting period, Monthly meetings in Akimat canceled due to the quarantine
8	Open containers for storage of materials are covered with canopies	<input type="checkbox"/>				Containers are installed with covers
9	Open burning is prohibited	<input type="checkbox"/>				constant monitoring is provided by security specialists
10	Fire Fighting equipment <ul style="list-style-type: none"> ▪ Sand bucket and shovel ▪ Foam extinguisher ▪ Protective covering 	<input type="checkbox"/>	<input type="checkbox"/>			Replacing fire extinguishers according to marks on fire extinguishers. Monitoring by security specialists.
11	Access of other people to the town is prohibited by the installation of fencing and security organizing	<input type="checkbox"/>				At the gate is the checkpoint, the contract with the security company. An instruction has been developed for the procedure for admission to the site in connection with quarantine in the region
12	All employees are provided with personal protective equipment (PPE)	<input type="checkbox"/>				it is required to form an irreducible supply of PPE: medical masks, gloves, antiseptics. And also medicines
13	Smoking is prohibited except in Smoking rooms	<input type="checkbox"/>				Repairing territory has a designated smoking area.
14	Relevant road signs and warning signs on the site and in hazardous areas	<input type="checkbox"/>				According to traffic safety plans
15	Drinking water is provided to all employees from commercial and licensed sources.	<input type="checkbox"/>				OHS specialist controls the norms in accordance with the season
16	Protective clothes of all employees are washed on a daily basis	<input type="checkbox"/>				Protective clothes of employees are washed as necessary according to the requirements and standards
17	All employees are provided with three meals a day	<input type="checkbox"/>				All residents in the construction camp. Local workers are provided with a

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
						hot lunch and drinking water.
18	Canteen with sanitary conditions in base camp	<input type="checkbox"/>	<input type="checkbox"/>			Sanitary days are held.
19	First-aid posts and first-aid kit in base camp and in the working areas	<input type="checkbox"/>				First aid kits are replenished as needed. The records of requests for medical care is kept
20	Health of all employees is under control of the doctor in base camp, and the corresponding services are provided, monthly medical examinations are also carried out	<input type="checkbox"/>				Medical examination and maintained the daily log of the medical examination (Alcotest, pressure, etc.).
21	The whole area is cleared, there is no excess waste, except for designated areas for waste disposal	<input type="checkbox"/>				Base camp territory is cleaned daily from the excess of solid waste, and stored in the designated area. Instructions have been issued for alignment according to the waste work plans (as part of the project EMP)
22	Providing a place for rest in base camp	<input type="checkbox"/>				There are rest rooms
23	Child labour (below 15 years)	<input type="checkbox"/>				Not applicable on site
Production site						
1	The bitumen and chemical materials warehouse is located away from the watercourse and the dam walls are impenetrable and can contain 110% of the tank volume	<input type="checkbox"/>				
2	Liquid waste from the asphalt plant are kept in the established tank and they emptied specialised suction equipment ≤MTTSTH≥ Lyman	<input type="checkbox"/>				Export by a specialized company for disposal has been organized. Reuse of liquid waste for dust suppression.
3	Bitumen is stored in a specialised place and bent in concrete to a volume of 110%	<input type="checkbox"/>				Bitumen pit is concreted Used periodically
4	Solid waste from the asphalt plant is stored at the designated places and	<input type="checkbox"/>				With the periodic export for disposal on landfill

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
	disposed of in accordance with approved procedures					
5	The area of the plant is engraved for the purpose of reducing dust	<input type="checkbox"/>				
6	The area of the plant is watered for the purpose of reducing dust	<input type="checkbox"/>				According to the schedule of dust control
7	The plant cannot discharge wastewater into any watercourse; impervious concrete pools will be built to receive such water	<input type="checkbox"/>				Concreting of a pit for pumping out and re-using waste for dust suppression completed
8	All workers of asphalt, concrete plant and crusher are provided with protective masks	<input type="checkbox"/>				All provided with masks and overalls.
9	All workers of asphalt, concrete plant and crusher use protective masks	<input type="checkbox"/>		<input type="checkbox"/>		Employees were instructed to improve production culture and work safety
10	Sands and fractions for concrete and asphalt are stored in a wet and covered place	<input type="checkbox"/>				
11	In asphalt, concrete plants and crushers there are fire-Figurehting equipment	<input type="checkbox"/>				Fully understaffed
12	Plant or equipment causing high levels of vibration are built properly, maintained and managed accordingly	<input type="checkbox"/>				In accordance with technical regulations
13	River/canal fenced for the protection of water resources		<input type="checkbox"/>			No need
GAS STATION						
1	Refueling will be strictly controlled and allowed only at the gas station and workshop	<input type="checkbox"/>				
2	Space for storage tanks of fuel protected, and they are impermeable, tank cover closed	<input type="checkbox"/>				
3	Gas station equipped with fire-fighting equipment to be checked weekly	<input type="checkbox"/>				The inspection schedule is being observed. Continuous monitoring by TB is required The fire shield is not completed, there is no

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
						control from the side of OHS specialist
4	The gas station has warning signs	<input type="checkbox"/>				Absent
5	The gas station is equipped with a special basket for excess waste	<input type="checkbox"/>				The containers are provided
Contractor's workshop and car wash						
1	Liquid hazardous materials are stored in the designated place in workshop	<input type="checkbox"/>				The area is concreted
2	Solid hazardous materials are stored in the designated place in the workshop	<input type="checkbox"/>				
3	There are special containers for the collection of used petroleum products and hydraulic fluids	<input type="checkbox"/>				Provided in places of possible spill
4	The used petroleum products are collected in a concreted canister with a volume of up to 110% and the canisters are cleaned in accordance with the approved procedures	<input type="checkbox"/>				
5	The workshop is equipped with a drainage system	<input type="checkbox"/>				
6	Each transport is inspected and maintained on an ongoing basis	<input type="checkbox"/>				Chief mechanic under the supervision of a OHS specialist
7	All construction equipment complies with European Standards and is equipped with modern noise suppression equipment		<input type="checkbox"/>	<input type="checkbox"/>		
8	The noise suppression equipment of all equipment is checked and maintained in accordance with the approved procedures		<input type="checkbox"/>	<input type="checkbox"/>		There is no such equipment available. Schedule of work in the objects with high noise and vibration levels introduced
9	All workshop workers are provided with welding equipment and personal protective equipment	<input type="checkbox"/>				
10	All technical water is collected in the concreted tank and the tank is cleaned in accordance with the approved procedures	<input type="checkbox"/>		<input type="checkbox"/>		Performed in April 2020

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
The Project Roads						
1	All the roads targeted for construction work watered with the water truck	<input type="checkbox"/>				The intensity of irrigation and the number of water carriers have been increased, and constant monitoring of transit areas near settlements has been ensured
2	On the project road in appropriate places there are flags for the passage of cattle, sheep and other animals	<input type="checkbox"/>				warning signs in areas for cattle creep are installed
3	Sections of culverts and bridges, equipped with safety tapes and twisting signs	<input type="checkbox"/>				
4	Fencing and access control services are installed at all workplaces where it is necessary	<input type="checkbox"/>				
5	Storage of waste of any type, as well as Parking of transports is not allowed at a distance of 100 m from any flow (including drainage or irrigation facilities)	<input type="checkbox"/>				
6	Work areas and hazardous areas are equipped with all relevant road signs and warning signs	<input type="checkbox"/>				
7	Construction machinery and plants are properly maintained to reduce gas emissions	<input type="checkbox"/>				According to the schedule of PEM are monitoring emissions
8	Noise control measures in special facilities	<input type="checkbox"/>				PPE provided: ear plugs
Borrow pits						
1	Quarries are provided with temporary drainage	<input type="checkbox"/>				Excavation from quarries are not performed
2	200 m from the nearest settlements, all construction work stopped from 22: 00 to 6: 00 a.m.	<input type="checkbox"/>				Excavation from quarries are not performed
3	Crushed stone of all size are extracted only from approved quarries	<input type="checkbox"/>				Excavation from quarries are not performed

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
4	Extraction of crushed stone fraction is carried out in 100 m from the river or watercourse					No fact
5	Stack does not exceed 3 m in height	<input type="checkbox"/>				Excavation from quarries are not performed
6	All open-body vehicles are used for the transportation of materials with possible dust formation, designed for these purposes with well-chosen folding bodies	<input type="checkbox"/>				The control of the senior mechanic
7	During the construction works the volume of noise is limited according to national standards	<input type="checkbox"/>				
8	Materials with possible dust formation do not load exceeding the level of folding bodies and close with a clean tarpaulin	<input type="checkbox"/>				
9	All vehicles, production equipment and devices comply with Euro exhaust emission standards		<input type="checkbox"/>			Equipment rented from villagers does not meet the standards
10	All temporary acquired lands are restored		<input type="checkbox"/>	<input type="checkbox"/>		Upon completion of construction works. Reclamation of 80% of the planned work volume was carried out at quarry No. 1
11	All material residues and contaminated land are collected and disposed of in accordance with approved procedures	<input type="checkbox"/>				Executed in response to Engineer comments
12	During the delivering and using materials, it is watering	<input type="checkbox"/>				Control by the environmental specialist
13	Any direct sites damaged as a result of a dump of soil, are restored to an original look	<input type="checkbox"/>				
14	The riverbanks are protected from the contractor's materials storages or temporary stacks	<input type="checkbox"/>				
15	The negative effects or disruption due to construction work is monitored, with an acceptable level in accordance with the standards	<input type="checkbox"/>				Control by the ecologist and project Manager

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
16	Access road to quarries, quarries, borrow pits and traffic conditions are serviced according to the approved standards	<input type="checkbox"/>				Excavation from quarries are not performed
17	Draining and draining water, avoiding flooding or causing damage to other works or services causing erosion	<input type="checkbox"/>				
Flora and Fauna						
1	Trees and shrubs that are outside the construction site, but within the road reserve, are usually protected from damage	<input type="checkbox"/>				
2	None of the ancient trees were cut down during the construction works					On the territory of the construction site there are no ancient plantations
3	Cutting is not carried out without the prior permission of the relevant local authorities	<input type="checkbox"/>				During the reporting period, there is no need to cut down plantations
4	Trees and bushes are cut down and removed only if they interfere with the necessary temporary or permanent work					Trees and bushes do not interfere with construction, so cutting down is not required
5	Construction work is not carried out on the construction sites of the bridge during the harvest (specify Yes or No construction work in the transition, specify the date)		<input type="checkbox"/>			The construction of bridges does not affect the cultivation and harvesting, as they are located in remote places.
6	Construction on river sections occurs only during low flow to minimize pollution	<input type="checkbox"/>				

Annex 8

Photos from the site



Instrumental measurements on the site Zhaksymai Lot 1, 25.04.2021



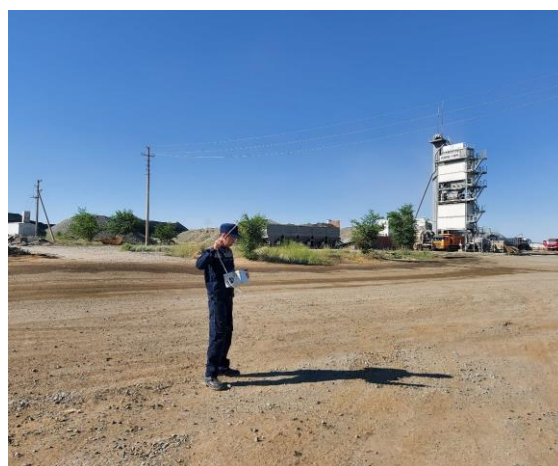
Measurements of the air pollution level near Kopa village, 25.04.2021



Water sampling at the river Shieli, 25.04.2021



Soil sampling, 25.04.2021



Instrumental measurement of atmospheric air pollution on Lot 1, production base 29.06.2021

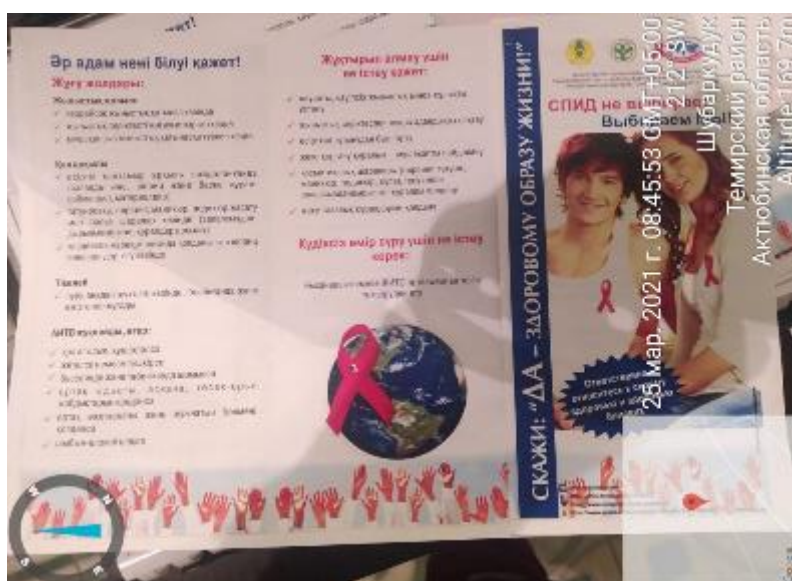


Instrumental measurement at section km 220 29.06.2021

The medical worker is conducting the training about HIV / AIDS on Lot 1. Ma



rch 2021



Booklets about HIV / AIDS in Kazakh language to raise the awareness of workers, March 2021



Quarry № 13 at km 161+50



Quarry № 15 at km 304+79



Dust suppression at PK 340+20



Crushed stone base, access road at PK 343+29

Annex 9.

NOTICE TO THE DOCUMENT

FATAL SITE ACCIDENT

Loan № 3416-KAZ

Background. Road traffic accident on Lot 1, at km 195 (PK 350 + 00), collision of two vehicles. Lot 1 (km 160-220), General contractor is "Todini Costruzioni Generali S.p.A.", subcontractor is "JV Sine Midas Stroy" LLP, commencement of project - 28.11.2017 and completion of the contract on 20.07.2021

A. Description of the incident. Road traffic accident (hereinafter RTA).

2. Details of the accident.

On May 24, 2021 at about 09:00 local time on Lot 1, km 195 (PK 350 + 00), an accident occurred with the participation of Renault Duster vehicles (hereinafter referred to as the vehicle) with plate number 411DPA04 and KAMAZ with plate number D789BVM. The driver of Renault Duster (driving direction Atyrau-Aktobe) drove into the oncoming lane and made a collision with KAMAZ truck. As a result of the accident, 1 person - a passenger of the Renault Duster vehicle died at the scene of the accident, the ambulance medical staff who arrived stated his death. One more passenger of Renault Duster vehicle (woman) was hospitalized in serious condition in Temir Central Regional Hospital in Shubarkuduk settlement; the remaining 5 people (including the driver and passenger of KAMAZ cargo vehicle) were taken to Temir Central District Hospital in Shubarkuduk and released home after examination and first aid.

Road conditions at the time of the accident: an open area for traffic, road signs are installed according to the scheme, agreed with the APD RP of Aktobe region.

Weather conditions at the time of the accident: +30 0C, no precipitation, visibility without restrictions.

The condition of the pavement and subgrade at the time of the accident: smooth, clean, without pits, bumps and other defects.

3. Construction Supervision Consultant. «DONSUNG ENGINEERING CO.LTD» (Korea) jointly with «ZS ENGINEERING» LLP (Kazakhstan).

4. Chronology of events. At 9:38 am, road safety specialists from the Engineering Service and the subcontractor arrived at the scene of the accident. At this time, employees of the Police Department and the Department of Emergency Situations of Temir region worked at the scene of the accident. The ambulance arrived by 9:45 a.m.

5. The main factors leading to death are non-compliance with the Rules of the Road by the driver of the Renault Duster vehicle, ignoring the established temporary road signs, exceeding the speed limit.

B. RETALIATORY MEASURES

6. Police investigation: from a certificate issued by the deputy head of the police department of Temir district, police major Mr. S. Aitmaganbetov: a criminal case was initiated and transferred to the court under part 3 of Article 345 of the Criminal Code of the Republic of Kazakhstan "Violation of traffic rules or the operation of vehicles by persons, driving vehicles

(resulting in the death of a person by negligence) ".

7. Emergency meeting on the site. The contractor arranged an emergency meeting on the site. The purpose of the meeting was to discuss a corrective action plan in response to the accident. The following decisions were made:

Decisions in relation to the victims:

- Not necessary, because the police and medical authorities have carried out the work according to their protocols of action

The solution to prevent future accidents:

- Increasing the frequency of patrolling the site during periods of high traffic;
- Maintenance of safety signs in proper condition;
- Conduct an Action jointly with the local police in the form of conversation with drivers on the road about the importance of observing safety signs.

3. Compensation. There is no need since the victims of the road accident are not the Contractor's personnel and no impact of the Project on road accidents

4. Meeting with ADB, Executive Bodies, Construction Supervision Consultants and Contractor.

5. Mission and corrective actions for health and safety (if any):

A. OCCUPATIONAL SAFETY AND HEALTH

6. Previous fatal accident (if any). No

7. Site protocols for work. The Contractor has an Environmental Management Plan (EMP) which includes a Road Safety Management Plan (RSMP). The RSMP was submitted by the Contractor on 10/30/2017 and approved by the Engineer on 11/08/2017. Contractor's letter No. 036/2 dated October 30, 2017. Engineer's letter No. 013-ATV3-2017 dated November 8, 2017. From November 6, 2020, the vehicle traffic is carried out along the main road. There is a traffic pattern on the main road agreed with the relevant authorities. According to this plan, all the necessary safety signs have been installed at the accident site: speed limit and road works are performed.

8. Monitoring compliance with health and safety. *(Describe the mechanism for implementing protective measures - who is in charge of OH&S, track record of the executive body, OH&S trainings, frequency of site inspections, fines and penalties for non-compliance with OH&S requirements, etc.)*

On this site, in accordance with the approved safety rules and rules for ensuring road safety, briefings are timely conducted for working personnel, including drivers and operators, to ensure road safety. In the logs, a corresponding record is made about each briefing, indicating the date, name, purpose of the briefing on receipt.

The safety of vehicles and special equipment is supervised by the chief mechanic of the Contractor Hassan Kengeruly, tel. 8 778 501 90 28.

The health condition of the working personnel and the pre-shift medical examination is monitored by the medical assistant Novanova Rima, tel. 8 778 566 09 86.

9. ADB conducts comprehensive project review missions, including site inspections, and periodically monitors project sites. ADB also supports training for contractors, consultants, and executive officers on EMP compliance. When inconsistencies are

identified, ADB meets with contractors and executive officers to agree on corrective actions. The last survey mission was online in June 2021. The next sightseeing mission begins in the autumn of 2021

10. Trainings (if any). No

B. TAKEN CORRECTIVE MEASURES

11. The below mentioned are the main corrective actions that have been taken: *(the following are as examples, correct if necessary):*

- All construction work on Lot 1 was suspended immediately after the accident. The work resumed on May 24, 2021 after the completion of fixing the location and details of the accident;
- Supervision consultants instructed all contractors as of May 24, 2021, to monitor traffic at their sites in order to determine the peak traffic time for organizing joint patrols with the local traffic police during these peak periods;
- Contractors will continue to keep the road in good condition and safety signs in good condition.

C. CONCLUSIONS AND RECOMMENDATIONS

- On May 24, 2021 an accident occurred on the site of the project;
- All warning and safety signs at the accident place are in acceptable condition and the driver could not help but see them;
- The cause of the accident is the driver's ignorance of the traffic rules resulting in the death of a passenger and injury to 6 passengers;
- Both vehicles of the road accident participant are not designed, they belong to local residents;
- There is no direct or indirect impact of the project on this accident.

Executor's Name: Zhenisgul Temirbek
Position Road Safety Engineer
Division / Subdivision



The traffic police officer takes the photo of a traffic accident scene at km 195 (PK 350 + 00)



Safety signs in the scene of traffic accident at km 195 (PK 350 + 00)



A party involved in a traffic collision Renault Duster with number plate 411DPA04



The second party involved in a traffic collision KamAZ with number plate D789B

Annex 10

GRIEVANCE REGISTER – Construction Supervision Consultant's notes on Lot 1

Reg No.	Date of appeal	Name	Address	Contact phone number	Sex	Description of complaint	Name of person who received the complaint	Complaint type (A, B, C)	If resolved, resolution result	Status
1	28.12.2017	Bialiyev. A, Head of the Architecture and Urban Planning Department	5, Zheltoksan street, Shubarkuduk village, Aktobe region	2 32 49 temirarchstro i@mail.ru	m	Request for assistance in obtaining design documentation for km 160-220	Aituganova Nurgul	A	Yes, information is provided in electronic media	Closed
2	10.01.2018	Salimgerey K., Head of the Land Relations Department in Temir district	5, Zheltoksan street, Shubarkuduk village	2 21 22	m	Request for information on the boundaries of the designed road at km 140-204, location of cattle creeps, junctions/intersections	Aituganova Nurgul	A	Ref.No.001-ATB/OTH-2018	Closed
3	27.07.2018	Abdikadyriv Bakhytzhan	Shubarkuduk village	8 701 912 9334	m	Abdikadyrov Bakhytzhan claims that he and at least one other person are forced to resign for being outraged by the conditions for providing drinking water, the process of handing over empty containers from the water, and the monotonous quality of food. To the general indignation of the workers, the SMS worker began to threaten with dismissal.	Imbarova. S	B	Ref. ATB 1-713 dated July 26, 2018, the Engineer sent a letter to the Contractor to take actions to stabilize the situation. The Contractor, by letter No. 579/2 dated July 30, 2018, denies the existence of tension. The Engineer held a working meeting on August 7, 2018 with all parties of the situation. The Minutes and the letter on the adoption of measures were sent to the Contractor by letter No. ATB 1-759 dated August 8, 2018. The applicant was given the opportunity to familiarize himself with the Minutes in the Engineer's office	Closed

						At the time of appeal submission, one employee was dismissed.				
4	28.07.2018	Iztleuov Tolegen	Shubarkuduk village		m	He was forced to resign under duress for being outraged with the quality of food and interruption in the delivery of drinking water	Imbarova. S	B	Similar to complaint 3	Closed
5	12.09.2018	Group of workers	Base camp			Complaint about being involved to work at weekends without compensatory measures (additional payment or provision of days off)	Imbarova. S	B	The request was sent to the Contractor about the procedures for engaging works at weekends and holidays. The answer was not submitted. The procedures for engaging at weekends and holidays are regulated in the Contractor's accounting and personnel records	closed

Grievance register – the notes of Construction Supervision Consultant and Contractor on Lot 3

No.	Name	Contacts	Sex	Description of the essence of compliant/appeal	Name of person who received the complaint	Complaint type	Taken actions	Status (solved, not solved)
1	Kadyrov Adil, Senior inspector for ODTI	8 702 492 2190 8 777 767 4886	male	Driving through the site at 23.00 he pays attention to the dust. The place was not identified	Temirbek. Zh.T OHSE Engineer	B	Joint visit to the site on June 12. From the general contractor - the environmental specialist, from the subcontractor - the environmental specialist, from CSC- the RS and OHSE engineer, the environmental specialist and the social specialist. Increased the frequency of dust suppression and ensured control by the contractor's environmental specialist	Solved